

Navigating Internet horizons together: partnership as a key solutions for global challenges in Telco

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RETN's network spanning Europe, Central Asia, and South-East Asia



IP TRANSIT



DDOS PROTECTION



INTERNET



ETHERNET & VPN



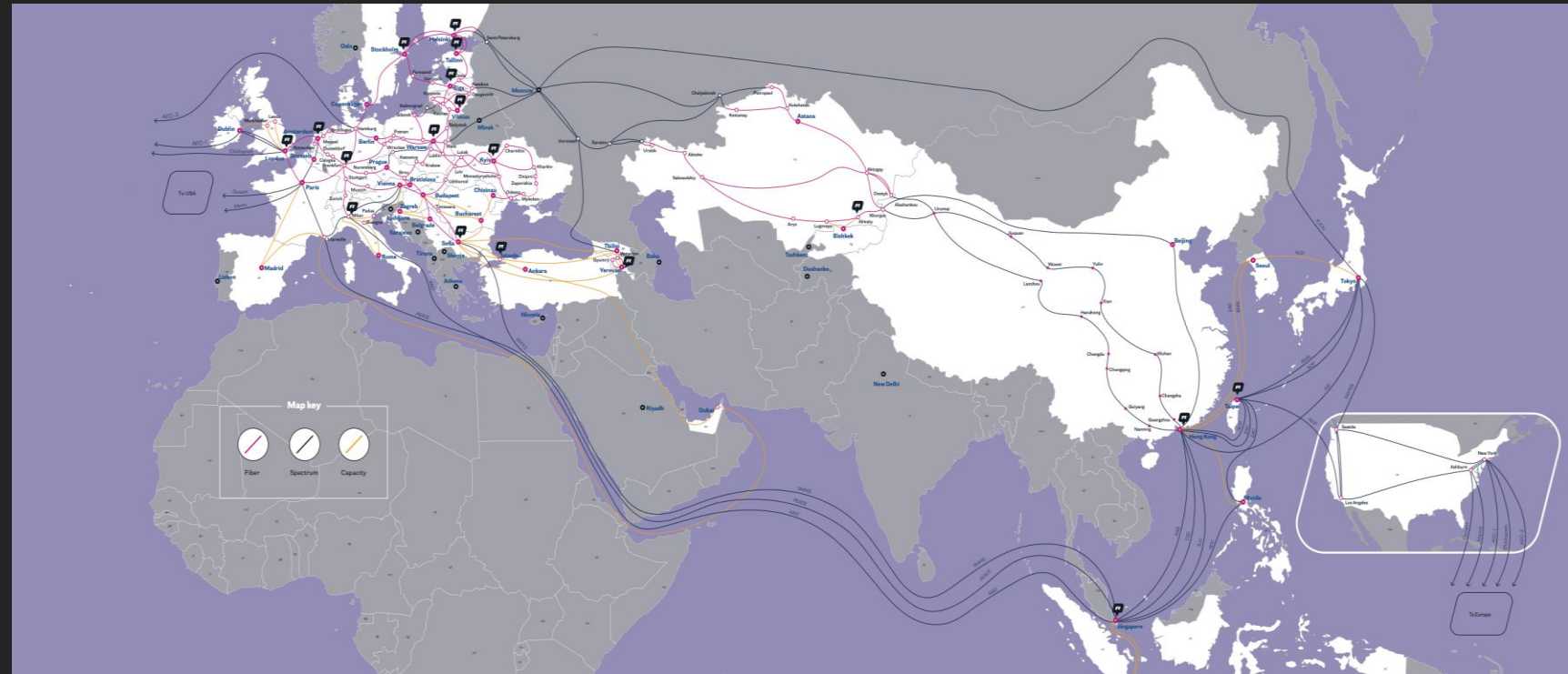
CAPACITY



CLOUD CONNECT



REMOTE IX



AS9002 KEY NUMBERS

11th

Ranked 11th on
Caida AS Rank*

9008

Over 9008 ASNs and
143278 prefixes in
the customer's cone

#1

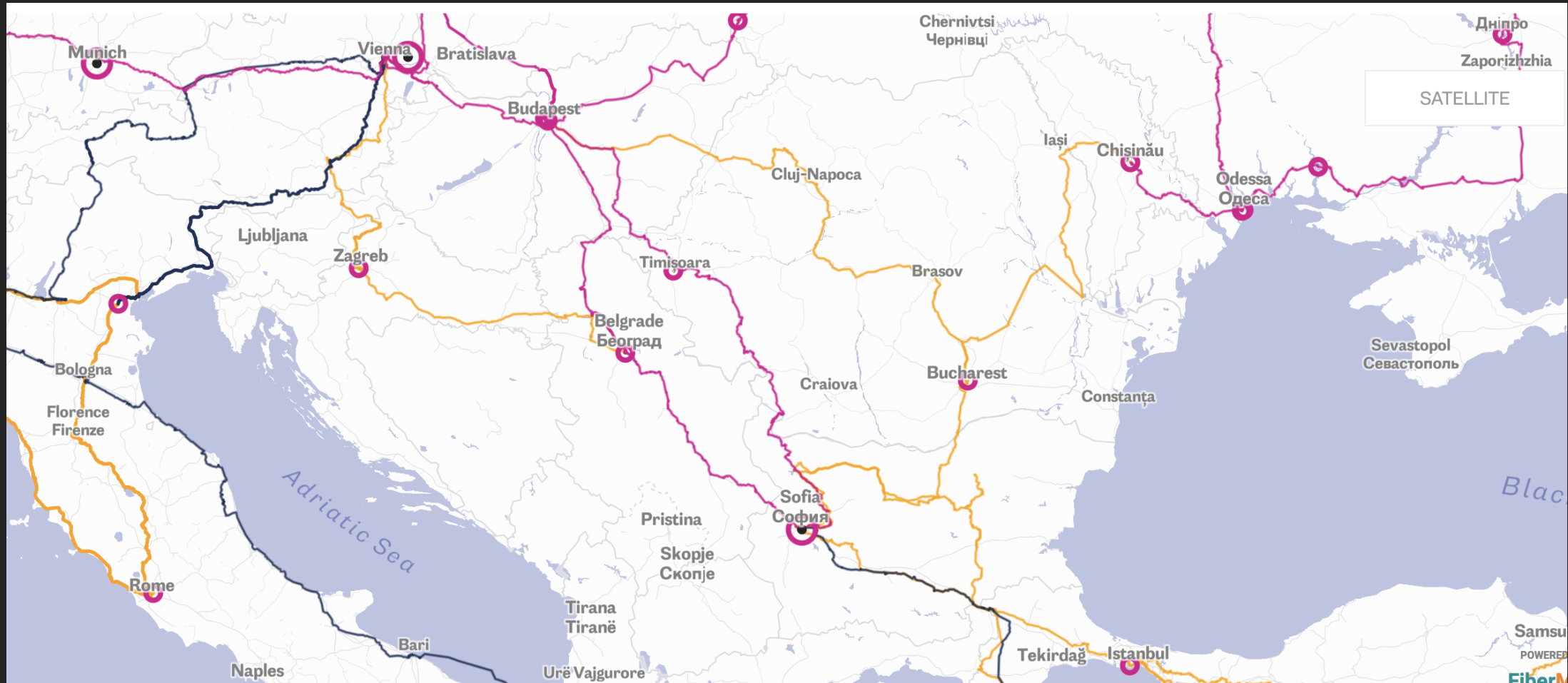
AS Cone in the UK
(according to
BGP.tools)

