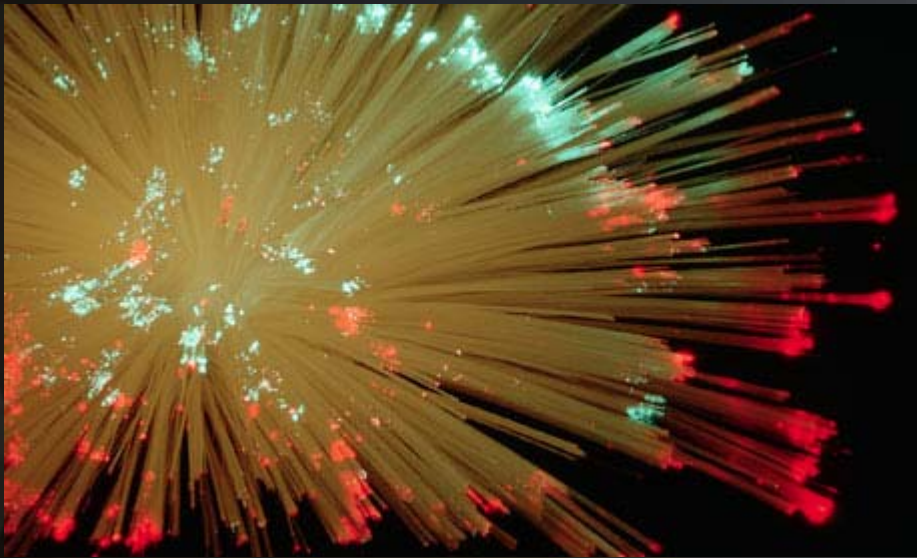


# ITED (The telecommunication's infrastructures in buildings regime) - a contribution for development of broadband access in Portugal



Nuno Castro Luís



## The telecommunication's infrastructures in buildings regime

- legislative rules
- technical specifications (ITED manual):



established the rules for the design, installation and test for piping and cabling networks to be installed in new and rehabilitated buildings



## The telecommunication's infrastructures in buildings regime

- infrastructures as mandatory ones (in all buildings)
- collective and individual pipes and cables of: copper pair, coaxial cable and fiber optic

- enable houses, offices and enterprise's buildings to adapt to fixed technologies for the transmission of information
- enabling them to be safely set up in accordance with the European Standardization
- promotes broadband coverage and multi-operator access

## Historical background

the liberalization of the communication's sector  
2000

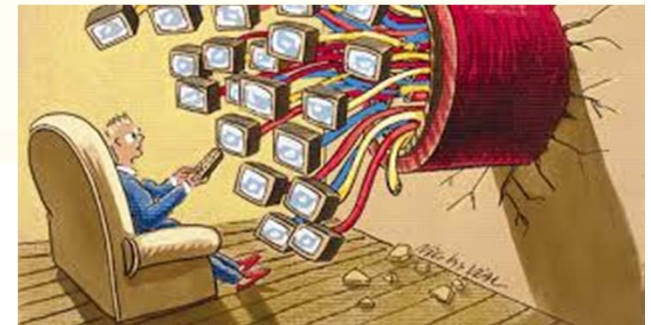
Before: the infrastructures projects only contemplated copper pair for fixed telephone services and were always submitted to the incumbent operator for approval



## 2000 to 2009 – New applicable regime

provided for the existence of telecommunications infrastructures (inter-connection devices, pipes and cables) in all new and reconstructed buildings

