National resilience in international connectivity

Enhancing national resilience through investment in international connectivity

February 21, 2023

Contents

Resilience and its importance in international connectivity

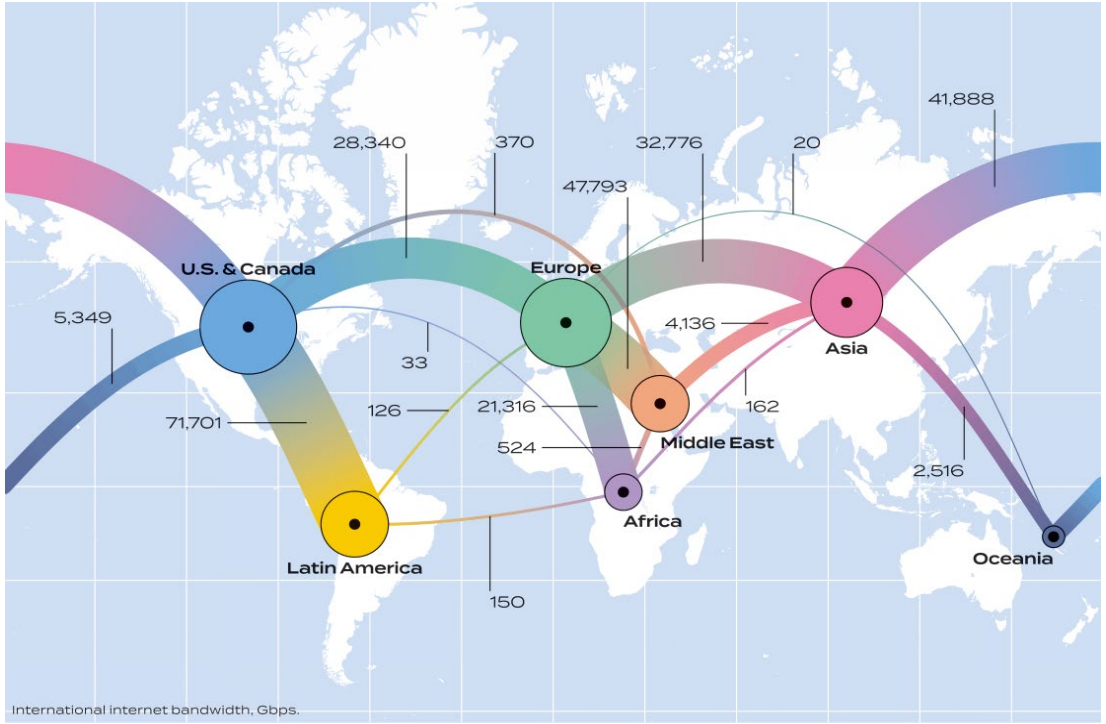
Resilience is the ability of the network to resist and recover from disruptions, such as natural disasters, cyber attacks, or equipment failures to provide and maintain an acceptable level of service in the face of various faults and challenges to normal operation.

Importance of resilient networks:

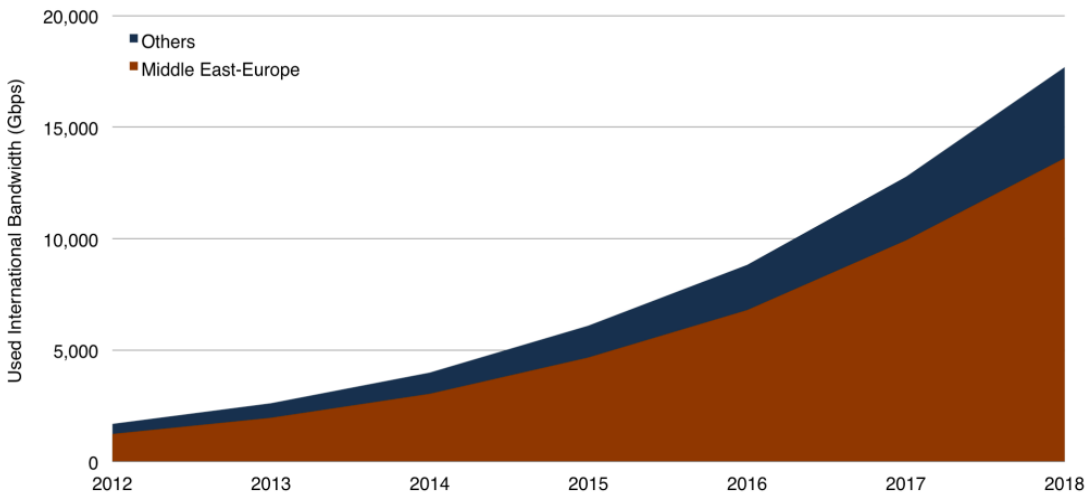
Minimizing disruption	can withstand and recover from disruptions more quickly, reducing downtime and minimizing the impact on users and stakeholders.
Ensuring availability	can maintain essential services and functions, even during and after disruptions, ensuring that critical operations continue to operate.
Reducing risk	reduce the risk of catastrophic events by providing backup and redundancy, allowing for quick recovery in the event of a failure.
Improving efficiency	can adapt to changing conditions, optimizing capacity and performance, and reducing waste and inefficiency
Enhancing trust	increase trust in the network's reliability and availability, improving confidence in the network's services and functions.

