



Corporate Presentation

 **SPARKLE** | IP&DATA
PLATFORM

 **SPARKLE** | CLOUD & DATA CENTER
PLATFORM

 **SPARKLE** | CORPORATE
PLATFORM

 **SPARKLE** | MOBILE
PLATFORM

 **SPARKLE** | VOICE
PLATFORM

 **SPARKLE**

TIM Group Overview

Employees **61,229**

Customers (Mln) **104**

Revenues (Bn €) **19**

Data as of December 2016

TIM Group Overview

TIM is the **leading Italian** Telecommunications and ICT provider. In the areas of: fixed and mobile telecommunications, internet and media, office and systems solutions, research and development

Leading Player in Brazil

Among TOP global operators through Sparkle

Core markets: Italy, Brazil

Sparkle Overview

Company data

Headcount

762

Countries of presence

36

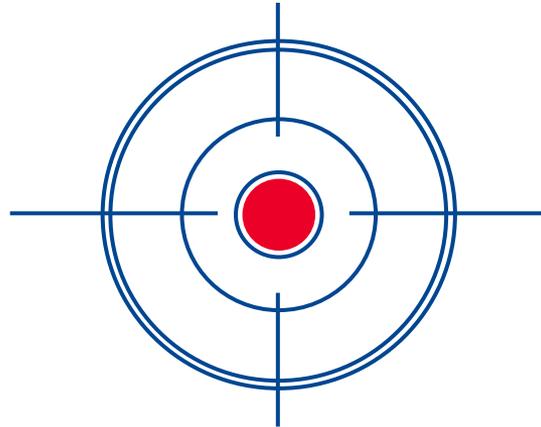
Network coverage

#PoPs 120

PoPs via partners

> 1,000

Data as of September 2017



Key figures

Voice Traffic

14.5 Bn minutes

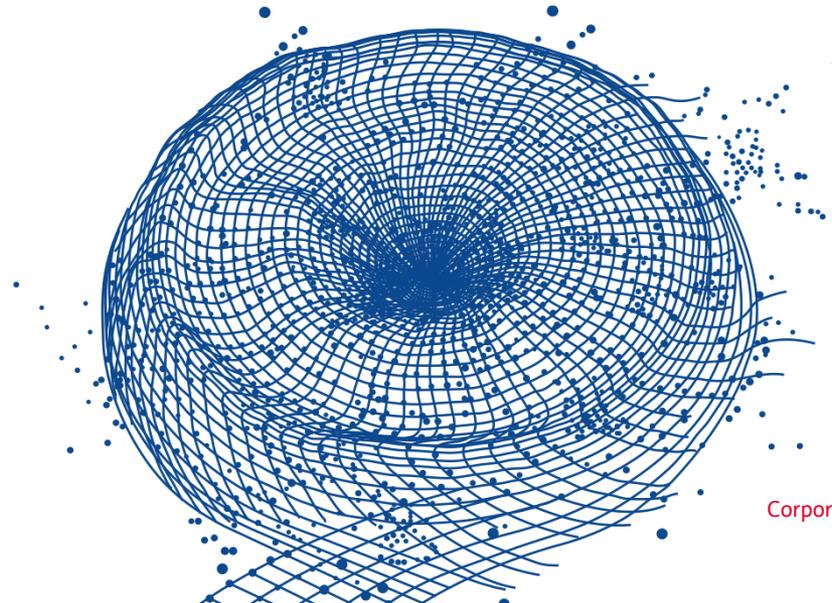
Revenues

1.4 Bn €

Data as of December 2016

Sparkle Overview

- **A LEADING GLOBAL OPERATOR** with an unparalleled experience and know-how in a multiplicity of diverse markets. Sparkle, with its IP&Data, Cloud & Data Center, Corporate, Mobile and Voice Platforms, actively takes part in the development of worldwide communications, providing the best global connectivity solution to Fixed and Mobile Carriers, ISPs, OTTs, Media & Content Players, Application Service Providers and Multinational Corporations, before they know they need it
- **Wholly owned subsidiary of TIM Group** created in 2003 with the objective of developing the international wholesale and the retail multinational corporate businesses, as well as of **supporting TIM Group business units for the provisioning of International Service**



Sparkle Positioning

IP Backbone Ranking

	EoY 2016
Level 3	1^
Telia Carrier	2^
Cogent	3^
NTT	4^
GTT	5^
Tata Communications	6^
Sparkle	7^
PCCW Global	8^
Hurricane Electric	9^
SprintLink	10^

Source: Renesys

Among Top 3 Int'l IP Routes in Africa



Source: Telegeography Data 2016

Int'l Voice WW Ranking

Traffic volumes worldwide

Bn Mins		EoY 2016
Vodafone CS	1^	58.0
Tata	2^	45.3
Orange	3^	31.0
BICS	4^	26.3
DT	5^	25.5
Telefonica	6^	24.0
IBasis	7^	23.0
IDT	8^	17.0
Reliance	9^	15.3
Sparkle	10^	14.5

Internal Sources

- Sparkle's Global IP&DATA Backbone is leader in the Mediterranean and in the Americas; Seabone, Sparkle's Global Tier-1 IP Transit service, ranks among Top 10 worldwide
- Cloud & Data Center Solutions available in several DCs worldwide, with key assets presence in Italy, Greece and Turkey
- Among the few global players currently active in the wholesale mobile market
- #1** in Italy, challenger in Europe and emerging player on the global market
- #10** for worldwide traffic collected on an international basis

Sparkle Organization

Chairman &
Ceo

- TI Sparkle North America Inc.
- TI Sparkle Singapore Pte Ltd.
- MED-1 Submarine Cables Ltd.
- TI Sparkle France SAS
- Pan European Network Subsidiaries

Alessandro Talotta

Administration
Finance &
Control

Claudio Zezza

Patrizia Nobile

Human
Resources

Institutional &
External
Communication

Carlo De Martino

Carlo De Gennaro

Legal &
Regulatory
Affairs

Compliance

Mario Pirro

Riccardo Pieralice

Business
Development

ICT
Engineering

a.i. Alessandro Talotta

Marco Tiseo

Security

Line of Business
IP & Data

Giuseppe Valentino

Stefano Olivieri

Line of Business
Voice & Mobile

Region
West Europe

M. Teresa Ferrigno

Region
East Europe
& Mediterranean

Zvika Caspy

Region Asia,
Africa &
Middle East

Leonardo Cerciello

Region
Americas

Laurie Bowen

Network
Operations &
Provisioning

Massimo Massaro

Americas
Transformation
Project

Mario Pirro

Sparkle Key Assets



State-of-the-art Global Network, with proprietary backbones in Europe, Mediterranean Basin and the Americas and ownership in submarine cables connecting Europe with South-East Asia and the Americas



