



ENG

ANNUAL REPORT  
2022





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2022

# The President's Introduction

- Alessandro Talotta -

The growth of the global Internet is unstoppable, and the digital transformation supported by huge investments is affecting our attitudes, business and production. While the process required for this transition is clear, the path ahead is still marked by lights and shadows. Italy, for example, is still negotiating to implement the ambitious plans of the PNRR, fulfilling the expectations of a long chapter that must be complied with.

Italy had to make a major legislative effort to simplify administrative processes, which unfortunately remain a real obstacle to the technological and cultural progress of the country. Industry stakeholders are thus keen for the legislature to be implemented quickly and effectively.

In 2022, for example, MIX worked on releasing new organic development plans in terms of territorial expansion and presence but was able to see that in some local realities, technological progress related to business structure was far from being considered fully operational.

Furthermore, operators were faced with ambitious investments from the constantly evolving infrastructure and connectivity. Commercial risks combined with the macroeconomic environment had a decisive impact on the sustainability of plants that required security and stability.

After following a rigorous spending review process, MIX worked to improve its capital position throughout 2022, without compromising its ability to grow and serve its customers with the highest level of reliability. It continued to invest successfully in technology, its customer portal, operational capabilities, and people. 2022 also brought significant delays in the delivery of materials, but MIX was able to implement a sophisticated inventory management mechanism in order not to disappoint customers' expectations and respect its standard SLAs. Sales growth also exceeded expectations.

2022 was, therefore, a year of change and maturity for MIX, marking the foundation for future sustainable growth.

In conclusion, at a difficult time marked by the uncertain macroeconomic environment and rising prices, MIX was able to analyse each problem and identify solutions that enabled the achievement of the 2022 results.





## IDENTIKIT

- Leading Italian IXP, founded in 2000, long standing history of service
- Highest concentration of connected networks in Italy
- One of the few European IXPs equipped with its own datacentre
- Carrier-neutral and data centre-neutral
- Interconnection services available at 9 different datacentres in Italy
- Authoritative resource for Italian Internet traffic statistics & trends

## IN NUMBERS (as for 31/12/2022)



Connected networks

**380+**



Carriers on net

**220+**



Unique ASN\*

**200+**

\*compared to the 5 main Italian IXs



Traffic Peak (Tb/s)

**2.006**



Italian IXP traffic

**70%**



Connected capacity (Tb)

**12.25+**



Shareholders

**16**



World IXP\*\*

**#14**

\* for ASNs  
Source: IXPDB by Euro-IX

# euro-ix

MIX is one of the founding members of Euro-IX, the European Internet Exchange Association, whose purpose is the coordination, the exchange of knowledge and experience and the development of harmonisation activities between the IXPs of different countries for the benefit of the entire European Internet community.



With approximately 150,000 km of submarine cables reaching Sicily, Italy is the natural hub for the “wet nets” of the Mediterranean. Exploiting this strategic positioning to strengthen Italy's role in the international telecommunications sector was the driver that led to the establishment of the Open Hub Med (OHM) Consortium.

The Consortium was founded by MIX together with other important national and international players.



Core DC - Switch Fabric



C21



IRIDEOS

Avalon Campus



Ponte S. Pietro

aruba.it



Cornaredo

Data4  
SMART & SCALABLE DATA CENTERS

Milan

EQUINIX



Settimo Milanese

EQUINIX  
ML2 - ML5

Siziano

SUPERNAP  
ITALIA

Palermo

open hub med



Bologna

Lepida  
CUI2000

GREATER MILAN AREA

NATIONAL AREA

## CERTIFICATIONS

ISO/IEC 27001

OIX-1  
CERTIFIED IXP

Confirming the level of excellence of its services and infrastructures in these areas, MIX has obtained an **ISO27001** certification, a standard issued by the International Organization for Standardization (ISO) which covers all the aspects of security of IT systems and processes. MIX is the first IXP to

overcome the controls required by ISO certification. MIX has also obtained the OIX-1 certification, currently issued to only 5 IXPs worldwide by Open-IX. This certification defines the standards of performance, reliability and resilience for large-scale interconnection services.

One of the key factors in achieving these certifications was the complete control of the two Data Centres built in the Caldera campus. The Data Centres are managed in total autonomy by MIX, entirely under its direct responsibility.

# SERVICES

## Peering Services

As Italy's leading Interconnection platform, MIX provides a number of solutions to meet your network needs.

Peering Services enable all networks to interconnect with one another to exchange internet traffic.

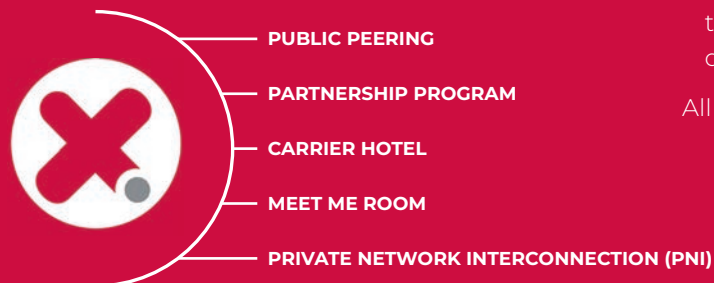
Interconnecting with other networks can be achieved in the following ways:

### Public LAN Peering

The MIX Public Peering service offers a direct connection to exchange Internet traffic with a multitude of connected networks on the MIX high-speed layer 2 interconnection platform.

### Private LAN Peering

This service facilitates interconnections with connected networks at MIX to establish an interconnection agreement via a dedicated private VLAN with another specific network operator..



### Private Network Interconnection (PNI)

This service allows two connected networks to establish a dedicated and direct connection between their equipment within the MIX datacentre.

## Carrier Services

MIX offers Carrier specific services at the MIX Datacentre where the MIX Core switches are located. Carriers are able to provide telecommunications services to other entities through their own transmission equipment or optical terminations at this MIX managed Datacentre.

Within a specific, protected part of the colocation facility with guaranteed functionality, MIX carriers are ideally positioned to offer:

- Interconnection services to operators connected on the MIX peering LAN
- IP-Transit services to the wider Internet
- Interconnect their equipment (active or passive) to other MIX connected networks located in the datacenter

All of this easily, quickly and at a fair cost.



## PARTNERSHIP PROGRAM

The programme is designed to facilitate connecting networks to MIX from locations where MIX switches are not physically installed.

Two options are available to best meet the different needs, and offer more opportunities to partners.

