



# SUBMARINE LANDING FRAMEWORK

From new opportunities  
to new complexities

# PTC'22

REUNITE. RETHINK. RENEW.

16-19 JANUARY 2022 | HONOLULU, HAWAII

*Diego Teot*  
*Head of Retelit International BU*

**WE DESIGN  
TELCO AND ICT SOLUTIONS FOR  
NATIONAL AND INTERNATIONAL  
OPERATORS,  
OTT, GOVERNMENT, ENTERPRISES**

- ◆ 16.000 KM OF FIBER OPTIC
- ◆ 10 COUNTRIES CONNECTED IN EUROPE
- ◆ 70 DATA CENTER CONNECTED IN EUROPE
- ◆ 12.842 SITIES ON-NET IN ITALY
- ◆ 200 CITIES CONNECTED IN EUROPE
- ◆ 1.430 TELECOMMUNICATIONS TOWERS
- ◆ 19 OWNED DATA CENTER (18 ITALY + 1 AUSTRIA)
- ◆ 451 TELECOM CABINETS
- ◆ 11 METROPOLITAN AREA NETWORK IN ITALY



◆ CONNECTIONS ACROSS THE WORLD  
EUROPE, ASIA, MIDDLE EAST, USA

◆ CONNECTIONS TO THE MAIN INTERNET EXCHANGES AND TELECOMS HUB IN ITALY AND EUROPE

◆ SD-WAN INTELLIGENT CONNECTIVITY PLATFORM

◆ BARI CABLE LANDING STATION

◆ NETWORK OF CONNECTED DATA CENTERS IN MILAN, ITALY AND EUROPE

◆ MULTICLOUD PLATFORM AND DIGITAL MARKETPLACE FOR IOT AND SMART CITY PROJECTS

MEMBER OF



# SCENARIO

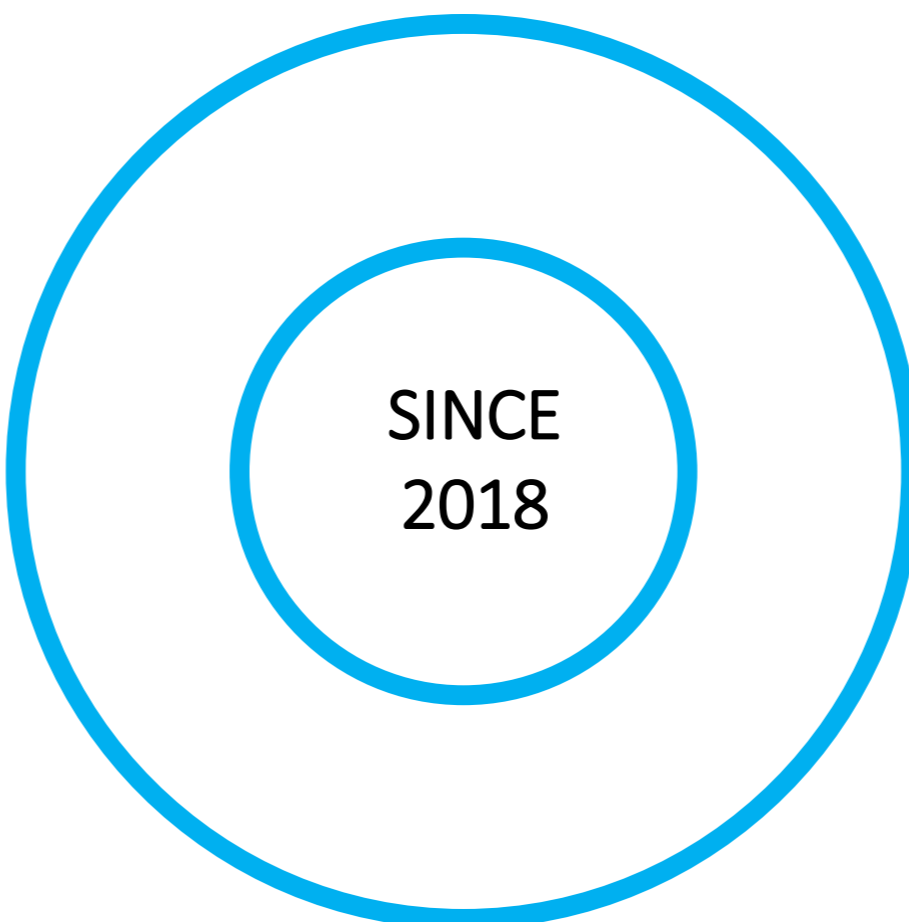
**TRADITIONAL CONSORTIUM (eg. AAE-1)**  
Up to 8 DF pairs single «Subsea Line Terminating Equipment» (SLTE)