Global Services Portfolio for Fixed and Mobile Operators, ISPs, OTTs, Media & Content Players, Application Service Providers and Multinational Corporations



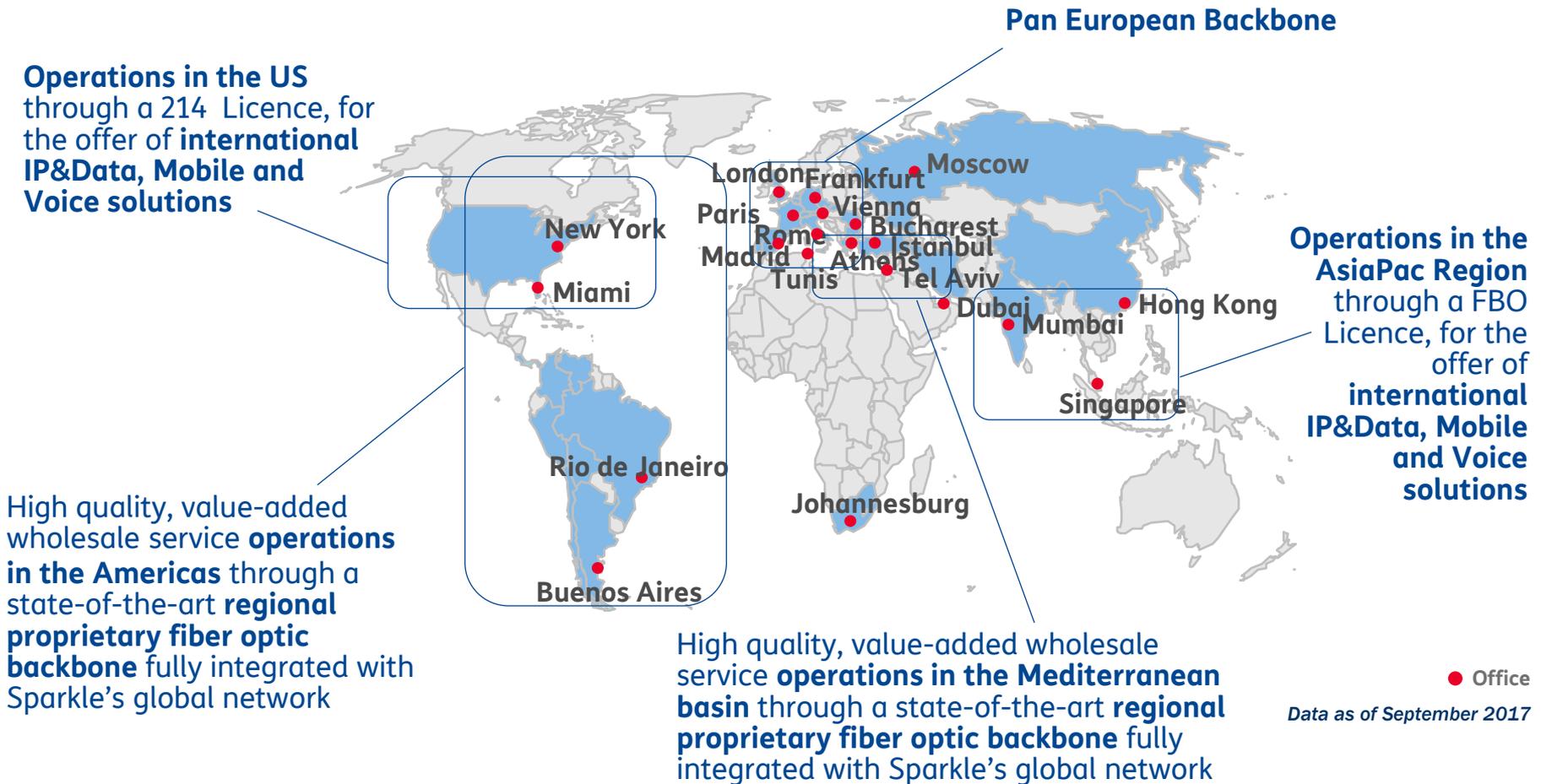
Worldwide presence in 36 countries based on fully owned companies and offices



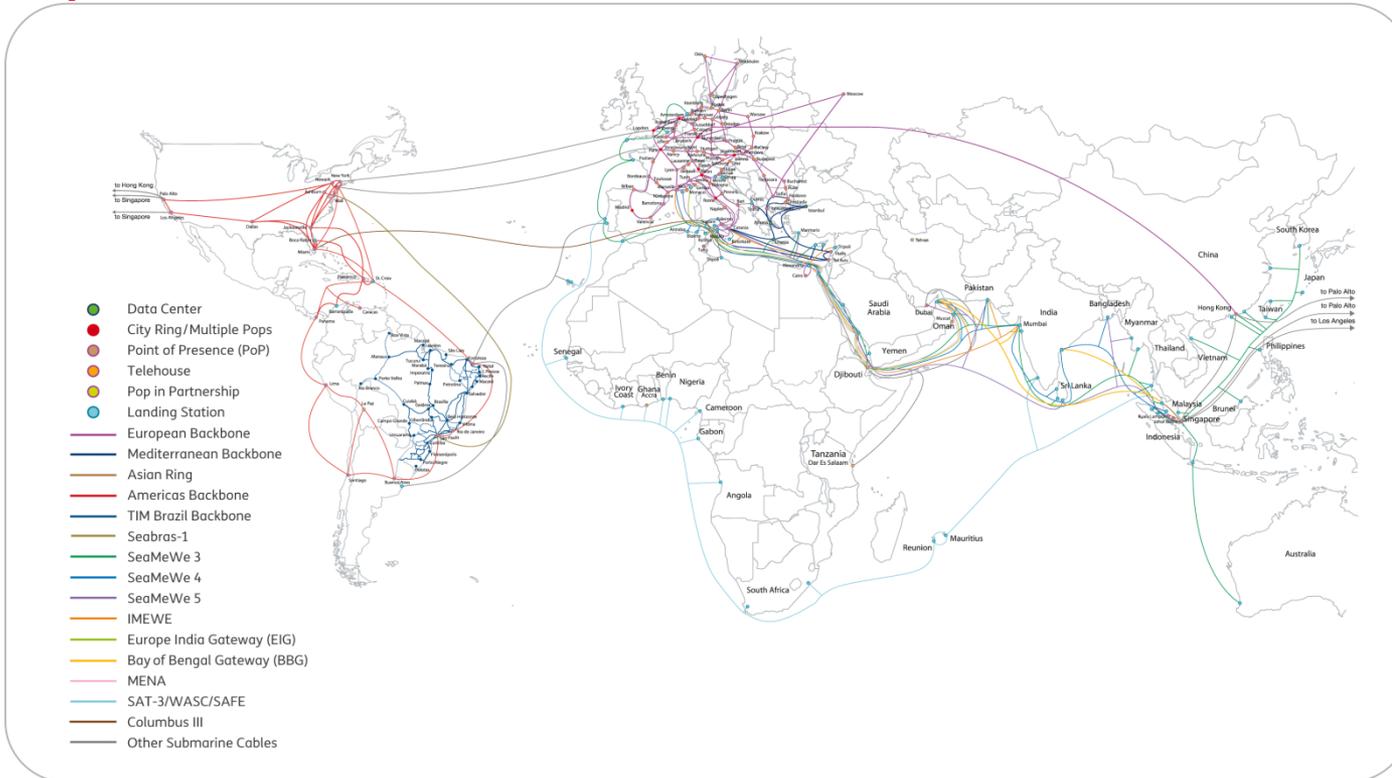
Advanced OSS, BSS and Customer Care capabilities with multi-lingual call center

