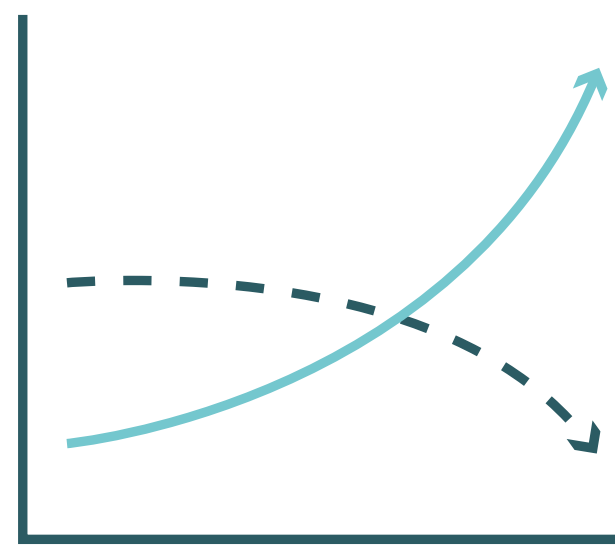




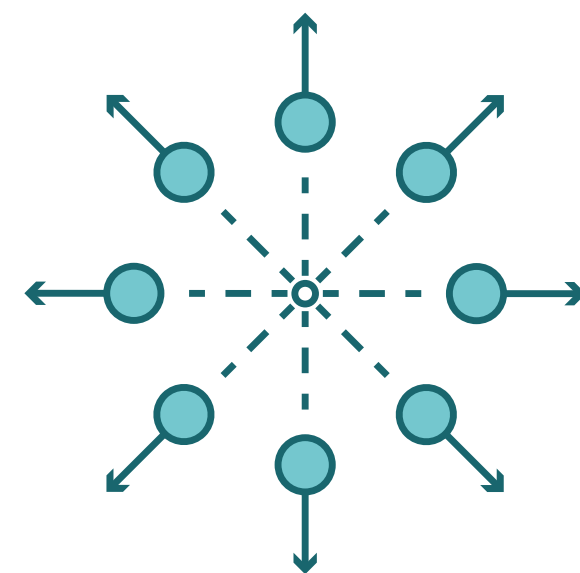
Shared, Open and Disaggregated Networks to Fast Track Digital Inclusion

CONTEXT

Rising demand for greater connectivity at faster speeds



Global data consumption predicted to rise annually by 47% over the next few years. Meanwhile, mobile ARPUs are falling.



28.5B Networked devices and connections (mobile & fixed).



Over half of the world's population, still do not have access to the internet.



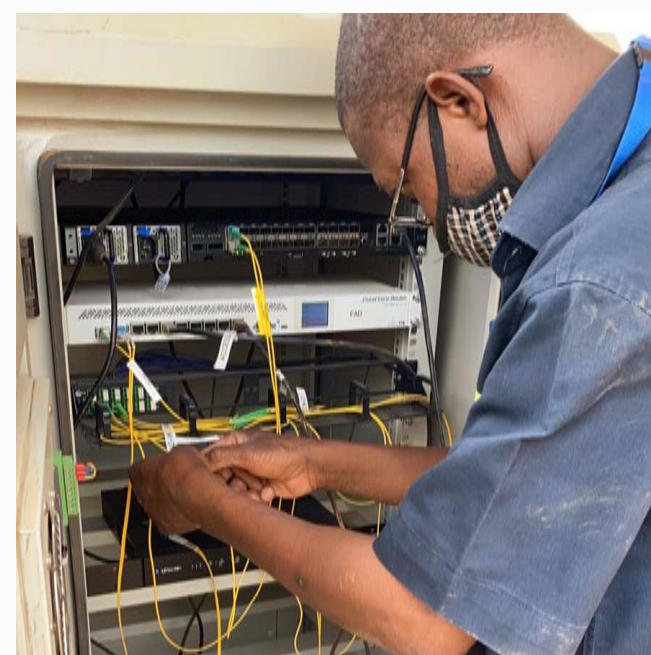
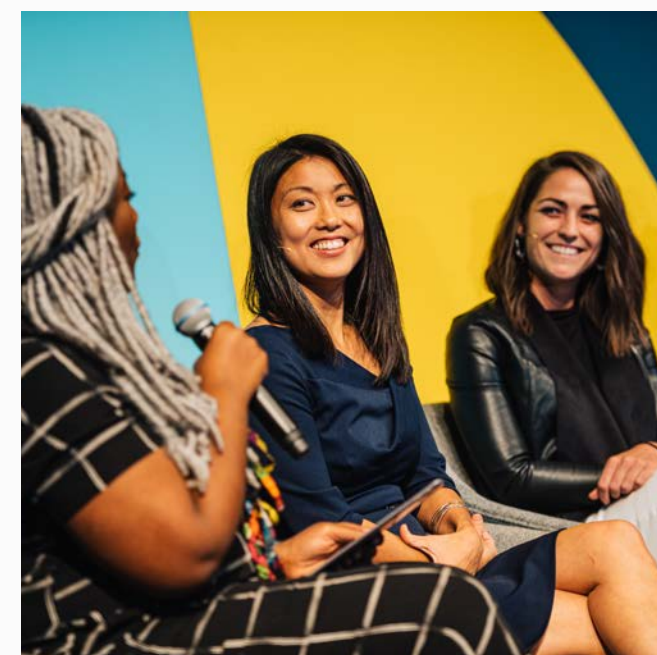
Of those connected, many could use a more reliable Internet with improvements in bandwidth and latency.



