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EUROPEAN MASTER IN MULTIMEDIA AND AUDIOVISUAL BUSINESS ADMINISTRATION

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"Interactive Television – a new media industry in Portugal?

Analysis of the current and future development of products and services

Author: **Célia Quico**
Thesis Supervisor: **Prof. Carlos Correia**
Date: **October 2000**

* *"Organised in Brussels with the support of the European Union's Media II Programme and in co-operation with the University of Metz, the New University of Lisbon, the University of Athens, the University of Paris 8, Kemi-Tornio Polytechnic, Lapland University".*

Haute Ecole "Groupe ICHEC – ISC ST-Saint-Louis – ISFSC"

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MARKTEST, MANDALA, DUVIDEO, VALENTIM DE CARVALHO TELEVISÃO.

SPECIAL THANKS TO

The person who was responsible for my interest in this subject – André (I love you!).

0. ABSTRACT

0.1 Research focus

"Interactive television – a new media industry in Portugal – the analysis of current and future development of products and services" - is the basic question of this master thesis. Its main objective is the analysis of a new media industry – the result of the convergence of the Television, Telecommunications and Multimedia industry–, known as Interactive Television, focusing on the Portuguese situation.

0.2. Methodology

The methodology followed consisted in gradually focusing the scope of the thesis, from general information to very specific data about the Portuguese scene. The first logical step was to go identify Interactive Television generic concepts and its historical landmarks. Secondly, I focused my efforts in acquiring general information about the Interactive Television state-of-the-art identifying the major players, the most significant products and services, as well as the specific situation in diverse countries.

After analysing the data gathered, I identified the most significant case studies in terms of Interactive Television platforms and providers. Since I found few information about the situation in Portugal, I decided to interview representatives of the most significant players – the list of people was refined as I talked with the players' representatives, and the general questionnaire was adapted to each interviewee.

The interviews were a fundamental part of this research work, and provided clear insights of the industry in Portugal. Owners or top executives from broadcasting companies and cable operators, as well as television producers, interactive television start-ups, advertising agencies, consulting companies and even university researchers kindly shared their personal experience and knowledge. Since there is shortage of data about the thesis subject, the information was essential to form the final findings and conclusions.

0.3. Research questions

Since the subject of the thesis does not have extensive bibliography – most of which is totally outdated, because it was published before 1995 – the Internet was the major source of information. In order to understand the Portuguese situation, I had to analyse the international scene, as the following research questions demonstrate:

- What are the Interactive Television key players?

- What are the current available Interactive Television services and products?

- Is it true that the several Interactive Television failed trials demonstrate that the consumers are not interested in interacting with the television set?

- Which are the best case-studies in terms of Interactive Television operators, platform developers, hardware manufactures and countries?

- What will drive broadcasters, cable operators, television producers, hardware and software companies, advertisers, and consumers to embrace Interactive Television programs and services?

- In Portugal, what are the chances of Interactive Television to succeed? What are the critical factors of success?

- What are the Portuguese companies or players with the biggest potential to become the industry leaders?

- Which Interactive Television programs and services have the potential to become the most popular in Portugal?

0.4. Description of findings

The History – Divided in two secondary chapters, this section describes briefly the most significant moments of the Interactive Television history. Before the Internet worldwide popularisation in 1995, already several trials were implemented, namely Qube by Warner Amex, and the Full Service Network by Time Warner. Also Microsoft joined the race with its Cablesoft trials. After outlining the most common mistakes, it is presented the first application of the Internet's lessons – the Web TV service and company, which was later acquired by Microsoft. The chapter concludes with the description of the first commercial systems – iTV / Hong Kong Telecom and Singapore ONE, and the latest development in France and England, which might become the first Interactive Television successful cases in terms of consumers adoption.

The Players – This chapter begins by introducing the question of convergence (television, telecoms, hardware, software, and multimedia), presenting as major example the AOL and Time Warner merge. After outlining the basic industry players categories - television operators, technical developers and content providers -, each chapter describes briefly the most significant global players in terms of television operators (terrestrial, cable, satellite), technical developers (hardware, software e middleware), and content providers. The chapter reaches its end with a more detailed description of five Interactive Television service providers. AOL TV, CanalSatellite, Open, Via Digital and WebTV were considered as this section case studies.

The Products and Services – After describing the IDATE Interactive Television definition and classification, particular cases are highlighted such as Video-on-Demand, Individualised TV and Personalised TV. Following the strategy of the chapter before, it is provided summarised information about the many Internet access services for the television set as well as the Interactive services produced specifically for the television set. Regarding the first category, there is to consider the following items: Email, World Wide Web, Chat and FTP. Regarding the Interactive services produced specifically for the television set, it is necessary to divide the category in two: Enhanced TV and services produced specifically for the television set. As for the first, currently are being developed interactive programs, such as games and contests, sports, children's programs, education and training, news, documentaries, talk shows, soap operas and series, as well as porn. Regarding services produced specifically for the television set, there is to mention databases, electronic program guides, games, interactive publicity, interactive mosaic, music booth, weather forecast on-demand, pay-per-view, home-banking and home-shopping.

The Technologies – This section begins by providing the technical background out of which Interactive Television is being developed. The competition between USA and Europe is taken into account, in terms of digital and interactive television standards. Regarding the digital television standard, the American ATSC is the major competitor of the European DVB. As for the Interactive Television standard, the ATVEF is the DVB-MHP opponent. Finally, the chapter ends with a detailed description of the five major Platform developers. The case studies selected were CanalPlus Mediahighway, Liberate, OpenTV, Power TV and Microsoft TV.

The Stages – The gap between cultures is the first section title, that outlines the different approaches to interactive television in USA and Europe. The European Union policies and legislation is referred and also it is considered the differences between the North and the South of Europe. Finally, several countries are presented as case studies, regarding their current Interactive television development: England, France and Spain.

Portugal – After providing background data and information about Portugal, the chapter presents the most significant facts that led to the emergence of the Interactive Television industry: the trials made until September 2000, the commercial launching announcement by TV Cabo and the digital terrestrial television launching in 2002. This section also characterises the industry target audiences, by presenting statistics; the television average audience, and data about the Internet users. The major industry players are also profiled: the television operators, the technical developers, the content providers (television producers, and advertisers). The chapter is concluded with highlights from the interviews made with several representatives of major industry players in Portugal.

0.5. Description of conclusions

As any brand new subject, it is difficult to present conclusions when just now the show is about to begin. In Portugal, only in November TV Cabo will install the first set-top boxes in a few selected homes. Nevertheless, the thesis presents general scenarios for

Portugal, stating that TV Cabo will lead the way as the digital terrestrial television providers prepare themselves, and new competitors enter the scene. Also, the final chapter describes hypothetical business models for the industry, and outlines the players new costs and revenue sources. Finally, the thesis reaches it conclusion by defining the critical factors of success: obstacles and drivers of success, and the final remarks – “focus on the user” is the key expression.

1. INTRODUCTION

1.1. Essential Issues

1.1.1. Issue

"Interactive television – a new media industry in Portugal – the analysis of current and future development of products and services" is the basic question of this master thesis. Its main objective is the analysis of a new media industry – the result of the convergence of the Television, Telecommunications and Multimedia industry–, known as Interactive Television, focusing on the Portuguese situation.

Source: WebTV www.webtv.com

More than ever, the issue deserves to be researched and explored and for two major reasons. First, even if Portugal already was a stage for several Interactive Television trials, only in the last quarter of 2000 will TV Cabo– the biggest cable operator in the country with about 800.000 subscribers – make the service available, still for a limited number of homes**. The commercial launching of the TV Cabo Interactive Television service will occur in the second quarter of 2001**, according to well-informed sources on this company.

Another important fact is the Digital Terrestrial Television (DVB-T) licence granting in Portugal, which is about to happen. Briefly, DVB-T is a transmission scheme for terrestrial digital television[1] that uses an advanced image compression technology known as MPEG-2, which will allow to carry a package of 20 to 24 television channels in a single radiofrequency channel (corresponding to 8 MHz in UHF). The DVB-T also has the potential to offer Interactive Television programs and services, and it has the advantage of being received by fixed, portable and mobile devices.

[1] http://www.digitaltelevision.com/dtvbook/glossary.shtml

In the beginning of the year, the Minister of Social Equipment, Jorge Coelho, announced that **DVB-T would commence in Portugal in 2002**[2]. The statement was made in the opening session of the Conference on Digital Terrestrial Television organised by the Instituto de Comunicações de Portugal (ICP) and the Instituto da Comunicação Social (ICS), last February. The minister also promised that the Government would define, "as soon as possible", the terms of a public tender for digital broadcasting.

The Portuguese Government is now soliciting bids for the DVB-T licences. According to a report published in July 8th 2000 by the weekly Portuguese newspaper "Expresso", the three Portuguese broadcasters - SIC, TVI and RTP - want to manage the new television channels and digital services[3]. Still, the main broadcasters are sceptical about the commercial viability, as they face the increasing competition from cable TV operators, according to several sources, including the Institut de l'Audiovisuel e des Télécommunications en Europe (IDATE) report "Development of Digital TV in Europe – Portugal 1999", published January 2000[4].

1.1.2. Interest in the issue

The interest in Interactive Television began when some close friends of mine developed an Interactive Television trial with Portugal Telecom for the international exhibition EXPO 98, which had place in Lisbon in 1998. When I saw the application for me it was clear that Interactive Television would be the "next big thing", and it has just a matter of time until the Portuguese people could have access to this new experience.

For someone who worked as a journalist for the Press, Radio and Television, before working for the Multimedia industry, Interactive Television is the next logical step in the media evolution. The thesis major objective is to understand its past, present and to forecast what can be its future. Of course, the motivation for this research is to actively participate in the new industry and to contribute for its development and success.

Since in Portugal the Interactive Television industry was just a "mirage" one year ago, when I started my research, I found no studies or reports that could serve as basis to support decisions. Therefore, the present thesis can also be used as a tool for the newcomers in the industry, who want to know what is Interactive Television in the world, and more specifically in Portugal.

Of course, one year from now, after seeing Interactive Television in action, the thesis should be rewritten to accommodate the new findings. However, I believe that the recent developments in the industry – nationally and internationally – at least induce the observers to think that very exciting times are facing us. In one word, I could summarise my interest in the subject: excitement. The excitement to observe and participate in the

[2] http://194.65.125.125/press/1999/not227uk.html
[3] http://www.expresso.pt/ed1445/pu325.asp?pu325,e013,e132&rel
[4] http://www.ispo.cec.be/infosoc/telecompolicy/en/Eurorep99pt.pdf

development of a new media industry, that could merge the best of mass media such as television with the best of a new media such as Internet.

1.1.3. The research questions

In order to understand the Portuguese situation, it was essential to analyse the international scene, and to identify as accurately as possible the major players and current services and products. As it was mentioned before, the thesis main objective is the analysis of a new media industry – Interactive Television –, from which the following research questions evolved:

- What are the Interactive Television key players?
- What are the current available Interactive Television services and products?
- Is it true to say that the several Interactive Television failed trials demonstrate that the consumers are not interested in interacting with the television set?
- Which are the best case-studies in terms of Interactive Television operators, platform developers, hardware manufactures and countries?

Regarding the Portugal, the set of questions is more specific and its focus is more on the future development of the industry, rather than the past and present achievements:

- What will drive broadcasters, cable operators, television producers, hardware and software companies, advertisers, and consumers to embrace Interactive Television programs and services?
- In Portugal, what are the chances of Interactive Television to succeed? What are the critical factors of success?
- What are the Portuguese companies or players with the biggest potential to become the industry leaders?
- Which Interactive Television programs and services have the potential to become the most popular in Portugal?

1.2. Methodology

1.2.1. Justification of methodology approach

The methodology followed consisted in gradually focusing the scope of the thesis, from general information to very specific data about the Portuguese scene. The first logical step was to go **identify Interactive Television general concepts and its historical landmarks**.

Secondly, I focused my efforts in **acquiring general information about the Interactive Television state-of-the-art identifying the major players**, the most significant products and services, as well as the specific situation in diverse countries.

After analysing the data gathered, I **identified the most significant case studies in terms of interactive television platforms and providers**. Since I found few information about the situation in Portugal, I decided **to interview representatives of the most significant players** – the list of people was refined as I talked with the players' representatives, and the general questionnaire was adapted to each interviewee.

The interviews were a fundamental part of this research work, and provided clear insights of the industry in Portugal. Owners or top executives from broadcasting companies and cable operators, as well as television producers, interactive television start-ups, advertising agencies, consulting companies and even university researchers kindly shared their personal experience and knowledge. Since there is shortage of data about the thesis subject, the information was essential to form the final findings and conclusions.

The inquiry's purpose was to have a clear understanding of each player's position in the Interactive Television industry, more specifically to have their opinion in matters such as:

1) Interactive television's most popular programs and services,
2) Interactive television's target audiences,
3) Interactive television's business models.

Also, I asked the television audience research company Marktest to provide me up-to-date statistics. Another significant source was the "Online Ciberfaces" study about the Portuguese Internet users, which was made by the Instituto Superior de Ciências do Trabalho e da Empresa (ISCTE), during May to June 1999[5].

Since the Interactive Television industry is rapidly evolving, this thesis is not an exhaustive and extensive report about the sector, but rather **a possible overview** – as

[5] http://www.cav.iscte.pt

accurate and broad it could be under the current context. For instance in Portugal, already during October several television producers, multimedia companies and advertising agencies made public their intentions to "play" in this game. The outcomes of their announcements are still to be seen, but it is a clear sign of the degree of interest that the new industry is provoking.

1.2.2. Tools (data sources)

As it was mentioned before, **the primary sources of information were found in the World Wide Web,** as well as the **personal and e-mail interviews with representative from several industry players**. But other sources were also important, such as industry reports, books, statistics and newsletters.

BOOKS

- *Building Interactive Entertainment and E-Commerce Content for Microsoft TV*, by Peter Krebs, Charlie Kindschi and Julie Hammerquist;
- *O Futuro da Internet*, by José Augusto Alves, Pedro Campos and Pedro Quelhas Brito;
- *The Medium is the Massage*, by Marshall McLuhan;
- *Televisão Interactiva - A Convergência dos Media*, by Carlos Correia;

MAGAZINES AND NEWSPAPERS

- *Exame Digital*, a Portuguese business magazine;
- *Expresso,* the major Portuguese weekly newspaper;
- *Valor*, another Portuguese business magazine focused on the New Economy;
- *Wired,* the San Francisco high-tech and New Economy publication;

NEWSLETTERS

- Digi News UK Digest;
- Interactive TV Today by Tracy Swedlow;
- Pay TV & Satellite News;

REPORTS

- *Economic Implications of New Communication Technologies on the Audio-Visual Markets*, by Norcontel (Ireland) Ltd, NERA, Screen Digest, Stanbrook & Hooper;
- *Green Paper on the Convergence of Telecommunications, Media and Information Technology Sectors, and the Implications towards an Information Society Approach*, by the European Commission;
- *"The Digital Age – European Audiovisual Policy",* report from the High Level Group on Audiovisual Policy
- *Development of Digital TV in Europe, Portugal 1999*. by the Institut de l'Audiovisuel et des Télécommunications en Europe;
- *Development of Digital TV in the European Union, reference report 1999*. by the Institut de l'Audiovisuel et des Télécommunications en Europe;

- *Broadband E-Battle, Enhanced TV Challenges the PC for Interactive Services and E-Media Supremacy*. by the Deutsche Bank;
- *Enhanced Television: A Historical and Critical Perspective*. for the AFT-Intel Enhanced Television Workshop;

STATISTICS
- *Audiências de Televisão em Portugal* (1999, 2000), by Marktest;
- *Bareme Internet*., by Marktest;
- *Divulgação de dados do Inquérito Online Ciberfaces*. By ISCTE;
- *Redes de Distribuição por Cabo, 2º Trimestre de 2000,* bt the Instituto de Comunicações de Portugal,

WEB SITES
- The European Commission- DG X – Information, Communciation, Culture, Audiovisual Media
- ITV – News, CARAT and Univeresity of Edinburgh
- ITVT by Tracy Swedlow
- ITV Report
- Media Visions by Ken Freed
- DVB – Digital Video Broadcasting
- ATVEF - Advanced TV Enhancement Forum
- The Philips Group – Digital Television
- ICP – Instituto de Comunicações de Portugal
- (diverse web sites from the industry players: broadcasters, telecoms, platform developers, hardware manufacturers, advertising agencies, consulting companies, industry trade publications, and more)

And finally the **personal and e-mail interviews** with the following:
- Eng. Álvaro Peixoto, TV CABO INTERACTIVA
- Dr. Carlos Correia, UNIVERSIDADE NOVA DE LISBOA
- Eng. Carlos Picoto, MICROSOFT
- Eng. Francisco Maria Balsemão, IMPRESA/ SIC
- Eng. João Brás Ramos, INOVANGENCY
- Dr. Jorge Trindad Ferraz de Abreu, UNIVERSIDADE DE AVEIRO
- Eng. José Louro, TVI
- Dr. José Soares, GO TV / CONTENT TV
- Dr. Luís Rodrigues, TVI
- Dr. Manuel Maltez, BBDO
- Eng. Nuno Duarte, OCTAL TV
- Dr. Nuno Morais, GO TV / CONTENT TV
- Dr. Paulo Querido, EXPRESSO
- Eng. Rui Dias Alves, INNOVANGENCY
- Dr. Tiago Silva, DOTONTHEBOX
- Eng. Vasco Trigo, RTP

1.2.3. Process and obstacles

Only now the first comprehensive and updated books about Interactive Television are being published. When I began my research one year ago, the first problem I had to face was **the lack of bibliography to support the thesis**. The Portuguese libraries and bookstores (and even virtual bookstores) I searched did not have books related with the subject, or they only had dated documents.

Even so, two books provided some guide lines to begin the exploration**: "Televisão Interactiva"** by **professor Carlos Correia** (also the thesis supervisor) and **"O Futuro da Internet"**, particularly the article **"Os Rumos e as Faces da Televisão Interactiva"** by **Jorge Ferraz de Abreu and Vasco da Silva Branco**.

Another important landmark in the research process was **the Wired magazine article "TV or not TV",** by **Frank Rose**, published in March 2000. Approximately at the same time, I had an **important meeting with Dr. Francisco Balsemão** – the president of Impresa, the major Media group in Portugal, as well as one of the MBA's module co-ordinator - regarding the essay I had to prepare for the "Audiovisual Market" module. Thanks to Dr. Francisco Balsemão, I re-directed my research from a more technical focus to a more business-oriented focus. Curiously, a few weeks after I would find in a general Interactive Television web site **an essential Deutsche Bank report entitled "Broadband E-Battles".** These three sources would allow me to re-shape most of my initial thesis plan, and to direct it towards a more wide perspective of all the industry.

Open and informal conversations with friends working in the industry proved to be extremely valuable to understand the specific Portuguese context, as well as **the conversations held with the thesis co-ordinator**. I first started to prepare the general questionnaire in April, but as I researched more and more, so the questions were more in number and better in accuracy. My journalism background and experience were precious for the questionnaire formation.

After several versions, I consulted my thesis supervisor in order to have his approval before I sent the questions to the interviewees. The e-mail and personal interviews were conducted since July to October 2000. One of the major obstacles I had to face was the difficulty in contacting with several of the interviewees. Unfortunately, when I began the contacts it was summer, a time where it is extremely difficult to find anyone working in Lisbon. Since I wasn't getting as many e-mail answers as I expected, I changed strategy and began setting **up personal interviews** in September and October. This change in strategy proved to be truly productive, because it allowed me to conduct a more open interview and, therefore, to obtain more specific information about each one of the players.

The World Wide Web provided a great deal of the information about the international scene, as it happens with most of the subjects related with new industries such as Interactive Television. After identifying general resources thanks to search engines as Google and Altavista, I kept focusing in more particular subjects, and to cross-information from the several sources gathered. The major search topics were Interactive Television broadcasters, platforms, hardware manufacturers, television

producers, multimedia companies, advertising companies, as well as European Union policies and legislation.

Regarding Portugal, the World Wide Web still doesn't have much information about Interactive Television, excluding the current data available on the Instituto Português das Comunicações web site about digital television, and a few articles published by on-line and off-line newspapers and magazines. Finally, I word of appreciation to Marktest, a media audience company that kindly provided me data about television shares and audiences.

1.3. Basic concepts and data

1.3.1. Interactive Television definition

What do we talk about when we talk about Interactive Television? One of the major problems when something new comes up is to define it precisely, as well as its related terms. Interactive Television is no exception, so therefore the **Interactive Television concept is still not stabilised**. Even if many definitions present common characteristics, we may verify that there is no consensus about what is it Interactive Television. The same can be said about its sub-categories, such as Enhanced TV, Personal TV, Individualised TV.

Still, it can be defined **as the result of the convergence between television and the interactive technologies**, which allows the user to customize the programing, have video-on-demand and pay-per-view, access Internet, send and receive e-mails, to play network games, to shop and even to make financial transactions through his television set (with a modem included or connected to a set-top box).

Source: LIBERATE www.liberate.com

For the current research work, the option chosen was the definition contained in the Institut de l'Audiovisuel e des Télécommunications en Europe (IDATE) document "Development of Digital Television in the European Union - reference report 1999", by Laurance Meyer and Gilles Fontaine, published in July 2000[6]. Therefore, the IDATE

[6] http://www.ispo.cec.be/infosoc/telecompolicy/en/Eurorep99ov.pdf

defines Interactive Television as a **service accessible on the TV set that differs from continuous succession of broadcast video programmes.** This definition covers two major categories of service:

- **Web access services via the TV set,**

- **Interactive services produced specifically for use on the TV set,** whether or not relating to broadcast video programs and based on Interactive Television technologies such as Mediahighway e a OpenTV.

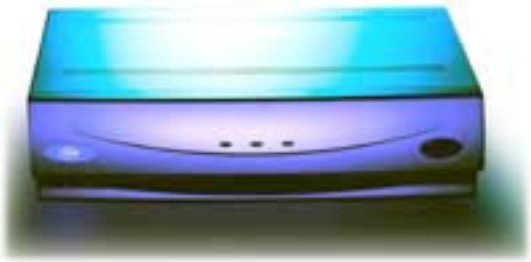
This last category is thus comprised by:

b.1) Enhanced TV , which consists in accompanying the televised programme (video stream) with related supplementary information, building on the earlier teletext concept, but with the possibility of embedded hyperlinks.

b.2) Interactive services independent of TV programmes. This type of service also embraces the broadcasting of text, sound, image and video destined for the TV set but not necessarily calling for a continuous video stream[7].

These two systems are mutually independent, allowing the viewer to keep the television programme they wish to see in form of a window, while it is possible to view a specific service such as t-commerce, home-banking, news, and others.

Another current term in this industry is **set-top box** . The set-top box is a decoder device that connected the television set allows the reception of Interactive Television services and programmes, as well as allows the user to send his feedback to the Interactive Television operator. In short, the set-top box is for the television set approximately what the modem is for the PC. The major set-top box manufacturers are Pace Micro Technologies, Philips, Sony, Thomson and Scientific-Atlanta.



Source: Pace Micro STB 3875 ADSL Set-top box

[7] idem, page 6

As an example, here are the technical specifications of one of Sony's set top boxes - INT-W250. Since the differences between set-top boxes are not many so far, these technical specifications are close to the ones manufactured by Philips or Pace Micro:

- Modem 56Kbps
- 167MHz, MIPS Processor
- Custom Graphics Processor
- Built-in 125 Channel Tuner: Channel
- Coverage: VHF 2-13, UHF 14-69, CATV 1-125
- 3 in 1 cable ready stereo tuner
- 16-bit stereo for CD-quality audio
- Memory (Ram16mb, Rom 2mb, Flash 8mb)[8]

1.3.2. The industry drivers – consumers, broadcasters, advertisers

What will drive the television consumer to use Interactive Television's programmes and services? What will drive the broadcasters, telecoms, content providers and advertisers to invest in this new media industry?

Optimistic or pessimistic? Apocalyptic or integrated – to quote Umberto Eco's famous book – it seems there are only two possible positions regarding Interactive Television. In summary, here we have several arguments for and against the adoption of Interactive Television's programmes and services:

Interactive Televisions will be a failure because:

- the television viewer is passive, therefore he doesn't want to interact with the television set;
- to watch television is an social act and interaction is an individual act, which are not compatible;
- It does not meet any of the consumer needs and desires.

Interactive Televisions will be a success because:

- people who can't afford a PC will want a set-top box for shopping and services payment while in their homes;
- the television viewers are also Internet users, so they are used to interactive services and web browsing;
- the television model of programming is not renovating itself and people want have new and better television and multimedia programs and services in their homes.

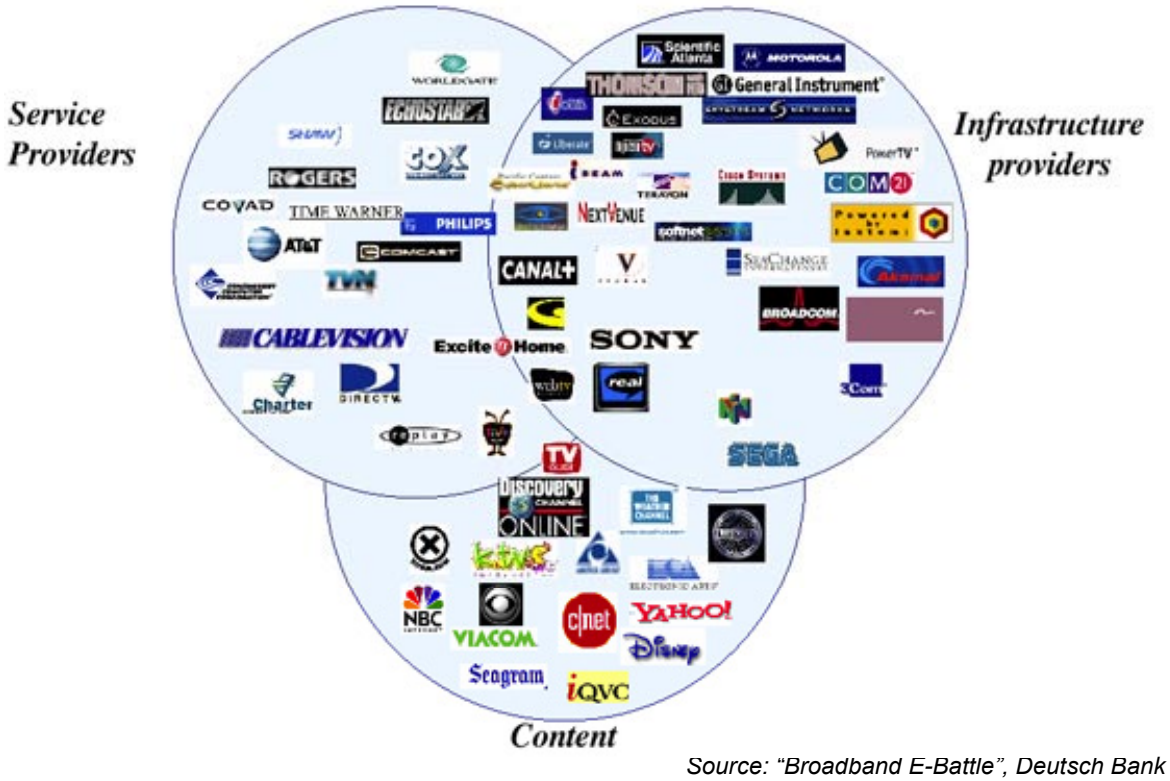
As for the ones who produce and distribute of Interactive Television's programmes and services the drivers are quite different:

- the Internet is increasingly competing with the traditional *media*, in terms of average hours per viewer as well as in terms of advertising investment;

[8] http://www.sel.sony.com/SEL/consumer/webtv/

- the television must offer more and better to the viewers and meet the new needs and habits that the Internet has created, such as email and web browsing.
- Interactive television will generate new streams of revenue to broadcasters, cable operators, television producers and content providers, as well as a new channel for advertisers.

The growing trend is the collaboration and not competition between traditional *media* and the new *media*, particularly, television and Internet. The AOL and Time Warner merge demonstrates better than any other example the synergies between old and new media. According to Deutsche Banc report "Broadband E-battle" the pace of old and new media convergence is rapidly accelerating, predicting that it should be exponentially magnified by Enhanced TV and broadband Internet access[9].



Source: "Broadband E-Battle", Deutsch Bank

This way, Interactive Television and the sub-category Enhanced TV configure themselves as a field in which competitors - broadcasters, telecoms, cable operators, internet service providers, content providers, software and hardware companies – can be collaborators and partners.

Also to follow up closely is the game console market expansion, such as Sony's Dreamcast. Not only the game consols will have the potential of offering interactive

[9] *"Broadband E-battle",* Deutsch Bank, January 2000, page18 – available in http://www.itvt.com/dbab.html

services and allowing web browsing, but also they have the potential of delivering Interactive Television's programmes and services.

In summary, the Deutsche Bank's report "Broadband E-battle" presents the following Interactive Television industry's drivers:

Web Sites and Broadband Service Providers
- More revenue per subscriber (video on demand + interactive services)
- Increases penetration
- Competitive fears

Consumers
- Vast improvement in TV experience
- Internet made transparent
- No PC cost and obsolescence

Equipment Suppliers
- Requires box upgrades
- More homes with set-top-boxes
- More software and services sales

Broadcasters and advertisers
- Move interactive battle to TV
- More revenue opportunities
- More targeted advertising
- Turn viewers into users[10]

1.3.3. Television at the crossroads

Information from several sources indicates that the consumers are interested, the technologies are available and the Interactive Television's programmes and services are being developed**. But exactly how much is all this going to cost?** The question is puzzling consumers, but most of all it is worrying the executive administrators and managers of the many companies related with this industry. Even if there isn't yet a well-defined business models to be adopted and refined, several companies are already negotiating or producing products in all the industry chain. In Portugal, the same situation is happening.

Is the year 2000 the zero year for Interactive Television's industry? Already in past years, many people announced the massive expansion of this new media industry, but the facts did not match the predictions. Still, the present year has been quite fertile in terms of events that configure a solid ground in which, at last, Interactive Television may grow firmly and strongly.

[10] *"Broadband E-battle",* Deutsch Bank, January 2000, page 25 – available in http://www.itvt.com/dbab.html

Is this the end of Television as we know it? Partially yes, if we think that **it will end the monopoly of the uni-directional model**: the broadcasters provide television and the spectator consumes it, with no chance of feedback using the same channel. Nevertheless, it won't be over night that Interactive Television will become a winner. Also, we have to consider that it may be marginal in relation with traditional television and Internet.

The Interactive Television's success is not certain. Maybe television should continue to be "stupid", as we read in the first lines of a report published by the economical news provider Red Herring report, last August:
"Wouldn't it be funny if the television industry threw a party and nobody tuned in? Wouldn't it be sad if the fanciful dream of interactive television proved, despite all of its technical capabilities, to be a commercial dud? It would certainly be ironic if an industry spent hundreds of millions of dollars, and exhausted an equal number of engineer- and executive-hours, on a panacea that turned out to be a flat soda warmed in the summer sun"[11].

In order to know what the Americans think about Interactive Television, Red Herring ordered an inquiry to Angus Reid Group, which was also published in their August 200 edition. A universe for 1.000 people participated in the inquiry, made in May 2000, which was also published in the August edition of Red Herring. The inquiry concluded the following:

- **50% of the people interviewed aren't interested to interact with the television set,**
- **14% of the people interviewed consider very appealing to interact with the television set.**

In terms of interactivity forms, these were the results:

- **47%** of the people interviewed were interested in **time-shifting programs**
- **36%** are interested in **video-on-demand,**
- **12%**a re interested in **shopping through the televison set** [12] .

What about Europe? What would be the results if a similar inquiry were made here? If one believes in the well succeed development of interactive television in England and France, the results would be completely different. The Internet low penetration rates in Europe explain, partially, why there are good results in terms of Interactive Television subscribers both by BSkyB in England and CanalSatellite in France (*see 6. The Stages - case studies*).

But the doubts still remain **– what is and will be the level of consumer acceptance of this new media industry?** Will Interactive Television take the leading place from Internet as an interactive medium for information, communication and entertainment?

[11] http://www.redherring.com/mag/issue81/mag-maybe-81.html
[12] idem

More important still is to ask – at least once – **will Interactive Television improve people's lives?** Before going along with the ones who advocate for the development of this new industry, one has to ask himself **what Interactive Television will be**? Is it going to be another way of empowering the already powerful or, better, of building up a more democratic, tolerant and wiser society, a real Knowledge Society?

In **George Gilder's** opinion, what is driving the future – the "telefuture", as he calls it -, isn't the convergence of films and television, consumer electronics and publishing, as well as computers and games, but is the onrush of computer technology invading and conquering all these domains. The author of "Live After Television" leaves us his warning words, published in 1994 but that today are still surprisingly accurate:
"Will life after television mean the dissolution of the American hearth into a pornucopia of 900-number videos, (…) and real-crime performances in multimedia by superstar serial killers? Or will the new technologies uplift the culture and empower the people?"[13]

Before Gilder, another eminent media critique gave powerful insights about the nature of the "beast". Often misunderstood or idolised, **Marshall McLuhan**'s aphorisms still drive many to rethink about the world, in which the media is more and more the message and the massage:
"All media work us over completely. They are so pervasive in their personal, political, economic, aesthetic, psychological, moral, ethical, and social consequences that they leave no part of us untouched, unaffected, unaltered"[14]

Nevertheless, it is my personal believe that Interactive Television will indeed "uplift the culture and empower the people", as George Gilder puts it. Hopefully, some of the best people working in the television industry and in the multimedia industry (or any other industry) will come together to make this new media not George Orwell's nightmare as related in his book "1984", but essentially a forum or a public space through which the a society can improve itself as a whole, respecting the rights of each individual. The show has just begun…

[13] http://www.seas.upenn.edu/~gaj1/tvgg.html
[14] McLUHAN, Marshall – *The medium is the massage*. Hard Wired, 1996.

2. THE HISTORY – When?

2.1. Interactive television before Internet

2.1.1. From Qube to the Full Service Network Service trial

Qube from Warner Amex, a joint venture between Warner Communications and American Express, was the first Interactive Television service to be tested in the whole world, during 1979 on Columbus, Ohio. The subscribers could chose the programming, sending messages to cable television operator. On the other side of the Atlantic, BBC began the Videotext service, which allowed the users to exchange messages. Both trials weren't well succeeded and they were quickly forgotten[15].

Fifteen years passed and Time Warned implemented in Orlando, Florida the **Full Service Network**. Launched in December 14th 1994, the Interactive Television service was brought to the 4.000 homes thanks to fibre-optics cabling, providing video-on-demand, tele-shopping, games, electronic program guides and interactive postal services. Apparently, the project had everything to succeed, but the tremendous costs that involved its development and maintenance forced it to close doors in April 1997. Time Warner may have lost 200 millions dollars in this project.

Source: http://www.rtnda.org/resources/intnews/arttv.htm

Nevertheless, there are important lessons to learn out of the Full Service Network trial, according to its the Director-News, Peter M. Zollman:
"The Full Service Network was sleek, fast and gorgeous. It was a flagship for its owners. But it was not commercially viable. And just as pundits once predicted that the supersonic transport would be the only way to travel, many experts believe that some day everyone will watch television the way FSN subscribers watched television"[16].

[15] http://redherring.com/mag/issue81/mag-teledivision-81.html
[16] http://www.rtnda.org/resources/intnews/arttv.htm

2.1.2. Microsoft and the Cablesoft trials

During the same time, other companies also were investing in Interactive Television projects, and unfortunately its fate was the same. Even Disney began to develop its own project on this new media industry, known as **Americast**, which was financed by four big banking institutions[17].

Microsoft also became interested in the subject. Already in 1993, Bill Gates referred to Interactive Television, as points out James Wallace in his article "the wackiest race in the world". For Wallace, Bill Gates knew that the software desktop revenue source would one day dry out, and he believed that the future of Microsoft consisted in the development of interactive television software. Still, Bill Gates didn't mention the word Internet in his speeches[18].

That same year, Bill Gates would invest millions of dollars in Interactive Television research and development. Gates wanted to "marry" PC Software with the entertainment industry. The next step would be to find the right partners. Creative Artists Agency, Tele-Communications Inc. and Time Warner united their efforts with Microsoft and created **Cablesoft**. During 1993 Cablesoft made dozens of experiments to test the consumer interest in the information highway services.

Finally, Microsoft decided to abandon the Cablesoft idea, and in 1995, Gates publicly stated that he considered Internet as the most important development in the computer industry ever since IBM personal computers, as the Wired journalist Frank Rose recalls: "By mid-1995, with the Internet boom in full motion, interactive TV was fast becoming a joke. To protect its core business and retain its credibility, Microsoft had to do something fast. (…) That May, Gates was circulating an internal memo called "The Internet Tidal Wave" in which he announced that the Net was the most important development in computing since the début of the IBM PC and declared it the company's Number One priority"[19].

2.1.3. Most common mistakes

This and other pioneer trials made the same mistakes, according to the researchers, from the Portuguese University of Aveiro, Jorge Trinidad de Abreu e Vasco Afonso da Silva Branco:

a) The limitation of the number of users involved in the trials;
b) The great technical sophistication of the solutions presented;
c) The lack of users' input in terms of defining the services that were offered;
d) The limitation of the services and its inadequacy to the real needs and desires of the users[20].

[17] http://redherring.com/mag/issue81/mag-teledivision-81.html
[18] http://www.centroatl.pt/edigest/edicoes/ed40cap1.html
[19] http://www.wired.com/wired/archive/6.04/mstv_pr.html
[20] *"Futuro da Internet"* - ALVES, José Augusto; CAMPOS, Pedro Campos; BRITO, Pedro Quelhas; edit. Centro Atlântico, 1999, page 105-115.

But today, the necessary and sufficient conditions are gathered to allow Interactive Television to be successful, concluded the Deutsche Bank's report "Broadband E-battle", since:

In 1993

- No content or no critical mass,
- Prohibitively expensive box ($4.000 in '93 Orlando trial),
- Lacking Infrastructure (25% two way in '97),
- Not strategic for the big players.

In 2000

- Must have ETV (Enhanced Television) – services are here: enhanced broadcasting, time shifting, video-on-demand, and program guide.
- Affordable box ($100-$350, some basic DBS boxes are free)
- Big players recognise strategic importance (Microsoft, AOL)[21]

[21] *"Broadband E-battle",* Deutsch Bank, January 2000, pag. 47 – available in http://www.itvt.com/dbab.html

2.2. Interactive television after Internet

2.2.1. Applying Internet's lessons - WebTV

Internet's explosion would solve many of Interactive Television's problems and uncertainties, according to the researchers Jorge Trinidad Ferraz de Abreu e Vasco Afonso da Silva Branco, since in one package we find the contents, the technologies and the users of interactive services[22].

These researchers still have their doubts if the Internet may be applied to Interactive Television projects, considering that it is essential to ask the three following questions:

a) Web service and technology are public domain and they are not controlled bya few economical and politic agents as it happened in other kind of situations,
b) There is a great deal of uncertainty regarding the relevance of web interactivity for the common television viewer,
c) On the other hand, the television set is no longer the only solution to deliver interactive services; the PC is increasingly the alternative solution and it also is a more flexible platform for interactive services.

Therefore, the **set-top box starts to include an Internet modem, both for cable connection and regular phone line connection, and also provides the specific Interactive Television programmes and services**. A pioneer company in this sort of solution was **Web TV Networks**

Source: WebTV www.webtv.com

[22] *"Futuro da Internet"* - ALVES, José Augusto; CAMPOS, Pedro Campos; BRITO, Pedro Quelhas; edit. Centro Atlântico, 1999, page 105-115.

that since 1996 is providing Internet access through the television set, as well as the necessary hardware for this kind of service. **Microsoft bought Web TV Networks in April 1997 for about 425 million dollars[23],** an acquisition considered at that time as the biggest ever made by Bill Gates' company.

2.2.2. The first commercial systems – iTV and Singapore ONE

Another important landmark in Interactive Television's history was the system implemented by **Hong Kong Telecom**, an essential part of the Cyberport mega-project, which would cost 1.6 billion dollars, in order to transform the place in an "e-commerce heaven". In March 1998, the company launched **iTV**, that was considered at the time as the first commercial Interactive Television system in the whole world, offering video-on-demand, music-on-demand, karaoke, games, children educational programmes, business information, news, sports, entertainment, tele-shopping and tele-banking[24].

The project had everything to be a success. Hong Kong has an excellent telecommunications infra-structure, being considered the best place in the globe to implement video-on-demand services, and it has a population of 6 million people eager to consume the last electronic gadgets. Even Bill Gates was impressed with the project and, on purpose, he went to Hong Kong and announced that region would be Microsoft's lab to integrate the PC and the televison[25].

Nevertheless, the initial enthusiasm of the entrepreneurs was not followed by the consumers. The Hong Kong Telecom predicted thay thye would have 250.000 subscribers until the end of 1998, each one paying about 50 dollars per month. The reality was quite different: the Interactive Television service only had 80.000 subscribers by the end of that year, each one paying about 35 dollars per month, half of the service costed to the company.

Almost simultaneously, the neighbor island Singapore also launched it own Interactive Television project. This case the service was accessible through the PC and not through television set, thanks to the high bandwidth network **Singapore ONE**. The project also revealed itself as a failure, with only 14.000 subscribers. The reasons behind the failure? "Most people don't want to see a movie on a PC", explained a representative from the Singapore company to the magazine The Economist[26].

If the economical recession in Asia can explain partially the failure of Interactive Television projects, it can't explain everything. Economical analysts remarked that Hong Kong Telecom made a strategic error when it provided first the service to low-income families, because it was easier to install and because they see more television than the

[23] http://www.wired.com/wired/archive/6.04/mstv_pr.html
[24] http://www.itvhk.com
[25] http://www.economist.com/editorial/freeforall/13-3-99/index_wb9868.html
[26] idem

upper classes. The Western countries have a lot to learn from the failures of these projects, concludes The Economist's article:
"Asians are normally enthusiastic early-adopters of the latest gizmo. Western executives thrilled by the vision of an interactive future should note the apathy in Hong Kong, and beware."[27]

2.2.3. France and England – towards success?

In Europe, France was the first country where Interactive Television services and programmes were commercially launched, back in 1997, even if they were quite primitive compared with the actual ones. The French still hold the leadership in this industry, thanks to the 870.000 subscribers of **Television par Satellite** and the 3 million subscribers of **Canal Satellite**. But England, mainly because of the Interactive Television service **Open from British Sky Broadcasting** (BSkyB), is about to "steal" the first place conquered by France[28].

[27] http://www.economist.com/editorial/freeforall/13-3-99/index_wb9868.html
[28] http://interactive.wsj.com/public/current/articles/SB948905708265366280.htm

3. THE PLAYERS – Who?

3.1. Interactive Television industry structure

3.1.1. Convergence of industries – television, telecoms, software, hardware, contents

Broadcasters, satellite TV distributors, cable operators, telecoms and Internet Service Providers, software and hardware companies, content providers – to become a winner, Interactive Television needs cooperation and competition between these industries.

Just to mention one example, no more than ten years ago the television and telecoms' business had very precise limits and their interests did not match. Today the situation is quite different: several broadcasters already made the transition to digital and they are now providing high band-width Internet access (such as CanalPlus and their services based on the Mediahighway platform), and the telecoms are creating their own channels from scratch (such as the CNL channel created by TV Cabo, the cable operator from Portugal Telecom).

On the other hand, **the traditional media and the old media become allies, instead of competing for the leadership of the same market**. The paradigmatic case of this alliance between old and new media is the Internet Service Provider **AOL** merge with and the media and cinema giant **Time Warner**.

According to Deutsche Bank's report "Broadband E-Battle", in 1999 the new media and the traditional media came together more than the years before, and the AOL and Time Warner merge strengthened the following trends:

- **the pace of new/ old media convergence is rapidly accelerating**; synergies between on-line and off-line media are rampant today, but should be magnified exponentially by Enhanced TV and broadband Internet access;
- **the valuen of traditional media partnerships should continue to rise**;
- **the exponential roolout of broadband access and rich media content,** since today there are hundreds of millions of audio and video hours locked up in analog vauls waiting to be freed[29].

Even if other classifications are possible and equally accurate, it was chosen for the present thesis to divide the Interactive Televsion players in the following categories:

- **Television Operators** (terrestrial, cable, satellite), which includes the companies that make broadcasting their core-business.

[29] *"Broadband E-battle",* Deutsch Bank, January 2000, page 18-19 – available in http://www.itvt.com/dbab.html

- **Technical Developers** (hardware, software, middleware), which includes the companies that are currently developing set-top boxes, platforms and software.

- **Content Providers** (text, image, sound, video), which includes the companies that develop and commercialise contents in many possible formats.

3.1.2. Television operators - (terrestrial, cable, satellite)

Television operators – traditionally a conservative industry – see with apprehension the emergence of Interactive Television services and programs, mostly due to the failure of the trials made during the last two decades.

Is it this time that it will succeed? – ask themselves the television operators. Some say yes – most of all the ones who already offer interactivity through the computer-, others say no. The last generation of Interactive Television providers had been inaugurated in 1997 by the French company **Television Par Satellite**, today with more than 830.000 subscribers, immediately followed by **Canal Plus,** which already surpasses TPS with more than 3 million subscribers[30].

Significantly, still today France is considered the most advanced country in the Interactive Television industry. England seems to want to occupy France's leading place, if we observe the quick expansion of BSkyB service **Open**.

In the United States of America, **Web TV** from Microsoft is the leading platform, with more than one million subscribers that can watch interactive programs in NBC or in MSBC, just to mention the most important ones. Nevertheless, AOL arrival to the market with its product **AOLTV** may change the dominant position of NBC and Microsoft.

Returning to Europe, more precisely to the Iberic Peninsula, the first company to offer interactive services through the television set was **Vía Digital** from the group Telefónica, since May 1999. In Portugal, **TV Cabo** from the Portugal Telecom group recently announced that it would launch commercially this kind of services and programs not before March 2001.

For the current thesis, the option was to classify the television operators the folloying way;

- **Analogic + Digital Terrestrial Broadcasters**
- **Cable Operators**
- **Digital Satelite Broadcasters**

[30] http://interactive.wsj.com/public/current/articles/SB948905708265366280.htm

3.1.3. Technical Developers - hardware, software, middleware

If the television operators provide the distribution infra-structures (as well as content, of course), then the technical developers are responsible for the set-top boxes' manufacturing, software and middleware development, and the many applications that support the Interactive Television services and programs.

Therefore, these are the technical developers categories of the Interactive Television industry:

- **Hardware developers**
- **Middleware / Platform developers**
- **Software developers**

Regarding the hardware, for this particular document it will only be provided brief information about the set-top box manufacturers. A quick analysis reveals that the biggest set-top box manufacturers are also some of the biggest consumer electronics companies in the world, such as **Philips** and **Sony**. Nevertheless, the biggest of them all in terms of set-top box manufacturing is the British **Pace Micro Technologies**.

Even if the set-top box is the traditional way to make interactive the ordinary television set, already other solutions are being developed. With no need of a decoder, in short term we will see on the market Interactive Television enabled television sets, personal assistants and the new generation mobile phone.

According to the Deutsche Bank report "Broadband E-Battle", until the end of 1999, there was an installed basis of 28 million Interactive Television enabled television sets[31]. Until 2004, it is predicted that more than 250 million set-top boxes will be providing Interactive Television all over the world, out of which 150 million will be in the United States of America, according to the same report. Therefore, it is foreseeable the following evolution:

In 1999, 28 million Interactive Television enabled units , out of which

- 41% Digital Broadcast Satellite,
- 27% Digital set-top boxes,
- 18% Analog set-top boxes,
- 7% Guide-enabled TVs,
- 4% WebTV/ AOLTV set-top boxes,
- 4% Web-enabled video games.

In 2004, 250 million Interactive Television enabled units , out of which

- 27% Digital set-top boxes,
- 22%Web-enabled video games,

[31] *"Broadband E-battle",* Deutsch Bank, January 2000, page 27 – available in http://www.itvt.com/dbab.html

- 19% Digital Broadcast Satellite,
- 18% Guide-enabled TVs,
- 6% WebTV / AOLTV set-top boxes,
- 2% Advanced Analog,
- 6% others[32]

Interactive Television platforms – that develop software and middleware for the set-top boxes, as well as provide other services – compete with each other in order to obtain the maximum number of partnerships with broadcasters, cable and satellite TV operators, software and hardware companies. The biggest among the big ones are **Open TV, Liberate, CanalPlus MediaHighway, Microsoft WebTV** and **Power TV, all** of them referred by Pace Micro Technology's (the biggest set-top box manufacturer) marketing vice-president, Mr. Andrew Wallace:
"We're seeing the five main players in interactive TV -- OpenTV, Liberate, CanalPlus, Microsoft, and PowerTV -- all starting to expand their marketing efforts in the UK and Western Europe"[33].

For each platform there are several dozens of software companies, that develop and upgrade the standards. The software companies work within the technical specifications provided by the platform companies. For software and multimedia companies creativity can be applied in interface design, specifically, in the Electronic Program Guide's creation.

3.1.4. Content Providers

The typical content providers of traditional media range from archives to news agencies, until recording and publishing companies, as well as cinema and video production firms. Thanks to Internet, the demand for contents increased substantially. Also the offer is escalating, as we can observe by the growing number of content providers.

Among the greatest content providers in the whole world, we find many of the biggest media corporations such as **Discovery Communications, Disney, Electronic Arts, Seagram, Time Warner / AOL, Viacom** and Vivendi.

[32] *"Broadband E-battle",* Deutsch Bank, January 2000, page 27 – available in http://www.itvt.com/dbab.html
[33] http://www.media-visions.com/itv-pace.html

3.2. Players – the profiles

3.2.1. Analogic + Digital Terrestrial Broadcasters

3.2.1.1. BBC, UK

http://www.bbc.co.uk, http://www.bbc.co.uk/digital/

The first BBC Interactive Television projects were in the following areas of programming: Children, Education, Information and Sports. The Voyager program fits in the first two categories, while the BBC Text service is mostly aimed to provide news and sports coverage. BBC still provides BBC Knowledge Text, an information service available 24 hour a day and seven days a week, that comes along every BBC Knowledge programs.

This way, BBC provides the following Interactive Television services and programs:

- BBC Knowledge Text service, which allows viewing information about events, organisations and news related with the program themes;
- BBC Text service, which offers hundreds of pages with the latest news, sports, weather report and business news – more, it offers good quality images and graphics, that allows us to keep viewing the program in a small window (about a quarter of the screen size);
- Voyager program, which is defined by BBC as a new multimedia experience integrating BBC Knowledge – after the program is finished, the viewer can access a quiz by pressing a specific button on his/her remote control.

