

Regulated Access Offers to Ducts and Poles

5th EMERG Webinar

João Gonçalves/DGR

10th February 2022

I. VHCN Coverage and take-up

II. SMP Regulation

- 1. Reference Offers of Access to SMP Ducts and Poles**
- 2. Database of SMP infrastructures**
- 3. Ordering process – access & approach to EoI**
- 4. Price of access to SMP infrastructures**

III. Symmetric regime

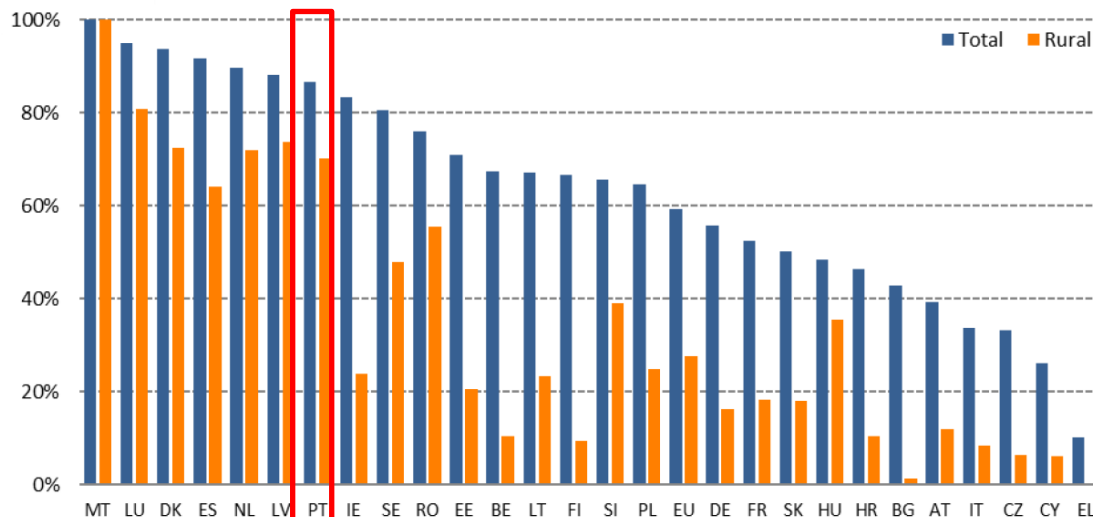
- 1. BCRD and DL123**
- 2. Access to physical infrastructures**
- 3. The Portuguese SIP (SIIA)**
- 4. Price methodology (in the scope of DL123)**

IV. Conclusion

I. VHCN Coverage and take-up

I. VHCN Coverage and take-up (1/2)

Figure 8 Fixed very high capacity network (VHCN) coverage (% of households), mid-2020



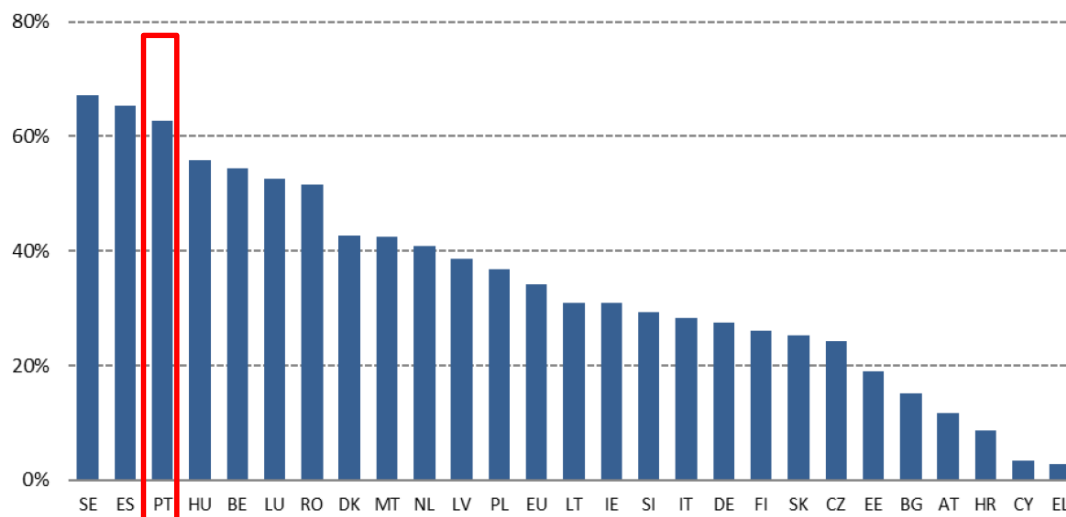
DESI 2021
Connectivity
Dimension:

Ranking PT (UE-27):

VHCN Coverage: 7th

Take-up (> 100Mbps): 3rd

Figure 16 Households with a fixed broadband subscription of at least 100 Mbps (% of households), 2020



Source Estimated based on the European Union survey on ICT usage in Households and by Individuals and data from the Communications Committee (COCOM).

VHCN Coverage (2/2)

Fixed Coverage with **VHCN** in Portugal **above 80% in urban areas**

FTTH (Altice/MEO and Vodafone) + **HFC** (NOS and NOWO)



In Rural Areas:

2 State-Aid wholesale-only **FTTH** networks
(**DSTelecom** and **Fibroglobal**)

No Regulated access to **SMP** Fibre/VULA
but access to **SMP** ducts & poles at cost oriented prices

Access to ducts and poles – Scope



1991

PT

2006

PT(ORAC)

2009

SMP
(ORAC)

2010

SMP
(ORAP)

In the Scope of Decree-Law n.º 123/2009 (DL123):

Utilities

Other
Operators

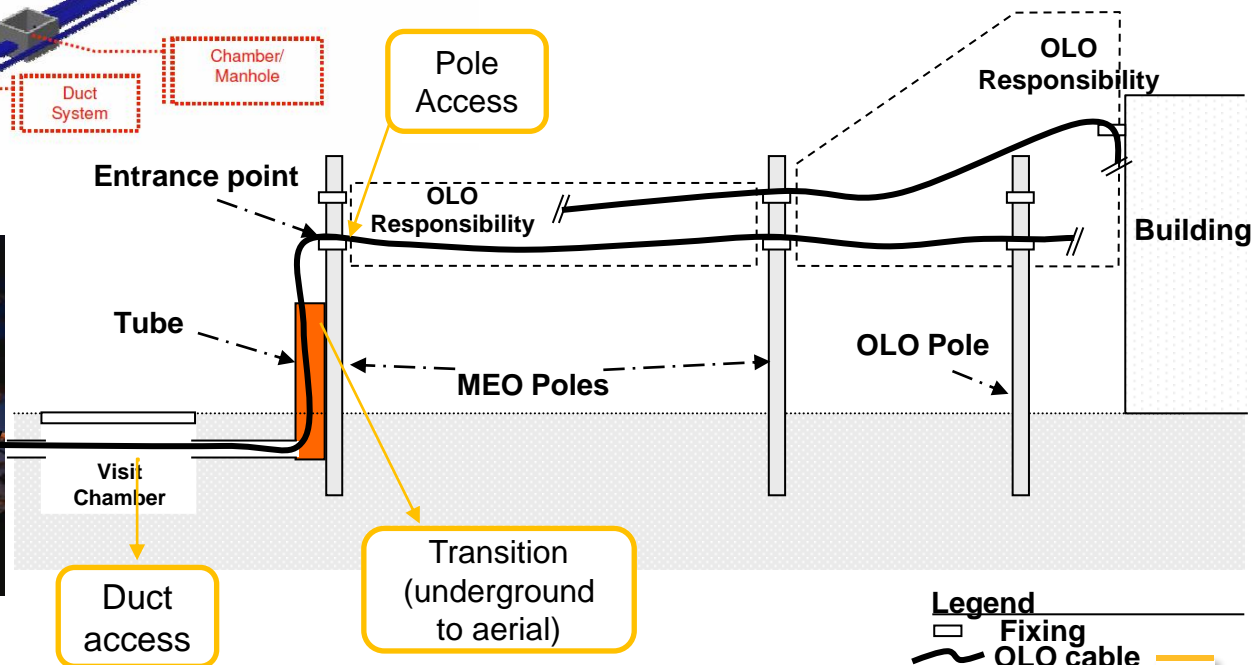
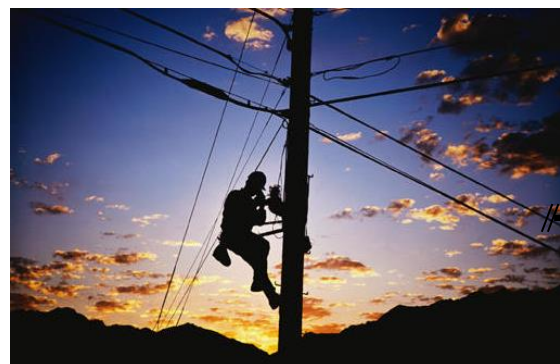
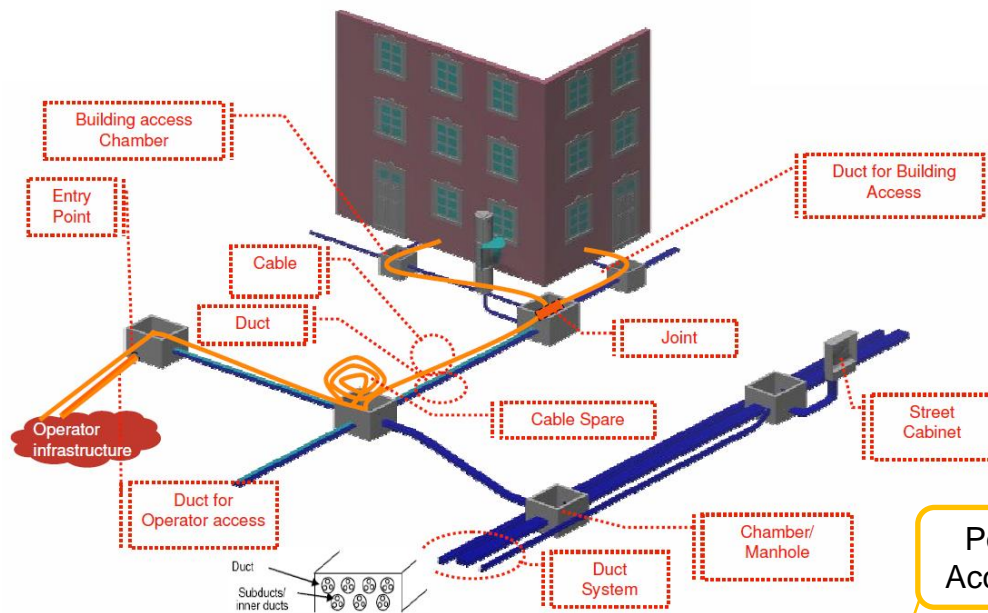
Municipalities

