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DEPARTMENT OF SCIENCE AND TECHNOLOGY
ICT OFFICE
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ASEAN Submarine Cable International Connectivity

(Protection and Risk Mitigation)

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UNITED NATIONS ESCAP
Economic and Social Commission for Asia and the Pacific

Expert Consultation in the Asia-Pacific Information Superhighway and Regional Connectivity

Thimphu, Bhutan

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Outline

- International Connectivity
- Submarine Cable Connectivity Risks and Assessments
- Submarine Cable Protection Regime
  - ✓ Regulations
  - ✓ Best Practices
  - ✓ Capacity Building

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ASEAN International Connectivity

In 2012, ASEAN is served by 24 key submarine cable systems with a Total Lit Capacity of 4.08 Tbps and Potential Capacity of 41.24 Tbps

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AP Submarine Cable Systems

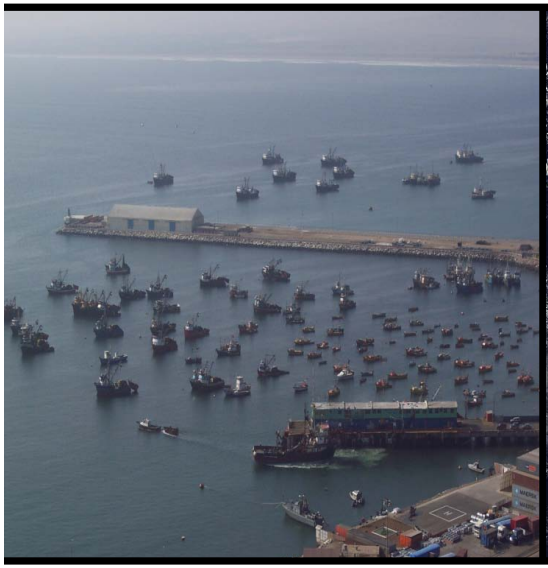
Submarine Cables	Length
Asia-Pacific Cable Network 2 (APCN2)	19,000 km
Asia Pacific Gateway (APG)	10,400 km
Asia-America Gateway (AAG)	20,000 km
Asia Submarine-cable Express (ASE)	7,500 km
FLAG Europe-Asia (FEA)	28,000 km
Southeast Asia Japan Cable (SJC)	8,900 km
South-East Asia - Middle East - Western Europe 3 (SEAMEWE3)	39,000 km
South-East Asia - Middle East - Western Europe 4 (SEAMEWE4)	20,000km

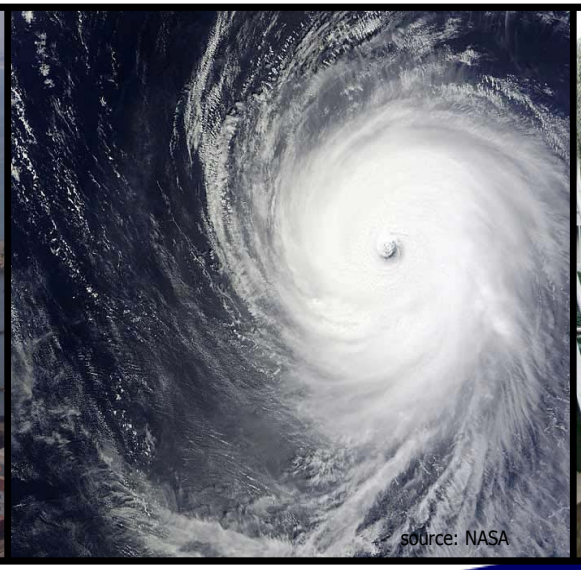
Primary Causes of Cable Faults

Fishing gear types that contacts the sea bed are a primary cause of cable faults

Recent developments in AIS and vessel tracking have shown that ship anchors are a more significant cause of cable faults than previously thought

Dredging operations; seismic activity; catastrophic weather; theft; abrasion from cable movement due to hard sea bed and strong undersea currents