WHAT IS TIP?

The Telecom Infra Project (TIP) is a global community of companies, organizations, and institutions. They're working together to accelerate the development and deployment of open, disaggregated, and standards-based technology solutions.

Together We Build, Test & Deploy.



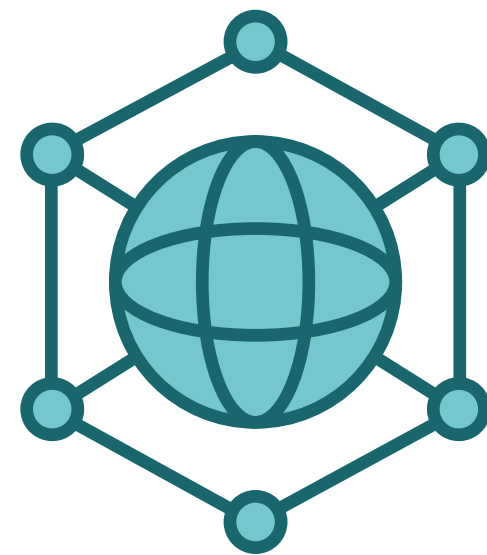
WHO IS TIP?

A wide diversity of members and scope of activities



SERVICE PROVIDERS

Satellite ISPs
MNOs MSOs

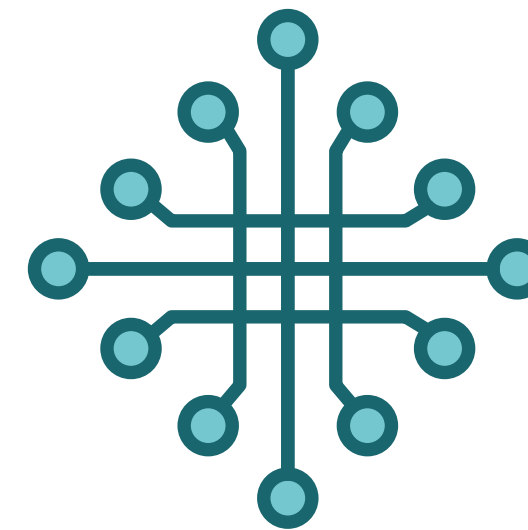


TECHNOLOGY PARTNERS

Established &
Smaller OEMs

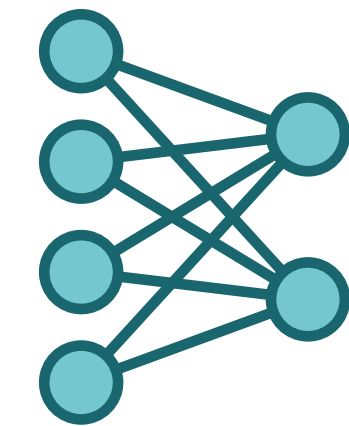
Startups

Research Institutes



SYSTEM INTEGRATORS

Professional
Integrators

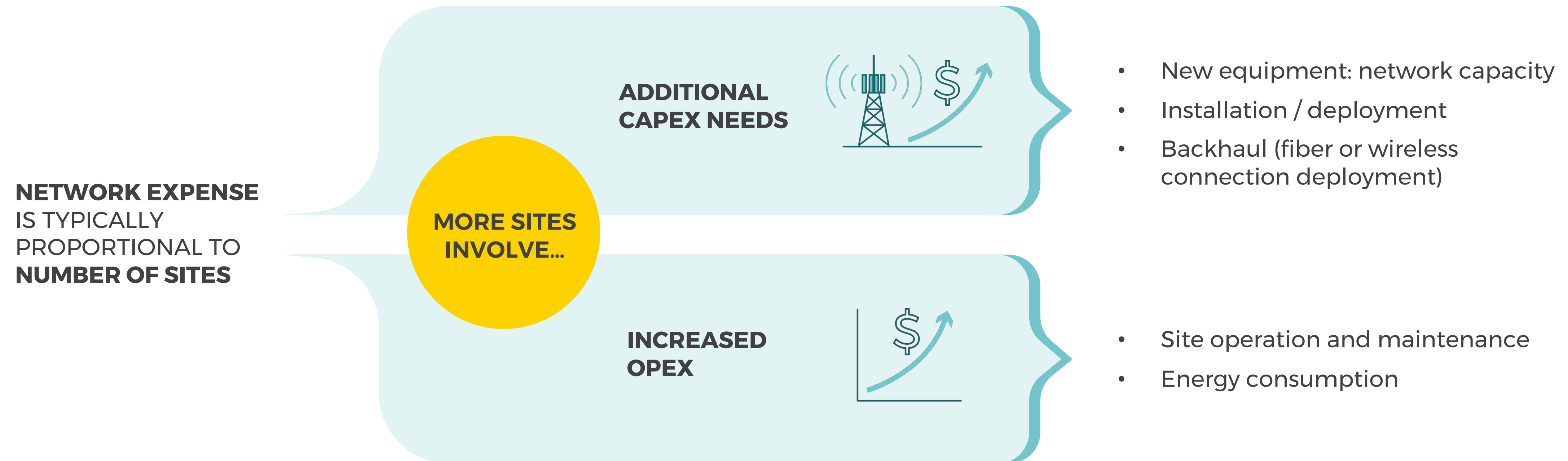


CONNECTIVITY STAKEHOLDERS

Municipalities Enterprise
Internet Companies

THE CHALLENGE

Fast tracking digitization requires additional investments and increases network operational costs



- New deployments may **increase network expense** proportionally to the **number of new sites**
- This makes it **challenging for connectivity providers** to meet the needs of digitization

THE SOLUTION

The industry can work together to build, share and deploy networks

HOW TO MAKE
NEW NETWORKS
ECONOMICALLY
FEASIBLE

NETWORK SHARING

By sharing physical infrastructure, connectivity providers can significantly reduce operational costs (e.g. site rent, maintenance costs, ...)

**BUILD AND SHARE
PHYSICAL
INFRASTRUCTURE
TOGETHER**

NEW TECHNOLOGIES

Through disaggregation and open interfaces reduce deployment costs, enable operational efficiencies (e.g. through automation) and accelerate innovation.

