



# TOP-IX UPDATE

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**Web:** [www.top-ix.org](http://www.top-ix.org)

**Where:** ITNOG4 Bologna

**When:** November 9th



# TOP-IX

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**NON PROFIT CONSORTIUM based in Torino**

**/ INFRASTRUCTURE**

**/ TECHNOLOGY**

**/ INNOVATION**

**TEAM: 29 PEOPLE**

**ACTIVITIES:** IX, NETWORKING, INTERCONNECTION, PEERING, STARTUP, SW DEVELOPMENT, (BIG)DATA, APPLIED DATA SCIENCE, TRAINING, CLOUD, STREAMING CIVIC TECHNOLOGIES, EU PROJECTS.

# TOP-IX

**NON PROFIT  
CONSORTIUM**

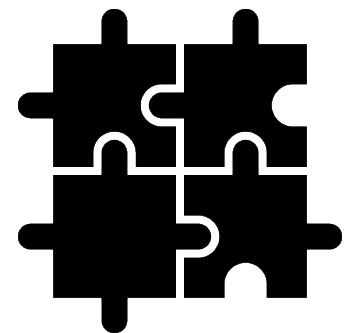
**MISSION**

**DP**

TO FOSTER  
**INNOVATION**  
BY LEVERAGING  
INFRASTRUCTURE  
ASSETS

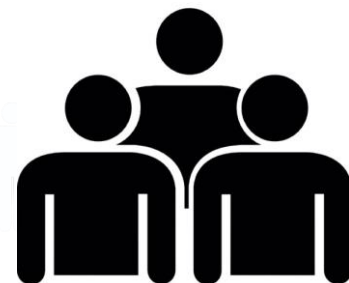
- Start-up
- Data
- Funded projects
- Education
- Corporate innovation
- Civic tech

