GETTING THE MOST OUT OF YOUR EXISTING NETWORK INFRASTRUCTURE

WHO WE ARE

Actelis

ITS/Smart City

Smart Rail

Airports

Telecommunications

Utilities

Military

20 years experience

WHO WE ARE

Actelis

SMART TRANSPORTATION

JR-CENTRAL Central Japan Railway Company

national highways

SBB CFF FFS
Swiss Railways

100s of clients worldwide

SMART CITY

STADT FRANKFURT AM MAIN

Comune di Milano

DC.gov

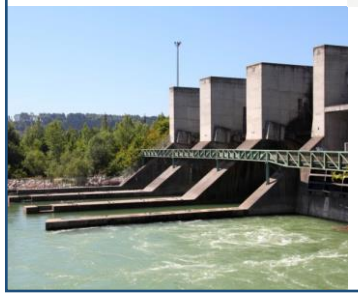
WHO WE ARE

Actelis

SMART GRID

avacon

e·on



Verbund
Energy Austria

100s of clients worldwide

MILITARY

Japan Army

U.S. AIR FORCE

AMERICA'S NAVY

THE ACTELIS QUALITY NETWORK PRODUCTS

- Wide range of hybrid L2 & L3 network devices, copper, coax and fiber
- 19” aggregation units, ½ 19” Ethernet Access Devices, DIN rail Ethernet Access Devices
- Gbps over copper and fiber
- G.hn, G.FAST, VDSL, G.SHDSL
- Advanced Traffic Management & QoS. CE 2.0 certified
- Compact, environmentally hardened, cost effective

