

# Managing Smart Grid Communications Return on Investment

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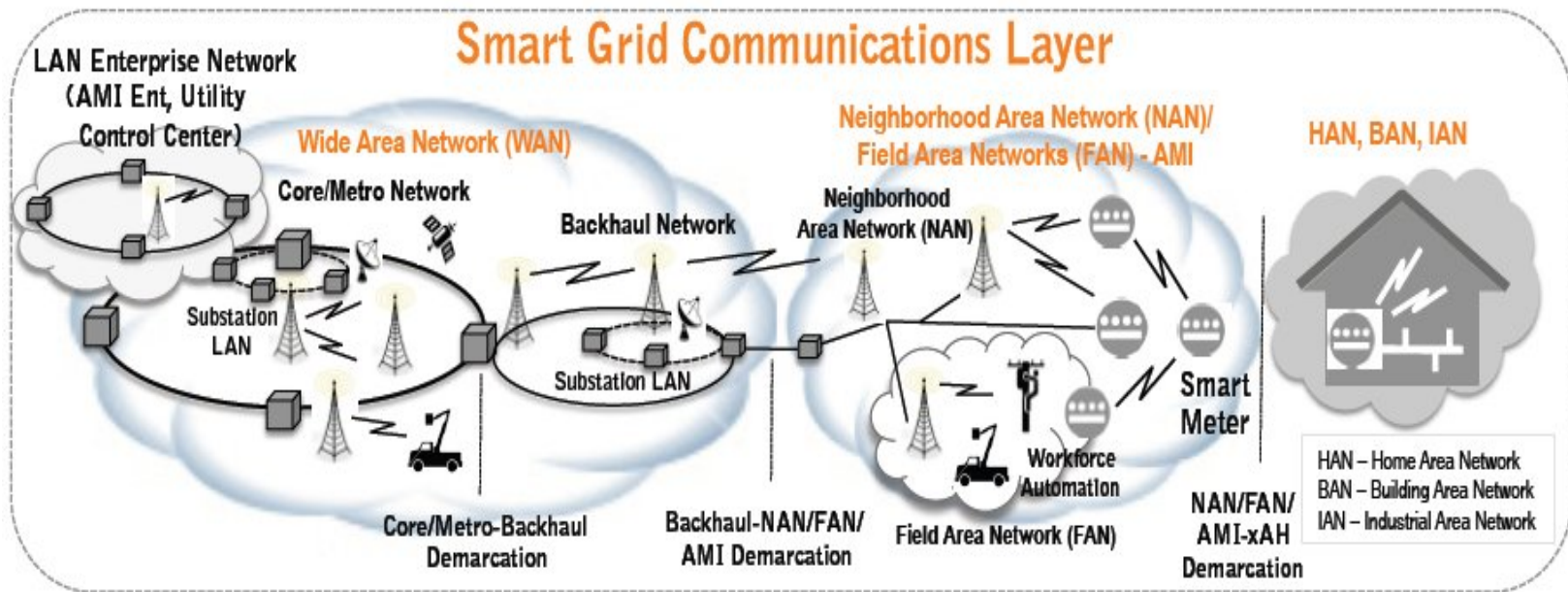
- Growing Complexity in the Communications Network
- Smart Grid Communications Network Management
- The “Managed Evolution” Approach