**IX**  
NORTH-WEST  
ITALY

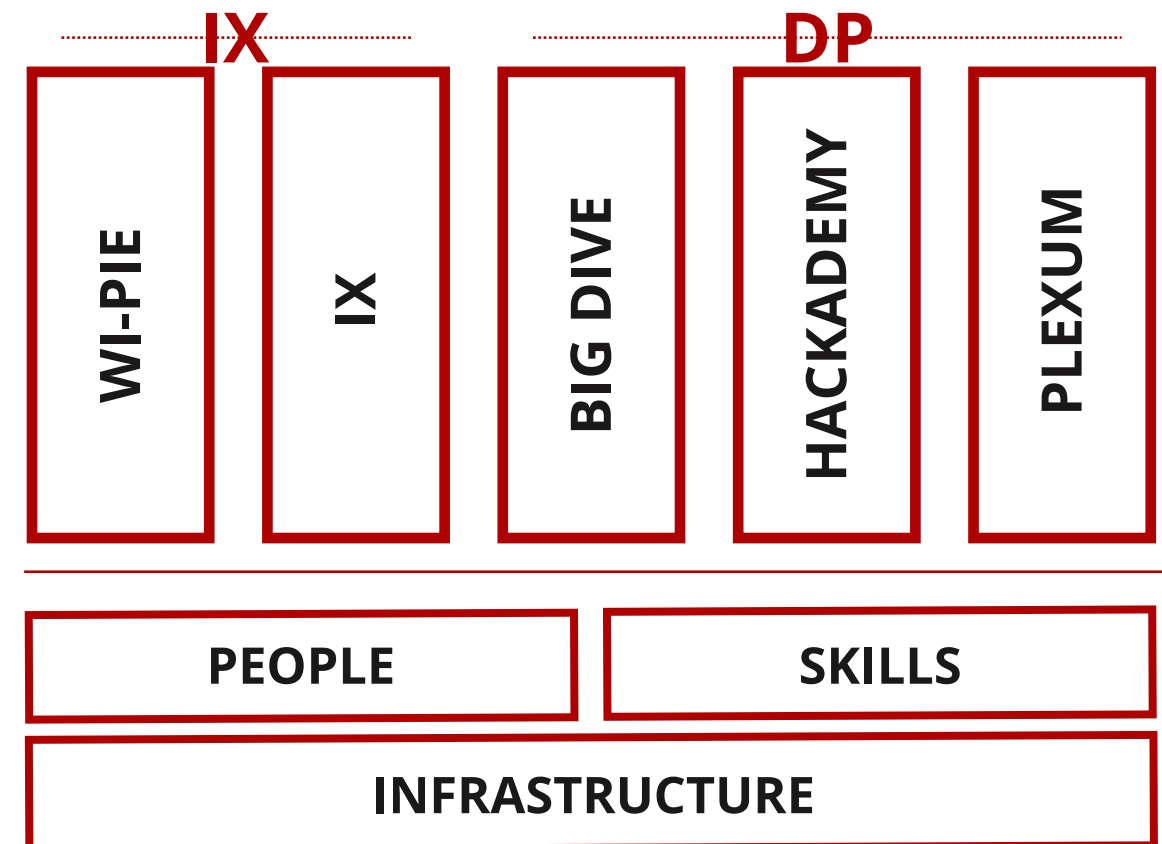


80+  
Members  
(15 in 2003)

**PUBLIC & PRIVATE  
PARTICIPATION**



2 directors  
22 employees  
5 collaborators



The map illustrates the Italian telecommunications network, showing major cities and their connections. The network is color-coded by region:

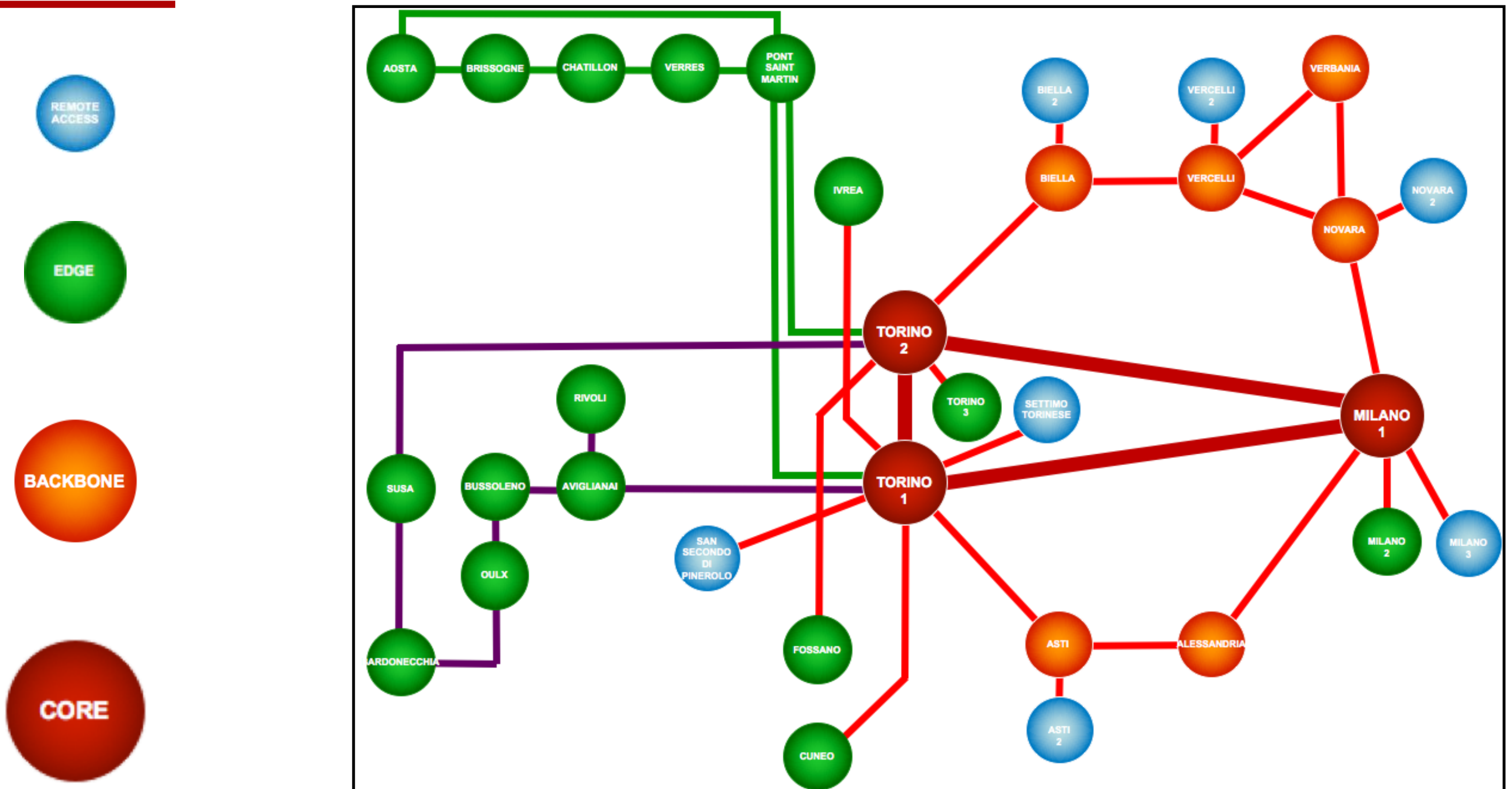
- Green:** Aosta, Verres, Chatillon, Brissogne.
- Purple:** Susa, Bardonecchia, Oulx, Avigliana, Rivoli, Sanseverino.
- Orange:** Torino, Settimo Torinese, San Giusto, Asti, Cuneo, Fossano.
- Red:** Verbania, Biella, Novara, Vercelli, Milano, Alessandria.