two technologies: copper and coaxial

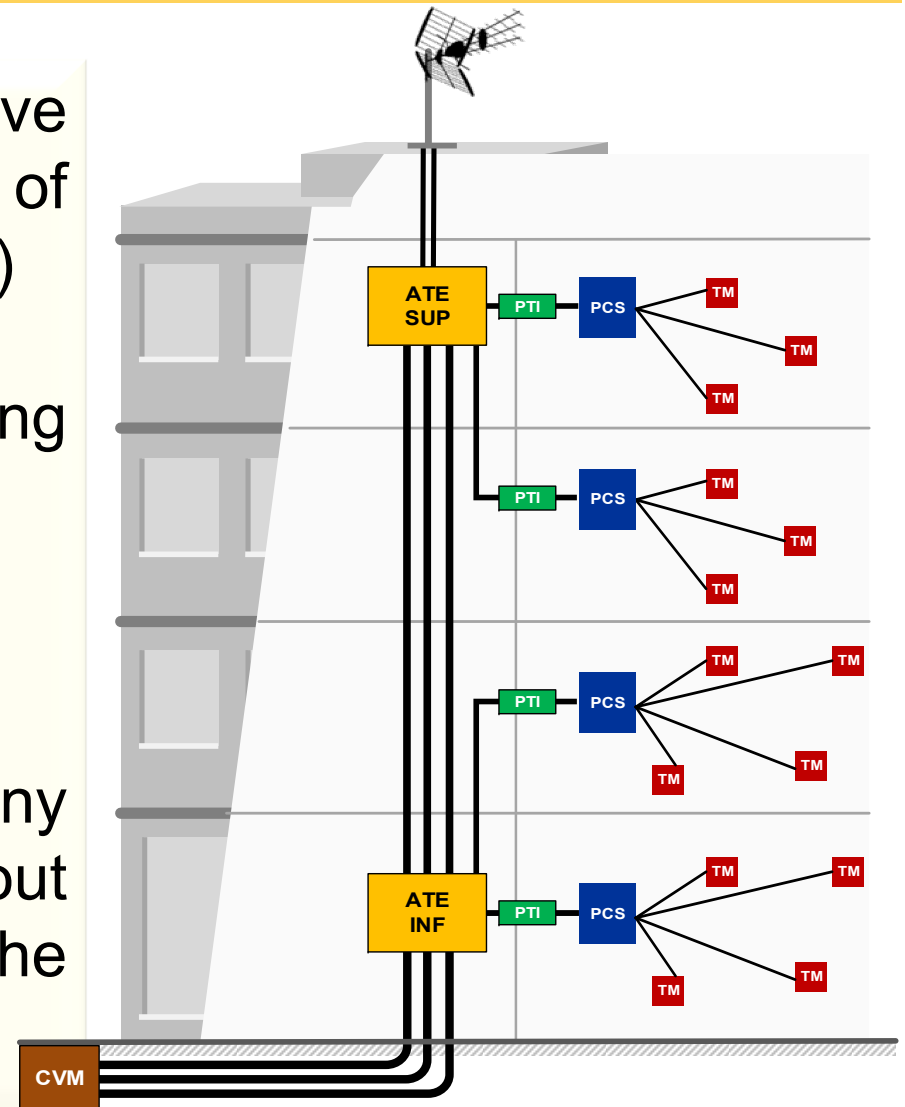


. pipping network and collective wiring (common to all users of the building and multi-operator)

. Individual pipping and wiring (for each apartment)



allowing the connection by any operator/service provider without requiring changes in the infrastructure.



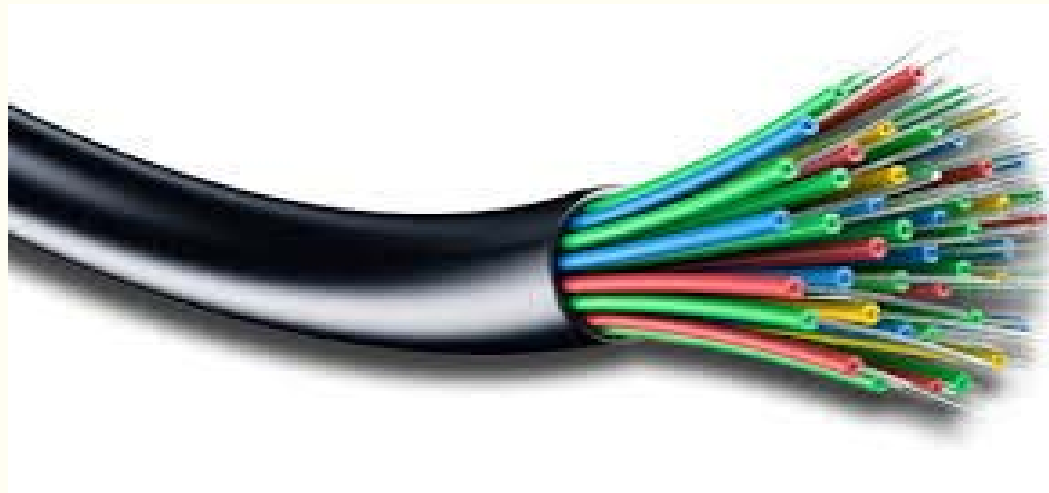
**2008** The Portuguese Government has approved a plan to:

+ make the “new generation networks” and services supported on **broadband** available to most consumers

**ITED** would be used as a tool to develop their penetration strategies, promoting the elimination of horizontal and vertical obstacles to investment in “the new generation networks” and broadband



**2010** The ITED regime includes the optical fiber, in parallel with copper pair and coaxial, as required infrastructure in all buildings standing



## ITED regime and implementation

- When someone wants to build, he must get projects for the different specialties and also one of telecommunications infrastructures
- Authors of telecommunications infrastructures projects can be engineers recognized by the respective professional associations
- Installers of telecommunications infrastructures can be engineers recognized and other technicians with enabling courses and training



## OBLIGATIONS

The authors of projects have several obligations such as preparing the projects in compliance with the technical rules (Manual ITED), issue a declaration of responsibility for project, monitoring the work during its execution to clarify the installer's doubts, and so on.

## OBLIGATIONS

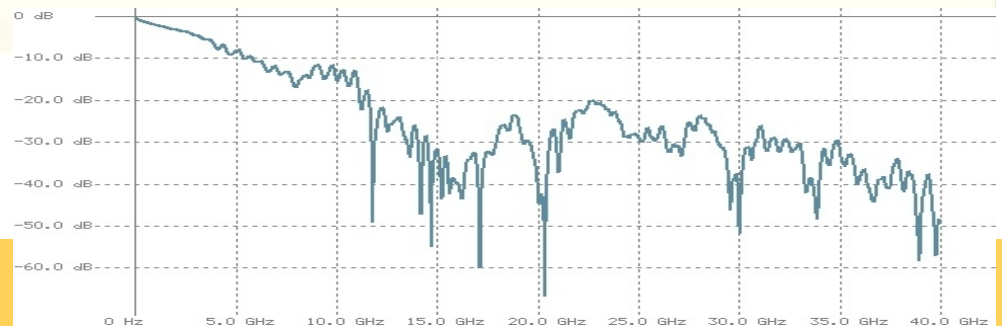
The installers must execute the telecommunications infrastructures in accordance with the project and with the technical standards applicable, as well as use materials and equipment that meet the technical requirements established in manual ITED (or other equivalent rules).

When the installer finishes the infrastructure, he should issue a declaration of responsibility for execution, which should be sent, through software application, to ANACOM. This authority has a public database containing all the **declarations** of responsibility, which can be consulted by everyone.



Before issuing the declaration, the installer performs a series of compliance verification tests, as imposed by the applicable procedures.

The results of these tests, performed with calibrated meters, are within the levels required by technical standards, they shall be recorded in an installer's report that may be required for monitoring purposes.



TERMO: \_\_\_\_\_ (Nº/Ano) DATA DE EMISSÃO: \_\_\_\_\_ (DD/MM/AAAA)

ENTIDADE INSTALADORA (Nome e número de inscrição - ANACOM/OE/ANET): \_\_\_\_\_

TÉCNICO RESPONSÁVEL (Nome e número de inscrição - ANACOM/OE/ANET): \_\_\_\_\_

LOCALIZAÇÃO DO EDIFÍCIO:

Rua \_\_\_\_\_

Localidade \_\_\_\_\_

Código Postal \_\_\_\_\_

Distrito \_\_\_\_\_

Concelho \_\_\_\_\_

Freguesia \_\_\_\_\_

COORDENADAS GEOGRÁFICAS: \_\_\_\_\_ (GPS)

TIPO E CARACTERIZAÇÃO DO EDIFÍCIO:

N.º DE FOGOS: \_\_\_\_\_

RESIDENCIAL

NÃO RESIDENCIAL

MISTO

PRESCRIÇÕES TÉCNICAS:

RITA  ITED – 1ª edição  ITED – 2ª edição (RNG)

IDENTIFICAÇÃO DO RELATÓRIO DE ENSAIOS DE FUNCIONALIDADE: \_\_\_\_\_

PROJECTISTA (Número de inscrição - ANACOM/OE/ANET): \_\_\_\_\_

DONO DE OBRA (identificação): \_\_\_\_\_

**DECLARAÇÃO:**  
 Nos termos do artigo 76º, nº 1, d), do Decreto-Lei nº 123/2009, de 21 de Maio, declara-se que as infra-estruturas de telecomunicações do edifício identificado foram executadas em conformidade com o projecto e com as prescrições e especificações técnicas aplicáveis, tendo sido efectuados os ensaios de funcionalidade exigidos.