3.2.1.2. ONDigital - broadcast, UK

http://www.ondigital.com

The British company ONDigital was the first one in the world to launch a Digital Terrestrial Television (DTT) service. Today, ONDigital provides about thirty television channels as well as interactive services through the traditional way of broadcasting. Still, one has to mention the pay-per-view service ONrequest, which allows to view sport events and movies by a certain fee.

ONDigital was created by two of the biggest independent broadcasters in the United Kingdom: Carlton Communications and Granada Media Group. Today it employs more than 1.500 people. The interactive services offered by ONDigital are the following:

- ONnet, which allows to have Internet access through the television set,
- ONmail, which gives the chance to receive and send electronic mail (it is necessary a keyboard for this task),
- ONoffer, on channel 47 that allows to buy items from famous brands,
- Digital Text, which provides the latest news, sports results, weather forecast, program guide and the movies of the week – the service is available in three different channels: in channel 9 we have access to Digital Teletext, in channel 10 to BBC Text, and in channel 17 to FourText,
- Interactive TV, which offers interactive programs from the following channels: Carlton Food Network, Carlton Cinema, BBC Knowledge Text and BBC Knowledge Voyager.

3.2.2. Cable Operators

3.2.2.1. AOLTV , USA

http://www.aoltv.com
(see case studies)

3.2.2.2. AT&T

http://www.att.com/
AT&T Corp. is the world leader in the telecommunication technology and services business. AT&T Broadband – the AT&T broadband business unit – is one of the biggest of its kind in the USA, providing television to about 16 million subscribers all over the country. The corporation also provides services such as digital cable television, broadband Internet access and local phone access. AT&T is one of Microsoft TV platform clients.

3.2.2.3. Cable & Wireless, UK

www.cwplc.com
Cable & Wireless is the third biggest international telecommunication company in the world. Also, it provides mobile communications in more than 30 countries- Liberate platform was chosen by Cable & Wireless for its broadband consumer services. The company plans to distribute Liberate TV Navigator software in it digital television set-top boxes, which are manufactured by Pace Micro Technology.

3.2.2.4. Direct TV, USA

http://www.directv.com
In 1994, Direct TV began to develop its activities and today it is the biggest digital television provider in all USA, offering 225 channels to 8 million customers. In July 18th 2000, Direct TV announced that its set-top boxes would integrate the Wink Communications' Enhanced TV technology The system allow to add layers of text and graphics to the television program being broadcasted. This way, the user can interact with the program thanks to the remote control and, therefore get information, special offers, discounts and buy goods and services[34].
Direct TV also announced, in July 12th 2000, that it will adopt the Microsoft platform known as Ultimate TV (which will replace the current Web TV platform). The new system RCA DS4290RE will integrate Direct TV's programming, with the ability to digitally record up to 30 programming hours, to provide Internet access and to interact with specific programs[35].

3.2.2.5. NBC, USA

http://etv.nbc.com/website/index.html
NBC is known to be one of the traditional media leaders in north America, that also has a very strong presence in Internet, namely, thanks to its connection to companies such

[34] http://www.itvreport.com/news/0700/071900winkdirectv.htm
[35] http://www.microsoft.com/tv/customers/DIRECTV.asp

as Snap.com, CNET, Launch Media, Talk City, iVillage, Telescan and ValueVision International. Also, NBC is responsible for NBC.com, the first web site developed by a television network with its own contents.

A product of convergence between NBC and Microsoft, MSNBC is simultaneously a television channel and an informative web site. Among its many new and old media ventures, one was to highlight the following initiatives:

- NBC Intercast, with Intel,
- WebTV and WebTV Plus, with Microsoft,
- Enhanced television programs, with Wink Communications,
- Electronic Program Guides, with Gemstar,
- Video-on-demand, with Intertainer.

3.2.2.6. NTL, UK

http://www.ntl.com/

NTL is one of the three biggest telecommunication providers in the United Kingdom, in all the key application areas: telecoms, television, Internet and mobile. The company selected the Microsoft TV platform to deliver enhanced interactive TV services as part of its digital terrestrial TV and telephony package for its United Kingdom consumers[36]. Nevertheless, NTL also integrated Liberate's advanced fibber-optic network infrastructure to deliver an easy-to-use interactive service, enabling NTL's customers to view television and Internet content simultaneously on their television screens[37].

In 1998, NTL launched the world's first digital terrestrial TV network, and a year later, NTL began rolling out the UK's first interactive TV service to be delivered over DTTV. With businesses in France, Australia, and Ireland, NTL current customer base combined with the recent acquisitions of Cable & Wireless' cable assets and Switzerland's Cablecom reaches 4.2 million subscribers[38].

3.2.2.7. Telewest Communications, UK

http://www.telewest.co.uk

The Telewest Communications is a broadband communications provider, which currently supplies a telephone, television channels and Internet package for about 1,4 million homes in the United Kingdom – making this company the second biggest cable televisions operator in the British islands.

The company chose Two Way TV - specialised in interactive entertainment for television - to develop its interactive television package Digital Active Service, namely:

- interactive games,
- interactive quizzes
- interactive sports programs[39]

[36] http://www.microsoft.com/tv/customers/NTL.asp
[37] http://customers.liberate.com/customers/ntl.html
[38] http://www.microsoft.com/tv/customers/NTL.asp
[39] http://www.dtvbuyer.com/Htm/Internet/2000/1_00/1_31/telewest_carry_two_way.htm

3.2.2.8. UPC, NK

http://www.upccorp.com

UPC is headquartered in Amsterdam, Netherlands, United Pan-Europe Communications (UPC) is one of the most innovative broadband communications companies in Europe and owns and operates the largest pan-European group of broadband communication networks. UPC provides cable television, telephony, high-speed Internet access, and programming services in 16 countries across Europe and in Israel. UPC's systems passes approximately 10.7 million homes, with more than 6.9 million basic cable subscribers. In addition, UPC systems had 249,700 residential telephony lines and 18,300 business telephony lines as well as 150,000 residential Internet subscribers and 3,700 business Internet subscribers.

3.2.3. Direct Broadcast Satellite Operators

3.2.3.1. CanalSatellite, FR

http://www.canalsatellite.fr/

(see case studies)

3.2.3.2. Open… / News Corp.

http://www.open-here.co.uk/

(see case studies)

3.2.3.3. Via Digital

http://www.viadigital.es/

(see case studies)

3.2.4. Platform Developers

3.2.4.1. CanalPlus Mediahighway, FR

http://www.canalplus-technologies.com

(see case studies - TECHNOLOGIES)

3.2.4.2. Intel, USA

http://www.intel.com

After the failure of the Intercast project, that aimed to place Television in the PC, Intel is now investing on interactive television in the television set. The Intel Architecture Labs is currently developing the Digital Entertainment Initiative, which includes the Enhanced Digital Broadcast that intends to combine the capacities narratives of the television with the Internet interactivity. According to Intel's web site, this represents the first real convergence between the television and the Internet.

In partnership with American Film Institute (AFI), Intel was responsible for the creation of the AFI-Intel Enhanced TV Workshop, an initiative with the mission to teach the professionals of the television the future interactive technologies to be integrated in this medium.

3.2.4.3. Liberate, USA

http://www.liberate.com
(see case studies - TECHNOLOGIES)

3.2.4.4. Open TV, USA

http://www.opentv.com
(see case studies - TECHNOLOGIES)

3.2.4.5. Power TV, USA

http://www.powertv.com
(see case studies - TECHNOLOGIES)

3.2.4.6. RespondTV

http://www.respondtv.com
RespondTV provides a complete solution of enhanced TV services, for set-top boxes whose standard is based on Internet protocols, such as the ones from Microsoft, Liberate, PowerTV, Spyglass and AOLTV.

3.2.4.7. Microsoft TV

http://www.webtv.com , http://www.microsoft.com/tv
(see case studies - TECHNOLOGIES)

3.2.4.8. Wink Communications, USA

http://www.wink.com
The Wink Communications offers an enhanced broadcasting system, that allows to add interactivity to the programs being broadcasted. Using the remote control, the user can have access to information related with the program, to vote, to play and answer the questionnaires.

The Wink Communications enhanced broadcasting system is available in Japan since October 1996, and since July 1998 on several North American states (California, Connecticut, Illinois, Missouri, Tennessee)[40].

[40] http://etv.nbc.com/website/index.html

3.2.2.8. Worldgate, USA

http://www.wgate.com

WorldGate Communications provides services and technologies for Internet and Television, and it is based on the American city of Philadelphia. The company was created in 1995 by Hal Krisbergh, a cable television veteran, and it commercial launch occurred in 1998. Today, WorldGate Communications has a dozen offices in the USA and in seven countries all over the world.

WorldGate Communications has strategic alliances with two of the biggest American set-top boxes manufacturers - General Instrument and Scientific-Atlanta. Channel HyperLinking is the name given to the Interactive Television proprietary technology developed by WorldGate, which allows the user to have direct access to a web site associated to a television ad or program, without the need to write the URL. WorldGate has more than 70 partners of the HyperLinking technology, namely the television networks CNN, E!, Showtime, A&E and Lifetime.

3.2.5. Hardware Developers

3.2.5.1. Pace Micro

http://www.pace.co.uk

Pace Micro Technology dedicates itself exclusively to digital television set-top boxes development and manufacturing, for satellite cable and terrestrial television. Now, it is the biggest European manufacturer of satellite television receptors, with more than 2 million boxes produced so far.

Pace Micro is currently manufacturing *set-top boxes* for two of the three market leaders in the cable television business in the United Kingdom - Cable and Wireless Communications and NTL. BSkyB, ONdigital and CanalPlus are among Pace Micro clients. In partnership with Cisco Systems, the company is now developing a new generation set-top box, capable of offering digital television, Internet and radio services. Pace Micro is also working with Toshiba, in order to integrate the technologies today applied on the set-top boxes into the future television.

3.2.5.2. Philips, DE

http://www.philipstraining.com/webtv/summary.htm

The Philips is one of the companies that developed, produced and commercialised set-top boxes for the Microsoft WebTV platform. This year, Philips the prototype DVB MTC8030 in the NCTA Cable 2000 event, which will be available in the end of 2000 for the cable television operators in the United States of America. The new product combines the traditional television with the new interactive programs and services, broadband access to Internet, the possibility of connecting to a PC as an ordinary modem to a PC, and the Impulse Pay Per View[41]. The Digital Philips Networks, the Philips Consumer Electronics business group, is responsible for the set-top boxes development.

[41] http://www.broadcast.philips.com/Web/FProductType.asp?lNodeId=366&lArticleId=1378

3.2.5.3. Sony, JP

http://www.sony.com/ , http://www.sel.sony.com/SEL/consumer/webtv/

Sony is one of the companies who worked for the Microsoft WebTV platform as a set-top box developer, producer and distributor. Currently, the Japanese company has two slightly different models - the INT-W150 and the INT-W250.

3.2.5.4. Scientific-Atlanta, USA

http://www.scientificatlanta.com/nav/html/top/loframe.html

Scientific-Atlanta provides broadband Internet access, digital subscript systems for television networks, data and voice, among other services and products. Scientific-Atlanta actively participated in the Interactive Television trial Full-Service Network Project in Orlando, Florida. Today, the company is actively engaged in making the Power TV platform a worldwide success.

3.2.5.6. TiVo

http://www.TiVo.com

TiVo's set-top box allows to record programs for the hard disk, instead of recording the traditional video cassette. The TiVo technology also allows "to skip" advertising, to replay specific moments of a program and to modify programming schedule. The company's founder, Mike Ramsayand Jim Barton, had worked together in the famous Interactive Television trial Full-Service Network Project in Orlando, Florida. In January of 1999, they had demonstrated TiVo's capacities in the National Consumer Electronics Show.

Among its many investors, we find NBC, Philips, Walt Disney, Cox Communications and the Microsoft co-founder Paul Allen. Recently, the AOL announced that its set-top boxes will incorporate TiVo's the utilities in the beginning of 2001[42].

3.2.5.7. Replay TV

http://www.replaytv.com/flat.htm

ReplayTV is TiVo's closest competitor, whose set-top box also allows to record programs for the hard disk, as well as allows to skip advertising and to stop the program being broadcasted to review it when one wishes to review.

ReplayTV's main investors are Motorola, Sega, Matsushita, Excite@Home, Scientific-Atlanta, News Corp., Rogers Communications and the Universal Music Group, among others.

[42] http://news.cnet.com/news/0-1005-200-2075893.html?tag=st.ne.1002.srchres.ni

3.2.6. Software Developers

3.2.6.1. Extend Media, CND

http://www.extend.com/1_relaunch.htm

ExtendMedia is specialised in integrating the interactive contents of broadcasters and television producers for the Internet, Interactive television and mobile telecommunications devices. Created in 1991 by Keith Kocho, ExtendMedia has its headquarters in Toronto, Canada, and it has offices in New York and Los Angeles. Its development platform is Microsoft's WebTV.

ExtendMedia most prominent customers are PBS, New Line Cinema, Eyemark Entertainment, Discovery Health, Cablevision, Creative Artists Agency, BCE and Alliance Atlantis. Among its Interactive Television projects, the highlight goes to the interactive documentary "Wonders of the African World", produced for PBS in partnership with Intel[43].

3.2.6.2. Gemstar, UK

www.gemstar.co.uk

Gemstar is specialized in the development of Electronic Program Guides (EPG), which are currently considered by many as one of Interactive Television killer applications.

3.2.6.3. NPTV , FR

http://www.nptv.fr/ps/index.htm

NPTV has been developing its Interactive Television services catalogue that includes interactive applications synchronized with television programs, e-commerce, electronic program guides, interactive advertising, among others. The development platform chosen was CanalPlus Mediahighway.

3.2.6.4. Spyglass, USA

http://www.spyglass.com/

Spyglass is a strategical consulting provider for the Internet, as well as a provider of software and professional services that allow to take the most out of the Internet. Created in 1990 by students from the University of the Illinois, USA, Spyglass has been developing technologies for Internet (namely, the Spyglass browser Mosaic), set-top boxes, mobile telephones and other mobile telecommunications devices.

Microsoft, GTE, Motorola, NEC, Nokia, Sony, TeleCruz, Thomson Consumer Electronics, WorldGate and Xerox are among its customers. During 2000, Spyglass was acquired by Open TV, the leader company in the Interactive Television platform development business[44].

[43] http://www.pbs.org/wonders/
[44] http://www.itvreport.com/news/0700/072400opentv.htm

3.2.6.5. Teracom, Suécia

http://www.teracom.se/

The Swedish company Teracom develops Interactive Television projects using the Open TV platform. During 1998, the company undertook the Platform for Interactive TV cable project, which consisted in the creation of a first generation system to produce services and applications for digital television.

2.2.6.6. Two Way TV

http://www.twowaytv.com

The Two Way TV is specialised in entertainment and games for Interactive Television, having as partners Cable & Wireless Communications, Ladbrokes, and the venture capital fund American Vencom. Created in 1992, Two Way TV has a system architecture that can be implemented in any one of the platforms and through satellite, cable or terrestrial television[45].

3.2.6.7. Visionik

http://www.visionik.com/

Part of the Agency.com group, Visionik develops Interactive Television services and programs using the Open TV the platform.

3.2.7. Content Providers

3.2.7.1. Discovery Communications Inc

http://www.discovery.com

Discovery Communications offers to the television cable and satellite viewers such channels as the Discovery Channel, Discovery People, Planet Animal, Travel Channel and Discovery Health. Per year, Discovery Communications puts into motion about 1 billion dollars in all its activities, according to The Standard Industry, arriving to the 250 million houses in more than 145 countries.

3.2.7.2. Disney

http://www.disney.com

The Disney is of the biggest corporations in the media and entertainment industry in the whole world.

3.2.7.3. Electronic Arts

http://www.ea.com

Electronic Arts is considered the world leader company of entertainment software. With headquarters in Redwood City, California, the company develops, publishes and distributes video software for games pads and PCs since 1982. Electronic Arts commercializes its products with the following brand names: Electronic Arts, EA

[45] http://www.dtvbuyer.com/Htm/Internet/2000/1_00/1_31/telewest_carry_two_way.htm

SPORTS, Maxis, ORIGIN, Bullfrog Productions, Westwood Studios and Jane's Combat Simulations.

3.2.7.4. Seagram

http://www.seagram.com

The Seagram operates in four distinct lines of business: music, movies and television, entertainment parks and alcoholic beverages. It withholds the biggest record music company in the world - Universal Music Group-, and it is the owner of retail stores as well as develops entertainment software. With headquarters in Montreal, Canada, Seagram started out to be a giant of alcoholic beverage production and commercialisation. Currently, it owns brand names such as Chivas Regal, Crown Royal, Captain Morgan, Martell and Absolut Vodka.

In June of 2000, Seagram announced it would merge with the Viacom group and CanalPlus, to create a totally integrated media and telecommunications group. Now called Vivendi Universal, the group will supply movies, television programs, music, sport events, games and educational information and of professional training in all the analogue and digital formats - terrestrial television satellite and cable, Internet, radio, mobile telecommunication devices, publishing companies, among others[46].

3.2.7.5. Time Warner / AOL

www.pathfinder.com/corp

(see case studies AOL TV)

3.2.7.6. Viacom

http://www.viacom.com/

Viacom is one of the global leaders in the entertainment, news, sport and music creation, promotion and distribution. Among its most widely known brand names are CBS, MTV, Nickelodeon, VH1, Paramount Pictures, UPN, TNN, and Blockbuster.

3.2.7.7. Vivendi

http://www.vivendi.com

With headquarters in Paris, the Vivendi group is the one of the world greatest in following businesses: telecommunications, Internet, publishing, multimedia and television (it owns 49% of Canal Plus). The group is still the worldwide leader of environment-related services, operating in more than 100 countries, with about 260.000 employees.

[46] http://www.seagram.com/news/news_text.asp?contentID=798

3.3. Interactive Television providers – case studies

3.3.1. AOL TV, USA

http://www.aoltv.com

What is it? - AOL TV is an Interactive Television service, with the objective to enhance the television viewing experience, including some of the most popular AOL applications in the Internet, such as the instant messaging service Buddy List, e-mail and chat.

When it was launched? - June 19th, 2000

Who owns it? - America OnLine (AOL) - world-wide leader of interactive services, World Wide Web brand names, Internet technologies and e-commerce services -, it is still the biggest Internet Service Provider in the world with more than 22 million subscribers.

Who are its partners? - E! Entertainment Television, Oxygen Media, Starz, Encore Group, QVC, The Weather Channel, Sesame Workshop, Sony Pictures Digital, Entertainment's SoapCity, Court TV and Odyssey, A Henson and Hallmark Entertainment Network.

Where it is available? – in several regions in the United States of America, such as Phoenix, Baltimore and Sacramento, California; during the Fall 2000, AOLTV will reach more regions.

How many subscribers it has? - *(the number has not determined yet)*

What is the Interactive Television platform? - Liberate[47]

What is the set-top box manufacturer? - Philips Electronics ($249.95)

How much does it cost?

- AOL members pay $14.95, adding to its current $21.95 monthly fee
- AOL non-members $24.95

What Interactive Television services and programs does it provide?

- AOLTV Program Guide;
- One-click reminder and VCR recording settings;
- E-mail;
- Buddy List, the AOL instant messaging service that allows the user to communicate with other users while the program is being broadcasted;
- Chat, access to the 16.000 AOL chat rooms;
- "You've Got Pictures" service, that allows the user to share its pictures with other users;
- Built-in Parental Controls;
- Shop@AOLTV, the AOL shopping channel;
- Bookmarks, the selection of television channels and programs, favourite web sites and AOLTV zones;
- Access to AOL TV exclusive contents;
- Internet access.

History:

Established in 1984 by Steve Case, AOL now has more than 12.000 employees and it owns companies such as Netscape, Spinner.com, Winamp and AOL MovieFone. Among AOL's most prominent partners are Hewlett-Packard, Compaq, Casio, General Motors, TheStreet.com, Circuit City and Wal-Mart. Its main competitors are the Microsoft and the Yahoo.

In January 2000, AOL announced it would merge with the media and entertainment giant Time Warner, in a share exchange evaluated in 350 billion dollars. The AOL-Time Warner merge is the best example of the convergence between new and old media, and also of Internet's increasing importance as way to make business, to communicate, to inform and to entertain.

The AOL TV launching in June 2000 is another landmark in the company's history, as well as in the history of Interactive Television. The famous information and technology

[47] http://customers.liberate.com/customers/aol.html

web site CNET took into account the AOL's initiative with the news article entitled "Can Microsoft's Web TV handle the new competition", published June 16th 2000, in which it was claimed that AOL would unsettle the market:
"Although not clearly superior to existing interactive TV offerings, analysts say AOLTV is poised to have a significant effect on the market because of its track record with its online service for PC users and its relationship with cable provider Time Warner, as well as because no existing service has a lock on the market"[48]

[48] http://news.cnet.com/news/0-1005-200-2087071.html?tag=st

3.3.2. CanalSatellite Numérique - service interactif, France

http://www.canalsatellite.fr , http://www.canalsatellite.fr/static/offre/services_index.html

What is it? - CanalSatellite Numérique is a satellite television package, which includes more than 140 channel and services.

When it was launched? - April 1996

Who owns it? - CanalPlus (66%), Lagardere Group (34%)

Who are its partners? - …

Where it is available? - France

How many subscribers it has? - potentially 1.370 million subscribers in France, and 4.5 million subscribers in the whole world.

What is the Interactive Television platform? - CanalPlus MediaHighway

How much does it cost? - renting the set-top box: 45 Francs month; deposit: 500 Francs

What is the set-top box manufacturer? - Médiasat

What Interactive Television services and programs does it provide?

- CanalSat Jeux, a games service developed in partnership with television networks such as Cartoon Network, Seasons, Fox Kids, Comédie ! and Eurosport;
- Messagerie, a sort of e-mail system that allows the user to chat with anyone who is playing the network game Piktorezo;
- Service Interactif Lie à La Chaine Meteo, that offers access to tourist information, weather forecast, pollution levels, among many other useful information about a specific region;
- Service Interactif Lie à La Chaine Demain!, that provides access to the Zoé database, connected to the Demain! chain, with free information about job offers and professional training;
- Service Interactif Lie à La Chaine EuroSport, which consists in interactive screens with about a third of the total size of the television screen that allow to obtain more data about the sports events;
- Zap Foot, a Kiosque Interactive service that informs the sports viewer whenever some important action occurs in another sport event covered by the network, initiating the viewer to make zapping;
- Service de Navigations dans les Programmes, in which it is included the interactive mosaic and the Electronic Program Guide (EPG);
- ForumBoutique, that allows the user to buy good and services – it already has more than 17 boutiques opened by the networks Eurosport, Kiosque, MCM, Voyage, Fox Kids, Game One, Canal Jimmy.

History:

In April 1996, CanalSatellite became the first satellite television package to be offered in Europe. With more than 140 channels and services, CanalSatellite's package is the market leader of in France, with 1,370 million subscribers. In the whole world, 4,5 million customers subscribe CanalSatellite.

CanalSatellite also provides pay-per-view television in 11 channels, with exclusive films and sport events. Regarding the Interactive Television services, CanalSatellite chose the CanalPlus Mediaguard / Mediahighway platform developed by Canal Plus Technologies[49].

Created in 1984, CanalPlus is the pay-television European leader company, whose core competency is the programs and services production for thematic channels, subscribers systems management, conditional access to television broadcasts and, finally, Interactive Television technologies. In 1999, its profits had exceeded 3.4 billion dollars and it reached more than 14 million subscribers.

After the successful launching of pay-television in France, CanalPlus started to export its model to international markets ever since 1989, establishing partnerships with local

[49] http://www.canalsatellite.fr/static/institutionnel/instit_index.html

companies. The investment in thematic channels was the next step, in 1991 that allowed CanalPlus to expand its television production.

CanalPlus Technologies is one of the most recent CanalPlus initiatives. One of the main world-wide providers of digital television solutions and Interactive Television solutions, CanalPlus Technologies developed the conditional access software of MediaGuard and the Interactive Television platform MediaHighway.

3.3.3. Open… , England

http://www.open-here.co.uk, http://www.sky.com/skydigital

What is it? - Open is an independent company, created to pursue the objective of providing Interactive Television services through digital satellite television.

When it was launched? - October 12th 1999

Who owns it? - Currently, British Sky Broadcasting (BSkyB) owns 80% of Open, while British Telecommunications (BT) owns almost 20%. When it was launched, Open was owned by BSkyB (32.5%), BT (32.5%), HSBC Bank (20%) and Matsushita Electric Europe (15%).

Who are its partners?
Retailers: Argos, ASDA, Carphone Warehouse, Dixons, Manchester United merchandise, Next, Thorntons, Comet, WHSmith, Somerfield 24-7 and Woolworths;
Internet retailers: E*Trade, Kitbag, Yalplay, Toyzone and Gameplay;
Advertisers: Ford, Scottish Power, Mastercard, Nestle and Unilever;
Banking services: HSBC, Abbey National, Halifax, The Woolwich, Norwich and Cornhill
Theatre and Sports Tickets: First Call
Travel: Going Places, Tropical Places and First Choice.

Where it is available? – United Kingdom

How many subscribers it has? - Until April 2000, 3.3 million people used the service and 1.6 million people used it at least once a week.

What is the Interactive Television platform? - Open TV

What is the set-top box manufacturer? - Pace Micro (free for Sky Digital subscribers)

How much does it cost? - (free for Sky Digital subscribers)

What Interactive Television services and programs does it provide?
Open presents its interactive services offer in the following manner:

- Travel, a three services set - Travel Service, Tropical Places e Going Places – that allows the user to book its travel and it offers information about several holiday spots;
- Money, home-banking and stock brokering services were developed in partnership with the HSBC and Abbey National banks;
- Shops, a virtual shopping mall where the user can shop for digital cameras, mobile phones, lap-top computers, desktop computers, pizzas, among many other items;
- Information, which includes sports results, interviews with the sports major stars, and an interactive weather forecast;
- Entertainment, that offers music, games, what on the movie theatres, booking tickets service, information about the latest music and cinema releases;
- Email, the electronic "T-mail" service is offered bu Talk 21 - BSkyB subscribers are each allocated 8 email adresses and require a cordless keyboard, retailing at around 35 pounds.

History:
The Open Interactive Television services launch occurred in October 12th 1999. Till this day to Christmas 1999, 8 million visits were made and the purchases carried through the service reached one million pounds per week.

Opposed to other companies of the sector, Open does not give access to the Internet. Open has its own line of interactive services and products, that allow the users to buy goods and services, send and receive email and to interact with some of the programs that are being broadcasted. Open delivers its service by combining the satellite broadcasting and local telephone lines, which are comparatively old and slow.

According to the IDATE's report "Development of Digital Television in The European Union", published in June 2000, Sky has entered into an agreement with Open whereby new subscribers receive free set-top boxes. This subsidy is provided on the condition that consumers allow their telephone to be connected to the set-top box[50].

It is calculated Open lost more 300 million pounds since the benning of the year until June, mainly because of the costs involved in starting its activity and the set-top boxes subsidy (around 90 pounds for device). Since the service is free, Open is to a large extent dependent of the commissions on the purchases made by its subscribers. Thus, it will have that to increase its users "consumerism" in order to generate more revenues:

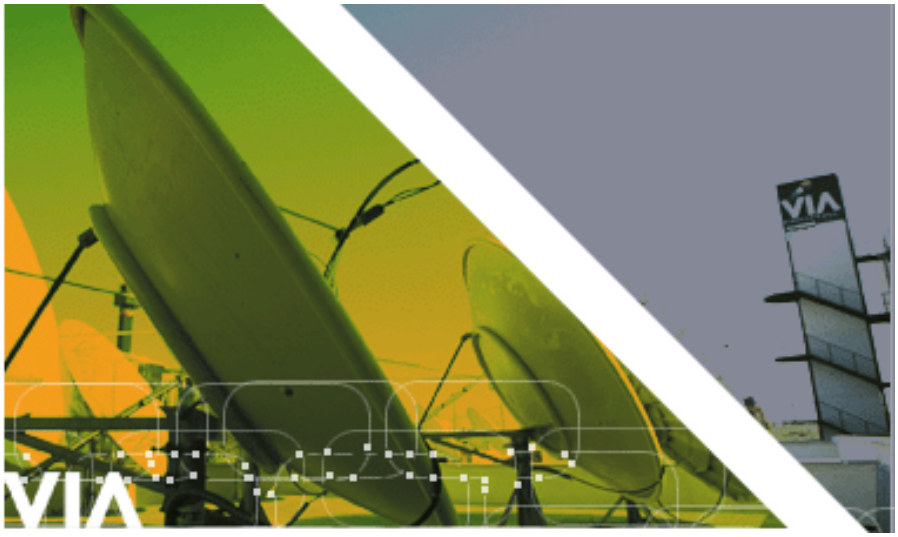
[50] http://www.ispo.cec.be/infosoc/telecompolicy/en/Eurorep99ov.pdf

the Investec Henderson Crosthwaite foresees that the revenues will increase from 72 million in 1999 for 418 million pounds in 2002 and 2003[51].

[51] http://www.dtg.org.uk/news/index.html

3.3.4. Via Digital - servicios interactivos / Telefonica, Spain

http://www.viadigital.es/



What is it? - Vía Digital is a digital satellite television operator, which provides interactive services based on Open TV's platform.

When it was launched? - May 1999

Who owns it? – the Spanish telecommunications operator Telefonica

Who are its partners? - …

Where it is available? - Spain

How many subscribers it has? - Vía Digital has more than 500 mil subscribers and an average audience of about 2 million people.

What is the Interactive Television platform? - Open TV

What is the set-top box manufacturer? -

How much does it cost? - 2500 Pesetas

What Interactive Television services and programs does it provide?

- Programming Guide,
- Tele-text,
- Favourite channels,
- Parental Control,
- Languages selection,
- Audio service,
- Shopping list,
- Pay-per-view

History:

Digital satellite television operator, Vía Digital was commercially launched September 15th 1997. By the end of this year 2000 first semester, Vía Digital had exceeded the 500.000 subscribers, making it the company with quicker penetration rate in Europe[52].

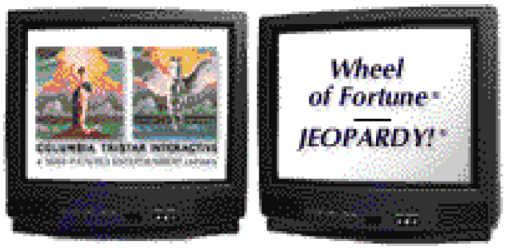
Vía Digital distributes 65 television channels, as well as 30 audio and interactive channels. In May 1999, Vía Digital started to include interactive services in its package, such as weather forecast, ticket purchase, tele-banking, financial and business information. According to a press release distributed in the beginning of the year, Vía Digital will invest primarily in electronic commerce. Stock exchange, shopping more goods and services and mobile phones recharge are some of the possibilities announced by Vía Digital[53].

Part of the Telefónica Media group, Vía Digital strengthened its electronic commerce strategy of by signing an agreement with Ecuality.com, the leader company of the sector in Spain. According to the press release distributed last June 29th, the two companies will develop an e-commerce application for Interactive Television, based on the web site www.alcoste.com[54]. Alcoste.com is Spain's top shopping web site, with 16.000 customers and a basis of 50.000 subscribers.

[52] http://www.viadigital.es/main_sobrevia.html
[53] idem
[54] idem

3.3.5. WebTV / Microsoft, USA

http://www.webtv.com



What is it? - WebTV Networks, Inc. provides three different Interactive Television services: WebTV Classic, WebTV Plus and WebTV Personal TV.

When it was launched? - WebTV was commercially launched in the USA in 1997.

Who owns it? - Microsoft (acquisition made in 1997) owns WebTV Networks totally.

Who are its partners? -

Where it is available? - United States of America, Canada, Japan.

How many subscribers it has? - more than one million subscribers in the United States of America.

What is the Interactive Television platform? - Microsoft TV.

What is the set-top box manufacturer? - Philips, Sony, and soon Octal (Portugal) and Pace Micro Technologies.

How much does it cost? - between $9.95 and $24.95 dollars

What Interactive Television services and programs does it provide?

- Internet Access
- 6 Private Email Accounts
- Chat
- Instant Messaging
- Discussion Groups
- WebTV® Centers
- Page Builder (build your own Web pages)
- Kid Friendly® service
- SurfWatch
- Interactive TV Listings
- TV Program search
- Interactive TV Shows
- WebPIP&trade (picture-in-picture)
- Picture Email
- One-touch VCR
- Recording
- TV Remind
- TV Pause
- Digital Video Recording
- Instant Replay
- Video Controls
- Interactive Games

History :

The WebTV Networks, Inc. was created in 1995, with the mission of bringing Internet to the television set. In 1997, the Microsoft acquired the WebTV Networks, Inc. which now operates as its subsidiary. As it happens with its competitor AOLTV, to have access to WebTV's interactive services and programs it is necessary to buy one specific set-top box (Philips, Sony) and to pay a monthly fee[55].

The WebTV Networks provides services WebTV Classic and WebTV Plus, which include Internet access, email, electronic program guides, chat, a web site page builder, a search engine, among other features. Alternatively, the WebTV Personal TV service and set-top box allows to digitally record television programs, the same way it is possible with TiVo and ReplayTV set-top boxes[56].

Today, WebTV is USA's market leader, with more than a million of subscribers. But some analysts say that WebTV does not match the expectations created when it was bought by Microsoft, in 1997. The growth of subscriptions seems to have stopped and the consumers now have as alternatives AOLTV, TiVo and ReplayTV.

[55] http://www.webtv.com/company/index.html
[56] http://www.webtv.com/intro/whatis.html

WebTV had to rebuild its presence on the market as a supplier of Interactive Television (or more precisely "enhanced television"), and not as a low cost Internet Service Provider as before. The strategy that was first followed proved to be wrong when the PC prices drop down massively[57].

During the middle of this year, once again Microsoft gave signs of wanting to relaunch and refine the WebTV service. In partnership with the hardware company Thomson and Direct TV, the biggest satellite television operator in the USA, Microsoft announced it would launch Ultimate TV until end of the year 2000. Ultimate TV has the same functionalities of WebTV Plus and the capacity to record up to 30 hours of program on the hard disk.[58].

[57] http://news.cnet.com/news/0-1005-200-2087071.html?tag=st
[58] http://www.microsoft.com/tv/news/ne_ultimate_tv.asp

SUMMARY Table – Interactive Television service providers

ITV Provider	*What ?*	*When?*	*Who owns?*	*Partners?*
AOLTV	AOL TV is an Interactive Television service, with the objective to enhance the television viewing experience	June 19th, 2000	America OnLine (AOL)	E! Entertainment Television, Oxygen Media, Starz, Encore Group, QVC, The Weather Channel, Sesame Workshop, Sony Pictures Digital, Entertainment's SoapCity, Court TV and Odyssey, A Henson and Hallmark Entertainment Network.
Canal Satellite	CanalSatellite Numérique is a satellite television package, with more than 140 channels and services	April 1996	CanalPlus; Lagardere Group.	--
OPEN	Open is an independent company, created to pursue the objective of providing Interactive Television services through digital satellite television.	October 12th 1999	British Sky Broadcasting (BSkyB) owns 80%, British Telecom (BT) owns almost 20%.	Argos, ASDA, Carphone Warehouse, Dixons, Manchester United, Next, Thorntons, Comet, WHSmith, Somerfield 24-7, Woolworths; E*Trade, Kitbag, Yalplay, Toyzone, Gameplay; Ford, Scottish Power, Mastercard, Nestle, Unilever; HSBC, Abbey National, Halifax, The Woolwich, Norwich, Cornhill, First Call, Going Places, Tropical Places and First Choice.
Via Digital	Vía Digital is a digital satellite television operator, which provides interactive services.	May 1999	Telefonica - the major Spanish telecom	--
Web TV	WebTV Networks, Inc. provides three different Interactive Television services: WebTV Classic, WebTV Plus and Personal TV.	1997	Microsoft (acquisition made in 1997)	--

ITV Provider	*How many?*	*Where?*	*Platform ?*	*Services?*
AOLTV	--	United States of America - Phoenix, Baltimore and Sacramento, California.	Liberate	AOLTV Program Guide; One-click reminder and VCR recording settings; E-mail; Buddy List; Chat, access to the 16.000 AOL chat rooms; "You've Got Pictures" service,; Built-in Parental Controls;

				Shop@AOLTV, the AOL shopping channel; Bookmarks; Access to AOL TV contents; Internet access
Canal Satellite	Potentially, 1.370 million subscribers in France, and 4.5 million in the whole world	France	CanalPlus MediaHighway	CanalSat Jeux; Messagerie; Service Interactif Lie à La Chaine Meteo; Service Interactif Lie à La Chaine Demain; Service Interactif Lie à La Chaine EuroSport; Zap Foot; Service de Navigations dans les Programmes; Electronic Program Guide; ForumBoutique.
OPEN	Until April 2000, 3.3 million people used the service .	England	Open TV	Travel, a three services set - Travel Service, Tropical Places e Going Places; Money, home-banking and stock brokering services; Shops, a virtual shopping mall; Information, which includes sports results, interviews, and weather forecast; Entertainment, that offers music, games, booking tickets service, information; Email, the electronic "T-mail" service with 8 email adresses.
Via Digital	Vía Digital has more than 500 mil subscribers.	Spain	Open TV	Programming Guide, Tele-text, Favourite channels, Parental Control, Languages selection, Audio service, Shopping list, Pay-per-view
Web TV	one million subscribers in the United States of America	USA, Japan.	Microsoft TV.	Internet Access Private Email Accounts Chat Instant Messaging Discussion Groups WebTV® Centers Page Builder Kid Friendly® service SurfWatch Interactive TV Listings TV Program search Interactive TV Shows WebPIP Picture Email One-touch VCR Recording TV Remind TV Pause Digital Video Recording Instant Replay Video Controls Interactive Games

4. PRODUCTS AND SERVICES- What?

4.1. Interactive Television services and products classification

4.1.1. IDATE's definition and classification

As it was mentioned in the introductory chapter, the definition of Interactive Television is still not stabilised, as well as its sub-divisions. For the purposes of this master thesis, the definitions chosen belong to a report made by the Institut de l'Audiovisuel e des Télécommunications en Europe (IDATE), named "Development of Digital Television in the European Union - reference report 1999", by Laurance Meyer and Gilles Fontaine, published June 2000[59].

This way, IDATE considers Interactive Television as a **service accessible on the TV set that differs from continuous succession of broadcast video programmes.** This definition covers two major categories of service:

a) Web access services via the TV set,

b) Interactive services produced specifically for use on the TV set, whether or not relating to broadcast video programs and based on Interactive Television technologies such as Mediahighway and OpenTV.

This last category is thus comprised by:

b.1) Enhanced TV, which consists in accompanying the televised program (video stream) with related supplementary information, building on the earlier teletext concept, but with the possibility of embedded hyperlinks.

b.2) Interactive services independent of TV programmes. This type of service also embraces the broadcasting of text, sound, image and video destined for the TV set but not necessarily calling for a continuous video stream.

These two systems are mutually independent, allowing the viewer to keep the television programme they wish to see in form of a window, while he may consult a specific service such as t-commerce, home banking, news, among others.

4.1.2. Internet access services via the television set

To view pages on the **World Wide Web** and to use the electronic mail – commonly known as **email** -, are by far the most popular Internet applications. Therefore, it is foreseeable that Interactive Television consumers will use and abuse it frequently.

[59] http://www.ispo.cec.be/infosoc/telecompolicy/en/Eurorep99ov.pdf

Most of the Interactive Television platforms offer access to the World Wide Web, even if the broadcasters are much more interested in keeping the viewer within the limits of its **walled garden** - a closed environment with a pre-determined number of interactive options that allow to get information, good and services. If it is true that broadcasters are not at ease with providing access to the World Wide Web through the television set, it is also true that this is a major asset for the consumer.

Still, to access the World Wide Web through the television set presents several problems that challenge the developers in new ways:

Source: AOLTV www.aoltv.com

- The television screen resolution produces poor quality images, when compared with the PC screen resolution - 544 pixels width, against the 1240, 800 or 640 pixels of a PC screen.

- To be readable, the font size must be equal, or superior, to size 18, while on a PC it is enough size 10 or 12 ;

- To scroll the web pages using a remote control is not practical;

- The web pages that can be seen on the television set only support some basic interactivity, since the set-top box does not run the *avant-garde* web technologies, such as Flash 4, Java and advanced JavaScript.

Other Internet services are **File Transfer Protocol** (FTP) and **Chat.** FTP allows, as the name itself indicates, to transfer files from one computer to another. In this particular case, the computer can be a set-top box or a regular PC – for example, CanalPlus Technologies Mediahighway's platform allows the user to plug-in indistinctly the set –top box to the television set and to the PC, and to up-load and down-load files at the rate of 750 Kbits per second. As for the Chat, or textual dialogue on the Internet, it is predictable that it will have a certain degree of success, mainly if it is integrated during specific television programs.

4.1.3. Interactive services produced specifically for use on the TV set

Even if Internet access is attractive to the Interactive Television potential consumer, **it will the specific interactive services and enhanced TV that will drive the demand**.

Source: Liberate www.liberate.com

b.1) Enhanced TV

- Games / Contests
- Sport Events
- Children's programs
- Education and Professional Training
- News
- Documentaries
- Talk Shows / Musicals
- Soap Operas and Serials
- Pornography

b.2) Interactive services independent of programs

- Database Services
- Electronic Program Guides
- Games
- Interactive Advertising
- Interactive Program Mosaic
- Music Booths
- Weather Forecast Per-view
- Pay-per-view
- Tele-Banking
- Tele-Shopping

4.1.4. Particular cases - PersonalTV, Video-on-Demand, IndividualizedTV

There is still to consider the following interactive services that transform the set-top box in a new generation video recorder and video store:

- Personal TV
- Video-on-demand

As for the **Personal TV,** it consists in a video recorder with a computer hard disk. Also known as Personal Video Recorder (PVR), the Personal TV can record up to 30 hours of programming until it runs out of memory – this is when the new contents erase the older ones. Nevertheless, it is predictable that it will be created a replaceable hard disk, which will function as the traditional videocassette. Personal TV allows also to record programs without advertising, and it can provide pay-per-view services. The main developer companies are, currently, TiVo e ReplayTV[60].

Regarding **Video-on-Demand** (VOD), the major difference is that the digital video is stored not in the set-top box hard disk, but in a video server. This way, the Interactive television consumer starts by requesting what he wants to see and when he wants to see it – something that requires two-way communication, by opposition to Personal TV that can function without it. VOD is considered as one of the Interactive Television *killer applications* by important reports such as "Broadband E-Battle" from Deutsche Bank[61]. Until the first semester of 2000, the VOD leader companies were Oracle / Liberate, DIVA, Concurrent and Seachange[62].

Finally, there is still to highlight **Individualised TV**, the expression coined to name the Interactive Television service that allows to customise a specific television program according to the user's personal preferences. This way, the user can chose between many different camera angles, to review instantly sport events and to answer to contests and quizzes. The first company to develop such kind of service was ACTV, but Open TV joined the race, when it broadcasted live a football game in which one could chose different camera angles, and to obtain the games statistic, among other functionalities[63].

[60] http://www.media-visions.com/itv-newbies.html
[61] *"Broadband E-battle",* Deutsch Bank, January 2000, page 47 – available in http://www.itvt.com/dbab.html
[62] http://www.media-visions.com/itv-newbies.html
[63] http://www.media-visions.com/itv-newbies.html

4.2. Internet access services via the television set

4.2.1. E-mail

Electronic mail, or e-mail, is one of the most popular Internet applications in the whole world. All the main Interactive Television platforms integrated e-mail in their services and products package.

For example, Microsoft's WebTV offers an e-mail service similar to the traditional one, allowing to exchange text messages, digital pictures, as well as audio and video files. WebTV's set-top box can be connected to a digital camera or a video recorder, enabling the user to send video and pictures by e-mail. The version WebTV Plus offers up to six private e-mail accounts, which allows each member of the family to have his own personal e-mail account[64].

Significantly, there is already in the market set-top boxes that are exclusively made to send and receive e-mail, such as TVemail developed by Sun, which includes a wireless keyboard[65].

4.2.2. World Wide Web

World Wide Web, or simply the Web, is made of millions and millions of digital documents, connected by hyperlinks. Currently, there are no conclusive data about the Web's extension that keeps growing rapidly all over the world.

To access the Web through the television set presents a series of problems, but CanalPlus Technologies Mediahighway's solutions can satisfy both the regular World Wide Web users as well as the traditional television viewers. This way, Mediahighway offers two distinct options:

- **Fast Internet on TV,** which allows to access the Web through the television set and the set-top box, with the problems already mentioned, without having to buy a PC;
- **Fast Internet on PC,** which allows to connect the set-top box to the PC to have access to all the Internet applications (world wide web, e-mail, chat) at a fast rate: 1.2 Mbits per second[66].

[64] http://www.webtv.com/products/plus/index.html
[65] http://solutions.sun.com/ads/ad_click.cgi?tvemail.com+OLCatalog
[66] http://www.canalplus-technologies.com/media/applis.html

4.2.3. Chat

The possibility to "dialogue" through text messages almost in real-time made Chat one of the most used Internet applications. Even if this service still isn't available in all the major platforms, it is reasonable to say that in short term it will be universally adopted.

From the Chat services currently available, one has to highlight the AOLTV Chat, launched in June 2000, which makes the connection between the television viewer and the Internet user. Therefore, while someone is watching a program it is possible to access AOL's Chat community in the Internet – distributed in more than 16.000 chat rooms -, using text messages to exchange opinions and ideas[67].

4.2.4. FTP

File Transfer Protocol (FTP) is an application that allows to transfer files from one computer no another through Internet. For this purpose, it is necessary to have an username and a password to have access to one specific computer or server, or even to a specific folder located in the computer.

Some Interactive television platforms already made available this service, such as CanalPlus Technologies Mediahighway:
High-Speed PC Software Downloading, which allows the subscriber to connect the set-top box to the PC, and to download freeware, shareware and other files at rates of 750 Kbits per second[68].

[67] http://www.aoltv.com/whatis.html
[68] http://www.canalplus-technologies.com/media/applis.html

4.3. Interactive services produced specifically for the TV set

4.3.1. Enhanced TV – Kinds of Programs

4.3.1.1. Game Shows / Contests

From all the traditional television game shows and contests currently transmitted all over the world, "Hugo" is the one closest to the future interactive television game shows. Today, the interaction between the screen and the player is made through the telephone buttons that allow moving around the hero Hugo.

But the Interactive Television game shows and contests aren't exclusively for the youngest. To prove it there is "Twenty One" broadcasted by NBC on a weekly basis since last Spring. Using Microsoft WebTV service and set-top box, "Twenty One" allows the television viewers to win a $500 dollars prize if they unsolve a riddle – during the program several clues are being sent out and, when the program is over, the viewer can send the answer he believes to be right[69].

4.3.1.2. Sport Events

To add interactivity to sport events it is already real – until now, at least BSkyB, NBC and Eurosport broadcasted sport events in which the user could get the last results, infomation about the team or the player performance during the championship, statistics about the game, and even to chose the camera angle to view the game.

In the United States of America, NBC broadcasted a football game in October 1999 through WebTV Plus that provided the games' statistic, information about the teams and the championship, and also the possibility to chat. Also last year, NBC made a similar broadcast using Wink's technologies, to cover the Golf Ryder Cup[70].

4.3.1.3. Children

The television programs for children are, at first sight, one of the television "genres" with the biggest interactivity potential. For the young people to interact with the television set isn't new, since most of them already played with a game pad such as PlayStation or Dreamcast. Therefore, to "convert" the children to tall the advantages of Interactive Television can be relatively easy, based on their previous experience.

Among the children's programs, Sesame Street deserves to be mentioned because it was been captivating young people of all ages, since 1969, with an intelligent composition of education and entertainment. Now, Sesame Street is about to produce its Interactive Television version, using Liberate's platform. The first public demonstration

[69] http://etv.nbc.com/website/main.html
[70] idem

happened during NAB 2000 - the National Association of Broadcasters annual conference - in Las Vegas, last April 12th.

The demonstration's target-audience was kindergarten children and it included the following functionalities:

- A personalised adventure with the Elmo puppet,
- A "monster" seek-and-find game with number counting,
- To create music while the Ernie character sing in the bath tub,
- To customise the sesametreet.com web site home page[71]

4.3.1.4. Education and professional training

Educational and professional training were considered by BBC as two of its priority development areas for Interactive Television projects. The BBC Voyager channel proves it: when its programs reach the end, it is possible to have access to an interactive quiz thanks to the BBC Knowledge Text service. The more questions the user answers correctly the more points he gets, allowing him to obtains a password to get in a special zone of the BBC Voyager web site[72].

4.3.1.5. News

News is one of the television "genres" that is begging to have interactivity. Instead of a mere one minute and a half report, the user can have more text, pictures and video thank to the set-top box. A good example of Interactive Television newscast is CNBC, which is providing interactive news 24 hours a day, using Wink's technology. CNBC also allows to customise information by selecting the events that one wants to follow up during all day[73].

4.3.1.6. Documentaries

Until now, there are few examples of documentaries specifically made for Interactive Television. The "Wonders of the African World" program series is one good example. Co-produced by the North-America television channel PBS, the processors world giant Intel and the Canadian multimedia company ExtendMedia, the documentary series shows Africa's natural and cultural richness.

During the program's first episode, the user could click on a small icon, which lead him to a new screen with interactive contents related with the documentary. The WebTV user – the service for which the documentary has made – can have exclusive videos as well as to access directly the "Wonders of the African World" web site[74].

[71] http://press.liberate.com/archives/2000/041200.html
[72] http://www.bbc.co.uk/digital/
[73] http://etv.nbc.com/website/main.html
[74] http://www.pbs.org/wonders/

4.3.1.7. Talk Shows / Musicals

One of the most popular talk shows in the world, Jay Leno's "Tonight Show" is interactive on NBC ever since the Winter of 1999, thanks to Wink's technology. The users can have more information about the program and the guests' biographies, to be updated about the showbiz gossip and answer to quizzes[75].

Another example of an entertainment program "transformed" by interactivity was the 50th Annual Emmy Awards, transmitted September 13th 1998, through the WebTV Plus service. Thousands of people had access to more information about the nominees, presenters, the awards' history, as well as interactive quizzes and information updates about the winners[76].