- **Reselling** – Reselling allows the partner to resell the peering service to its customers in “dedicated” mode, i.e. one port (or LAG of ports) for each customer.
- **Pooling** – Pooling allows the partner to resell the peering service to its customers in “shared” mode, i.e. one port (or LAG of ports) available to several customers

### Characteristics

- Clients are to all intents and purposes connected to MIX
- First level support to customers is provided by partners
- Peering service support is provided by the MIX NOC
- The colocation of equipment in the MIX data centre is not possible

## MIX PARTNERS

### RESELLERS

Airbeam  
Bezeq International  
China Unicom (Europe) Operations Ltd.  
Fiber Telecom  
GTT Italy  
BSO Network Solutions  
Redder Telco  
Retelit  
RETN  
STACK EMEA  
Telecom Italia Sparkle

### POOL REGISTRAR

BBanda  
Briantel  
BSO Network Solutions  
Fiber Telecom  
Internet One  
Lepida  
Net Global  
Sirius Technology  
Sysway  
Wifiweb

# DATACENTRE SERVICES

The MIX Datacentre is an optimal solution for housing network and transmission equipment intended for interconnecting at MIX.

The MIX Datacentre has been divided into four separate and specific areas to offer a tailored solution and to professionally manage both requested interventions by the MIX NOC staff, for connected network devices and for the arrival of newly connected networks.