source: NASA

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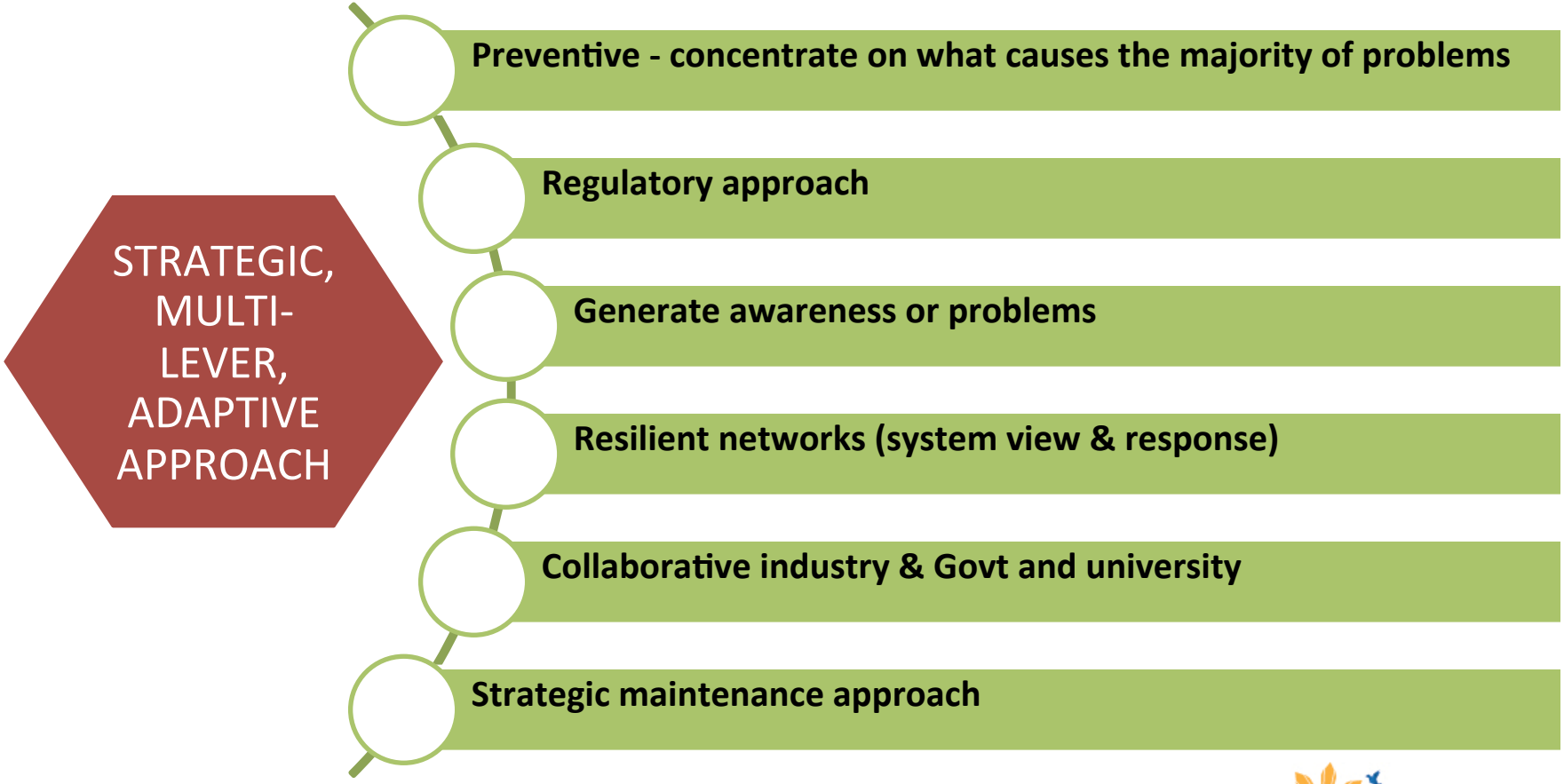
New Resilience



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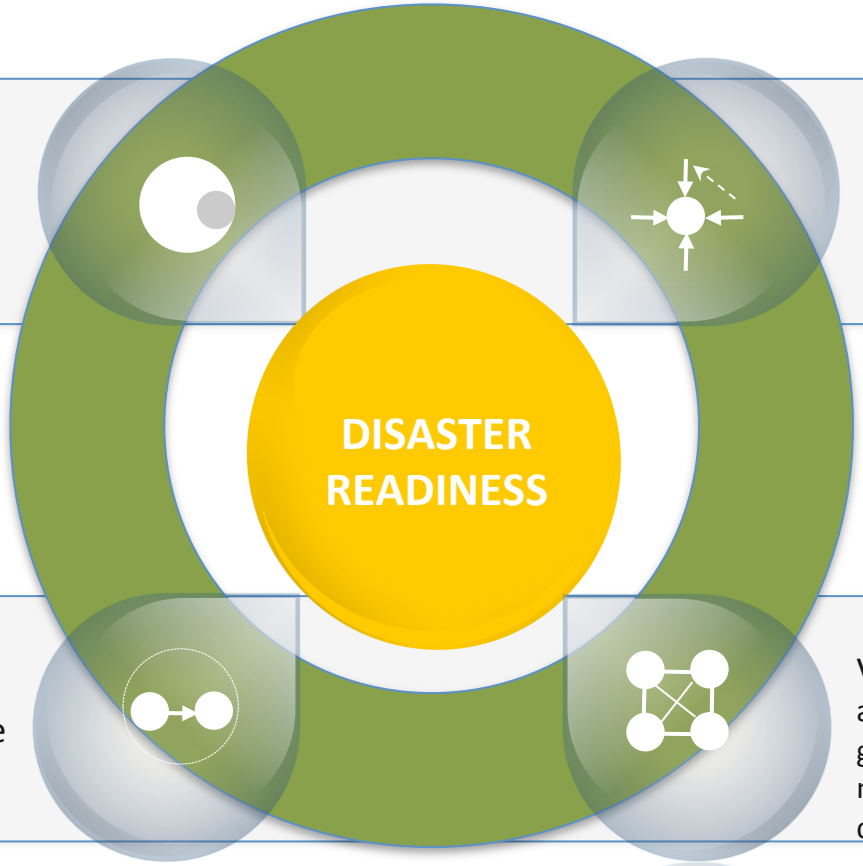
Risk Assessment Factor

Capacity Risk

Bandwidth capacity is not sufficient to meet the bandwidth demand by the country.

Route Risk

No diversity route to address its bandwidth demand in the event of disaster and disruption.



Concentration Risk

Overreliance on a set of submarine cable amongst all the available submarine cable sysytem.

Architecture Risk

Vulnerable when there is no adequate built-in redundancy given the inherent physical network design of a submarine cable system.

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Risk Scale