Key locations and their details:

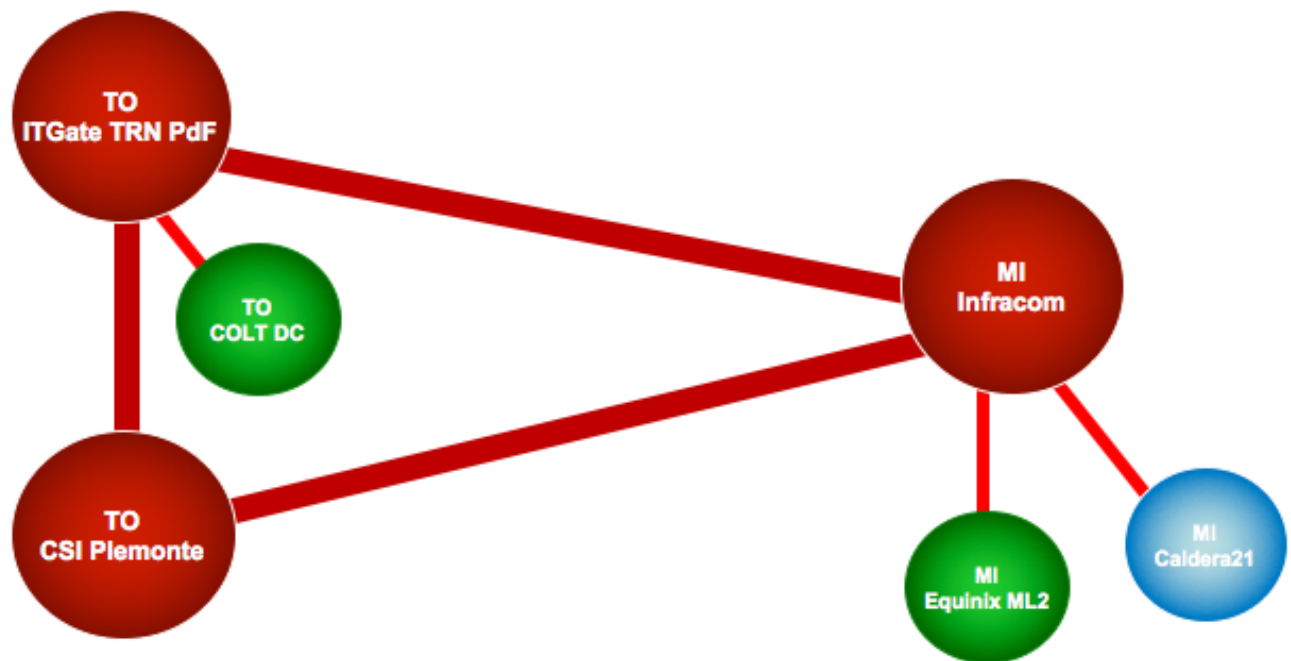
- AOSTA:** Via Lavoratori Viltine col Du Mont 24 (Regione Valle d'Aosta)
- BRISOGNE:** Loc. Ile Blanche, 5 (Regione Valle d'Aosta)
- CHATILLON:** Via Tornafol (Uffici CVA)
- VERRES:** Via Luigi Barone 8 (Politecnico di Torino)
- PONT SAINT MARTIN:** Viale Carlo Viola 76 (Engineering)
- IVREA:** Strada Torino 50 (Provincia di Torino)
- BUSOLENO:** Autostrada A32 (SITAF)
- SUSA:** Autostrada A32 (SITAF)
- BARDONECCHIA:** Autostrada A32 (SITAF)
- OULX:** Autostrada A32 (SITAF)
- AVIGLIANA:** Autostrada A32 (SITAF)
- RIVOLI:** Autostrada A32 (SITAF)
- SANSEVERINO DI PINEROLO:** Via della Repubblica 1
- CUNEO:** Corso Soleri 2 (Provincia di Cuneo)
- FOSSANO:** Via Torino 166/168 (Unione del Fossanese)
- TORINO (1):** Corso Unione Sovietica 216 (CSI Piemonte)
- TORINO (2):** Corso Svizzera 185 (Ilgate)
- TORINO (3):** Via Livorno 60 (Calt)
- SETTIMO TORINESE (1):** ATIVA - CADM GNDM (solo collegamento f.o.)
- SETTIMO TORINESE (3):** (Ospedale)
- SAN GIUSTO:** ATIVA - CADM GNDM (solo collegamento f.o.)
- VERBANIA (1):** Via dell'Industria 29/1 (Tecnoparco)
- VERBANIA (2):** (Radio)
- BIELLA (1):** Via Quintino Sella, 12 (Provincia di Biella)
- BIELLA (2):** (Radio)
- NOVARA (1):** Viale Manzoni, 26 (Comune di Novara)
- NOVARA (2):** (Radio)
- VERCELLI (1):** Via San Cristoforo, 3 (Provincia di Vercelli)
- VERCELLI (2):** (Radio)
- MILANO (1):** Via Caldera 21 (Infracom)
- MILANO (2):** Via Savona 12 (Equinox)
- MILANO (3):** Via Caldera 21 (Caldera 21)
- ALESSANDRIA:** Lungo Tanaro Magenta 7/a (Provincia di Alessandria)
- ASTI (1):** Viale Pione 111 (Comune di Asti)
- ASTI (2):** (Radio)



# NETWORK ARCHITECTURE



# INTERCONNECTION @ TOP-IX



**Remote Peering available**

- / Partnership with other IXPs (VSIX, Lyonix, France-IX)**
- / Classical Reselling (ITGate, BICS, Retelit, Enter)**