SMP Regulation and Symmetric regime

- Physical infrastructures (ducts and poles) of the **historical operator** (MEO/Altice) are very **extensive** and have a huge **capillarity** that enables the VHCN operators to reach their end users (households).
- **ORAC and ORAP** are the reference offers of access to MEO/Altice ducts and poles, regulated by ANACOM since 2006 and 2010, respectively .
- The obligation of access to MEO/Altice ducts and poles was kept in the former Market 3a/2014 (now Market 1/2020) analysis notified by ANACOM in March 2017. The access (wholesale) is provided at cost oriented prices.
- Decree-Law 123/2009 (transposes BCRD) **complements** the SMP regulation (e.g., electricity poles, TRC, municipality ducts). Operators mainly use ducts of MEO/Altice and poles of E-REDES and MEO/Altice to deploy VHCN (2017 Survey).

II. SMP Regulation

Reference Offer of Access to SMP Ducts (ORAC) and Poles (ORAP)



Access to SMP infrastructures & database ANACOM decisions

2004

Access to Ducts of the concessionaire
foreseen in the
Electronic Communications Law

**Terms of the Duct Access
Wholesale offer
established by ANACOM Decision**

2006

Reference Offer for Duct Access (ORAC)
Entry in operation

**ANACOM Decision regarding
access conditions and Prices
MEO obliged to construct a Duct
Database**

2008

SMP operator **duct database (BD ORAC)**
in operation

**ANACOM Decision regarding
Prices of Access to Duct Database
(BD ORAC)**

2010

Inclusion in BD ORAC of **online
information on duct occupation** – 4
colour levels

**ANACOM Decision – MEO to
provide duct occupation information
in C Areas**

2017

Following **ANACOM market 3A analysis**,
MEO changed **ORAC and ORAP** (e.g.
penalties applicable to the operators, *drops*)

**ANACOM Decision – Suspension of
ORAC v7 and ORAP v5**

Access to SMP infrastructures & database ANACOM decisions

2018

Draft Decision of **25th May 2018**
regarding changes to RDAO and RPAO

**82 D's - penalties over
beneficiaries, client cables (*Drops*)
using SMP Poles and Ducts**

2019

Draft Decision of **27th July 2019**
regarding *Drops* (RPAO and RDAO)

**22 D's – determinations regarding
Drops, *Extranet* prices, duct
occupation info. on whole territory**

2019

Final Decision of **12nd September**
regarding changes to RDAO and RPAO

**69 D's – notification of cable
installations, operator penalties,
information on SMP poles
(*Extranet*)**

2019

Publication by MEO of RDAO v8 and
RPAO v6 - **13th November 2019**

**OR's available at MEO's
Wholesale Portal
MEO's Poles information provided
in database – 24th January 2020**

2022

Notification of Final Decision regarding
Drops (RPAO and RDAO) - EXPECTED

**Automation of Poles Req&Replies
– September 2021 (RPAO v7)**

- **17 July 2004** - Offer for access to the PT Ducts (consultation report and decision) – minimum elements of ORAC
<https://www.anacom.pt/render.jsp?contentId=421132&languageId=1>
- **26 May 2006** - Alterations to be introduced in the ORAC (consultation report and decision)
<https://www.anacom.pt/render.jsp?contentId=370426&languageId=1>
- **6 August 2008** - Price of access to PT Database on Ducts (ORAC) (consultation report and decision)
<https://www.anacom.pt/render.jsp?contentId=636103&languageId=1>
- **28 October 2010** - Amendments to ORAC (consultation report and decision) – duct occupation info, Poles Offer Creation (ORAP)
<https://www.anacom.pt/render.jsp?contentId=1058577&languageId=1>
- **23 March 2017** - Analysis of markets 3a/3b – remedies ORAC ORAP
<https://www.anacom.pt/render.jsp?contentId=1408076&languageId=1>
- **29 June 2017** - Suspension of the entry into force of the amendments made by SMP Op. to ORAC and ORAP
<https://www.anacom.pt/render.jsp?contentId=1414274&languageId=1>

- **25 May 2018** – Draft decision regarding changes to ORAC and ORAP
<https://www.anacom.pt/render.jsp?contentId=1454447> (in Portuguese)
- **27th July 2019** – Draft Decision regarding *changes to ORAC and ORAP not included* in the
<https://www.anacom.pt/render.jsp?contentId=370426&languageId=1>
- **12th September 2019** – Final Decision regarding changes to ORAP and ORAC of MEO (report and decision)
<https://www.anacom.pt/render.jsp?contentId=636103&languageId=1>
- **13th November 2019** – Publication of ORAC v8 and ORAP v6
- **24th January 2020** – Information on Poles available in *Extranet*
- **24 Dezembro 2020** – Availability of duct occupation information in the whole territory (ORAC v9)
- **15th September 2021** – Automation of requests and replies in ORAP (v7)

<http://ptwholesale.pt/en/servicos-nacionais/infraestruturas/Pages/orac.aspx>

<http://ptwholesale.pt/en/servicos-nacionais/infraestruturas/Pages/orap.aspx>

Training to acquire
specific
competencies and
knowledge

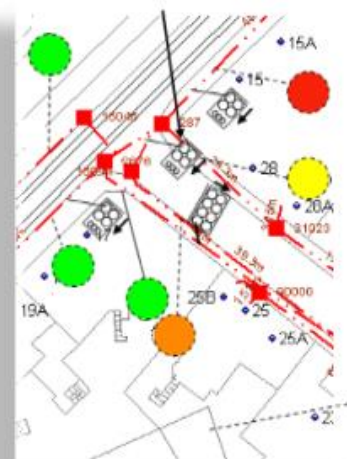
4 training companies
are implementing a
Credential Program
Partnering with PT

Theoretical and
practical exam

ORAC and ORAP regulate the access and use of MEO/Altice ducts and poles, for the operators to install their VHCN networks (cables and equipments):

