SCENARIO 3: REGIONAL RESILIENCE

2030 is known as the 'year of disasters' across the Indo-Pacific. It marked a turning point for the region as it faced the consequences of escalating climate emergencies on regional connectivity, prompting countries to prioritise the resilience of undersea cables. By 2045, countries across the Indo-Pacific adopted 'Regional Resilience' as their motto for connectivity, resulting in flourishing international cooperation. However, some influential governments have begun to use the increased international trust to strengthen their power. Citizens in some countries are becoming increasingly concerned about potential government overreach into their daily lives.

TURNING POINT

2030 – Year of disasters 'climate crisis'.

TECHNOLOGY BREAKTHROUGH

Routine automated cable maintenance by underwater repair drones.

CONNECTIVITY PROFILE

- Different quality dependent on a country's resources
- Regional cooperation is top priority
- Harmonised regulation
- Public–private co-investment

Turning Point: Climate Catastrophe Brings 'Year of Disasters'

A series of devastating climate events hit countries across the Indo-Pacific in 2030, resulting in prolonged connectivity blackouts, region-wide economic downturn, and declaration of a regional emergency. As part of a cooperative international response, governments across the region agreed to expand the International Cable Protection Committee's (ICPC) role to spearhead cable connectivity recovery efforts through the next two decades. Resilience of undersea cable infrastructure came to be seen as essential for maintaining regional stability and responding to the climate crisis.

A new climate event affected the region nearly every month in 2030. Category 5 hurricanes devastated coastal areas from the Bay of Bengal to the South China Sea, causing extensive damage to the undersea cables and their branch stations. A major undersea earthquake along the Pacific Ring of Fire triggered a tsunami that severely disrupted cable landing stations between South-East Asia and the Americas, leading to prolonged communication blackouts.

'You kids keep complaining about how high the cost of living is now, but I lived through the worst of the financial crisis in 2030 – every company was in a deficit, workers couldn't get paid, and money didn't move at all for almost a year.

I remember spending every Sunday in the queue at the bank for hours a day just to deposit our paycheques or to withdraw money because none of our online payment systems worked. Thankfully, the international powers that be learned from that disaster and put some decent money and effort into cables resilience. Today's young people should be thankful that we won't ever have to worry about a situation like that again!'

Retired senior citizen, 74, Australia

Digitally advanced countries with more cables connections only suffered brief connectivity blackouts whereas countries with fewer cable connections lost almost a year of connectivity. At the brink of reaping the economic benefits of artificial intelligence and the digital economy, the disasters of 2030 pushed regional connectivity agendas back. An international review into disaster response and recovery identified that billions of dollars and countless lives could

have been saved if connectivity had been maintained throughout the crisis. Leaders of most countries in the region came together in 2031 to discuss how to navigate the way out of the disaster and pledged that they would prioritise regional connectivity resilience.

The World in 2045: Connectivity Resilience Through Cooperation

'Regional Resilience' is now the motto across the Indo-Pacific. The ICPC is now the regional regulator – with teeth – that enforces stringent standards for cable installation, maintenance, and disaster response. Governments across the region established a new body, the Cable Consortium of Asia and the Pacific (CCAP), to coordinate international collaborative efforts to improve the resilience of undersea cable networks.

The CCAP now mandates that cable operators have comprehensive disaster preparedness plans, and use of environmentally friendly materials and technologies. Permit processing for installation of new cable connections and landings has now been streamlined into regional agreements. The region has also set, and agreed to, a guideline for monitoring and patrolling maritime areas that affect undersea cable infrastructure. However, worsening food shortages are leading to an increase in national fishing vessels illegally operating in restricted zones.

More digitally advanced governments regularly offer assistance to those with fewer resources to establish and maintain their infrastructure. Through an expanded Quad ++ network, advanced economies invest into a regional fund that aims to support connectivity and resilience for the whole region, providing much-needed support and economic incentives for private sector developments in less connected neighbouring countries, as well as fostering research and development.

Public–private co-investment in new technologies has accelerated development of self-managing cable repair systems that are highly effective at ensuring uninterrupted connectivity. Redundancy measures, such as having dark fibres and including spurs for greater connectivity reach, are now expected when building new cables. Other resilience-building initiatives such as bundling undersea power cables with data cables and expansion of satellite networks are underway – all of which helps to establish redundancy and streamline monitoring, maintenance, and repair.

Scientific research grants have facilitated several new innovations including new cable designs incorporating self-healing materials that can automatically seal minor breaks and cuts, reducing the risk of downtime. These designs include real-time monitoring using AI and autonomous underwater drones equipped with advanced sensors and repair tools perform maintenance and minor repairs without human intervention. However, use of the new drones is challenging conventional maritime law and exclusion zones, as the drones are able to move undetected in areas where conventional ships and vessels are not allowed.

'Building this cohesive international cooperation has overall been a good thing, but there is that underlying feeling that it's us against them.

"Us" being the people that governments are there to serve and "them" being the governments, who are now working together. They say they are acting in our interests, but what's the incentive for that? The way the undersea network has developed means that your government can control your data flow and what you do and don't see online. We haven't seen the full potential of this new multi-government power structure and it would be wise to keep our decision-makers accountable for what they now control.'

Professor of Digital Transformation, Leading National University, 52, USA

Yet, even with the heightened regional cooperation, digitally advanced governments throw their weight around through the ICPC. Competition to offer development assistance for state-of-the-art submarine cable and satellite packages is common and countries seeking to bridge the digital divide to boost bilateral trade and relationships are often used as pawns. There is also growing concerns among civil rights groups about the consolidation of power and data by governments.