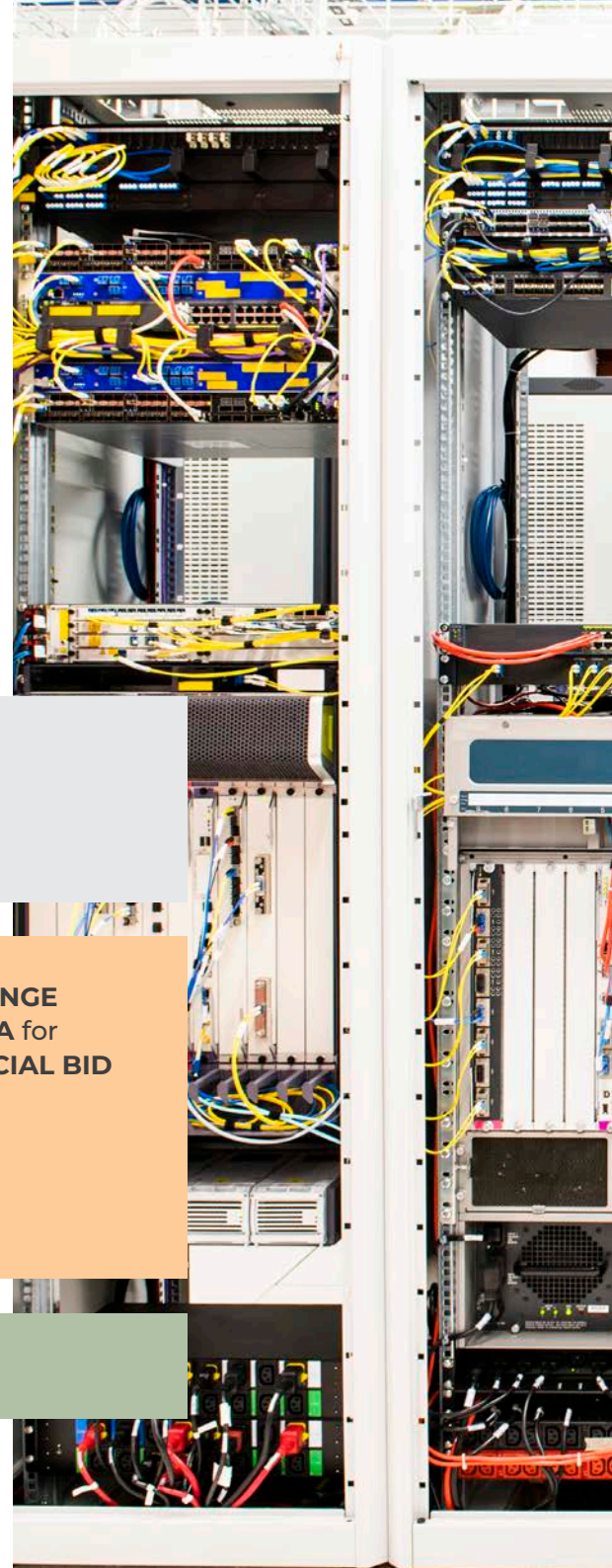
**SWITCH FABRIC**

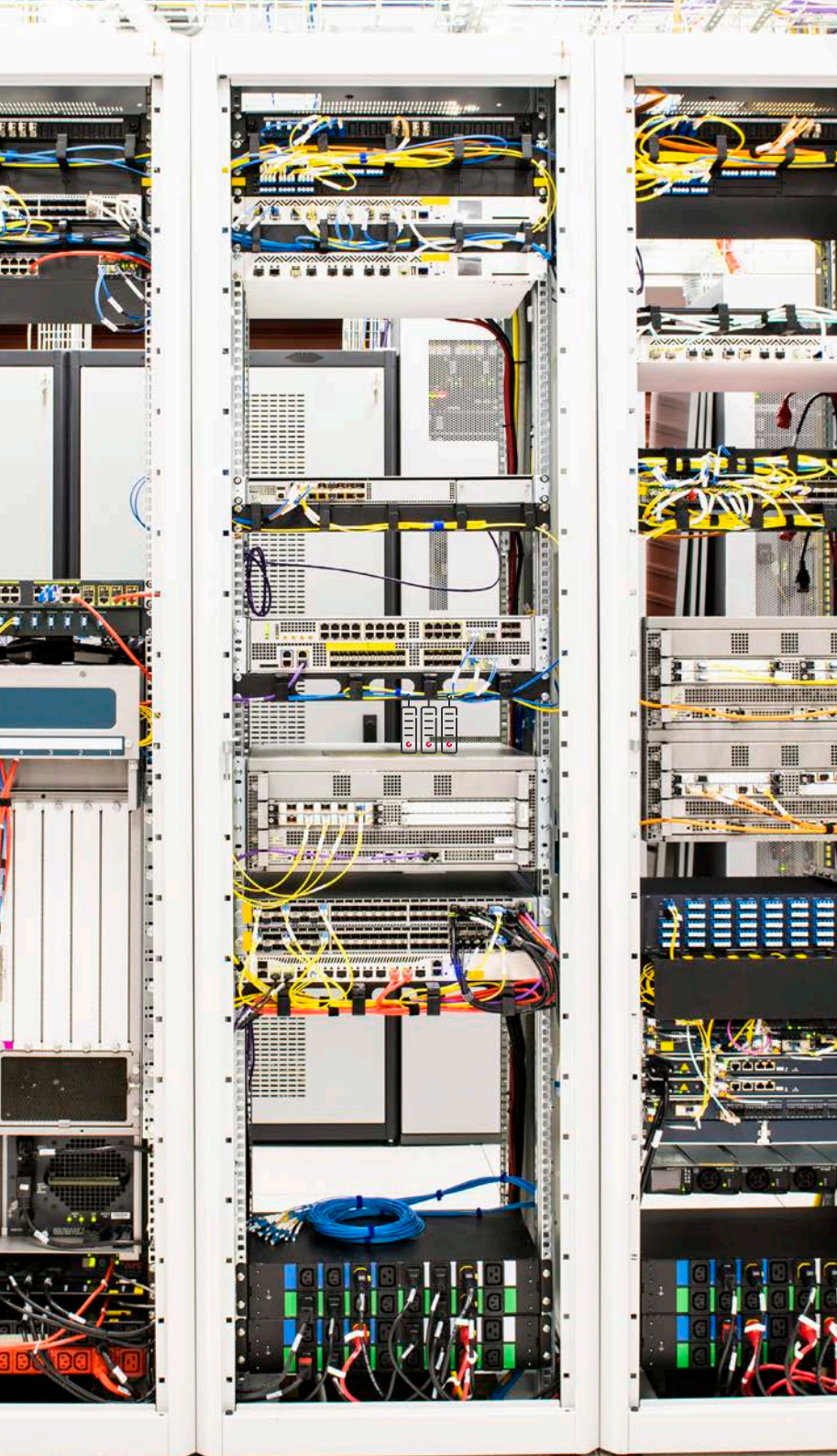
**BLUE AREA**  
dedicated to  
**MEMBERS**

**RED AREA**  
for TLC  
**NETWORKS**

**ORANGE AREA** for  
**SPECIAL BID**

**GREEN AREA** for  
**INCOMING FIBERS**





## BENEFITS OF MIX

- Enhanced network performance
- Reduced network latency
- Improved customer and end user connectivity experience
- Reduced IP transit costs
- Better insight and control over routing and Internet data flows
- Increased redundancy and resiliency of your network connectivity
- Direct connections with other networks in a secure environment
- Highly reliable connectivity platform adhering to the highest technical standards

## INTERCONNECTIONS



**350.000+**

Announced IP network prefixes



**2.980+**

PNI



**380+**

Connected networks



**34**

New customers

## CONNECTED NETWORKS



CONTENT DISTRIBUTION  
NETWORKS



GAMING COMPANIES



INTERNET SERVICE  
PROVIDERS



TRANSIT PROVIDERS



CLOUD PROVIDERS



CARRIERS



ON-DEMAND CONTENT  
PROVIDERS



PUBLIC ADMINISTRATION  
GOVERNMENT



LIVE CONTENT PROVIDERS



RESELLERS





## 16 SHAREHOLDERS

|   |        |
|---|--------|
| AIIP - Associazione Italiana Internet Providers | 11.47% |
| BT Italia S.p.A.                                | 11.09% |
| Clio S.p.A.                                     | 2.49%  |
| Eolo S.p.A.                                     | 15.00% |
| Fastweb S.p.A.                                  | 1.12%  |
| Irideos S.p.A.                                  | 15%    |
| It.Net S.r.l.                                   | 5.37%  |
| Orange Business Italy S.p.A.                    | 1.12%  |
| Retelit S.p.A.                                  | 3.28%  |
| Sequenza S.p.A.                                 | 3.37%  |
| Telecom Italia S.p.A.                           | 11.09% |
| Tiscali Italia S.p.A.                           | 2.25%  |
| Tiscali Financial Services SA                   | 1.12%  |
| Utility Line Italia S.r.l.                      | 3.98%  |
| Vodafone Enterprise Italy S.r.l.                | 2.25%  |
| WindTre S.p.A.                                  | 9.97%  |



# BOARD



**Alessandro Talotta**

Executive President and Chairman



**Vittorio Figini**

Utility Line Italia



**Marco Fiorentino**

A.I.I.P.