4.3.1.8. Soap Operas and Serials

The television narratives also can become interactive – this was demonstrated by the 13 episodes series "Drop the Beat", transmitted by CBC ever since the beginning of the year 2000. "Drop the beat" was considered the first dramatic series totally interactive produced in the North-American continent, integrating six different media: television, Web, CD, virtual radio, video streaming and interactive television.

The 13 episodes series set was a radio station located in a University *campus*. During the broadcast, the users could access directly the program's web site when the hyperlink appeared on the screen. Simultaneously, the user could interact with the series' actors through live chats, and he also could buy CD and tickets. The "Drop the beat" producers were ExtendMedia, Alliance Atlantis Communications Inc. and Back Alley Film Productions, who chose Microsoft TV platform[77].

4.3.1.9. Pornography

All indicates that pornography has the same chances of being well succeeded as it was on video, Internet and cable television. To this thesis, it has not possible to find out one example of pornographic Interactive television program.

Still, the porn/erotic channel Playboy TV is planning to air a soft-porn version of the world famous show "Big Brother". Already broadcasted in the USA, Holland, Britain, Germany, Italy, Spain and Portugal, "Big Brother" puts ten or twelve regular citizens together in a home with no contact with the world. The players are eliminated one by one – by the audience choice - until only one is left. According to the newsletter Pay TV & Satellite News, published October 5th 2000, the Playboy TV bosses have created "Fun House", which will feature two men and three women - all amateur porn stars - who will

[75] http://etv.nbc.com/website/main.html
[76] http://etv.nbc.com/website/main.html
[77] http://www.dropthebeat.com

be shut away in a house in Malibu, California for two weeks. The show is due to debut next spring and will be accessible via Playboy's web site too. Finally, Playboy TV bosses are also hoping to launch a search for contestants for similar shows in Europe[78].

[78] Pay TV & Satellite News, 05/10/2000, justinhewelt@email.msn.com

4.3.2. Interactive services independent of programs

4.3.2.1. Database Information Services

The database information services thought the television set already are available on the television networks that use the CanalPlus Tecnologies Mediahighway platform. Twenty-four hours a day, seven days a week, the user can have access to "DEMAIN!" service, a huge database with different kinds of information, such as job search.

For more information, please check:
http://www.canalplus-technologies.com/media/applis.html

4.3.2.2. Electronic Programming Guide

The Electronic Programming Guide (EPG) is considered one of the most popular Interactive Television features currently available.

Any regular EPG provides information about each channel's programming, for about seven days. It is still possible to define what programs one person wishes to see in different channels, in order to see those in a continuous transmission, with on need to make zapping or no chance to forget to see a particular program. All the Interactive Television platforms have similar EPG versions.

Until January 2000, EPG was the most utilised interactive service in the USA, with more than 15 million EPG installed in set-top boxes and digital television sets.

For more information, please check:
http://www.aoltv.com/whatis.html
http://www.canalplus-technologies.com/media/applis.html
http://www.webtv.com/products/plus/enhancedtv.html

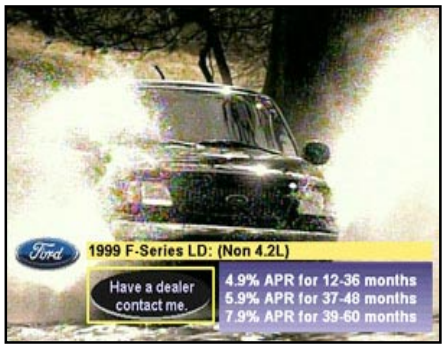
4.3.2.3. Games

Individual and network games are services already available, transforming the set-top box in a game pad. CanalPlus Technologies Mediahighway platform - for example – provides fifteen different games, several of them available for the CanalSatellite Numérique's subscribers.

CanalPlus Technologies as the first company in the world to launch network games for television. The CanalSatellite Numérique subscribers can play "Piktorezo" in a multi-users environment, and also they can send and receive e-mails messages instantly from the other players.

For more information, please check:
http://www.canalplus-technologies.com/media/applis.html
http://www.opentv.com/demos/games.html
http://www.twowaytv.co.uk/games.html

4.3.2.4. Interactive Advertising



Interactive Television advertising is now beginning to be developed in England and in Spain, while it already has some tradition in France. The ad basically consists is an icon with an embedded hyperlink, inviting the user to click on it and, therefore, to interact with the commercial.

The link can provide access to the advertisers' web site or to a specific Interactive Television application. This way, the consumer can get more information about a particular good or service, or even to buy that good or service.

For more information, please check:
http://www.canalplus-technologies.com/media/applis.html
http://www.wink.com/contents/examples.shtml

4.3.2.5. Interactive Video Browser

Based on the traditional cable television channel mosaic, the Interactive Video Browser allows us to select our favourite channel out of several, and then to get detailed information about each one of the channels' programs.

It is even possible to view a few minutes of specific programs, as well as to read its synopsis, to know who is on the cast and, of course, when it is being broadcasted.

For more information, please check:
http://www.canalplus-technologies.com/media/applis.html

4.3.2.6. Listening Booth

Designed to advertise the latest record industry releases, the Listening Booth allows users to listen up to four tracks on a CD. Not very common so far, the Listening Booth is an application developed by the platform CanalPlus Technologies Mediahighway.

For more information, please check:
http://www.canalplus-technologies.com

4.3.2.7. On Demand Weather Forecast

To access interactive weather forecast services give the possibility to have precise information about a particular region, in average for the nest three days. As a general rule, the user first selects a region, and after this he choses the city in order to have information such as detailed weather reports and maps, pollution rates, when the sun rises and when is the sunset.

For more information, please check:
http://www.canalplus-technologies.com/media/applis.html
http://www.opentv.com/demos/weather.html
http://www.viadigital.es/main_oferta.html

4.3.2.8. Pay-Per-View

The Pay-per-view concept is not new, but only now is being implemented and popularised thanks to the new set-top boxes. In general terms, the user selects a movie, or a sport event or any other kind of program, and by simply clicking on a remote control, button, he has access to an authorisation system through which the order is made and paid. There are several paying systems, with or without a bank card scanner.

For more information, please check:
http://www.canalplus-technologies.com/media/applis.html

4.3.2.9. TeleBanking

The Tele-Banking service offers the possibility to connect remotely to the user's bank, in order to perform several operations.

In the case of the platform CanalPlus Technologies Mediahighway, the set-top box comes with a credit card scanner. The user has its own PIN code for authentication.

For more information, please check:
http://www.opentv.com/demos/banking.html
http://www.viadigital.es/main_oferta.html

4.3.2.10. Tele-Shopping /

Shopping is one of the major attractions of interactive Television. This service is positioned as a virtual shopping mall, open 24 hours a day and seven days a week. The basic way of functioning is similar to tele-banking. Currently, pizzas, books and CDs are the top three products bought by the Interactive Television users.

For more information, please check:
http://www.opentv.com/demos/ecomm.html

http://www.open-here.co.uk

5. THE TECHNOLOGIES – How?

5.1. Digital Television standards competion: ATSC vs. DVB

5.1.1. USA vs. Europe?

Broadcasters today face the challenge of making the transition from analogue to digital television. Particularly in Europe, since **the European Union determined the end of analogue television broadcasting until 2010**.

If there is consensus about the necessity to adopt a **digital television standard**, there isn't consensus on which to adopt. Right now, the American standard known **as Advanced Television Systems Committee (ATSC)** competes with the European **Digital Video Broadcast (DVB)** to become "the" digital television standard, something that will have repercussions when it is time to choose the Interactive Television standard.

In the analogue television world, the two main systems are the PAL, used all over Europe, and the NTSC, used in the United States of America and other American countries. There is still to consider systems such as SECAM and MESECAM - as well as dozens variants of these formats that cause some problems to anyone who has to make the conversion between formats.

However, the emergency of digital television is now complicating the situation, and there is fear that the standards tend to proliferate, instead of adopting a universal system. The pioneer country in this domain is the United States of America, where broadcasters quickly realised what were the advantages of the digital transmission, mainly the satellite and cable television operators[79].

"The digital transition for broadcasting is inevitable" said William Kennard, president of Federal Communications Commission (FCC) that was mandated by the American Congress to manage the transition from analogue to digital television. During the last National Association of Broadcasters conference, which took place Las Vegas last April 8th to the 13th, William Kennard stated that the analogic " died " and that the resistance to digital is futile:
"Broadcasters have no choice in the matter. All their competitors are going or have gone digital. Americans have awakened to the power and functionality of digital, and they will never go back to an analogue-only world. Analogue is over. Delay is not an option. Resistance is futile"[80].

Still in the NAB 2000 conference, it was noticeable **the divergence between Europeans and Americans regarding the Interactive Television set-top boxes standard**. The Europeans have been developing the **DVB-MHP - Digital Video Broadcasting Multimedia Home Platform** that such as the name indicates, is based

[79] http://www.tml.hut.fi/Opinnot/Tik-111.5550/1998/Esitelmat/Standards/dtvsemma.html
[80] http://www.media-visions.com/itv-convergence.html

on the DVB standard. On the other hand, the Americans present an Internet based standard, as it is mentioned on "A Framework for Interactive Television Based on Internet Standards" white paper, published by **the Advanced Television Enhancement Forum (ATVEF)**:
"The goal has been to create a platform that can be supported across all television environments (analogue or digital; cable, satellite, or terrestrial broadcast), and which leverages the huge base of tools, media, and know-how that has developed for the Web"[81].

The ATVEF Internet-centric option is radically opposite to the DVB TV-centric option. The question here is not merely to choose a technology, but it goes deeper: essential culture and politics questions are at stake. Just think that the great majority of the World Wide Web contents are made in the USA. This fact can explain why in Europe the Interactive Television concept is built around the production of specific interactive services and programs and not, as in the USA, as an affordable and efficient way of having Internet access, as it is stated on the Phillips Group report "Application Programming Interfaces - Implications for Interactive TV in Europe", published May 1999:
"There is also a threat to European culture implicit in the adoption of an Internet-centric model of interactive TV, since most content authored for the Internet is American in origin. This would also tend to make the creation of an independent, European interactive TV software development community much more difficult to carry out"[82].

Still according to the Phillips Group report, **there are historical reasons that explain this susbstancial difference between one and other side of the Atlantic**: in Europe, the interactivity experience has been carried through the television set, with such services as the teletext and the French Minitel. Oppositely, in the USA this experience is unknown for most of the television viewers, and the Internet penetration rates reach 45% - more than the double of the European average percentage. The logical conclusion form these facts is, according to the same document, that it is almost impossible to establish only one Interactive Television standard:
"Any attempt to create a common standard for both territories (…) would therefore be extremely difficult, since the two side start from widely divergent positions"[83].

5.1.2. Digital Television: ATSC vs. DVB

The **Advanced Television Systems Committee (ATSC)** is a non-profitable international organisation that covers all the advanced television systems. Established in 1983 by 23 members, the organisation is headquartered in Washington, D.C. Today, the ATSC has more than 200 members, which includes broadcasters, television stations equipment suppliers, consumer electronics manufacturers, software and hardware companies, among other organisations interested and involved in the development of television advanced systems. Besides the United States America, other countries

[81] http://www.atvef.com
[82] http://www.the-phillips-group.com/digtv.htm
[83] idem

already adopted the ATSC digital television standard, such as Canada, South Korea, Taiwan and Argentina. Other Latin America and Asia nations are considering the implementation of the American standard[84].

The **Digital Video Broadcasting (DVB)** is the digital television European standard for satellite (DVB-S), terrestrial (DVB-T) and cable (DVB-C) broadcast, and even for mobile devices (DVB-M). The DVB systems are developed by consensus of the work groups of its Technical Module, that publishes the standards through the European Telecommunications Standard Institute (ETSI), after approval of the Commercial Module and the Steering Board[85]. With origin in European Launching Group (ELG) created in 1991, DVB is the result of the necessity to establish a common ground for Pan-European digital television. The major European media groups are represented in this organisation, as well as consumer electronics manufacturers and regulating institutions. In 1994, four years after its creation, DVB initiated the worldwide promotion of its standard[86].

This year, the controversy between standards reached a critical point, when the television networks NBC and ABC (part of the Disney group) published a letter directed to the FCC, last June 16th. In this letter, NBC and ABC criticise the American standard and defend the European alternative. The main issue is **the difference of quality between the digital modulation systems used by each standard**: **the Trellis Coded 8-Level Vestigial Side-Band (8-VSB)** developed by the ATSC, and **the Coded Orthogonal Frequency Division Multiplexing (COFSM)** adopted by the DVB-T standard. According to ABC and NBC, the American modulation system 8-VSB is inferior to the European COFSM, due to poor performance of the transmission in urban areas, as well as for not being compatible to the new generation portable and mobile applications:
"1) Poor performance in difficult multipath interference environments (most urban areas) which jeopardizes the ability of broadcasters to replicate their NTSC service areas; 2) the unsuitability for portable and mobile applications which will severely constrain broadcasters' ability to use the digital spectrum for new applications and new services"[87]

According to the report published on the television industry web site 365broadcast.com, ATSC plans to make improvements and to relaunch the new standard version as soon as possible:
"The ATSC clearly has plans to revamp its original stance on 8VSB. The coming months should prove interesting, especially if more networks follow the lead of NBC and ABC in questioning 8VSB's ability to meet the nation's DTV needs"[88].

In NAB 2000, the controversy had place with the live HDTV demonstration broadcast using DVB-T from the mountaintop transmitter of a local station – a simulcast modulated with COFDM for mobile reception was embedded in the 6 MHz channel. The portable Nokia MediaScreen demonstrated the indoor reception of the COFDM signal. modulation COFDM, not by chance for reception in mobile devices, as the Nokia

[84] http://www.atsc.org
[85] http://www.dvb.org/about/index.html
[86] idem
[87] http://www.digitaltelevision.com/abc_nbc_letter.htm
[88] http://www.365broadcast.com/r/features/atsc/atsc.htm

MediaScreen. However, to compare the ATSC and the DVB standards can be as comparing gasoline with gasoil, as it points one of key people, Peter Macavock:
"Which you choose depends on the engine and what you want the car to do for you. The point is that the digital broadcaster has more options to make their service competitive with DVB than with its ATSC counterpart"[89].

5.1.3. ATVEF vs. DVB- MHP

On another level, we have the Interactive Television standards. Simplifying, one might say that the digital television standards are the foundations that will support the digital television industry building. In an upper level, we find the Interactive television standards.

As it was mentioned in a previous point, to choose the best system digital television to be implemented universally has not been easy. Such as it is happening with digital television, also the choice of the interactive Television standard is being disputed by the United States and Europe. On one hand the Americans propose an Internet-centric vision, materialised in the **Advanced Television Enhancement Forum (ATVEF).** On the other hand, the Europeans present the **Digital Video Broadcasting Multimedia Home Platform (DVB - MHP)** standard that adopts a TV-centric vision[90].

The **ATVEF** is an alliance between companies from several industries, from traditional broadcasting to cable, consumer electronics, up to hardware and software. The Hypertext Markup Language (HTML) protocols are the basis of the Interactive Television standard that the group want to implement in the USA as well as in the rest of the world[91].

The **DVB – MHP** is based on an Application Programming Interface (a program that makes the interface between the set-top box middleware and software) made with Java (a programming language created by Sun). The document that defines the standard is available on the following web site: http://www.dvb.org/standards/index.html

However, some improvements are being made in order to make compatible standards, as it is reported by the Media-Visions web site. The Society of Cable Telecommunications Engineers (SCTE) wants the cable television operators' set-top boxes to be compatible with the DVB-MHP standard. To pursue this goal SCTE formed a new standards development group - the Cable Applications Platform (CAP) Subcommittee[92].

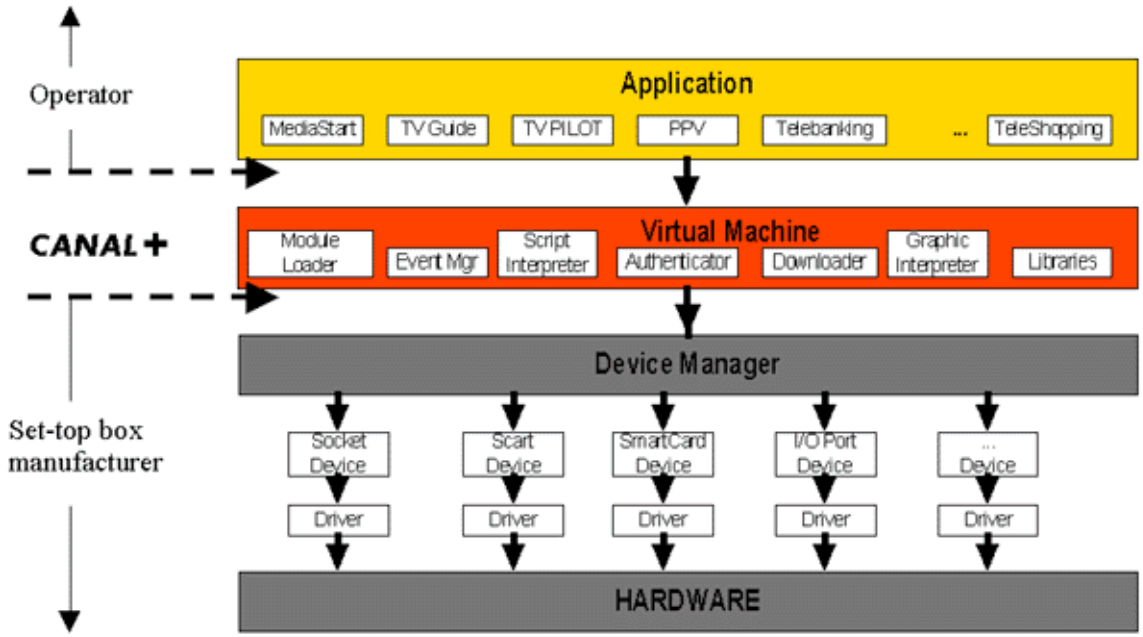
[89] http://www.media-visions.com/itv-eurogame.html
[90] http://www.media-visions.com/itv-bizcase.html
[91] http://www.atvef.com/index.html
[92] http://www.media-visions.com/itv-dvbcable.html

Even if the competition between standards is far from being over and done, the Interactive Television platform developers are trying to work for television with no distinction of countries or broadcasting technologies as satellite, cable and terrestrial, including the analogue systems.

5.2. Platform developers - case studies

5.2.1. CanalPlus MediaHighway iTV, FR

http://www.canalplus-technologies.com/media/about.html



What it is? - MediaHighway is an Interactive Television and middleware system used in approximately 6 million set-top boxes all over the world.

When it was launched? - …

Who owns it? – the CanalPlus television network

Who are its clients? (MediaHighway and/or MediaGuard – a conditioned access system)
United States, Media One, Cable, end of 1999
United Kingdom, The Chinese Channel , Satellite, March 1997
United Kingdom, ONdigital, Terrestrial, November 1998
Japan, Pioneer/Jupiter, Cable, -
Brazil, KTV Communicacões, Satellite, -
Israel, Unicorp (NewS@t Project), Satellite, -
France, CANALSATELLITENumérique, CANAL+ Numérique Satellite, April 1996
France, NC Numéricâble, Cable, December 1996
France, CANALPRO, Satellite, February 1997
France, PMU, Satellite, November 1998
West Indies, CANALSATELLITE Antilles, Satellite, August 1998
Réunion, CANALSATELLITE Réunion, Satellite, December 1998

New Caledonia, CANALSATELLITE Calédonie, Satellite, November 1999
Africa, Portinvest, Satellite, 1997
Africa, CANALSATELLITE Maurice, Satellite, May 1999
Africa, CANALSATELLITE Madagascar, Satellite, September 1999
The Netherlands, CANALDIGITAAL, Satellite, September 1998
Belgium, Le Bouquet, Cable, January 1999
Belgium, CANALDIGITAAL, Cable, 1998
Denmark, CANALDIGITAL, Satellite, October 1998
Finland, CANALDIGITAL, Satellite, October 1998
Norway, CANALDIGITAL, Satellite, October 1998
Sweden, CANALDIGITAL, Satellite, October 1998
Poland, CYFRA+, Satellite, November 1998
Italy, D+/TELE+, Satellite, 1996/1997
Italy, Elettronica Industriale, Satellite, 1998
Spain, CANALSATELITE Digital, Satellite, January 1997
India, Zee Network, Direct-to-cable, operators, September 1999
Malaysia, MEASAT Broadcast, Satellite,

Who are its partners? (MediaHighway and/or MediaGuard)
Set-top boxes - Anam Electronics, Asia Digital Broadcast Ltd., Dassault, Grundig AG, Hitachi Home Electronics, Italtel, Kenwood, Micronik, Nokia, Orient Power Video, Pace, Panasonic, Philips, Pioneer, Sagem, Sanyo, Sony, Tatung, Thomson Multimedia, Toshiba, TV/Com, JVC, Zinwell
Components manufacturers - C-Cube, Conexant, Systems, IBM, ISL Logic, Mitel Semiconductor, Motorola, National Semiconductor, NEC Electronics, Philips Composants, ST, Teralogic Inc., Texas Instruments, Toshiba, VLSI, …
Software houses (MediaHighway Integrated Development Environments) - Andersen Consulting, Bloomberg, CANALSATELLITE, Dimedia, Estrellas, Gédéon, IDP, Infogrames, NPTV, Pace, Philips, Pioneer, Sony UK, Static

How many set-top-boxeswere already distributed (October 2000)? – approximately 6 million set-top boxes distributed internationally.

What is the Digital Television and Interactive Television standard? - CanalPlus Technologies developed its own Application Programming Interface (API), based on the Java programming language.

What Interactive Television service and products does it offer?

- Electronic Program Guides
- Interactive News Services
- Interactive Video Browser
- TeleShopping
- Interactive Advertising
- On Demand Weather Forecast
- Games
- Network Games
- Listening Booth
- ZapF1 and ZapFoot
- Pay-Per-View
- Database Information Services
- High-Speed PC Software Downloading
- Fast Internet on PC
- Fast Internet on TV
- TeleBanking

History:

CanalPlus Technologies is one of the major solutions providers of digital broadcasting software and Interactive Television. Its line of products includes the MediaGuard conditioned access system (software) and the MediaHighway Interactive Television system (hardware e middleware), as well as more than 30 interactive applications and the Integrated Development Environments.

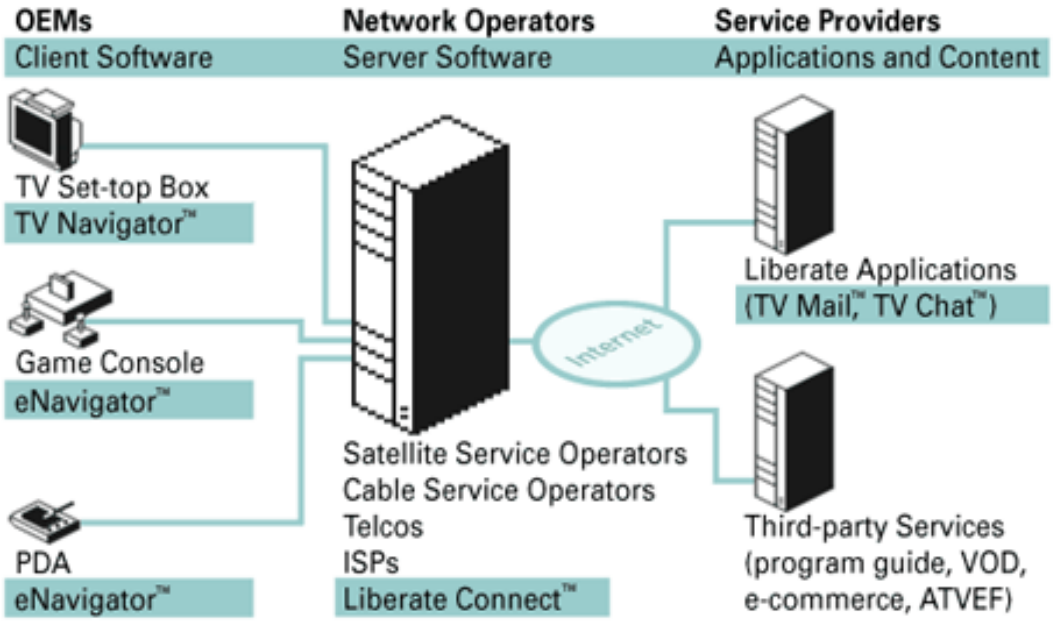
Until now, CanalPlus Technologies licensed more than 25 set-top boxes manufacturers in the whole world. Headquartered in Paris and with offices in New York and Cupertino, California, the company employs more than 500 engineers.

CanalPlus Technologies is totally owned by CanalPlus, the biggest European Pay-TV group, with more than 14 million subscribers in 14 countries. Recently, CanalPlus Technologies signed MediaHighway and MediaGuard implementation contracts with Zee Network (India), MEASAT Broadcast in Malaysia and with Pioneer for Jupiter, which is considered the biggest cable network in Japan[93].

[93] http://www.canalplus-technologies.com/media/applis.html

5.2.2. Liberate TV, USA

http://www.liberate.com



What it is? – the Liberate TV platform is composed by Liberate TV Navigator and Liberate Connect. Liberate TV Navigator lets network operators deliver applications that integrate the web's interactivity with TV-based content. Liberate Connect offers the services management platform to deploy applications.

When it was launched? - it started out by being an Oracle division, created in 1995; one year later, it became an autonomous company named Network Computer Inc.; May 18th 1999, it was renamed Liberate Technologies; Network Computer Inc. was created by Netscape and Oracle, with investments from Sony, Acer, Sega, Nintendo and NEC.

Who are its main investors? - Oracle Corporation, America Online, Acer America Corporation, Comcast, Cox Communications, General Instrument, Lucent Technologies, Marubeni Corporation, Media One, NEC Corporation, Nintendo, Rogers Communications, Shaw Communications, Sega Enterprises, Sony Corporation, Sun Microsystems, Wind River Systems and Liberate's employees.

Who are its partners? - Liberate has strategic partnerships with Cisco Systems, Inktomi, Lucent Technologies, Netscape, Oracle and Sun Microsystems.

Who are its clients?
America Online
Belgacom
Cable & Wireless
Cancom
Comcast
Cox Communications
Dream Train Internet
Guestlink
ICC
Insight
Lodgenet
Maginet
MediaOne
NTL
NTT Communications
Pegasus
Rogers Cable
Shaw
StarTV
Telewest
U S West

How many set-top-boxes were already distributed (October 2000)? - …

What is the Digital Television and Interactive Television standard? - Liberate is a member of several Interactive Television standards committees, including W3C, ATSC, DVB, and OpenCable.

What Interactive Television service and products does it offer?
- Enhanced TV,
- TV Web Surfing,
- TV Phone,
- TV Picture Mail,
- Electronic Program Guide

History:
Liberate is a leader platform provider for information appliances - devices such as televisions, cell phones, game consoles, and others enhanced by an Internet connection. With the goal of making the power of the Internet as commonplace as electricity, Network Computer Inc. was created four years ago. The idea was to take Internet to as many devices as possible and its first investors were Netscape and Oracle, followed by Sony, Acer, Sega, Nintendo, and NEC.

In 1999, Network Computer Inc. changed its name to Liberate. According to their web site, the name Liberate derives from “the company's goal of expanding outlets for the

Internet, as well from the company's role as the standard-bearer for a movement to create and support information appliances with a platform based on open standards". Also this year, eleven additional companies invested: Comcast, Cox Communications, Motorola, Hambrecht & Quist, Lucent Technologies, Marubeni Corporation, MediaOne Ventures, Rogers Communications, Shaw Communications, Sun Microsystems, and Wind River Systems. Today, America Online is also an investor through its acquisition of Netscape[94].

AOLTV is the first major result of Liberate and AOL collaboration. Most of Liberate's clients are headquartered in the United States of America. In Europe, Cable & Wireless plan to distribute Liberate TV Navigator software in its digital television set-top boxes. On the other hand, NTL chose integrated Liberate Connect ISP Suite server software for management, administration and network security of its fiber-optics infrastructure.

The company's Interactive Television platform was named Liberate TV Navigator, and it uses the Internet opens standards - or ATVEF's standards[95]. There is still to mention that Liberate TV Navigator was the platform chosen by Ono, the major broadband service provider in Spain, to install the first cable Interactive television service in the country. The subscribers will have Internet access, as well as interactive services and programs[96].

[94] http://corporate.liberate.com/
[95] http://products.liberate.com/tv_navigator/datasheets/index.html
[96] http://press.liberate.com/archives/2000/080300_ono.html

5.2.3. Open TV, USA

http://www.opentv.com/about

What it is? - Open TV provides a complete Interactive Television platform and infrastructure; its solutions include middleware applications, content authoring tools and professional services.

When it was launched? - March 1998

Who are its main investors? - America Online, EchoStar Communications, Motorola, Liberty Digital, Shaw Communications, News Corporation, Time Warner, Sun Microsystems and MIH Limited.

Who are its partners? - America Online, General Instrument/Motorola, Liberty Digital, MIH Limited, News Corporation, Shaw Communications, Sun Microsystems, e Time Warner.

Who are its clients?
Austar, Australia, Satellite, Launched
BSkyB, UK, Satellite, Launched
Casema KabelTelevisie, Netherlands, Cable, Launched
CBSat, China, Satellite, Launched
DigiTurk, Turkey, Satellite
EchoStar/DISH Network, US, Satellite, Launched
E-Vision, UAE, Cable,
FOXTEL, Australia, Satellite
France Telecom Cable, France, Cable, Launched
Free Universe Network, Germany, Satellite, Launched
Galaxy LA, Latin America, Satellite
Image Wireless Communications, Canada, Terrestrial, Launched
MediaKabel BV, Netherlands, Cable, Launched

MultiChoice Hellas, Greece, Satellite, Launched
MultiChoice Middle East, Middle East, Satellite, Launched
MultiChoice South Africa, South Africa, Satellite, Launched
Noos (Lyonnaise Cable), France, Cable, Launched
Pacific Digital Media Corporation, Taiwan, Satellite
PrimaCom AG, Germany, Cable
QuieroTV, Spain, Terrestrial, Launched
Senda, Sweden, Terrestrial, Launched
Shaw Communications, Canada, Cable
Sky New Zealand, New Zealand, Satellite,
Stream S.P.A., Italy, Satellite, Launched
TeleDanmark Kabel-TV AB, Denmark, Cable, Launched
Teleon, Turkey, Satellite, Launched
Galaxy Satellite Broadcasting Ltd. (TVB), Australia & US, Satellite
Television par Satellite (TPS), France, Satellite, Launched
Telia InfoMedia TeleVision AB, Sweden, Cable, Launched
UBC, Thailand, Cable
Via Digital, Spain, Satellite, Launched

How many set-top-boxes were already distributed (October 2000)? - 9.3 million set-top boxes were distributed, until August 2000

What is the Digital Television and Interactive Television standard? - OpenTV is a member of the Digital Video Broadcasting (DVB) project, the OpenCable initiative, ATSC and JavaTV.

What Interactive Television service and products does it offer?

- Enhanced TV,
- Virtual Channels,
- Control Applications, including Video on Demand (VOD) or Personal Video Recording (PVR)

History:

In 1994, Thomson Multimedia and Sun Microsystems became allies to pursue the common goal of developing digital television software solutions. The first product - OpenTV 1.0 - was launched in March 1996. During that same year, the alliance was restructured in order to create an independent company, named Thomson Sun Interactive, LLC. In March 1998, the company was renamed OpenTV, after the addition of another stockholder to the strategic investors group.

The OpenTV Interactive Television platform was chosen until August 2000 by 34 television and telecommunications operators, including BSkyB in England, TPS in France, EchoStar in the USA and Vía Digital in Spain. Among others, its investment partners are America Online, General Instrument/Motorola, Liberty Digital, MIH Limited, News Corporation, Shaw Communications, Sun Microsystems and Time Warner.

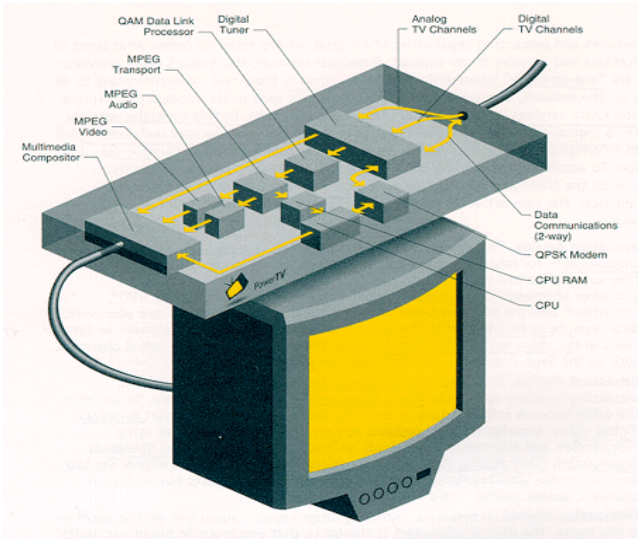
Mountain View, California is OpenTV's headquarters and it has offices in Naperville, Illinois, as well as in Paris, London, Seoul, Tokyo, Beijing and Sydney[97].

In July 25th 2000, OpenTV and the multimedia and Software Company Spyglass, Inc. merged, becoming what is now considered to be the biggest interactive media solutions provider company in the world. Last August 9th, OpenTV announced it has already installed more than 9.3 million set-top boxes around the globe, which reinforce its position as the world leader in the Interactive Television software business[98].

[97] http://www.opentv.com/about/history.html
[98] http://www.opentv.com/news/2000/080900a.html

5.2.4. Power TV HTML Engine/ Scientific-Atlanta, USA

http://www.powertv.com/company/company.html



What it is? - Power TV provides an operating system for Interactive Television set-top boxes, named PowerTV HTML Engine, which includes a platform that supports Internet protocols, namely, HTML, Java Script and Personal Java.

When it was launched? - PowerTV was created in 1994 by a group of Kaleida employees, a IBM-Apple joint venture; Scientific-Atlanta, one of the main set-top boxes manufacturers in the USA, invested the initial capital.

Who are its main investors? - Scientific-Atlanta

Who are its partners? - Scientific-Atlanta, Pioneer and Toshiba

Who are its clients?
Time Warner Cable,
MediaOne,
Comcast,
Cox Communications,
Adelphia Communications Corp.,
Marcus Cable,
Rogers Cablesystems,
Videotron,
Cogeco Cable

How many set-top-boxes were already distributed (October 2000)? - …

What is the Digital Television and Interactive Television standard? - the Power TV platform supports the Internet protocols, such as HTML, Java Script and Personal Java

What Interactive Television service and products does it offer?

- Electronic Program Guides,
- Email,
- Video-on-demand,
- Electronic commerce,
- Interactive advertising,
- Webcasting,
- Web Browsing,
- Personalised information.

History:

Power TV's mission is to provide an operating system and platform for set-top boxes, with a wide range of interactive applications and services for bi-directional cable networks.

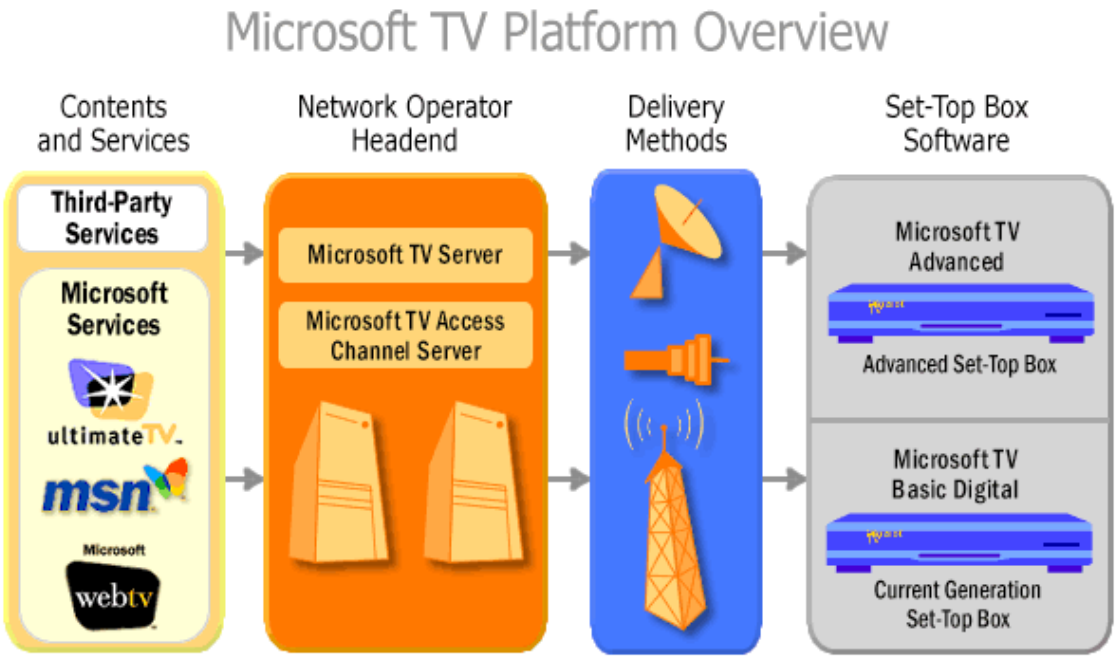
The company commercialised its first operating system 13 months after being created. Among the many successful Power TV trails we find the ones implemented with Pacific Telesis, SNET and BellSouth. The trial made with this last company is still on, offering digital television, near-video-on-demand and Internet access.

Recently, nine big cable television operators selected the PowerTV operating system for their digital cable systems: Time Warner Cable, MediaOne, Comcast, Cox Communications, Adelphia Communications Corp., Marcus Cable, Rogers Cablesystems, Videotron, and Cogeco Cable. Before, Pioneer and Toshiba joined Scientific-Atlanta in order to include the PowerTV technologies in their set-top boxes[99].

[99] http://www.opentv.com/industry/tvexpert/s_casestudiesPowerTV.html

5.2.5. Microsoft TV / Microsoft, USA

http://www.microsoft.com/tv



What it is? - Microsoft TV Platform is an Interactive Television services and products solutions package: Microsoft TV Advanced, Microsoft TV Basic Digital, Microsoft TV Server, and Microsoft TV Access Channel Server.

When it was launched? - - …

Who are its main investors? - Microsoft TV is a Microsoft's division.

Who are the partners? - AccelerateTV, Avid Technology, Inc. , Bluezone, bSQUARE, Chyron Corporation, Digital Video Arts, ExtendMedia, ENPS (Associated Press), eSynch, Grass Valley Group, Kobalt Interactive, Leap Frog Productions, Louth, Lysis, Mixed Signals Technologies, Norpak Corporation, Peak Broadcast Systems, Vertigo Multimedia, ViziWorx, Wink Communications.

Who are the clients?
WebTV
AT&T Broadband
NTL
Rogers
TV Cabo
UPC
DIRECTV

How many set-top-boxes were already distributed (October 2000)? - Microsoft WebTV Network Interactive Television service is considered to be the biggest in North America with more than one million subscribers.

What is the Digital Television and Interactive Television standard? - Microsoft supports the existent TV and Internet standards, and the Advanced Television Enhancement Forum (ATVEF) specifications. At a international level, it supports the following standards:
Digital Video Broadcasting (DVB), Advanced Television Systems Committee (ATSC), OpenCable, Association of Radio Industries and Businesses (ARIB), Advanced Television Enhancement Forum (ATVEF) interactive TV standard, National Television System Committee (NTSC), Phase Alternating Line (PAL), Sequential Color and Memory (SECAM), and the High Definition Television (HDTV) standard.
Other standards include Hypertext Markup Language (HTML), Dynamic HTML, Hyper Text
Transfer Protocol (HTTP), Extensible Markup Language (XML), European Computer Manufacturer's Association's 262 Language Specification (ECMAScript), JavaScript, Java, among others[100].

What Interactive Television service and products does it offer?

- Offers broadcast services for service acquisition and tuning, conditional access, building an Electronic Program Guide (EPG), and handling broadcast data
- Incorporates communication and networking support, including cable modem, Ethernet, USB, enhanced dialup support, home networking, and others
- Provides multimedia services for graphics, sound, and streaming media, leveraged from desktop standards and optimised for embedded devices
- Features a browser designed and optimised for TV viewing
- Enables rich built-in TV applications such as an advanced EPG, impulse pay-per-view, video-on-demand, digital video recording (DVR), and live TV pause
- Offers a customisable user experience designed for TV[101].

History:

Ever since the beginning of the nineties, before the Internet became popular, Bill Gates already spoke about Interactive Television. According to the journalist James Wallace, Gates knew that the desktop software revenue source would one day dry out, and he believed that Microsoft's future was on developing software for Interactive Television[102].

The quick and massive development of Internet made Microsoft put the project on-hold. But the biggest software company in the world didn't give up the idea and it would charge once again in 1997, when it bought WebTV. When it first started to develop their activity, WebTV positioned itself as an affordable Internet access provider. More

[101] http://www.microsoft.com/tv/products/MSTV.asp
[102] http://www.centroatl.pt/edigest/edicoes/ed40cap1.html

recently, the company focused on offering their own Interactive Television services and products. Until October 2000, WebTV has a million subscribers in the USA, and it is available also in Japan.

If today WebTV is the major Interactive Television provider in the United States, there are strong reasons to believe that its first place is in danger. On one hand, AOLTV made an aggressive debut, and it is a strong competitor to watch out since it has both important partnerships and millions of Internet subscribers. On the other hand, the set-top boxes that allow to digitally record programs – such as TiVo and ReplayTV - are stealing the potential WebTV Personal TV subscribers.

Therefore, Microsoft had to redefine once again its strategy for the Interactive Television industry. A possible solution named Ultimate TV was announced in June 13th 2000. With the consumer electronic manufacturer Thomson and the satellite television provider Direct TV, Microsoft will launch a new generation set-top box until the end of this year in the USA. More complete than the current WebTV boxes, the Ultimate TV set-top boxes will include a hard disk capable of recording up to 30 hours of programming, allowing to see one program in one channel while recording another one in a different channel[103].

[103] http://singapore.cnet.com/news/2000/06/13/20000613o.html

SUMMARY Table – Platforms

ITV Provider	*What ?*	*When?*	*Who owns?*	*Clients?*
CanalPlus Media Highway	MediaHighway is an Interactive Television and middleware system.	--	CanalPlus	*(MediaHighway and/or MediaGuard)* Media One, The Chinese Channel United ONdigital, Pioneer/Jupiter KTV Communicacões, Unicorp (NewS@t Project), CANALSATELLITE Numérique, CANAL+ Numérique Satellite, NC Numéricâble, CANALPRO, PMU, Le Bouquet, Zee Network, CANALSATELLITE (Antilles, Réunion, Calédonie, Maurice, Spain), Portinvest, , D+/TELE+, CANALDIGITAAL (Netherlands Belgium, Denmark, Finland, Norway , Sweden), CYFRA+, Elettronica Industriale.
Liberate	Liberate TV platform is composed by Liberate TV Navigator and Liberate Connect	May 1999	Oracle, AOL, Acer, Comcast, Cox, GI, Lucent, Marubeni, Media One, NEC, Nintendo, Rogers, Shaw, Sega, Sony, Sun, Wind River.	America Online, Belgacom, Cable & Wireless, Cancom, Comcast Cox Communications, Dream Train Internet, Guestlink, ICC Insight, Lodgenet, Maginet, MediaOne, NTL, NTT, Communications, Pegasus, Rogers Cable, Shaw, StarTV, Telewest, U S West.
Open TV	Open TV provides a complete Interactive Television platform and infrastructure;	March 1998	AOL, EchoStar Com., Motorola, Liberty Digital, Shaw Com., News Corporation, Time Warner, Sun and MIH Limited.	Austar, BSkyB, Casema KabelTelevisie, CBSat, DigiTurk, EchoStar/DISH Network, E-Vision, FOXTEL, France Telecom Cable, Free Universe Network, Galaxy LA, Image Wireless Com., MediaKabel BV, MultiChoice Hellas, MultiChoice Middle East, Middle East, MultiChoice South, Noos (Lyonnaise Cable), Pacific Digital Media Corp., PrimaCom AG, QuieroTV, Senda, Sweden, Shaw Com., Sky New Zealand, Stream S.P.A., TeleDanmark Kabel-TV AB, Teleon, Galaxy Satellite Broadcasting Ltd. (TVB), Television par Satellite (TPS), Telia InfoMedia TeleVision AB, UBC, Via Digital.
Power TV	Power TV provides an OS for Interactive TV boxes - PowerTV HTML Engine.	1994	Scientific-Atlanta	Time Warner Cable, MediaOne, Comcast, Cox Com., Adelphia Com. Corp., Marcus Cable, Rogers Cablesystems, Videotron, Cogeco Cable
Microsoft TV	Microsoft TV Platform is an iTV services and products package.	--	Microsoft	WebTV, AT&T Broadband, NTL, Rogers, TV Cabo, UPC, DIRECTV

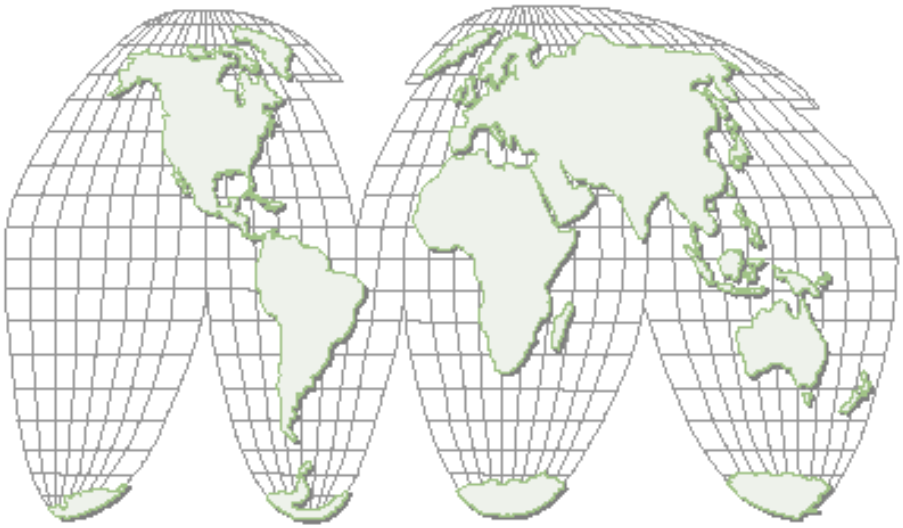
ITV provider	*How many?*	*Where?*	*Standard ?*	*Services?*
CanalPlus Media Highway	6 million set-top boxes (approximately)	At least France, Spain.	Java – based authoring system	Electronic Program Guides Interactive News Services Interactive Video Browser TeleShopping Interactive Advertising On Demand Weather Forecast Games Network Games Listening Booth ZapF1 and ZapFoot Pay-Per-View Database Information Services High-Speed PC Software Downloading Fast Internet on PC / Fast Internet on TV TeleBanking
Liberate	--	At least USA, England, Canada, Belgium; In short term in Austria and Spain.	HTML - based	Enhanced TV, TV Web Surfing, TV Phone, TV Picture Mail, Electronic Program Guide
Open TV	9.3 million set-top boxes were distributed, until August 2000	At least England, France, Spain, USA, Sweden, Turkey.	Java – based authoring system	Enhanced TV, Virtual Channels, Control Applications, including Video on Demand, Personal Video Recording
Power TV	--	At least USA and England.	HTML - based	Electronic Program Guides, Email, Video-on-demand, Electronic commerce, Interactive advertising, Webcasting, Web Browsing, Personalised information.
Microsoft TV	1 million subscribers in the USA	USA, Japan. In short term in Portugal and England.	HTML - based	Offers broadcast services for service acquisition and tuning, conditional access, building an (EPG), etc. Provides multimedia services for graphics, sound, and video. Features a browser designed and optimised for TV viewing Enables rich built-in TV applications (pay-per-view, video-on-demand, digital video recording).

6. STAGES – Where?

6.1. The gap between cultures

6.1.1. USA and Europe: different approaches to Interactive Television

The competition and divergence between the American **Internet-centric option and** the European **TV-centric option** has much more at stake than a mere choice between technologies. The implications are cultural and political, as it is stated on the Phillips Group report "Application Programming Interfaces - Implications for Interactive TV in Europe", published May 1999:
"There is also a threat to European culture implicit in the adoption of am Internet-centric model of interactive TV, since most content authored for the Internet is American in origin"[104].



Threat to European culture? Is there the risk of committing the creation of an independent, European Interactive Television software development community, as the same report refers? In a way, that may be true, since the great majority of the World Wide Web contents are made in the USA. This fact can push the European players to develop the Interactive Television concept around the production of specific interactive services.

More significantly, **there are historical reasons that explain this substantial difference between one and other side of the Atlantic** according to the Phillips Group report: in Europe, the interactivity experience has been carried through the television set, with such services as the teletext and the French Minitel. As for the USA, the television viewers are not used to this kind of experience, and the Internet penetration rates reach 45% - more than the double of the European average percentage.
The logical conclusion from these facts is, according to the same document, that it is almost impossible to establish only one Interactive Television standard:

[104] http://www.the-phillips-group.com/digtv.htm

"Any attempt to create a common standard for both territories (…) would therefore be extremely difficult, since the two sides start from widely divergent positions"[105].

The divergence between the American and the European Interactive Television model could bring the European players an once in a life time opportunity, since the American are still more focused on Internet. **The USA dominates both the Internet as the Audio-visual market**, but since the last decade **the European audio-visual market has been the fastest growing in the world**, far outstripping the American market growth rate, according to the report **"Economic Implications of New Communication Technologies on the audio-visual Markets"**, undertaken on behalf of the European Commission and published in 1997[106]. The European share of the industry's total revenue is reckoned to rise from 28% in 1995 to 30% in 2005, with a 55% increase in revenue over the period.

This significant report was one of the basic sources of the also important European Union document **"The Digital Age: European Audio-visual Policy"**[107], from the High Level Group on Audio-visual Policy, published in 1998. Among its several recommendations, the High Level Group states that it is vital that Europe makes use of the "window of opportunity" that digital broadcasting (in all its forms) is opening in order to move forward to the information age"[108], by this implying that European policy makers should vigorously encourage the development by market players of digital television services. Particularly, the High Level Group highlights **the importance of interactive television and multimedia for the European audio-visual market growth**:
"Innovative products and services, such as interactive television and multimedia applications are expected to make a significant contribution to this growth, but will expand the market and complement existing products and services rather than replace them. The increase in the market share of European programme producers is likely to be particularly marked in markets other than free-to-air television (cinema, video, pay television, interactive television and multimedia applications)"[109]".