Sparkle Operations

Sparkle has a **global presence** based on its fully owned companies and offices in **36 countries** and a headcount of over 700 in Italy and abroad



Sparkle Global Network



GLOBAL CAPABILITIES

- ▶ 72 cities in 36 countries
- ▶ 120 PoPs
- ▶ >1,000 PoPs through partners
- ▶ 45,000 km/fibre PEB
- ▶ 36,000 km Americas Backbone
- ▶ 10,800 km Mediterranean Backbone
- ▶ 14,000 km/fibre Italian network
- ▶ over 450,000 km submarine cables

Data as of September 2017

- Full IP Global Network
- Unique protected fiber path in Europe and global meshed architecture providing full resilience
- Unique footprint in Middle East and South East Asia through a state-of-the-art regional proprietary fiber optic backbone in the Mediterranean Basin, SeaMeWe-3, SeaMeWe-4, SeaMeWe-5, IMEWE and bilateral cable Systems
- New POPs in Kuala Lumpur, Tehran, Moscow, Puerto Rico
- Increased network capillarity in Europe
- New proprietary redundant backbone links from North to South America and investment in the new cable Seabras-1 connecting New York and Sao Paulo
- Capacity across the Atlantic and the Pacific

Sparkle Service Proposition

Complete set of IP, Data, Cloud & Data Center, Mobile and Voice solutions for Fixed and Mobile Operators, ISPs, OTTs, Media & Content Players, Application Service Providers and Multinational Corporations (MNCs)



Complete range of solutions designed to access any content on the Internet with secure global international IP connectivity, high-performance international bandwidth and IP MPLS services



Suite of highly flexible and scalable top class integrated IaaS, PaaS and SaaS that meet the ever growing need of cost efficient and top security IT solutions, available in several Data Centers worldwide, with key assets presence in Italy, Greece and Turkey



Complete portfolio of services ranging from entry-level solutions for small and medium enterprises, to business continuity solutions, with the highest level of service performance



Distinctive portfolio of services to support the operations of new entrants and established mobile operators. The services aim to quickly increase international mobile service coverage and usage, thus generating new revenue streams for mobile operators while minimizing costs for service set up and management



Voice Solutions offer worldwide voice capabilities to Carriers, Service Providers, and Mobile Operators combining network reliability, competitive pricing and excellent routing solutions

Sparkle Global Portfolio



SPARKLE | IP&DATA PLATFORM

YOU CONNECT AND TOGETHER WE EVOLVE.

- SPARKLE | Seabone
- SPARKLE | Virtual NAP
- SPARKLE | IXP Connect
- SPARKLE | City2City
- SPARKLE | Ethernet Suite
- SPARKLE | Site2Site
- SPARKLE | Country2Country
- SPARKLE | Restoration



SPARKLE | CLOUD & DATA CENTER PLATFORM

YOU GROW AND TOGETHER WE EVOLVE.

- SPARKLE | IaaS Solutions
- SPARKLE | Backup as a Service
- SPARKLE | Disaster Recovery as a Service
- SPARKLE | Cloud Connect
- SPARKLE | YourCloudStore
- SPARKLE | Secure Identity Suite
- SPARKLE | Sicily Hub
- SPARKLE | Greece Data Centers
- SPARKLE | Turkey Data Centers
- SPARKLE | Miami Data Center
- SPARKLE | Data Center Connect



SPARKLE | CORPORATE PLATFORM

WE COLLABORATE AND TOGETHER WE EVOLVE.

- SPARKLE | Ethernet Suite
- SPARKLE | Carrier MPLS
- SPARKLE | IP VPN Suite
- SPARKLE | Site2Site
- SPARKLE | Full Outsourcing
- SPARKLE | Cloud Connect
- SPARKLE | Mobility Suite
- SPARKLE | UCaaS
- SPARKLE | Broadcasters Solutions



SPARKLE | MOBILE PLATFORM

YOU MOVE AND TOGETHER WE EVOLVE.

- SPARKLE | IPX
- SPARKLE | LTE Diameter Signalling
- SPARKLE | Global Signalling
- SPARKLE | GRX
- SPARKLE | SMS Transit
- SPARKLE | SMS Booster
- SPARKLE | Outbound Roaming Solution
- SPARKLE | VoLTE Transit and Roaming



SPARKLE | VOICE PLATFORM

YOU TALK AND TOGETHER WE EVOLVE.

- SPARKLE | Best Voice Transit
- SPARKLE | W.A.V.E. Voice Outsourcing
- SPARKLE | IPX
- SPARKLE | High Definition Voice
- SPARKLE | Access Services
- SPARKLE | Barrier Antifraud Services

Cloud & Data Center Solutions

Data Center

6 DC Hubs
Worldwide Located

Colocation

Best Technology in
the Market

Power

Everything you need to
be connected

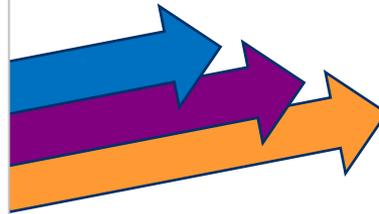
Cabling

360° Data Center
Support

Colo
Professional
Services

**A modern DC born
to offer Telco and MNC's
services**

With



**Int'l Global
Network
Inside**

Cloud

IaaS

Scalable and Flexible

Security

"Best of Breed" Strong
Authentication Service

Online
Marketplace

Self-Management white
label marketplace and
Advanced SaaS

DaaS

High business agility and
continuity

Cloud Storage

Secure, Robust and
Scalable

**An innovative and wide
service portfolio**

...and a unique Set of Cloud/Data Centers and Network Infrastructure

Colo and Hosting capabilities, completely
**integrated with Sparkle's network services
worldwide**