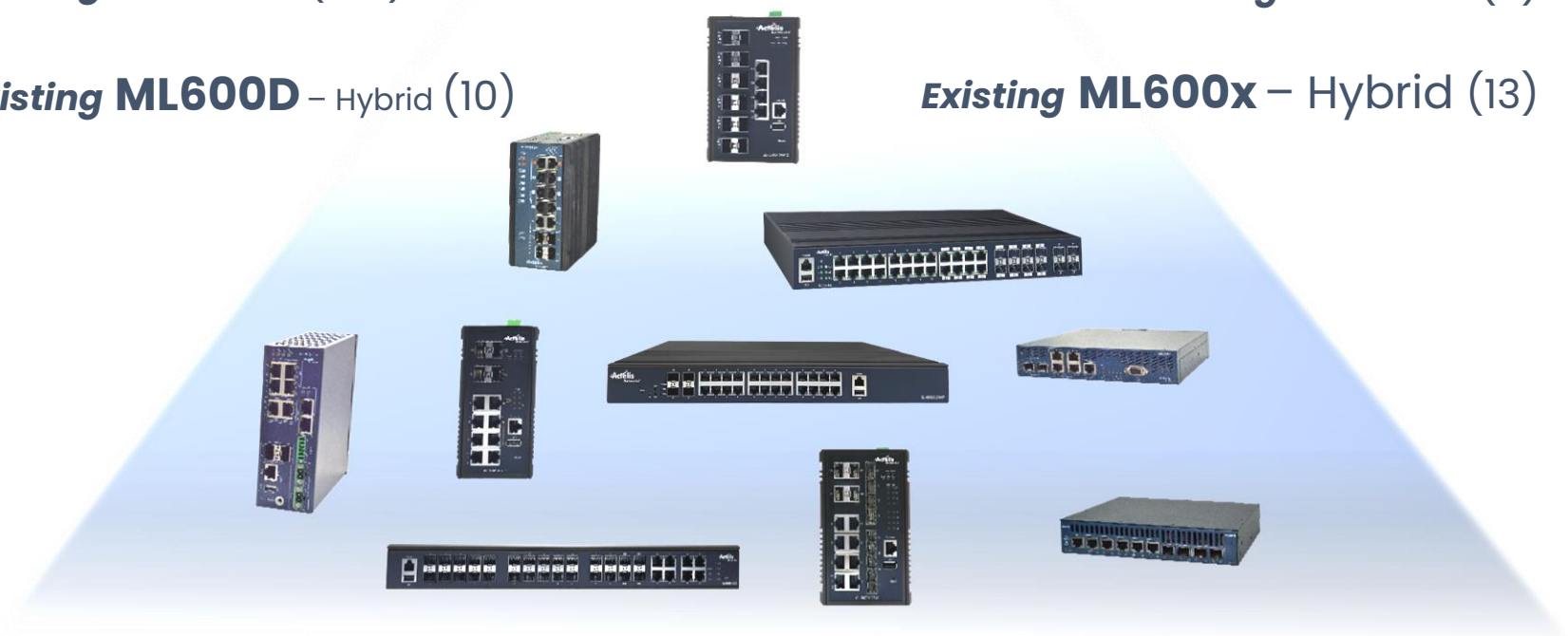
Expanding Fiber Switches Portfolio

DINRAIL

- ***New*** **GL5000** (22)
- ***Existing*** **ML500D** (2 +)
- ***Existing*** **ML600D** – Hybrid (10)

- ***New*** **GL6000** (21)
- ***Existing*** **ML500x** (3)
- ***Existing*** **ML600x** – Hybrid (13)

Rack mounted



A few examples

GL5010 Series

Product Name	High Level Description
GL5010 Series Common Features	**10-12 Port Hardened Industrial Managed Ethernet Switch. 1G Uplinks.** **Interfaces:** SFP/SFP+ **2x 100/1000F(x); 8x 100/1000BT** **Extended Temperature : -40°C ~ 75°C (-40°F ~ 167°F)*** **Redundant Power Inputs**
GL5010-8J2F	10 ports L2 switch (as listed above)
GL5010-8J4F	12 port L2 switch - Additional **2**x 100/1000F(x)
GL5010-10J2F	12 port L2 switch - Additional **2**x 100/1000BT

GL5080X Series

Product Name	High Level Description
GL5080X Series Common Features	**Hardened Industrial Managed Ethernet Switch. DIN RAIL 10G Uplinks.** **Common Interfaces:** SFP/SFP+ **12x 1/10G; 4x 100/1000BT** **Extended Temperature : -40°C ~ 75°C (-40°F ~ 167°F)*** **Redundant Power Inputs: 12-48VDC**
GL5080XR-4J12F	16-port L3 switch (as listed above)

(*) For 10G SFP+: -40 ~ 60°C (-40°F ~-140°F)

GL6010X

Actelis

Product Name	High Level Description
GL6010X Series Common Features	**28-Port Hardened Industrial Managed Ethernet Switch. 10G Uplinks.** **Interfaces:** SFP/SFP+ **4x 1/10G + 24x 100/1000F(x)** **Extended Temperature : -40°C ~ 75°C (-40°F ~ 167°F)*** **Power Over Ethernet: 24 x IEEE 802.3at PoE** **Redundant Power Inputs**
GL6010X-24J4F-P-DC	Power Inputs: 2x 48~57VDC, Robust Isolation
GL6010X-24J4F-P-AC	Power Inputs: 2x 90~264VAC
GL6010X-24J4F-P-AD	Power Inputs: 1x 90~264VAC, + 1x 48~57VDC
GL6010XR-24J4F-P-DC	L3 Switch, Power Inputs: 2x 48~57VDC Robust Isolation
GL6010XR-24J4F-P-AC	L3 Switch; Power Inputs: 2x 90~264VAC
GL6010XR-24J4F-P-AD	L3 Switch, Power Inputs: - 1x 90~264VAC, + 1x 48~57VDC

(*) For 10G SFP+: -40 ~ 60°C (-40°F ~-140°F)