Therefore, the emerging audio-visual markets have a significant potential for job creation. In 1995**, one million people directly employed in the cinema and television sectors in the European Union**, according to the report "Economic Implications of New Communication Technologies on the audio-visual Markets". **The employment level could double** if the audio-visual industry can meet the new demand, stated the High Level Group responsible for the "The Digital Age: European Audio-visual Policy"[110] document.

[105] idem
[106] http://europa.eu.int/comm/dg10/avpolicy/key_doc/new_comm/new_comm.html
[107] http://europa.eu.int/comm/dg10/avpolicy/key_doc/hlg1_en.html
[108] http://europa.eu.int/comm/dg10/avpolicy/key_doc/hlg4_en.html#RECOMMENDATIONS
[109] idem
[110] http://europa.eu.int/comm/dg10/avpolicy/key_doc/hlg1_en.html

6.1.2. European Union – Audio-visual policy and data

The corner stone of the European policy for the audio-visual and multimedia market, the report **"The Digital Age: European Audio-visual Policy**" is based o the premise that a modern democratic society cannot exist without communication media which are widely available and accessible, reflect the pluralistic nature the societies, make available the information necessary for citizens to make informed choices about their lives and their communities and provide the means for public debate[111].

Considering **Television as the dominant audio-visual medium**, the High Level Group responsible for the report outlines that average European spends between 3 and 4 hours each day watching television, and that the number of hours for children is even higher. Television shapes our societies profoundly, as it is stated in the report:
" For the great majority of Europeans, it is the major source of information, of entertainment and of culture. It provides not only facts about and images of the world, but also concepts and categories – political, social, ethnic, geographical, psycho-logical and so on - which are used to render these facts and images intelligible. It therefore helps determine not only what we see of the world, but also how we see it[112].

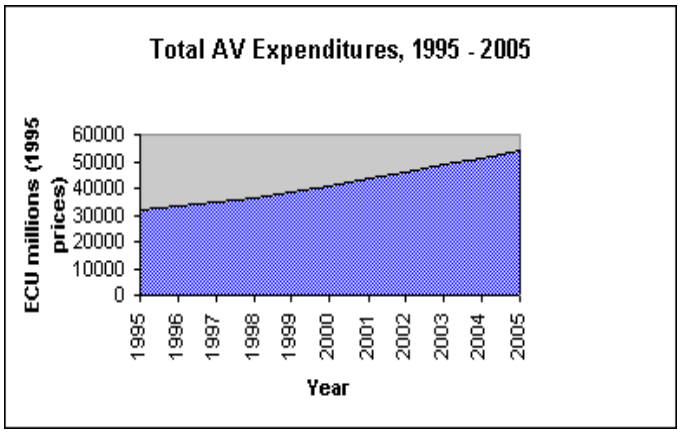
Therefore, the audio-visual media plays a crucial, formative role in our societies and it cannot be controlled by any private or public interest. The audio-visual media has an immense power, as the report reminds, and it is most of all a **cultural industry**:
"The audiovisual industry is not an industry like any other and does not simply produce goods to be sold on the market like other goods. It is in fact a cultural industry par excellence, whose "product" is unique and specific in nature. It has a major influence on what citizens know, believe and feel[113]."

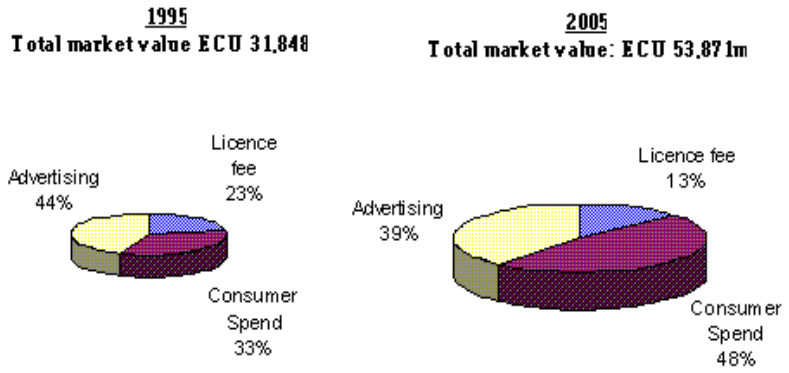
Still, it is an industry and it was to obey to the primary rules of demand and offer. Is this case, as in many others, the USA dominates the market. In order to **analyse the economic effect of new communication technologies on audio-visual markets**, the European Union commissioned the study "Economic Implications of New Communication Technologies on the audio-visual Markets", which represented the first case of projecting the evolution of the broadcasting, film industry, video packaged and on-line multimedia services[114]. Denmark, France, Germany, Ireland, Italy, Spain and the UK were the media markets analysed.

The study forecasts a strong real growth of **audio-visual expenditures**, meaning licence fees, advertising and consumer expenditure), increase from **31.8 billion ECU in 1995 to 53.9 billion ECU in 2005** (in 1995 prices), across the seven Member States considered. As any other forecast – and this one has made in 1997 and in ECUS – the numbers may not be the exact, but at least these figure indicate an important trend in terms of the audio-visual market growth, and that alone justifies to include them in the thesis.

[111] http://europa.eu.int/comm/dg10/avpolicy/key_doc/hlg1_en.html
[112] idem
[113] idem
[114] http://europa.eu.int/comm/dg10/avpolicy/key_doc/new_comm/new_comm.html

According to the study, the biggest growth in the total Audio-visual expenditures will be provoked by direct consumer expenditures, continuing the trend of the early 1990s with rapid expansion of pay-TV and on-line multimedia services, increasing from ECU **10,500 million in 1995** to **25,665 millionECU** in 2005.





Significantly, the "Economic Implications of New Communication Technologies on the Audio-Visual Markets" study predicts that digitalisation will lead to some developments in the way audiovisual products are delivered, since it allows new ways of delivering product to the home, more functionality and lower distribution costs:
"Developments in transactional TV including NVOD and VOD, for example, can be seen as a natural new method for delivering film product to the home. Over time, this may replace more traditional markets such as video rental, though the significant installed base of VCRs coupled with the (low) initial take-up of transactional TV will mean that the decline is gradual rather than dramatic"[115]

Therefore, it is essential that the European content industry faces the new challenges of the Digital Age. The study present, in summary, the following key challenges:

- **the growing importance of marketing and brand awareness;**
- **smaller companies need to achieve economies of scale,**
- **the need to sell product internationally,**

[115] http://europa.eu.int/comm/dg10/avpolicy/key_doc/new_comm/new_comm.html

- **the localisation is critical, the need to sell product and maximise rights in new media[116].**

Important lessons to be learned by all the Interactive Television players, now the industry is emerging in Europe as well as in the rest of the world.

6.1.3. The North and the South of Europe

To present general data about the European Union audio-visual market - which obviously includes Interactive Television, as well as traditional television, cinema and multimedia - may lead someone to think those would be the average figures in each country. But some analysts state that **the preferences for interactive services differ greatly between European countries**.

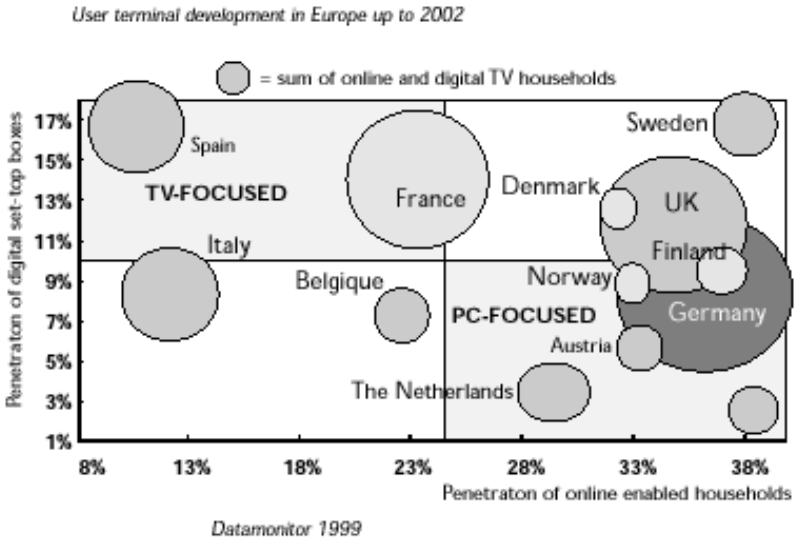
"The question is – PC, TV or even both?" says Peter Olaf Looms, a consultant for the Danish Broadcasting Corporation, to whom this will be the choice European consumers have to make when they want to access interactive services[117]. In his report "The European Multimedia Market and Industry – trends and statistics", included in the "The Guide To Multimedia Production in Europe in Europe in 2000", Peter Olaf Looms believes that geographic differences in the preference for each device type can mean distinct national opportunities for manufacturers.

This opinion follows closely the conclusions of the Datamonitor report "Consumer interactive services in Europe to 2002", published in September 1998, in which it is stated that regional preferences for either PC's or TV's as an interactive service will influence the business opportunities for device vendors, particularly that:

- **France, Spain and Italy will be TV-focused**, with more interactive households than PC ones.
- **In the German speaking markets the PC will dominate** as a consumer interactive device.
- **The UK and Sweden both interactive technologies will show a high penetration[118]**.

These conclusions indicate that **the North European consumers will preferentially use the PC** as an interactive service device, and **the South European consumer will focus on the Television** set as their major source of interactive services. This way, the North of Europe would have much more in common with the USA in terms of favorite interactive services device, since the American consumers seem to be more PC-centric than TV-centric.

[116] http://europa.eu.int/comm/dg10/avpolicy/key_doc/new_comm/new_comm.html
[117] *"The Guide To Multimedia Production in Europe in Europe in 2000",* Training Research Actions in Multimedia, 2000
[118] idem



Also according to Datamonitor, the PC will remain the dominant platform for residential access to Interactive services in the foreseeable future, and that by the end of 2002, there will be 40 million on-line-enabled PC households in Europe, compared to 15 million households with digital set-top boxes. In 2003, the revenues from interactive TV and PC-based services would reach $6.4 billion and $17 billion. Datamonitor explains these projections because when the report was written (1998) there was a higher installed base of PC/modem households and the of digital TV in Europe was in is early days[119].

As it was mentioned before, the forecast numbers may not be the exact, but they are valuable if they indicate an important trend. In the particular case of this Datamonitor report, many sources indicate that they were wrong when they predicted that PC would remain the dominant platform for residential access to interactive services. The report did not predict the quick digital television expansion since 1998, as it did not foresee the also rapid development of Interactive Television services, mainly in England and France.

Even if there may be some truth in saying that some countries will have a higher rate of people who have access to interactive services by PC or by TV, it may not necessarily be an equations such as North = PC and South = TV, as if the southern countries were a sort of European Africa. Perhaps it is more realistic to think that it is no longer a question of PC or TV, but PC and TV, for different purposes and moments and that the devices will co-exist peacefully.

[119] *The Guide To Multimedia Production in Europe in Europe in 2000",* Training Research Actions in Multimedia, 2000

6.2. Countries – case studies

6.2.1. England

The biggest obstacle to progress is that there is no standard platform for delivering interactive television, according to the overview report on the interactive TV market in the UK published in May 2000 by the media communication specialist CARAT[120].

In England, there are four main Interactive Television service providers:

- **ONdigital**, which uses a terrestrial broadcast network and has a MHEG-based system;
- **Open,** which broadcasts via the BSkyB satellite with its own proprietary technology;
- **NTL and Telewest**, which are cable providers and base their services on HTML and JavaScript.

The UK Interactive Television market is considered as one of the most advanced in the world. The most prominent of all the British providers is Open, which was the first service to be implemented all over the country. According to the CARAT report above mentioned, the service has been rolled out quickly and it was providing shopping, banking and email services to 2.8 million subscribers in June 2000[121].

Open was also the "stage" of the first nation-wide interactive television advertisement, launched during the last week of March 2000. One of the major problems advertisers are facing right now is that have to re-make each interactive commercials, since there are several different Interactive Television platforms in England.

The potential subscribers are also confused, since most find difficult to differentiate the offer made by each platform, as the CARAT report mentions. But there is more Interactive Television offer on the way: Telewest announced the launch of Active Digital, which will offer email, home banking, shopping, and interactive entertainment via the television set. Also NTL, with a 2.2 million subscriber base after the Cable and Wireless network acquisition, forecasts it will deliver interactive services for 250,000 subscribers by the end of this year[122].

The widespread introduction of ADSL lines by the British telecoms providers will benefit ONdigital and Open that are predicted to reach 80% of the population within three years. The CARAT overview refers that a recent Government report predicts that there will be over 8 million digital subscribers by 3003 and 18.5 million by 2008, which indicates that the broadcasters are to able to meet the dead-line of 2010 to switch off the analogue television signal[123].

[120] http://www.itvnews.com/intnews/index.htm
[121] idem
[122] idem
[123] idem

6.2.2. France

France is the European country with the most advanced and original approach in Interactive Television, according to the IDATE's report "Development of Digital Television in The European Union", published in June 2000[124]: In France, **almost all services are free of charge**, since the satellite subscribers rent the set-top boxes to consumers. Usually, the owners of the television shopping stores buy a "commercial lease" from the access provider and pay a commission on sales.[125]"

In France, Interactive Television was born in 1997. The CARAT overview report about the industry in this country refers that technology is evolving well and the service applications seem to be appreciated by consumers, advertisers and broadcasters.

CanalSatellite and **TPS** – considered as the two dominant satellite platforms – have different strategies and developed their offers through different technologies: Mediahighway for CanalSatellite and OpenTV for TPS. In summary, CanalSatellite and TPS offer real interactive direct marketing services (TPS Boutique, Forum boutiques), transaction services (CATV, FNAC, PMU), news and informative services (Meteo Express, L'oeil du Hibou, Infoscore); and interactive games (Game One, Bandiagarra) accessible via the TV set. But more and more television channels are developing their own Interactive Television services, such as Canal Jimmy, Eurosport, Fox Kids, MCM and Voyages[126].

As for interactive advertising, already 40 interactive advertising campaigns have been built since the launch of interactive services. CanalSatellite's aim is to get contacts whereas TPS is trying to personalise the link created with consumers, as it is mentioned by the CARAT market overview. However, CanalSatellite and TPS provide databases, infomercials, create increased traffic and are trying to personalise the different services.

6.2.3. Spain

"You would have to live in the Spanish equivalent of Siberia to not be all too aware of **the ongoing dispute between the country's two digital satellite operators Via Digital and Canal Satellite Digital**" – refers the television industry web site 365broadcast.com[127]. The two digital satellite operators have been aggressively competing with each other, or announcing that they would merge ever since their launch.

Both of the digital satellite television Bouquets offers interactive services. At the end of October 1999, **CanalSatelite** proposed four services in addition to an electronic programme guide:

- A downloading service for games (C),
- An interactive banking service provided by the BBV bank (Canal BBV),

[124] http://www.ispo.cec.be/infosoc/telecompolicy/en/Eurorep99ov.pdf
[125] idem
[126] idem
[127] http://www.365broadcast.com/resources/country_files/spain.shtml

- A games service (Jaguar),
- A football information service (La Liga de Fùtbol).

At the same date, rival services offered by **Via Digital** included:

- A football information service,
- An interactive banking package with Argentaria, BBV and Caixa partnership
- Other services are being tested such as games and weather reports [128]

Another new player is **Quiero TV**, the Spanish commercial DTT platform, which officially launched its services in May 2000. Their offer includes 14 simultaneous programmes and Internet access and e-mail through the set-top box with Internet navigator. The most attractive programmes include "The Big Brother", a Universal film channel and a PPV film channel. Other programmes include documentary and children's channels[129].

More recently, in August, Spain's leading broadband services provider **ONO** announced plans to deploy the country's first digital cable interactive service. Subscribers to the service will be able to access Internet content and interactive applications via their television sets, based on the Liberate platform. ONO also holds a license to provide cable television service to 0.8 million homes and 0.1 million businesses in Portugal, principally in the cities of Lisbon and Porto. The company is managed by Callahan Associates International and its shareholders include BSCH, GE Capital, Bank of America, Caisse de Depot et Placement du Quebec, Grupo Ferrovial and Multitel Cable[130].

[128] http://www.ispo.cec.be/infosoc/telecompolicy/en/Eurorep99ov.pdf
[129] http://www.digitag.org/news/LatestNews/Spain/dtg_spain_may00.htm
[130] http://press.liberate.com/archives/2000/080300_ono.html

7. PORTUGAL – the state of the art

7.1. Background data and information about Portugal

7.1.1. Basic data about Portugal

Portugal is one of the oldest countries in the world, and an independent nation since the XII century. Located in the West extreme of the Iberic Peninsula in Europe, Portugal is bordered by Spain on the north and east and by the Atlantic Ocean on the south and west. The Portuguese Republic is also composed by the Azores and Madeira Islands in the Atlantic.

Portugal is considered an upcoming capitalist economy with a per capita GDP two-thirds that of the four big West European economies. Ever since Portugal joined the European Union in 1986, it was been to enjoying a certain degree of economic growth, falling interest rates, and low unemployment rates. Since1998, Portugal is one of the eleven countries that qualified for the European Monetary Union[131].

Portugal's inflation rate for 1999 was 2.4%, and it is expected this year to reach 2.7%, according to the Ministry of Economy latest forecasts. It is also expected that the economic growth to remain stable from this year on, and already this year the percentage was below the average in terms of the European Union. The country runs a trade deficit and a balance of payments deficit.

[131] http://www.cia.gov/cia/publications/factbook/geos/po.html

In July 2000, the Portuguese population reached 10,048,232 people, and the growth rate was estimated in 0.18%. The literacy levels - 87.4% - are above the European average and the Portuguese lack professional qualifications – is one of the cheapest and less qualified in all Europe. As the CIA book of facts refers, the improvement in the education sector is critical to the catch-up process[132].

Area: **92,000 square kilometres**
Capital: **Lisbon**
Population: **9,987,800 (1999)**
GDP: **$110.7 billion in 1999**
GDP per capita: **$11,000**
Currency: **Portuguese escudo & Euro**
Exchange rates: **1 Euro = 200.482 escudos** (irrevocable parity)
Form of Government: **Parliamentary democracy**. Portugal has a unicameral legislature -- the National Assembly -- elected for a four-year term. The next election is due by October 2003.
Head of State: **President Jorge Sampaio** (Socialist party). Elected by popular vote in January 1996 for a five-year term.
Head of Government: **Prime Minister António Guterres** (Socialist party)[133]

Age structure:
0-14 years: **17%** (male 880,501; female 834,062)
15-64 years: **68%** (male 3,319,143; female 3,468,009)
65 years and over: **15%** (male 628,101; female 918,416) (2000 est.)
Literacy (definition: age 15 and over can read and write): **87.4**% [134]

Radio broadcast stations: **AM 47**, **FM 172** (many are repeaters), **shortwave 2** (1998)
Radios: **3.02 million** (1997)
Television broadcast stations: **36** (plus 62 repeaters) (1997)
Televisions: **3.31 million** (1997)
Internet Service Providers (ISPs): **20** (1999)

Telephones - main lines in use: **3.724 million** (1996)
Telephone system: domestic, generally adequate integrated network of coaxial cables, open wire, microwave radio relay, and domestic satellite earth stations international: 6 submarine cables; satellite earth stations - 3 Intelsat (2 Atlantic Ocean and 1 Indian Ocean), NA Eutelsat; tropospheric scatter to Azores[135];
Telephones - mobile cellular: **5,19 million subscribers** (July 2000) [136]

[132] http://www.cia.gov/cia/publications/factbook/geos/po.html
[133] http://www.portugal.org/information/index.html
[134] http://www.cia.gov/cia/publications/factbook/geos/po.html
[135] idem
[136] http://194.65.125.125/press/not250.html
[137] http://bocc.ubi.pt/pag/sousa-helena-liberalisation.html

7.1.2. Data about the Portuguese Television Industry

Until the beginning of the nineties, **the Portuguese could only enjoy the public television channels – Radio Televisão Portuguesa (RTP) Canal 1 and RTP2**. Although Portugal joined the '"democratic club" in the 1974, its television policy has been until the early 1990's almost exclusively concerned with the control of political output, as states the University of Minho researcher Helena Sousa, in her study "The Liberalisation of Media and Communications in Portugal":
"In the 1980's, and for internal and external reasons, it became increasingly evident that the RTP's monopoly was no longer sustainable"[137]."

Private television channels were claimed by many sectors of the society and, finnaly, in June 1989 the National Assembly removed the constitutional obstacles towards private television. **A new television law was approved by the Parliament in July 13th 1990**. Then, in April 1991, three candidates applied for the two available national TV channels: the Sociedade Independente de Comunicação (SIC) led by the former prime-minister Francisco Pinto Balsemão; TV1 Rede Independente, chaired by Proença de Carvalho with the support of the Carlos Barbosa media group (Presslivre), and Televisão Independente (TVI), close to the Catholic Church.

The results were announced in February 1992, and **the two national television licenses were attributed to SIC and TVI**, which began to broadcast in October 1992 and February 1993, respectively. The end of the RTP monopoly was considered at that time as the meaningful change in the television arena[138]. The newcomers developed different strategies to conquer public and, therefore, advertising revenues, as Helena Sousa refers:
"Depending almost exclusively on very limited advertising revenues, the three companies could hardly afford home/national production and based their peak time programming on cheap US and Brazilian fiction (e.g. movies and telenovelas) and on foreign formats (e.g. reality shows and quiz shows)"[139].

Another important landmark was **the introduction of cable television by TV Cabo** – a Portugal Telecom company, which launched commercially its services, in October 1994. Two years later, TV Cabo would reach 190.000 subscribers in 1996, more 20% than the initial projections, with almost 1 millions residencies prepared to receive cable television[140]. According to the last information available, TV Cabo now has 830.000 subscribers, a number that represents 90% of the total market.

Still it was the three main broadcasters that captured the attention of audience and advertisers. By the end of 1992, only operating for three months, SIC would reach an 8,5% share, while RTP had a 72,2% share and the other public channel reached a 17,9% share. But soon the private television channels would conquer the public, and **in 1995 SIC was the leader**, surpassing RTP with **a share of 41,4% against 38,4%.** Today, SIC keeps its first place, with increasing shares until 1999, when TVI began to rise above its average 12-14% share it has reached ever since 1994.

[138] http://bocc.ubi.pt/pag/sousa-helena-portuguese-television-sydney.html
[139] idem
[140] http://www.obercom.pt/anuario/anuario01.htm

Share de Audiência de TV				
	RTP1	RTP2	SIC	TVI
1992	72,2	17,9	8,5	
1993	61,5	17,6	14,3	6,6
1994	46,9	9,8	28,4	14,7
1995	38,4	6,4	41,4	13,8
1996	32,6	6,5	48,6	12,3
1997	33	5,6	49,3	12,1
1998	31,5	6,2	49,2	13,1
1999	28,5	6	48,1	17,4

Fonte: Marktest

The new television Act was passed in July 1998 - Law 31-A/98 of July 14th -, and it introduced significant changes in both the access to and exercise of the television activity. The possibility of creating local, regional and thematic channels was for the first time consecrated by law. Until that time, the national broadcasting system included the following channels: **RTP1** and **RTP2**, the two public national channels; **SIC** and **TVI**, the two private national channels**; RTP-Açores** and **RTP-Madeira**, the two public regional channels; **RTP Africa** and **RTP Internacional**, the two public international channels. As it was mentioned before, cable television was already available, as well as satellite television, but companies were not allowed to produce their own programmes, as the researcher Helena Sousa recalls:
"The new television law has opened up the thematic channels' flood gate. Terrestrial television companies are therefore associating themselves with cable operators and international content producers in order to guarantee their places in the new broadcasting scenario" [141].

For instance the **Premium TV** project was developed by SIC with the Brazilian network TV Globo and the biggest national cable operator, TV Cabo. Since June 1998, Premium TV is offering two codified movie channels: Telecine1 and Telecine2. TV Cabo also joined forces with SIC major competitor, RTP, and with Olivedesportos (a company in the sports business) in order to offer the codified sports channel **Sport TV**, available since September 1998. The other codified channels are **Playboy TV** and **Sexy Hot**, specialized in pornography and erotic films. TV Cabo also was responsible for launching the first Portuguese regional channel – **CNL** –, known as the CNN for Lisbon, and it is preparing a similar channel for Oporto. Finally, more local and regional television channels are not expected to be licensed before 2005 or 2006, according to the Secretário de Estado da Comunicação Social, Arons de Carvalho[142].

In ten years, the Portuguese witnessed a radical change in the television industry: from two public service channels to several dozens of channels, from a monopolistic situation to a strong competition. The television landscape will never be the same, and now the broadcasters are preparing themselves for the next challenge: Interactive Television. Nevertheless, as Helena Sousa points out, more channels doesn't mean more revenues for the broadcasters:
"The proliferation of television channels does not necessarily mean that the financial situation of broadcasting companies has improved during the Guterres' mandate (1995 -

[141] http://bocc.ubi.pt/pag/sousa-helena-portuguese-television-sydney.html
[142] idem

…). In fact, TV stations such as RTP and TVI have had important financial losses over recent years. The advertising market is small and, apart from SIC, terrestrial broadcasting companies have had highly unstable management mainly due to the lack of advertising revenues and debt accumulation" [143].

Resultados Líquidos do Exercício (mMEsc)								
	1992	1993	1994	1995	1996	1997	1998	1999
RTP	-4,109	-7,833	-19,558	-26,581	-18,512	-32,223	-25,04	
SIC	-0,691	-5,997	-1,962	0,154	1,905	3,026	5,36	
TVI	-0,911	-5,479	-4,971	-4,852	-6,1	-4,323	-1,283	

Fonte: Relatório e Contas da RTP, SIC e TVI / Obercom

Currently, four major players dictate the rules of the game: SIC, RTP, TVI and TV Cabo. **By far SIC is the market leader**, followed by RTP Canal 1, ever since 1995. **But times are changing**, a one can observe in the following table, provided by Marktest:

	Total TV	RTP1 shr%	RTP2 shr%	SIC shr%	TVI shr%	Videos/ Outros shr%
January 1999	100.0	28.6	5.5	46.6	15.0	4.3
February 1999	100.0	29.4	5.2	45.4	15.5	4.5
March 1999	100.0	28.9	5.2	46.7	15.3	3.9
April 1999	100.0	27.7	5.6	45.8	16.5	4.3
May 1999	100.0	27.4	6.0	45.8	16.2	4.6
June 1999	100.0	26.7	5.8	44.9	16.6	5.9
July 1999	100.0	26.5	5.5	44.0	17.7	6.3
August 1999	100.0	25.2	5.4	44.6	18.3	6.4
September 1999	100.0	27.2	6.1	43.8	16.6	6.3
October 1999	100.0	27.5	5.6	43.6	16.0	7.4
November 1999	100.0	24.8	5.8	46.7	15.9	6.8
December 1999	100.0	24.2	5.8	47.2	17.3	5.4
January 2000	100.0	22.9	5.7	48.8	17.0	5.6
February 2000	100.0	24.7	5.4	45.6	16.8	7.5
March 2000	100.0	26.3	4.9	44.1	17.2	7.5
April 2000	100.0	26.9	5.4	42.6	17.2	7.9
May 2000	100.0	25.7	5.1	44.1	17.7	7.4
June 2000	100.0	30.1	5.3	40.6	16.5	7.6
July 2000	100.0	23.8	6.2	44.8	17.3	7.9
August 2000	100.0	25.4	6.5	42.2	18.1	7.8
September 2000	100.0	23.5	6.6	41.4	21.3	7.3

Universo: 8 972 000

Considered the smallest terrestrial broadcaster, **TVI** is not only reinforcing its share but also competing for the second place, and even for the first, some might say. TVI changed hands recently, from the Catholic Church to Media Capital for US$80 million[144]. The industry web site 365 Broadcast noticed that this fact implied a radical change in the

[143] http://bocc.ubi.pt/pag/sousa-helena-portuguese-television-sydney.html
[144] http://www.365broadcast.com/resources/country_files/portugal.shtml

channel's philosophy, stating that the change has seen a notable rise in the amount of sex and violence being broadcast.

Perhaps the example that better illustrates this statement is **"Big Brother"** – a worldwide phenomenon inspired in the George Orwell classic novel "1984". Significantly, this polemic program gave TVI its first ever number one place, in terms of share during the prime time, during the third week of October. SIC and RTP are facing more competition than ever, and TV Cabo was been gaining its share of the audience. It seem as the television arena in Portugal has never seen such a ferocious fight as now…

7.1.3. The regulatory framework in Portugal

Since 1997, **the regulatory framework for media and telecommunications in Portugal has been completely renewed taking into account the advent of interactive services, digital television and the Internet**, as it is mentioned by the report "Development of Digital TV in Europe, Portugal 1999", by the Institut de l'Audiovisuel et des Télécommunications en Europe (IDATE), published in January 2000[145].

The new Basic Telecommunications' Law (Law NR. 91/97) provides the legal basis for the establishment, management and exploitation of telecommunication networks, and the provision of telecommunication services, since August 1997.

> The Basic Telecommunications' Law (Law NR. 91/97), of August 1st 1997 is available in the ICP web site, in the following URL:
> http://www.icp.pt/legispt/l91_97.html

Partially transposing the Commission Directives 95/47/EC and Directives 89/552/EEC, the Government also approved on September 18th 1997 **the Decree-Law Nr. 241/97, regulating the activity of cable operator distribution network for public use**. The cable operators were allowed to rent their infrastructures, to produce their own programs and to step into interactive services Pay-per-view, Internet, etc. Therefore, since 1997 cable and satellite operators can launch their own channels, as it is mentioned by the IDATE report.

> Decree-Law Nr. 241/97, 18th September - Regime de Acesso e Exercício da Actividade de Operador de Rede de Distribuição de Televisão por Cabo, para Uso Público, is available in the ICP web site, in the following URL:
> http://www.icp.pt/legispt/dl381_a_97.html

[145] http://www.ispo.cec.be/infosoc/telecompolicy/en/Study-en.htm

Finnaly, **the Television Law** (Law NR. 31 – A/98) approved on July 18 th 1998, in order to regulate the television market. The law has been considered as a national measure of transposition of Commission Directive 95/51/EC, amending Directive 90/388/EEC with regard to the abolition of the restrictions on the use of cable television networks for the provision of already liberalised telecommunications' services, according to the IDATE report[146].

> Television Law n.º 31-A/98, July 14th, is available in the ICP web site, in the following URL:
> http://www.icp.pt/legispt/l31a_98.html

[146] http://www.ispo.cec.be/infosoc/telecompolicy/en/Study-en.htm

7.2. The emergence of the Interactive Television Industry

7.2.1. Interactive Television trials in Portugal until October 2000

Digital Interactive Television is going to be launched in Portugal during the first semester of 2001, announced the president of TV Cabo, José Graça Bau, in an interview given to the web portal Sapo, last April. After several delays, TV Cabo is committed to begin the Interactive Television trial phase in about 1.000 homes and clients, in order to make adjustments in the industry [147].

In May 30th 2000, TV Cabo and Microsoft made public a press release in which both confirmed the implementation dates of Microsoft TV's platform in Portugal. Is everything happens as expected, TV Cabo will meet its objects of being one of the first cable companies to provide Interactive Television services (or Enhanced Television services, as stated in the press-release) in the whole world[148].

Interactivity through the television set is not new in Portugal. Another company from the group PT Multimedia, the Internet Service Provider Telepac, launched commercially a set-top box that provided Internet access through the television set. In March 1999, Telepac started to sell **"NetbyTV"**, a product that included a special remote control similar to a joystick – it was still possible to buy a keyboard to interact. The Telepac product was first sold for 59.900 escudos (about 300 Euro) and it also included the Netpac Internet access service with 30 hours of free usage[149]. But it seams that the product was not successful in Portugal, and most likely it will be discontinued once TV Cabo launches the Microsoft TV platform.

But already in **late 1997 it was announced that Interactive Television projects with Internet access were about to be launched in Portugal**. The Fundação para a Divulgação das Tecnologias de Informação (the Foundation for the Information Technologies Publicity) signed a protocol with TV Cabo in November 5th 1997 that, according to the newspaper "Expresso", in which was stated that Portugal would see in a short term an Interactive Television cable channel with Internet access simultaneously[150]. Still, until now TV Cabo and FDTI did not present any channel with these characteristics, from which we may conclude that their projects did not came across as quickly as it was announced.

Another Interactive Television trial project was announced during 1999's first months, with the city of Aveiro as the stage. One of the forty projects of the initiative "Aveiro Cidades Digitais", promoted by the Portuguese Ministry of Science and Technology, the **Ilha Experimental de Serviços de Televisão Interactiva (SMART TV)** was proposed by the companies Canal Mais-Televisão and Valor Acrescentado[151]. The project's goal

[147] http://tek.sapo.pt/4C/114032.html
[148] http://www.microsoft.com/portugal/imprensa/pr00/mai/30mai2000.asp
[149] http://www.cidadevirtual.pt/netbytv/
[150] http://www.expresso.pt/ed1308/x-breves.asp
[151] http://www.mct.pt/CidadesDigitais/aveirogeral.htm

was to facilitate the access to the Information Society to all citizens, by using mass communication equipment: the television set. Therefore, the two companies want to create information interfaces through the television set about the city hall, health issues, school, transportation, commerce, libraries, culture and so on.

7.2.2. TV CABO – the commercial launching during 2001 first semester

During the last quarter of 2000 several Portuguese homes will have Interactive Television, even if it is for trial purposes only. **Until the end of 2001 second quarter TV Cabo will launch commercially the service and the set-top box based on the Microsoft TV platform**, according to Microsoft's press release published in May 30th 2000[152].

TV Cabo is the leading national cable operator with a broadband Hybrid-Fibre-Coax cable network, with over 800.000 subscribers and covering a total of 2.05 million homes. TV Cabo complements its cable coverage through a multichannel digital satellite platform with over 80.000 subscribers, throught the Hispasat satellite from the Spanish operator Vía Digital.

The company provides 44 basic channels to cable subscribers and over 20 channels to satellite subscribers. TV Cabo also launched the premium sports channel Sport TV, the premium movie channels Telecine 1 and Telecine 2, the premium erotic/ pornographic channels Playboy and Sexy Hot; and news and information channel CNL.

TV Cabo is fully owned by PT Multimedia, which is Portugal's leading integrated media and Internet player. The company is the leading ISP (Telepac) and portal (sapo.pt) in Portugal with over 320.000 subscribers and 32 million page views per month, respectively. Early this year, the group made its first foray into Latin America, with the acquisition of the third largest Brazilian Portal, Zip.net. PT Multimedia also has a 25 percent stake in Páginas Amarelas, Portugal's leading yellow pages telephone directory business. PT Multimedia's controlling shareholder is Portugal Telecom[153]. In March 1999, Microsoft announced it would invest $38.6 million (PTE 7.2 billion) for an equity stake of 2.5 percent in TV Cabo[154].

Microsoft TV was the platform chosen by TV Cabo to deliver Interactive Television services and programs to the Portuguese. In its first phase, TV Cabo will launch:

- **Internet access service**
- **Portal TV**
- **Electronic program Guide**
- **TV Banking, with Banco Espírito Santo**

[152] http://www.microsoft.com/portugal/imprensa/pr00/mai/30mai2000.asp
[153] http://www.microsoft.com/tv/news/ne_tvcabo.asp
[154] http://www.microsoft.com/TV/news/ne_portugal_01.asp

- **TV Pessoal, which allows to reccord up to seven hours of digital video[155]**

Later, TV Cabo will launch services such as “Video-on-demand” and “pay-per-view”. The first channels which include interactive programs will be:

- **Sport TV**
- **SIC Notícias**
- **Sol Música**
- **TV Saúde**
- **Telecine**
- **RTP 1**
- **TVI[156]**

The TV Cabo set-top box will be a universal device for all the services the company provides today and in the future, including conditional access services such. As for the prices, the set-top box will cost the consumer about 40.000 to 50.000 escudos (about 200 to 250 Euro), according to TV Cabo’s chairman, José Graça Bau[157]. Still, TV Cabo is also planning to rent the set-top boxes in order to reach as much people as possible.

In an interview given to the Sapo portal, last April, José Graça Bau stated that TV Cabo is hoping to have five times more subscribers with Television than with PCs – since last year, TV Cabo provides a broadband Internet access service know as Netcabo. Which means that they predict that Portuguese will acess Internet and other interactive services primarily through the television set [158] (*more details will be given in the last chapter*).

7.2.3. Digital Terrestrial Television in 2002

In the beginning of the year, the Minister of Social Equipment, Jorge Coelho, announced that **Digital Terrestrial Television (DVB-T) would commence in Portugal in 2002**[159]. The statement was made in the opening session of the Conference on Digital Terrestrial Television organised by the Instituto de Comunicações de Portugal (ICP) and the Instituto da Comunicação Social (ICS), last February. The minister also promised that the Government would define, "as soon as possible", the terms of a public tender for digital broadcasting.

The DVB-T is a transmission scheme for terrestrial digital television[160] that uses an advanced image compression technology known as MPEG-2, which will allow to carry a package of 20 to 24 television channels in a single radiofrequency channel (corresponding to 8 MHz in UHF). The DVB-T also has the potential to offer Interactive

[155] “Expresso - Economia”, September 23 2000, page 12.
[156] idem
[157] http://tek.sapo.pt/4C/114032.html
[158] http://tek.sapo.pt/4C/114033.html
[159] http://194.65.125.125/press/1999/not227uk.html
[160] http://www.digitaltelevision.com/dtvbook/glossary.shtml

Television programs and services, and it has the advantage of being received by fixed, portable and mobile devices.

According to ICP, **the introduction of DVB-T in Portugal will allow to overcome some of analogic systems restrictions**, namely the scarcity of the radiowave spectrum and the usual noises and interfeerences. The ICP defend that the most adequate scenary, observing the current situation in Portugal, would be to exist a single DVB-T operator. The new system will co-exist with the conventional system (PAL) until the transition is definetively completed – a process that might take about ten years[161].

The Portuguese Government is now soliciting bids for the DVB-T licences. According to a report published in July 8th 2000 by the weekly Portuguese newspaper Expresso, the three Portuguese broadcasters - SIC, TVI and RTP - want to manage the new television channels and digital services[162]. Still, **the main broadcasters are sceptical about the commercial viability**, as they face the increasing competition from cable TV operators, according to several sources, including the Institut de l'Audiovisuel e des Télécommunications en Europe (IDATE) report "Development of Digital TV in Europe – Portugal 1999", published January 2000[163].

For instance, Francisco Pinto Balsemão, chairman of the SIC and Grupo Impresa, recently said that it will be terribly expensive for broadcasters to support the simultaneous analogic and digital transmissions, while the transition period isn't over. Speaking at the European conference about DVB-T, which took place in Lisbon during February the 17th and the 18th 2000, Francisco Balsemão stated that the transition to the digital terrestrial television will only occur with and by the current generalists channels and it won't be done without them, since they will drive the public to adopt the digital standard.

Therefore, the television contents should be regarded as essential for the migration process, and not Internet and other interactive services, according to Francisco Balsemão. Finally, the chairman of SIC and president of the European Television and Cinema Forum believes that DVB-T should be regarded as a chance for the several national content producers, in order to develop a solid national content industry, and that is should not be imposed a "rate" systems such as it happens now in television because content is not invented by law[164]. In order to succeed, the about-to-be consortium SIC-RTP-TVI will need important partners, namely, a strong financial groups and a solid telecommunication company.

[161] http://www.icp.pt/actual/
[162] http://www.expresso.pt/ed1445/pu325.asp?pu325,e013,e132&rel
[163] http://www.ispo.cec.be/infosoc/telecompolicy/en/Eurorep99pt.pdf
[164] http://ww2.icp.pt:8081/dvbt2000/

7.3. Caracterizing the Portuguese Consumers

7.3.1. Television average audience –data from Marktest

Football and soap opera – the Portuguese television diet consists primarily in these two kinds of programs. Until the end of September, the most seen program during the year was the football match that opposed Portugal to France, during the European Championship. Football is a major presence in the top-twenty-five presented above, provided by Marktest, with eleven events:

	Canal	Programa	rat%	shr%	rat#
1	RTP1	EURO 2000 - MEIAS FINAIS\FRANCA X PORTUGAL	33,2	76,7	2980,6
2	SIC	TERRA NOSTRA	29,8	61,8	2674,6
3	SIC	GRANDE JOGO - 1ª LIGA\BENFICA X SPORTING	28,9	65,8	2594,1
4	SIC	A LOJA DO CAMILO	28,0	61,3	2512,2
5	RTP1	FUTEBOL DIRECTO - 1ª LIGA\SPORTING X BENFICA	27,4	62,6	2457,5
6	SIC	MEDICO DE FAMILIA	27,3	61,7	2446,7
7	SIC	GRANDE JOGO - 1ª LIGA\BENFICA X FC PORTO	27,1	70,8	2433,1
8	SIC	SIC FILMES\AMO-TE TERESA	26,8	68,7	2402,3
9	SIC	JORNAL DA NOITE	26,5	57,2	2374,3
10	RTP1	EURO 2000 - 1ª FASE\PORTUGAL X ALEMANHA	26,1	66,1	2345,3
11	SIC	A MURALHA	25,7	58,1	2309,6
12	TVI	TACA DE PORTUGAL\FC PORTO X SPORTING	25,6	56,9	2297,0
13	SIC	OS MALUCOS DO RISO	25,4	55,5	2275,7
14	RTP1	EURO 2000 - 1ª FASE\PORTUGAL X INGLATERRA	25,3	67,2	2273,7
15	TVI	FUTEBOL - TACA DE PORTUGAL\FC PORTO X SPORTING	25,1	74,8	2251,5
16	SIC	CLUBE DOS CAMPEOES	25,0	56,9	2242,1
17	SIC	OS MALUCOS DO RISO - REPETICAO	24,9	65,7	2235,2
18	SIC	PARIS DAKAR CAIRO	24,4	51,3	2189,6
19	SIC	GRANDE JOGO - 1ª LIGA COMENTARIOS\SALGUEIROS X SPORTING	24,3	63,4	2182,5
20	SIC	HERMAN SIC	23,6	67,4	2120,7
21	SIC	GRANDE JOGO - 1ª LIGA\SALGUEIROS X SPORTING	23,6	67,0	2118,4
22	SIC	LACOS DE FAMILIA	22,2	59,4	1994,5
23	RTP1	LIGA DOS CAMPEOES\SPORTING X REAL MADRID	21,5	53,5	1930,2
24	RTP1	EURO 2000 - QUARTOS DE FINAL\PORTUGAL X TURQUIA	21,4	76,0	1919,4
25	SIC	CHUVA DE ESTRELAS	21,4	49,4	1916,3

Universo: 8.972.000

Brazilian and Portuguese soap operas are also favourites, with five programs in the 25 most viewed during this year. SIC clearly dominates the audiences, and TVI does not even present a programs in this list – nevertheless, this situation can change thank its rising star “Big Brother”. A newscast, two humouristic programs, a musical contest, a movie, a talk show and a few sports programs were included in the top-twenty-five of the year.

Even if Brazilian soap operas had given SIC an almost undisputed ruling during prime time, also football matches contribute for its outstanding shares. One of SIC major investments this year has the production of ten movies, and its first one proved to be one the channels biggest hits – "Amo-te Teresa", conquered the sixth place. The Portuguese production also is well placed with the humoristic program "A Loja do Camilo" and the soap opera based on a foreign production "Médico de Família". Still, for the first time since it conquered the leader position, **SIC is losing audience share: in January it had 48.8% and in September it had only 41,4%**.

SIC

			rat%	shr%	rat#
1	SIC	TERRA NOSTRA	29,8	61,8	2674,6
2	SIC	GRANDE JOGO - 1ª LIGA\BENFICA X SPORTING	28,9	65,8	2594,1
3	SIC	A LOJA DO CAMILO	28,0	61,3	2512,2
4	SIC	MEDICO DE FAMILIA	27,3	61,7	2446,7
5	SIC	GRANDE JOGO - 1ª LIGA\BENFICA X FC PORTO	27,1	70,8	2433,1
6	SIC	SIC FILMES\AMO-TE TERESA	26,8	68,7	2402,3
7	SIC	JORNAL DA NOITE	26,5	57,2	2374,3
8	SIC	A MURALHA	25,7	58,1	2309,6
9	SIC	OS MALUCOS DO RISO	25,4	55,5	2275,7
10	SIC	CLUBE DOS CAMPEOES	25,0	56,9	2242,1

A quick look show us that **the only programs that RTP 1 has on the top twenty-five list were football matches with Portuguese teams**. The European Championship was responsible for a more favorable share than the year before. As for its top ten, once again football rules. The first non-footballistic programs shows up at 13th place: the RTP newcast. A new popularity phenomenon contest called "Quem quer ser milionário" launched in Septermber also doing well, as the 15 most viewed program in the major Portuguese public service channel.

RTP

			rat%	shr%	rat#
1	RTP1	EURO 2000 - MEIAS FINAIS\FRANCA X PORTUGAL	33,2	76,7	2980,6
2	RTP1	FUTEBOL DIRECTO - 1ª LIGA\SPORTING X BENFICA	27,4	62,6	2457,5
3	RTP1	EURO 2000 - 1ª FASE\PORTUGAL X ALEMANHA	26,1	66,1	2345,3
4	RTP1	EURO 2000 - 1ª FASE\PORTUGAL X INGLATERRA	25,3	67,2	2273,7
5	RTP1	LIGA DOS CAMPEOES\SPORTING X REAL MADRID	21,5	53,5	1930,2
6	RTP1	EURO 2000 - QUARTOS DE FINAL\PORTUGAL X TURQUIA	21,4	76,0	1919,4
7	RTP1	FUTEBOL DIRECTO - 1ª LIGA\SPORTING X BELENENSES	21,0	54,5	1887,9
8	RTP1	EURO 2000 - FINAL\FRANCA X ITALIA	20,8	67,8	1870,5
9	RTP1	LIGA DOS CAMPEOES\FC PORTO X SPARTA	20,6	46,0	1850,0
10	RTP1	LIGA DOS CAMPEOES\BARCELONA X FC PORTO	20,6	47,3	1845,6

As for TVI, football is also responsible for the highest rating and shares. The Final Cup football match was the most seen program of the year. Until now, that is, since the "Big Brother" is rapidly incresing its rating and share percentages. The data included following table was gathered until Septermber, and in October the program raised subtantially its audience, even conquering the first place from SIC as the most seen program during prime-time for at least one day. Still, the soap operas "Todo o tempo do mundo" (10) and "Jardins Proíbidos" (12) demonstrate the appeal of the national production to mass audiences.

TVI

			rat%	shr%	rat#
1	TVI	O ESPECTACULO DO FUTEBOL - FC PORTO X SPORTING	25,6	56,9	2297,0
2	TVI	FUTEBOL - TACA DE PORTUGAL\FC PORTO X SPORTING	25,1	74,8	2251,5
3	TVI	BIG BROTHER EM DIRECTO	19,2	52,5	1719,5
4	TVI	BIG BROTHER - A NOVELA REAL - DIRECTO I	17,3	39,7	1553,5
5	TVI	ESPECIAL INFORMACAO TVI\COLINA DO SOL	16,9	53,1	1512,9
6	TVI	BIG BROTHER - A NOVELA REAL - COMPACTO NOITE	15,1	34,0	1350,5
7	TVI	BIG BROTHER - A NOVELA REAL\APRESENTACAO CONCORRENTES	14,9	40,9	1337,0
8	TVI	FUTEBOL - TACA DE PORTUGAL\COMENTARIOS	14,4	40,5	1295,3
9	TVI	BIG BROTHER - A NOVELA REAL - COMPACTO FIM SEMANA	13,9	38,3	1246,7
10	TVI	TODO O TEMPO DO MUNDO	13,6	33,7	1221,8

RTP 2 is for Portugal what BBC 2 is for England – real public service, which is focused in documentaries, information, non-blockbuster cinema, and theatre and dance events, just to mention a few examples. **The most seen program in RTP 2 is the newscast**, after which we find the Sydney Olympics. Cinema is one of the channel's major assets, as well as documentaries made in Portugal – "Bom Bordo" and "Horizonte da Memória".

RTP 2

			rat%	shr%	rat#
1	RTP2	JORNAL 2	5,3	14,2	478,7
2	RTP2	SYDNEY 2000 - ATLETISMO	5,3	22,0	478,2
3	RTP2	SALA 2\CONTOS IMORAIS	5,1	20,6	461,7
4	RTP2	SALA 2\AS HEROINAS DO MAL	5,0	16,6	452,1
5	RTP2	A MINHA VIDA COM OS ANIMAIS	4,7	12,0	418,5
6	RTP2	REMATE	4,6	9,9	408,6
7	RTP2	BOM BORDO	4,5	12,3	407,6
8	RTP2	SALA 2\O MONSTRO	4,5	17,5	406,6
9	RTP2	SOBREVIVENCIA	4,4	10,1	397,5
10	RTP2	HORIZONTE DA MEMORIA	4,4	13,9	394,2

7.3.2. Internet Users – data from Marktest and ISCTE

As for the Internet, **25.3% of the Portuguese population (over 15 years old) has accessed to the Internet, and 14.8% frequently uses it**, according to Marktest Bareme study[165]. Most of the Portuguese users access the Internet in their own homes – 11,4%, while 8,9% is from the working place and 7,6% from the school or university.

Notoriety and access	Jan/Mar 1999 (%)	Abr/Jun 1999 (%)	Abr/Jun 1999 (%)	Abr/Jun 1999 (%)
Have heard of Internet	**94.6**	**93.6**	**93.6**	**93.6**
Have Internet Access	**20.8**	**21.6**	**23.3**	**25.3**
Have Internet Access from Home	**5.5**	**7**	**8.6**	**11.3**
Have Internet Access from work	**8**	**7.7**	**9.3**	**8.9**
Have Internet Access from school/ university	**8**	**8.2**	**7.6**	**7.6**
Have Internet Access from friends/ family place	**2.9**	**2.8**	**3.4**	**4**
Have Internet Access from another place	**1**	**1**	**1.2**	**1**

A significant piece of information is the increasing number of frequent Internet users: in one year the percentage went from 11.9% to 14.8%, a good sign even if is still above the European average number.

Internet - using	Jan/Mar 1999 (%)	Abr/Jun 1999 (%)	Abr/Jun 1999 (%)	Abr/Jun 1999 (%)
Frequently use Internet	**11.9**	**13**	**14**	**14.8**

The Marktest Bareme study also inquired about what are the main uses people give to Internet, and entertainment was the first choice, followed by gathering information. Academical purposes, professional training, meet other people; professional purposes and getting software were mentioned also.