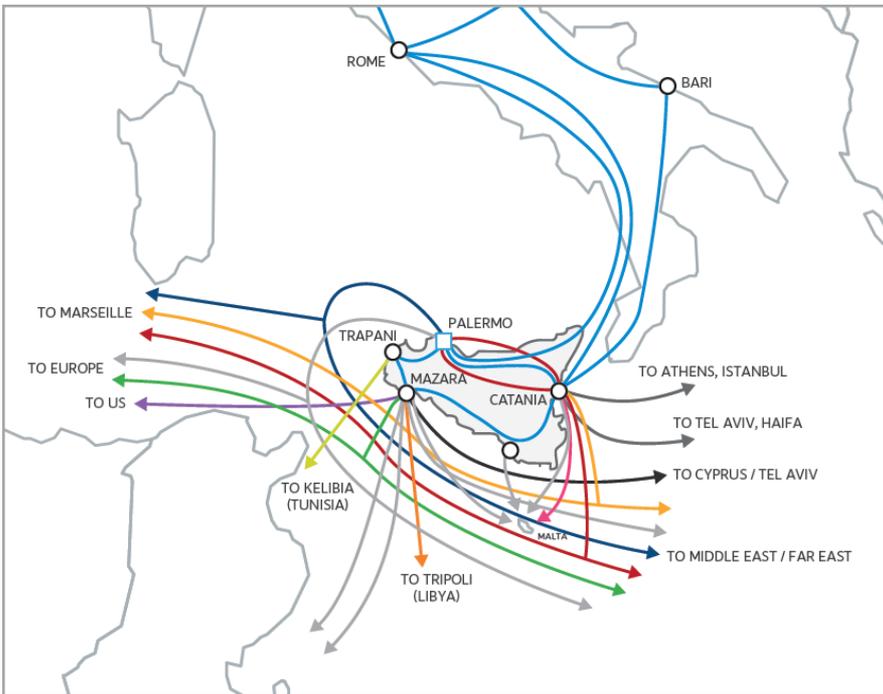
Regional Data Centers in Italy, Greece and Turkey
that leverage on Sparkle's unique protected terrestrial
and submarine network to Europe

Sicily Hub as Top Mediterranean Gateway to the Global Internet

Next Generation Data Center in Palermo:

the leading IP gravity center in the Mediterranean where Content meets ISPs

SPARKLE | Sicily Hub



- **Open colocation facility**
- **Connected to all landing stations in Sicily, including SeaMeWe-5**
- **Private or Public Peering through DE-CIX**, the world largest neutral IX
- **Content**, the most important players have chosen Sicily Hub to interconnect with ISPs
- **Quality & Competitiveness**, improved latency and lower costs than any other European location
- **Flexibility**, to efficiently manage submarine and terrestrial capacity with enhanced resilience
- **Marketplace** of multi-breed interconnected players to trade any telecommunication and cloud solutions

Broadcasters Solutions

Innovative solution to drive contents anywhere

Sparkle and **Persidera**, TIM Group subsidiary and leading independent TV broadcast network operator in Italy, allow Media Company (**Broadcasters, Content Providers, Cable TV operators, IPTV Operators, Pay TVs, ...**) to enter the international media ecosystem **exchanging Contents and TV Channels globally**

- Transport based on Sparkle global network including presence in Telehouses and Media Hubs and partnership with Satellite Operators
- Highly scalable and end-to-end solution ensuring premium quality video transport, support for all the latest video formats and encoding standards
- Configuration, management and real time monitoring managed by a dedicated video NOC
- Playout, Media Asset Management and Head End capabilities
- High quality Digital Terrestrial Television network in Italy based on proprietary multiplexes
- Experienced team of video professionals able to support any type of customize solutions
- Support to Strategic-Agreement for content exchanging with national and international Media Partners