GCC and Middle East at large is digitally interacting mostly with Europe

Global inter-regional bandwidth map[1]

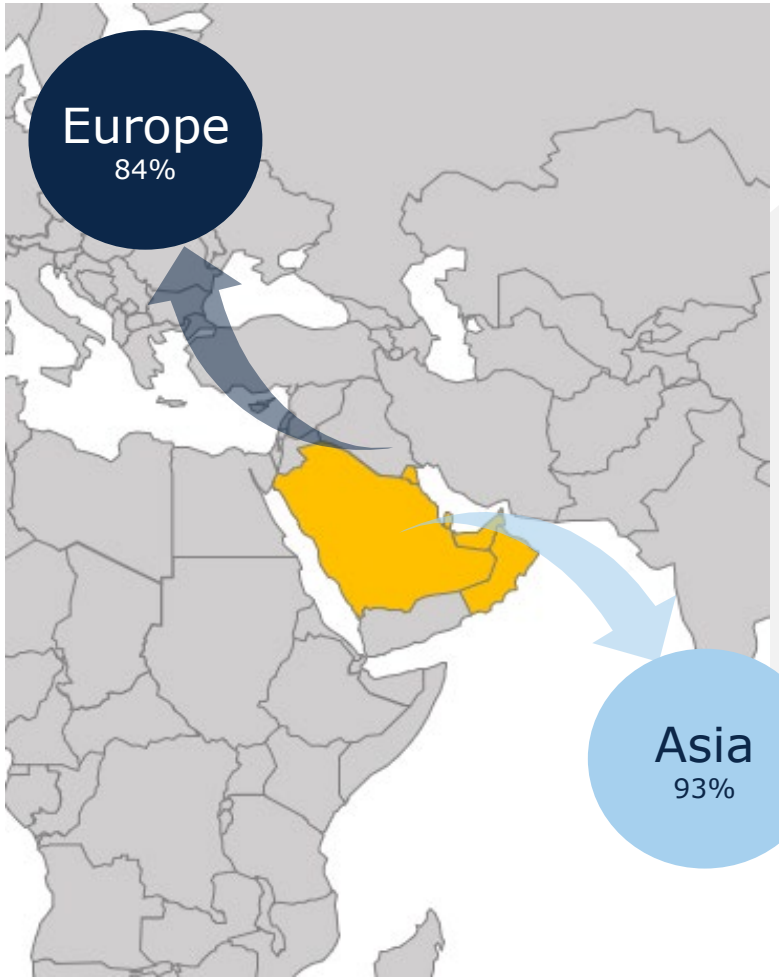


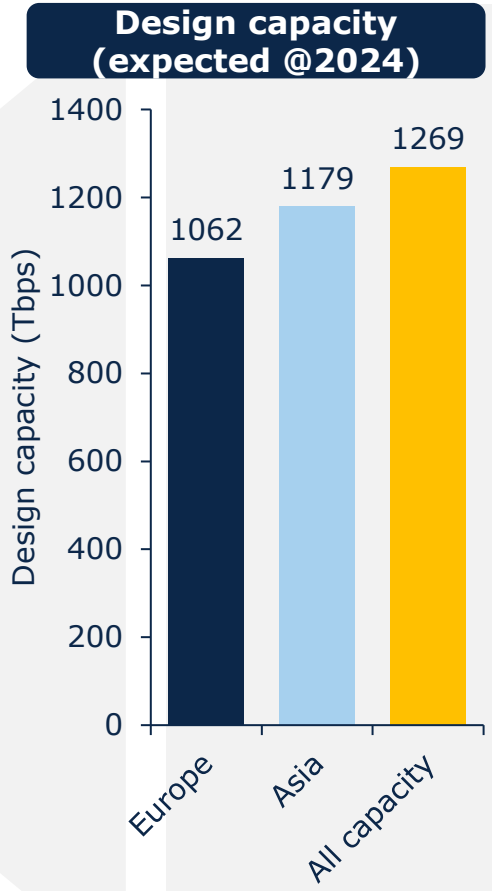
Utilization of Middle East's international bandwidth [2]