Internet – purposes of use	Jan/Mar 1999 (%)	Abr/Jun 1999 (%)	Abr/Jun 1999 (%)	Abr/Jun 1999 (%)
For fun/ entertainment	**6.6**	**7.1**	**88**	**9.1**
To get information	**6.3**	**6.9**	**8.2**	**8.3**
For academical purposes	**6.1**	**7**	**7.3**	**7.5**
For professional training	**5.5**	**6.3**	**7.2**	**7.3**
To meet other people	**4.5**	**4.7**	**6.2**	**6**
For professional purposes	**4.9**	**5.2**	**6.1**	**5.7**
To get software	**2.3**	**2.9**	**3.7**	**3.8**
Do not use Internet, but have access to it	**9**	**8.6**	**9.3**	**10.5**
Do not use Internet	**79.2**	**78.4**	**76.7**	**74.7**

Another important study about the Internet usage in Portugal was made by a research team from the Instituto Superior de Ciências do Trabalho e da Empresa. **The research project "Ciberfaces: Internet, Interfaces do Social" aims to study the Internet ". Pt"**

[165] http://www.marktest.pt/Informacao/Bareme-Internet/Resultados/dados2000-1.htm

domain, and for that purpose the team conducted an extensive inquiry, from March 23rd to June 15th 1999, with more than 3.000 users[166].

About the average number of hours daily spent on the internet**, the majority of the people inquired said 1 to 2 hours (58.8%)**, followed by the ones who spend 2 to 4 hours (22.3%). More than four hours of Internet access per day was the answer chosen by 11.3%, and 9.6% only spend less than an hour.

Regarding Internet information, the study determined **that technical and scientific information was the most voted answer**, picked by 8.4% of the people inquired. In second place, were cultural information (8.3%) followed by newspapers and magazines (8.2%). Also very close to these percentages was educational information (8.0%), commercial information (7.9%), touristic information (7.7%), and advertising to products and services (7.7%). Only in the eight place we find general entertainment - such as music, cinema, games and contests -, with 6.6%, and the erotic web sites are the twelve most "wanted".

Internet Content/ information – most accessed

Technical and scientific information	8,4%
Cultural information	8,3%
Newspapers and magazines	8,2%
Educacional information	8,0%
Comercial information	7,9%
Touristic information	7,7%
Advertising – products services	7,7%
Music/ cinema/ games/ contests	7,4%
Finantial information	6,6%
Radios	6,1%
Sports information	5,9%
Erotic web sites	5,3%
Medical information	5,0%
Public figures web sites	5,0%
Other kind of information	2,5%
Total	100%

Source: ISCTE, "OnlineCiberfaces" inquiry

As for the motivations that drive people to use the Internet**, its importance as an information source comes in the first place** for the people who wished to answer the inquiry (34.2%). A work tool is next with 26.3% of the answers, and a way of finding a great diversity of people and cultures is third with 14.2%, close to the fourth option – it is fun – that reached 14.1%.
Regarding **electronic-commerce**, 50.3% of the people who answered never bought anything on-line, which means that 49.7% already did. Another significant piece of information determined were the reasons that led people not to buy products and

[166] http://www.cav.iscte.pt

services on-line, **and the major reason was being afraid to give the credit card number**.

Why don't you buy products/ services on-line?

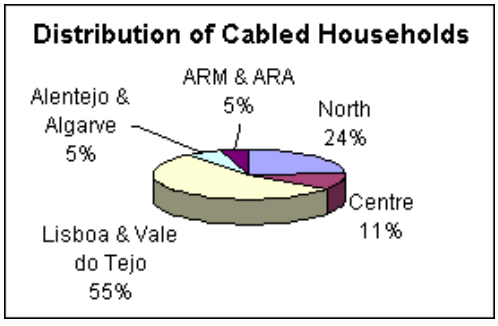
I 'm afraid to give the credit card number	20,1%
I have no need	19,8%
I don't have direct contact with the product	11,3%
I 'm afraid to be deceived	10,4%
I prefer the traditional stores	9,5%
I 'm not used to	8,9%
I don't know how on-line transactions work	5,1%
I have doubts about on-line transactions	5%
I don't have personal attention	4%
It is more expensive	2,3%
Other motifs	3,6%
Total	100%

Source: ISCTE, "OnlineCiberfaces" inquiry

The major reasons that dissuade people to shop on-line are important information for any company that wishes to use Interactive Television as a tool sell its services and goods. Nevertheless, the ones who already bought on-line refer the following reasons: the access to prices and catalogues (12.5%), the access to the product 24 hours a day (10.6%), the possibility to access products in other countries and regions (8.8%), the possibility to compare prices (8.5%) and the possibility to order and buy quickly (7.3%) are five top answers[167].

7.3.3. Cable subscribers – statistics from ICP

Approximately 58% of Portuguese households had been cabled, at the end of the second quarter of 2000, and **about 20% of the total number of households are connected to the cable television service**, according to the last figures provided by ICP. The highest penetration rate of cabled households was achieved in the Lisbon and



[167] http://www.cav.iscte.pt

the Vale do Tejo Region (94%), and in terms of subscribers, the highest penetration rate was achieved by the Autonomous Regions of Madeira and the Azores (41%)[168].

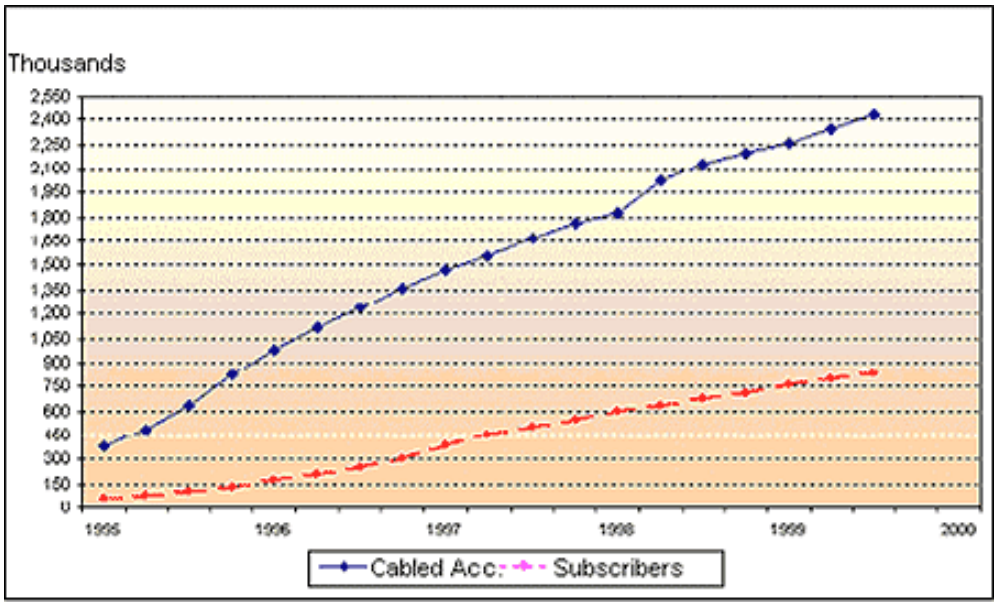
To put it differently, **until June 2000, 2.426.000 households in Portugal have been cabled**. This figure represents a registered annual of 14%. The Portuguese regions that showed the highest growth rate were the Algarve and the Alentejo, with 24% in comparison with the same period last year.

Source: ICP

Regarding the total number of cabled households, the Lisbon and Vale do Tejo region register more than half of the figure, more exactly 55%, followed by the North region with 24% of cabled households.

As for the subscribers of the cable television services, also the Lisbon and Vale do Tejo region take the lead with 59% of the total number in Portugal. **Until June 2000, the cable television distribution service registered about 830.000 subscribers**. The annual growth rate was 24%, which corresponds to 302.000 new subscribers[169].

Source: ICP



[168] http://www.icp.pt/publicacoes/estcom/stcm/tvc2_00uk.html
[169] http://www.icp.pt/publicacoes/estcom/stcm/tvc2_00uk.html

7.4. Caracterizing the Portuguese Players

7.4.1. Industry overview

The same categories used for the previous chapter consecrated to the international players are being used to characterize the Portuguese Interactive Television players. Accordingly, the emerging industry can be defined the following way:

- **Television Operators** (terrestrial, cable, and satellite), which includes the companies that make broadcasting their core-business.
- **Technical Developers** (hardware, software, middleware), which includes the companies that are currently developing set-top boxes, platforms and software.
- **Content Providers** (text, image, sound, video), which includes the companies that develop and commercialise contents in many possible formats.

In summary, the television operators include TV Cabo, SIC, RTP and TVI. As for the technical developers, for the time being the only hardware player is Octal TV, which is developing and manufacturing set-top boxes for TV Cabo.

The content providers number is not stabilised, since the first projects are being developed as we speak/ write. Still, companies such as Content TV/ Go TV, Dotonthebox and Infordesporto have already produced prototypes, and have positioned themselves as Interactive Television producers.

7.4.2. Television Operators

Simultaneously cable television provider, satellite television provider and content producer for television (it began with CNL, which became the SIC Notícias channel), **TV Cabo is in the best position to be the market leader**, since it is Portugal's major cable operator and only after 2002 it will have the DVB-T competition.

As for the **terrestrial television operators**, the three players **SIC** / Grupo Impresa, **RTP** and **TVI** / Media Capital all signed a protocol with TV Cabo in order to develop Interactive Television projects. SIC already announced its decision to enter the emerging market. According to the newspaper Expresso edition of July 6th 2000, the first Portuguese WebTV channel is going to be the new channel SIC Notícias – owned by SIC (60%) and PT Multimedia (40%)[170]. Nevertheless, TVI and RTP are also preparing their strategies for Interactive Television.

[170] http://www.expresso.pt/ed1441/e322.asp

7.4.3. Technical developers

Regarding the technical developers, Portugal has one set-top box manufacturer currently developing their products for TV Cabo. **Octal TV** – the company's name – has recently in the world major technology exhibition - CeBIT in Hanover-, where it presented the set-top box prototype that will be distributed in Portugal by TV Cabo, based on the Microsoft TV platform[171].

Totally owned by Novabase, one of the leading IT companies in Portugal, Octal recently created a new company specifically for the Interactive Television business: Octal TV. This new company has in the centre **of the strategic partnership deal signed by Novabase, PT Multimedia and PTM.com, in July 2000**. The partnership aims to combine Octal TV's set-top boxes with the Novabase consulting capabilities, in order to offer TV Cabo's subscribers services such as video-on-demand, e-commerce and home-banking.

As a result of this partnership, PT Multimedia and PTM.com will each buy 10% of Octal TV – a 900 millions escudos investment. Novabase SGPS will keep 51% and the remaining 29% are distributed by the Octal TV key staff. The initial order set-top box order to Octal TV can reach 30 million Euros. The set-top box manufacturer will deliver 40% of all the devices for cable that TV Cabo will distribute until 2003, and 100% of the satellite devices until 2001.

Finally, the deal established that **Novabase will be a privileged provider of PTM.com** in such areas as information systems and infrastructures supporting business. Also, Novabase and PTM.com will work as partners to develop Internet and Television applications. Business Intelligence, Supply & Demand Chain Management, Back Office Operational Systems, Enterprise Business Integration, People & Knowledge, Industry Architectures and Solutions are the areas in which Novabase provides consulting services.

The Information Technology company joined the Lisbon stock exchange in July 4th 2000, and it also has a corporate Venture area - Novabase Capital. The Novabase administrators are interested in investing in Interactive Television, because they believe that it will be an alternative to PC as a way of accessing the Internet. For that purpose, the company has been developing competencies in entertainment services and customer relationship management services, according to a report published by the weekly newspaper Expresso last July[172].

7.4.4. Content Providers

Until October 2000, **few television producers and multimedia companies announced their projects and/or intentions to develop Interactive Television services and programs**. Nevertheless, as the trial phase begins, more companies are

[171] http://www.expresso.pt/ed1441/e182.asp?1s
[172] idem

developing their own projects –even if the most of the television producers seem to only acknowledge and not actively participate in the new industry. As in any other line of business, there are some who take the lead while other prefer to watch and see how it is all going to work.

Of course, it is still too soon to observe which companies will be the leading content providers, but a few already are in a good position, as they started the race earlier than most. For instance, it is public knowledge that **Infordesporto** has been developing prototypes for TV Cabo, more specifically, for the sports Premium channel **Sport TV**.

Also **Content TV** and **Go TV** are among the first group of Interactive Television content producers. Until October, the two companies - owned by the video producer Quimagem - have been developing interactive programs prototypes for **TV Saúde** channel and also the Formação Médica Contínua Nacional, in **TV Medicina**. On one hand, Go TV is dedicated to research and development of new technologies and opportunities for the Internet and Interactive Television. On the other hand, Content TV is positioned as an Interactive Television content producer specialised in for children's programs and entertainment, and other programs with an educational, pedagogical, cultural and social focus. Both companies are also currently developing an interactive program for children called "Treasure Hunt", whose objective is to develop team sprit and to teach general themes[173]-

Another well-positioned company is **Dotonthebox**, whose core business is the design of the Interactive Television menus, namely, the **TV Cabo Portal TV** service and the **Telecine Portal TV**. Since the beginning of this year, Dotonthebox has been developing prototypes based on the Web TV platforms, and it presented the first results last July. After acquiring the necessary expertise in this area, the company started to develop its first ordered projects. Dotonthebox is also making and interactive commercial for a beverage brand. Today, eight people work in this new company, which has technological and consulting partnerships with television producers and content providers, as well as close relationship with Microsoft.

"1147- A cruzada de Lisboa" is a history documentary currently being produced that will have an Interactive Television version. This **Nuno Cintra Torres** with **Duvideo** co-production will include links for a specific web site - http://www.avenidauniversal.com - where all the programs will be available for streaming. According to the report published in the magazine "Valor" in October 19th 2000, Nuno Cintra Torres is preparing more history documentaries for Interactive Television as well as the traditional television[174].

On the other, **Duvideo** is well positioned to be a competitive player in this business, since it is already one of the biggest television producers in the country. Contacted for the purposes of this thesis, one Duvideo representative stated that the company is interested in the new industry, but its strategy is still "private and confidential".

Finally, already some companies are announcing their intentions to provide services as adapter of the current web sites to the Interactive Television specifications. One example

[173] "Expresso – Economia", September 23th 2000 , page 12.
[174] "Valor", October 19th 2000

in the consulting company **Netmais**, which recently signed a protocol with TV Cabo in order to explore the opportunities opened by the new industry. For the time being, Netmais is adapting the web site **Auto Industrial** for Interactive Television, as well as their own web site **Comezainas**[175].

As for the "traditional" television producers, **Mandala** right now studying and trying out what is interactive television, according to its representative Miguel Soares. Invited for TV Cabo for the first trial phase, Mandala also has its own multimedia department. Five of their eight member team already have received training by TV Cabo, in order to become experts in the technological and design issues connected with Interactive Television. Still to soon to reveal what Mandala will produce for the new industry, Miguel Soares mentioned that their most popular program "Contra-Informação" is a temptation, but only in phase two we will be able to see an interactive version of the Portuguese free adaptation of the British "Spiting Image" because it is a sensitive program. A point of honour, stated Miguel Soares, is the question of being original, which means Mandala is not interested in importing television formats: "the interactivity has to be original", said Miguel Soares

Other television producers contacted for the thesis seem to have other priorities, such as **Endemol**, currently producing the TVI major hit "Big Brother". The same thing can be said about **Valentim de Carvalho Televisão**, responsible for the production of "Made in Portugal" and "Tic-Tac-Milionário". According to its marketing director, Maria Borges, the company is not producing any Interactive Television program, and neither TV Cabo nor any other company spoke with them in order to produce specific contents. Television producers such as **Teresa Guilherme, Latina Europa, NBP Produções de Video, Fábrica de Imagens, VIdeofono, C.C.A, Costa do Castelo Filmes**, and others are still to publicly announce their projects for Interactive Television.

[175] idem

Summary table – Portuguese players

	What is?	*What projects?*
TV Cabo	Interactive Television service provider	• Enhanced TV: Sport TV, SIC Not"'ias, Sol Música, TV Saúde, Telecine, RTP 1, TVI • Portal TV • Electronic Programming Guide • TV Banking, with Banco Esp"rito Santo • TV Pessoal, to record up to seven hours of digital video • Internet access
SIC	Broadcaster	• Enhanced TV programs for the SIC Notícias channel
RTP	Broadcaster	(nothing announced yet)
TVI	Broadcaster	• "Enhanced TV program: "Batatoon", for children
Octal TV	Technical developer (set-top box manufacturer)	• Developing and manufacturing set-top boxes
Novabase	Technical developer (IT solutions)	• Developing Internet and Television applications with PTM.com and PT Multimedia - customer relationship management, e-business and entertainment.
Content TV/ Go TV	Content Provider (producer of Interactive Television services and programs)	• Enhanced TV programs for the TV Saúde channel • Enhanced TV programs for TV Medicina channel • Enhanced TV program: "Treasure Hunt" , for children • Portals TV • Advertising
Dotonthebox	Content Provider (producer of ITV services and programs)	• Telecine Portal TV • TV Cabo Portal TV • Advertising
Duvideo with Nuno Cintra Torres	Content Provider (producer of ITV services and programs)	• Enhanced TV program: "1147- Conquista de Lisboa" history documentary
Infordesporto	Content Provider (producer of ITV services and programs)	• Enhanced TV programs for Sport TV channel
Netmais	Content Provider (producer of web site adapted for ITV)	• Adapting web sites for Interactive television: "Auto Industrial", "Comezainas"

7.5. Characterising the Players – interviews highlights

Obs: Even if it was not possible to include the answers until the dead-line, the thesis also had the colaboration of Eng. Álvaro Peixoto, the delegated administrator of TV Cabo Interactiva. Other key players were contacted in order to provide their opinions, but it was not possible to obtain their colaboration in such a short term. Still I would like to thank the following people for having demonstrated their interest: Pedro Marques (Infordesporto), Manuel Gallo (McCann), Carlos Alberto Henriques (RTP), Carla Martins (Cabovisão) and António Torres Pereira (Impresa),

7.5.1. Dr. Carlos Correia - UNIVERSIDADE NOVA DE LISBOA (FCSH)

Carlos Correia, teacher of the Universidade Nova de Lisboa, believes **that the television viewer is a passive consumer** and, therefore, isn't interested in having interactivity provided through the television set.

For Carlos Correia **the price is the critical factor for Interactive Television to succeed**: "what is the added cost that an average family will have to pay in order to use a service, with less capabilities than the Internet PC already gives?" Carlos Correia asks.

When questioned if the television set has the same ability than the PC to satisfy the user's needs in terms of communication, information, entertainment and transaction, Carlos Correia states that the television doesn't the same capability as the PC to perform these functions, because "the television set is nothing but a "stupid terminal" to which the famous set-top boxes will give some intelligence".

To read the entire interview, please check APENDIX - in Portuguese only.

7.5.2. Eng. Carlos Picoto – MICROSOFT

For Carlos Picoto, engineer in the Portuguese delegation of Microsoft**, what will drive people to subscribe the Interactive Television service**s will be the **ATM service**, **e-commerce**, **web browsing**, and his personal favourite **Digital Video Recording**.

As far as Microsoft TV platform major competitor, Carlos Picot consider that it is **OpenTV**, because the company has distributed more set-top box than any other and also because it has the most mature product. Regarding the perfect Interactive Television, Carlos Picoto said that the perfect would be the one that worked every time: "such as the television viewer today switches the television set and he ha a controlled experience by zapping from one channels to the other, when he goes to a Interactive Television universe things have to happen with the same fluidity".

Finally, Carlos Picoto mentioned that they **had an amazing reaction from Portuguese companies in order to develop contents**: "I have a list of about twenty companies, which is characterised by having TV on their name – such as Go TV, Inter TV, Content TV – that are developing contents. Curiously, said Carlos Picoto, the Microsoft book "Building Interactive Entertainment and E-commerce" is the ninth more sold to Portugal in the virtual bookstore Amazon.com.

To read the entire interview, please check APENDIX - in Portuguese only.

7.5.3. Eng. Francisco Maria Balsemão - IMPRESA/ SIC

Francisco Maria Balsemão, administrator of Grupo Impresa, considers that the future, or better said, the profitability of the telecommunications services will be connected to interactivity: "in that domain, the audio-visual can be an anchor-product".

Formerly connected to the telecommunication business, Francisco Maria Balsemão points out that the strategy is similar to the one followed by the mobiles phones operators. First, the basic services are spread - the voice for mobile communications, the television channels for cable - then come the so called additional services: "**TV Cabo needs to raise the average client revenue.** And by having such need, TV Cabo will have to have new revenue sources: the only way to get new revenue sources is to try to capture value in the value chain it had not explored yet".

For Francisco Maria Balsemão **it is important that SIC is not left behind in this race**, even if TV Cabo is the company most likely to gain more with the Interactive Television industry. The Grupo Impresa administrator reminds that SIC Notícias will be the first interactive channel.

"Wait and see" is how the Grupo Impresa administrator defines in a single phrase the holding position regarding Interactive Television. For the time being, Grupo Impresa/ SIC are in a planning and brainstorming phase, more than in an execution phase, according to Francisco Maria Balsemão: "Many people hold on to certain ideas as they were the best in the world - and that is good, because many times they are right. But the new ideas also have to be seen in a calm and wise way. One should not go ahead with new thing thinking that it is the best technology in the world. It's logical that Interactive Television is more than a new technology, it's a whole new change of habits. But we are not going to stand by and wait totally: the proof is that we are going to have one of the first interactive channels. **But, before drowning the market it is necessary to test it. In this case, there is the opportunity to do it and to think**."

To read the entire interview, please check APENDIX - in Portuguese only.

7.5.4. Eng. José Louro – TVI

José Louro, former engineer in PT Multimedia and currently working in the Interactive Television department of TVI, thinks that it is essential for broadcasters, banks and several retailers to see Interactive Television as a priority, while the other traditional media should carefully study their investments in this new industry.

The killer applications for José Louro are the following: **the Electronic Programming Guide, Internet access, pay-per-view, games** and **e-commerce**. Still, José Louro reminds that the Portuguese market may not have the economical potential of the rest of the European markets, even if it seems to demand for new technologies and services. Therefore, concludes José Louro, the price will be the key driver for the Interactive Television introduction in the Portuguese households, and it can not be an obstacle for its expansion.

As for the Interactive Television business model, José Louro believes **that the business model won't be that different from the current model**: "At this moment, the several players already generate revenues with the current model. To ad interactivity to the television business it is merely to ad a layer with contents and, here we have the innovation, services to which the user can directly access though the remote control and set-top box. This means that to access the service is quicker than usually in tele-shopping.

For José Louro, this **direct link between advertiser and client will generate new opportunities**, and obviously, new revenue sources for the different players: "the broadcasters and content providers can create new forms of selling new and different contents, generating and integrating synergies in areas such as Internet and Television. Advertising wins a new vehicle of per impulse. The television channels and cable operators gain a new tool to sell their products". So, it is not necessary to invent a thing, it is merely necessary to adapt, states JosÈ Louro.

To read the entire interview, please check APENDIX - in Portuguese only.

7.5.5. Dr. Jorge Trindad Ferraz de Abreu - UNIVERSIDADE DE AVEIRO

Jorge Trindad Ferraz de Abreu, researcher in the University of Aveiro who is currently working on his PhD thesis about services and interfaces design in a Interactive Television context, considers that **what will drive most people to use information and communication technologies is its affordability and friendly interface**.

As for the obstacles that the television operator must overcome for the Interactive Television industry to succeed, Jorge Trindad Ferraz de Abreu outlines the following**: the service cost, the degree of trust in the system, the interface usability** and the **potential to use the medium in a more individual way**.

Regarding the Interactive Television target-audience, Jorge Trindad Ferraz de Abreu believes that the under-thirties generation is not the target since the trial in other countries have demonstrated that certain services, as e-mail through television, are mostly used by older people: "it is frequent to find examples such as since I offered a Web TV set-top box my father or great grand father are sending me emails all days of the week.

To read the entire interview, please check APENDIX - in Portuguese only.

7.5.6. Dr. Luís Rodrigues – TVI

Luís Rodrigues, who leads the TVI Interactive Television department, states that it is essential to be extremely careful in understanding what will drive the consumers to use Interactive Television: **"I suspect that there is a dynamic in the consumer that, in fact, we still do not understand**. The computer and Internet are used individually - it is difficult to find two people that agree in seeing the same thing on the Internet. On the other hand, television has a group dynamics". What will people gain with Interactive Television? For Luís Rodrigues this question wasn't clearly answered and the focus has been more on technology than on what the consumer wins with it: "There is too much technology in the world for the human mind to keep up", alerts Luís Rodrigues.

Regarding its perfect Interactive Television, Luís Rodrigues would like to see **games** and **contests** - the power to interact with a program such as "Who wants to be a millionaire'". Also, the TVI executive mentions **information** and **sports**. E-mails do not qualify for its killer applications list. Finally, Luís Rodrigues refers interac**tive public services on television** - documentation, identity cards, drivers license, tax payment, accounting services, and so on: "that would be my perfect Interactive Television. On one hand, spear me work. The other part of added value is related with games and entertainment."

Curiously, Luis Rodrigues gave a sign of preferring a particular Interactive Television platform, from the major five, even if he considers that all are equally adjusted to the Portuguese market if they are compatible with the Multimedia Home Platform standard: "the closest to home, the better. That means that **Mediahighway maybe is a step further than the other platforms**. Mediahighway has been used by ONdigital, and apparently is working very well. Therefore, I suspect it was a certain advantage. I suspect TV Cabo selected Microsoft TV because it is Microsoft. If it is compatible with the MHP standard, the platform has the same chances that Mediahighway".

To read the entire interview, please check APENDIX - in Portuguese only.

7.5.7. Manuel Maltez – BBDO

Manuel Maltez, the main responsible for the BBDO advertising agency Portuguese delegation, has been paying close attention to the developments in the Interactive

Television industry and he has created a formal observatory to follow up the news regarding this sector. For Manuel Maltez it will be **Internet access that will drive the Portuguese to subscribe the Interactive Television service** of TV Cabo. But in ten years the situation will be quite different, since all the television set will have interactive capabilities, as Manuel Maltez states: "therefore, as the television colour sets replaced the black-and-white ones, also the interactive television sets will replace the current ones. In the future, all television sets will be interactive".

Still, that doesn't mean that the television consumers will use the television set, as it was a personal computer. Manuel Maltez believes **that over 90% of the people will continue to use the television as they do today**: "in its essence, the television viewing experience will not change. The majority of people will prefer the director's editing that to chose the camera shoots".

As for advertising, Manuel Maltez thinks **that in the future all television ads will be interactive**, meaning, all ads will give the user the possibility to access directly the advertiser's web site: "The mass communication will not be changed. Nevertheless, the interactive commercials will allow the user to access the brand web site. This way, we pass to one-to-one marketing, for customised communication with a potential customer". Manuel Maltez believes that Interactive Television is capable of joining the two worlds ñ the television mass communication with the Internet one-to-one communication.

To read the entire interview, please check APENDIX - in Portuguese only.

7.5.8. Dr. Nuno Duarte – OCTAL TV

Nuno Duarte, one of the top responsible of the set-top box manufacturer Octal TV, believes that **Portugal will soon have one of the most sophisticated systems of Interactive Television in the world**: "therefore, this ahead start is an unique opportunity for the Portuguese entrepreneurs to create a world class industry, competing with the best in the globe".

Regarding what will drive the Portuguese to subscribe and use the Interactive Television services, Nuno Duarte considers that the **contents with quality cost will force to adopt a pay-per-view system in order to compensate the investment made**, presenting the sports events as an example. Nuno Duarte also thinks that it will be key better entertainment contents, such as Enhanced TV, Personal TV (or Digital Video Recording), Games, Internet contents, as well as the service related with business-to-consumer – interactive advertising, home shopping, home banking.

Personal TV, PayTV, interactive advertising, games, home banking are the killer applications for Nuno Duarte, who describes his perfect Interactive Television as "the one which the viewer defines what he wants to see and when he wants to see, allowing a wide offer of information and entertainment contents, such as television, Internet, radio, press and games.

To read the entire interview, please check APENDIX - in Portuguese only.

7.5.9. Dr. Nuno Morais, Dr. José Abecassis Soares – GOTV/ Content TV

Nuno Morais and José Abecassis Soares, responsible of the two recently created Interactive Television and Multimedia companies Go TV and Content TV, **consider the children and the teenagers as the Interactive Television target audience**, and therefore, one of their target audience in terms of interactive programs. As Nuno Morais states: "it is easier to direct our efforts to the children and juvenile audience, than to the people who are in there forties and more who already have something against Internet. The question regarding contents is only strategic: right now, we direct our efforts to the ones who will easily understand the interface and will know how to browse."

As for what will drive the Portuguese to subscribe and use the Interactive Television service provided by TV Cabo, Nuno Morais believes that first it will be plain **curiosity**. Then**, it will depend on the good or bad experience the first users will have**, something that is more TV Cabo's responsibility then Content TV or Go TV, refers Nuno Morais. "The Interactive Television trials failures were connected to technological reasons. When people switch on the television they are looking for an experience with movement, animation and image. The first trials didn't work out because they were slow and amorphous" states Nuno Morais. On the other hand, JosÈ Abecassis Soares believes that Internet was fundamental for the interactive television development, considering that now all the conditions are gathered for the industry to succeed.

José Abecassis Soares also thinks that **the most important trend is divergence and not convergence**: "when the buzzword is convergence, my opinion is the opposite. Obviously, I'm not talking about a functional divergence but in a content divergence. I have no doubt that the content we produce for television should be used for the PC and the wireless devices".

To read the entire interview, please check APENDIX - in Portuguese only.

7.5.10. Dr. Paulo Querido – EXPRESSO

Paulo Querido, who is a journalist specialised in new technologies currently working for the weekly newspaper Expresso - believes **that interactivity and freedom of choice will drive the Portuguese to subscribe and use the Interactive Television service**: "to choose what programs we want to see and when we want to see them. To choose what camera angle we want to see that particular moment of the game, instead of accepting the director's decision. To have a personal assistant that picks up the movies and other programs related with the themes we previously gave".

For Paulo Querido **in a near future - about five years - there won't be any difference from accessing digital contents through the television set or the PC**, since the

access will be made according to the needs of that moment and thank to the most different devices ñ the wrist watch, laptop, mobile phone, and so on.

Regarding the target audience, Paulo Querido thinks that the people with less than thirty years it is a market as any other, and if the young people are used to the Internet why would they swap it for Interactive Television.

Finally the journalist subscribes the statement "the television viewer is passive, therefore he isn't interested in interacting with the television set", since he believes that only a small percentage of people will take advantage of the Interactive Television features: "the majority of the consumers will use interactivity once or twice - most of all to shop -, but they will not use it frequently".

To read the entire interview, please check APENDIX - in Portuguese only.

7.5.11. Eng. Rui Dias Alves, Eng. João Brás Ramos – INNOVAGENCY

Rui Dias Alves and João Brás Ramos, owners of the consulting agency "Innovagency", consider that the Interactive Television **critical factors of success** are the following**: contents, commerce, cost and clear interface**. "To subscribe the Interactive Television service and only having one interactive commercial in ninety that is no real interactivity" states Rui Dias Alves for who it is also essential that the interface is easy to understand - "nothing that forces a person to read a manual to interact"-, that the set top box and the service are affordable and that the commerce provides the desired revenues for the industry players.

As for the **killer applications**, Rui Dias Alves believes that the **Electronic Programming Guide** is a winner, as well as **interactive contests**. **Interactive football games** can also be successful, provided that the interaction is simple, refers Rui Dias Alves. Also important for these consultors is **electronic commerce**: "television is the excellence medium for business-to-consumer, because television can trigger a user to shop per impulse. The advertising was to adapt the commercials, that lead people to buy in a store, to commercials that lead people to buy instantly", states Rui Dias Alves.

On the other hand, João Brás Ramos reminds that many companies already on the Internet didn't think about a new business that Interactive Television will generate: " if we consider the amount of web sites that aren't prepared to be seen on the Interactive Television, when their responsible realise that they are going to demand other companies to leverage their on-line contents, in order to make them available also through the television set."

To read the entire interview, please check APENDIX - in Portuguese only.

7.5.12. Dr. Tiago Silva - DOTONTHEBOX

Tiago Silva, the main responsible for the Interactive Television content producer Dotonthebox, believes that **Interactive television will be a future commodity**, but meanwhile **the Electronic Programming Guide,** the **Digital Video Recording** function and the **e-mail** will be the most attractive functionalities, as well as the electron**ic commerce** and **theme channels**.

As for the Interactive Television platforms, Tiago Silva considers that all have their advantages and disadvantages. Still, Tiago Silva thinks that **the Microsoft TV platform is the most suitable for the Portuguese cable network**, since it can better explore the potential of the two-way directionality.

Tiago Silva subscribes the opinion that the generation under thirties is the new industry target audience, but he reminds that it can be surprising what the youngest can teach to their parents older than-thirty years old.

To read the entire interview, please check APENDIX - in Portuguese only.

7.5.13. Dr. Vasco Trigo - RTP

Vasco Trigo, senior journalist specialised in new technologies currently working for RTP, believes that **the content developers major concern should be what the people need and what the people want**: “it is not how to make money. It is obvious that companies exist to generate profits, but is our days companies should realise that they exist to serve the public”.

As for RTP current development in terms of Interactive Television content development, Vasco Trigo has no knowledge of on going projects: “**I admit that RTP is working in interactive contents, but I do not know for a fact**. The subject has been mentioned, there are several ideas, but still the first steps have not been taken. I know that there are people I RTP sensitive to the subject, bit there are some delays, also due to the RTP’s future indefinition.”

As an Interactive Television client, Vasco Trigo would like to select the hours of the programs he wishes to see: “That is fundamental. It has to be the each person to control the schedules. People are subjected to the television channels programming, but I believe **that to have freedom of choosing when to a program is something everyone wishes**”.

To read the entire interview, please check APENDIX - in Portuguese only.

8. CONCLUSIONS

8.1. General Scenarios for Portugal

8.1.1. TV Cabo leads the way

The Interactive Television "push" in Portugal is going to be made by TV Cabo, more specifically by TV Cabo Interactiva, a new company created in July 2000. Even if the project is starting now and there is no conclusive data that allows to evaluate the consumers reaction, in TV Cabo everyone seems to believe that the new industry will succeed. As far as delegated administrator - Álvaro Peixoto - is concerned, this race is won before it is even started, as he stated to the magazine "Exame Digital", last October: "For us, the objective is to keep on the telecommunications frontline and we believe that, in the future, everything that is today on the Internet will be on television in a much higher rate"[176]

As the Impresa administrator Francisco Maria Balsemão pointed out, the TV Cabo strategy for television is similar to the one followed by the mobiles phones operators: first, the basic services are spread - the voice for mobile communications, the television channels for cable - then come the so called additional services. If the mobile telephone operators are pushing WAP (Wireless Application Protocol) to provide Internet access to their clients, broadcasters are providing Interactive Television. The purpose is the same: to increase the average client revenue, as Francisco Maria Balsemão stated:
"**TV Cabo needs to raise the average client revenue.** And by having such need, TV Cabo will have to have new revenue sources: the only way to get new revenue sources is to try to capture value it had not explored yet in the value chain".

The big question is, as far as the consumers are concerned, **how much it will cost**? TV Cabo hasn't decided yet, until October 2000, and according to the "Exame Digital" report, TV Cabo will be prepared to commercialise the set-top box in the second quarter of 2001:

- **the set-top box will not cost more that 50.000 escudos** (about 250 Euro), but is can also be rented,
- **the service will not cost more that 5.000 monthly fee** (about 25 Euro).

Regarding the TV Cabo's objectives in terms of subscribers, at first sight the figures seem to be quite high for a country such as Portugal:

- **100.000 subscribers until the end of the year 2001,**
- **1 million subscribers in three to five years.**

Another big question is - this turn for the broadcasters, content providers and advertisers - how much it will cost? Or better said, **who is going to pay all this?** Even if the

[176] *"Exame - Digital",* October 2000, page 92.

subscriptions fees and the set-top box (sold or rent) will help paying the investment made in the Interactive Television development and launching, it will be the indirect revenues that will generate most of the revenues, as Álvaro Peixoto mentioned to "Exame Digital":
"The TV Cabo Interactiva business will result from the indirect revenues generated by **electronic–commerce** and **advertising** associated to the service"

Still, the first step is to "put" the set-top boxes in as many households as possible, since without a substantial number of distributed devices no significant revenues form e-commerce and advertising will be generated. Price is the major issue**. Many of the industry players interviewed considered price as a critical factor of success**, since most people may not be interested in paying a reasonable amount of money to acquire the box.

To rent the set-top box seems to be the most suitable solution. Even so, TV Cabo should subsidy the devices so the consumer will always pay much less than the set-top boxes are really worth. This is way, it is key to find strategic partners that also finance the set-top boxes – financial institutions and big retailers are some of the best suitable partners for this case.

Nevertheless, the set-top box TV Cabo will distribute comes with very interesting features, for different kinds of target audiences. For some, the best may be the capability to plug the device to the PC and have broadband Internet access, for others it might be the Digital Video Recording functionality, for others it can be the interactive contests and games, and so on. In summary, **the TV Cabo's set-top boxes most attractive functionalities are the following**:

- **The set-top box can be connected to a web-cam**, a **printer**, a **regular video recorder**, **a HI-FI**, and even to a **PC**, to share the cable modem. It also allows voice applications on IP, Digital Audio Broadcast and wireless.

- **The set-top box records to its hard disk up to 7 hours of MPEG2 quality images**. In a near future, it will record up to 20 hours. Also, the set-top box is permanently recording the last 30 minutes of broadcast, allowing the user to view the programs as it would see a classic video cassette: pause, play, rewind, fast forward, etc.

- **The Premium channels subscriber won't have to own two different two set-top boxes**, if they want to subscribe the Interactive Television service, since the box is prepared for both services.

- **When a program is over, it is still possible to access the last ten links**, which the set-top box saves in its memory.

Of course, if someone want to access only normal television, it is only necessary not to switch the set-top box[177].

Even with all this advanced VCR and modem features, the most likely is that **content will be the key factor that will drive people to subscribe the Interactive Television services**. As far as TV Cabo is concerned, the contents are sub-divided in two distinct areas:

- **Portal TV**, which is basically Internet on TV and also the basic Interactive Television services such as the Electronic Programming Guide, Digital Video Recording, impulse pay-per-view and interactive games.

- **Interactive Television**, which is basically Enhanced TV, or better, the traditional television programs with interactivity – links to specific web sites, where the user can get more information or access certain services.

Source: Sapo www.sapo.pt

As far as the TV Cabo time line to implement the Interactive Television service, these are the most important dates:

- August 14, 2000 – **Interactive Television Labs in operation.**
- September 2000 until the second quarter of 2001 – **Trial phase.**
- September to December 2000 – **Professional Training.**
- Second Quarter 2001 – **Interactive Television commercial launching .**

TV Cabo Interactiva has recently began specific professional training for the people in the industry. The current series of workshops began in October and will end in December 2000:

[177] *"Desenvolvimento em Televisão interactiva para Programadores",* TV Cabo Interactiva / ON TV MS course materials, October 2000

Interactive television Planning and Implementation Workshop
- the objective is to present interactive television to television producrs, advertising agencies and multimedia producers, and to provide tools to develop their own interactive television programs, 8 hours

Planning and Implementing Interactive television for television producers
- the objective is to provide the necessary tools and knowledge for a TV producer to create an interactive Television program, 16 hours

Planning and Implementing Interactive television for advertising agencies
- the objective is to provide advertising agencies the necessary skills to sell interactive advertising, 8 hours,

Interactive television development for programmers
- the objective is to provide the necessary knowledge for programmers to develop Interactive Television programs, 16 hours,

Interactive television development for designers
- the objective is to provide the necessary knowledge for designers to develop Interactive Television programs, 8 hours,

Free Interactive television presentation
- the objective is to present interactive television to television products, advertising agencies and multimedia producers, and the general public, 4 hours[178]

8.1.2. TV Cabo service – technical and content aspects

Imagine the following: you are in your sofa and you just switched on your television set and your brand new set-top box. The first thing you notice is the Portal TV of TV Cabo, with several options – such as the Electronic Programming Guide, Digital Video Recording, Internet -, but you decide to skip this and to watch television.

The newscast begins and the anchorman gives you an update about the Middle East situation, and a “Go Interactive” invitation button pops-up in the screen - which means the set-top box received an interactive television link and activated the invitation. Since you are not fully aware of the latest developments, you decide to press the “Go Interactive” button in you remote control.

The page request is sent to Microsoft TV server that on its turn access the external web page. This page is downloaded to the Microsoft TV server, which optimised it for television viewing. Finally, the web page is downloaded for the set-top box and you have before your eyes the information you requested. All this took less than a second, and you did not even had time to think about the complex process that brought that information to you.

[178] *“Desenvolvimento em Televisão interactiva para Programadores”,* TV Cabo Interactiva / ON TV MS course materials, October 2000

To access the Portal TV features the process is basically the same. Since it is not one of the thesis objectives to describe how the Microsoft TV platform works in detail, it will only include a brief explanation of how it works. In order to understand how the content is delivered, one has to understand how the front and back channels work. The **front channel** can be considered as the coaxial video cable, while the **back channel** is the coaxial cable connected to a modem that provided that capability for two-way communication.

As for **modes of transmitting interactive television content**, the ATVEF specification defines two methods of delivering interactive television content: **Transport A** and **Transport B**. According to the Microsoft manual "Building Interactive Entertainment and E-commerce Content", Transport A is by far the most popular mode of transmitting interactive content in the analog video space:
"In a Transport A scenario, the URL address to a Web page is sent via the video cable (front channel) as an ATVEF trigger (Link). This trigger appears on-screen as a prompt to tell the viewer that interactive TV content is available. When the prompt appears, the user initiates an Internet (back channel) connection by pressing a button on an infrared remote control or wireless keyboard."[179]

On the other hand, the Transport B is distinguished from Transport A by "the way interactive TV content is packaged and which wire carries it"[180]. Transport B uses TCP/IP packets to send both Web data and triggers on the front channel:
"There is no doubt that if bandwidth in the video signal were free and plentiful, Transport B would be more popular. However, at this time, limited bandwidth restricts the use of Transport B"[181].

Another important technical concept is the **Vertical Blanking Interval (VBI),** that provides a way for digital information to be transported in an analog signal. Briefly, each time a television picture redraws, there are ten black lines at the top of the screen available for the transport of data:
"With the Transport A method, the trigger is encoded into the VBI, and interactive data is delivered via the back channel. With the Transport B method, both the data and the triggers are encoded into the VBI or a digital signal and delivered via the front channel[182]."

That's about it, for now, as far as the technical aspects of the TV Cabo Interactive Television service are concerned. Regarding content, there is still much to say. As it was mentioned before, TV Cabo divided the Interactive Television service in two distinct types of services: Televisão Interactiva (or Enhanced TV) and Portal TV.

[179] KREBS, Peter; KINDSCHI, Charlie; HAMMERQUIST, Julie - *Building Interactive Entertainment and E-Commerce Content for Microsoft TV*. Microsoft Press, February 23, 2000, page 26.
[180] Idem, page 25.
[181] Idem, page 25.
[182] Idem, page 26.

In a first phase, the Portal TV will have the following **Content Channels**:

- **News**
- **Stock exchange and Business**
- **Weather forecast**
- **Entertainment**
- **Sports**
- **Trafic**

Source: Sapo www.sapo.pt

As far as the **services are** concerned, Portal TV will have:

- **TV Banking**
- **Shopping**
- **Web, Email, Chat**

Regarding the **Personalised TV service, Portal TV** will provide

- **Electronic Programming Guide,** programs' list and search engine
- **Users management**
- **Digital Video Recording**, to record, pause and replay programs
- **Impulse pay-per-view** and **video-on-demand**
- **TV configurations**
- **Interactive games**

Finally, Portal TV will offer **Internet on TV:**

- **Internet access**
- **Web space** to build it own web site
- **Customisation** (parent control, Surfwatch)
- **Broadband Internet access**
- **PIP** (Picture in Picture)

Source: Web Tv www.webtv.com

Essentially television with enhancements, **Televisão Interactiva** programs will be available on the following television channels:

- **Sport TV**
- **SIC Notícias**
- **Sol Música**
- **TV Saúde**
- **Telecine**
- **RTP 1**
- **TVI**[183]

8.1.3. New competitors preparing to play the game

While TV Cabo is launching its Interactive Television service, the traditional broadcasters – SIC, TVI and RTP – seem to be more worried with the current "share and rates war" than anything else. As we speak/ write, **TVI is quickly gaining SIC's audience**, and only in one month the Media Capital channel has conquered 10% of the total share. **"Big Brother"** was responsible for this sudden and (almost) unexpected

Source: TVI www.tvi.iol.pt

[183] "*Desenvolvimento em Televisão interactiva para Programadores",* TV Cabo Interactiva / ON TV MS course materials, October 2000

turn of events – and for the first time ever since 1995, SIC is having its leadership disputed. Until the end of the year, when "Big Brother" will reach its end, everything can happen, but TVI has reasons to face the future with optimism. Several television analysts forecast the "Big Brother" will set a new trend in Portugal as the Brazilians soap operas (the tele-novelas for the Globo channel) did 25 years ago.

Source: TVI www.tvi.iol.pt

TVI is the best known brand owned by **Media Capital**, one of the most important media groups in the country, which also owns several national newspapers, magazines and web sites. A truly multimedia group, Media Capital can easily leverage and integrate the contents produced by its many companies for the emerging media, such as Interactive Television and the last generation mobile phones. Also significant is the fact that TVI is preparing to launch thematic television channels: a Economical and Financial information channel and a series and soap opera channel are two of the hypothesis.

The same is true for **SIC**, whose strategy is already being implemented with the launching of its first thematic channel SIC Gold, as well as SIC Internacional for the Portuguese communities in countries such as France. During the last quarter of 2000, it is expected the beginning of the SIC Notícias transmission. Grupo **Impresa** owns most of SIC (Soincom), as well as Controljornal - Sociedade Gestora de Participações Sociais, S.A, whose core business is the written press, in its many forms. The most influential newspaper in the country – "Expresso" – is totally owned by Impresa, as well as the daily newspaper "A Capital, and the weekly newspapers "Autosport" e "Blitz". The group also publishes the magazines "Exame", "Exame Informática", "Executive Digest", "Caras", "Mundo Vip", "Casa Cláudia", "Activa", "Turbo" and the Disney comics, among others, in association with Editora Abril (São Paulo). On the other hand, Controljornal owns most of the Imprejornal printing company, Publimedia and Vasp[184].

The **RTP** strategy it seems it is still to be defined. Indefinition is perhaps the most suitable word to define the public broadcaster. Privatisation can be an option but it is still not clear what might be the future of RTP.

[184] http://www.obercom.pt/anuario/anuario01.htm

Another important group to follow with close attention is **Lusomundo**, that bought the major privatised newspapers: “Jornal de Notícias” in 1989 and “Diário de Notícias” in 1991. Even if its core business is the cinema distribution and exhibition, Lusomundo owns (partially or totally) several newspapers, radio stations and possesses significant paricipations in other media[185]

Obviously, other players will join the group of pioneers, and it is expected **that telecommunication operators** - Oni, Telecel, Novis, Maxitel – will soon play an important part in this game. It is yet to be seen what will do the **small cable operators** such as Cabovisão, Bragatel, Pluricanal and others, but international cable operators can also be interested in the Portuguese market.

[185] idem

8.2. Business strategies and models

8.2.1. The Interactive Television business strategy

"Thanks to the Internet, the viewer will be the key figure in TV's future business model. It's no accident -- the social trend of customer empowerment will also dictate the future of the TV model, as viewers become central decision-makers in their interaction with TV messages[186]", wrote Anthony J. Paoni, professor of "Strategic Impact of Information Technology" course at the J.L. Kellogg Graduate School of Management at Northwestern University in Evanston, Ill.

The customer relationship model will replace the current model. More precisely, the business objectives will move from reach and market coverage to establishing the greatest share of customised messages for certain target viewers, states Anthony J. Paoni.

In his important article "The Web and the remaking of Television", the Kellogg Graduate School of Management professor outlines the seven pillars that once held the old model and the new pillars of the emerging model. The key words for the Interactive Television industry are: **customised communication, one-to-one communication, context focus, dialogue, empowered participant, multifaceted, relationship and chaotic model.**

PAST BUSINESS STRATEGIES		FUTURE BUSINESS STRATEGIES
Mass communication	≠	**Customised communication**
One-to-many	≠	**One-to-one communication**
Infrastructure and content focus	≠	**Context focus**
Monologue	≠	**Dialogue**
The passive viewer	≠	**The empowered participant**
One-dimensional Relationship	≠	**Multifaceted Relationship**
Linear Model	≠	**Chaotic Model**

[186] http://www.softwaremag.com/Oct98/sm108ebs.htm

PAST BUSINESS STRATEGIES (summary)[187]	FUTURE BUSINESS STRATEGIES (summary)
Mass communication: The central strategy of TV has always been to communicate to the masses, with effectiveness based upon reach and market coverage. The objective has to "push" communication at viewers in the most direct and cost-effective manner.	**Customised communication:** Mass communication will disintegrate within a landscape of fragmented messages, customised to the particular needs of each individual. This will create a communication scenario where viewers pull the communication that they desire .
One-to-many: "The fewest number of messages, the largest number of viewers," has been an unofficial law of television since its origin, and it was directly linked to the mass communication theory.	**One-to-one communication:** Personalised communication will be the most effective way of developing the future of TV, and a movement toward "one message-one viewer" will occur.
Infrastructure and content focus: The quest to develop and implement more effective infrastructures to deliver content and enhance reach has dominated the historical television model.	**Context focus:** The customer will be an active participant in the framework within which he views all messages, making information that much more relevant.
Monologue: A one-way stream of communication continues to flow into households, with little opportunity for two-way communication to be established.	**Dialogue:** Two-way communication flow will eradicate the monologue of the current model, and will result in a more customer-focused business strategy.
The passive viewer: As a direct result of the above elements, the TV business model envisions a passive viewer presented with content deemed most appropriate by the media outlet.	**The empowered participant:** The TV business model of the future must empower the viewer to choose, create, and adapt. Hence, the customer will be an active participant within the whole communication process.
One-dimensional: The current one-dimensional business model is no longer in line with today's market and consumer trends. Though technological limitations in the past impeded evolving, the barriers to interactivity are constantly being worn down.	**Multifaceted:** A multifaceted relationship will allow the viewer to establish his own value chain of communication, facilitated by a television model that lets the customer access the information he requires.
Linearity: Prescribed schedules for advertising and programming underline the linear characteristics of the current model: Broadcasts occur at a certain time and place, and for a certain length of time; otherwise the communication cannot take place.	**Chaotic:** An apparently chaotic model will emerge -- no time-specific communication, no schedules, no prescribed programs or advertising -- in which individuals will establish their own order based on personal needs and preferences.