# Utility Communications Challenges

- Millions of new, intelligent devices

- Multiple, integrated communications networks

- Varying degrees of network visibility



Ref: IEEE

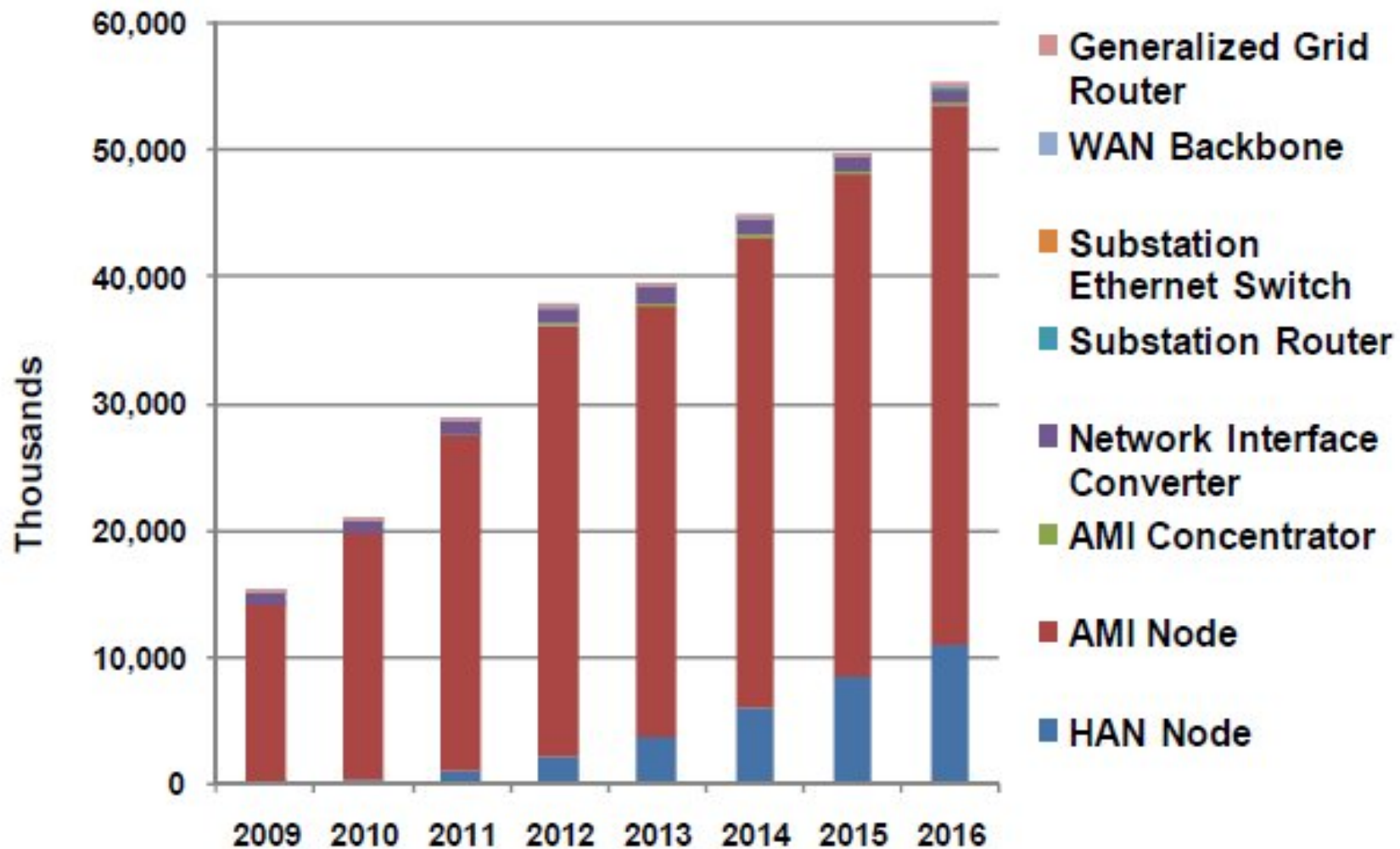
- Growing volumes of data