Transport Services for Contribution and Distribution



Video channel transport



Global reach



Permanent Temporary

Value Added Services



SD & HD playout



Multiplatform Head End



Storage & Media Management

Optional Services



DTT & Satellite Diffusion

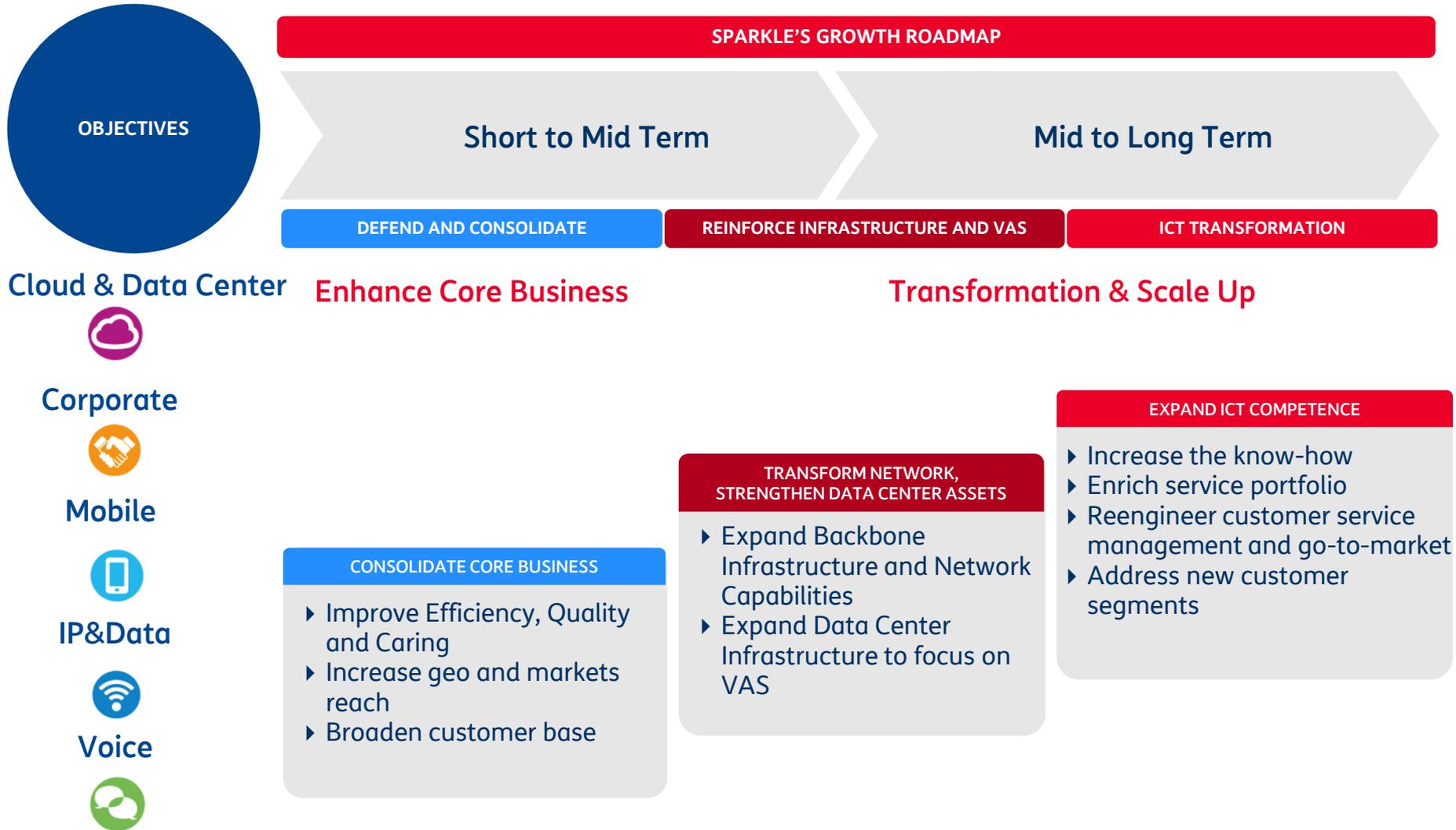


Multiscreen



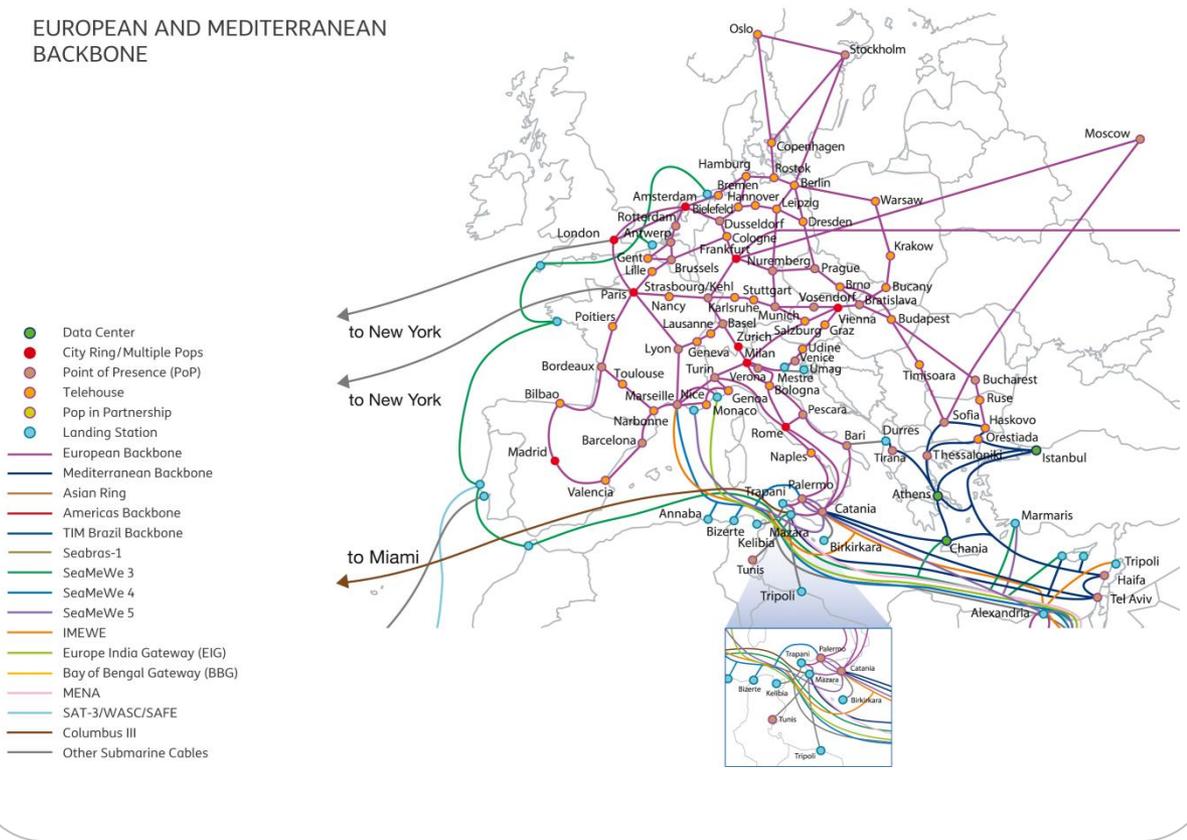
Consultancy

Sparkle's Growth Roadmap



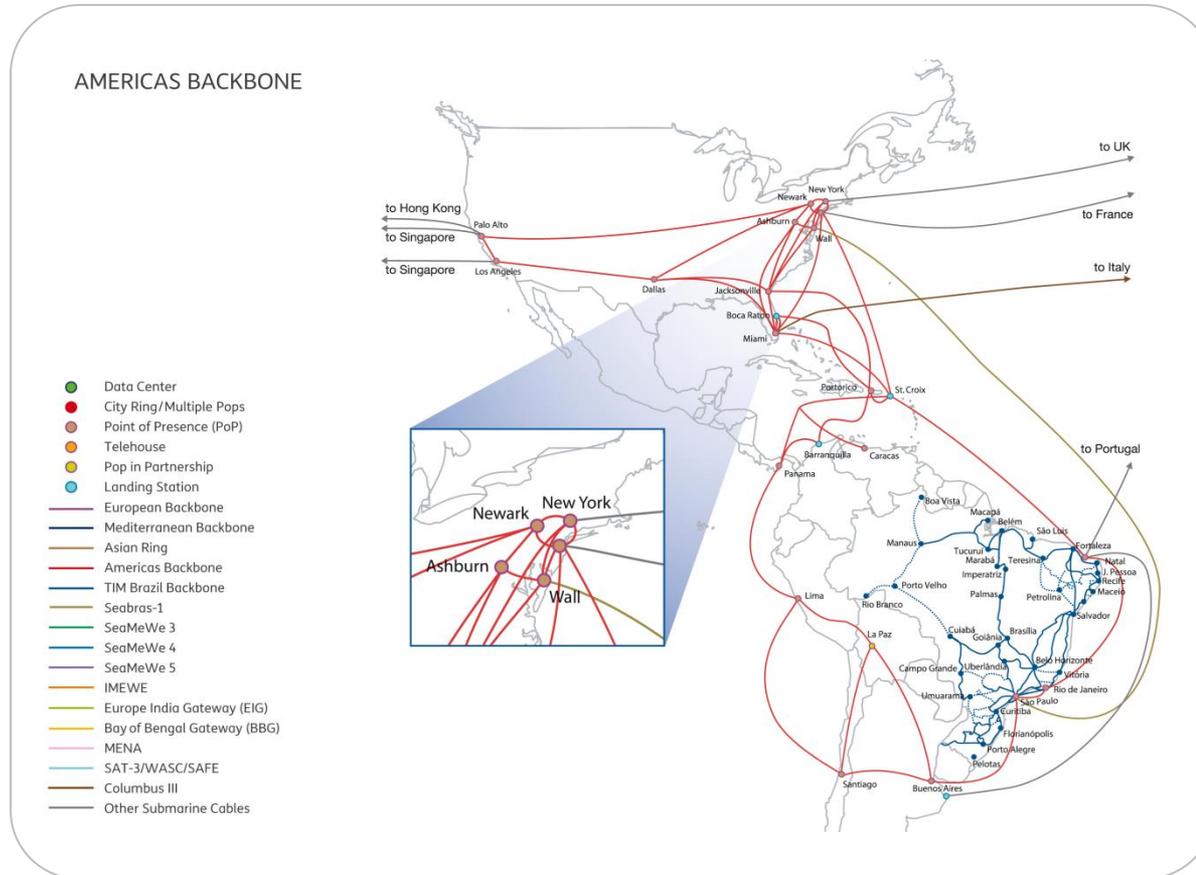
Focus on Key Regional Backbones: Europe & Mediterranean