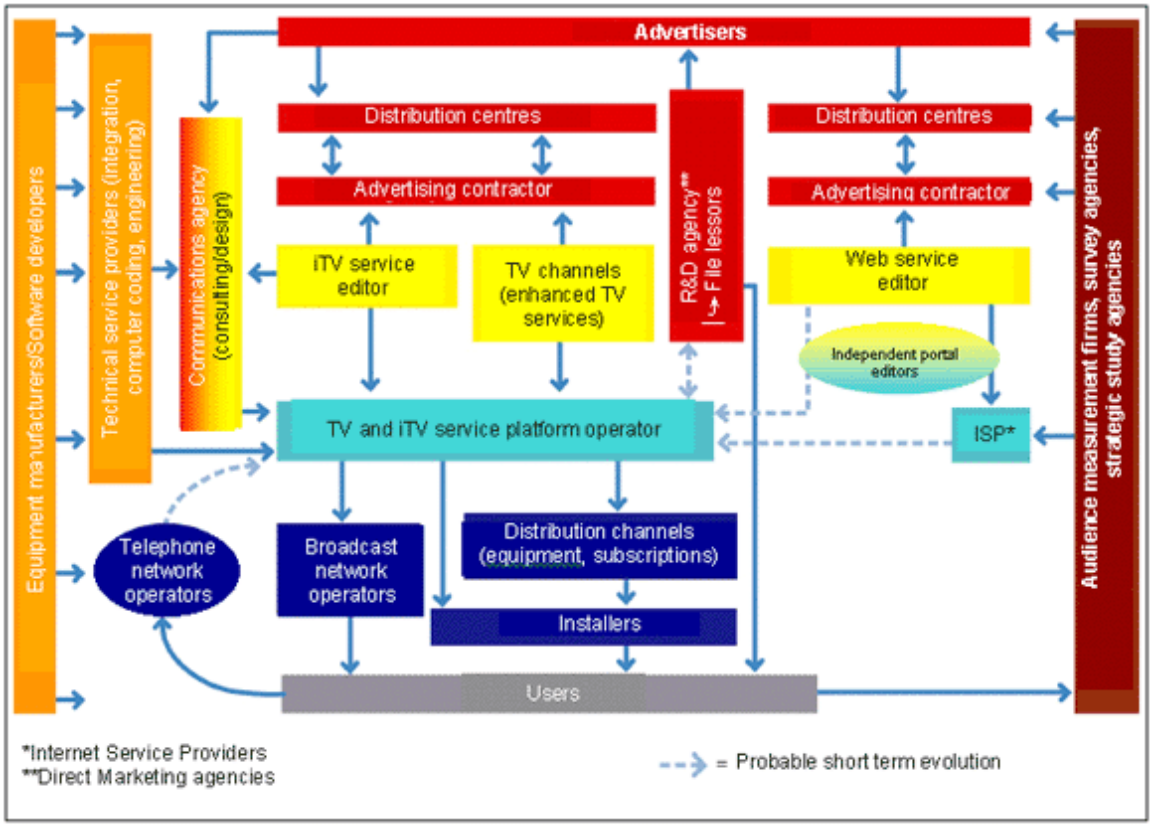
[187] http://www.softwaremag.com/Oct98/sm108ebs.htm

This way, if **"content is king"** one might say that **"the user is God",** since the information he sends to the broadcaster will determine the content – a trend that was already implicit in the audience ratings, but it still merely quantitative and not qualitative as the now can be possible with the two-way communication models. The era of the **empowered television participant** is just around the corner, states Anthony J. Paoni, for whom it is near the day when television and the Internet will be placed under a single umbrella[188].

8.2.2. The Interactive Television industry chain structure

The structure the relationship between the many players involved in the Interactive Television chain is more complex than the traditional television chain, since new players come on board. As we can observe from the IDATE structure proposal, there are new services providers in the Television chain – defined by the following colours:

- **Yellow/ Interactivity** (iTV service editor, TV Channels, Web service editor);
- **Orange/ Hardware**, (Equipment manufacturers, Technical service provider);
- **Light Blue/ Platform**, (TV and iTV service operator, ISP)



[188] http://www.softwaremag.com/Oct98/sm108ebs.htm

8.2.3. New costs and revenue sources for the players

How much will this all cost and who is going to pay for it? – these are critical questions for the Interactive Television players. The economic viability of the new industry is still a doubt to many people, and new business models are being developed to take the most of the new interactive features.

For now, it is only possible to forecast and not to state clearly how the market will evolve. Nevertheless, major consulting companies advance their numbers, and the common trend is – **Interactive Television is here to stay and it will be a winner**.

According to a **Forrester Research Inc report**, published in June 23rd 2000:

- **In 2005, 87 million homes will use** the Interactive Television service known as **Electronic Program Guide**, **and 65 million homes will have the chance to interact with programs**;

- **In 2005, the revenues** generated by Interactive Television will go up to **22.7 billion dollars in t-commerce, 32.5 billion dollars in advertising and almost 9 billion dollars in subscriptions**[189].

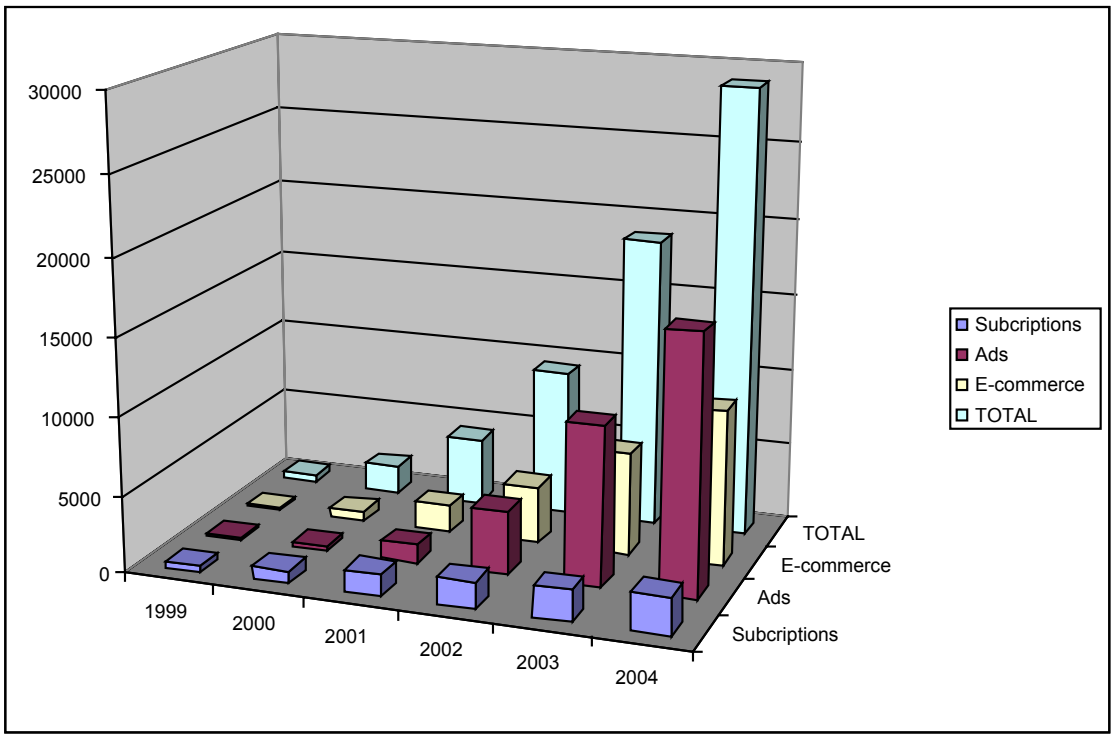
REVENUES FROM INTERACTIVE TELEVISION (in $ millions) [190]

	1999	*2000*	*2001*	*2002*	*2003*	*2004*
Subcriptions	**320**	**820**	**1430**	**1700**	**2000**	**2400**
Ads	**120**	**334**	**1160**	**4100**	**10200**	**16600**
E-commerce	**130**	**628**	**1720**	**3700**	**6600**	**10000**
TOTAL	**570**	**1782**	**4310**	**9500**	**18800**	**29000**

Source: Forrester Research

[189] http://www.forrester.com/ER/Press/Release/0,1769,366,FF.html
[190] New Media Sparks 2000 newsletter, September 15 – September 21, www.itvindustry.com

REVENUES FROM INTERACTIVE TELEVISION (in $ millions) [191]



"A dramatic shift in television business models" is forecasted by Forrester Research Inc. analysts, for who advanced television devices and interactive content will dramatically change how millions of viewers consume television programming.

On the other hand, the **Deutsch Bank "Broadband E-battle" report**, directed by Lawrance Marcus and Andrew Marcus and published in January 28th 2000, presents the following conclusions:

- **In 2004, Interactive Television shopping revenues will be bigger than Internet shopping revenues**;
- **In 2004,** more than **250 million set-top boxes** will have the ability to provide Interactive Television programs and services.[192]

Advertising and t-commerce will be the major revenues source for the Interactive Television industry in a global level, but it is reasonable to expect that the percentage of each revenue source will be different in from country to country. For Portugal, the question is: will t-commerce take off as in other countries (eg. England), or the low rate

[191] New Media Sparks 2000 newsletter, September 15 – September 21, www.itvindustry.com
[192] http://www.itvt.com/dbab.html

of shopping in the Internet indicates that the Portuguese are not interested in shopping on-line?

To base the business strategy on shopping, as Open/ BSkyB did in England, may not have the expected results in Portugal. Even if **the advertising market in Portugal is small, it is still a more predictable revenue source than t-commerce**. Also, for the Interactive Television service provider to expect that the subscriptions will cover most of the costs may condemn the service to failure, since the consumer wants to pay the least as possible. As the service develops, it is reasonable to expect that the monthly fee revenues will be less significant as the video-on-demand and pay-per-view revenues

Therefore, **the Interactive Television major revenue source in Portugal for broadcasters will be advertising**, as it is for the traditional television. The question now is how the advertisers will adapt to the new media, or better saying, how to convince the advertisers and their clients what are the advantages of Interactive Television.

8.2.4. Hypothetical business models

For a small market such as the Portuguese one, it is reasonable to think **the advertising will have the biggest piece of the revenue source for the television operators**. For the time being, the Portuguese are not huge on-line buyers such as the Americans or the English, and it is most likely that t-commerce will not generate as much revenues as the advertising.

T-commerce is an add on for broadcasters, whose business was been based on the advertising revenues. Of course, for the pay-TV operators, their revenues also come from the subscriptions fees. In a first implementation phase, in which there is always a certain degree of scepticism regarding a new transaction technology –as it happened before with the ATM machines and the Internet e-commerce and e-banking.

It is a matter of time until the consumer has trust in the system. Nevertheless, the television is particularly suited for **impulse buying of inexpensive products** - CDs, books, pizzas, toys, merchandising, and so on. The Open BSkyB is the best example of a successful t-commerce initiative. Still, Portugal is a different culture and what may have functioned in England may not function here – going to a shopping mall during weekends is regarded as a leisure and family activity.

Once again, the broadcasters should focus on advertising, more specifically, and in brand new ways to pass the advertiser message. Of course t-commerce is a feature advertisers will demand, but is better not to emphasise that particular item since the consumers reaction may be above expected. **What a broadcaster can provide the advertiser and it client is one of the most valuable and costly resources in our age: information!**

One of the major advantages of interactive advertising is that the advertiser can monitor the user interaction with the brand and services. If someone decides to view an

interactive ad, each time he clicks on some interactive feature a request is made directly to the advertiser's server, who knows exactly what was his choice and how much time he spent on a particular zone of the interactive ad. Therefore, the advertiser can redefine the marketing strategy basis on accurate information that the consumer himself provided.

Business objectives will move from reach and market coverage to establishing the greatest share of customised messages for defined target viewers. Since its beginning , television justifyed the advertising costs based on the rating and share rates, and the marketers did not have alternatives nor exact instruments to define of a markiting campaing was really worth the cost. **With Interactive Television, it is possible to target and identity a potential customer as on the Internet,** as states the IDATE report "Interactive Television, direct marketing and e-commerce" published May 2000:
"On iTV, the access platform operator can regularly, and in a transparent fashion, download onto his subscribers' set top boxes complementary data which relates to their behavioural patterns or centres of interest, as previously stated during operator satisfaction surveys, for instance. Hence, by conditioning the execution of an advertiser's interactive application according to certain criteria, it is possible to target that portion of the population whose set top boxes' memory contains corresponding data[193]".

More, according to the same IDATE report, Interactive Television ads are a way of supplying reliable and relatively qualified audience measurement. The platform operators' customer database is another priceless (or almost) asset for the advertisers. The best example to follow is Amazon.com, whose database allows them to customise their marketing operations to a level only compared to the traditional neighbourhood grocer, so to speak**. Direct marketing operation is a key expression for interactive advertising**.
"By exploiting interactivity, however, the television medium can also help advertisers to design a more personalised offer which is better tailored to the customer needs, thereby fostering true customer loyalty and enabling advertisers to locate, define and privilege those customers which represent the greatest asset[194].

Of course, **Television will remain a promotional and brand recognition tool as "mass medium"**. But, **Interactive Television now integrates the power of one-to-one comunication of the Internet**. The overall goals of direct marketing, or one-to-one communication are outlined the following way by the the IDATE report "Interactive Television, direct marketing and e-commerce":

[193] http://www.idate.fr/maj/gdn/an-00/IF140-2000316/index_a.html
[194] http://www.idate.fr/maj/gdn/an-00/IF140-2000316/index_a.html

8.3. Interactive Television critical factors of success

8.3.1. Obstacles to success and drivers of success

As the thesis reaches its end, so does the Interactive Television industry begins to be developed in Portugal. The birth date is still to be precisely defined, but TV Cabo is strongly committed to bring the "baby" to the world until the end of the second quarter of 2001.

Of course, one year from now things will be quite different, and many doubts will have given place to certainties. Nevertheless, this is only the beginning, and as any other new medium, there is lot to learn and a lot to create.

"The TV is undergoing a revolution", states the Deutsche Bank "Broadband E-battle" to whose authors Interactive Television is the greatest revolution in the industry "since the advent of color or the introduction of the remote control"[195]. As far as the **five golden rules** of Enhanced TV for successful companies, the Deutsche Bank report outlines the following:

> **The service provider is the gatekeeper:**
> The company that has the billing relationship with the customer is the who decides which buttons are on the remote control.
>
> **TV-centric implementation wins:**
> The services that to improve the TV experience, leveraging or extending the TV's attributes, are key.
>
> **The power of the network is as crucial as the power of the set-top:**
> Even if set-top box cost may be the biggest cost to operators, the network is crucial to enable quality of service, reliability, tracking, billing and security.
>
> **Don't underestimate one-way data:**
> Advanced interactivity is important, but the customer may prefer more simple services.
>
> **Implementation and integration issues are complicated and time consuming:**
> When a product or service is still in trial it is essential to define deployment time tables that accommodates the difficulties embedded in the development process[196].

[195] *"Broadband E-battle",* Deutsch Bank, January 2000, page 32 – available in http://www.itvt.com/dbab.html
[196] idem, page 46-47

Regarding the obstacles, the most suitable and comprehensive approach was the one provided by the Portuguese consulting company Innovagency**:**

- **Contents** – it is not acceptable to have only one interactive ad in ninety, or an interactive contest in twenty hours of programming,
- **Commerce** – it is key, not for the consumers, but essentially for the industry players otherwise their revenues will be smaller,
- **Cost -** the consumer is not interest in paying 100.000 escudos (about 500 Euros) for a set-top box,
- **Clear interface** - to learn how to use the Interactive Television service should not force someone to read a one hundred page manual.

8.3.2. Interactive Television most wanted contents - the killer applications

The **Electronic Programming Guide, Enhanced Television, Web browsing, Time-shifting and** Communication services are the five killer applications for the authors of the Deutsche Bank "Broadband E-battle" report. Accordingly, the Philips Group report "Interactive Applications for Digital TV - implementation, delivery methods and emerging opportunities", published in December 1999, concludes that the big opportunities are in the following applications:

Program Request services, such as o video-on-demand (VOD), near-video-on-demand (NVOD), and pay-per-view (PPV),

E-commerce services, such as home-shopping, home-banking, and applications related to business-to-business and Customer Relationship Management (CRM),

Internet access, particularly the possibility to browse the World Wide Web and to send and receive e-mail,

Enhanced television programs, which offer the possibility to get more information or that request the user to interact (vote, repond to a quiz),

Interactive advertising , one of the major revenue sources for the Interactive Television service providers.

Other applications, such a**s Games, Educational and official applications**[197]

[197] http://www.the-phillips-group.com/itvsummary.htm

Five killer applications - Deutsche Bank "Broadband E-battle" report

Electronic Program Guide:
"The EPG will be a must-have service for TV viewing, especially with a higher number of channels. That little guide button on the remote is the entry point for the viewer to navigate TV shows: it serves as a launching pad to information services and acts as a highly targetable and leverageable platform for interactive adverting opportunities. The guide is the most widely deployed service with roughly 15 million installed in the U.S. (6.2 million satellite guides, 7.5 digital cable guides, and 1.5 million TV-enabled guides.)"

Enhanced broadcasting:
"Enhanced broadcasting is interactive content linked to video programming; thus, a user can make purchases or requests for information (e.g., product samples, coupons, catalogues, and merchandise), access additional program information (e.g., news, sports, weather), or otherwise interact with the television (e.g., television game shows, polls, etc). Enhanced broadcasting's biggest strength is that it leverages the viewers' attentiveness and interest in the TV program"

Web Browsing, Walled Garden, Virtual channels:
"Despite our strong belief in TV-centric Enhanced TV applications, surfing the Internet on TV is not nearly as satisfying as doing so on the PC. Certainly, Internet surfing highlights the TV's two primary weaknesses: low resolution graphics, so only partial Web pages can be viewed at a time, and the absence of a mouse interface, so navigating a Web page can be cumbersome. TV viewers favor a 4-button direction interface that takes a thumb to operate"

Time-shifting:
"Broadly refers to the ability to play a prerecorded show and includes either client-based (a.k.a. hard drive) or server-based (a.k.a. video-on-demand). The VCR is also a form of time shifting, as is streaming video/audio Web content"

Communications:
"As opposed to the PC, which requires boot-up and log-in to see if "you have mail," having e-mail readily accessible on TV could be more convenient or in the case of homes without PCs, the only way to access e-mail. Chat and instant messaging related to TV shows can be interesting as well. With the advent of IP telephony and IP standards on which most cable networks are being built, offering videophone services will likely be the next logical step[198]"

8.3.3. Final remarks – "focus on the user!"

In simple terms, in any mass medium there is always tension between what we could call **"public service"** and **"commerce",** or better said, between **culture** and **industry.** Perhaps the best examples of public service are the newscast, documentaries, children's programs and educational programs. Regarding commercial contents for television, obviously advertising comes first, but other "genres" can also fit in this category, such as football games, contests, and reality shows and, last bur not least, pornography.

The **media industry** is no ordinary industry, since it is most of all a **cultural industry,** as the "The Digital Age: European Audio-visual Policy" puts it[199]. Therefore, the audio-visual media plays a crucial, formative role in our societies and it cannot be controlled by any private or public interest. The audio-visual media has an immense power, as the report reminds us:
"The audiovisual industry is not an industry like any other and does not simply produce goods to be sold on the market like other goods. It is in fact a cultural industry par excellence, whose "product" is unique and specific in nature. It has a major influence on what citizens know, believe and feel[200]".

Right now in Portugal, we are witnessing a major fight between the major broadcasters, specifically between TVI / Media Capital and SIC/ Impresa. Even the TVI and SIC administrators should agree – no doubt about it – that since September it has been **decreasing very quickly the quality and variety of the contents being broadcasted** by their television channels during prime-time. Perhaps a new trend is being set, in terms of what the Portuguese really like to see: hours after hours of docu-soaps (as "Big Brother" is defined abroad), hours after hours of football games, hours after hours of millionaire contests.

[198] *"Broadband E-battle",* Deutsch Bank, January 2000, page 32 – available in http://www.itvt.com/dbab.html
[199] http://europa.eu.int/comm/dg10/avpolicy/key_doc/hlg1_en.html
[200] idem

But perhaps, people will eventually get bored and feel that deserve something better than this diet of television. And just perhaps Interactive Television may be the alternative, and will indeed uplift the culture and empower the people.

"All media work us over completely. They are so pervasive in their personal, political, economic, aesthetic, psychological, moral, ethical, and social consequences that they leave no part of us untouched, unaffected, unaltered. **The medium is the massage**. Any understanding of social and cultural change is impossible without a knowledge of the way media work as environments" [201] – Marshall McLuhan.

Still to soon to determine the personal, political, economic, aesthetic, psychological, moral, ethical, and social consequences of this medium called Interactive Television. Yet, what "it" will be may be already defined by the ones who will truly decide its future: the users. **Interactive Television will be what its users want it to be**.

[201] McLUHAN, Marshall – *The medium is the massage*. Hard Wired, 1996.

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ADSL- Asymmetrical Digital Subscriber Line. ADSL is type of DSL that provides T1 rates or higher in the downstream (towards the customer) direction and 64 kbps or higher in the upstream direction.

ADVANCED TELEVISION ENHANCEMENT FORUM (ATVEF) - A commercial technology organization or "cross-industry alliance" formed by many different companies from the broadcast and cable networks, television transports, consumer electronics, and PC industries. The goal is to develop HTML-based protocols to promote the standardization of enhanced TV. Tools and other supportive technologies that will be "ATVEF-compliant" will enable the creation and distribution of enhancements through the analog and digital signal.

ANALOG - Analog data is expressed in the form of continuously variable waves (e.g. amplitude or frequency of sound waves or electromagnetic waves). Susceptible to noise and are not easily compressible.

ATM - Asynchronous transfer mode. A high speed data transmission and switching technique that uses fixed size cells to transmit voice, data, video which greatly increases the capacity of transmission paths, both wired and wireless.

BANDWIDTH- 1. (broadcast) The range of frequencies available for signaling. The difference expressed in cycles per second (Hertz) between the highest an lowest frequency of a band – James Martin 1971. 2. (data wire) Analog telephone lines measure capacity in Hertz (the difference in the highest and lowest frequency in the channel). Digital channels measure capacity in bits per second. A T3 connection is approximately thirty times as fast as a T1 connection, which is 50 times as fast as a 28.8 modem, which is twice as fast as a 14.4 modem.
Broadcast: 6 MHz analog
Cable: 450 MHz analog signal
Cable Modems: up to 27 mps downstream - shared
Internet data: 14.4k - 26 Mpbs with VDSL
VBI: 4 Mbps
Digital Signal: 19.2 Mbps

BROADBAND - A network capable of delivering high bandwidth. Broadband networks are used by Internet and cable television providers. For cable, they range from 550 MHz to 1GHz. A single TV regularly broadcast channel requires 6MHz, for example. In the Internet domain, bandwidth is measured in bits-per-second (BPS). See DSL.

CABLE MODEM - A device that permits one-way or two-way high speed data communication over a cable television system for purposes such as Internet access at speeds of around 1.5 MBps.

CABLE TELEVISION - The system network for the distribution of the television signal and now digital data by cable (co-axial, twisted pair or fiber optic).

DECODER - Term sometimes used for set-top box.

DIGITAL SUBSCRIBER LINE (DSL) - Modem telecommunications technology that enables broadband, digital data to be transmitted over ordinary telephone line. DSL comes in many flavors, known collectively as xDSL, see ADSL, HDSL, SDSL, VDSL.

DIRECT BROADCAST SATELLITE (DBS) - Satellites powerful enough (approximately 120 watts on the Ku-band) to transmit a signal directly to a medium or small receiving dish (antenna) at 18" and 3 feet in diameter. DBS does not require reception and distribution by an intermediate broadcasting facility and transmits directly to the end user.

[202] http://www.itvt.com/glossary.html

DOWNSTREAM - Information path sent from the network to the user.

ELECTRONIC PROGRAMMING GUIDE (EPG) - An essential, navigational device allowing the user to search for a particular program by theme or other category and order it to be displayed on demand. Ultimately, EPG's will enable the TV set to learn the viewing habits of its user and suggest viewing schedules.

ENHANCED TELEVISION (ETV) - A type of interactive television technology favored by network broadcasters. This technology allows content producers to send HTML data and graphical “enhancements" through a small part of the regular (US) NTSC analog broadcast signal called the Vertical Blanking Interval (see below). These enhancements appear as overlays on the video and allow viewers to click on them if they are watching TV via special set-top box/software services like WebTV, Wink, WorldGate, and more to come. One major problem associated with enhanced TV today is that producers must pay close attention to timing information. When the Digital Signal (see above) is more widely available, content producers won't have to worry about that.

HIGH-DEFINITION TELEVISION (HDTV) - A higher quality signal resolution using a digital format for the transmission and reception of TV signals. The HDTV provides about five times more picture information (picture elements or pixels) than conventional television, creating clarity, wider aspect ratio, and digital quality sound.

INTERFACE - A set of textual or graphical symbols that allow a computer user to communicate to underlying software. Computer Interfaces work in many ways. Some are text-based and communicate only in letters, numbers, and other keyboard symbols. Others are graphical and require the use of a mouse. Still others are touchscreen.

INTERNET PROTOCOL (IP) - A protocol telling the network how packets are addressed and routed.

INTERNET SERVICE PROVIDER (ISP) - Telecommunications companies that sell Internet access. Users either dial-up to an ISP server or have a broadband connection such as DSL. Once connected, they can branch out onto the Web.

Mb or MEGABIT -10^6 bits of information (usually used to express a data transfer rate; as in, 1 megabit/second = 1Mbps).

MHZ- Megahertz - A frequency equal to one million Hertz, or cycles per second.

MPEG - Motion Pictures Expert Group - A proposed International Standards organization (IS) standard for digital video and audio compression for moving images. Responsible for creating standards 1, 2 and 4.

MPEG-1 1/4 broadcast quality which translates to 352 x 240 pixels. Typically compressed at 1.5 Mbs.

MPEG-2 - Similar to MPEG-1, but includes extensions to cover a wider range of applications. MPEG-2 translates to 704 x 480 pixels at 30 frames per second in North America and 704 x 576 fps at 25 fps in Europe. Typically compressed at higher than 5 Mbs. The primary application targeted during the MPEG-2 definition process was the all-digital transmission of broadcast TV quality video.

NATIONAL TELEVISION STANDARDS COMMITTEE (NTSC) -The committee formed to determine the guidelines and technical standards for monochrome and color television. Also used to describe the 525-line, 59.95Hz color television signal used in North America and several other parts of the world.

NET TV - NetTV's are televisions which have the ability to dial up to the Internet. Often, a manufacturer has integrated or offers a special set-top which permits the viewer to connect online over telephone wires.

NVOD or NEAR VIDEO ON DEMAND - The service of providing a movie to subscribers on multiple channels and staggering its start time (for example every fifteen minutes). Subscribers can then tune in to the next available showing.

PAY-PER-USE - One pays a fee for every service, product, and download often on a tiered basis.

PERSONAL COMPUTER (PC) - The device which enables anyone to compute, word process, or perform more complicated functions.

PERSONAL TELEVISION (PTV) - A type of interactive television technology featuring a digital hard disk drive inside a set-top box. Viewers can digital record broadcast television in real-time much like a VCR, but watch instant replays while it's recording, pause, playback, reverse and so on. Early technology also allowed the set-tops to skip commercials at the viewers' whim, but this is in dispute currently for obvious political reasons. Companies leading this technology include ReplayTV, TiVo, and others like WebTV, DirecTV who integrate hard drives in their boxes and digital receivers.

PROTOCOL - The "language" spoken between computers to help them exchange information. More technically, it's a formal description of message formats and rules that two computers must follow to communicate.

REMOTE CONTROL - The first remotes were invented, in fact, by the German navy to help ram enemy ships in World War I. Later, in World War II, everybody used remotes to set off all kinds of bombs. In the 1940's, the garage door opener remote was invented. In 1952, the first TV remote appeared and it was called, aptly, the "Lazy Bone". Manufactured by a company called Venus, the Lazy Bone control came with a 10-foot or 100 foot cable. When clicked, a command would rotate the tuner inside the TV set and change the channel. Throughout the years other remote systems explored different technologies, but always seemed to encounter some problem. For example, light sensitive cells on the TV set were sensitive to sunlight, which would turn up the volume at random. Later, ultrasonics built into remote controls would cause dogs to bark when they came into the room. Eventually infrared (individual digital codes of light pulses) would become the standard today; however, they still don't work when pointed at objects in between it and the TV set.

SET-TOP BOX (STB) - An electronic device that sits on top of your TV set and allows it to connect to the internet, game systems, or cable systems.

SPECTRUM - The range of electromagnetic radio frequencies used in transmission of voice, data and television.

TERMINAL - A device that allows user to send commands to a computer that is somewhere else.

UNIFORM RESOURCE LOCATOR (URL)- The address of a document or other resource available on the Internet by clicking a link. A URL has three components, the protocol ("http:"), server domain name ("intel.com"), and the file location on their server.

UPSTREAM - Information from the user to the Internet or network.

VERTICAL BLANKING INTERVAL (VBI) - Part of the TV signal that is not used for video information and left available to transmit other data such as captions, Web data, current stock market prices. Visually the VBI is the black stripe at the top and bottom of a TV picture and physically it constitutes 21 lines' worth of the total 525 lines transmitted per second in the NTSC TV signal. In detail, the Vertical Blanking Interval is a portion of the analog TV signal embedded inside two rectangular fields on the TV screen that are comprised of 262.5 imperceptible horizontal lines. Each line is made of 427 pixels that form the video images on the screen through a process called electron beam called "interlaced scanning". The first 21 lines of each of the two horizontal fields (a black stripe - only seen when the picture loses its vertical hold and rolls) is called the Vertical Blanking Interval. In this interval, data of any kind can be broadcasted, received by any TV set, and interpreted with special software if the TV set is hooked into a set-top box or the data is received by a TV tuner card on a computer. The first 9 lines of the VBI are used for timing information of the shows, but lines 10-20 are pretty much unused. Line 21, however, is used for closed captioning text and now in use for HTML data. See HTML.

VIDEO SERVER - The business end of a client/server setup, a server is usually a computer that provides the information, files, Web pages, and other services to the client that logs on to it. (The word server is also used to describe the software and operating system designed to run server hardware.)

VIDEO-ON-DEMAND (VOD) - The service of providing content through subscriber selection off a large menu of options, available to viewer at any time.

A5) International leaders' opinions - quotes

Bill Gates - MICROSOFT

For Bill Gates the television of the future consists on a big screen connected to a telecommunications network, with the same functionalities we find on a PC, a games console and a building management centre. In this sense, Interactive Television is a step closer to the total "digital-screen" such as it is being designed by Microsoft:

"We'll have big screen devices because they'll be in the den, the living room, we'll think of those like the TV, multiple people able to watch, able to play games together, but some of the communications scenarios will start to show up there. You'll be able to be notified that your kids upstairs are crying in their room or that somebody is at the door right there on that screen. Your buddy list that today you think of as mostly an online PC thing, you'll be able to see, if you've enabled it the right way, who is watching the same shows. If you want to chat with them by typing or talking as you're watching those shows, and so communication is brought to a place that you wouldn't have thought about it being before because of all that connectivity"[203].

Rupert Murdoch - NEWS CORP.

Considered as the traditional broadcast major figure and master of a satellite "armada" that covers half the globe, Rupert Murdoch is progressively being converted to Internet and Interactive television. One of the most recent BSkyB initiatives proves it - the interactive services and products package named Open. But there is more: Rupert Murdoch launched a 300 million dollars venture capital fund for new media companies, according to a report published in March 2000 by the world famous magazine Wired, having the Japanese investment company Softbank as its partne. Finnaly, Murdosh also bought stocks to more than a dozen "dot.coms".

"I was thought to be anti-Internet, which I never was at all. I did say I don't know how you justify the price of some of these stocks - which I still say, but I've been wrong"[204]

Bill Joy - SUN

Sun's co-founder and chief scientist, Bill Joy defends that a PC is something totally different from a TV set, meaning that he does not foresee their convergence in a near future. He states that an entertainment device isn't a personal computer, which has educational, informative, communicational and accounting purposes:

"An entertainment device is not a personal computer in any sense. (…) The purpose is different - one has an entertainment purpose, and one has an education/information-gathering/bill-processing/email-reading purpose. It's also about the posture that you have. We recognized this back in the old Oak days - we called it near versus far. Far computing means you're leaning back.

[203] http://www.microsoft.com/billgates/speeches/01-05ces.htm
[204] *"Rupert Discovers the Internet"* - Wired, March 2000

It's something you can operate with your thumb. And given that you have a large screen and you're in that position, you don't get the news the same way. It's newscast versus newspaper"[205]

Sumner Redstone - VIACOM

Viacom is one of the global leaders in the entertainment, news, sports and music promotion and distribution. The corporation owns CBS, MTV, Nickelodeon, VH1, Paramount Pictures, UPN, TNN, and Blockbuster. Sumner Redstone, Viacom's CEO and chairman, considers that in the new media world the advantage belongs to the broadcasters and that for a company it is necessary to know how to reinvent itself in order to faces the new challenges:

"Broadcasting is not crashing, not dying, not endangered. Broadcasting is still as compelling as ever. In the new media world, I say, the advantage belongs to the broadcasters."
"My message today isn't that we need to reinvent ourselves or embark on radical new strategies. What we need is the resolve to fully exploit our unique strengths."[206]

John Hendricks - DISCOVERY COMMUNICATIONS INC.

The founder and CEO of the media corporation Discovery Communications, John Hendricks, thinks that PC and TV will not converge. However, he believes it is positive to have interactivity on and through television, since it will allow more people to have access to a new way of communication and information:

"A lot of people think the TV is going to merge with the PC, but I see these two staying separate, with the TV, watched from about 12 feet away, being for passive entertainment with interactive options. People have been fairly passive with their TVs for five decades. Today, with channel surfing, people have become a little more interactive, and that been a big change. They're cruising the TV channels, maybe watching several channels at once. But this next wave of interactivity, brought about through expanded digital capacity, is going to be even more dramatic. (…)
Internet still is limited to people who are fairly computer literate, who even have a way to get onto the Internet. But advanced TV, because it will be deployed on a mass level, will broaden our ability to link up and share views".[207]

Esther Dyson - ICANN Internet Corporation for Assigned Names and Numbers

Esther Dyson, ICANN chair, believes that Interactive Television will only bring more channels and not the possibility to feedback or communicate. Still, the Electronic Frontier Foundation ex-chair hopes that the television operators will listen to their consumers, making this way television truly interactive:

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[205] "*TV or not TV*" - Wired, March 2000
[206] http://www.media-visions.com/itv-convergence.html
[207] http://www.media-visions.com/hendricks.html

"To me, Interactive TV is still just TV with more user choices from a bunch of channels set up by whoever is running the interactive TV system. The user doesn't have any real feedback on the content, and the people sending it to him don't care who he is or what he thinks, other than wanting to know what he's watching so they can sell stuff.
You give me 500 channels to choose from, and I choose. But I want to have some input on what's in those 500 channels. In the end, I want it to be decentralized. I want to be able to talk with other people. (…) If it's genuinely two-way TV, where they can communicate with other people, I think that's great. If it's two-way only to the extent they can tell the television supplier what program they want to watch, I don't consider that to be my version of interactive media[208].

[208] http://www.media-visions.com/dyson.html

A6) National leader's opinions - interviews

Dr. Carlos Correia - UNIVERSIDADE NOVA DE LISBOA (FCSH)

Considera que é prioritário ou demasiado cedo para investir na televisão Interactiva? Porquê?
Carlos Correia: Nunca é tarde demais para realizar investimentos em áreas onde outros países estão mais avançados que em Portugal.

Qual será a grande motivação que irá trazer a televisão interactiva para os lares dos portugueses?
CC: Conteúdos realizados de raiz. Jamais "sopa" requentada para realizar economias de escala.

Em Portugal, quais as possibilidades de sucesso de programas e serviços de televisão interactiva? Quais os obstáculos ao sucesso?
CC: As possibilidades teóricas do sucesso estão condensadas na resposta à questão anterior. Os obstáculos maiores radicam no preço escaldantes que as ligações em banda larga já definiriam. Para haver massificação e real democraticidade os preços deveriam situar-se numa banda estreita...

Os baixos níveis de penetração da Internet irão levar a que a maioria dos Portugueses optem pelo acesso a serviços e produtos interactivos por via televisão interactiva e não via PC?
CC: Uma vez mais o preço será a condição decisiva para o sucesso. Qual o custo acrescentado que uma família média irá ter de pagar para poder usufruir de um serviço com menores capacidades daquele que a internet pc já propõe?

A televisão interactiva é uma versão enriquecida da televisão ou uma versão pobre da Internet? Porquê?
CC: Não será nem uma versão enriquecida, nem uma versão pobre. Estou firmemente convencido de que será um produto diferente e bastante distante do mass media que conhecemos.

Por favor, indique se concorda ou discorda com as seguintes opiniões, e explique porquê:
"A televisão interactiva não é uma revolução mas uma evolução"
CC: Se configurarmos a TV interactiva como self media ela será revolucionária. Na perspectiva de mais algum valor acrescentado ao mass media, não passará de uma "evolução na continuidade" um pouco à imagem do que Marcelo Caetano procurou fazer em Portugal no início da década de 70 com as consequências que alguns ainda recordam...

"A televisão interactiva tem uma longa história de insucesso e não vai ocupar o lugar da televisão nem o da Internet"
CC: Concordo com o essencial da frase.

"A televisão e o computador irão convergir num só media"
CC: Considero que fazer prospectiva neste campo é insultar o futuro!

"As aplicações interactivas vão enriquecer e melhorar a actual oferta de programas de televisão"
CC: As aplicações interactivas vão afastar uma franja significativa de espectadores da "Tvlixo" que corre nos canais em prime time.

"As aplicações interactivas vão transformar totalmente a natureza da Televisão"
CC: Na natureza nada se perde, tudo se transforma e se Lavoisier continuar a ter razão....

"Os serviços interactivos irão chegar ás massas via televisão interactiva"
CC: O conceito "massa" faz cada vez menos sentido. Existem públicos cada vez melhor diferenciados com exigências e gostos muito específicos.

"A geração sub-trinta é o mercado-alvo da televisão interactiva, porque já está habituado a servir-se da internet"
CC: Qualquer gestor que avance para a criação de um mercado-alvo de televisão interactiva, apontando apenas para a geração sub-trinta deverá pedir de imediato a filiação no clube (pouco recomendável) do empresários-kamikaze.

"O utilizador de televisão é um consumidor passivo, portanto não está interessado em interactividade no televisor"
CC: Creio que a frase foi retirada de uma citação do Ted Turner, que subscrevo.

"A televisão não tem a mesma capacidade do PC em satisfazer as necessidades do utilizador em comunicar, informar-se, divertir-se e fazer transacções"
CC: Se onde se lê "televisão" ser ler televisor, estou francamente de acordo porque o televisor mais não é que um "terminal estúpido" ao qual as célebres set top boxes virão um dia conferir alguma inteligência.

Eng. Carlos Picoto – MICROSOFT

Considera que é prioritário ou demasiado cedo para investir na televisão Interactiva? Porquê?
Carlos Picoto: Atendendo a que há um forte nível de investimento nesta área, nomeadamente por parte de empresas ligadas à TV Cabo, que estão a fazer um esforço de investimento para lançar o projecto, acho que há todo o benefício em que as empresas que se podem associar a esta iniciativa façam os seus investimentos neste momento, nomeadamente, no desenvolvimento de programação interactiva.
A TV Cabo fará o seu reforço na implantação da infra-estrutura, mas podemos chegar ao fim com uma óptima infra-estrutura tecnológica, mas se não houver conteúdos não atraímos as pessoas. Obviamente que acho muito importante neste momento fazer um investimento na produção de conteúdos interactivos, e estamos a assistir a isso mesmo.

Qual será a grande motivação que irá trazer a televisão interactiva para os lares dos portugueses?
CP: Se conseguirmos produzir um conjunto de conteúdos interactivos que sejam atractivos – e há um conjunto de serviços que todos os Portugueses conseguem ver o valor acrescentado, como por exemplo, o acesso a serviços de Multibanco e de comércio electrónico a partir da televisão, e a navegação básica da Internet. Acho que estão reunidos um conjunto de funcionalidades básicas que podem vir a ser bastante atractivas.
Depois, há aspectos tecnológicos que tornam o dispositivo em si, a set-top box, muito interessante. A possibilidade da set-top box para além de dar acesso á televisão digital interactiva poder servir também como gravador video digital é algo que me parece um aspecto muito atractivo.

A Televisão Interactiva é uma versão enriquecida da Televisão ou uma versão pobre da Internet?
CP: É uma convergência dos dois meios. Não é uma versão pobre da Internet, mas dispõe de uma versão adaptada ao universo televisivo. O grau máximo de interactividade de um utilizador

de televisão é a velocidade do zapping. A partir do momento em juntamos conteúdos enriquecidos também é importante que esses conteúdos tenham um aspecto televisivo, porque a maior parte dos conteúdos da Internet não está optimizado para a televisão.
Por outro lado, é também importante que esses conteúdos tenham uma grande rapidez de acesso, porque o utilizador de televisão quando muda de canal não está habituado a estar à espera de uns quantos minutos até que venham os conteúdos do próximo canal. Nesse sentido, é um paradigma diferente: é pegar nos conteúdos da Internet mas dar-lhe um aspecto melhorado, em grande parte será a tecnologia a resolver isso, mas é importante também produzir conteúdos optimizados para esse efeito.
Felizmente, já assistimos a algumas iniciativas, nomedamente, por parte de bancos que estão a desenvolver conteúdos optimizados para a set-top box e para as suas características. Em particular, estou a falar de um produto que esperamos seja lançado logo no início, o acesso ao home banking, com as funcionalidades típicas de um sistema deste género, mas optimizado para a set-top box.

A Televisão Interactiva é uma revolução ou uma evolução? Porquê?
CP: Diria que a evolução só por si, se olharmos para o panorama tecnológico à volta, a evolução só por si prende-se com a digitalização dos conteúdos. Aqui estamos a ir mais além, porque além de falarmos na digitalização estamos a falar na interacção, ou seja, levar a que os utilizadores interajam com esses conteúdos.
Não se pode dizer que seja propriamente uma revolução, andamos a falar de Televisão Interactiva há dez ou vinte anos. Todas as experiências que foram feitas até agora não foram realizadas em larga escala.
A nossa experiência Web TV nos Estados Unidos da América tem cerca de um milhão de utilizadores, mas aí não temos a experiência de banda-larga, não é uma experiência completamente digital, é sobre canais analógicos. Ainda não foi lançada uma experiência de interactividade que reunisse todas as condições como este que agora estamos a lançar: o facto de termos conteúdos de banda-larga, o facto de todos os canais de televisão que vamos utilizar serem digitalizados. Há um conjunto de serviços que se começam a juntar pela primeira vez e que eventualmente poderão ter um resultado diferente.
Não vejo ainda a televisão interactiva como uma revolução. Só poderemos começar a falar e revolução a partir do momento de grande adopção popular destes meios, quando mudar realmente os hábitos das pessoas, quando as pessoas - para além das horas que passam em frente à televisão - começarem a passar mais umas quantas horas só para não irem ao super-mercado.

Considera que o espectador de televisão é passivo e, portanto não está interessado em interagir com o televisor?
CP: Embora isso sendo verdade, o que é um facto é que se podem desenvolver conteúdos á medida para esse tipo de utilizadores. Se calhar esse tipo de utilizadores mais passivo não será aquele tipo que acede a uma página da Internet e que depois está disposto a clicar em todas as opções até chegar até aquilo que quer. Mas se calhar para esse utilizador, nós vamos ter um paradigma diferente, ou seja, fazer o utilizador passar pelas diferentes opções e quando vê o que interessa aí carrega na botão. É uma questão de adaptar os conteúdos a este tipo de pessoas. Em vez de estar á espera que ele carregue em três opções de menús até chagar ao sítio, se calhar vamos passar um filme, onde em determinado ponto ele tem a opção de escolher o que está a ver no filme. Com um conteúdo ligeiramente diferente, julgo que se pode atrair os utilizadores a essa interactividade e vencer essa barreira.

A geração sub-trinta é o mercado-alvo da televisão interactiva, porque já está habituado a servir-se da internet, ou é para todas as idades?
CP: Baseado na nossa experiência de Web TV nos Estados Unidos da América, grande parte dos nossos utilizadores tem mais de 50 anos. Havia uma campanha que dizia mesmo “WebTV, the Internet for the rest of us”, ou seja, o dispositivo de acesso simples à Internet que não

precisava que ninguém fosse um especialista em tecnologia, e que fez com os filhos oferecessem estas caixas aos pais ou aos avós, para terem email. Portanto, não considero que seja para os sub-trinta, julgo que é mesmo para todas as idades.
A oferta da Web TV é muito variada: nós temos o Web TV Classic, o Web TV Plus e o serviço de Personal TV. Diria que o público alvo é diferente para os três. Por exemplo, o Personal TV como é um gravador digital a maior parte dos utilizadores, mesmo tendo um computador em casa, adere a este serviço porque é interessante. Aliás, a maior parte dos meus colegas Americanos tem precisamente em casa o Personal TV, porque é uma boa maneira de ver televisão, é uma questão de gravar e de ver quando quiser, com a opção do fast forward para "saltar" a publicidade.
Em Portugal, a Microsoft apenas fornece a plataforma de software, depis serão os fabricantes de hardware – a Pace e a Octal – a fornecerem as set-top boxes. Neste momento, estão negociados diferentes modelos de set-top boxes. Do nosso ponto de vista, as funcionalidades de software que disponibilizamos são semelhantes às da Ultimate TV, mas no caso da Ultimate TV trabalhamos directamente com a Thomson para produzir a caixa que vai ser lançada no Natal nos Estados Unidos. Em Portugal fica ao critério do operador de rede e dos seus fornecedores quais as funcionalidades que vão incluir nessa caixa.

Em relação ainda à Web TV, considera que o número de subscritores atingido – um millhão - é um êxito ou ficou aquém das expectativas?
CP: Diria que é um bom número. Para os Estados Unidos, que é um país com uma grande população, este número tem tendência para ser desvalorizado. É preciso ver também a demografia dos clientes. Se calhar em zonas tecnológicas como na Bay Area, em São Francisco, a maior parte dos utilizadores tem Personal TV, enquanto que nas zonas rurais têm a Web TV Classic ou Plus.
Por outro lado, montar uma infra-estrutura nacional nos Estados Unidos é quase como uma montar uma infra-estrutura Europeia, ou ainda pior. Para operarmos o serviço temos que entrar em acordo com quase todos os IPS da zona. É um modelo complicado, mas acho que o maior drive para esse número tem sido os conteúdos interactivos.
Até ao ano anterior não havia uma grande explosão de conteúdos interactivos. Foram estes últimos jogos mais populares - o "Jeopardy" e o "Wheel of Fortune" - que vieram trazer um acréscimo de utilizadores do sistema ao dar a possibilidade do utilizador de ganhar prémios. Podemos fazer um esforço isolado de tecnologia por tecnologia, mas enquanto não houver conteúdos interactivos que tragam os utilizadores, nunca se atingirá uma dimensão com massa crítica.

Qual o maior competidor da Microsoft TV - a plataforma OpenTV, CanalPlus Mediahighway, Liberate ou Power TV?
CP: Sem dúvida que o competidor mais directo é a Open TV, que tem mais set-top boxes no mercado e tem um produto maduro.
Uma diferença fundamental que se põe entre essas experiências a que nós pretendemos ver implementada é o acesso á Internet. Nós acreditamos que a produção de conteúdos fundamental a ser usada na televisão é aquela que hoje em dia as pessoas estão a desenvolver para a Internet. Ao contrário destas iniciativas que têm bancadas próprias de desenvolvimento de conteúdos, onde é preciso desenvolver conteúdos especificamente para as set-top boxes, nós preferimos uma abordagem mais de acordo com os standards HTML, Java Script.
Por outro lado, grande parte dessas set-top boxes são low end set-top boxes, ou seja, as capacidades de processamento são fracas, o que também faz com que as caixas tenham um baixo custo e tenham permitido uma massificação tão rápida. Mas depois também não permitem funcionalidades mais avançadas como o Digital Video Recording, e outras que nós consideramos que vão ser muito importantes num futuro próximo.

Aparentemente, em 2002 Portugal vai ter Televisão Digital Terrestre e, possivelmente, a entidade gestora será um consórcio formado pela SIC, TVI e RTP. Concerteza terão serviços e

produtos de televisão interactiva, baseados numa das diversas plataforma disponíveis. A Microsoft já foi contactada nesse sentido?
CP: É cedo para falar disso. A plataforma do terrestre, assim como a do satélite, tem um problema à partida: não tem um canal de retorno estabelecido. Pode ser por ADSL ou por linha telefónica, ou como se quiser, mas tem esse problema de base, portanto é natural que vá para um modelo semelhante ao do satélite, em que os dados estão a circular num data carrocel e é uma espécie de tele-texto evoluído. Uma vez que se aproveita um canal de down stream para as caixas, carrega-se o conteúdo para as caixas, o que dá uma sensação de interactividade.
À partida, não é dos meios mais interessantes para fazer evoluir os conteúdos interactivos. O cabo para já tem a vantagem de ter o canal de retorno. Depois, tem a vantagem esse canal de retorno ser de banda-larga, ou seja, através do qual se pode oferecer conteúdos ricos. Nunca vou ter essa hipotese com a Televisão Digital Terrestre.
Por outro lado, o consórcio - que seria ainda formado por um operador de telecomunicações e uma entidade financeira - eventualmente terá que oferecer um milhão de caixas no primeiro ano. Para fazer entrada no mercado, segundo consta, o preço da licença não era excessivamente caro, mas obrigava a massificação com a introdução de caixas. Um operador terá que fazer isso à partida e, eventualmente, terá que optar por uma caixa de modelo económico, que se adapta ao facto de se ter que colocar um milhão dessas caixas na rua. Está muito incipiente qual é o modelo económico para explorar isto tudo.