UP TO  
2017



REPEATER «QUAD  
PUMP REDUNDANCY»  
SUBMARINE

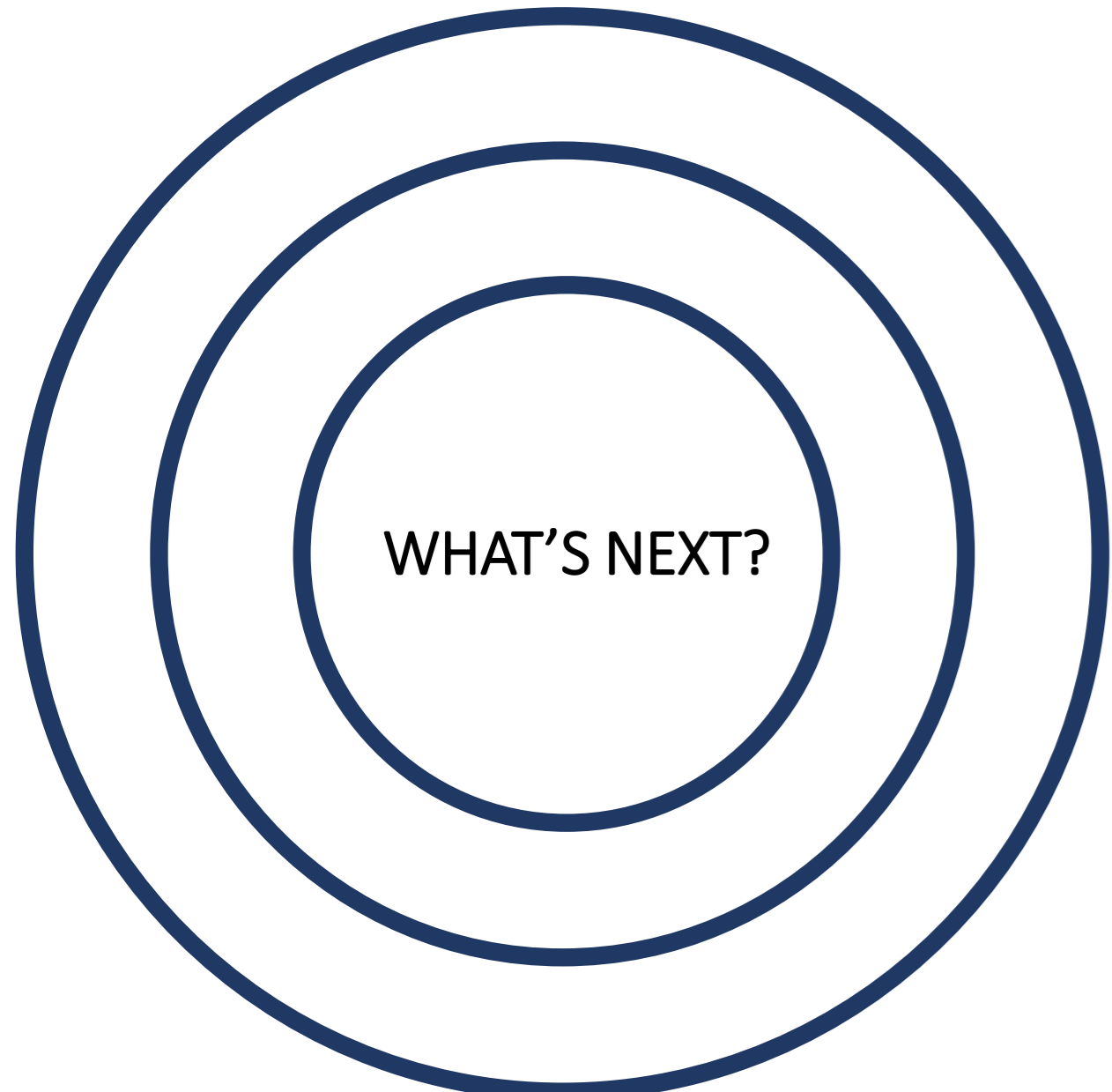


SINCE  
2018

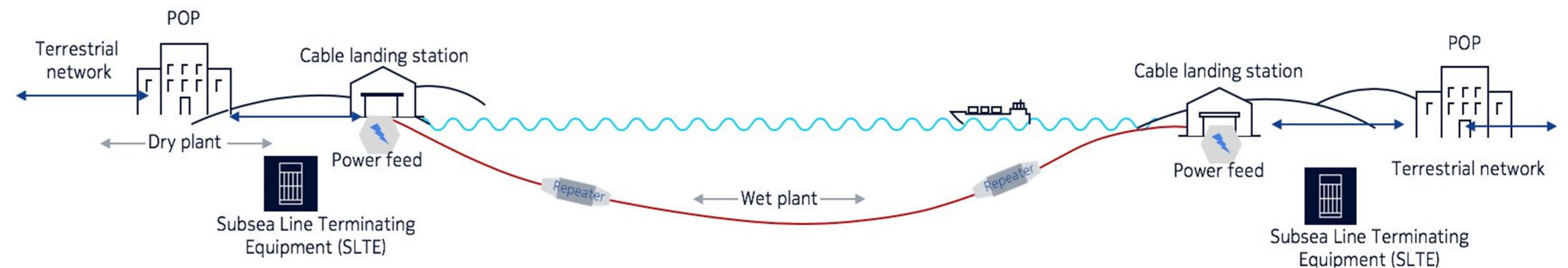
**CABLE CLUB (eg. Marea)**  
High Fiber Count (HFC) up to 24 fiber; Each partner has its own SLTE



24Tbps  
per DF pairs



## FIBER MULTICORE (4x capacity on each DF pair)



# ROLE OF SPECIALIZED OPERATORS, WHAT HAS CHANGED?



- Direct government support for permits and approvals
  - Control of local/national infrastructure by system owner
  - **Predictable** traffic patterns (growth/routing)
  - Existing CLS/Landing well defined
- 
- Decoupling of cable system and backhaul provider
  - Deregulation
  - Permits and authorizations to be obtained without direct government involvement
  - Open landing station
- 
- Hyperscaler Investment
  - New Data Centers and Edge Computing
  - Government intervention in submarine cable development



## Content Driven Cables How are They Changing the Subsea Consortium Paradigm?

The role of regional and niche Operators in the submarine cable industry

- Participation of Regional Operators in consortia for the development of new submarine cables
- New CLSs run by small operators
- New land transport offers
- Involving Regional Operators who can bring their expertise to build and maintain the Submarine Cable System
- Support in the creation of terrestrial infrastructure to DC & Edge
- Design and Management of new CLS