- Reliability, Ubiquity, Latency, Security

- Network Capacity

# Communications Devices to Double in Next Five Years

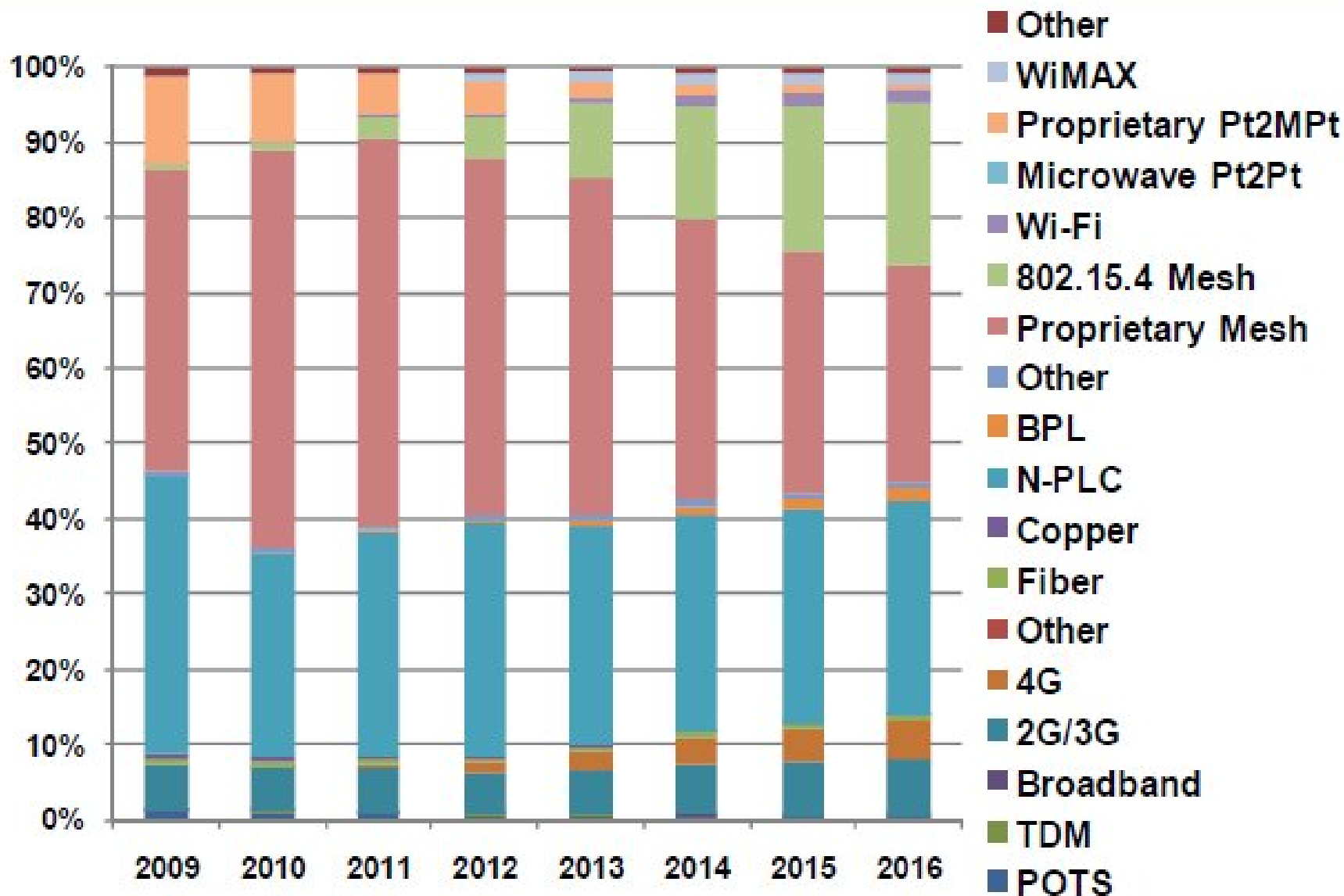
Communications Device Forecast, Units, World Markets: 2009-2016



(Source: Pike Research)