**100G available on CORE PoPs**

**Secure Route Servers**

- prefix filtering**
- using SW based on ARouteserver**
- joined MANRS**

	2018 Q3	2017
Networks	118	109
Traffic (Gbps)	106	96
Prefixes (on RS)	47K IPv4 16K IPv6	46K IPv4 22K IPv6

# MARKETPLACE

## Not only peering

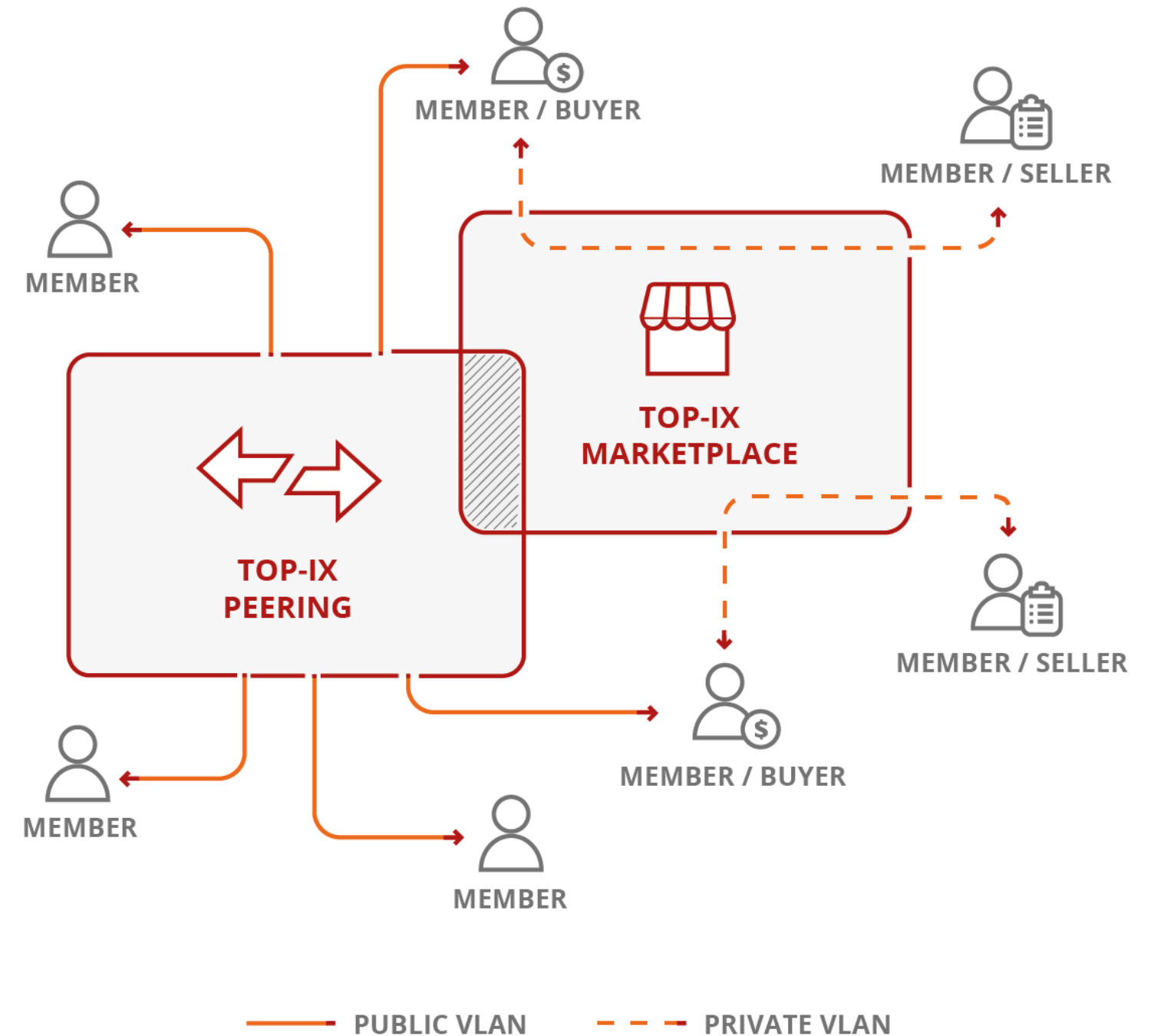
IP Transit

Ethernet connectivity

Public cloud access

Remote Peering to other IXPs

Security Services



# Time as a Service (TaaS)

## New Services

MiFID II Directive on trading markets