Assinatura do técnico responsável \_\_\_\_\_ em \_\_\_\_/\_\_\_\_/\_\_\_\_

These declarations of responsibility are subsequently required by the operator to connect the building's infrastructure to the public network and to provide services.

An operator knows that the building meets the necessary technical conditions for, with a minimum impact for the owners and the users, and regardless of the technology used, make the connection

## Technical rules (Manual ITED)

### ANACOM: competence for approval

- engineers and technicians of ANACOM, universities professors and members of the professional associations of engineers prepared a first draft
- public consultation procedure
- notified to the European Commission, which reviewed the draft for 90 days, asking for the opinion of all Member States
- The manual ITED is now in the third edition





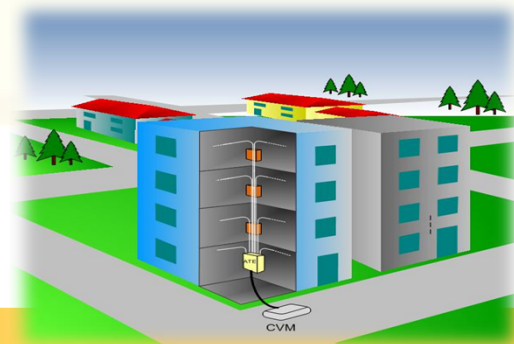
## Training and update knowledge:

- by 2010, most of the project's authors and installers only worked with copper pair and coaxial, ignoring completely the optical fiber technology
- by law imposition, all the technicians, in order to maintain their qualifications, were required to take training and update knowledge



## Principles to improve the infrastructures and multi-operator access:

- operators are required to use the telecommunications infrastructures of the building to provide their services
- the occupation of spaces and pipping must be dimensioned by the project's author according to the predictable number of users and communication's needs. The unjustified occupation by any operator is prohibited and punished by law
- a general principle of access, in equality, by the various operators



## **Adaptation of old buildings to the optical fibre**

- often had only infrastructure in copper pair, it was necessary to find a way to adapt them, in order to avoid limitations on access by more than an operator
- The law established a transitory regime
- The first operator to accede must ensure the installation of all rising mains and ensures the existence of customer connection points
- sharing of the installed infrastructure by other electronic communications providers wishing to offer services based on optical fiber technology.



## Adaptation of old buildings to the optical fibre

The share point must be located inside the building's optical fiber distribution frame

The first operator that accedes the building fully covers the cost of infrastructure construction; the second operator by paying 50% of the cost; The remaining providers bearing the costs in the proportion.



## ITUR –Telecommunication´s Infrastructures in urbanization, lots and condominiums

**Public ITUR** – Urbanization and lots (spaces for the installation of pipes)



**Private ITUR-** Condominiums (Pipes and wiring (particularly in copper pair, coaxial and optical fibre) for connection to the public telecommunication networks