# Choices of Technologies is Diverse

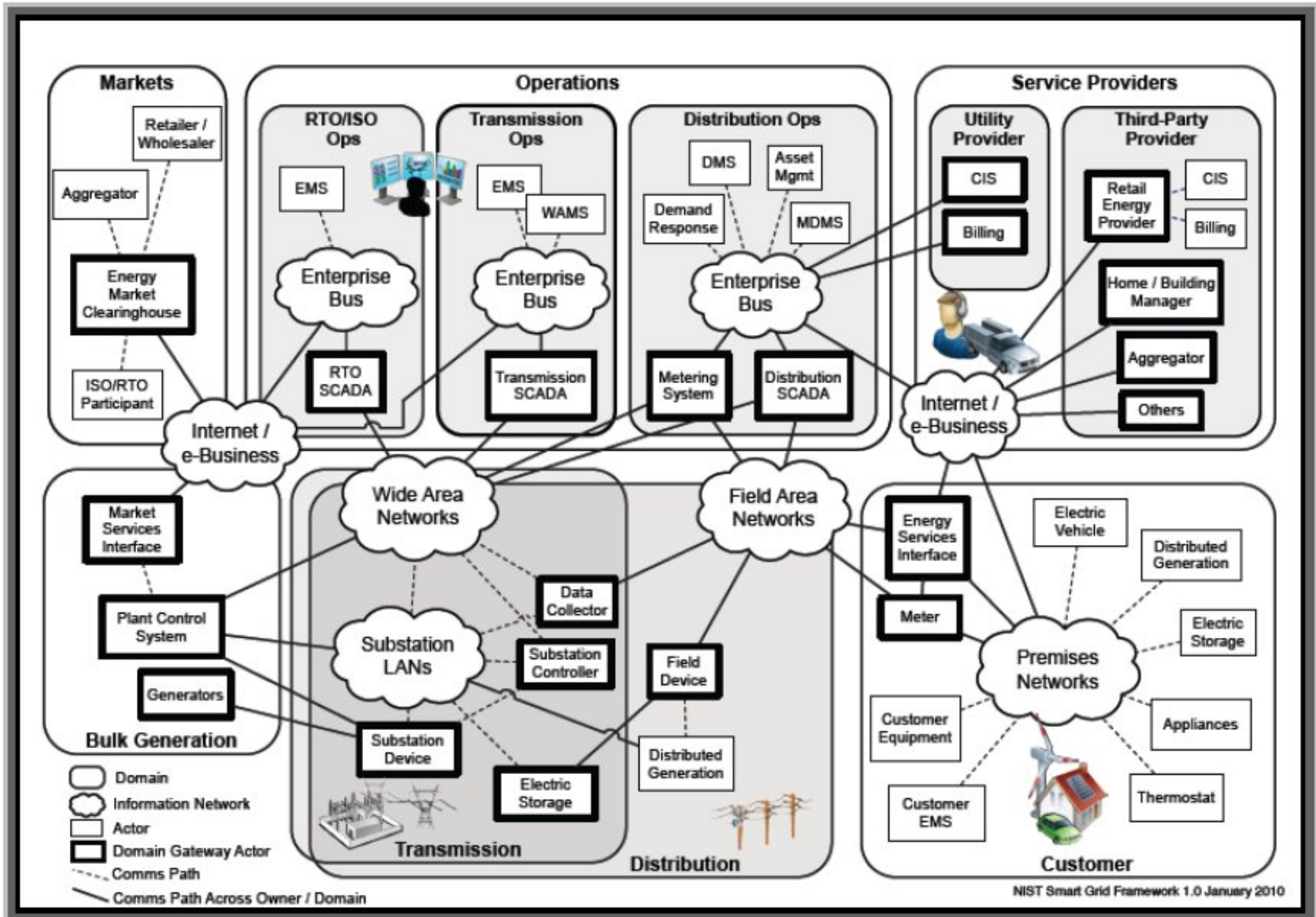
**Communications Node Technology Distribution, Units, World Markets: 2009-2016**



(Source: Pike Research)

# NIST Framework Identifies Multiple Networks

Figure 3-2. Conceptual Reference Diagram for Smart Grid Information Networks.