**22**

new cables will go RFPA

Only **4**

Will have **country incumbent** in the consortium or club

**516**

DF pairs

**2.189**

Tbps

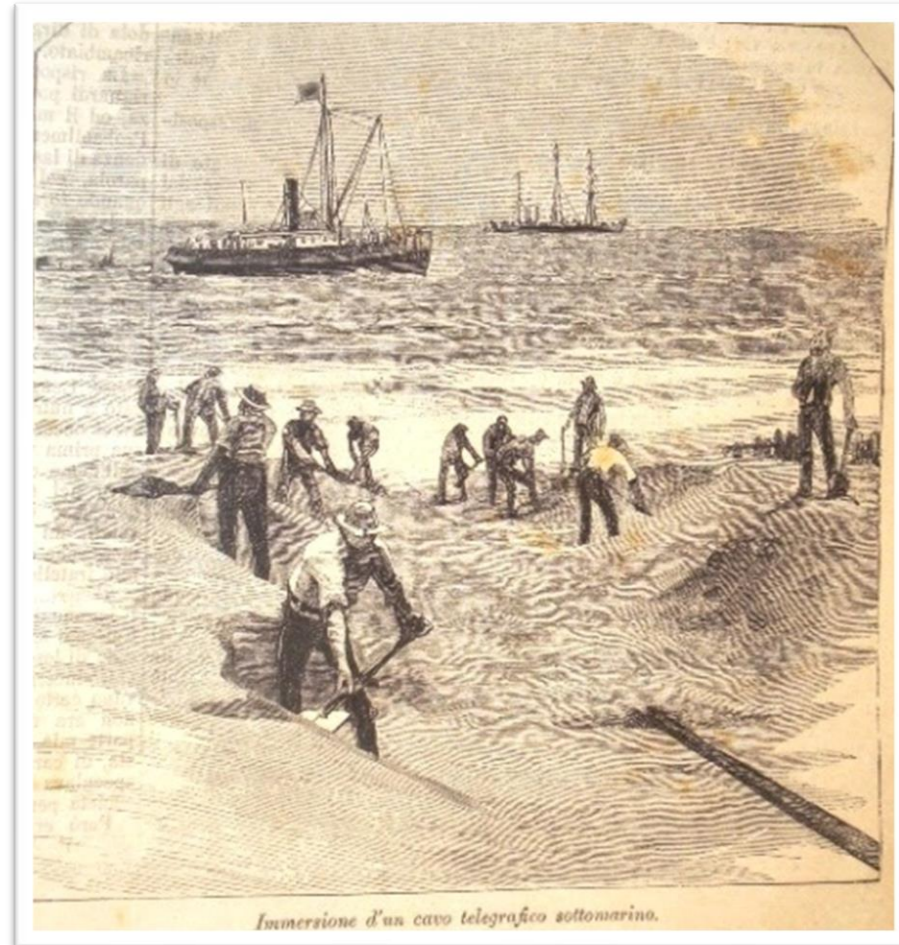
**100.000**

km

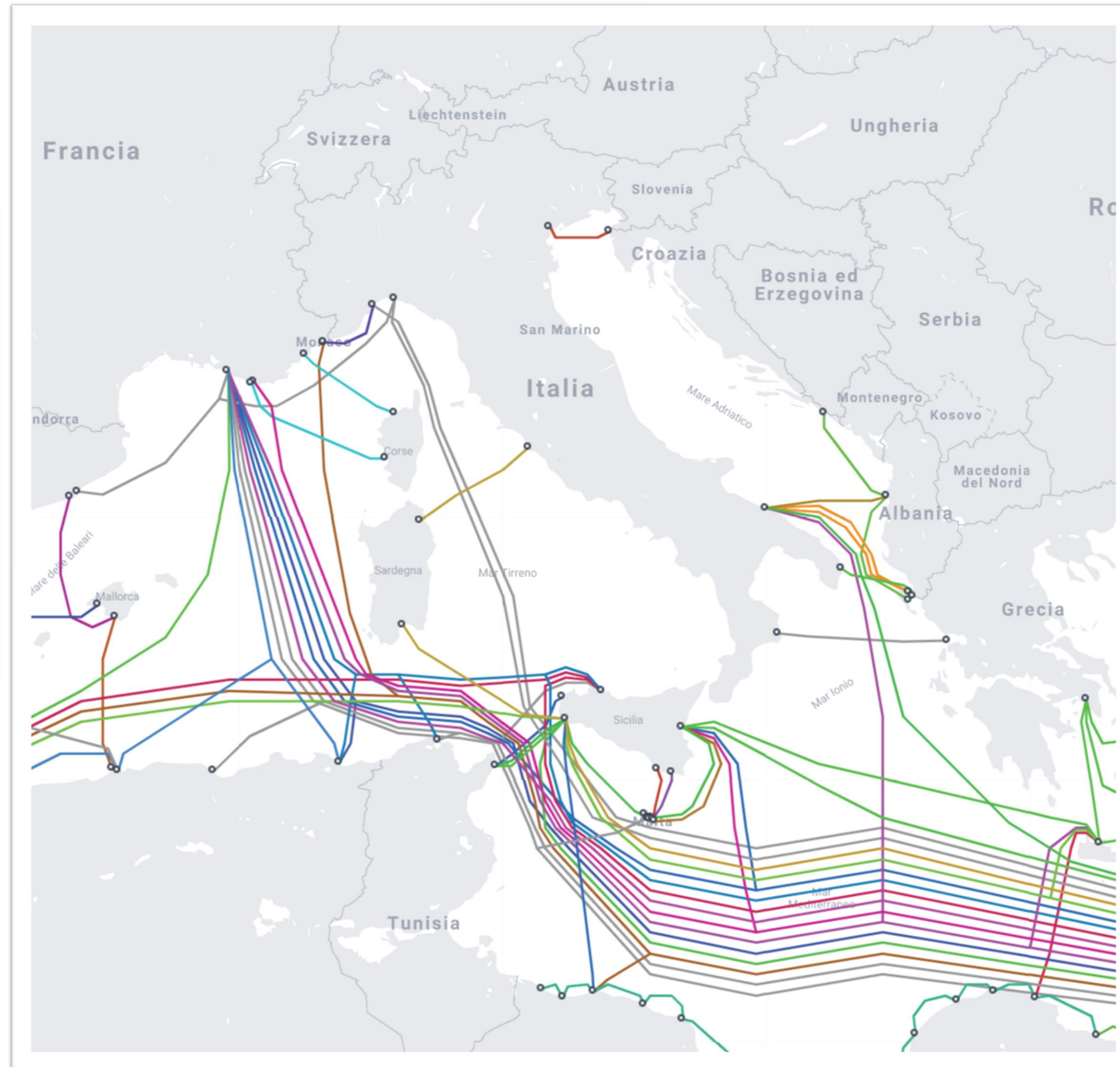
*future*

\*Source: Telegeography

# ITALY A KEY COUNTRY FOR SUBMARINE CABLES



**July 1854, Corsica - Sardinia**  
First Italian Submarine Cable



Today

**26**

Cables land in Italy

- 18 Sicily
- 5 Puglia
- 4 Others

**+4**

Planned in 2022/2023

- 1 Crotone (Jonian)
- 2 Genoa (Blue Med – 2Africa)
- 1 Savona (IEX)