EUROPEAN AND MEDITERRANEAN BACKBONE



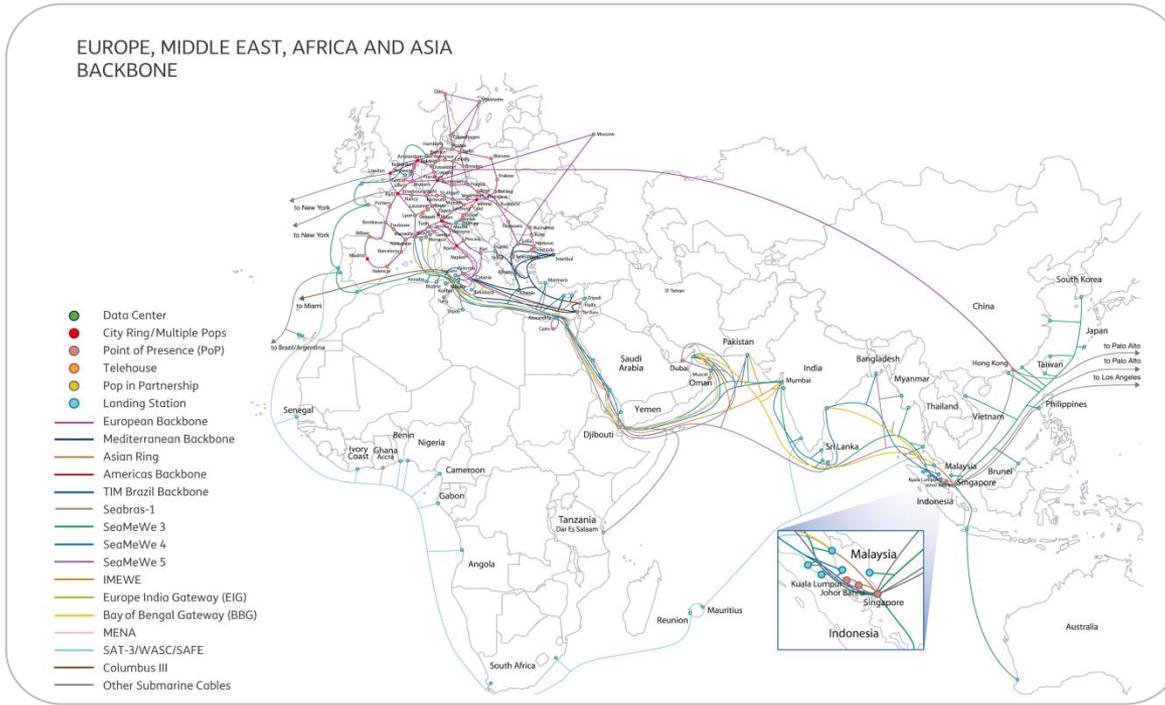
- Increased network capillary in Europe
- Unique protection from Istanbul to Europe through terrestrial and submarine networks
- New diversified and protected backbone links in the Balkans that represent an alternative route to connect Europe to Africa, Middle and Far East
- New POP in Moscow for the offering of Corporate services

Focus on Key Regional Backbones: Americas



- Full IP network in the Americas
- State-of-the-art regional proprietary fiber optic backbone in 9 countries: US, Argentina, Brazil, Bolivia, Chile, Colombia, Panama, Peru, Venezuela
- New proprietary redundant backbone links from North to South America
- Investment in the new cable Seabras-1 connecting New York and Sao Paulo
- TIM Brazil Backbone fully integrated with Sparkle's global network
- Capacity across the Atlantic and the Pacific

Strategic Focus on Med, ME, Africa & APAC Corridors



- **IMEWE reinforces Italy's role as main infrastructural Hub in the Mediterranean** connecting Middle East and South-East Asia to Europe
- Through Sparkle's global network, operators in fast-growing markets of Middle East and Asia have access to worldwide contents with unrivalled performance through a **2-way path connecting Sparkle's Asian network to Europe and US, both East and Westbound**

EUROPE & MEDITERRANEAN

- **Fully resilient Pan European backbone** covering 13 countries
- **State-of-the-art regional proprietary fiber optic backbone** covering: Italy, Turkey, Israel, Greece, Cyprus
- **Proprietary submarine cable Athens-Istanbul**
- **Bilateral cables with Monaco, Albania, Croatia, Slovenia, Cyprus, Malta, Israel and Libya**