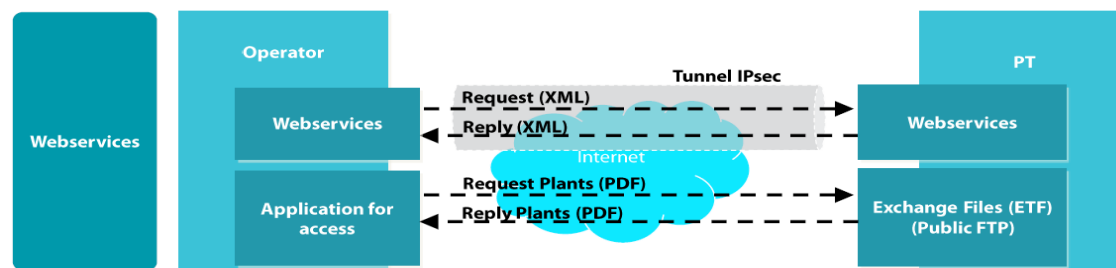
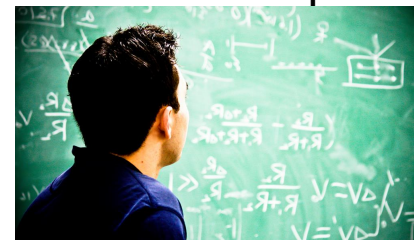
- Duct/Pole information accessed via *Extranet*.
- Analysis of viability for duct/pole occupation (can be done online on ducts)
- Cable installation in ducts/poles. Cable removal.
- Cable Intervention (e.g. replacement of a cable segment).
- Duct/Poles path detour.
- Availability of Online system (***Extranet ORAC/ORAP***) containing up-to-date information on MEO/Altice duct and pole location and duct occupation.

Level of occupation	Response	Color	Analysis of viability response
[100]	Without free space	Red	Not viable
[76 a 99]	High Occupancy	Orange	Viable
[51 a 75]	Moderate Occupancy	Yellow	Viable
[0 a 50]	Low Occupancy	Green	Viable



ORAC and ORAP

- Operators may access MEO/Altice ducts and poles - Accreditation for personnel (ORAC and ORAP training/credentials).
- MEO has always the option to supervise the works.
- **ORAC ordering process** is automated by the exchange of information between MEO/Altice and operators **through API Webservices and structured files**.



- The process supporting **ORAP** service is based on **exchange of information by e-mail** between MEO/Altice and the operators.
- Regarding **duct occupation** there could be no need to perform a feasibility analysis, since online information on SMP duct occupation is provided in the whole territory. Regarding **pole access**, there is a need for MEO/Altice to perform a feasibility analysis.

Ordering process – access & approach to Eol

Operators (OPS) and MEO

OPS

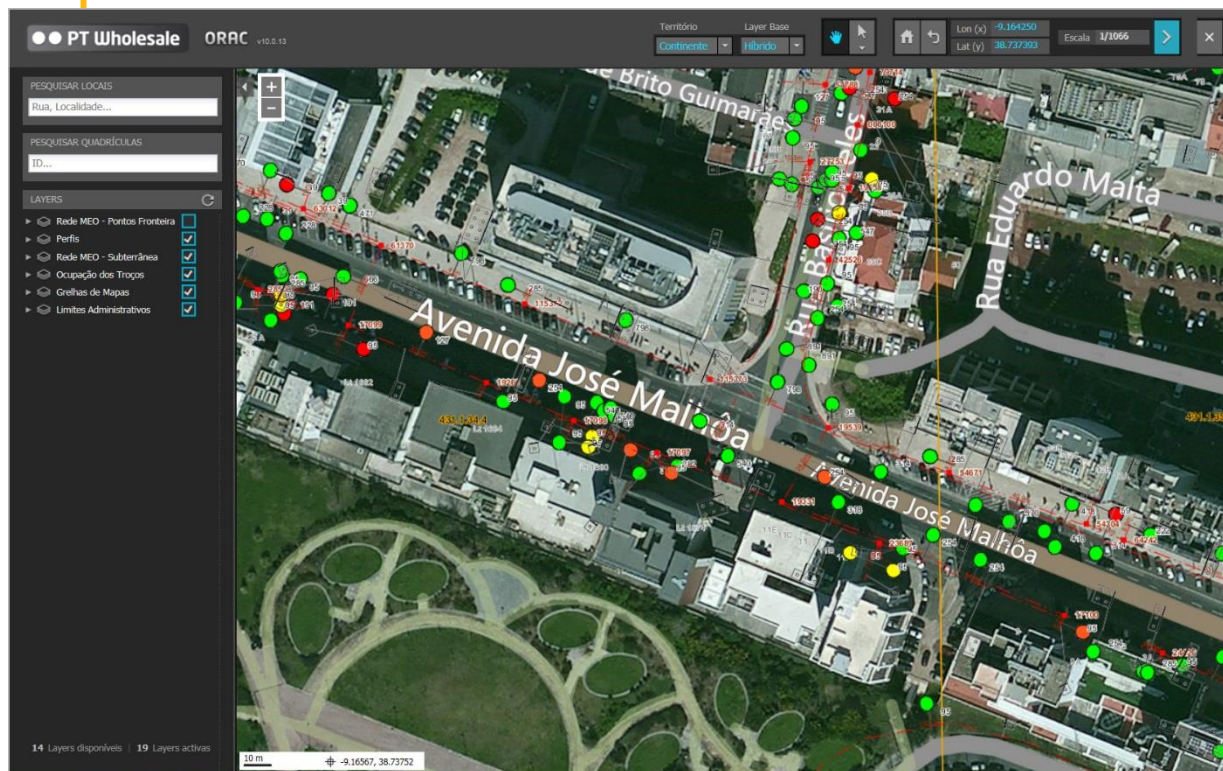
Through Extranet
perform feasibility
analysis

OPS &
MEO

Schedule of cable
installation

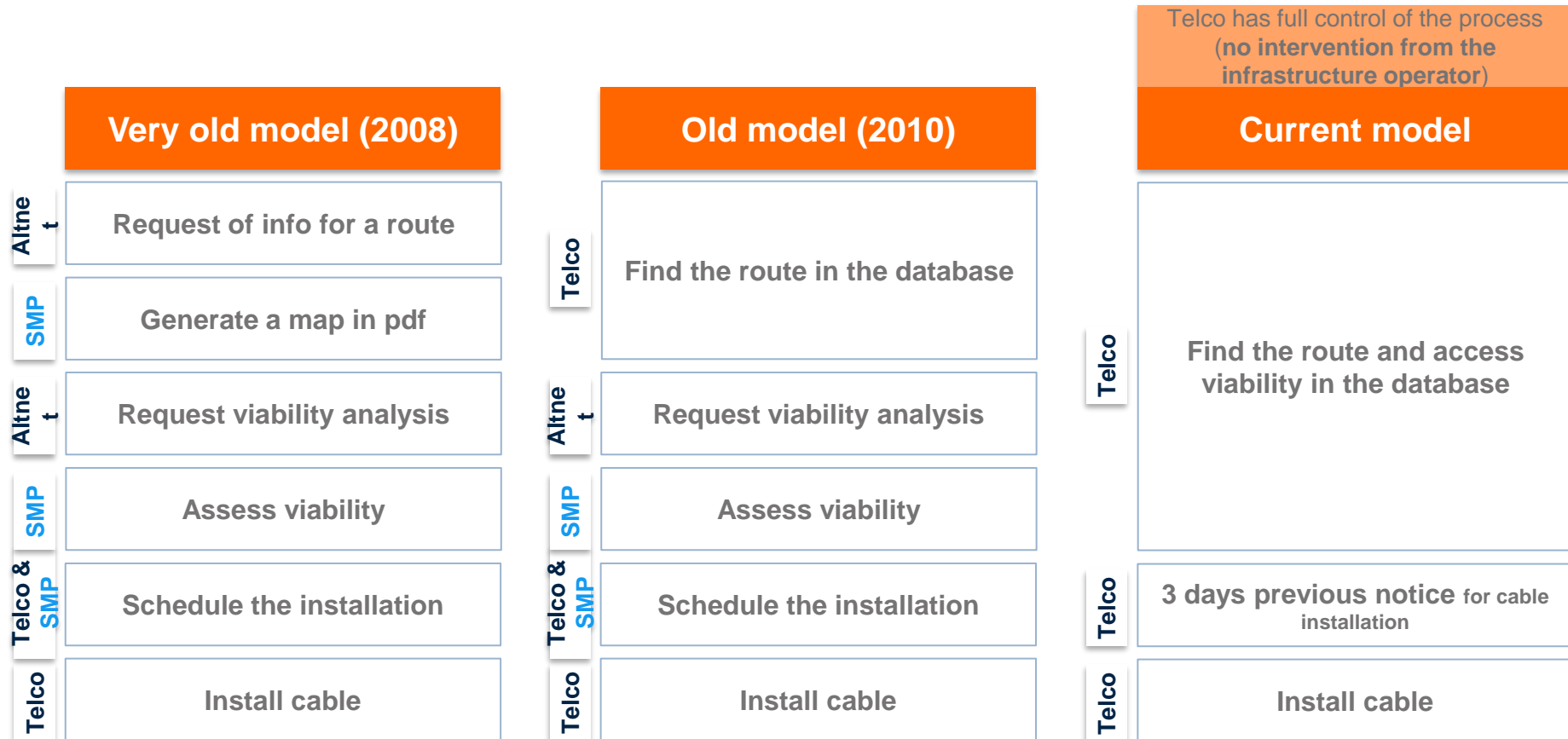
OPS

Installation works in
the field



MEO's Database (Extranet) contains information regarding occupation level of the ducts, profile and duct section (area) and on Poles location (since january 2020)