**15**

Cable landing Stations

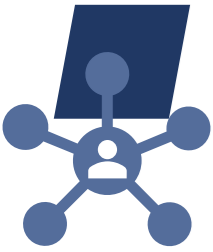
- 6 Sicily
- 4 Puglia
- 5 Others

**+4**

Planned in 2022/2023

- 1 Crotone
- 2 Genoa
- 1 Savona

# LET'S START WITH NEW COMPLEXITIES



## FRAGMENTATION FOR PERMITS AND PUBLIC INTERESTS

Despite Telecommunication is recognized as Public Interests and supported by Multiple Laws Decrees local interest (NIMBY) and other Infrastructure priority can make the building of Submarine Landing complex (eg. to install a cable along highway without digging 6500 pages of permits and 1 Year of preparation were required)



## REQUIREMENTS FOR DATA SOVEREIGNTY

Data and Data transport are now recognized as critical and giant OTT that were welcomed in the past are now under closed scrutiny of government



## COMPLIANCE WITH NATIONAL CYBERSECURITY (NIS DIRECTIVE)

NIS directive recognize Cable system as part of the Cyber infrastructure and again this attracts scrutiny.



## GOLDEN POWER

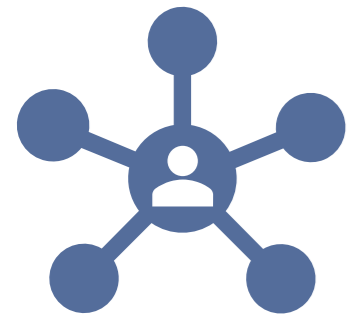
Government interest for the critical Infrastructure and the Multinational trait of any Cable system requires Golden Power Green light from Government when the rights of the infrastructure are alienated. To foreign entities



## MULTIPLE RIGHTS OWNERS FOR INFRASTRUCTURE

Compared to past consortium were the incumbent owned the infrastructure as well current Infrastructure, especially the Backhaul, can relies on multiple owners and rights shall be granted for the Cable lifetime

# ADDRESSING COMPLEXITIES RETELIT EXPERIENCE



## FRAGMENTATION FOR PERMITS AND PUBLIC INTERESTS:

- Creating a strategic view for the system (eg. Genova) in cooperation with the most prominent local Authority
- Leverage as maximum as possible the Law opportunities where soft persuasion does not work (good regulatory lawyer > essential)
- Have a Plan B wherever possible (eg. multiple location for the CLS/BMH)



## REQUIREMENTS FOR DATA SOVEREIGNTY COMPLIANCE WITH NATIONAL CYBERSECURITY (NIS DIRECTIVE):

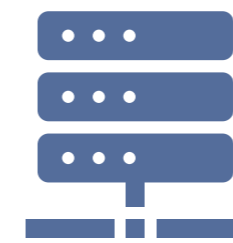
- Document clearly the demarcation point of Landing provider responsibility (very seldom they are related to the content)
- Design in the Agreement specific sections addressing how the parties will manage the Infrastructure and the Data
- Provides inner security features in CLS/BMH design (eg. specific Keys for Manhole, Anti Vandalism solution for the Shelters in case of simple PFE)

# ADDRESSING COMPLEXITIES RETELIT EXPERIENCE



## GOLDEN POWER NOTIFICATION REQUIREMENTS

- Design the Landing Agreement with the assumption GP is required
- Structure clear what if scenario
- Avoid conditions where the LP is acting as simple Proxy (LP shall manage the Infrastructure on behalf of the Club).
- Plan proper time for negotiation
- Don't underestimate Legal Costs



## MULTIPLE RIGHTS OWNERS FOR INFRASTRUCTURE

- Asses carefully rights duration/expiration for any ducts used
- Contact the owners and plan in advance extension and/or cost of extension
- Clearly discuss and address potential issues with the Club
- Have a Plan B for portion with unclear rights ( eg. new digging/alternative provider)







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GRAZIE



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