[1]Source: https://global-internet-map-2022.telegeography.com/
[2]Source: TeleGeography Presentation 'International Network Connectivity in the Middle East Region', 2019

Yet, submarine systems landing GCC have ample capacity for a more balanced split of traffic between West and East[1]





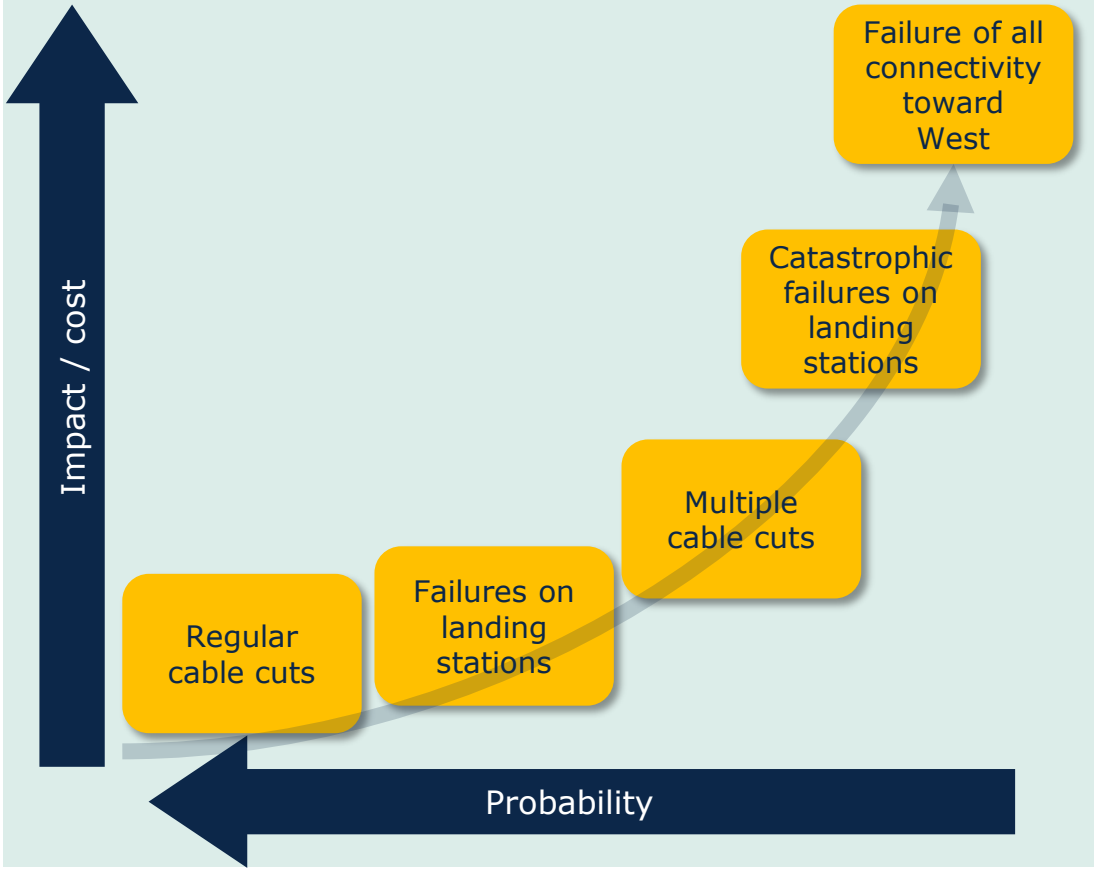
Out of 32 submarine cables that lands in GCC region, 12 of them have a landing point in Europe.
They have a total of 1062 Tbps as design capacity

Out of 32 submarine cables that lands in GCC region, 25 of them have a landing point in Asia.
They have a total of 1179 Tbps as design capacity

[1]Source: Based on calculations made by Axon Consulting

Key risk areas and potential solutions

Risk areas



Potential solutions

- Tightening local hosting regulations
- Promoting local content hosting (CDNs)
- Resilience guidelines for business
- Diverse routing: Alternate network routes to other continents
- Cyber exercises on interconnection resilience for testing risk scenarios
- Resource pooling against emergency situations

Discussion points

- What is the importance of international connectivity in the communications ecosystem?
- Does the region suffer from a resilience issue? What can be the remedies?
- How to encourage the remedies? Could there be a role for non-telcos (i.e., companies other than national telecoms operators) in the international connectivity value chain to enhance resilience?

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