Procedures for installation of cables



RDAO KPIs, SLAs and SLGs (compensations)

KPI definition	Level (SLA)	Occurrences	Compensation (SLG)	Maximum number of days
Time to respond to duct information request	1 working day	100%	d x € 50	60 working days
Time to respond to duct viability request analysis - with and without alternative path	10 calendar days		d x € 50	90 calendar days
Time to schedule joint visit in non-urgent maintenance operations	24 consecutive hours		h x € 25	N/A
Time to schedule joint visit in urgent maintenance operations	4 consecutive hours		h x € 50	N/A
Level of joint service (accompany) availability	95%		N/A	N/A
Time to respond to access and installation request	5 working days		d x € 50	60 working days
Time to respond to unobstruction budget request	5 working days		d x € 50	60 working days

d – days of delay
h – hours of delay

Three pillars

Efficiency

Reduce the dependency from the SMP operator
(online information regarding occupation and installation by OLO)

KPI

Time limits for all services, generally in consecutive days/hours and for 100% of the cases

Compensations

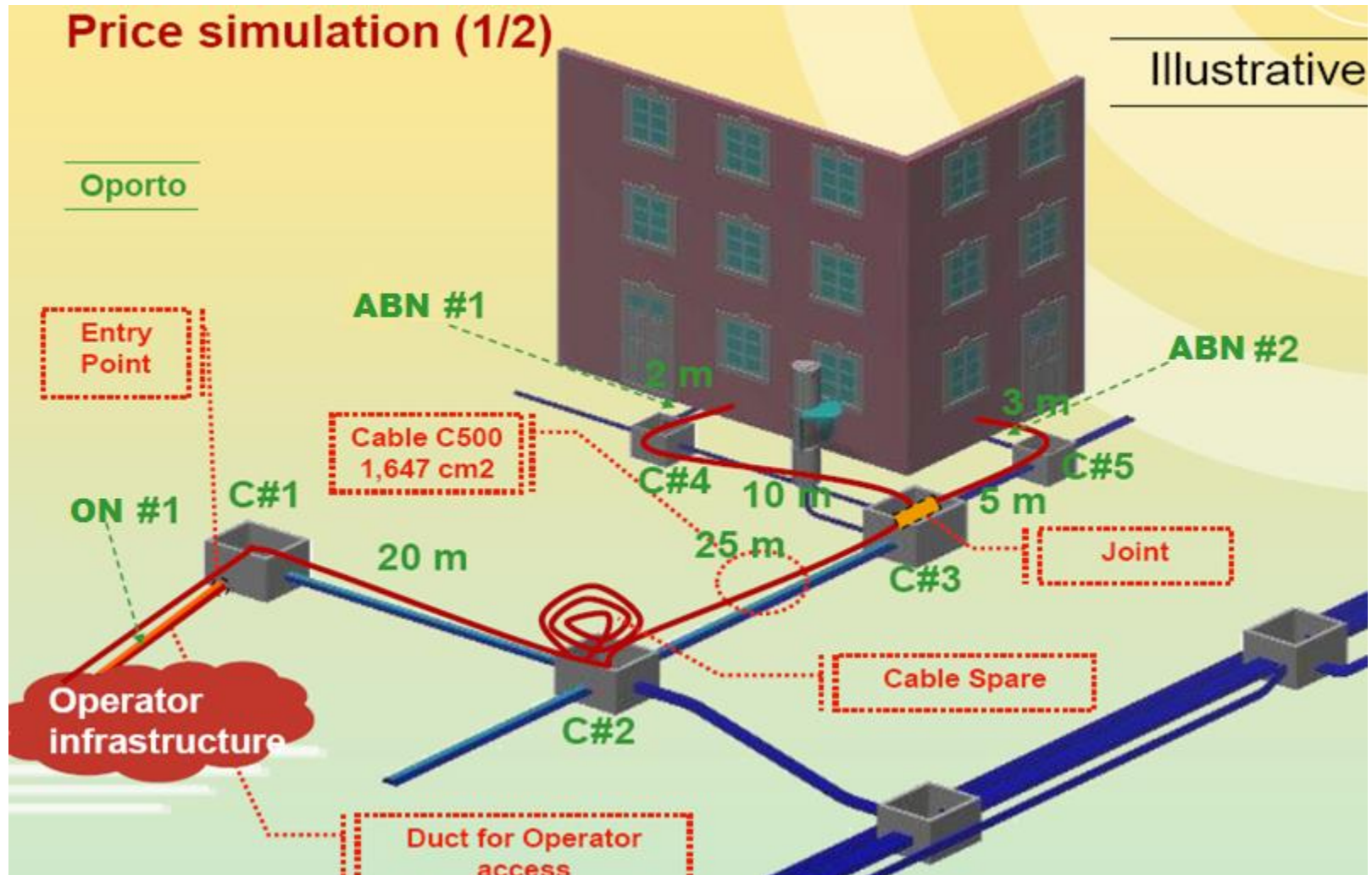
By MEO initiative and independent from presentation of forecast by OLOs

- In ANACOM's **market 3a analysis (2017)**, the Eol obligation was imposed under the non-discrimination/equivalence obligation, on the access to ducts and poles of the operator identified with SMP - ORAC and ORAP.
- By ANACOM **decision of 12.09.2019** an approach to Eol in the access to SMP operator's ducts (and associated infrastructure). The time-period for the ORAC beneficiaries to schedule the installation was reduced, thus promoting an approach to what MEO as supplier of the wholesale offer practices internally (vertical integrated Operator).
- Another ANACOM **draft Decision regarding ORAP** includes measures seeking an approach to Eol (e.g. installation of drops in MEO poles).
- Since **3Q 2020**, ORAC and ORAP SLA indicators of the fiber company of MEO (FastFiber) are published as others (e.g. Vodafone, NOS, NOWO).

ANACOM decision of 26th May 2006 on changes to ORAC:

http://www.anacom.pt/streaming/Prior_hearing_report_26june2006.pdf?contentId=374927&field=ATTACHED_FILE

Access to information	Minimum (1 District)	Maximum (20 Districts)
Annual price for the selected districts	1.390,00 €	92.578,00 €
Viability Analysis for occupation of Ducts	Without alternative path identification	With alternative path identification
Base price (per Order)	63,30 €	72,80 €
Additional Price per Chamber	46,10 €	46,10 €
Occupation space in Ducts	Lisbon and Oporto areas	Remain country areas
Monthly occupation price for inner ducts, per km and area in cm ²	10,60 € / km / cm ²	8,30 € / km / cm ²
Monthly occupation price for main ducts, per km and area in cm ²	9,80 € / km / cm ²	7,50 € / km / cm ²
Monthly price for each Entry Point	1,80 €	
Monthly price for each Cable Joints	3,90 €	
Monthly price for each Spare cables	2,70 €	



Prices (#2/2)

Price simulation (2/2)

Information

Annual Price for accessing Information	Oporto	18.842,00 €
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Viability Analysis

No recurrent price	Number of Chambers	5	293,80 €
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Access and installation of cables