**BUILD NEW
NETWORK
TECHNOLOGIES &
SOLUTIONS
TOGETHER**

THE SOLUTION

Networks sharing improves the business case for better connectivity

BENEFITS OF NETWORK SHARING

I. FAST TRACK DIGITIZATION

- **Fast track** digitization initiative as stakeholders works together to achieve common goal
- **Reduce risks** for all stakeholders
- **Build more** infrastructure vs. Build singular networks

II. SIMPLIFY REGULATORY FRAMEWORKS

- Simplified **regulatory framework** as infrastructure sharing normalize the connectivity foundations
- Open Infrastructure to advance **digital economy**

III. INCREASED INNOVATION

- Stakeholders focus on **innovation** as network infrastructure is shared giving equal opportunity
- Reduces network infrastructure **"clutter"**, optimize network infrastructure

THE SOLUTION

Open, disaggregated networks further optimise the business case for better connectivity

BENEFITS FOR THE INDUSTRY FROM OPEN, DISAGGREGATED NETWORKS

I. BETTER NETWORK ECONOMICS

- Disaggregated network functions **reduce risks** for operators from a currently **fragile supply chain**
- Open interfaces facilitate **operational automation** (lower OpEx)
- Virtualized architectures enable efficiencies in **computing capacity** (lower CapEx)

II. FUTURE PROOF NETWORKS

- Open network HW and SW future **proof network investment** and prepare network for future technology evolution **without being “locked in”**
- SW-based architectures are more flexible to introduce **new services**
- **Increased Network adaptability** which lowers deployment costs