# IEEE Model Identifies Further Domains

## End-to-End Smart Grid Communications Model

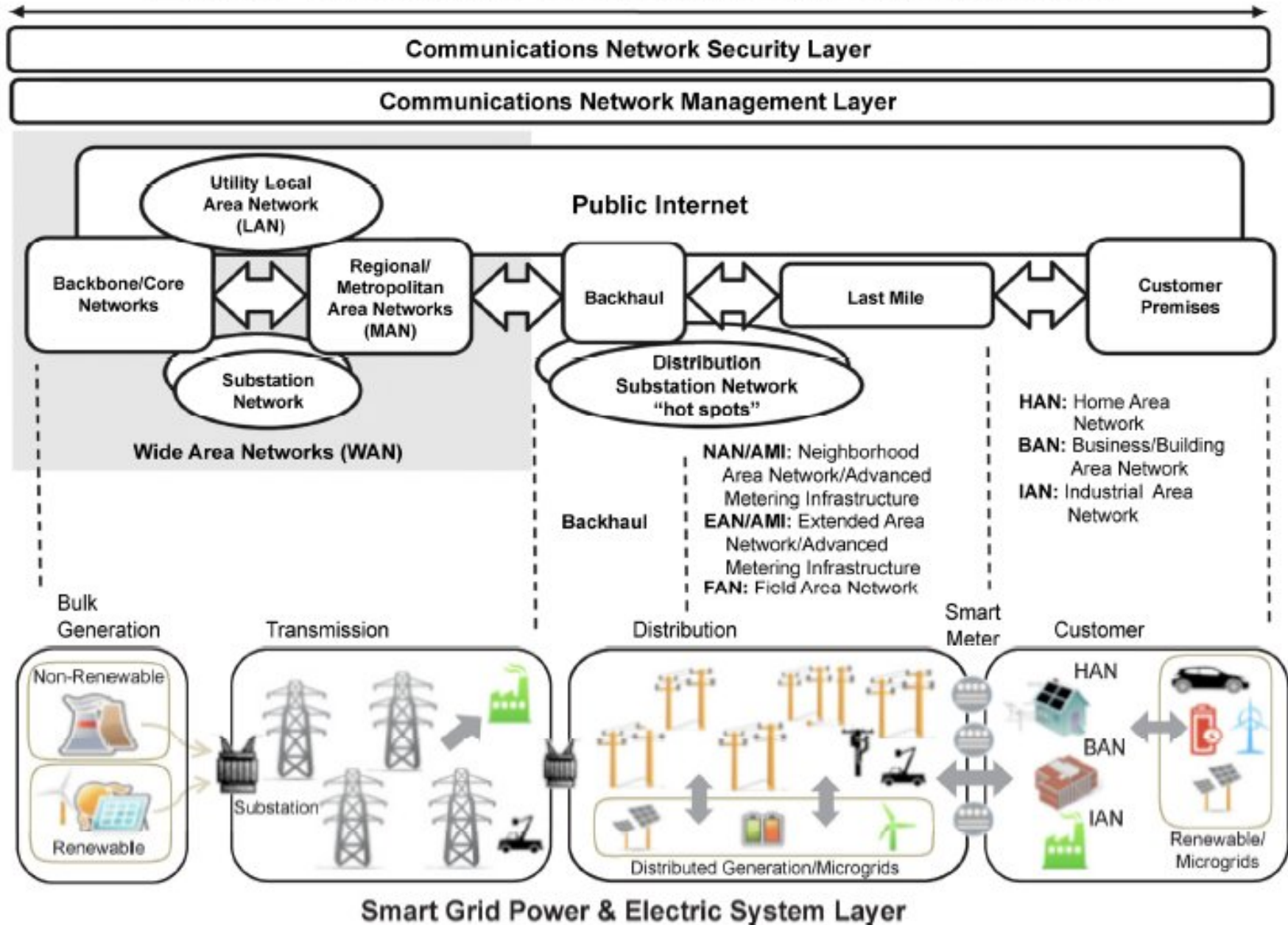