**Giudo Garrone**

Eolo



**Andrea Giovanardi**

BT Italia



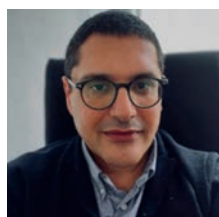
**Alberto Maria Langellotti**

TIM



**Roberto Loro**

Sequenza



**Luca Orabona**

ITNet



**Andrea Podda**

Tiscali



**Federico Protto**

Retelit



**Vincenzo Scarlato**

Irideos



**Giulio Signorelli**

Wind Tre

## PEERING CREW



**Alessandro Talotta**  
Executive President  
& Chairman



**Cristiano Zanforlin**  
Chief Commercial  
Officer



**Mauro Magrassi**  
Chief Technical Officer



**Monica Arensi**  
General Secretary  
& Administration Mgr



**Giorgia Montano**  
General Secretary  
& Administration Assistant



**Giovanni Verzotti**  
Accountant



**Gabriel Ramini**  
IT Manager



**Daniela Cipriani**  
Marketing &  
Communications Mgr



**Martina Mordà**  
Inside Sales



**Simone Morandini**  
Service Development  
Manager



**Michele Perrucci**  
DC Manager



**Gianmarco Clerici**  
Network & Security  
Manager



**Gaetano Tomasi**  
NOC



**Leonardo Schiavini**  
NOC



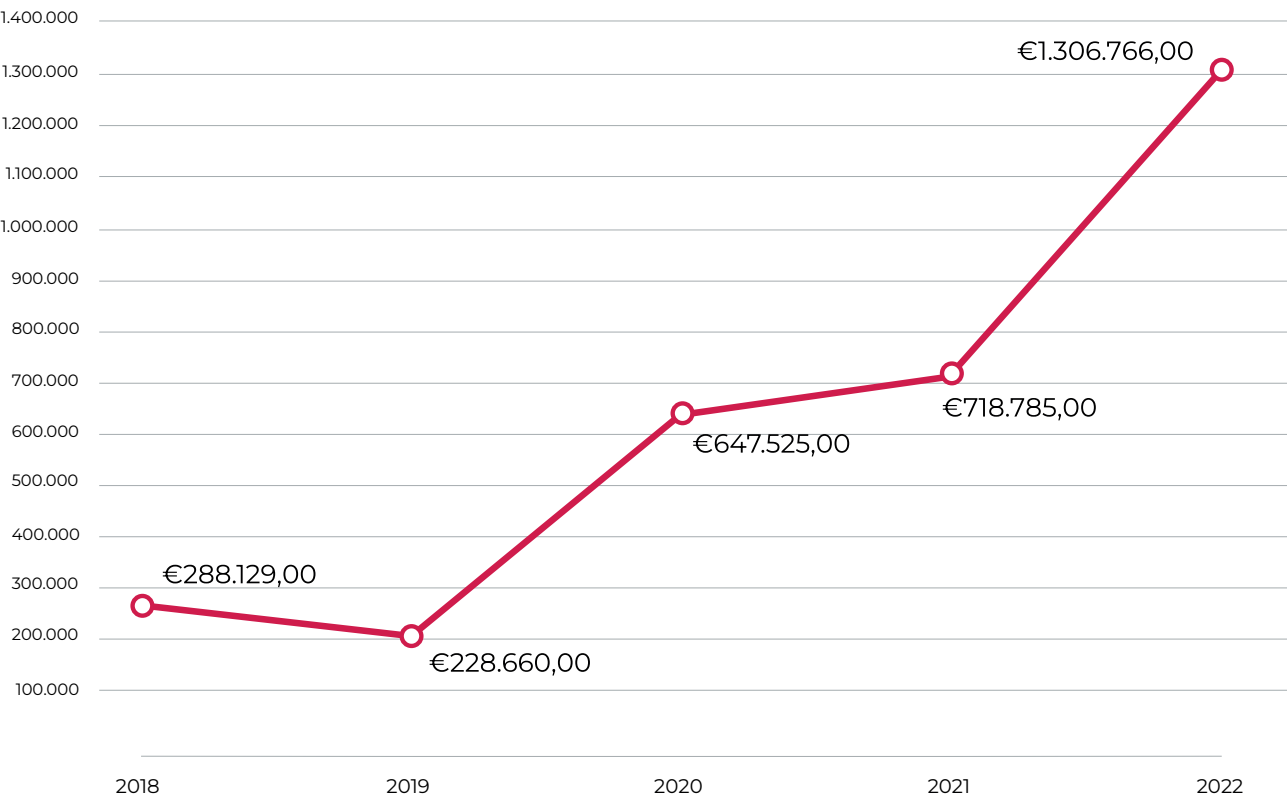
**Stefano Genovese**  
NOC



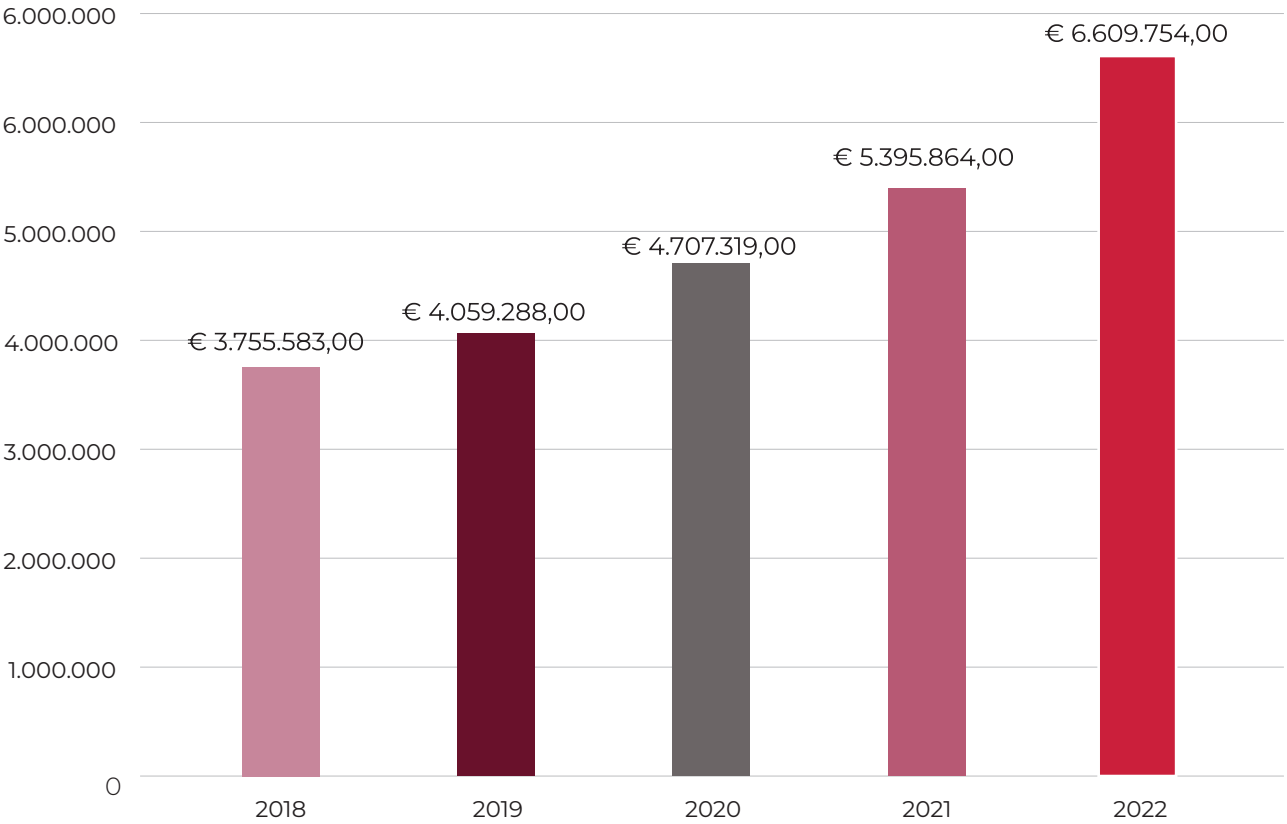
**Luca Rubino**  
NOC NEW ENTRY

# FINALCIAL RESULTS

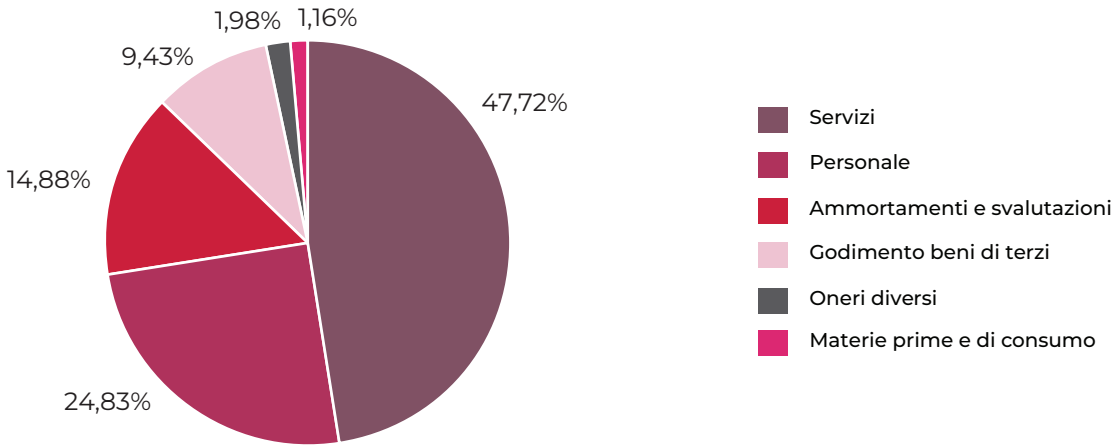
## EBIT



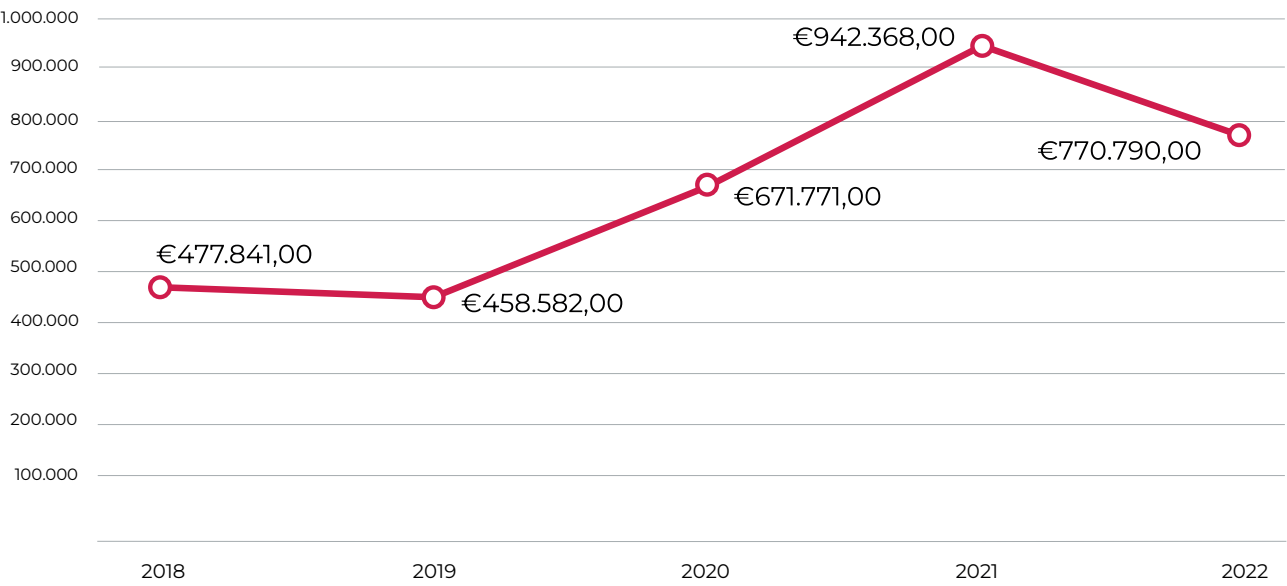
EARNINGS



**COSTS**



**INVESTMENTS**





KEY FACTS

# 2022

New PoP

## THE NINTH MIX POP IS IN EQUINIX ML5

Italy's leading internet network interconnection platform strengthens its development strategy with a powerful new PoP and improvements to its customer portal.

MIX announces the activation of a new Point of Presence (PoP) at ML5, Equinix's Settimo Milanese data centre near Milan. The new MIX node in ML5 further increases the coverage of the public peering network already present in major data centres across the country. The PoP connects customers at 100 Gbps and further expands the offering of MIX-IT's peering LAN network, to which over 350 networks – with a total capacity exceeding 10 Tbps – are already interconnected. It is now possible to connect to MIX in ML5 with 10GE or 100GE ports, and several MIX switches to balance IP traffic at full wire speed.