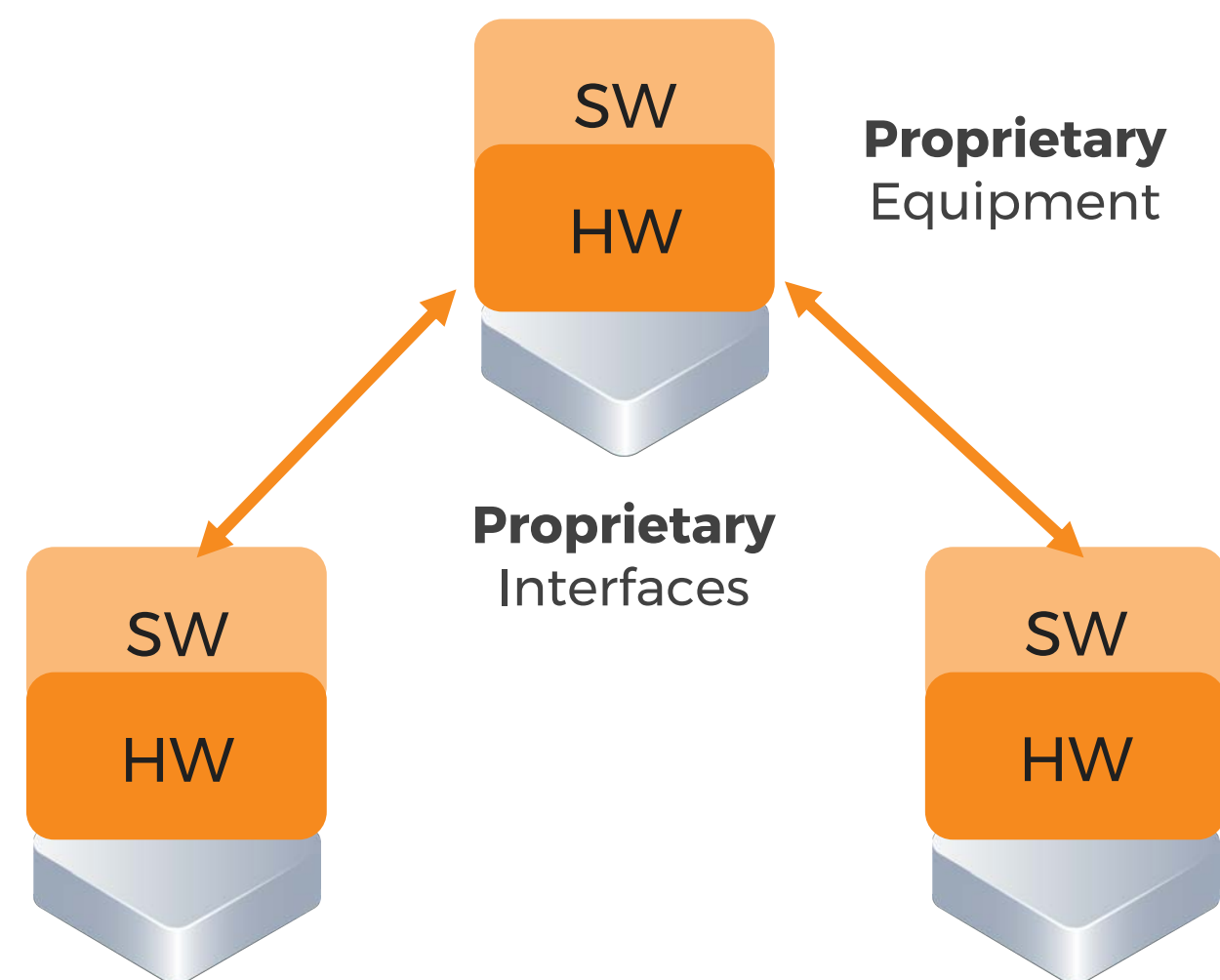
III. INCREASED INNOVATION

- Disaggregated multi-vendor networks **accelerate network innovation**, as operators can choose “best in class” solutions for each network component / function

