



## **BEREC Workshop**

*The market players' views on international submarine connectivity in the European Union*

# Operation of Submarine Cables

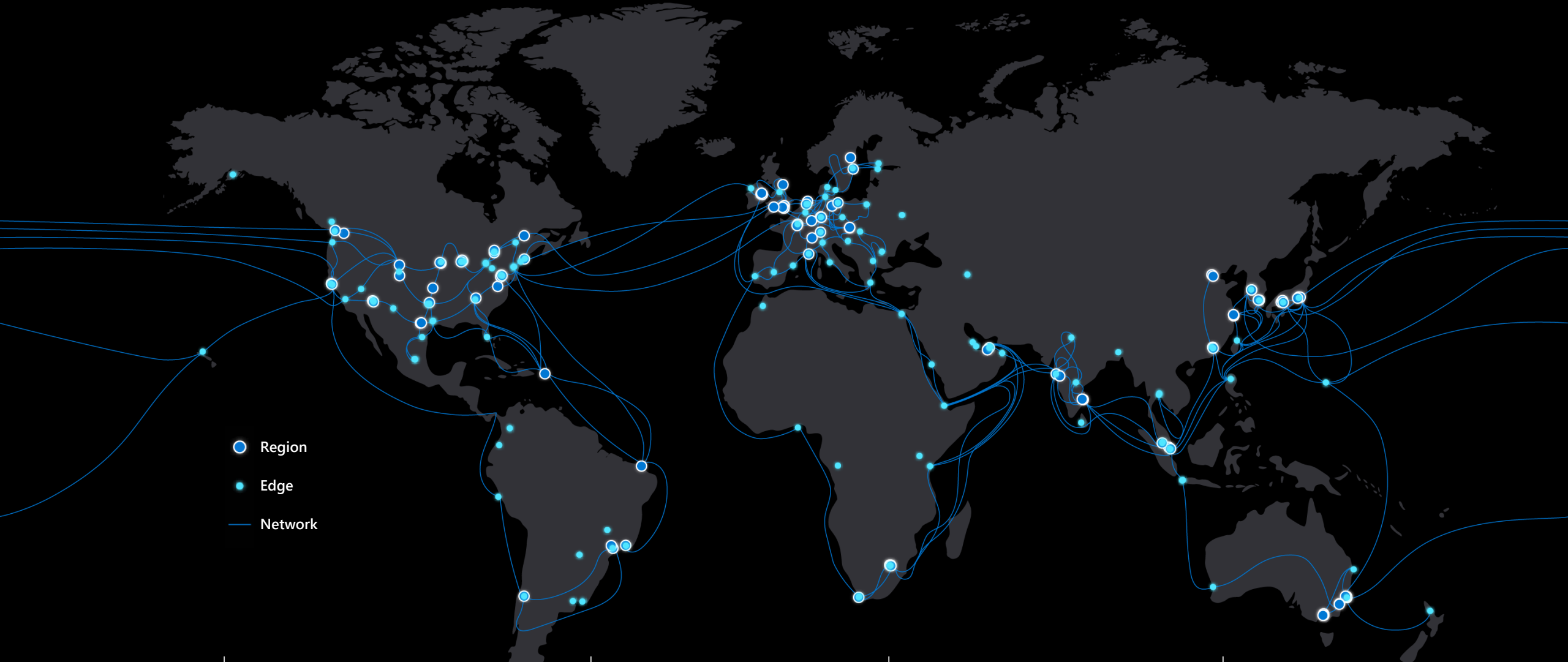
*Microsoft's perspective*

21 September 2023

# INTRODUCTORY REMARKS

- Microsoft Infrastructure Group, LLC (“Microsoft Infrastructure”) is a Washington limited liability company based in Redmond, Washington. Microsoft Ireland Operations Limited (“Microsoft Ireland”) is an Irish limited company based in Dublin.
- Microsoft Infrastructure and Microsoft Ireland own and operate infrastructure assets that facilitate the provision of Microsoft cloud services.
- Microsoft Infrastructure and Microsoft Ireland are wholly-owned subsidiaries of Microsoft Corporation, a worldwide leader in software, services, devices and solutions that help people and businesses realize their full potential.

# Microsoft global network



**65** Azure regions

**225k+** miles of fiber + subsea cables

**200+** Network edge sites

**200+** Express Route partners

**20k+** peering connections

# MICROSOFT'S SUBSEA CABLE CONNECTIVITY WITH EUROPE

Microsoft Infrastructure is a joint cable landing licensee for the Marea and Amitie submarine cable systems, which land in Europe:

- **Amitié (320 Tbps)** - Trans-Atlantic submarine cable system that connects Lynn, Massachusetts with Bude, United Kingdom, and Le Porge, France. It is owned and operated by subsidiaries of Microsoft, Meta, Aqua Comms, Vodafone and Orange.
- **MAREA (200 Tbps)** – Trans-Atlantic submarine cable system that connects Virginia, US with Bilbao, Spain. It is owned and operated by subsidiaries of Microsoft, Meta and Telefonica (Telxius).



# MICROSOFT'S SUBSEA CABLE CONNECTIVITY WITH EUROPE

- **Capacity to meet new demand.** Marea and Amitié provide significant new capacity on U.S.- Europe routes, where capacity demand is increasing substantially each year.
- **Geographically-diverse landings.** Marea and Amitié enhance geographic diversity and network resilience by landing in areas which are currently not a common landing point for submarine cables.

Over next few years, Microsoft plans to build more capacity into/out of Europe, thus further increasing capacity and increasing the geographical diversity of landings.

# MICROSOFT DOES NOT IDENTIFY ANY MAJOR REGULATORY BLOCKERS

- While some procedures require considerable resources and take time, overall European countries and their NRAs take a reasonable, investment-friendly approach to cable landing.
- We typically partner with European actors to land the cables in Europe and, of course, European actors are naturally interested in having capacity from the cable too.
- Microsoft does not sell capacity to third parties; we use this capacity ourselves.

As a substantial contributor to the global internet infrastructure and digital economy, Microsoft is committed to sustaining its cloud infrastructure investments and expanding its broad partnerships with businesses, including telecom operators to increase connectivity capacity.

# MICROSOFT'S APPROACH TOWARDS SUBSEA CABLE SECURITY

- All networks are vulnerable to damage, whether intentional or not. In response to these risks, Microsoft has developed measures to protect traffic, both at the physical and logical layers of the network.
- We ensure that we have redundancies in our network, in the form of multiple pathways and landing points to diversify our network.
- Microsoft has built and maintains internal tooling enabling us to constantly analyze our network's performance and predictive failure rate.
- We continually monitor all links in our network for circuit degradation and outage, specifically tracking the frequency of failure, time to repair, and probability of failure.
- Microsoft can shift traffic almost instantaneously in the event of a network link disruption or degradation.



## Final Remarks

- We are living in the era of the intelligent cloud and intelligent edge, which is being driven by massive technology shifts
- These technological advances are shaping the next phase of innovation, which in turn requires increased capacity of geographically diverse networks
- Microsoft's work plays a critical role in enabling new capacity and experiences that come with it
- The threat and security landscape is shifting constantly, and Microsoft is continuously developing measures to protect traffic, both at the physical and logical layers of the network
- Microsoft does not identify any major regulatory blockers to subsea cable landing in Europe





Thank You