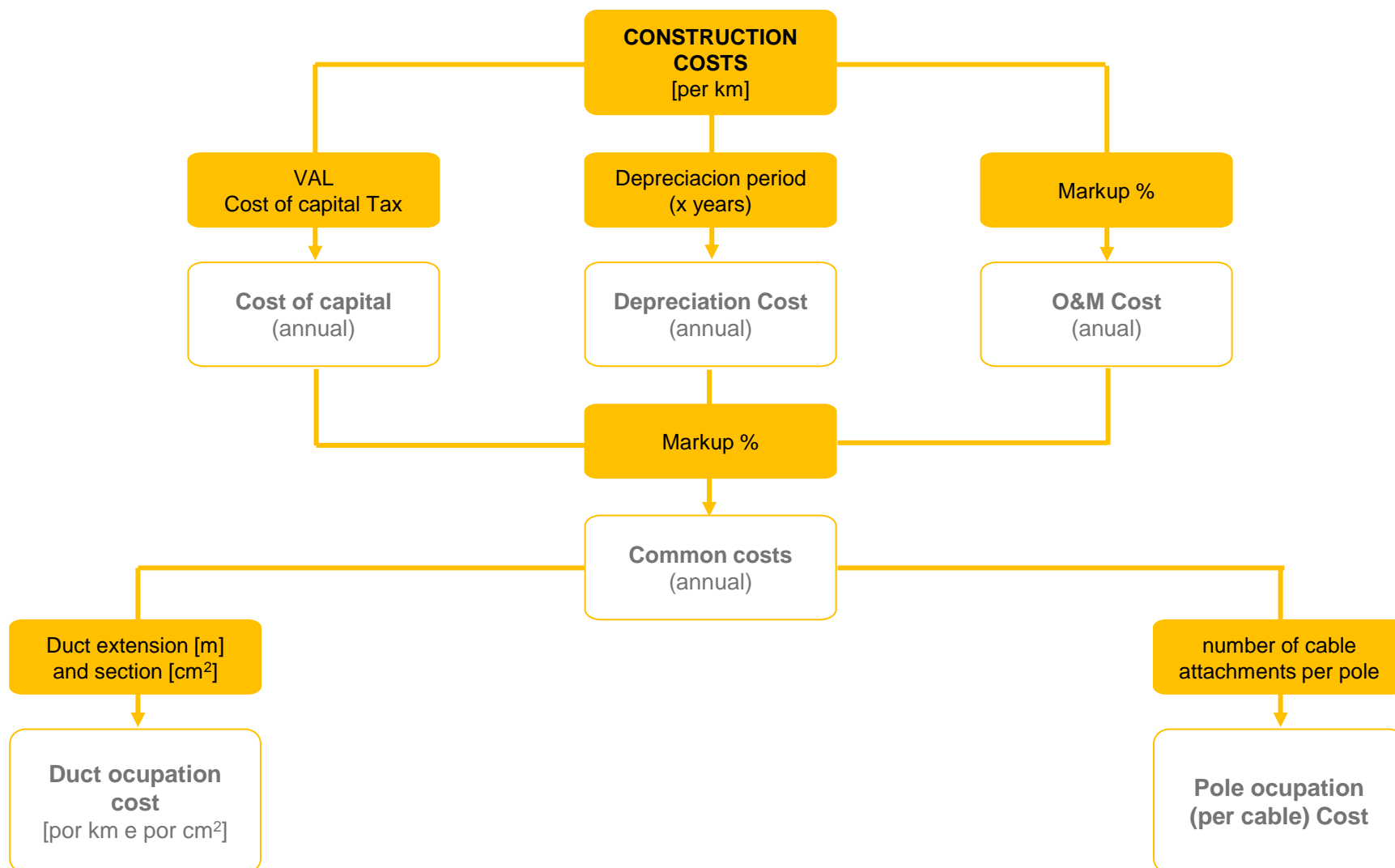
Zone	Chamber A	Entry Point	Joint	Spare	Chamber B	Cable Type	length (m)	Cable Section (cm2)	Occupation Area of Cables (cm2)	Monthly Price
Zone 1	ON#1	1			C #1	1/C500	0	1,647	4,22	1,80 €
Zone 1	CV#1			1	C #2	1/C500	20	1,647	4,22	3,53 €
Zone 1	CV#2		1		C #3	1/C500	25	1,647	4,22	4,93 €
Zone 1	CV#3				C #4	1/C500	10	1,647	4,22	0,41 €
Zone 1	CV#4				ABN#1	1/C500	2	1,647	4,22	0,08 €
Zone 1	CV#3				C #5	1/C500	5	1,647	4,22	0,21 €
Zone 1	CV#5				ABN#2	1/C500	3	1,647	4,22	0,12 €
Total										11,09 €

Accompany by PT

No recurrent price	Number of working hours	4 working hours	120,00 €
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VAT excluded

Graphic representation of methodology

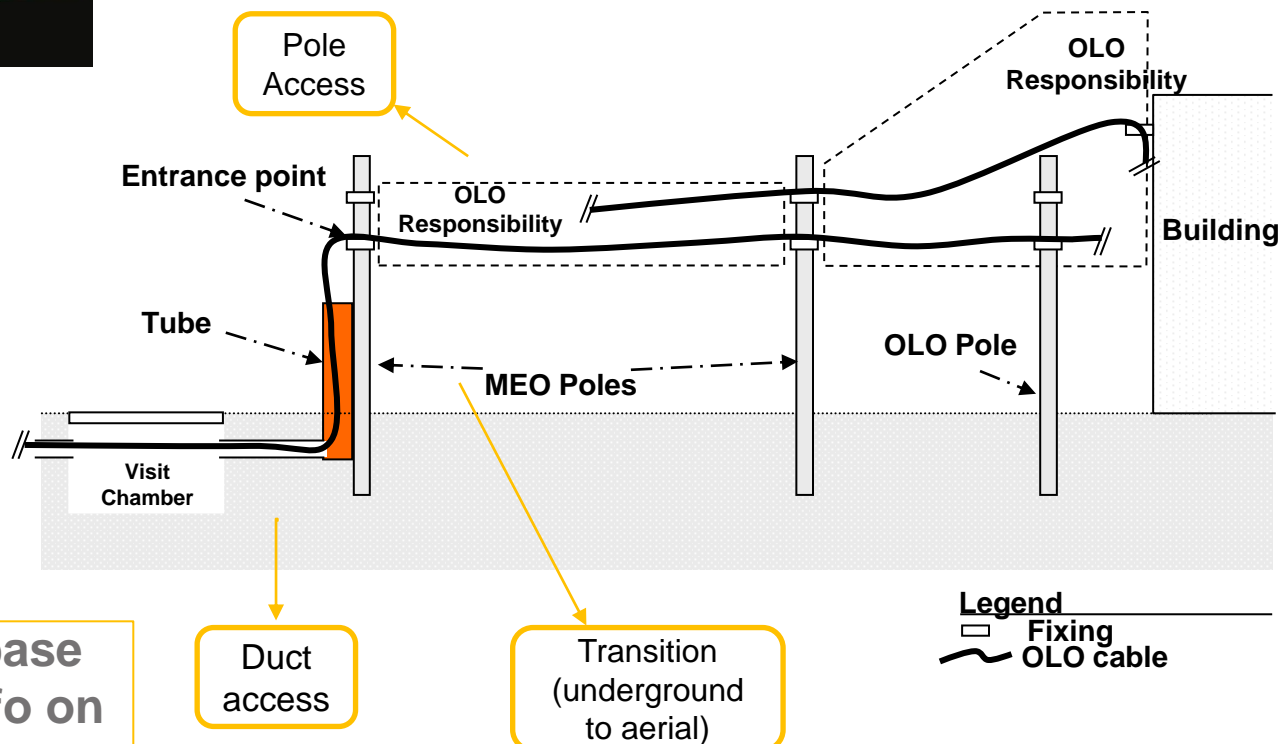


Reference Pole Access Offer (RPAO)



More used in rural areas

Same principles as the duct access offer



SMP Op. Pole database available – but no info on cables (netw & drop)

RPAO - Feasibility and Installation Wholesale Requests

RPAO Beneficiary must choose one of the following options:

- **Feasibility and Normal Installation**

The feasibility analysis is carried out considering, when necessary, only the Pole adjustments provided for in RPAO. The result of the feasibility can be:

- fully feasible when all requested Pole layout are viable (with or without adaptations) or
- partially feasible when at least one viable or feasible Pole layout with adequacy is identified.

- **Viability and Guaranteed Installation**

The feasibility analysis is carried out considering the necessary Pole adjustments in order to guarantee the feasibility.

The request is only considered viable when all the Pole Layouts requested are viable (partial feasibility is not applied).

In the case of an Unreasonable Request, **SMP Op. will present a budget** to the RPAO Beneficiary and a deadline for carrying out the adjustments.