Como seria a "sua" televisão interactiva perfeita?
CP: Perfeita seria aquela que funcionasse sempre que eu desejasse. Assim como o utilizador hoje em dia se senta no sofá e liga a televisão tem uma experiência controlada – carrega num canal e vê aquele canal – ao passar para um universo de televisão interactiva as coisas têm que acontecer com a mesma ligeireza. Se aparece um convite para ver um anúncio interactivo, estou à espera que quando carrego no “go interactive” imediatemente aparece o conteúdo desse anúncio, não estou á espera de um page error a dizer para tentar mais tarde porque o servidor está ocupado. Portanto, tem que ser algo que seja muito previsível: carrego e estou à espera de ver conteúdos e não erros. Principalmente, tem que ser um serviço fiável, para introduzir em todo o serviço critérios de exigência para que quem vá produzir conteúdos tenha em conta esta situação, como preparar a infra-estrutura para esse fim.
Por outro lado, a minha funcionalidade preferida é a gravação de video digital, portanto, a possibilidade de programar a gravação de programas, e a hipotese de ter o pay-per-view e de comprar filmes para visualização posterior. Do ponto de vista da interactividade, gostava de ter acesso a serviços básicos, como acesso à Internet, o home-banking e operações de cartão de crédito. Mas a minha killer application é o digital video recording.

Relativamente aos atrasos da implementação da plataforma Microsoft TV, veio a lume que a UPC e a AT&T estavam descontentes com a Microsoft – os protocolos estão em vias de ser cancelados?
CP: Os casos da UPC e da AT&T são diferentes. No caso da UPC havia um compromisso entre a UPC e a Microsoft para lançar um piloto em Setembro deste ano. Esse piloto seria, à partida, com dois fornecedores de set-top boxes - a Philips e a GI que, entretanto, foi comprada pela Motorola. O lançamento comercial com a AT&T nunca seria este ano, portanto está previsto para Março de 2001, e o fornecedor é a Motorola.
O que se passou com a UPC é que estavamos a trabalhar de perto com o fornecedor de hardware dos dois projectos – a Motorola -, e a UPC decidiu que não ia comprar caixas à Motorola numa primeira fase, para o projecto de Setembro em Amesterdão, e que só ia utilizar caixas da Philips. As caixas da Philips não estavam no mesmo grau de desenvolvimento da Motorola e não foi possível concretizar o projecto face a essa decisão. No meio de várias mudanças da estrutura de direcção da UPC – que é uma empresa muito grande -, apesar de termos investido nesta empresa não há um acordo de exclusividade da plataforma Microsoft TV nos dois casos. A AT&T desde o início assinou connosco e também com a Sun para o

fornecimento de software para as set-top boxes, juntando numa mesma set-top box software da Microsoft e da Sun.
O que vem depois a público é que a UPC vai lançar a plataforma Liberate na Áustria, e está no seu perfeito direito de o fazer uma vez que não está em condições de lançar a Microsoft TV, devido aos produtores de hardware por que optou. No entanto, já anunciou que vai avançar com a Microsoft TV e a Motorola para uma outra cidade Europeia, sendo assim o primeiro operador na Europa a lançar a Microsoft TV.
O caso da AT&T é algo mais complexo, porque o grau de exigência de funcionalidades a lançar desde o primeiro dia são bastante mais evoluídos do que a UPC, e têm vindo a introduzir novas funcionalidades no serviço. Isso tem provocado algumas mudanças de planenamento – é fácil compreender que temos um calendário para ter algo disponível numa determinada data, se foi acordado no ponto zero que era isto que estvamos a fazer. A partir do momento que o cliente pede mais uma série de funcionalidades acaba por prejudicar a data de início. O que é curioso é que nenhuma dessas funcionalidades estão minimamente disponíveis na plataforma Liberate que eles estão a negociar. No momento, o maior negócio que nós temos é com a AT&T.

A Televisão Interactiva vai ser um sucesso em Portugal?
CP: Estamos a reunir as condições que farão da Televisão Interactiva um sucesso. Quero acreditar que vai ser um sucesso, caso contrário teria alguma dificuldade em explicar os últimos meses de trabalho intenso neste projecto. Julgo que estão reunidas não só as condições tecnológicas como em termos de desenvolvimento de conteúdos. Tivémos uma adesão espectacular das empresas Portuguesas de desenvolvimento de conteúdos. Tenho uma lista de 20 empresas que se caracteriza por terem TV no nome – desde Go TV, Inter TV, Content TV – que estão a desenvolver conteúdos.

Eng. Francisco Maria Balsemão – SIC / Grupo Impresa

Considera que não é prioritário ou é demasiado cedo para investir na televisão Interactiva? Porquê?
Francisco Maria Balsemão: A TV Cabo – que é uma empresa quase monopolista com mais de 90 por cento do mercado – tem de estar nesse negócio. O futuro, leia-se rentabilidade, dos serviços de telecomunicações passará forçosamente pela interactividade e, neste aspecto, o audiovisual poderá ser o produto-âncora. A estratégia de entrada acaba por ser semelhante ao que aconteceu no caso das comunicações móveis: primeiro disseminam-se os serviços básicos (a voz nas comunicações móveis, os canais de televisão na televisão por cabo) e depois os chamados serviços adicionais.
A TV Cabo tem essa necessidade de aumentar a receita média por cliente. E ao ter essa necessidade, a TV Cabo tem que ter novas fontes de receita: a única maneira de ter novas fontes de receita é tentar capturar valor nas etapas da cadeia de valor onde ainda não se encontra.

Para a SIC é demasiado cedo para investir na televisão Interactiva?
FMB: Não, mas temos que ver quem é que vai ganhar mais com a televisão interactiva, quem é que vai ser o novo *player*. Por outro lado, a SIC têm que estar no comboio. A SIC Notícias será o primeiro canal de televisão interactiva. O que faz algum sentido, porque é um canal que está no cabo, é um canal temático e é um canal novo.
Os novos *players* é que vão fazer o *push*. É lógico que os anunciantes vão estar interessados. Os operadores de televisão têm que contentar os seus clientes (os anunciantes) e não vão de deixar de o fazer. Neste momento, a questão que se põe é a de quem é que pode ou não oferecer resultados mais rapidamente.

Os operadores de televisão não têm interesse que num intervalo de um programa as pessoas estejam demasiado tempo a explorar interactivamente um anúncio e não vejam os outros anúncios do bloco. Portanto, provavelmente vai haver uma grande luta sobre quem coloca o primeiro anúncio no bloco.
É obvio que um canal de televisão têm que estar na jogada, não pode deixar de estar até mesmo por razões técnicas. Mas quem vai fazer o *push* da televisão interactiva são os operadores de TV por cabo. O que a TV Cabo vai dizer é que "nós temos este serviço de Televisão interactiva e o cliente (espectador) é nosso (faz parte da nossa base de dados, é facturado por nós) e vamos querer ser parceiros activos (tecnicamente e finaceiramente) na disponibilização do serviço de televisão interactiva".
Se por um lado há interesse da TV Cabo em aumentar a receita média por cliente, por outro há um interesse dos operadores de televisão em não ficar para trás e em não ceder depressa demais (de modo a que o status quo não seja alterado demasiadamente depressa).

Partindo do principio que o consórcio de televisão digital terrestre entre a SIC, TVI e RTP disponibiliza televisão digital terrestre em Portugal num prazo de um ou dois anos, a questão já não se coloca de forma diferente?
FMB: Sim. Depois a televisão digital terrestre prefigura-se teoricamente como uma alternativa à TV por cabo. Por um lado, os canais disponíveis na TTD (Televisão Terrestre Digital) não são assim tantos. Por outro, a própria televisão interactiva funciona melhor no cabo. Se por exemplo, um utilizador está a ver um anúncio de um carro, um Peugeot por exemplo, e se estiver interessado em ir ao *web site* da Peugeot para obter ainda mais informação, teoricamente conseguirá navegar muito melhor se estiver ligado a um operador de televisão por cabo.
Aparentemente, em termos de factores críticos de sucesso - para usar uma das novas terminologias - , à partida a TV Cabo terá mais potencialidades: é bi-direccional, a largura de banda é maior. Não quer dizer que não se faça: também é interessante para os operadores de televisão disponibilizarem Televisão Interactiva na plataforma de TTD porque é um valor acrescentado e não algo totalmente diferente.

Qual será a grande motivação que irá trazer a televisão interactiva para os lares dos portugueses?
FMB: Sinceramente, não sei. Há sempre os *early-adopters*, ou pseudo-elite que compra tudo o que é novo, porque é moda, porque têm dinheiro e são curiosos. As pessoas que são mais novas e que trabalham nestes sectores têm a tendência para olhar para a realidade sem pensar se este tipo de novidades interessam ao cidadão comum. Pode-se dizer que 20 por cento da população gasta 80 por cento, mas não se deve pensar só assim. Há uma panóplia de *targets*, de grupos-alvo. Podemos estar a falar de uma considerável população que pode não ter tanta apetência para as novas tecnologias.
Há muita tendência para nós que estamos nestes sectores em pensarmos que isto é óptimo e excelente, mas não sei até que ponto não estaremos a complicar a vida das pessoas. Veja, por exemplo, o caso dos telemóveis, que vingaram exactamente por serem fáceis de operar e por satisfazerem uma necessidade básica do ser humano: comunicar com outra pessoa, ainda por cima em qualquer hora e em qualquer lugar. Há duas coisas que não se devem perder de vista: uma é que as pessoas estão habituadas a pagar pelas chamadas do telemóvel, e outra é que o serviço básico de voz não vai descer assim tanto como certas pessoas pensam.
Em Portugal, não sei até que ponto as pessoas estão interessadas em evoluir demasiado do ponto de vista tecnológico. É um pouco como aquela figura do " estar inclinado para trás , estar inclinado para a frente" (*lean back, lean forward* – referência às posições assumidas pelo espectador de televisão e pelo utilizador de um PC, respectivamente). Não sei até que ponto não é demasiado complicado para uma família, ou para uma pessoa sozinha, estar a ver um programa que lhe interessa, estar a ver anúncios no intervalo desse programa e depois começar a navegar e a distrair-se. Obviamente que a emissão continua e que não vão fugir do canal.

É um pouco extemporâneo estar a assumir que as pessoas vão aderir. É lógico que daqui a vinte anos, quando todos os que estão a nascer agora ficarem completamente viciados, aí se calhar concordo que se vá tornar um fenómeno de massas.
Não sei se hoje há mercado, e se os segmentos de mercado que existem são suficientes. Será que o ponto de equilíbrio do sucesso só vai ser ultrapassado quando a televisão interactiva se tornar um fenómeno de massas? Mas tem que se começar por algum lado…

Em sua opinião, a geração sub-trinta ou sub-trinta-e-cinco seria o mercado-alvo da televisão interactiva?
FMB: Nitidamente. Para as pessoas mais velhas já o *zapping* faz imensa confusão, sair de um canal para o outro já é confuso. Agora, imagine-se o que é colocar por cima disso mais menus e ecrãs, mais decisões e opções.
A tecnologia é importantíssima, mas o mais importante é passar uma mensagem exactamente de não-tecnologia: de simplicidade e de facilidade, de vivência. Não é as empresas dizerem "compre isto porque tem um processador XPTO". Mas sim: "experimente isto porque lhe facilita a vida, é uma ferramenta que lhe poupa tempo e chatices, é mais barato, , não tem burocracias, etc.… Se calhar é mais produtivo, eficiente e eficaz apelar às pessoas pelo lado pessoal do que pelo lado tecnológico.

Por favor, indique se concorda ou discorda com as seguintes opiniões, e explique porquê:
"A televisão interactiva não é uma revolução mas uma evolução"
FMB: Vai ser uma revolução para os agentes do mercado. Para os utilizadores será mais uma evolução, porque vão poder usar a televisão de um modo mais activo. A revolução vai ser mais na maneira de fazer negócios.

"A televisão interactiva tem uma longa história de insucesso e não vai ocupar o lugar da televisão nem o da Internet"
FMB: Longa história não pode ter. Se tivesse que dizer sim ou não, se disso dependesse a minha vida, eu diria que sim, que não vai ocupar, antes pelo contrário, irá reforçar o lugar de importância da televisão.

"A televisão e o computador irão convergir num só medium"
FMB: Voltamos à velha história do *lean forward* e do *lean back*. Ver computador é um acto mais unipessoal, portanto não estou necessariamente a partilhar aquilo que estou a fazer e, além disso, tenho de estar constantemente a tomar decisões interactivas para fazer aquilo que pretendo. Certamente sou eu que estou a comandar a máquina, e se eu tivesse alguém ao meu lado essa pessoa teria as suas próprias vontades, decisões e objectivos. Ver televisão é um pouco ao contrário: é um acto de entretenimento puro , feito de maneira mais relaxada, mas também um acto mais social, em que posso estar sozinho ou com outras pessoas.
Deste modo, a convergência poderá acontecer, mas mais uma vez acho que os utilizadores desta convergência serão a geração mais nova. O que nos acaba por levar, cada vez mais, ao isolamento do indivíduo. Se além de navegar na Internet e trabalhar no computador sozinho, também vou utilizar a televisão sozinho, então é porque vivo sozinho.

"As aplicações interactivas vão enriquecer e melhorar a actual oferta de programas de televisão"
FMB: Do ponto de vista dos conteúdos, pura e simplesmente, acho que não vai melhorar significativa-mente a actual oferta de programas. Agora, julgo que vai ser uma melhoria muito forte do ponto de vista comercial. Logicamente que a televisão interactiva não vai ser só anúncios e poder-se-á dentro do próprio programa interagir com algo que não é comercial, mas didáctico, informativo e educativo.
Julgo que vai haver dois tipos de objectivos: um objectivo mais pedagógico, mais institucional, ligado à educação e esse por definição é um serviço público; e outro objectivo mais comercial, que vai ser mais mercantilista e muito menos nobre.

"A Europa está em posição para ser o líder mundial em televisão interactiva"
FMB: Como é um fenómeno cultural, o que interessa é se vinga ou não vinga. Agora dizer se vinga na Europa e não nos Estados Unidos da América não é importante.

Como seria a "sua" televisão interactiva perfeita?
FMB: Cada vez vejo menos televisão, mas gostava que fosse um canal que me ajudasse a enriquecer culturalmente: eu ia mais para o lado nobre da questão e não para o lado mercantilista. Não me excitava de sobremaneira estar a ver um anúncio com o último carro da Peugeot e poder automaticamente marcar um "test drive", por exemplo.

Quais os tipos de serviços ou de programas que vão levar a que os Portugueses subscrevam a televisão interactiva? Qual sua opinião sobre os Electronic Program Guides (EPG) e as tele-compras?
FMB: O EPG é muito interessante, mas também pode ser muito baralhante. Como é sabido, o EPG vai permitir customizar, e escolher o que se pode ver ao longo do dia. Para já, os horários dos canais têm que ser respeitados, o que nem sempre acontece. O EPG tem que ser algo extremamente simples – o que é muito difícil.
Quanto às tele-compras, onde podemos ver o potencial grau de sucesso é na Internet. O *e-commerce* não é famoso em Portugal. Se calhar as compras em Portugal são mais espaçadas: uma ou duas vezes por mês as famílias abastecem-se nas grandes superfícies, e até é uma festa, e depois recorrem aos pequenos retalhistas para as pequenas compras do dia-a-dia. Não sei se as tele-compras e o e-*commerce* vem de encontro às necessidades e hábitos das famílias "normais".
Obviamente que faz sentido para as pessoas que vivem sozinhas, que têm uma vida muito activa, que não têm tempo e que saem das grandes cidades ao fim-de-semana. A minha dúvida é se vale a pena montar estruturas grandes dimensionadas para ter muitos milhares de clientes e serem só meia dúzia as pessoas que vão efectivamente fazer compras.

Em sua opinião, quanto é que os Portugueses estão dispostos a pagar para ter acesso a este novo media?
FMB: O menos possível.. Provavelmente, a estratégia será comercializar a um preço razoável e, se não "pegar" então fica de graça, sendo as receitas do negócio extraídas dos anunciantes e não dos espectadores.

Das cinco grandes plataformas de televisão interactiva, qual a que considera mais ajustada ao mercado português? - Microsoft TV, OpenTV, CanalPlus Mediahighway, Liberate, Power TV
FMB: A única que eu conheço relativamente bem é a Microsoft TV. Para Portugal, se a Microsoft está cá em força, é lógico que eles ou estão muito enganados ou estão a adaptar efectivamente a plataforma a Portugal.

Em Portugal, quais são ou serão os lideres da indústria da televisão interactiva?
FMB: Eu não falo em líderes, mas em *players* e depois logo se vê quem vai ser o player mais importante . Os players são os anunciantes, os canais de televisão, os operadores de TV por cabo, os clientes/espectadores e as produtoras especializadas em conteúdos para a TV Interactiva.

A SIC tem um departamento de desenvolvimento de televisão interactiva?
FMB: Formalmente, a SIC não tem um departamento de televisão interactiva.

Há quem diga que a estratégia da SIC para a televisão interactiva seria conciliar o futuro web site SIC On-Line com os serviços e programas de televisão interactiva, ou não é assim?
FMB: Não, agora não, mas se calhar daqui a seis meses a resposta poderá ser sim. Neste momento, a SIC On-Line está a ser encarada como um negócio clássico de Internet, mas pode-se vir a falar de uma maior convergência com a televisão.

Recentemente, veio a público a notícia de que o futuro canal SIC Notícias seria o primeiro canal interactivo em Portugal – no que é que vai consistir?
FMB: Basicamente, o serviço interactivo do SIC Notícias vai ter duas vertentes: uma mais informativa, em que a pessoa está a ver uma reportagem e pode ter acesso a mais informação; e outra mais comercial, relacionada com os anúncios.

Uma das grandes dúvidas de todos os players envolvidos neste negócio é qual o modelo de negócio – em sua opinião, como é que esta questão vai ser resolvida nos próximos tempos?
FMB: Por um lado, temos os anunciantes, que são quem põe realmente o dinheiro nestas coisas. Resta saber se eles estão dispostos a embarcar nesta aventura, se estão dispostos a ter mais custos. A dúvida é se eles vão canalizar mais investimento publicitário para estes serviços ou se vão apenas desviar parte do orçamento normal. É obvio que o modelo de negócio poderá ser alterado em função da real distribuição do investimento. Nessa percentagem que é incrementada ou desviada, vai haver novos *players* que vão tentar comer um pedaço – os operadores das redes de transporte. Por isso, o modelo de negócio é alterado porque há mais um intermediário.
O valor acrescentado que é oferecido ao anunciante – em que um anúncio deixa de ser um filme e passa a ser uma ferramenta de marketing com mais potencial de retorno – é que poderá ser capturado pelos operadores das redes de telecomunicações.

Defina numa frase a posição do Grupo Impresa/ SIC sobre o desenvolvimento da televisão interactiva em Portugal?
FMB: *Wait and see…* Há muita que gente que agarra nas ideias como se fossem as melhores ideias – e ainda bem, porque muitas vezes até têm razão. Mas as novas ideias também têm que ser vistas de uma maneira serena, mais calma e prudente. Não é pura e simplesmente ir para a frente com as coisas novas achando que é a melhor tecnologia do mundo. É lógico que a televisão interactiva é mais do que uma tecnologia, é toda uma mudança de hábitos. Mas nós não vamos ficar totalmente à espera: aliás, uma prova é que vamos ter um dos primeiros canais interactivos.
Agora, antes de inundar o mercado é preciso testá-lo. E neste caso, há uma oportunidade para o fazer e para pensar. A nossa posição é de estar numa fase de planeamento e *brainstorming*, mais do que numa fase de execução. Estamos mais activos a nível intelectual do que operacional.

Eng. José Louro - TVI

Considera que é prioritário ou demasiado cedo para investir na televisão Interactiva? Porquê?
José Louro: A questão não se coloca em termos de prioridade ou timing de investimento, mas sim, se faz sentido estratégico para quem acha que deve "estar" presente, adicionar mais esta nova vertente dos media aos seus desenvolvimentos de conteúdos e serviços.
Para uns, é decisivo estar presente (Broadcasters, Banca, Retalho), para outros, tem que ser avaliado com cuidado o seu envolvimento (restantes Media tradicionais, ...).

Qual será a grande motivação que irá trazer a televisão interactiva para os lares dos portugueses?
JL: Uma análise do mercado internacional aponta para algumas killer applications: Guia de Programação Electrónico, acesso à Internet clássica, PPV, Jogos e E-commerce.
No entanto, na minha perspectiva, o mercado nacional, apesar de parecer sempre apetente para as novas tecnologias e os novos serviços, não tem de maneira nenhuma o potencial económico dos restantes mercados europeus.

Penso por isso que será o preço, o principal motivador da introdução da televisão interactiva nos lares portugueses, não podendo ser obstaculo à entrada.
Questões como a Sociedade de Informação massificada, Internet para todos, são questões politicas que são muito bonitas, mas não produzem efeitos reais.

Como seria a "sua" televisão interactiva perfeita?
JL: Existe a Televisão Interactiva Perfeita?
Que conceito é esse?
Se esse conceito significar, a Televisão ao gosto de cada "cliente" e a possilidade de cada espectador ("cliente") poder "criar" o seu proprio canal de teelvisão, a sua propria grelha, então este é também o meu conceito de televisão interactiva. A perfeita não existe.

Quais as cinco "killer applications" que vão determinar o sucesso da televisão interactiva?
JL: Potenciais killer applications: EPG (Guia de Programação Electrónico), Jogos, PPV, E-commerce, Internet.

Das cinco grandes plataformas de televisão interactiva, qual a que considera mais ajustada ao mercado português? - Microsoft TV, OpenTV, Mediahighway, Liberate, Power TV?
JL: A questão não se coloca ao nível de adaptação da plataforma ao mercado, mas sim, como vão evoluir os standards tecnológicos, para permitir a interoperabilidade de serviços entre diferentes plataformas. E é aqui que se joga neste momento toda a estratégia. A plataforma MHP (Multimedia Home Platform), futuro standard europeu, já está em condições de ser utilizada por qualquer dos principais players neste mercado. Isto significa que, mesmo em Portugal, será este o standard a seguir no futuro. O que definitivamente irá colocar problemas à plataforma MSTV.

Se a Microsoft não conseguir apresentar a sua plataforma de TV interactiva a funcionar sem problemas e verdadeiramente estável, a TV Cabo devia ponderar a possibilidade de negociar com outra plataforma, tal como fez a UPC e a AT&T?
JL: Penso que quem deve responder a esta questão é a TV Cabo Interactiva. Na minha opinião de outsider, talvez existam fortes razões para que a TV Cabo mantenha esta aposta.

Considera que a TV Cabo é demasiado optimista quanto ao número de subscritores de TV interactiva: 100 mil no primeiro ano e 1 milhão de utilizadores num prazo de três a cinco anos?
JL: Mais uma vez, devem ser eles a responder. Os números cada um pode dar os que quer.

Partilha a preocupação de diversos "players" da indústria da televisão quanto ao modelo de negócio da televisão interactiva? De facto, como é que os diversos "players" vão gerar receitas com a televisão interactiva?
JL: Será assim o modelo tão diferente do habitual? Neste momento, os diversos players já geram receitas com o actual modelo. A adição da interactividade ao negócio da Televisão é apenas mais um layer de conteúdos e, aqui sim a novidade, de serviços directamente acedidos pelo espectador com a utilização de um comando e uma STB. Ou seja, é mais rápido o acesso ao serviço do que era habitualmente nas tele-vendas tradicionais.
Obviamente, permite ao broadcaster e aos produtores de conteúdos, criar e potenciar novas formas de vender novos e diferentes conteúdos, criando e integrando sinergias de áreas como a Internet e a Televisão.
A Publicidade ganha um novo veiculo de venda por impulso. Os canais de televisão e os operadores de cabo e futuro operador digital ganham uma nova ferramenta para vender os seus produtos (EPG).
O Modelo? Não há que inventar. Apenas adaptar os actuais. Os custos introduzidos por este novo layer de conteúdos e serviços não é maior do que 20-30%.

Em sua opinião, quais as empresas que irão liderar o desenvolvimento da televisão interactiva a nível mundial?

JL: Tecnológicamente? Os actuais. Já cá estão há muito tempo.
Comercialmente? Os detentores das redes e dos conteúdos.

Em Portugal, quais são ou serão os lideres da indústria da televisão interactiva?
JL: Dificil saber. Como alguém dizia: Previsões só depois do fim do jogo. Isto é um jogo, entre o actual operador monopolista de TV por Cabo, os pequenos operadores de cabo e o futuro operador de televisão digital terrestre. Provavelmente, uma divisão 50-50 do mercado nos próximos 6 anos seja de esperar. Quanto aos broadcasters e aos produtores de conteúdos, eles terão de evoluir, na forma de trabalhar e obviamente irão liderar o processo.

Por favor, indique se concorda ou discorda com as seguintes opiniões, e explique porquê:
"A televisão interactiva não é uma revolução mas uma evolução"
JL: Para quem apenas "vê" televisão, é uma revolução.
Para quem usa a Internet e os novos serviços como o Telemovel e os meios de pagamento (cartões), apenas uma evolução.

"A geração sub-trinta é o mercado-alvo da televisão interactiva, porque já está habituado a servir-se da internet"
JL: Não existe propriamente um mercado-alvo da televisão interactiva. Existem vários mercados-alvo de acordo com os serviços lançados.

"O utilizador de televisão é um consumidor passivo, portanto não está interessado em interactividade no televisor"
JL: É verdade para uma boa parte dos actuais espectadores, mas apenas porque provavelmente nunca lhes foi dada oportunidade para serem activos.

Dr. Jorge Trindad Ferraz de Abreu - UNIVERSIDADE DE AVEIRO

Considera que é prioritário ou demasiado cedo para investir na televisão Interactiva? Porquê?
Jorge Trindad Abreu: Não considero que seja demasiado cedo para investir em tecnologias de televisão interactiva. No entanto, atendendo aos diversos graus de exigência tecnológica, julgo que a complementaridade de conteúdos televisivos com informação web-based é a melhor alternativa.

Qual será a grande motivação que irá trazer a televisão interactiva para os lares dos portugueses?
JTA: A apetência consciente ou subconsciente para a utilização de tecnologias da informação e comunicação numa solução de baixo custo e com um interface amigável.

Em Portugal, quais as possibilidades de sucesso de programas e serviços de televisão interactiva? Quais os obstáculos ao sucesso?
JTA: Esta questão é um dos "ovos de Colombo" que, com certeza, todos os operadores gostariam de ver esclarecida. Existem diversos obstáculos que, resumidamente, se traduzem em questões, tais como: o custo do serviço, o grau de confiança, a usabilidade da interface (a diversos níveis), a utilização potencialmente mais individual de um media que tem conhecido uma utilização maioritariamente colectiva, etc.

Os baixos níveis de penetração da Internet irão levar a que a maioria dos Portugueses optem pelo acesso a serviços e produtos interactivos por via televisão interactiva e não via PC?
JTA: Este poderá ser um dos grandes catalisadores da proliferação de plataformas de enhanced TV. No entanto, as restrições ao nível da resolução gráfica dos ecrãs de televisão

impossibilitam o acesso, com a qualidade garantida por um PC, à totalidade de conteúdos da internet. A ausência de standards (ou melhor a prevalência de standards ditados pela indústria) que regulamentem as soluções de hardware e de software, por exemplo ao nível das set-top-boxes, constitui também um certo entrave.

A televisão interactiva é uma versão enriquecida da televisão ou uma versão pobre da Internet? Porquê?
JTA: Depende do que se entende por televisão interactiva! As soluções de enhanced TV são, como o próprio nome indica, uma versão enriquecida da televisão e não um substituto do manancial de funções atribuídas aos PCs.
No futuro, em que se resolvam as restrições de largura de banda e as restrições dos dispositivos de interface visual, poderemos não distinguir, enquanto aparelho, a televisão do PC. Mas o serviço televisivo, será sempre o serviço televisivo, ainda que com a possibilidade de este vir a ser personalizável.

Por favor, indique se concorda ou discorda com as seguintes opiniões, e explique porquê:
"A televisão interactiva não é uma revolução mas uma evolução"
JTA: Concordo, mas, mais uma vez, depende do conceito que se tem de televisão interactiva. Poderemos imaginar conceitos de televisão interactiva tão esotéricos que se apresentam como revolucionários. Mas, sumariamente, televisão melhorada é uma evolução e não uma revolução.

"A televisão interactiva tem uma longa história de insucesso e não vai ocupar o lugar da televisão nem o da Internet"
JTA: Discordo! A história de insucesso está relacionada com implementações de soluções excessivamente exigentes do ponto de vista da transmissão e do suporte ao nível de servidores e máquinas clientes. Esta é mais uma das vantagens das soluções de televisão melhorada, as quais, comparativamente, não se apresentam excessivamente dispendiosas para o fornecedor do serviço.

"A televisão e o computador iráo convergir num só media"
JTA: Possivelmente convergirão não como um só media, mas como um só terminal! No entanto, tal não implica um abandonar das actividades tradicionalmente associadas à televisão e ao computador.

"As aplicações interactivas vão enriquecer e melhorar a actual oferta de programas de televisão"
JTA: Concordo! Tudo depende do conceito de televisão interactiva. Em certos casos, enriquece os programas de televisão, no sentido que os complementa com informação interactiva, noutros casos melhorará a oferta de programas de televisão, no sentido de que estes podem ser criados de raiz, assumindo uma linguagem criativa interactiva.

"As aplicações interactivas vão transformar totalmente a natureza da Televisão"
JTA: Discordo! Julgo que o utilizador/telespectador terá sempre momentos em que prefere ser "servido" com uma passividade total e desfrutar da televisão linear e não interactiva tal como ela hoje se apresenta.

"Os serviços interactivos irão chegar às massas via televisão interactiva"
JTA: Não posso formular uma opinião concreta! Esta será uma das grandes apostas na interactividade, como forma dos seus promotores obterem um saldo positivo dos seus investimentos. Mas há muitas condicionantes em jogo. No entanto, a concretização desta afirmação parte da base sólida do parque de televisores ser bastante superior ao dos PCs. A questão centra-se agora no que se consegue fazer com o ecrã de televisor, com a STB associada e com o que isso custará ao utilizador.

"A geração sub-trinta é o mercado-alvo da televisão interactiva, porque já está habituado a servir-se da internet"
JTA: Discordo! As experiências noutros países têm demonstrado que serviços como o correio electrónico, via televisão, são um sucesso junto da camada de utilizadores de faixa etária mais elevada. São frequentes os exemplos do tipo: desde que ofereci uma STB (do tipo Web-TV) o meu pai (ou avô) envia-me emails todos os dias.

"O utilizador de televisão é um consumidor passivo, portanto não está interessado em interactividade no televisor"
JTA: Discordo! … tudo uma questão de predisposição. Em determinadas circunstâncias pode ser interessante interagir e noutras assistir passivamente ao que a televisão tem para nos dar.

"A televisão não tem a mesma capacidade do PC em satisfazer as necesidades do utilizador em comunicar, informar-se, divertir-se e fazer transacções".
JTA: Concordo! Já referi noutras respostas as razões pelas quais isto, ainda, é assim.

"A Europa está em posição para ser o lider mundial em televisão interactiva"
JTA: Discordo! A globalização torna, cada vez mais, inviáveis as situações de monopólio/ liderança.

"Portugal é um país pioneiro em televisão interactiva"
JTA: Não posso ainda ter opinião formada. A TV-Cabo está a implementar uma solução com base no produto Microsoft TV, o que confere a Portugal uma liderança neste tipo de solução. No entanto, É necesário fazer um esforço contínuo e correctamente fundamentado para assegurar sucesso a esta implementação.

Dr. Luís Rodrigues – TVI

Considera que é prioritário ou demasiado cedo para investir na televisão Interactiva? Porquê?
LR: É importante começar a trabalhar agora, para daqui a um ano e meio dois anos ter uma televisão interactiva digna desse nome em Portugal. Neste momento estar a investir é mais em *know-how* do que em tecnologia ou em conteúdos. Ainda estamos num processo de aprendizagem.

O que pensa do anúncio da TV Cabo em lançar comercialmente a televisão interactiva em Março de 2001? Considera este um prazo optismista?)
LR: Julgo que é demasiado optimista que eles possam consegui-lo. Um milhão de subscritores não tem hoje a TV Cabo. Nem todas as pessoas que têm TV Cabo vão querer ter televisão interactiva. Se por hipotese, 50 por cento o fizessem, então a TV Cabo teria que ter 2 milhões de subscritores, o que não me parece realista no espaço de tempo que estamos a falar. Dois milhões de casas passadas já têm, mas as pessoas a aderirem ao serviço é outra situação…

Qual será a grande motivação que irá trazer a televisão interactiva para os lares dos portugueses?
LR: É exactamente essa a pergunta que todos nós andamos a fazer. Uma das coisas que é preciso ter noção é que não existe no mundo inteiro um caso claro de sucesso de televisão interactiva. Mesmo o caso do sistema interactivo no Reino Unido – Open – , as contas da Open não foram brilhantes. Mas esse é um caso que aparenta ter sucesso, no meio de quatro ou cinco que até agora não resultaram. Portanto temos que ter muito cuidado em aprender o que é vai motivar os consumidores. O que nos outros países se pensava que motivava, não funcionou. Estar já a dizer o que vai motivar em Portugal é prematuro.

Não conheço suficientemente bem os casos dos outros países, mas suspeito que há uma dinâmica do consumidor que, de facto, ainda não percebemos bem. A televisão é um veículo, um meio, que se vê mais em família e em grupo. O computador e a Internet são utilizados de forma individual. A interacção com a televisão, nesta perpectiva, é muito complicada. É difícil que duas pessoas sentadas no mesmo sofá concordem em ver a mesma coisa sobre a Internet.
A televisão tem uma dinâmica de grupo. No outro dia, discutíamos a questão do *e-mail* na televisão. O meu *e-mail* é para eu ler. Sei que tenho toda a confiança com a minha mulher, mas às vezes até posso receber uma mensagem que não estava à espera e a culpa não é minha, e ainda posso ser questionado por isso. Do seu filho adolescente então nem se fala. Não quero passar por isso, e acho que ninguém quer. Essa dinâmica ainda não a compreendemos totalmente.
Em segundo lugar, quem fez o trabalho até agora ainda não foi suficientemente claro para as pessoas sobre o que terão a ganhar com a televisão interactiva. O *focus* foi demasiado na tecnologia, e menos no que é que o consumidor tem a ganhar com isso. É preciso não esquecer que está a ser pedido às pessoas que invistam uma quantidade razoável de dinheiro em caixas – *set-top boxes* – e por aí fora, portanto eles vão querer uma boa razão para o fazer.
Em terceiro lugar, há demasiada tecnologia no mundo para a mente humana ser capaz de acompanhar. *Vidé* os casos dos operadores de rede fixa em Portugal: de repente surgiram dez novos, todos mais ou menos a mesma coisa e as pessoas ficaram assustadas. Não perceberam o que iam ganhar e, neste momento, temos dez novos operadores pouco à vontade. E esse é um caso que não queremos que se passe com a televisão interactiva e com outras novas tecnologias.

Os baixos níveis de penetração da Internet irão levar a que a maioria dos Portugueses optem pelo acesso a serviços e produtos interactivos por via televisão interactiva e não via PC?
LR: Essa é uma das vantagens que vai ser importante mais tarde: primeiro temos que passar por uma fase intermédia. Julgo que pode acontecer que o consumidor pense que isso é melhor do que gastar 300 contos num computador. Mas também pode acontecer o contrário: a baixa taxa de penetração da Internet pode indiciar uma baixa taxa de penetração da televisão interactiva. Não nos vamos esquecer do país onde estamos: é um país ainda muito de telenovelas e futebol.

A televisão interactiva é uma versão enriquecida da televisão ou uma versão pobre da Internet? Porquê?
LR: Se há que colocar as coisas exactamente nesses termos, julgo que é mais uma versão pobre da Internet. O modo como a questão está colocada deriva muito da forma como as pessoas vêm a televisão interactiva – como fazendo a ponte entre as duas coisas. Vão todos co-existir, cada um vai ter o seu papel e não é necessariamente a ponte.

Em sua opinião, a televisão interactiva vai ser a médio prazo uma realidade incontornável tal como é hoje a televisão a cores? Corrobora a afirmação de que daqui a cinco ou dez anos, todos terão acesso à televisão interactiva ?
LR: Não discuto que vai ser uma questão incontornável – vai lá estar. Mas agora daqui a dez ou vinte anos é mais discutivel. Depende de quem vai fazê-lo ver dinheiro ao fundo do túnel. Não sei se será em cinco anos porque ainda não analisámos em detalhe nenhum modelo de negócio. A televisão interactiva é uma nova tecnologia, é um novo mundo e as pessoas demoram tempo a habituar-se.

Qual a importância relativa das fontes de receitas para o negócio – a publicidade, as subscrições e o t-commerce?
LR: Julgo que se vão fazer compras através da televisão mas não sei quanto é que será necessário para rentabilizar o negócio. É preciso não esquecer que, os portugueses gostam muito de ir à mercearia falar com o vizinho, saber a vida do outro ou ao shopping ver e ser visto.

Por favor, indique se concorda ou discorda com as seguintes opiniões, e explique porquê:
"A televisão interactiva não é uma revolução mas uma evolução"
LR: Concordo. Para a mente das pessoas não há revoluções – e é isso que determina o sucesso ou insucesso das tecnologias.

"A televisão interactiva tem uma longa história de insucesso e não vai ocupar o lugar da televisão nem o da Internet"
LR: Concordo parcialmente. Vão todos co-existir.

"A televisão e o computador irão convergir num só medium"
LR: Não concordo. Não num prazo razoável.

"As aplicações interactivas vão enriquecer e melhorar a actual oferta de programas de televisão"
LR: Concordo.

"As aplicações interactivas vão transformar totalmente a natureza da Televisão"
LR: Não concordo.

"Os serviços interactivos irão chegar ás massas via televisão interactiva"
LR: Concordo, quando não sei, mas concordo.

"A geração sub-trinta é o mercado-alvo da televisão interactiva, porque já está habituado a servir-se da internet"
LR: Concordo.

"O utilizador de televisão é um consumidor passivo, portanto não está interessado em interactividade no televisor"
LR: Em grande parte, é verdade. Tal como na questão anterior, a geração sub-trinta é um "core-target", embora no longo prazo,para viver tem que alargar a sua base alvo.

"A televisão não tem a mesma capacidade do PC quando ligado á internet em satisfazer as necesidades do utilizador em comunicar, informar-se, divertir-se e fazer transacções"
LR: Julgo que vai ter.

"A Europa está em posição para ser o lider mundial em televisão interactiva"
LR: Concordo.

"Portugal é um país pioneiro em televisão interactiva"
LR: Isso a TV Cabo gosta muito de dizer…

Como seria a "sua" televisão interactiva perfeita?
LR: Fundamentalmente, estamos a falar de jogos e de concursos - o poder de interagir num programa como o "Quem quer ser milionário". Estamos ainda a falar de informação, de desporto. *E-mail* não estou a ver.
Estou a ver capacidade de interagir com os serviços públicos: tipo "Loja do Cidadão" na televisão. Facilitar a vida do cidadão atraves da televisão interactiva. Essa é uma área onde o Estado vai ter uma grande palavra a dizer. A parte pública – ter a documentação, bilhete de identidade, carta de condução, pagamento de impostos, por aí for a. Também os operadores privados teriam todo o interesse em serviços de contabilidade familiar, como hoje é feito através do multibancoe da internet.
Essa seria a minha televisão interactiva perfeita. Por um lado, poupem-me trabalho. A outra parte de valor acrescentado tem a ver jogos, entretenimento e por aí fora.

E as áreas da formação e da educação?

LR: Os operadores privados podem fazer tudo, desde que haja rentabilidade. Hoje há cursos por correio e por internet, amanhão pode ser via televisão. É um bocado reviver a "tele-escola". Se as pessoas estão dispostas a pagar por ir a uma escola todos os dias, também devem estar dispostas a pagar para estar em casa a fazer a mesma coisa.

A orientação dos programas e serviços de televisão interactiva deve ser para as massas ou para nichos de mercado?
LR: No início, tentar ir a toda a gente acho que vai dar asneira. Portanto, julgo que é melhor começar por um nicho de mercado e expandir a partir daí. Se tivesse que definir esse nicho de mercado não seria por níveis de rendimento, mas em termos de idade e formação.

Qual é o grupo-alvo dos futuros programas e serviços de televisão interactiva?
LR: Se o Governo fomentar a chamada "Sociedade da Informação", tenho a certeza que os grupos de rendimentos menos elevados vão aderir à televisão interactiva, porque é a sua oportunidade de se exprimirem e de participar na sociedade. Quanto aos jovens, é uma questão mental e psicológica, que não tem a ver com os rendimentos.

Das cinco grandes plataformas de televisão interactiva, qual a que considera mais ajustada ao mercado português? Microsoft TV, OpenTV, Mediahighway, Liberate, Power TV?
LR: Qualquer uma delas, desde que venha a ser compatível com a norma MHP – Multimedia Home Platform – acho que têm as mesmas possibilidades. Quanto mais perto de casa, mais possibilidades de sucesso pode vir a ter. Isso significa que a Mediahighway é capaz de estar um pé à frente das outras. A plataforma Mediahighway está a ser utilizada pela ONDigital, que aparentemente está a correr muito bem. Portanto, suspeitaria que tem uma ligeira vantagem. Suspeito que a Microsoft por ser a Microsoft, a TV Cabo está a apostar neles. Desde que seja compatível com o MHP, tem as mesmas possibilidades que a Mediahighway.

Em sua opinião, quais as empresas que irão liderar o desenvolvimento da televisão interactiva a nível mundial?
LR: A Microsoft não pode perder este comboio. A AOL, a AT&T, a Microsoft. Creio que alguém na Europa vai surgir com força.

Em Portugal, quais são ou serão os lideres da indústria da televisão interactiva?
LR: A TVI e a Mediacapital - espero que nós sejamos.

Através de que meio: televisão por cabo ou televisão digital terrestre?
LR: Olhando para o número de subscritores, a TV Cabo está condenada a perder a prazo para a televisão digital terrestre. A televisão digital terrestre, em príncipio, seria a plataforma mais atraente.

Qual o ponto da situação sobre o consórcio para o concurso público de televisão digital terrestre entre a SIC, a TVI e a RTP?
LR: Os *timings* do Governo vão em Novembro abrir o concurso público para no fim do ano ter o processo concluído. Só nessa altura, vamos ter uma ideia de quantos são os concorrentes.

O início das transmissões de televisão interactiva pela TV Cabo está previsto para Março de 2001 - como é que a TVI vai participar?
LR: O que temos com a TV Cabo é um protocolo de testes. Ao fim de seis meses, vamos fazer uma reavaliação desse processo e decidir que passos vamos dar.
Umas das coisas que considero preocupantes foi a TV Cabo ter feito um curso para produtores de televisão há cerca de três meses, sobre televisão interactiva e desde aí, nós não tivémos uma única proposta de uma produtora a dizer que quer fazer televisão interactiva. Nós também não exprimimos interesse porque estávamos muito ocupados, mas os produtores deviam estar mais entusiasmados.

Porquê? Têm receio ou não há capacidade técnica e humana nas empresas?
LR: Há uma série de factores. Primeiro, não é claro qual é o modelo de negócio. Segundo, na Televisão estão agora a acontecer demasiadas mudanças para alguém pôr a televisão interactiva à frente das suas prioridades. Em particular, a TVI. Sobre os anunciantes, sei que há um ou dois anúncios interactivos desenvolvidos.

Quais os programas da actual grelha da TVI mais vocacionados para a televisão interactiva?
LR: Fundamentalmente, concursos, informação e desporto.

Quando é que gostaria de começar com os serviços de televisão interactiva? Quando é possível arrancar com os serviços e programas de televisão interactiva na TVI?
LR: Gostava de começar para o mês que vem, quando vamos começar com a fase de testes. Adorava começar em larga escala - se conseguirmos ter um modelos de negócio - algures no próximo ano. Não depende só da vontade da TVI.

Existe um departamento ou uma equipa de televisão interactiva na TVI – é constituido por quantas pessoas?
LR: Neste momento, a equipa tem duas pessoas – eu, e o engenheiro José Louro.

Tem conhecimento dos projectos das outras estações de televisão? Qual o seu estado de desenvolvimento?
LR: Teoricamente, as três assinaram o mesmo protocolo com a TV Cabo. Suspeito, que pelas conversas que tenho tido com a TV Cabo que estamos todos na mesma situação.

Dr. Manuel Maltez - BBDO

O presidente da BBDO em Portugal considera que não é demasiado cedo para prestar atenção ao mercado emergente da televisão interactiva, e tem vindo a prestar atenção aos últimos desenvolvimentos no sector. A BBDO criou formalmente um observatório de televisão interactiva, para seguir o que se passa no sector.

Manuel Maltez é da opinião que o acesso à Internet vai motivar os portugueses aderirem aos serviços de televisão interactiva, nos próximos dois anos. Já daqui a dez anos a situação será diferente, porque todas os aparelhos de televisão terão capacidades interactivas, diz ainda o responsável da BBDO. Assim, tal como televisores a cores deram lugar aos que eram a preto-e-branco, também os televisores interactivos vão substituir os actuais aparelhos. No futuro, todas as televisões serão interactivas, afirmou.

No entanto, tal não quer dizer que os espectadores de televisão utilizem-na como se fosse um computador pessoal. Manuel Maltez julga que mais de 90% das pessoas vai continuar a utilizar a televisão como hoje, de forma passiva. No essencial, a experiência de ver televisão não vai mudar. O grosso das pessoas vai continuar a preferir a realização do responsável da televisão à escolher os ângulos de camera.

Quando questionado sobre se considera que a televisão interactiva é uma versão enriquecida da televisão ou uma versão pobre da Internet, Manuel Maltez pensa que "nem é uma coisa nem outra, mas talvez seja mais uma versão enriquecida da televisão, enquanto ferramenta que permite participar mais na programação". Em sua opinião a televisão interactiva vai melhorar a qualidade da televisão em geral.

Já sobre a publicidade, Manuel Maltez julga que no futuro todos os anúncios vão ser interactivos, ou seja, todos os anúncios que sejam transmitidos pela televisão vão dar a opção de ligar ao *web site* do anunciante.

Sobre se a televisão interactiva é uma revolução ou uma evolução, Manuel Maltez afirmou que é uma evolução. A verdadeira revolução é a internet, visto que permite a qualquer cidadão anónimo comunicar com todo o mundo e obter informação de todo o mundo.

O presidente da BBDO considera ainda que a televisão interactiva vai ter o grosso das funcionalidades da Internet, e desta forma, vai ocupar o lugar da Internet em casa. Já no trabalho ou nos estudos, a Internet e o PC vão continuar a ser os favoritos, porque possibilita pesquisar e tratar informação de uma forma mais rápida e eficaz que a televisão interactiva.

Os anúncios de televisao interactiva vão continuar a "comunicação de massas", ou seja, destinados a construir a reputação da marca, tal como refere Manuel Maltez: "não se muda a comunicação de massas, e o grosso dos conteúdos de publicidade na televisão é para as massas. No entanto, os anúncio interactivo vão permitir ao espectador aceder ao web site da marca. Dessa forma, já se passa para o marketing "one-to-one", para a comunicação personalizada com um potêncial cliente. Neste caso, diz ainda Manuel Maltez, a televisão interactiva consegue juntar os dois mundos: a comunicação de massas da televisão com a comunicação cliente-a-cliente da Internet.

Dr. Nuno Duarte – OCTAL TV

Considera que é prioritário ou demasiado cedo para investir na televisão Interactiva? Porquê?
Nuno Duarte: Prioritário. Portugal terá em breve um dos sistemas mais sofisticados de TV interactiva do Mundo, pelo que este “ahead Start” é uma oportunidade única para todo o tecido empresarial Português poder criar uma industria sectorial competitiva Mundialmente.

Qual será a grande motivação que irá trazer a televisão interactiva para os lares dos portugueses?
ND: O custo dos conteúdos de qualidade tornará inviável a sua transmissão em sinal aberto, pelo que a adopção de um sistema de PayTV será determinante num futuro próximo (por exemplo para visualização de conteúdos desportivos).
Adicionalmente Melhor conteúdo de Entretenimento (Enhanced TV, Personal TV - Gravação de Video Digital integrada, Jogos de Consola, Conteudos Internet), Subsidiação-investimento das empresas numa melhor plataforma de B2C (Publicidade Interactiva, Home shopping, Home Banking)

Como seria a "sua" televisão interactiva perfeita?
ND: Aquela em que quem define o que vê e quando o vê é o espectador, permitindo uma larga oferta de conteúdos de informação e entretenimento (TV, Internet, Radio, Press, Jogos Interactivos)

Quais as cinco "killer applications" que vão determinar o sucesso da televisão interactiva?
ND: Personal TV (gravação de video digital), PayTV, Publicidade Interactiva, Jogos Interactivos, Home Banking

A orientação dos programas e serviços de televisão interactiva deve ser para a generalidade das pessoas ou para nichos de mercado?

ND: A produção devera ser feita para segmentos especificos, pois a capacidade de escolha do espectador será maior.

Em sua opinião, quanto é que os utilizadores estão dispostos a pagar para ter acesso a serviços e programas de televisão interactiva?
ND: Muito Pouco, os utilizadores pagarão pelo conteúdo, a interactividade será paga pelas empresas pois permite melhorar o retorno do investimento.

Das cinco grandes plataformas de televisão interactiva, qual a que considera mais ajustada ao mercado português? - Microsoft TV, OpenTV, Mediahighway, Liberate, Power TV ?
ND: A Plataforma MSTV pois actualmente é a unica com capacidade para Personal TV, Jogos Interactivos e Browsing Internet (por oposto ao Modelo Wall Garden ou reduzida capacidade de Browsing, oferecido pelas restantes plataformas). A capacidade aproveitar o crescimento exponencial de conteúdos da Internet sem necessidade que o operador de cabo tenha de fornecer todos os conteúdos, permite acelerar o lançamento do serviço e garantir o seu sucesso futuro alargando o acesso a conteúdos Internet em todo o Mundo.