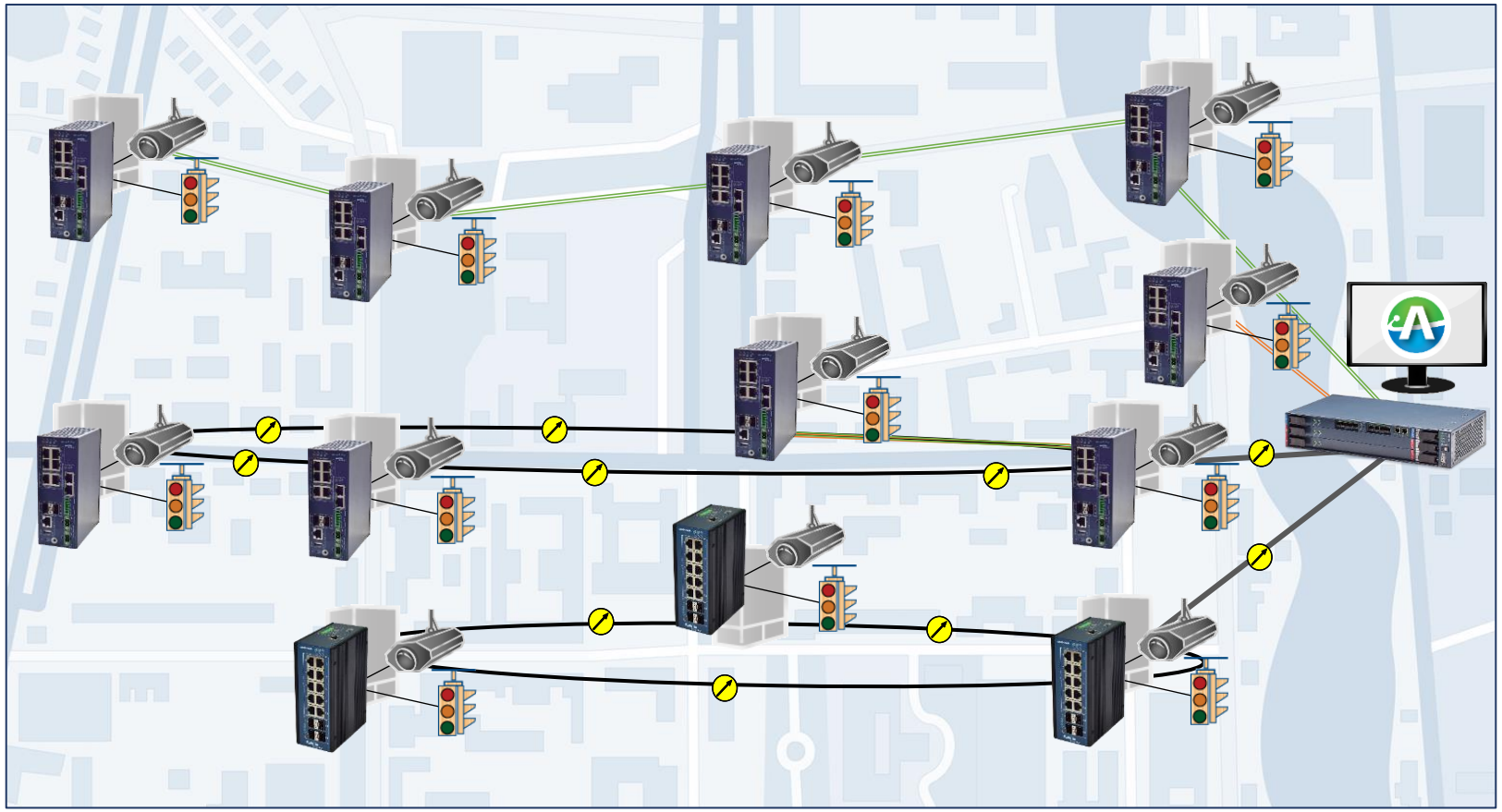
GL6031

Actelis

Product Name	High Level Description
GL6031 Series Common Features	**28-Port Hardened Industrial Managed Ethernet Switch.** **Interfaces: 24x 100/1000BT** **Extended Temperature : -40°C ~ 75°C (-40°F ~ 167°F)*** **Redundant Power Inputs**
GL6031-16J12F	**Interfaces: Additional 4x 100/1000F(x) , 8x COMBO 1G**
GL6031-16J12FC-DC	Power Inputs: 2x 12~48VDC Robust Isolation
GL6031-16J12FC-AC	Power Inputs: 2x 90~264VAC
GL6031-16J12FC-AD	Power Inputs: - 1x 90~264VAC, + 1x 12~48VDC

(*) For 10G SFP+: -40 ~ 60°C (-40°F ~-140°F)

TYPICAL SMART CITIES TRAFFIC USE CASE



Drop & Continue, Ring, or Linear Topologies

Hybrid Fiber-Copper traffic management network

Aggregation Switch (ML2300)

Hybrid Fiber-Copper Switch (ML684D)

Fiber Switch (ML5114D)

EMS Remote Monitoring/Provisioning

MODERNIZATION FOR SAFETY & EFFICIENCY

Actelis

City of San Jose, CA

Challenge: High speed connectivity to support IoT device expansion

- Only 15% of city has fiber at the intersection
- Population is growing and more cameras and sensors are needed for better traffic management

Solution: Actelis ML684 (Hybrid) and ML5114 (Fiber)