Like all primary MIX nodes, the architecture is designed to ensure total reliability on different paths for all customers in ML5 who want to connect to the peering LAN with redundant connections—easily meeting the needs of content owners and distributors.

To enhance user experience, MIX has also launched a new version of the MIX Customer Portal®, the online platform dedicated to MIX customers. This release introduces several new features, including greater administrative control and improved traffic statistics.

Alessandro Talotta, President and Executive President of MIX, comments, "MIX continues to increase its presence by investing in the development of its Internet interconnection platforms and thus facilitating a growth path for operators in the sector".



New Local IXP

## **MIX BOLOGNA: MIX ANNOUNCES ITS TENTH POINT OF PRESENCE AT LEPIDA DATACENTRE**

MIX, the main Internet networks interconnection platform in Italy, is pursuing its own decentralization strategy.

Alessandro Talotta, Executive President and Chairman of MIX, has said of the addition: “MIX continues its growth path by expanding its presence in Bologna. The point of presence (PoP) at Lepida opens the way to future partnerships within the public sector, and represents concrete support to sector operators who need greater proximity to internet services”.



MIX Bologna, the tenth and most recent PoP of MIX, is housed within BOIX, the Lepida datacenter, the ICT services hub of the Emilia Romagna Region. The Bolognese PoP is MIX's second outside Lombardy, after Palermo opened in 2017, and is configured in all respects as an IXP with its own autonomy.

Created with the aim of expanding the local interconnection infrastructure and attracting Internet operators to the region, MIX Bologna guarantees the best possible latency. It offers an optimal solution for the connection of content and service providers that require reduced access times.

All operators connected to MIX Bologna can also perform direct peering with the 350+ networks present on MIX's public LAN.