RPAO Prices – Feasibility and Installation

Preços da Adequação Garantida			
Número de postes no pedido		Preço base por pedido	Preço adicional por poste no pedido (aplicação cumulativa)
Limite inferior (inclusive)	Limite superior (inclusive)		
1	8	360,00 €	0,00 €
9	16		45,00 €
17	32		35,00 €
33			25,00 €

ID	Componente de Serviço de Adequação Normal	Unidade	Preço unitário
1	Instalar espia com âncora	Por unidade	165,00 €
2	Instalar espia entre poste e poste-espia com âncora	Por unidade	324,00 €
3	Instalar poste de escora	Por poste	191,00 €
4	Substituir poste existente por poste de madeira ≤ 9 metros	Por poste	376,00 €
5	Substituir poste existente por poste de madeira > 9 metros	Por poste	480,00 €
6	Substituir poste existente por poste de betão com 9 metros	Por poste	708,00 €
7	Substituir poste existente por poste de betão com 10 metros	Por poste	929,00 €
8	Intervenção em poste	Por poste	40,00 €

RPAO Prices – Pole occupation and supervision

Pole occupation – per cable fixation – Monthly price

1,25 €

Viability analysis - Fixing cable in poles

Base Price (per request)

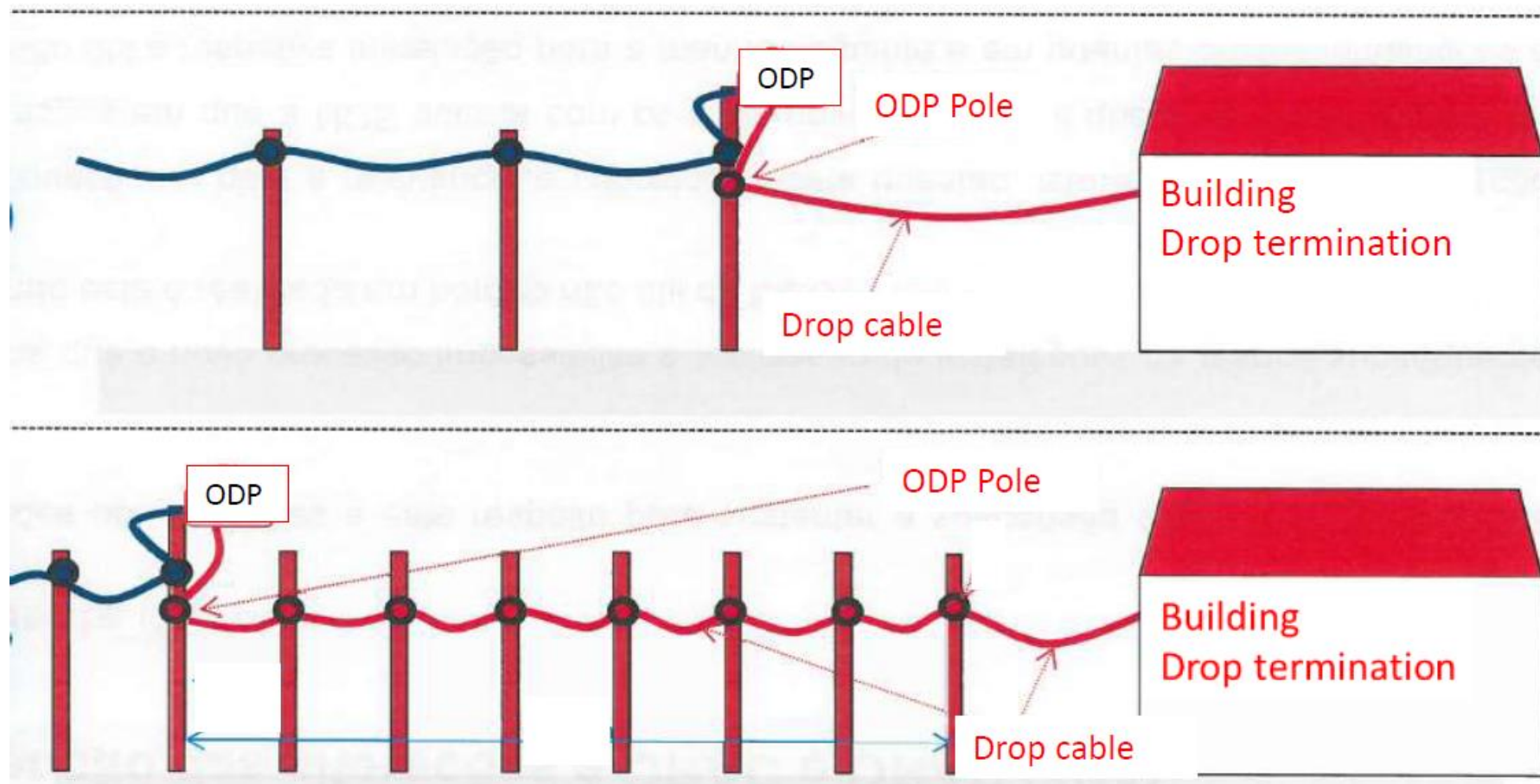
63,30 €

Price per Pole

14,90 €

Supervision of the Works	Price per request
Working Hours	52,80 €
Remaining Periods	104,00 €

Reference Pole Access Offer (RPAO)



III. Symmetric Regime

Broadband Cost Reduction Directive (BCRD) (Directive 2014/61/EC)

Infrastructure based competition is fostered by the reduction of costs of rolling out NGA networks

Directive 2014/61/CE

- Access to infrastructure



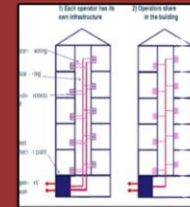
- Coordination of civil works



- Streamlining permit granting



- Inbuilding infrastructure



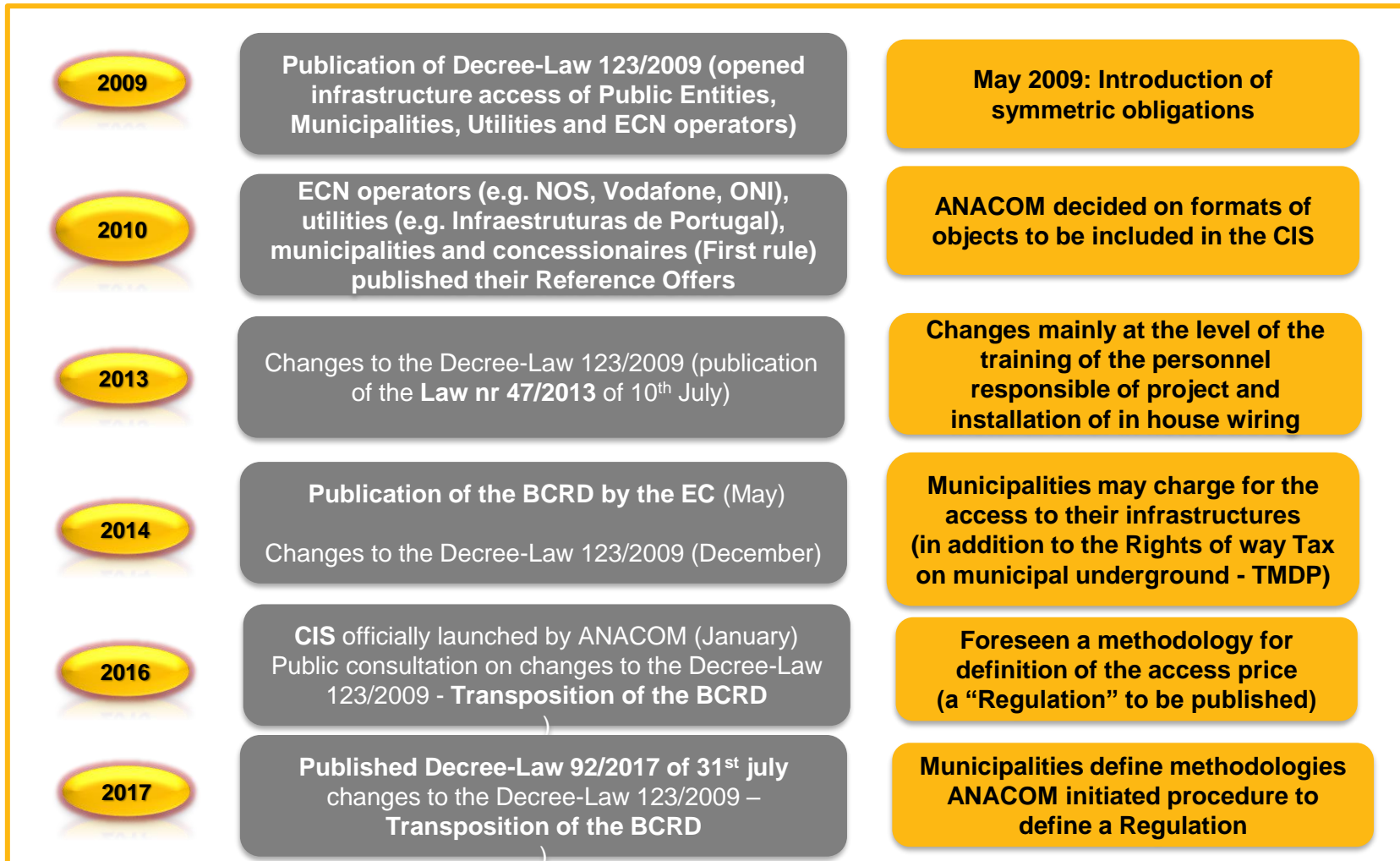
**Most measures foreseen in the BCRD already converge with Portuguese Law
(Decree-Law 123/2009)**