- Supports sensors and cameras in a variety of topologies
- Flexible network management, enabling traffic management and real-time adjustment
- Cyber-hardened solution
- Option for power over data lines

Savings of 80% vs new fiber installation

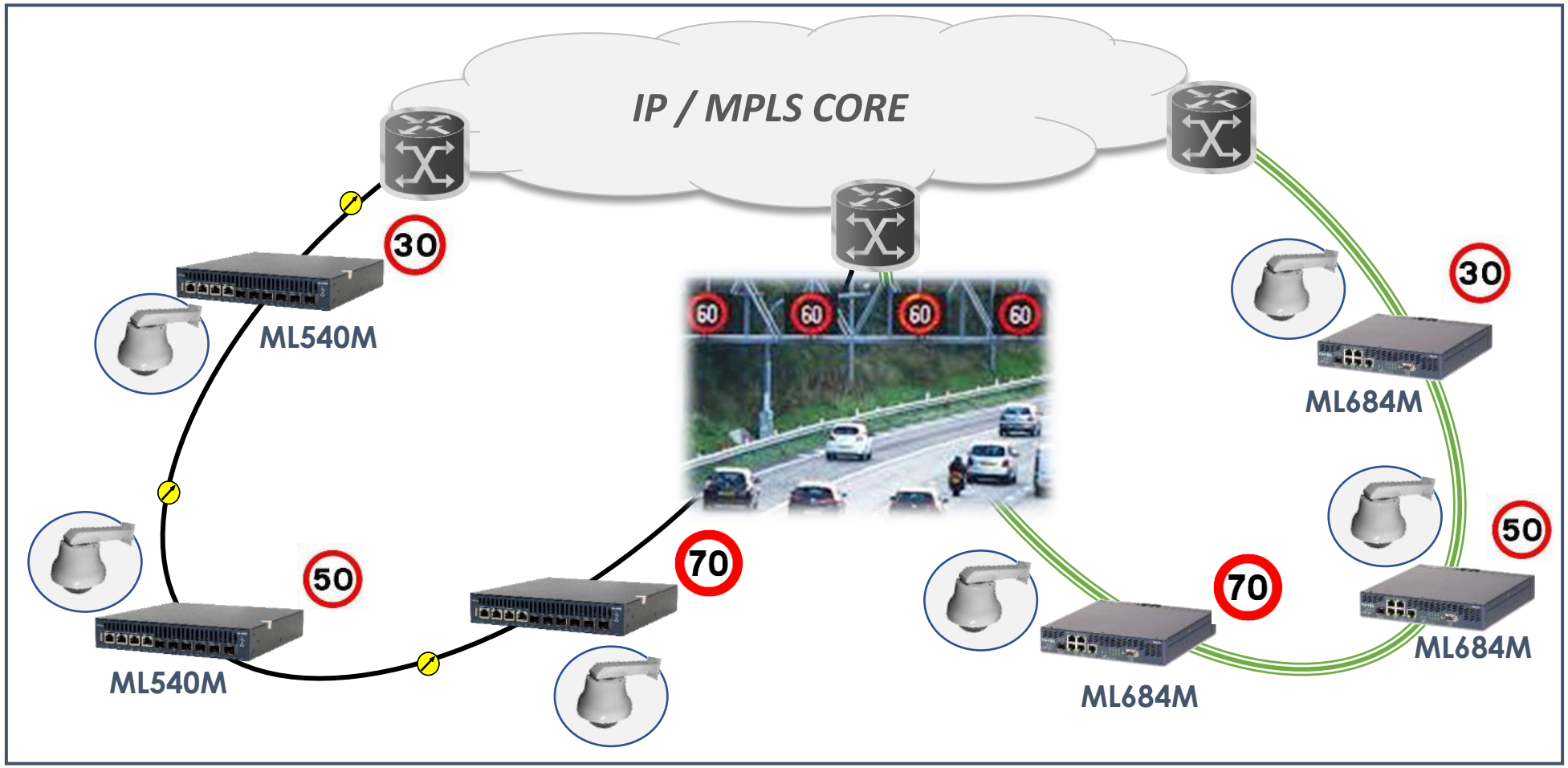
Fast path to connectivity for IoT devices

One EMS to manage both fiber and copper networks

SMART HIGHWAY TRAFFIC USE CASE

- Linear chain or ring topologies
- Fiber or copper infrastructure
- +100 Km, up to 20 nodes fiber / copper