The activation of this new PoP is part of the decentralization process undertaken by MIX, driven on the one hand, by the need to facilitate and encourage the exchange of data at the local level and, on the other, by the availability of access to technologies.

The motto “keep local traffic local”, which for years has summed up the goal of the joint efforts of MIX and the member operators, is once again cemented in MIX's wider business strategy.



## Facts

### **AGREEMENT BETWEEN MIX AND VSIX**

The agreement will allow companies in the Veneto Region to benefit from the direct connection to the main Italian internet exchange.

On June 7, MIX, the most important Italian Internet exchange, based in Milan, and VSIX, the IXP of Padua, have signed a framework agreement to undertake forms of collaboration and experimentation of a technological and scientific nature in the field of technologies innovative IT and telematic systems. Furthermore, to facilitate the interchange of Internet traffic between the North East area with other areas of Italy and abroad, a

level 2 interconnection was created between the MIX and VSIX sites, through bidirectional remote peering solutions, including those of selective type. The new collaboration activated in the North East between the two Internet Exchanges MIX and VSIX will make it possible to share common experiences and know-how on a plurality of increasingly important issues such as network security and the promotion of peering towards local players. The partnership will allow a wider monitoring of Internet services in Italy through a common observatory that can be of help in evaluating or supporting initiatives and projects related to digitisation. It will also be possible to



experiment with remote peering services for the interconnection between different areas of Italy with the aim of facilitating the transition towards the use of digital by businesses, citizens and public administrations, aiming to reduce the digital divide (the index overall digitalisation of the economy and society DESI – 2021 places Italy in 20th place out of 27 at European level, but it is in 23rd place with reference to connectivity). MIX has the highest concentration of networks in Italy connected in a single point, it is one of the few IXPs in Europe with its own datacenter (Carrier-neutral and datacenter-neutral) and offers high standards of certified reliability and safety (ISO 27001 and OPEN-IX OIX-1). Veneto companies and, in particular, those of the Public Administration, will therefore be able to contact VSIX, which will act as enabler of the services, and thus seize the opportunities offered by interconnection to MIX in complete safety.

“The development of the internet requires greater capillarity and high-performance interconnections in order to quickly use content and services.

The collaboration between the MIX and VSIX platforms goes precisely in this direction”, declared Alessandro Talotta, Chairman & Executive President of MIX.

VSIX, already present with a PoP in Milan that facilitates the interaction between the two IXPs, represents the main hub for the North-East of the internet, a real local edge node that facilitates the exchange of data also between territorial operators who will therefore be able to benefit from remote peering agreements through MIX for their infrastructural developments in Italy and in the world. “The partnership started with MIX constitutes an important opportunity to expand the potential of connectivity and exchange of good practices for the North-East at the Italian level, as well as access new services that can benefit businesses, citizens and the public administration. Furthermore, we could help the territory’s digital transition process more strongly”, added the President of VSIX, Professor Eleonora Di Maria.





## CONNECTED CAPACITY

+20% in less than 9 months

# +12 Tb/s

## TRAFFIC PEAK

Record on November. 2,  
during the evening Serie A soccer matches.

# +2 Tb/s



EVENTS  
2022



# **SALOTTINO**

May 24, 2022

MIX Events

## **SALOTTINO 24 MAY**

The first 2022 edition of the Salottino took place on 24 May, our usual appointment to discuss technical issues of the IT world with authoritative experts and over 120 participants.

MIX Events

## **6LOTTINO 29 SEPTEMBER**

On 29 September 2022 the second edition of 6lottino took place, the online event started by MIX to take stock of the implementation of IPv6 in Italy, which was followed by over 130 participants.



# **IPv6**

# **LOTTINO**

Powered by





## Education **MIX'COOL**

Started in 2012, the MIX'COOL program is an informative meeting aimed at secondary school students. MIX'COOL is held at the MIX datacentre or as an interactive online session bringing youth closer to the reality of an Internet Exchange Point (IXP) and the importance of IXPs in exchanging and moving data over the Internet infrastructure.

In 2022, more than **450 students** and teachers from **13 schools** took part in the program.