(some aspects seem to be “based” on the Portuguese case)



Symmetrical obligations

Background





Anticipated the BCRD - Broadband Cost Reduction Directive (2014/61/EC)



Right of open access to all infrastructures (owned by concessionaires, municipalities, operators)



**Access prices should be cost oriented
(The Directive mentions “fair and reasonable” prices)**



Entities shall publish procedures and conditions applicable to the access



Any (viability) access request must be answered in 20 working days (max)



The installation must be done in 4 months maximum time

Access to infrastructures of other entities

Several entities (operators, *utilities*) published **wholesale offers** of access to their physical infrastructures:

- **IARC (ECN operator):**

(<http://www.oni.pt/en/documents-iarc>)



- **OAI (ECN operator):**

(<http://www.nos.pt/institucional/EN/wholesale/regulated-services/oferta-de-acesso-a-infraestruturas/Pages/default.aspx>)



- **VOAC (ECN operator):**

(<https://www.vodafone.pt/content/dam/digital-sites/downloads/wholesale/tarifario-condutas-vodafone-portugal.pdf>)



- **ORIP (road utility):**



- (<https://www.iptelecom.pt/servicos/infraestruturas/ctr/>)

- **E-REDES Poles Offer (electricity utility):**



- (<https://www.e-redes.pt/sites/eredes/files/2021-07/RegulamentoAcessoUtilizacaoInfraestruturasEDPDistribuicao2019.pdf>)

Access to physical infrastructure

(Centralized Information System – CIS, now SIIA)

Suitable Infrastructure Information System (SIIA)

Já disponível!

SAIBA MAIS >



Gathers information on:

- geo-referenced data from all entities
- information on procedures and access conditions to infrastructures
- procedures and conditions for the allocation of rights of way
- advertisements of construction of new infrastructure

SIIA is operational since January 14th 2016

<http://www.anacom.pt/render.jsp?contentId=1376844&languageId=1#.VqDK8encu70>

SIIA – Centralized Information System

ANACOM
AUTORIDADE NACIONAL DE COMUNICAÇÕES

Sistema de Informação Centralizado (SIC)

Ana Isaías
ANACOM

terça-feira, 2 de maio de 2017

ADMINISTRAÇÃO ▾ ANÚNCIOS DE CONSTRUÇÃO ENTIDADES MAPAS REPORTING ▾

Página inicial > Mapas

TEMAS LEGENDA

- ANACOM
 - Objetos de Cadastro
 - Armário
 - Câmara de Visita
 - Edifício Técnico
 - Galeria Técnica
 - Poste
 - Torre
 - Troço Aéreo
 - Troço de Conduta
 - Anúncios de construção
 - Cálculo de Trajetos
 - Limites Administrativos

Escala - 1: 9028

Selecione uma entidade

Ruas (Google Maps)

The map displays a street grid with various infrastructure elements overlaid. The legend on the left indicates that the map shows 'Objetos de Cadastro' (Cadastral Objects) and 'Anúncios de construção' (Construction Announcements). The 'Objetos de Cadastro' section includes 'Armário' (Cabinet), 'Câmara de Visita' (Access Chamber), 'Edifício Técnico' (Technical Building), 'Galeria Técnica' (Technical Gallery), 'Poste' (Post), 'Torre' (Tower), 'Troço Aéreo' (Aerial Segment), and 'Troço de Conduta' (Conduit Segment). The 'Anúncios de construção' section includes 'Cálculo de Trajetos' (Trajectory Calculation) and 'Limites Administrativos' (Administrative Limits). The map also shows 'Ruas (Google Maps)' (Streets (Google Maps)).

SIIA - Infrastructure Records

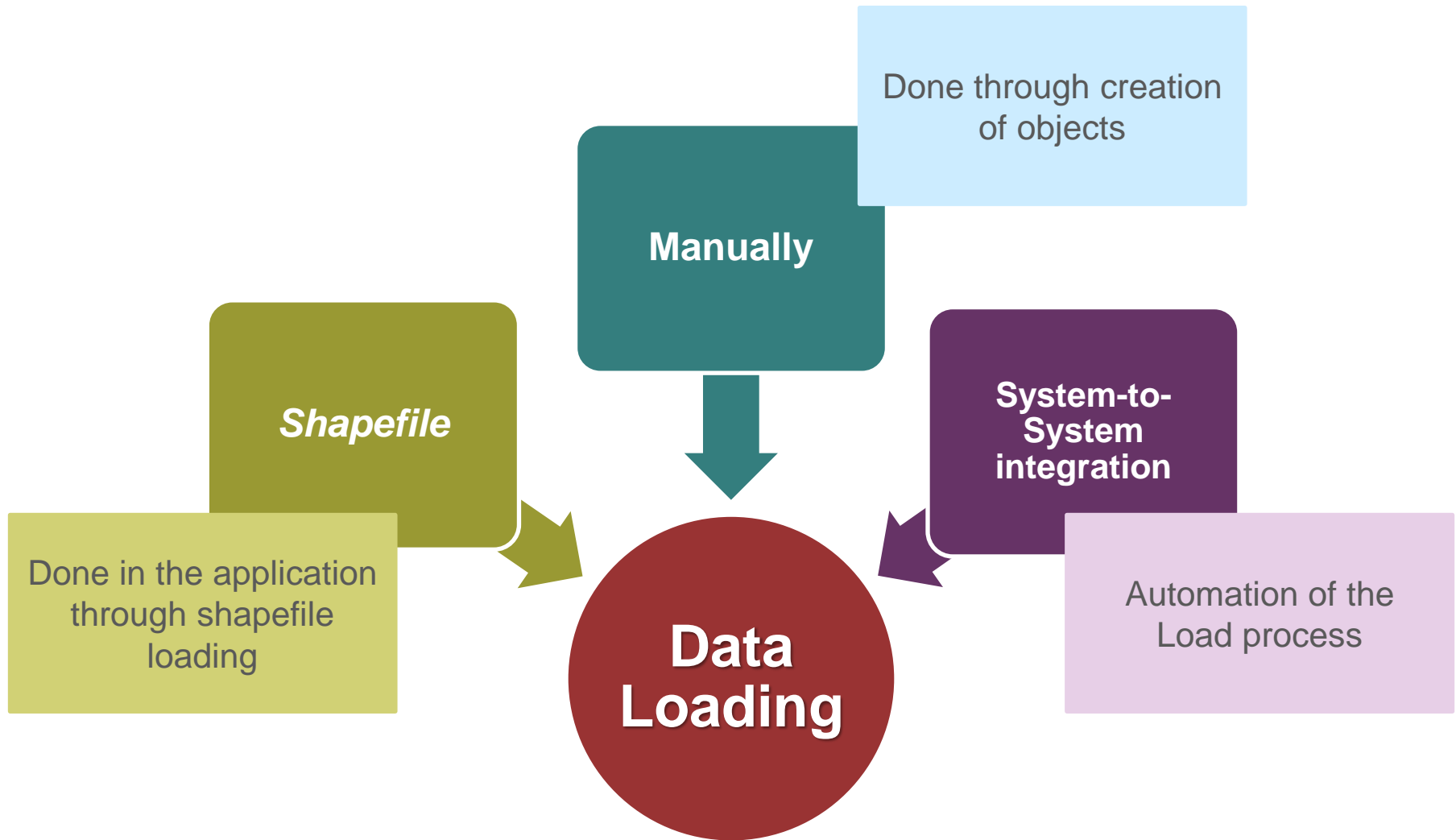
Atributos de Caracterização de Tipo de Infraestruturas		Objetos Cadastrais							
		Armário	Câmara de Visita	Troço de Conduta	Troço Aéreo	Edifício Técnico	Galeria Técnica	Poste	Torre OPT
Localização	Distrito	ODL	ODL	ODL	ODL	ODL	ODL	ODL	ODL
	Concelho	ODL	ODL	ODL	ODL	ODL	ODL	ODL	ODL
	Freguesia	ODL	ODL	ODL	ODL	ODL	ODL	ODL	ODL
	Arruamento	NAP	NAP	NAP	NAP	ODL	NAP	NAP	NAP
	Nº de Polígia	NAP	NAP	NAP	NAP	ODL	NAP	NAP	NAP
Georreferenciação	Tipo	Ponto	Ponto	Linha	Linha	Ponto	Linha	Ponto	Ponto
	Sistema de Coordenadas	OBR	OBR	OBR	OBR	OBR	OBR	OBR	OBR
	Coordenadas	OBR	OBR	OBR	OBR	OBR	OBR	OBR	OBR
Traçado	Subterrâneo	NAP	ODL	ODL	NAP	NAP	ODL	NAP	NAP
	Suspensão	NAP	NAP	NAP	NAP	NAP	NAP	NAP	NAP
	Aéreo	NAP	NAP	NAP	ODL	NAP	NAP	ODL	ODL
Atribuição Principal		ODL	ODL	ODL	ODL	ODL	ODL	ODL	ODL
Detenção		OBR	OBR	OBR	OBR	OBR	OBR	OBR	OBR
Dimensão	Diâmetro	NAP	ODL	ODL	NAP	NAP	NAP	NAP	NAP
	Comprimento	ODL	ODL	ODL	ODL	OPC	ODL	NAP	NAP
	Largura	ODL	ODL	NAP	NAP	OPC	ODL	NAP	NAP
	Altura	ODL	ODL	NAP	NAP	OPC	ODL	NAP	NAP
	Cota	NAP	NAP	NAP	ODL	OPC	NAP	ODL	ODL
Tipo de Utilização	Acomodação de cablagem	NAP	ODL	ODL	ODL	NAP	ODL	ODL	ODL
	Acomodação de equipamentos	ODL	NAP	NAP	NAP	ODL	NAP	NAP	NAP
	Dispositivos de junção/derivação	ODL	ODL	NAP	NAP	ODL	ODL	ODL	NAP
	Terminações	NAP	NAP	NAP	NAP	ODL	NAP	NAP	NAP
Estado Operacional		ODL	ODL	ODL	ODL	ODL	ODL	ODL	ODL
Estado de Ocupação		OPC	OPC	OPC	OPC	OPC	OPC	OPC	OPC
Identificador do Objeto		OBR	OBR	OBR	OBR	OBR	OBR	OBR	OBR