72

Over 72 Tbps
IP/MPLS Network
Capacity

Data from 24-05-2024*

INVESTMENTS TO NEW DWDM ROUTES IN BLACK SEA REGION IN 2022-2023



DDoS Protection Services



DDOS PROTECTION

A COMPREHENSIVE SUITE FOR OUR IP TRANSIT AND INTERNET ACCESS CUSTOMERS

COMPLIMENTARY SERVICES

- Deprioritisation of traffic
- Blackhole Community

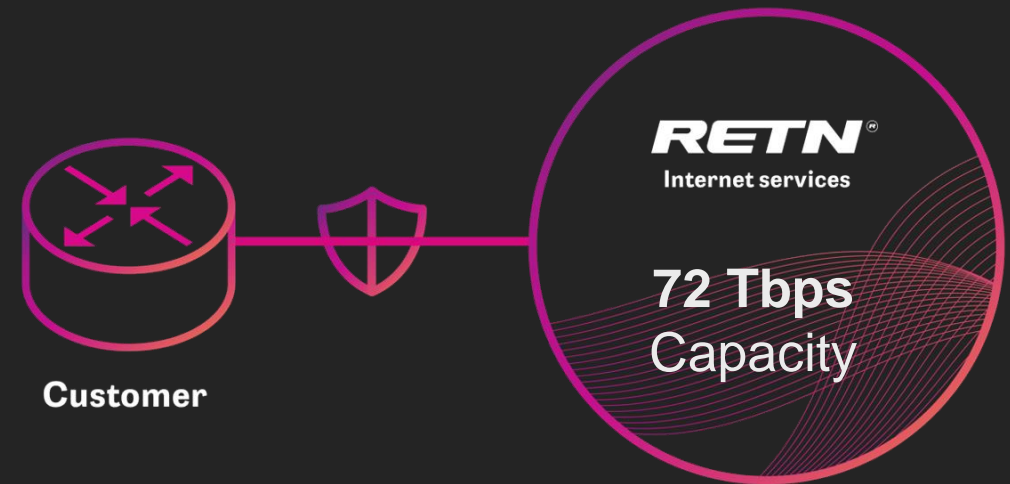
BGP SERVICES

- Extended Blackhole Community
- Flowspec

DDOS MITIGATION SERVICES

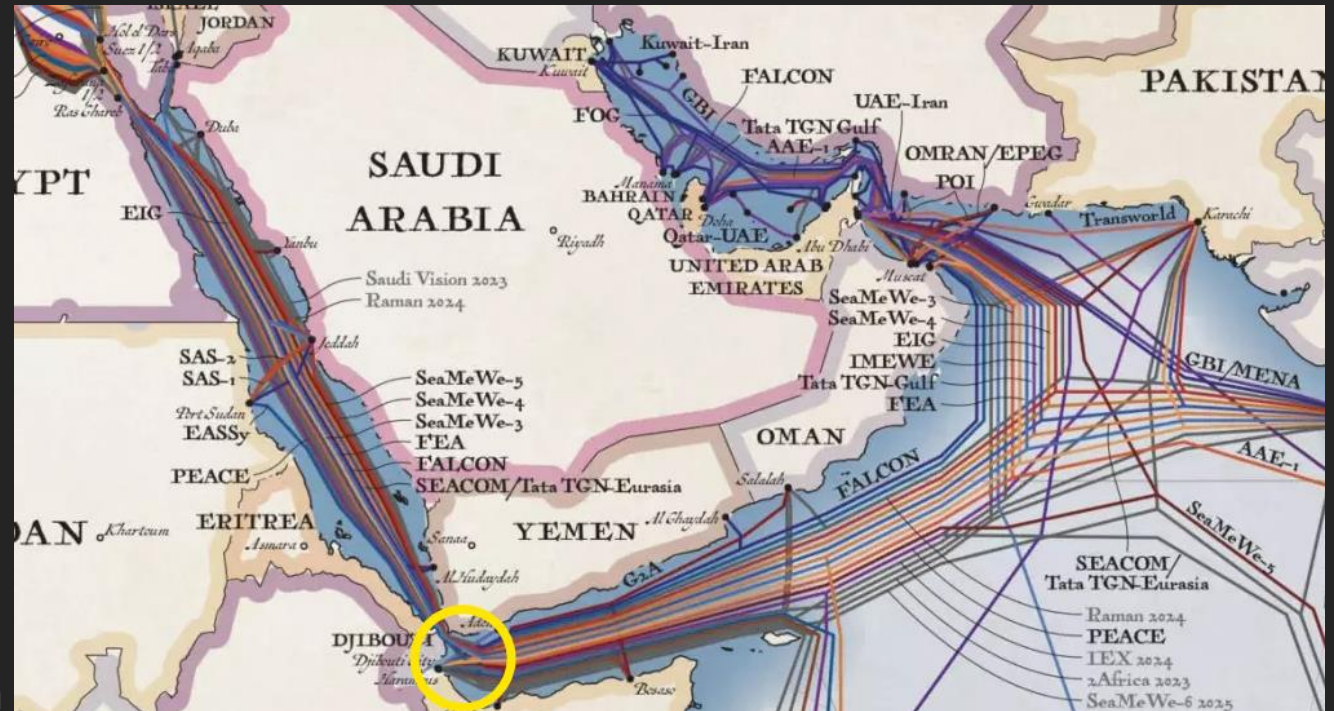
- Core
- Ultra

* With geographically distributed scrubbers with one of them in Budapest



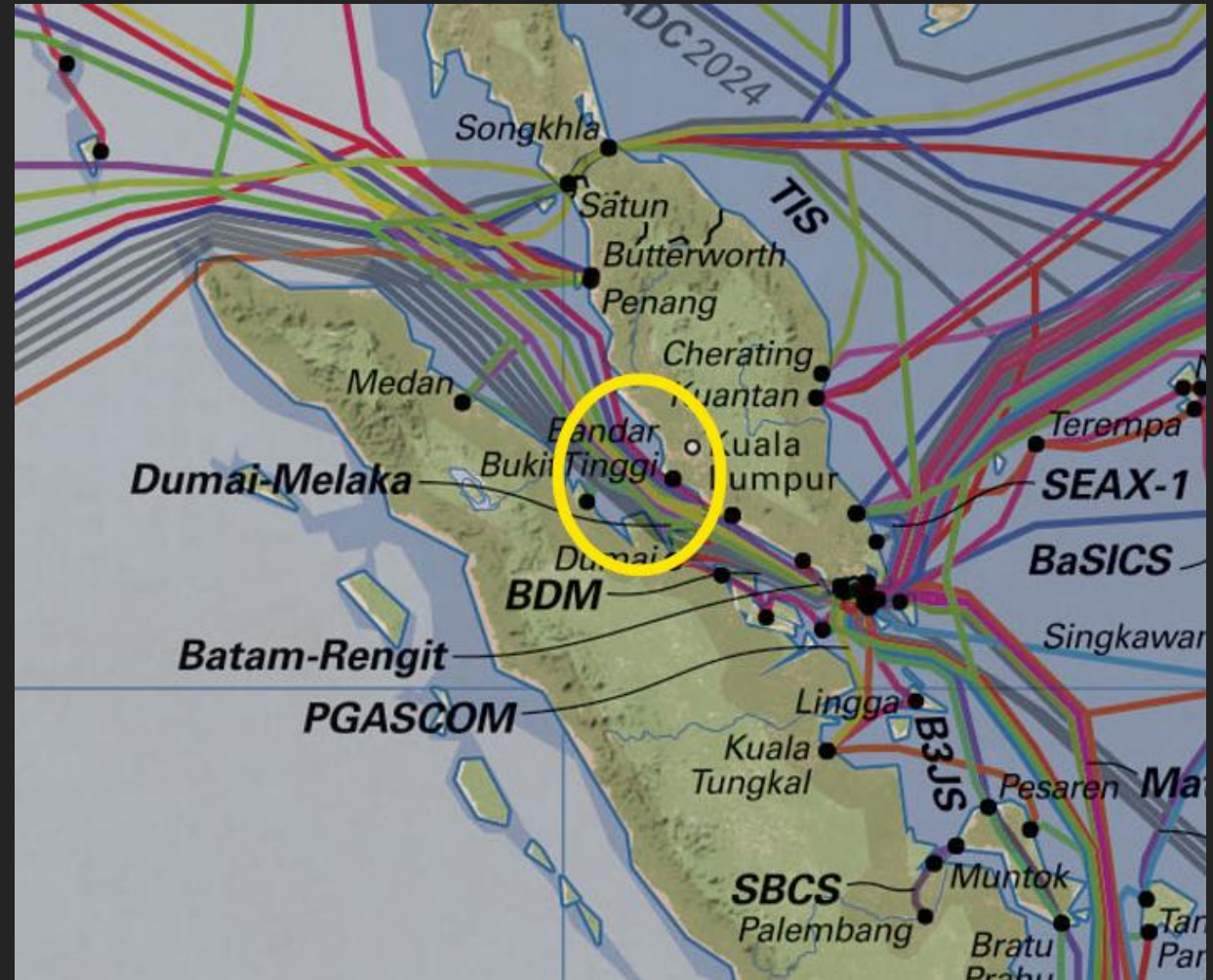
Red Sea incident

- On 22 February 2024, Houthi missiles sank a ship at Red Sea. Its anchor damage the submarine cables at there.
- SEACOM, TGN, AAE-1 and EIG cables are out
- Direct subsea connectivity with big capacity between Singapore and Europe remains only SMW5.
- What is the impact?
 - Drastically increase of RTT
 - Packet loss due to congestion
 - Loss of revenue due to traffic reduction



Submarine cable fault on SMW5

- On 19 April 2024, there is an interruption between Singapore and Europe.
- No more direct submarine cable option between Europe and Singapore with big throughput
- SMW5 fixed ~ 28 June, 70days downtime
- AAE1 fixed ~17 July, 146days downtime