Salotto 2022

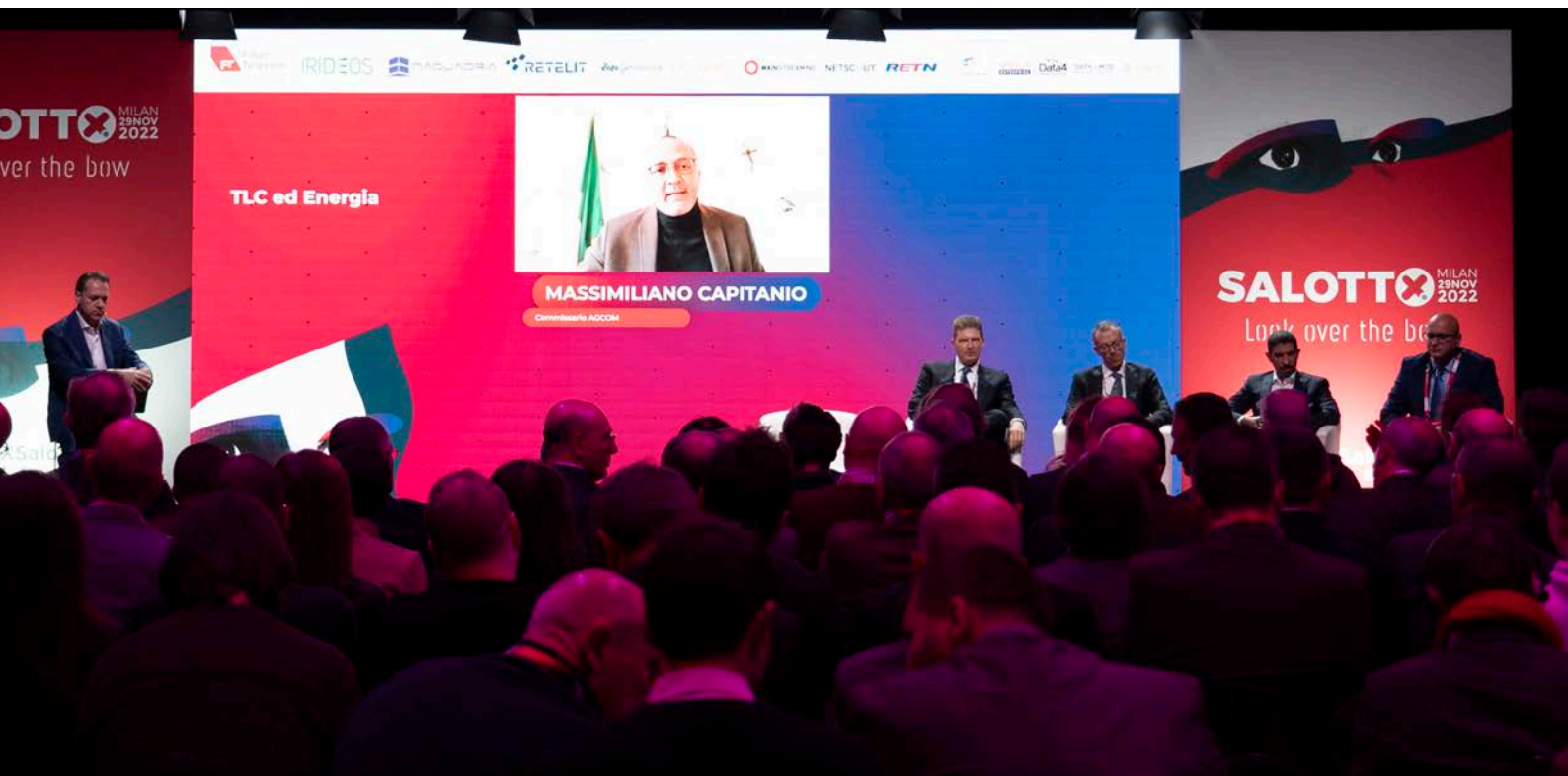
## LOOK OVER THE BOW

Energy, Cloud and Infrastructure the focus of MIX's 16th annual event

On November 29, the sixteenth edition of the Salotto, the annual event of MIX - Milan Internet eXchange, titled "Look over the bow," was hosted in Milan at the prestigious Teuliè Military School. During the most well-attended edition ever, more than 550 Telco operators from over 270 companies discussed some of the central issues for the sector, such as the ongoing energy crisis, infrastructure and cloud.

Alessandro Talotta, Executive President & Chairman at MIX, welcomed the participants and opened the meeting, then gave the floor to Colonel Gianluigi D'Ambrosio, commander of the Teuliè Military School, who welcomed the participants again.

Giuseppe Sala, Mayor of Milan, in a video greeting said, "The Salotto is one of the most important moments at the national level on the topics of Telecommunications. This year's Salotto is highly attended. Your programme, focused on data centre energy crisis, cloud, and Next Generation EU







opportunities, carefully captures the priorities of TLC operators and institutions. Your world stands alongside ours to overcome the challenges of the energy transition as well as the digital transition. [...] Milan looks with curiosity and attention to the synergies that Salotto will be able to multiply.”

The agenda included a panel discussion on “Energy and TLC”, introduced in the keynote speech by Gianfilippo Mancini, CEO Sorgenia, and attended by Massimiliano Capitanio, Commissioner AGCOM; Nicola Procaccini, Environment and Energy manager, Fratelli d’Italia; Sherif Rizkalla, CEO Stack EMEA Italy; Federico Protto, CEO Retelit, Stefano Mazzitelli, Business Market Manager Open Fiber; Giovanni Zorzoni, President AIIP.

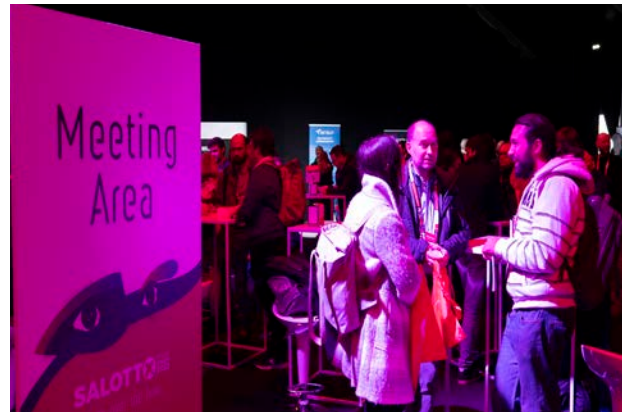
The discussion, moderated by Enrico Pagliarini, Radio24 journalist, showed the need to increase energy production, particularly from sustainable energy sources, focusing on energy infrastructure that should be considered on equal footing with telecommunications infrastructure.

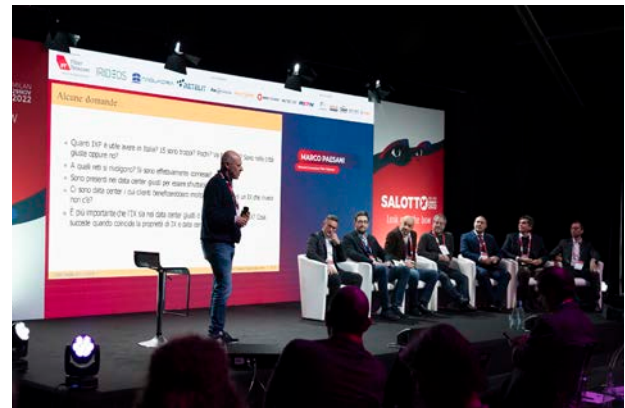
Attention to the evolution of the energy market, technological investment by companies in energy efficiency programmes, and optimisation of resources that allows companies to better react to rising energy costs are key factors to ensure healthy and profitable competition among operators and to protect the end consumer. The second panel discussion, “Cybersecurity/Cloud/Infrastructures”, was introduced by Gerard Pogorel, Professor of

Economics and Management-Emeritus, ENST - Telecom ParisTech, and involved Vincenzo Scarlato, Irideos Marketing Director and MIX advisor; Marco Arioli, CTO Eolo; and Marco Leone, CEO Fiber Telecom. They discussed private networks, black area coverage that will come to change the country, and the urgent need for both institutions and enterprises in the sector to face this challenge.

In the afternoon meetings and discussions focused on the strategic role of data centres and IXPs, the

National Cloud, and the opportunities offered by European Funds for companies in the TLC sector. Throughout the day, the more than 550 attendees at the event had the opportunity to visit the stands of sponsoring companies and participate in a rich session of more than 480 one-on-one meetings. The Salotto, which is confirmed, therefore, as the leading B2B event for operators in the coming year, looks forward to 2023.