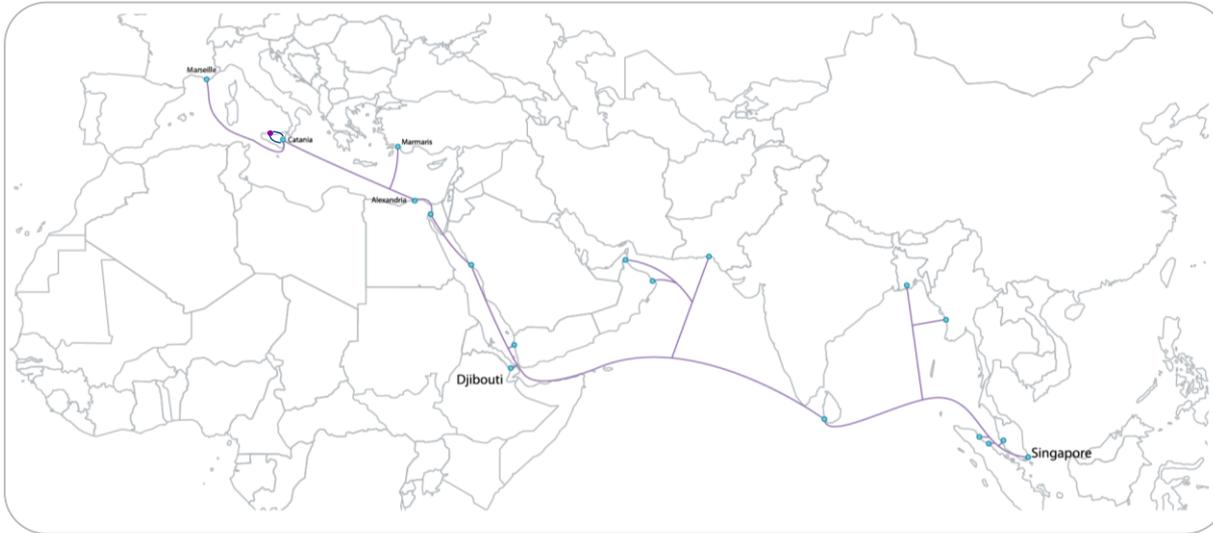
EUROPE TO AFRICA, ME & ASIA

- **SeaMeWe-4 cable:** France, Algeria, Tunisia, Italy, Egypt, Saudi Arabia, India, South-East Asia
- **IMEWE cable:** France, Italy, Lebanon, Egypt, Saudi Arabia, United Arab Emirates, Pakistan, India
- Other Submarine Cables: **SeaMeWe-3, EIG, BBG** and **MENA** (Europe, Africa, Middle East, Far East)
- **SeaMeWe-5 cable:** Europe to Asia with a main landing in Catania, Sicily

EUROPE TO WEST AFRICA & SOUTH AMERICA

- **SAT-3** (Europe, West Africa), **ATLANTIS-2** (Europe, West Africa, South America)

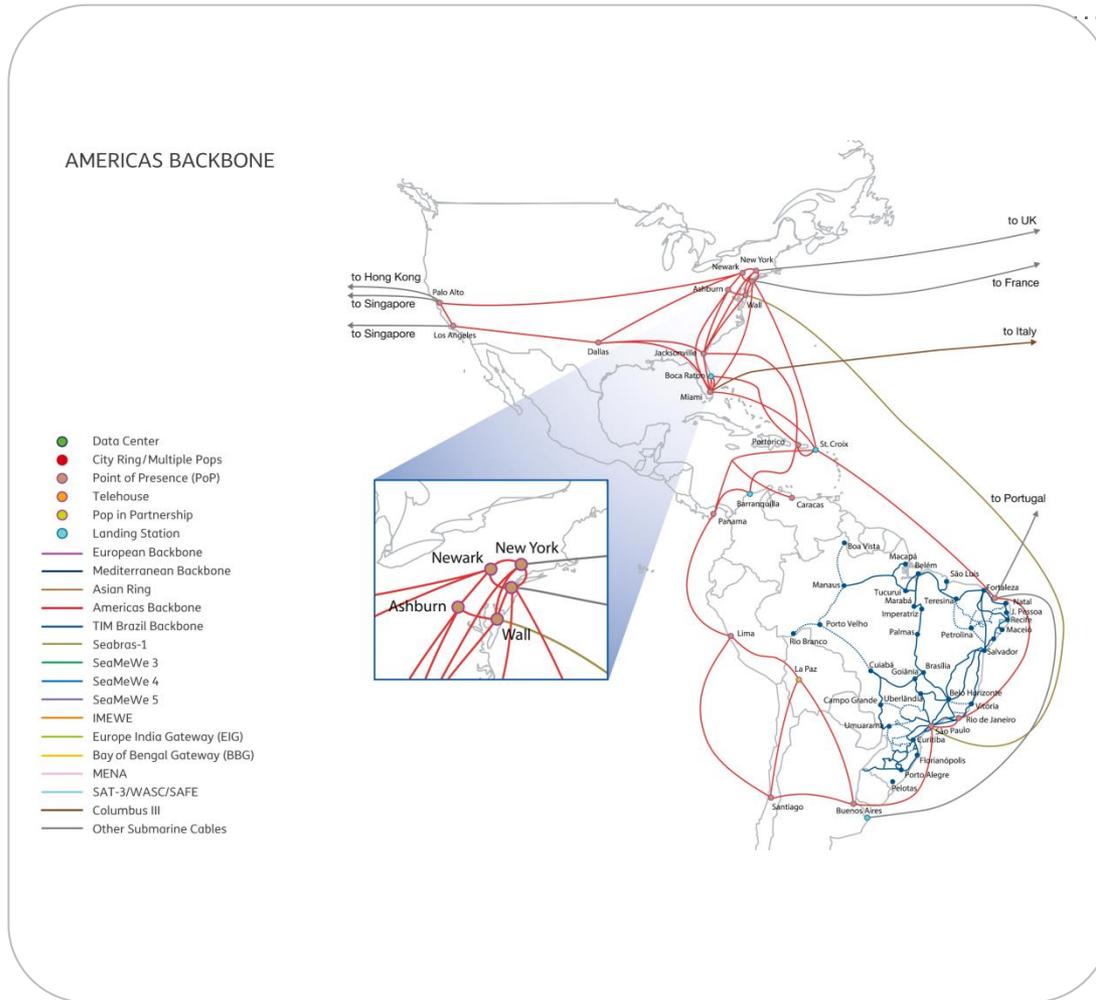
SeaMeWe-5: Reinforcing Leadership in the EU-Asia Corridor



- Total length of **20,000 km**
- 20,000 km of **Core System with 3 fiber pairs**, 4 fiber pairs in the Mediterranean
- Design capacity of 80 waves **at 100 Gb/s per fiber pair**

- **Sparkle is among initial investors for the implementation of the new submarine cable system connecting Europe to Singapore.** Participated by 19 global players, **SeaMeWe-5 connects Europe to Asia with main landing in Palermo and Catania, Sicily.**
- **The new cable system reaches 17 countries:** Singapore, Malaysia, Indonesia, Myanmar, Bangladesh, Sri Lanka, Pakistan, Qatar, Oman, UAE, Yemen, Djibouti, Saudi Arabia, Egypt, Turkey, France and Italy
- Devised with the latest **100Gbps technology**, SeaMeWe-5 is a multiregional superhighway that provides lowest latency and **represents an additional network layer of diversity and resilience for the heavily loaded Asia to Europe route**
- Sparkle has been awarded both **Network Administrator (NA)** and **Network Operation Center (NOC)** responsibilities for SeaMeWe-5. Both activities are performed in **Sparkle's Core Landing Station in Catania**, which is also a **main landing point in Europe for SeaMeWe-5** as well as for other major international cable systems
- With the participation to SeaMeWe-5 **Sparkle enhances its customer proposition with a diversified and low latency route to and from Asia**, thus **further strengthening Sparkle's role as major cable landing hub in Europe and the Mediterranean**