Terrestrial cable vs Submarine cable

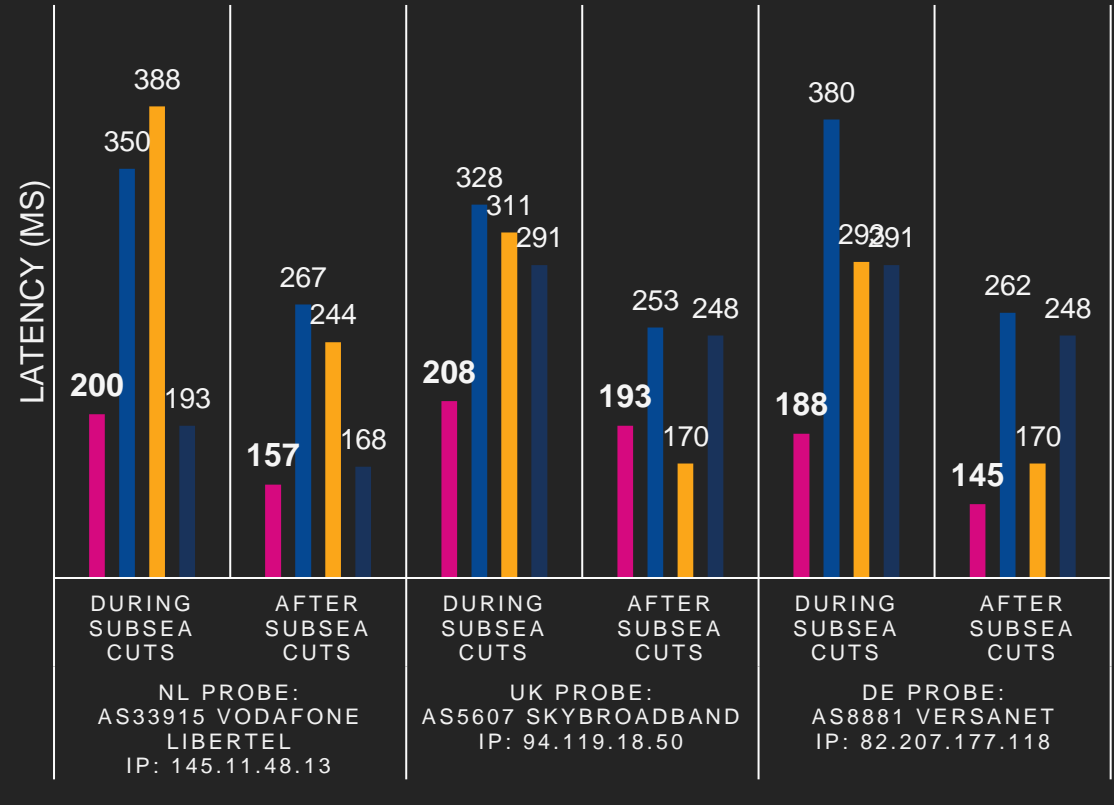
RTT

- Roughly the same RTT for traffic between Singapore and Europe.
- Better RTT for traffic between Hong Kong/Japan to Europe



RTT FROM SINGAPORE TO IPS IN EUROPE

■ RETN ■ Telstra ■ Telia ■ Tata



Challenges RETN faces during the war in Ukraine

- Fibre cuts and POPs isolation from the network
- Lack of external power to the site
- Equipment faults & spare management issues
- Sudden traffic appearance in unexpected locations
- Internal and external communications



New level of partnership: Ukrainian experience

- Protecting your DWDM network with leased capacity with available path competitors
- 3 physical routes are more resilient for any network
- Always keep stock of commonly used hardware close to your POPs
- Keep your diesel generator with a full tank, always and make the agreement with **your partners to help with this**
- Open communication with your competitors, partners and team help to keep the network running
- Continue investments to new routes and equipment of network

USE HIGH-CAPACITY BATTERIES FOR ILA SITE SO IT CAN OPERATE UP TO 3 DAYS (72 HOURS) WITHOUT EXTERNAL POWER

RESULT:
100% availability of RETN IP Transit
during 2023 in Ukraine

KEY FACTORS FOR FUTURE SUCCESS NAVIGATING INTERNET HORIZONS TOGETHER

Critical Time Sensitivity

Record-Breaking Speed

Strategic Network Expansion

Unique Route Creation

Proven Vendor Partnership

Technological Excellence

Seamless Network Integration



P.S. RETN IPv6
promo

Let's make Internet
the better connected
together

**Ask Szabi for
details**

RETN[®]

2024