- Gantry Signs
- IP-based cameras
- Smart Sensors
- Optional Remote Powering



HIGH SPEED CONNECTIVITY OVER LONG DISTANCES

Actelis

UK Highways

Challenge: Supporting digital modernization of assets over long distances

- 30,000 roadside assets to be connected (Gantry signs, signaling, CCTV cameras)
- 4,400 miles of roadways
- 1/3 of network was copper based at time of deployment

Solution: Actelis ML600 (Hybrid), ML500 (Fiber), XR239 Repeaters

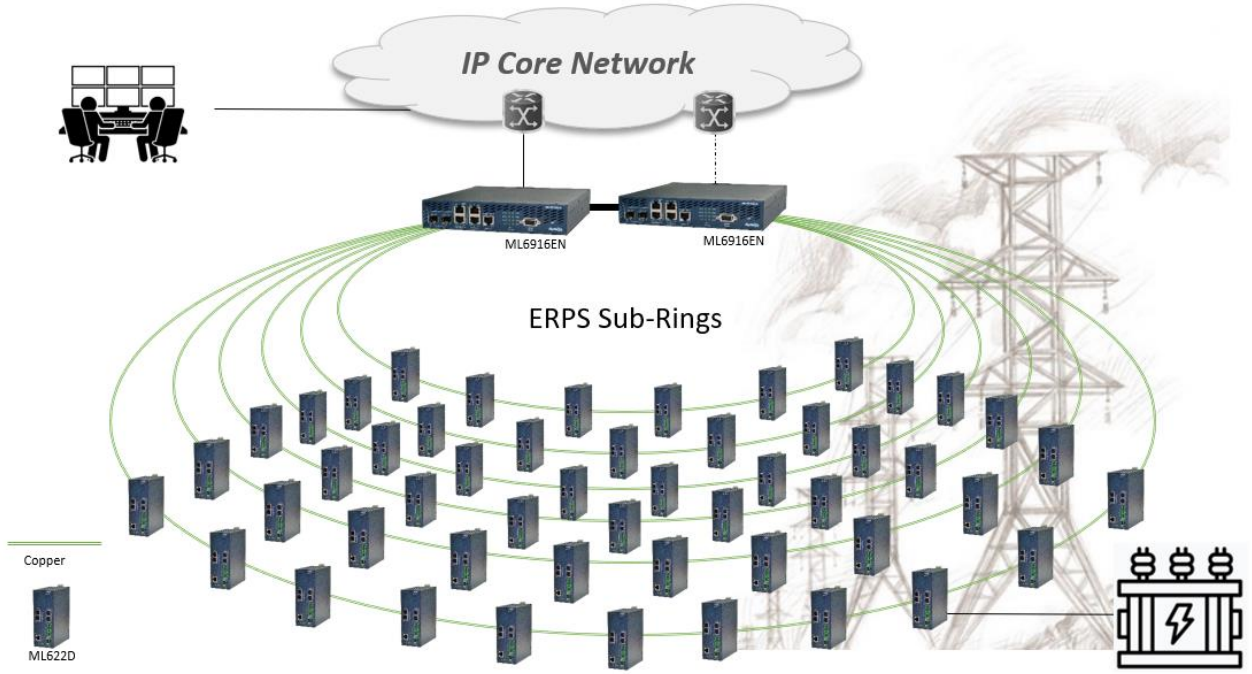
- Quick, cost effective deployment of hybrid fiber/copper solution
- Reliable high bandwidth over extremely long distances in ring and linear add-drop topologies

Reliability over long distances

Hybrid switches & smart repeaters

Full remote management limits onsite needs

SMART GRID USE CASE



- Monitor and control regional transformer stations
- ERPS Rings
- Harsh environment
- Advanced EMS Topology View

WHY ACTELIS?

- Years of experience and worldwide deployments in multiple vertical markets
- Extreme reliability over copper, fiber and hybrid infrastructures
- Drop-and-continue and ring topologies are inherently supported
- Cyber-secure – approved by DoD
- All Actelis' products are hardened ensuring that they work in harsh environmental conditions
- L2 and L3 functionality
- One-stop shop for all accessories (cables, SFPs, power adapters, etc.)
- Product Flexibility
- Single management system for all products including 3rd party devices