Seabras-1: Reinforcing Leadership in the Americas



- First cable to connect Sao Paulo to New York
- Seabras-1 is based on six fiber pairs and with initial design capacity of 72 Terabytes
- Sparkle owns 3 out of the 6 pairs
- Investment in a Branch Unit in Fortaleza, Brazil, and a protected backhaul between New York and Miami
- Full network resiliency with top service quality
- With Seabras-1 Sparkle will support the fast growing demand of capacity originating in South America, especially Brazil, along the South to North America route, one of the most relevant IP traffic streams globally which records yearly growth rates of over 35% and contributes over 30% of the global market value
- With the backhaul extensions from cable landing points to main PoPs in New York and Sao Paulo, Sparkle will also provide easy onward connectivity to rest of world

Sparkle Training Programs

With a history of experience and know-how in a multitude of markets, Sparkle launched two training programs that provide the key competencies required to recognize, strategize and respond quickly and successfully to the ever-changing environment of the international telecommunications market

- **Global Satiro Training Program** consists of technical and commercial in-class programs that offer an in-depth comprehension of the international telecom market and of its dynamics as well as all the skills to maximize the value of technology and optimize its overall contribution to the business
- **Satiro Mobile Training Program** provides an overview of Mobile Networks and Services evolution, from GSM to LTE, with an in-depth analysis of International Roaming Services

More than 50 Operators have participated to Global Satiro last 12 editions



Already three editions in the last two years



Global Partner

Global Partner (GP) is a new line of business that offers structured capabilities to share TIM Group's key assets and competences with partners worldwide. Unlike traditional consulting firms, GP offers its extensive «hands on» expertise directly through highly skilled line managers and experts

PEOPLE	Extensive market, business and technical expertise , with multi-cultural approach
PROCESSES	Solid business processes throughout the value chain , constantly updated with best practices
PLATFORMS	In-house development & customization capabilities , leading to cost effectiveness
PORTFOLIO	Wide portfolio covering all customer segments

Our ICT line managers and experts:

- adopt a highly pragmatic approach, based on field experience
- are focused on delivering quick results allowing partners to resume work promptly
- deeply understand our partners' needs and speak their same "language"



Benefits

- Revenue increase
- Lower time-to-market
- Improved efficiency
- Better quality of service
- Innovation

Best option for explored topics

Sparkle winner at the Global Wholesale Excellence Voice Award 2017

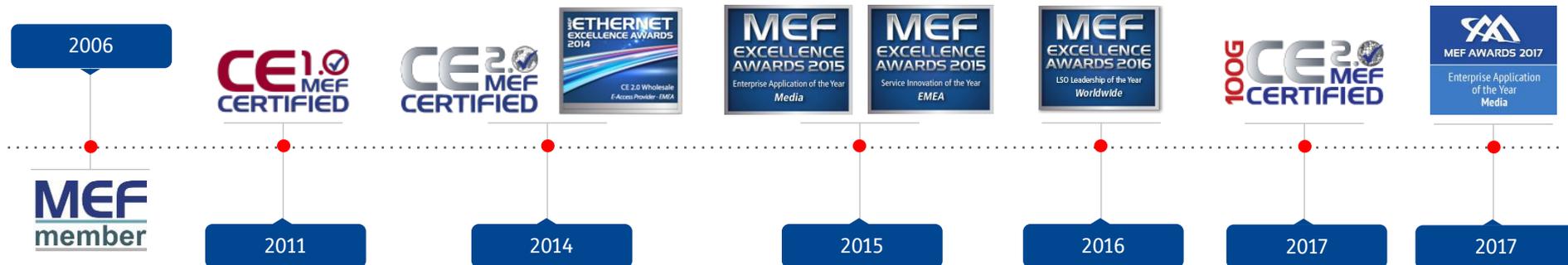


Sparkle wins the Global Wholesale Excellence Voice Award at PTC 2017

- Sparkle has been awarded the **Global Wholesale Service Provider Excellence award for Voice Value in the Midsized category**. Sparkle received the important recognition from industry research and analysis firm Atlantic-ACM as a result of their Global Wholesale Report Card market research
- Sparkle has obtained the highest voice value score calculated by combining respondents' **Quality and Price Competitiveness** perceptions and considering international Wholesale Voice Services such as guaranteed **quality Voice Termination, best efforts Voice Termination, Global Mobile Interconnection and IPX Services**
- The ATLANTIC-ACM Global Wholesale Report Card is an independent, market-wide customer survey study of leading global wholesale providers. Nearly 400 respondents supplied around 1,400 individual carrier ratings, grading global wholesale service providers in categories that include numerous quality and price competitiveness categories for voice and data services in addition to provisioning, network performance, billing, customer service among others

Sparkle winner at the MEF Excellence Award 2017

- **Sparkle wins Enterprise application of the year for Media at MEF17 Excellence Awards**
- The award recognizes the innovation of a new proposition developed in partnership with Aldea Solutions that provides high performance end-to-end permanent and occasional video services. The new innovative service application meets the requirements of Media players such as Broadcasters, Content Providers and Final Diffusion Networks ensuring top performance and global coverage
- **In 2016 Sparkle won the LSO leadership Worldwide awards.** The award recognized the leading role of Sparkle in adopting MEF's concept of Lifecycle Service Orchestration (LSO) and implementing a **new architecture** that enables customers with an end-to-end management of the connectivity solutions purchased
- The first two innovative digital solutions introduced, **Data Center Interconnect** and **Secure Cloud Interconnect**, provide customers looking for more scalable bandwidth, capacity and intelligence, with the ability to distribute more efficiently the volume of traffic and transactional data among their own data centers and/or Cloud Provider premises
- These award follow the recognition as **Best Service Innovation-EMEA** and **Best Enterprise Application-Media** in 2015 and the recognition as **Best CE 2.0 Wholesale E-Access Provider EMEA of the year** and the **Carrier Ethernet CE 2.0 Certification** obtained in 2014 by Sparkle and Telecom Italia Group Group, the first Service Providers in Europe to achieve this Certification
- As further recognition of Sparkle's commitment in providing customers with best performing advanced connectivity solutions, in January 2017, Sparkle has obtained the **MEF 100G Carrier Ethernet 2.0 Certification For E-Line (EPL & EVPL) Services**. It is the first Service Providers in Europe to achieve this certification and the first worldwide Service Providers to become MEF 100G CE 2.0 certified for E-Line Services on a submarine cable system



Sparkle winner at the Global Carrier Awards 2016



- Sparkle’s Global Rebranding Campaign “**The World’s Communication Platform**” has been recognized as the industry’s **Best Marketing Campaign for 2016**. Sparkle has been awarded with the same prize also in 2013 and 2015
- The campaign has a particular relevance as it is part of a **global rebranding** effort that so far has proved very successful. The Brand's new payoff "**The World's Communication Platform**" highlights Sparkle's **renewed positioning** in the international telecommunications market
- Sparkle today is as an **interactive** ecosystem in constant evolution, **an intelligent platform able to generate new value through the interactions of customers, suppliers and partners**. A global network for the creation and consumption of technological and innovative solutions that is able to anticipate the needs before they are expressed

Thank You