## ITUR – Advantages

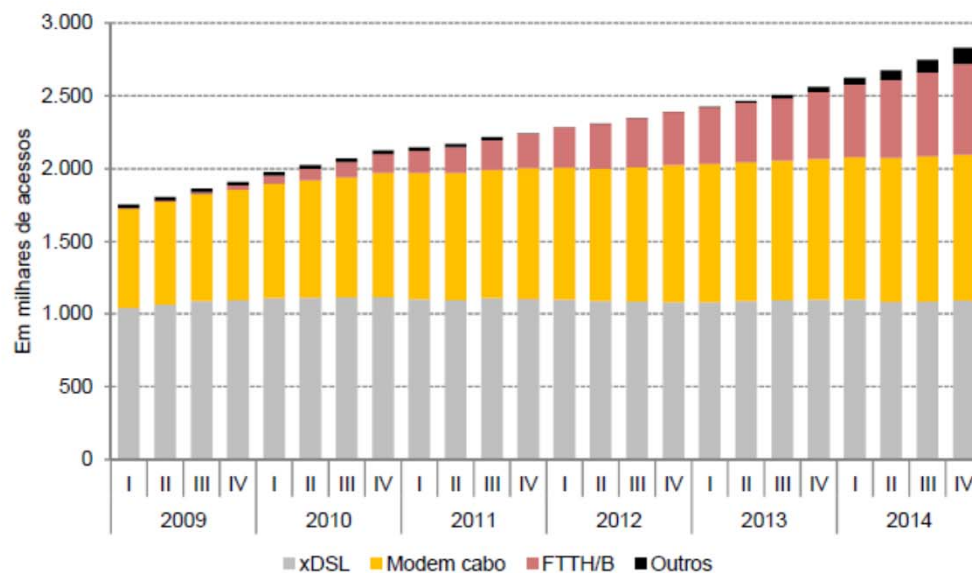
The great advantage of **private ITUR** is the possibility, given to the provider, to connect the service, with the desired technology, through an unique and common external telecommunications closet, with the lowest impact to the owner and to the final user

The great advantage of **public ITUR** is that the service provider, who wants to install cables, may do it with no need to make major intervention in public spaces

## The “new generation networks” and broadband services in Portugal

Evolution of fixed location accesses to broadband services:

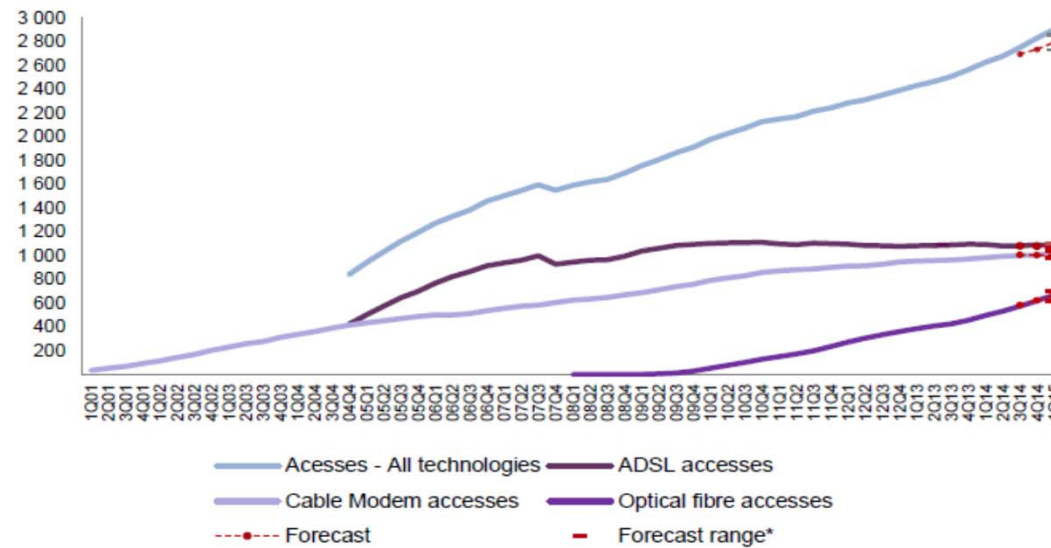
Gráfico 7. Evolução dos acessos fixos de banda larga por tecnologia em Portugal



Fonte: ANACOM com base em dados dos operadores.

## The “new generation networks” and broadband services in Portugal

Graph 5 - Trend in number of fixed broadband accesses



Unit: Thousands of accesses



## **Conclusion:**

The ITED regime has imposed a new legal framework and defined conditions under which non-discriminatory access to infrastructures in Portugal was increased. For that purpose the ITED regime (and also ITUR) were crucial because they incremented the reduction of vertical barriers (access to buildings), horizontal ones (access to other infrastructures as pipes) and imposed the optical fibre as mandatory.

The technical standards (Manual ITED and manual ITUR) were very important because they defined the technical framework to the technicians and services providers, as well as to equipment manufacturers.

**ITED** was and still is a good **contribution for development of broadband access in Portugal**



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