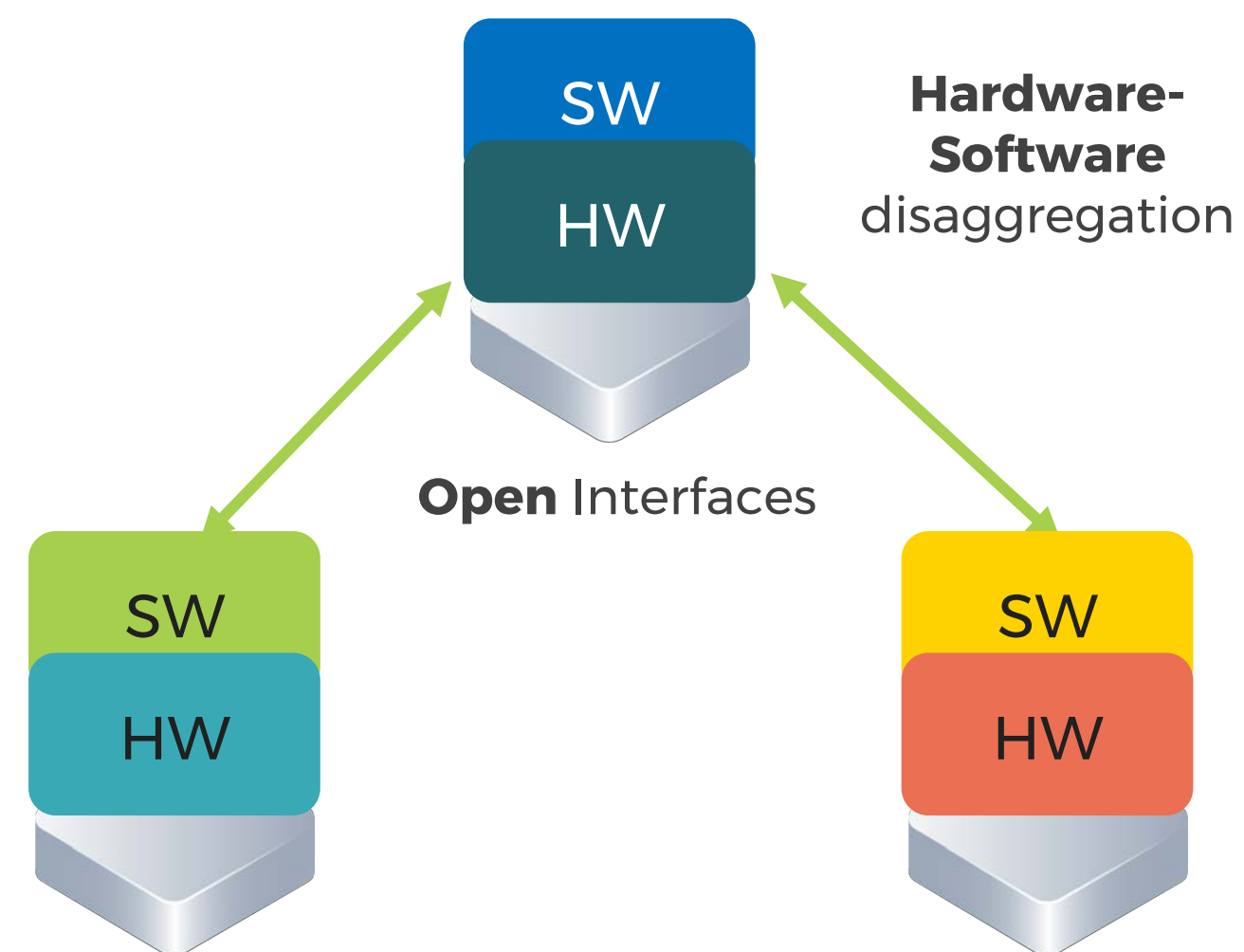
REFERENCE CASE

Open and disaggregated networks

FROM
Single-vendor, fully integrated networks



TO
Multi-vendor, disaggregated networks



The combination of SW-HW disaggregation and open interfaces **helps the industry:**

- Create a more sustainable **Supply Chain**
- Improve network **economics**
- Increase **innovation** in connectivity

WHAT WE ARE BUILDING TOGETHER

A very substantial progress: there are trials & commercial deployments of open and disaggregated solutions across the world

- 
- A world map with a dotted texture, showing the locations of trials and deployments. The map is dark teal, and the dots are light teal. Colored dots (green, orange, and yellow) are scattered across the map, indicating the locations of trials and deployments. The dots are concentrated in North America, Europe, and Asia, with a few dots in South America and Africa.
- OOPT Trials & Deployments
 - OpenRAN Trials & Deployments
 - TIP COMMUNITY LABS

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