Se a Microsoft não conseguir apresentar a sua plataforma de TV interactiva a funcionar sem problemas e verdadeiramente estável, a TV Cabo deveria ponderar a possibilidade de negociar com outra plataforma, tal como fez a UPC e a AT&T?
ND: A TVCABO ao contrário da UPC assegurou o fornecimento de set-top-boxes desenvolvidas pela OCTAL em detrimento do fornecedor Philips (actual fornecedor da UPC). A set-top-box desenvolvida pela OCTAL encontra-se bastante mais desenvolvida e estável que a set-top-box seleccionada pela UPC, como de resto foi demonstrado em eventos internacionais Cebit 2000, IBC 2000 e em Dezembro próximo no Western Cable Show em Los Angeles.
Por outro lado as plataformas alternativas (e.g. Liberate) representam apenas uma solução intermédia (nomalmente Wall Garden) com reduzidas capacidades e permitem apenas que os operadores não comprometam no imediato os compromissos assumidos com os seus investidores.

Considera optimistas as previsões da TV Cabo quanto ao número de subscritores de TV interactiva: 100 mil no primeiro ano e 1 milhão de utilizadores num prazo de três a cinco anos?
ND: Sim. Existe no entanto alguma razão para o optimismo quando se analisam os dados de crescimento e penetração de telemóveis em Portugal e o crescimento da TVCABO nos últimos anos (operador Europeu com maior crescimento, actualmente com perto de 1 Milháo de clientes)

Partilha a preocupação de diversos "players" da indústria da televisão quanto ao modelo de negócio da televisão interactiva? De facto, como é que os diversos "players" vão gerar receitas com a televisão interactiva?
ND: A preocupação actual na indústria é semelhante à que existe em qualquer sector quando uma nova tecnologia pode alterar as relações de força existentes no mercado, criando incerteza aos players existentes na manutenção da sua posição de mercado e abrindo possibilidades ao aparecimento de novos players e novos modelos de negócio de sucesso. É possível classificar a Televisão interactiva como uma tecnologia semelhante aos telemóveis UMTS (são ambas tecnologias 3G que adicionam possibilidades a tecnologias anteriores, canibalizando inicialmente alguns segmentos mais sofisticados, e ao longo dos anos progressivamente substituindo a tecnologia anterior).
A TV interactiva alarga a cadeia de valor da Televisão para áreas como a Internet e o desenvolvimento de aplicações interactivas (Publicidade, Home shopping, Jogos) pelo que existiram mais receitas na indústria, a questão prende-se com a sua distribuição pelos diversos players.

Portugal tem mercado para a televisão interactiva? Quais as consequências para os media tradicionais?

ND: Claramente. Os media tradicionais adaptar-se-ão naturalmente a esta nova tecnologia (e.g. um telejornal da SIC poderá ser complementado com o explorar dos desenvolvimentos da noticias no Expresso on-line)

Em sua opinião, quais as empresas que irão liderar o desenvolvimento da televisão interactiva a nível mundial?
ND: As empresas de Conteúdos, os operadores de Pay'TV e fabricantes de equipamento e software.

Em Portugal, quais são ou serão os lideres da indústria da televisão interactiva?
ND: TVCABO (operadores), Impresa, Media Capital (TV e Conteúdos generalistas), SportTV (ou equivalente no Desporto), Novabase/OCTALTV (fabricantes de equipamento, Sw e Aplicações), Microsoft (Middleware)

Por favor, indique se concorda ou discorda com as seguintes opiniões, e explique porquê:
"A televisão interactiva não é uma revolução mas uma evolução"
ND: A TV interactiva como tem existido até agora (e.g. TPS ou Canalsatelite) consiste apenas numa evolução. A TV interactiva permitida pela set-top box OCTALTV é revolucionária porque permite ao espectador (através da Personal TV) libertar-se do alinhamento de programas da TV actual.

"A televisão interactiva tem uma longa história de insucesso e não vai ocupar o lugar da televisão nem o da Internet"
ND: Existem casos de insucesso quer na TV interactiva, quer na TV tradicional, pelo que a lógica da argumentação não é correcta. Uma TV interactiva de sucesso gradualmente substituirá a TV tradicional. Assim como o Rádio FM gradualmente substituiu o Rádio AM.

"A televisão e o computador irão convergir num só medium"
ND: Não. O que teremos são diversos cenários de utilização da internet e da convergência entre TV e Internet:
Em casa utilizaremos a TV interactiva para conteúdos de entretenimento "Lean Back" como por exemplo o EPG a alertar para o programa 'X' ou a programação automática de acordo com o perfil do utilizador do video gravador digital incorporado.
Alguns conteúdos "Lean Forward' poderão também ser bem sucedidos com a Internet a apoiar a televisão (e.g. publicidade interactiva criando situações de impulse buy através de um sistema B2C na Internet).
O PC e o Telemóvel UMTS tambem irão utilizar a internet, o primeiro numa perspectiva profissional e pessoal (e.g. criação de documentos, poderão ser melhor visualizados no PC) o segundo na vertente de informação pessoal e de entretenimento em qualquer parte (e.g. acesso a informação de video-on-demand, como por exemplo a imagem do golo da equipa favorita).

"As aplicações interactivas vão enriquecer e melhorar a actual oferta de programas de televisão"
ND: Sim.

"A geração sub-trinta é o mercado-alvo da televisão interactiva, porque já está habituado a servir-se da internet"
ND: Não, dependerá das aplicacões.

"O utilizador de televisão é um consumidor passivo, portanto não está interessado em interactividade no televisor"
ND: Os utilizadores passivos poderão mesmo assim utilizar algumas funcionalidades de comodidade acrescida: o EPG, o Personal TV (na medida em que este define o que quer que automaticamente seja gravado) e a publicidade interactiva em que este com apenas um clique pode por exemplo encomendar uma pizza.

Outro exemplo de interactividade de fácil aceitação são os programas de loyalty em que o utilizador recebe pontos por participar em concursos ou responder a perguntas (e.g. escolhe o participante do concurso que deve ser eliminado e recebe em troca pontos no seu smart card, um pouco à semelhaça do actual sistema de Loyalty DOT, com a vantagem que tem de ser interactivo e aplicado a programas de TV, informação e publicidade on-line, compras on-line, etc)

"A televisão não tem a mesma capacidade do PC em satisfazer as necesidades do utilizador em comunicar, informar-se, divertir-se e fazer transacções"
ND: As capacidades de entretenimento da Televisão Interactiva são superiores às do PC.

"A Europa está em posição para ser o lider mundial em televisão interactiva"
ND: A Europa sofre de alguma indecisão em matéria de televisão interactiva, pelo que os Estados Unidos estão actualmente a tomar a liderança.

"Portugal é um país pioneiro em televisão interactiva"
ND: Sim, Portugal a par do Reino Unido, será um dos países a testar o conceito de interactividade.

Dr. José Abecasis Soares, Dr. Nuno Morais – GO TV / Content TV

Considera que é prioritário ou demasiado cedo para investir na televisão Interactiva? Porquê?
Nuno Morais: Para a GOTV é prioritário, porque queremos estar na linha da frente. Sentimos que temos que investir tudo agora e com força – que é o que temos vindo a fazer, para assumirmos a posição de pioneiros na iTV em Portugal.
Há muito poucas empresas a fazer televisão interactiva a sério em Portugal e nós somos uma delas. Donde se conclui que o forte investimento inicial está a ser uma excelente opção.
Agora, vamos precisar de um parceiro financeiro, que nos assegure os recursos necessários para atingir os nosso objectivos, e para agarrar a estratégia que arquitectámos. Vamos constituir uma SGPS., e parte do dinheiro dessa compra é exactamente para investigação.
José Abecassis Soares: A estratégia da GO TV passa pela internacionalização a curto prazo, e para isso é absolutamente necessário um forte investimento inicial.
Considero essencial no entanto, o investimento que a TV Cabo vai fazer na divulgação da TV Interactiva.
Neste tipo de inovações tecnológicas existe um ciclo vicioso que tem que ser quebrado. Os produtores de conteúdos (Broadcasters ou agências de publicidade) não vão criar conteúdos porque ainda ninguém tem STB, e ninguém compra as STB porque ainda não há conteúdos suficientes.
A TV Cabo deve inverter este ciclo, criando as condições para a emergência de novos conteúdos interactivos, e subsidiando as STB. Parece-me claro como água. Não só é prioritário, como urgente, para empresas como nós, para as agências de publicidade, para os Broadcasters e para a TV Cabo investir nesta fase de lançamento da iTV.

Segundo uma reportagem do Expresso, publicada em Setembro passado, a GOTV desenvolve conteúdos infanto-juvenis, culturais e educativos – porquê estas escolhas?
NM: Por uma razão muito simples, escolhemos os conteúdos infanto-juvenis porque esse é o público-alvo que tem mais apetência pelos conteúdos interactivos. São os que mais habilidosos, são os que dominam o interface mais facilmente. É muito mais fácil dirigirmo-nos ao público infantil e ao juvenil do que às pessoas com quarenta e mais anos, que já têm alguma aversão à Internet. A questão dos conteúdos é unicamente estratégica: neste momento, dirigimo-nos a quem vai compreender facilmente o interface e saber navegar.

JAS: O desenvolvimento de conteúdos infanto-juvenis para iTV é feito por uma empresa do nosso grupo – a CONTENT TV – A GO TV trabalha em directamente com a CONTENT TV no desenvolvimento da arquitectura, design de interfaces e lay-outs dos conteúdos criados.
O público infantil é uma pedra lapidar do lançamento da TV Interactiva, não podemos descorar essa questão, no entanto a GO TV tem permanentemente em conta todos os tipos de utilizadores.
Existe na nossa empresa uma preocupação permanente com o utilizador final. A Interactividade televisiva é muito diferente da interactividade computacional. Não podemos deixar de considerar que a maioria dos futuros utilizadores de Televisão Interactiva não têm qualquer experiência de informática.
Planeamos interactividade televisiva para ser extremamente simples, através de analogias que remontam ao inconsciente colectivo de cada um de nós. Nestes termos, qualquer pessoa poderá utilizar os enhancements criados pela GO TV, mesmo que nunca tenha usado um computador na vida.

Qual será a grande motivação que irá trazer a televisão interactiva para os lares dos portugueses?
NM: Julgo que há uma expectativa no público em geral de que a televisão interactiva é uma experiência única e diferente, que vai produzir mais-valias para o espectador em casa. Primeiro, acho que a motivação vai ser simplesmente curiosidade.
É a mesma história dos telemóveis: ninguém precisava de telemóveis, mas hoje ninguém os dispensa. A televisão interactiva vai ser um pouco isso. A abordagem dos *players* todos, como a TV Cabo, é sempre o do paralelismo com o que aconteceu com os telemóveis. A televisão interactiva vai ser a réplica desse comportamento social.
Isto é o que a TV Cabo acha. Agora, tudo depende da boa ou má experiência que os primeiros utilizadores irão ter, algo que está mais do lado da TV Cabo do que do nosso lado. Vamos pôr meia dúzia de coisas no ar – as nossas vão ser boas e não tenho a menor dúvida que as pessoas vão gostar de ter aquela experiência interactiva. Agora, as dos outros não faço a menor ideia de como irão ser.

Em Portugal, quais as possibilidades de sucesso de programas e serviços de televisão interactiva sabendo de antemão que a percentagem de pessoas ligadas à Internet é muito inferior à média europeia?
NM: Nos nossos escritórios e em todo o lado, mesmo na TV Cabo, tenho assistido ao seguinte: há duas perspectivas do que é a televisão interactiva. Para uns, é simplesmente aceder à internet. Para outros é realmente uma experiência de televisão interactiva, ou seja, interagir com a programação.
Sou da opinião, como os mais esclarecidos são dessa opinião, que a televisão interactiva deve ser uma experiência genuína de televisão interactiva em que as pessoas estão a interagir com a programação. Os leigos pensam que a mais-valia é aceder à Internet. É claro que é mais fácil e simples navegar na Internet numa *set-top box* do que num PC com um *browser*. Não sei como a TV Cabo vai situar a sua comunicação: se vai apostar na caixa que tem a Internet ou na caixa que tem televisão interactiva.
Julgo que em Portugal continua a haver uma curiosidade grande e natural acerca da Internet e esta é provavelmente uma forma de facilitar o acesso. Daí que tenha toda a lógica que um sistema como a Microsoft TV nasça e tenha como grandes apoiantes as empresas de telecomunicações, já com muitos interesses na Internet. Honestamente, continuo sem saber se vai ser um sucesso ou não.
JAS: Não me parece que a internet seja a melhor "proxy variable" para avaliar o potencial de crescimento da TV interactiva em Portugal. Se vamos avançar para analogias desse tipo, a taxas de penetração dos telemóveis em Portugal, parece-me uma variável muito mais fidedigna para ser analisada. Na minha opinião, sendo o telefone (á semelhança da televisão), um instrumento mais amigável, mais familiar e menos estranho ao consumidor do que o PC, penso que

atingiríamos valores mais próximos da realidade se utilizássemos estes valores de referência em detrimento dos valores da internet em Portugal.
Alem de que o computador tem um custo que muitas pessoas infelizmente ainda não podem suportar, o que não acontece com os telemóveis, e (à que ter esperança) com as STB.
De qualquer forma a taxa de penetração da internet em Portugal tem crescido a passos largos.

A TV Cabo anunciou que teria 100 mil subscritores de televisão interactiva no primeiro ano de actividade e 1 milhão de utilizadores num prazo de três a cinco anos – considera estes números demasiado optimistas?
NM: A TV Cabo tem quase um milhão de clientes e acham que em 2004 vão ter o mesmo número de clientes com uma *set-top box* em casa. Parece-me razoável.
JAS: Mais uma vez, tudo depende do empenho financeiro na divulgação do sistema.

Por favor, indique se concorda ou discorda com as seguintes opiniões, e explique porquê: "A televisão interactiva não é uma revolução mas uma evolução"
NM: A televisão interactiva é uma revolução, porque vai mudar o modelo de negócio, porque vai modificar a forma como vemos televisão. Se pensarmos que chegamos a casa e que vamos ver televisão – que é o que a maioria das pessoas faz em todo o mundo – e se essa experiência vai ser radicalmente mudada, então é uma revolução.
A experiência que vamos tirar da televisão vai ser completamente diferente – talvez não vai ser agora, mas garantidamente daqui a uns anos quando tivermos uma televisão interactiva genuína. Se pensarmos que o modelo de negócio também vai ser alterado drasticamente, à volta das televisões e canais irá acontecer uma revolução. Vamos ter canais de televisão que vão deixar de o ser para se tornarem organizadores de conteúdos. Provavelmente, até vão ser todas compradas pelas empresas de telecomunicações. Vai ser francamente diferente.
JAS: Acredito na total alteração dos modelos de negócio e das metodologias de funcionamento dos canais. Aliás as manobras estratégicas da News Corp. são sintomáticas. Ninguém agrega da noite para o dia, todas as suas operações de televisão por satélite numa empresa única, se não se avizinhar uma verdadeira revolução.

"A televisão e o computador irão convergir num só medium"
NM: Responder a essa questão é fazer futurologia. Para já, numa coisa acredito: a médio prazo, o meu computador é um instrumento de trabalho, e a televisão serve para lazer e entretenimento.
JAS: Quando a buzzword é “convergência”, a minha opinião é exactamente no sentido da divergência. Não falo obviamente numa divergência funcional, mas numa divergência de conteúdos.
Não me parece que eu vá, alguma vez, sentar-me no escritório em frente ao computador a ver filmes. O que não quer dizer no entanto que não acredite na transversalidade de conteúdos.
Não tenho qualquer dúvida de que os conteúdos que trabalhamos para TV devem poder ser usados no PC e em aparelhos Wireless. Em todo o caso têm que ser adaptados.
Deverá haver uma “natividade natural” dos conteúdos, e uma “transversalidade funcional”. Existem conteúdos criados para televisão (como soap operas por exemplo) que eu posso ver ou consultar no telemóvel, e conteúdos criados para UMTS, a que também tenho acesso via TV, mas terão sempre a sua plataforma natal.
Obviamente alguns exemplos podem ser dados (como directórios, informações meteorológicas ou o e-mail) de conteúdos plenamente transversais, mas não serão com certeza a maioria.

"A televisão interactiva tem uma longa história de insucesso e não vai ocupar o lugar da televisão nem o do PC e a Internet"
NM: As experiências de televisão interactiva menos boas têm a ver com questões tecnológicas. As pessoas quando ligam o televisor vão à procura de uma experiência de movimento, de animação, de imagem. As primeiras experiências de televisão interactiva não resultaram porque

não eram nem televisão nem PC: eram uma coisa amorfa e lenta. As coisas estavam paradas e quando vemos televisão não é isso que estamos à espera.
Nós fazemos videos de formação, para passarem em aulas. De facto, quando os videos estão bem feitos, apesar de ser só informação escrita, até são interessantes. Pode acontecer que o mesmo se passe com a televisão interactiva. No fundo, trata-se de mais informação, mas que têm que ser dada com movimento, de outra forma.
JAS: Naturalmente que o nascimento e divulgação da internet a nível mundial trilhou um caminho fundamental para o nascimento em plenitude da Televisão Interactiva.
Considero que AGORA estão reunidas as condições necessárias.

"As aplicações interactivas vão enriquecer e melhorar a actual oferta de programas de televisão"
NM: Parece-me obvio que sim. A experiência de televisão é isso mesmo: é enriquecer o que já existe.
JAS: Quem já dedicou algum tempo a pensar em Televisão Interactiva, não tem quaisquer dúvidas disso.

"Os serviços interactivos irão chegar ás "massas" via televisão interactiva e não via PC"
NM: Os serviços interactivos vão às "massas" muito bem controlados, e ainda mais dirigidos comercialmente do que hoje na televisão e na Internet. Na Internet ainda há muito boa vontade, ainda há muito espírito pioneiro. Na televisão, toda a informação que chegar vai ser muito objectiva e vai estar sempre a vender qualquer coisa.
JAS: Se considerarmos que taxa de penetração dos PC em Portugal é de cerca de 34% e da TV é de cerca de 97%, parece-me em primeiro lugar que a TV terá um maior protagonismo em termos de conteúdos interactivos do que o PC.
Mas se me é permitido dissecar esta frase:
Num futuro próximo, os conteúdos interactivos vão chegar a todo o lado, via todas as plataformas, desde TV a PC a Wireless.
Num futuro próximo, os conteúdos interactivos vão ser cada vez mais segmentados, e vão chegar cada vez mais ao indivíduo enquanto ser diferenciado e único, do que ás "massas" no sentido lato do termo.

"A geração sub-trinta é o mercado-alvo da televisão interactiva, porque já está habituado a servir-se da internet"
NM: Disso não tenho a menor dúvida. O nosso maior desafio neste momento é incluirmos sempre uma ajuda, para ensinarmos as pessoas a navegar. Naturalmente que os que dominam um *browser* muito mais facilmente vão saber navegar nas aplicações de televisão interactiva.
JAS: O trabalho da GO TV passa também por uma instrução do utilizador, por uma evangelização do mercado. O planeamento feito pela GO TV visa, gerar um tipo de interactividade atractiva; inovadora; divertida mas ao mesmo tempo, extremamente simples de utilizar.

"O utilizador de televisão é um consumidor passivo, portanto não está interessado em interactividade no televisor"
NM: A experiência de televisão interactiva que queremos dar ao utilizador não vai deixar de lhe "pedir" para ser passivo, só que é um passivo que reage por impulso. Nós não o vamos maçar muito, vamos pedir para carregar duas ou três vezes no botão e para fazer meia dúzia de coisas. No fundo, é o que lhe queremos vender. É assim que temos dirigido os nossos conteúdos interactivos: vamos dar poucas opções, dar uma experiência que aconteça por impulso em que não tenha que pensar muito para carregar no botão, e depois de carregar no botão que encontre o mínimo de informação possível para que não tenha que puxar muito pela cabeça para ir de um lado para o outro.
JAS: Não me parece que o "trabalho" de Zaping em que actualmente todos incorremos, tenha muito de passividade.

"A Europa está em posição para ser o lider mundial em televisão interactiva"
NM: A Europa é o líder mundial em televisão interactiva. A Web TV já existe há uns anos nos Estados Unidos da América, só que a rede deles não é boa. Tanto que eles não têm nenhum serviço da Microsoft TV a funcionar por cabo, o que daria uma experiência de televisão interactiva diferente daquela que têm neste momento, que é francamente lenta. O insucesso da Web TV reside aí e que tem influenciado todo o mercado americano, que fez uma avaliação do que é a televisão interactiva. Isto para além de estarem mais posicionados para a televisão de alta definição do que propriamente para a televisão interactiva.
Seja como for, as empresas na Europa estão tecnologicamente mais avançadas. Desta vez, julgo que vamos ser nós a evangelizar os Estados Unidos e que vamos conseguir vender-lhes qualquer coisa de televisão interactiva. Pelo menos, essa é a nossa esperança.
JAS: Para não falar do caso especial dos Portugueses, que parecem estar na vanguarda de implementação da MS TV.

Como seria a "sua" televisão interactiva perfeita?
NM: Seria uma televisão interactiva em que estariam a funcionar diversos *streams* de video, onde se está a ver a televisão que se quer e não aquela que o *broadcaster* está a dar. São jogos na televisão feitos com video, onde ao se carregar num botão acontece algo ao personagem ou aparece outro a substituí-lo, entre outras coisas.
O mais interessante é o entretenimento mesmo. Sobretudo os jogos e programas de entretenimento em que também se possa participar, onde se pode receber prémios. A televisão interactiva tem que ser participativa. Claro que também é interessante o *e-commerce* e pagar algumas contas pela televisão. As pessoas procuram a televisão como um modo de entretenimento e julgo que vai continuar assim.
JAS: Aquela que fazemos na GO TV!!!
Não, ainda temos muito que aprender, mas estamos o mais próximo que nos é possível da perfeição.

Das cinco grandes plataformas de televisão interactiva, qual a que considera mais ajustada ao mercado português? - Microsoft TV, OpenTV, CanalPlus Mediahighway, Liberate, Power TV?
NM: A única plataforma que conheço em profundidade é a Microsoft TV, mas parece-me que a OpenTV, a Mediahighway e a Liberate são mais ajustadas ao mercado português porque estão mais evoluídas. E interessam-nos as plataformas mais evoluídas e as que funcionam melhor, onde nós podemos produzir os conteúdos mais ricos.
JAS: Durante o IBC 2000, falei com os representantes destas plataformas. Todos têm as suas estratégias de entrada em Portugal. Algumas delas pareceram-me debalde, mas enfim... Penso que a MediaHighWay está muitíssimo bem preparada, e que a Liberate também.

Em Portugal, quais são ou serão os líderes da indústria da televisão interactiva?
NM: A Microsoft, a TV Cabo e talvez o consórcio da televisão digital terrestre, formado pela SIC, TVI e RTP. A Octal, a Novabase vai ter soluções de *e-commerce* muito poderosas e disponíveis dentro de pouco tempo. A Infordesporto vai ser outro *player*.
JAS: Em termos de Hardware existe a OCTAL e a Pace (mas essa não é Portuguesa).
O Software será da Microsoft, numa primeira fase.
A Distribuição fica por conta da TV Cabo e do consórcio referido pelo Nuno.
Prestadores de serviços a Infodesporto e a GO TV.
Criadores de conteúdos, as Agências de Publicidade, os Broadcasters e outra empresa do nosso grupo, especializada em criação, desenvolvimento e comercialização de conteúdos interactivos transversais, chamada CONTENT TV.

Qual o modelo de negócios da televisão interactiva e onde é que os diversos players vão buscar fontes de rendimento os para os avultados investimentos que estão a fazer neste momento?
NM: Quem paga isto tudo são sempre os mesmos – os anunciantes. Este é um mercado que cresce sempre um pouco todos os anos. O modelo de negócios é que é alterado, o dinheiro

continua a vir da mesma fonte. Em vez de termos um bloco publicitário com dez filmes, passamos a ter dois outros filmes num bloco publicitário e os anunciantes passam a estar dentro da programação interactiva, a patrocinar o programa que é feito à sua medida. Por exemplo, num programa infantil há uma personagem virtual qualquer que também é a imagem corporativa do gás natural por exemplo.
JAS: Há essencialmente 4 fontes de rendimento na TV Interactiva:
A Publicidade sobe a forma de patrocínios e compra de espaço publicitário.
O T-Commerce, e todo o volume de negócios feito através da televisão, que se prevê que em 2004 ultrapasse o comércio electrónico.
A Subscrição, ou seja as receitas da TV Cabo geradas pelo acesso à televisão interactiva. Tal como acontece actualmente com o acesso à TV cabo normal.
E finalmente o Tráfego, que a interactividade televisiva vai gerar para o ISPs.

Dr. Paulo Querido - EXPRESSO

Considera que é prioritário ou demasiado cedo para investir na televisão Interactiva? Porquê?
Paulo Querido: Considero que é prioritário. Restam-me dúvidas sobre qual será a melhor escolha em termos tecnológicos – mas isso é problema de quem investe, não meu...
Primeiro, porque a televisão interactiva terá um papel importante na cena mediática da próxima década. Segundo, porque as empresas de televisão portuguesas não podem dar-se ao luxo de perder esse comboio, o que as tornaria (mais) dependentes dos grupos europeus.

Qual será a grande motivação que irá trazer a televisão interactiva para os lares dos portugueses?
PQ: A... interactividade! E a liberdade. Escolher que programas queremos ver e quando os desejamos ver. Escolher a camera com que queremos ver aquele lance de um jogo de futebol (ou qualquer outro evento em directo) em vez de aceitar a decisão do realizador. Ter um assistente digital que faz as escolhas de filmes e outros programas relacionados com as temáticas que previamente lhe damos. Finalmente, a possibilidade (que pessoalmente me desagrada, mas há quem sonhe com ela) de com um simples clique no telecomando efectuar compras sugeridas pela publicidade. Aliás, será esta característica que provavelmente mais acabará por levar os decisores a investir na televisão interactiva.

Em Portugal, quais as possibilidades de sucesso de programas e serviços de televisão interactiva? Quais os obstáculos ao sucesso?
PQ: As possibilidades, nem sonho com elas. Os obsctáculos: a ausência de uma classe média interessante do ponto de vista do marketing (e são as classes média e média alta as mais predispostas a interagir com a televisão), o baixo poder de compra e a desconfiança às tele-compras (ou compras à distância).

Os baixos níveis de penetração da Internet irão levar a que a maioria dos Portugueses optem pelo acesso a serviços e produtos interactivos por via televisão interactiva e não via PC?
PQ: Duvido. Mas a questão é irrelevante: dentro de cinco anos não haverá essa distinção entre acesso aos conteúdos digitais (e digitalizados) por televisão ou PC. O acesso far-se-á consoante a necessidade do momento via aparelhos os mais díspares, desde o relógio ao monitor de parede da sala passando pelo processador de texto, pelo laptop, pelo telemóvel (se este não estiver ainda integrado no relógio...), pelo...

A televisão interactiva é uma versão enriquecida da televisão ou uma versão pobre da Internet? Porquê?

PQ: É uma versão enriquecida da televisão. Assenta na mesma lógica de emissão-recepção da televisão. Tem é uma funcionalidade acrescida: a (fraca, diga-se) interactividade. Mas nada tem a ver com a Internet – embora a descoberta, nesta, dos prazeres da interactividade tenha também estado na base da mudança da indústria da televisão a caminho da interactividade. Mas continua a vedar-nos algo que a net nos dá: a capacidade de emitir.

Por favor, indique se concorda ou discorda com as seguintes opiniões, e explique porquê:
"A televisão interactiva não é uma revolução mas uma evolução"
PQ: Concordo. Embora necessite de algumas novidades tecnológicas (que eram alheias à indústria da televisão, provindo da indústria da informática) é uma mera evolução lógica do sistema, ditada pelo fenómeno de moda (interactividade) e pelo crescente poder da publicidade, que de ditadora da programação passou também a subjugar a evolução ao seus objectivos.

"A televisão interactiva tem uma longa história de insucesso e não vai ocupar o lugar da televisão nem o da Internet"
PQ: Discordo em absoluto. Não tem nem história ainda, quanto mais uma longa história... Está a dar os primeiros passos e quem se atreve a afirmar que aquela criança não vai andar só porque dá umas quedas de vez em quando? Agora, vir a ocupar os lugares dos outros... isso é outro assunto. Entendo que a televisão interactiva é outra experiência. Única, diferente. Está para a televisão normal como o Imax para o cinema – vamos ver, por curiosidade, podemos gostar e ver muitas vezes, mas isso não nos faz abandonar as salas tradicionais. E... quantos repolhos de sofá trocarão o prazer de não terem de fazer escolhas, quando há lá nas emissoras gente para isso, pelo (argh) trabalho de programar o aparelho?

"A televisão e o computador irão convergir num só media"
PQ: Discordo. Pelo contrário, haverá cada vez mais media – mais meios de comunicação. Agora, existe é a forte possibilidade de alguns deles entrarem nos nossos lares pelo mesmo, digamos, contador, assim ao jeito do contador da luz teremos a caixinha que liga à rede, mede o nosso tráfego digital de imagem e som, e canaliza os fluxos de input para o videowall ou para o ecran do telefone ou para o pequeno monitor ligado a um teclado. Um mesmo "contador", talvez, mas um único media, nem pensar.

"As aplicações interactivas vão enriquecer e melhorar a actual oferta de programas de televisão"
PQ: Enriquecer, sem dúvida: vai haver mais oferta. Melhorar... em certos nichos de procura (programas intelectuais que hoje não existem de todo, cultura, ciência) penso que haverá uma melhoria da oferta. - Quanto à programação mainstream, a sua qualidade tem vindo a piorar desde a liberalização da emissão e nada nem ninguém será capaz de inverter tal processo.

"As aplicações interactivas vão transformar totalmente a natureza da Televisão"
PQ: Discordo. A televisão-sabonete, mas como pode alguem sonhar que a televisão-sabonete alguma vez deixará de existir?

"Os serviços interactivos irão chegar ás massas via televisão interactiva"
PQ: E as massas, chegarão aos serviços interactivos????

"A geração sub-trinta é o mercado-alvo da televisão interactiva, porque já está habituado a servir-se da internet"
PQ: A geração sub-trinta é um mercado igual aos outros, se está habituada à net, porque há-de trocar as vantagens desta pelas desvantagens da outra?
Não devemos olhar para a televisão interactiva como um substituto. O fenómeno telemóvel (um aparelho que faz o mesmo serviço de outro mas é livre, não tem um fio agarrado a uma parede) é uma coisa MUITO diferente da televisão interactiva (uma tecnologia que embora combine alguns aspectos de outros dois aparelhos não nos fornece os mesmos serviços desses dois aparelhos).

E... a geração sub-trinta terá 40 anos no ano 2010, casamentos (desfeitos, muitos deles), filhos e... sofás, pantufas, telecomandos e cansaço do dia de trabalho, tal como os pais deles e os pais dos pais.

"O utilizador de televisão é um consumidor passivo, portanto não está interessado em interactividade no televisor"
PQ: Na generalidade, a frase é rigorosamente verdadeira. A televisão interactiva é, pela sua natureza evoluída, dirigida a pessoas evoluídas. Apenas uma minoria tirará amplo partido da televisão interactiva porque se vai dar a esse trabalho ou sentirá essa necessidade, enquanto a maioria dos consumidores de televisão poderá episodicamente utilizar a interactividade (sobretudo para compras) mas não o fará por regra.

"A televisão não tem a mesma capacidade do PC em satisfazer as necesidades do utilizador em comunicar, informar-se, divertir-se e fazer transacções"
PQ: Concordo. Não tem a mesma capacidade. Tem outras.

"A Europa está em posição para ser o lider mundial em televisão interactiva"
PQ: Neste momento, parece que sim. Mas os Estados Unidos da América, dada a sua agilidade financeira e tecnológica, podem recuperar o atraso em seis meses – basta que as sondagens indiquem que o povo quer a televisão interactiva. O que eu divido.

"Portugal é um país pioneiro em televisão interactiva"
PQ: Discordo em absoluto. As experiências que tive com televisão interactiva foram FORA de Portugal. Ou está a chamar "televisão interactiva" à TV Cabo?

Eng. Rui Dias Alves, Eng. João Brás Ramos – INNOVAGENCY

Considera que é prioritário ou demasiado cedo para investir na televisão Interactiva? Porquê?
Rui Dias Alves: Para a TV Cabo não é demasiado cedo, porque tem um alavancamento de negócio da Internet, de infra-estrutura tecnológica, de cabo, de negócio da Internet do ponto de vista do tráfego, que lhe dá um conforto muito grande quando se lança nisto.
Por cada subscritor que aceda à televisão interactiva, a TV Cabo ganha negócio de ISP (Internet Service Provider), porque grande parte da interactividade vai ser via Internet; receitas adicionais de subscrição; capacidade de poder adaptar os conteúdos que hoje já tem na TV Cabo ao Portal TV; alavancam parcerias com o BES para disponibilizar o Tele-Banking.
Na fase de arranque, a TV Cabo minimiza muito o investimento. A TV Cabo tem muito mais o peito aberto para investir do que uma SIC ou uma TVI. A SIC e a TVI, do que nós compreendemos das conversas que tivemos até agora, do que gostam é do negócio de fornecer conteúdos, porque é o negócio deles onde eles já têm uma base de economia real. Se lhes dizerem que têm que gastar 500 milhões de contos a pôr antenas para emitir televisão digital terrestre eles arrepiam-se. Aí também se vê que quem tem a ganhar com esse negócio é uma ONI, por exemplo, porque o seu core-business é o negócio de telecomunicações.
Claramente, a TV Cabo está confortável – pode ser um risco maior ou menor, pode exigir mais ou menos milhões de contos de subsidiação, mas tem um ponto de partida confortável. A SIC e TVI enquanto não se definir qual a abrangência da televisão digital terrestre, há muitas indefinições que fazem com que o arranque deles ainda tenha algum risco. Se a ONI ou outro operador de telecomunicações estiverem dispostos a comprar a guerra da infra-estrutura, eles só terão a guerra dos conteúdos.
Agora quem produz conteúdos tem um risco mínimo: que é o risco de agregar uma competência que se não tiver hoje provavelmente terá daqui a dois anos. É um risco temporal, que é só de infra-estrutura, porque do ponto de vista de recursos humanos a lógica é ir contratando à medida

das necessidades: julgo que ninguém vai agora contratar 100 elementos para projectos de televisão interactiva.
O investimento que é grande – os estúdios, as cameras, os equipamentos de pós-produção e de efeitos-especiais – já foi feito pelas produtoras de televisão. A televisão interactiva é um bocadinho mais caro do que fazer web sites para a Internet, mas o que é preciso é engenheiros que saibam programar Microsoft TV, Open TV ou Liberate, e sobre multiplexagem para colocar o sinal do URL no sinal de vídeo.

Qual será a grande motivação que irá trazer a televisão interactiva para os lares dos portugueses?
RDA: Há-de chegar um momento em que a TV Cabo entende que com um preço a televisão interactiva não vai arrancar como esperam e, então, vai baixar o preço. Mais tarde ou mais cedo o preço é o justo.
O que vai levar as pessoas? Julgo que o Electronic Program Guide como conceito vai ser radiante. Vai ser muito complicado para publicações tipo TV Guia, porque é um concorrente directo. As pessoas gostam muito de ver o que podem ver na televisão. Se o produto fôr bem empacotado e bem vendido, o EPG é um serviço engraçado.
Creio que a lógica de participar em concursos também é importante. A lógica do "dot" de colocar o "dot" em posições "sim" ou "não", até nesta modalidade infantil e arcaica as pessoas já interagem. Se for qualquer coisa do género do concurso do Carlos Cruz, em que utilizador em casa ao participar também ganha um prémio, julgo que vai ter sucesso.
Outras coisas como um jogo de futebol interactivo, em quer se pode obter informações sobre o jogador e o próprio jogo, julgo que o conceito é valido, desde que não seja muito complicado do ponto de vista do interface. O "go interactive" tem que ser simples e óbvio.
Outro aspecto é o comércio electrónico. Na Internet, o comércio que vai ser significativo é o business-to-business, porque o computador é um instrumento de trabalho. A televisão é, por excelência o meio do business-to-consumer. É o meio por excelência porque na televisão é possível potenciar a compra por impulso. A publicidade tem que ter a capacidade adaptar anúncios que são informativos e que me leva comprar numa loja, para anúncios que me levem a comprar naquele instante. Do ponto de vista do bem de consumo, como o livro, o CD e a roupa, a televisão é o meio por excelência que pode fazer o comércio electrónico crescer.
O grande drama que sentimos em publicitários e em centrais de meios é a lógica da continuidade da programação nunca ser quebrada. Mesmo que vá para o mais profundo nível de interactividade e da Internet, o programa que estava a ver tem que estar em algum sítio do ecrã e numa dimensão que me permita acompanhar o que se está a passar. O drama é que estão habituados a trabalhar para a televisão como um meio em que se passava anúncio a seguir aos outros, com programas no meio, e sabiam que naquela hora estavam a ver mais jovens e mais adultos. Era um mundo muito simples.
O que eles também sentem é que vai haver um mundo de negócios paralelos: marketing directo, Customer Relationship Management, por exemplo. Tudo o que tenha a ver com o conhecimento da pessoa, usar a televisão para a comunicação one-to-one, não é emitir para as mulheres, é emitir para "si". A lógica da customização é algo de que gostam.
João Brás Ramos: Ao nível dos publicitários nacionais, julgo que ainda não estão muito despertos. Já ouviram falar, acham que pode estar na moda, mas só se vão preocupar com o assunto mais tarde, quando o facto estiver consumado.
RDA: Não sei se quem compra publicidade alguma vez vai ser exigente a esse ponto. Hoje, uma pessoa paga a campanha, que tem ou não sucesso, na pior das hipóteses nunca mais pede uma campanha. A lógica da publicidade interactiva é muito mais responsabilizante. Faz-se um spot e sei automaticamente quantas pessoas é que clicaram e compraram. Se eu como cliente conseguir estabelecer um relacionamento com a empresa que faz a publicidade de partilha de resultados, evidentemente que o empenho deles em fazer isto bem feito é completamente diferente. Responsabilizar o publicitário pelo sucesso do "go interactive" pode ser uma maneira de o tornar um player muito mais activo neste negócio.

A Televisão Interactiva é uma revolução ou uma evolução? Porquê?
JBR: Julgo que é uma evolução. A Internet é que foi uma revolução. Se calhar, para quem passa da televisão normal para a televisão interactiva é uma revolução. No entanto, para as pessoas habituadas à Internet acaba por ser uma evolução.
RDA: Para mim é uma revolução. Quem tem o hábito de navegação na Internet não é um choque muito grande. Agora, para quem está habituado a ver televisão, e só mudar de canal, a televisão interactiva muda muito a sua experiência.

Considera que o espectador de televisão é passivo e, portanto não está interessado em interagir com o televisor?
RDA: Julgo que a interactividade tem que ser simples. Mas chamo a atenção a possibilidade de ganhar dinheiro. As pessoas gastam fortunas em concursos e jogos tipo "Raspadinha" e "Dot". O entretenimento é chave. A SIC tem o concurso "Roda dos Milhões" há dois anos, e a revista factura 600 mil contos por ano. Ou seja, está mais que acente na cabeça de quem produz conteúdos, que a lógica do concurso leva as pessoas a gastar dinheiro.
JBR: Vai haver uma percentagem de pessoas que nunca vai clicar em "go interactive".

Quanto à possibilidade de disponibilizar os mesmos conteúdos em diversos meios – como a televisão Interactiva, a Internet e os telemóveis da última geração, que empresas em Portugal estão a aderir a essa lógica da fábrica de conteúdos?
RDA: A Media Capital é quem tem mais essa consciência. Um outro exemplo é o da Rádio Comercial, que conseguiram ter a ideia de fazerem conteúdos não só para a Rádio, mas também para a Internet, em formato escrito e mesmo imagem.
JBR: Muitas empresas internet ainda não pensaram no modelo de negócio seguinte , se pensarmos na quantidade de web sites que não vão estar preparados para ser vistos na televisão interactiva. Quando os responsáveis dos web sites se aperceberem disso vão começar a procurar os serviços de empresas para alavancarem os conteúdos que já têm na Internet e os disponibilizar também na televisão interactiva.

Quais os factores críticos de sucesso da Televisão Interactiva?
RDA: Conteúdos, tem que haver conteúdos interactivos. Ter televisão interactiva e depois haver um anúncio interactivo em noventa e um concurso interactivo em vinte horas de programação não é interactividade. Por outro lado, tem que ser fácil, nada que me obrigue a ler um manual de instruções para interagir. Comércio, é chave não para o bem dos consumidores mas para quem está a montar o negócio, senão não tem receitas. Depois, o custo porque não interessa pagar cem contos por uma set-top box.

Dr. Tiago Silva - DOTONTHEBOX

Considera que é prioritário ou demasiado cedo para investir na televisão Interactiva? Porquê?
Tiago Silva: Para as empresas (clientes), que têm como objectivo estar, ou vir a estar na plataforma da televisão interactiva, é a altura certa para investir, tomando desta forma a liderança no seu mercado.

Qual será a grande motivação que irá trazer a televisão interactiva para os lares dos portugueses?
TS: A televisão interactiva poderá vir a ser um commodity no futuro, mas até lá penso que o EPG (programação TV), a função de DVR (vídeo gravador) e o facto de teres E-mail na televisão a qualquer hora, são funcionalidades base apelativas, já para não falar do e-commerce, canais temáticos, etc.

Como seria a "sua" televisão interactiva perfeita?
TS: Uma que não desse erros...

Das cinco grandes plataformas de televisão interactiva, qual a que considera mais ajustada ao mercado português? Microsoft TV, OpenTV, Mediahighway, Liberate, Power TV?
TS: Conhecendo todas as plataformas referidas, e devido à presença no IBC onde a DotOnTheBox teve um contacto directo, a verdade é que a resposta não podia ser outra, todas têm as suas vantagens e desvantagens, umas nasceram do satélite, outras são proprietárias, e devido a estes factos e outros, têm as suas particularidades.
Penso que para o nossa rede de cabo com bi-direcionalidade, a plataforma Microsoft é a que tem o potencial de explorar com melhor proveito estas características técnicas.

Considera que a TV Cabo é demasiado optimista quanto ao número de subscritores de TV interactiva: 100 mil no primeiro ano e 1 milhão de utilizadores num prazo de três a cinco anos?
TS: Não, penso que são números possíveis, depende da estratégia de Marketing a ser desenvolvida.

Em Portugal, quais são ou serão os lideres da indústria da televisão interactiva?
TS: Ninguém é líder neste momento, há empresas que têm projectos estratégicos e outras não.
A DotOnTheBox está a desenvolver o Portal da TvCabo (software de caixa) e já tem pronto o portal da Telecine, bem como outros clientes com quem já iniciamos serviços.

Por favor, indique se concorda ou discorda com as seguintes opiniões, e explique porquê:
"A televisão interactiva não é uma revolução mas uma evolução"
TS: Evolução na tecnologia, revolução nas ideias e conceitos possíveis com a interactividade.

"A geração sub-trinta é o mercado-alvo da televisão interactiva, porque já está habituado a servir-se da internet"
TS: É óbvio, mas talvez seja surpresa o que os filhos conseguem ensinar aos pais pós-trinta.

"O utilizador de televisão é um consumidor passivo, portanto não está interessado em interactividade no televisor"
TS: É como ver um jogo ao vivo e ou no sofá, vai no espírito do indivíduo.

Dr. Vasco Trigo - RTP

Considera que é prioritário ou demasiado cedo para investir na televisão Interactiva? Porquê?
Vasco Trigo: Não é nada cedo. De facto, a tecnologia está um bocado atrasada, mas à velocidade a que saiem as novidades tecnológicas, de um dia para o outro as soluções vão aparecer. Quem estiver já a preparar-se é quem vai estar em vantagem. Portanto, uma empresa não pode ir a reboque. Alguém dizia que, a certa altura, a importância era ser mais rico ou mais pobre, depois era ter mais poder ou menos poder. Hoje em dia, a diferença é ser mais rápido ou mais lento. A divisão está aí: quem fôr mais rápido, quem já estiver posicionado é que tem a vantagem. Se calhar, já é tarde para começar a desenvolver.
Admito que a RTP já esteja a trabalhar em conteúdos interactivos, mas eu não tenho conhecimento. Fala-se, têm-se ideias mas ainda não se entrou a sério. Sei que há gente na RTP sensibilizada para o assunto, agora há alguns atrasos, também à mercê das condições da própria RTP - desta indefinição grande que existe em relação ao futuro da RTP, se é ou não privatizada, etc. Toda esta indefinição provoca que não se possa avançar para projectos como este, porque a estratégia não está bem definida. Isto não é uma acusação às pessoas por

estarem atrasadas, porque elas estão sensibilizadas. Só que há uma série de condicionalismos que a RTP tem e que outras empresas não têm.
Ao contrário do que muita gente pensa, o facto de ser empresa pública não implica necessariamente que seja má ou que tenha de ser mal gerida. Quando se fala na privatização da RTP como uma solução para o problema, penso que pode ser uma solução, mas não tem que ser a única. Nada garante que se a RTP fôr privada funciona melhor. Pode funcionar melhor se despedir 50 por cento das pessoas, mas então "vai o bebé com a água do banho", como se costuma dizer. Penso que as pessoas estão sensibilizadas e estão alerta. Agora, ainda falta dar o pontapé de saída.

Qual será a grande motivação que irá trazer a televisão interactiva para os lares dos portugueses?
VT: Tudo depende dos serviços que houver. Julgo que a grande preocupação de quem está a desenvolver conteúdos é que tem de ter em conta as necessidades das pessoas. O que é que as pessoas vão querer? Não é "como é que vamos ganhar dinheiro?" – é evidente que as empresas existem para ganhar dinheiro – mas nos nossos dias, as empresas deviam a começar a pensar mais que existem para servir as pessoas. É evidente que têm que ganhar dinheiro, mas o objectivo é servir o público.
Aliás, o que nós vemos nas empresas que se formam na chamada "Nova Economia" - que perdem dinheiro -, é que já estão a pensar assim. Existem para servir o público, e depois querem ganhar dinheiro. Mas se não se estiver sempre presente o interesse do consumidor não conseguem nada. As contas têm que ser feitas com base em muita pesquisa sobre os interesses e necessidades dos clientes.

Como cliente, o que gostava de ver num serviço de Televisão interactiva?
VT: Gostava de seleccionar os horários do que quero ver. Isso é fundamental. Têm que ser as pessoas a controlar os horários. As pessoas estão subordinadas aos horários das estações de televisão, mas penso que é uma aspiração de todos poderem decidir quando querem ver isto ou aquilo, porque nos dá uma maior liberdade. Alías, porque é que as pessoas usam telemóvel? Porque não têm que ir a uma cabine ou telefonar de casa, e em qualquer sítio fazem uma chamada. Portanto, é fundamental dar a possibilidade às pessoas de verem o que querem a qualquer hora.
A televisão interactiva não é só programas, também é publicidade, por exemplo. A publicidade pode ser algo como estar a ver um anúncio e comprar logo aquele produto. Segundo sei, ainda que não esteja muito informado, o que se está a preparar agora é que num bloco publicitário só o último anúncio é que tem a capacidade de ser interactivo, que é para as pessoas não perderem todo o bloco porque podem estar interessados no primeiro artigo. Mas isso não é ver o assunto do ponto de vista do consumidor. Esta abordagem é do ponto de vista do anunciante. Muitas empresas que estão a fazer anúncios não irão começar a fazer anúncios interactivos de um momento para o outro. Julgo que vai sempre haver anúncios que não são interactivos.
O que qualquer pessoa quer é: quando lhe apetece aceder a uma coisa, poder aceder. Se estiver no meio do trânsito, será pelo telemóvel. Se estiver em casa frente ao computador, é pelo computador. Quando estiver na sala frente ao televisor, acede a partir do televisor. A pessoa quer é ter o acesso. Hoje em dia, quando estou em casa quero lá saber se o programa que estou a receber veio pela antena, por cabo ou por uma parabólica. Para mim, é perfeitamente indiferente, o que eu quero é ver o programa. É importante ter em atenção a perspectiva do consumidor, que não está preocupado com este tipo de questões.

A Televisão Interactiva é uma revolução ou uma evolução? Porquê?
VT: Julgo que é mais uma revolução para os produtores, porque o produto tem que ser concebido já a pensar que vai ser interactivo. Para o consumidor é mais uma evolução, porque gradualmente as pessoas vão aderindo ao serviço; hoje são 10 por cento, amanhã são vinte por cento, e por aí fora. Agora do ponto de vista do produtor não é gradualmente, é quase de um dia para o outro passar a fazer televisão de uma outra forma. Aliás, se fôr uma revolução para o

consumidor é mais difícil "entrar", porque há sempre resistência há mudança, essa é uma lei da natureza e não se pode contrariar isso. Por vários motivos, para o consumidor é uma evolução. Para os produtores, num sentido lato, aí é mais revolucionário.

A geração sub-trinta é o mercado-alvo da televisão interactiva, porque já está habituado a servir-se da internet, ou é para todas as idades?
VT: Do ponto de vista empresarial, a geração sub-trinta pode ser encarada como o grupo-alvo, na medida em que as pessoas já estão mais sensibilizadas para a interactividade. Para a geração mais nova é facílimo adaptarem-se às novas tecnologias, porque nasceram com elas. Para eles não é uma revolução, mas para as pessoas mais "velhas" é capaz de ser mais complicado, porque é um esquema mental completamente diferente.
A interactividade tem que ser o mais simples possível – um clique e toca andar. Não pode ter muitas funções e grandes menús. Tem que ser o mais simplificado possível, até porque graças a isso se alarga o leque dos utilizadores. A reacção das pessoas à interactividade na televisão é ainda uma incógnita.

Considera que o espectador de televisão é passivo e, portanto não está interessado em interagir com o televisor?
VT: Uma coisa não vai tirar lugar à outra. Penso que vai sempre haver lugar para as televisões generalistas, para aquelas pessoas que querem chegar a casa, ligar a televisão e ver o que está a dar. Nesse caso, o consumidor é passivo. Agora, isso não implica que os conteúdos não sejam interactivos. Depois, uma pessoa utiliza ou não a interactividade.

Como seria a "sua" televisão interactiva perfeita?
VT: Em primeiro lugar, a questão dos horários: ver o que quero quando eu quero. Há quem diga que os broadcasters vão ser umas bibliotecas gigantes. Um dos canais de distribuição que têm é a televisão tradicional, com um alinhamento definido de programas. Agora, quem quiser só ver uma coisa ou outra a determinada hora, vai buscar o que quer pela interactividade. Para o broadcaster é uma verdadeira revolução, porque está habituado a uma rotina de definir a grelha de programação. No futuro, terá que ter equipamento que lhe permita responder às solicitações do público, que vão ser diversas.