INRIM is key TOP-IX member

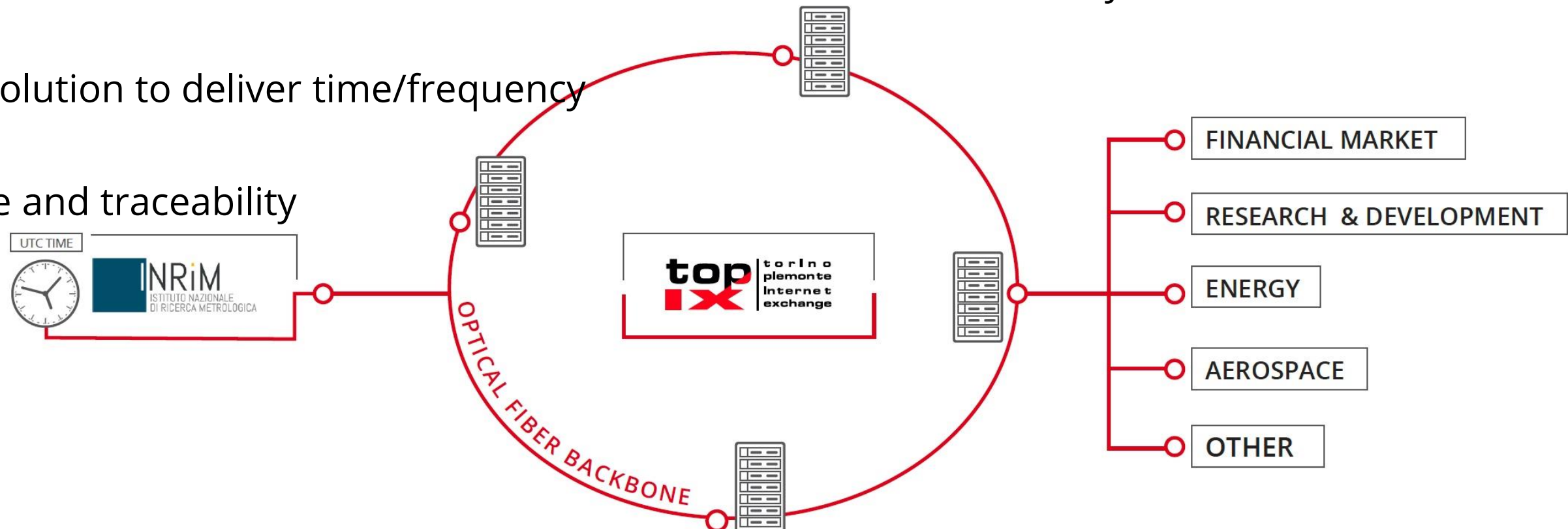
PTPv3 evolution to deliver time/frequency

reference and traceability



Now using WDM channels

Actually available in BT Settimo M.





# INTO THE COMMUNITY



# WHAT'S NEXT

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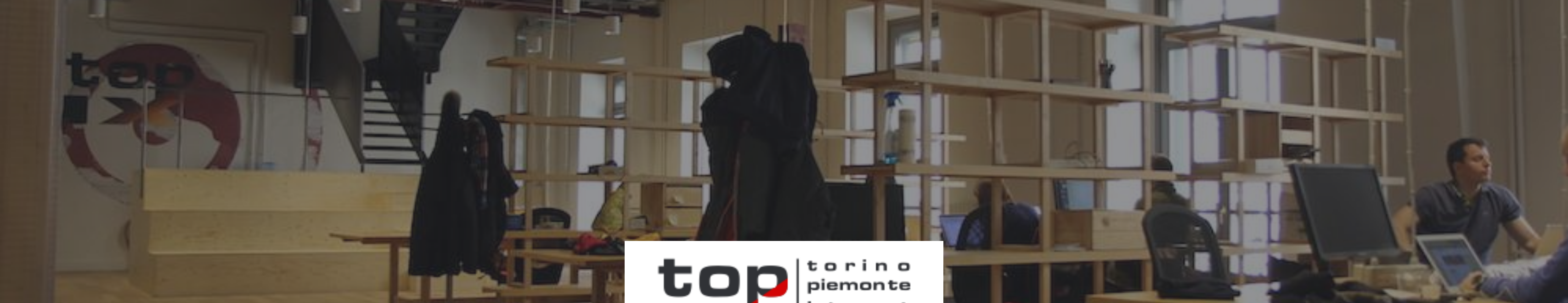


Image created by Mike Stimpson

**/ LEVERAGE TURIN ASSETS**

**/ STRENGTHEN PARTNERSHIPS**

**/ INCREASE PLATFORM USAGE**



THANKS  
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