The formats of the infrastructure records and the corresponding characterization elements to be included in SIIA were defined by ANACOM Decision of **11th November of 2010**:

<https://www.anacom.pt/render.jsp?contentId=1062883&languageId=1>

ANACOM Decision regarding SIIA published in **14th of November of 2018**, added new mandatory infrastructure objects (**masts, towers**, entries to buildings):

<https://www.anacom.pt/render.jsp?contentId=1459754&languageId=1>



Price of access to infrastructures - art. 19th (DL123)

Since 2009, the prices should be cost oriented (The BCRD, 2014 mentions “*fair and reasonable*” prices)

Cost orientation analysis by ANACOM was done, case by case

Entities presented to ANACOM different methodologies to support their prices (in their offers)

ANACOM had no powers to impose a specific cost oriented methodology

Arose the need to define a **methodology** (fostering transparency and non discrimination) to be used for finding the price

DL92/2017 of 31st July changed DL123 foreseeing that ANACOM shall fix, by Regulation, that **methodology**

<https://www.anacom.pt/render.jsp?contentId=1418606&languageId=1>

Jan
2020

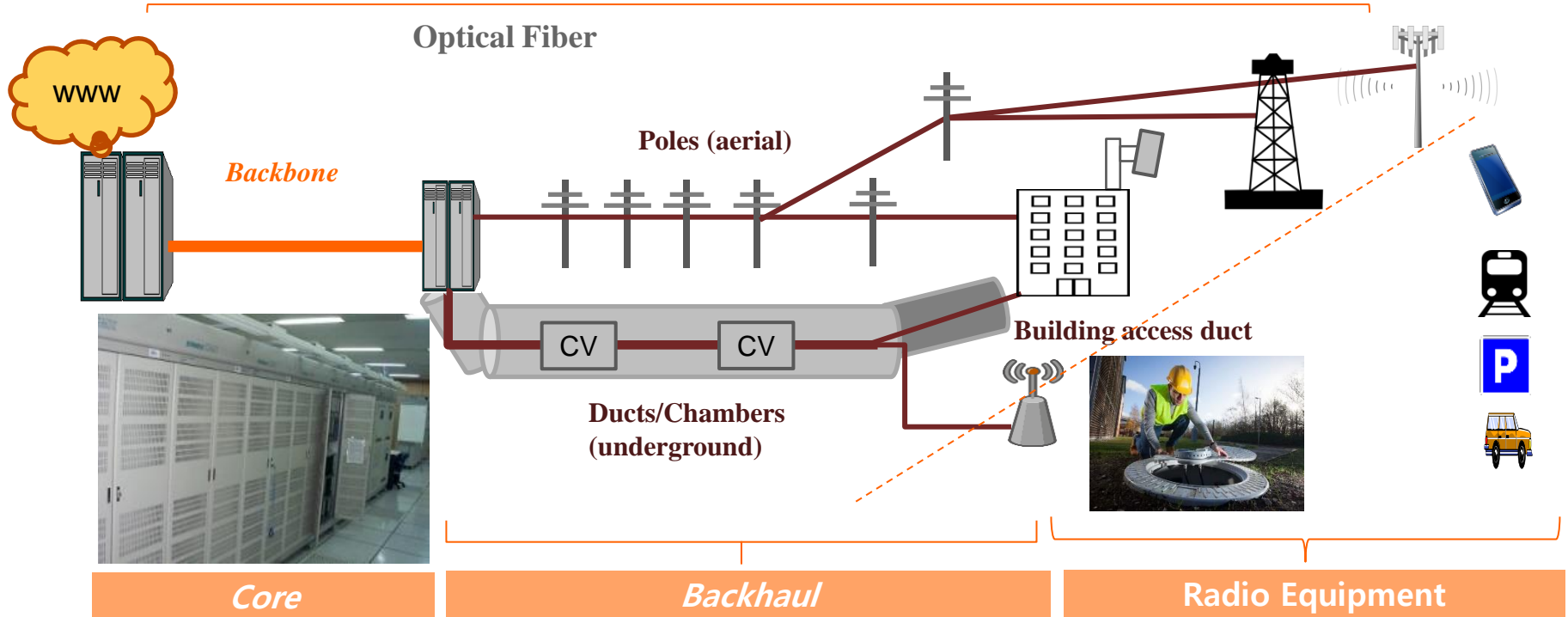
ANACOM draft **Regulation** defining the pricing **methodology** was published in DR and subject to a public consultation

<https://www.anacom.pt/render.jsp?contentId=1498670&languageId=1>

IV. In Conclusion

Access/Sharing of physical infrastructures ANACOM AUTORIDADE NACIONAL DE COMUNICAÇÕES

To facilitate the installation of VHCN (e.g. fiber optic), it is essential to promote access to (and sharing of) physical infrastructures (e.g., ducts, poles), as well as available space in them.



Optical fiber, Leased lines (Ethernet), connectivity, higher capacity

Access to physical infrastructures (ducts, poles) for installation of VHCN cables/equipments – ORAC, ORAP (SMP remedies - ECL) and Sharing (DL123)

Access to buildings, masts and towers – for installation of new 5G sites – foreseen in DL123 (BCRD transposition) and other structures - EECC (Art.57)

- **Prepare a proposal to transpose changes to the BB Cost Reduction Directive**
Changes to Decree-Law No. 123/2009 (following changes to BCRD)
- **Geographical survey of the coverage of territory with VHCN**
Order no. 10631/2021 of 29/10 – Creation of Connectivity WG
Order no. 10987/2021 of 10/11 – VHCN coverage information, specifications, tender
- **Analysis of Wholesale ex-ante Markets 1/2020 and 2/2020**
Market definition, Identification of entity(ies) with Significant Market Power, imposition/change/elimination of obligations (e.g. ORAC, ORAP, fibre access)
- **Analysis of duct and pole (ORAC and ORAP) access Prices**
Review of wholesale services prices - dated 2006 and 2010, respectively
- **Supervision Plan of obligations provided in Decree-Law no. 123/2009**
E.g. In terms of access to suitable infrastructure, registration in the SIIA, announcement of construction works
- **Promotion of cooperation actions with local authorities**
E.g Webinars - Cooperation at the 5G level (e.g. new smallcells regime)

Multi-Annual activities Plan 2022-2024 :

<https://www.anacom.pt/render.jsp?contentId=1711543&languageId=1>