Attendance at  
**EVENTS**



A circular graphic with a white background is centered over a background image of a vineyard at sunset. A large red triangle is on the left. Inside the circle is a portrait of Simone Morandini. Below the portrait, the text reads: **SIMONE MORANDINI**, Service Development Manager, Speaker at. Below this is the 'Winery Tour' logo, which includes 'WHOLESALE' and 'FT'. At the bottom of the circle, it says 'Cantine Alois' and '12 aprile 2022'. A small red circle with a white 'X' is in the bottom right corner of the graphic.

**SIMONE MORANDINI**  
Service Development Manager  
Speaker at

**Winery Tour**  
WHOLESALE  
FT

Cantine Alois  
12 aprile 2022



A banner with a night cityscape background. On the left are two portraits: Cristiano Zanforlin, Chief Commercial Officer, and Mauro Roberto Magrassi, Chief Technical Officer. To the right, the text 'See you there!' is displayed. The ITW logo is in the bottom left. The dates '9-12 May 2022' are in the center, with the location 'Gaylord National Resort & Convention Center, National Harbor, MD, near Washington DC' below. A red circle with a white 'X' is in the bottom right corner.

**See you there!**

**CRISTIANO ZANFORLIN**  
Chief Commercial Officer

**MAURO ROBERTO MAGRASSI**  
Chief Technical Officer

**itw**

**9-12 May 2022**  
Gaylord National Resort & Convention Center  
National Harbor, MD, near Washington DC









**MAURO MAGRASSI**  
Chief Technical Officer

joins

★ European Peering Forum ★  
★ ★ ★ ★ ★

**12-14 September 2022**  
Rome, Italy





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ON THE ROAD  
LAMEZIA TERME

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|  |  |    |  |  |


**Mercoledì 16 novembre 2022**  
dalle ore 9:00

Centro Servizi Lameziaeuropa SpA  
Zona Industriale "Papa Benedetto XVI"  
Lamezia Terme (CZ)




**Alessandro Talotta**  
Executive President and Chairman MIX

**Sviluppo degli hub nel Mediterraneo:  
quali opportunità per Genova?**



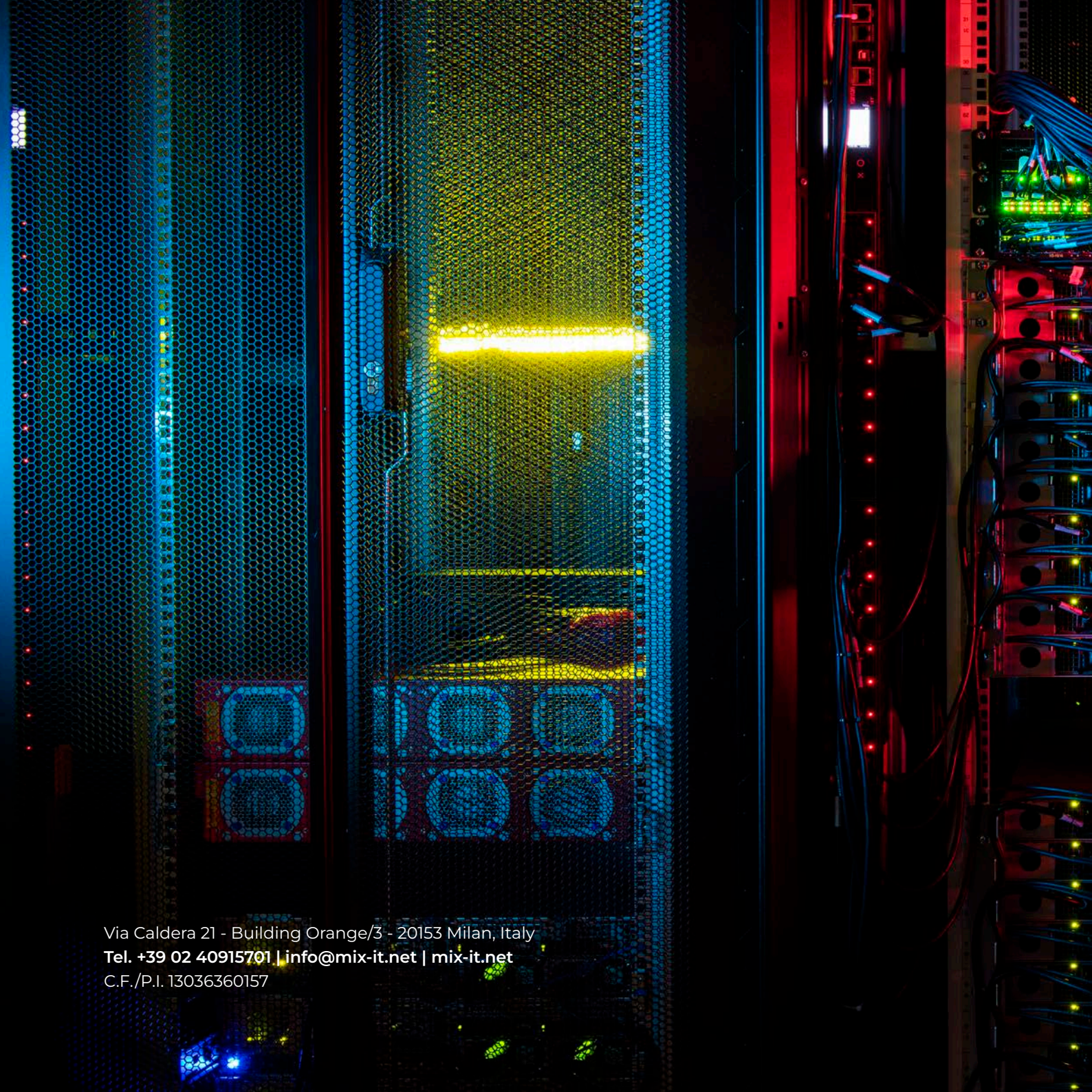
**GENOVA SMART WEEK**  
The City & The World

Lun 21 novembre  
**9.00 - 13.00**  
LIVE STREAMING  
da Palazzo Tursi, Genova







A photograph of a server room. The foreground shows the perforated metal doors of server racks, with a bright yellow light glowing through one of the central openings. To the right, the interior of a server rack is visible, showing various components, cables, and numerous green and red status lights. The overall lighting is dim, with the primary light sources being the server components and the light coming through the rack opening.

Via Caldera 21 - Building Orange/3 - 20153 Milan, Italy  
Tel. +39 02 40915701 | [info@mix-it.net](mailto:info@mix-it.net) | [mix-it.net](http://mix-it.net)  
C.F./P.I. 13036360157