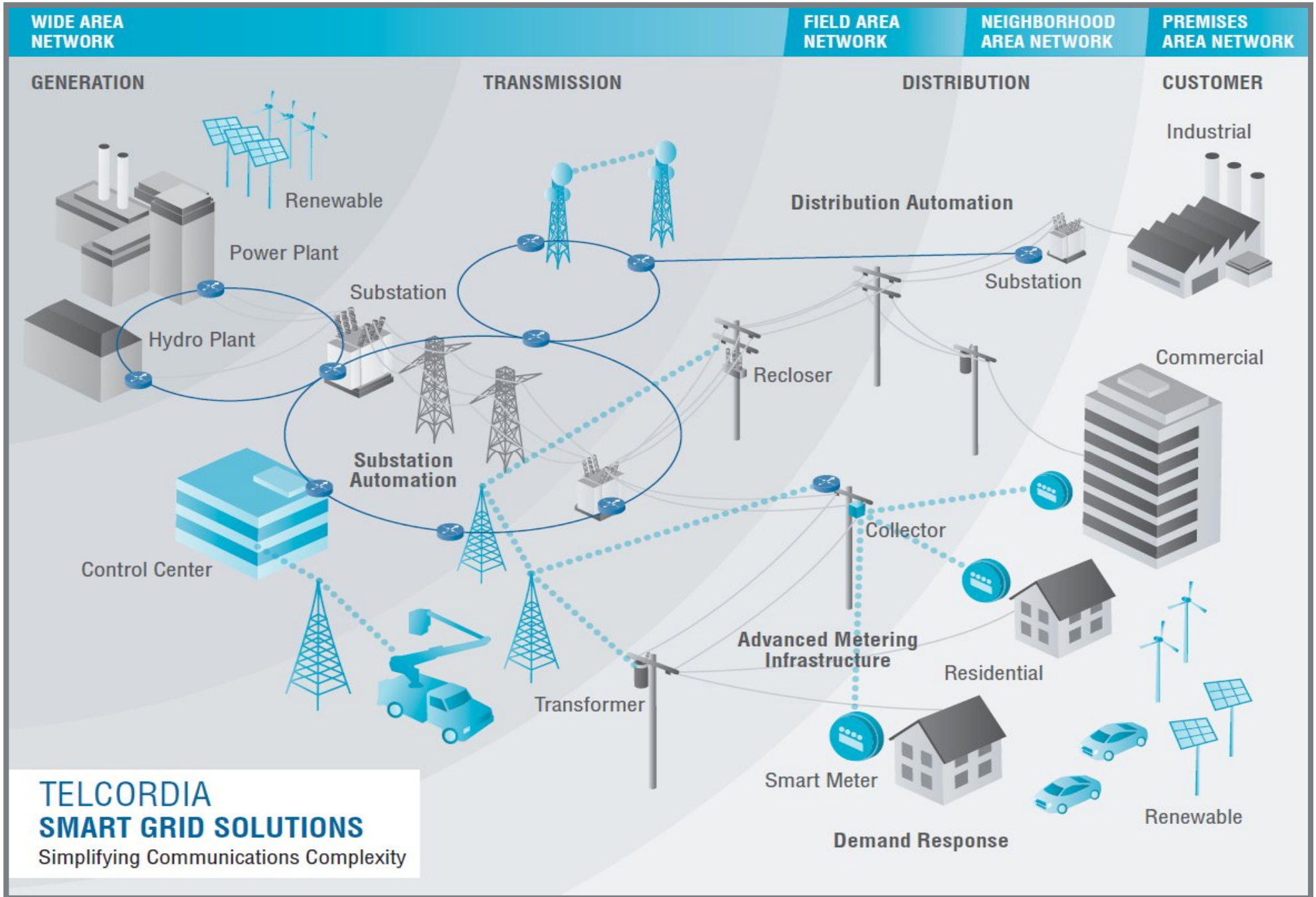


Figure 7-1—End-to-end smart grid communications model

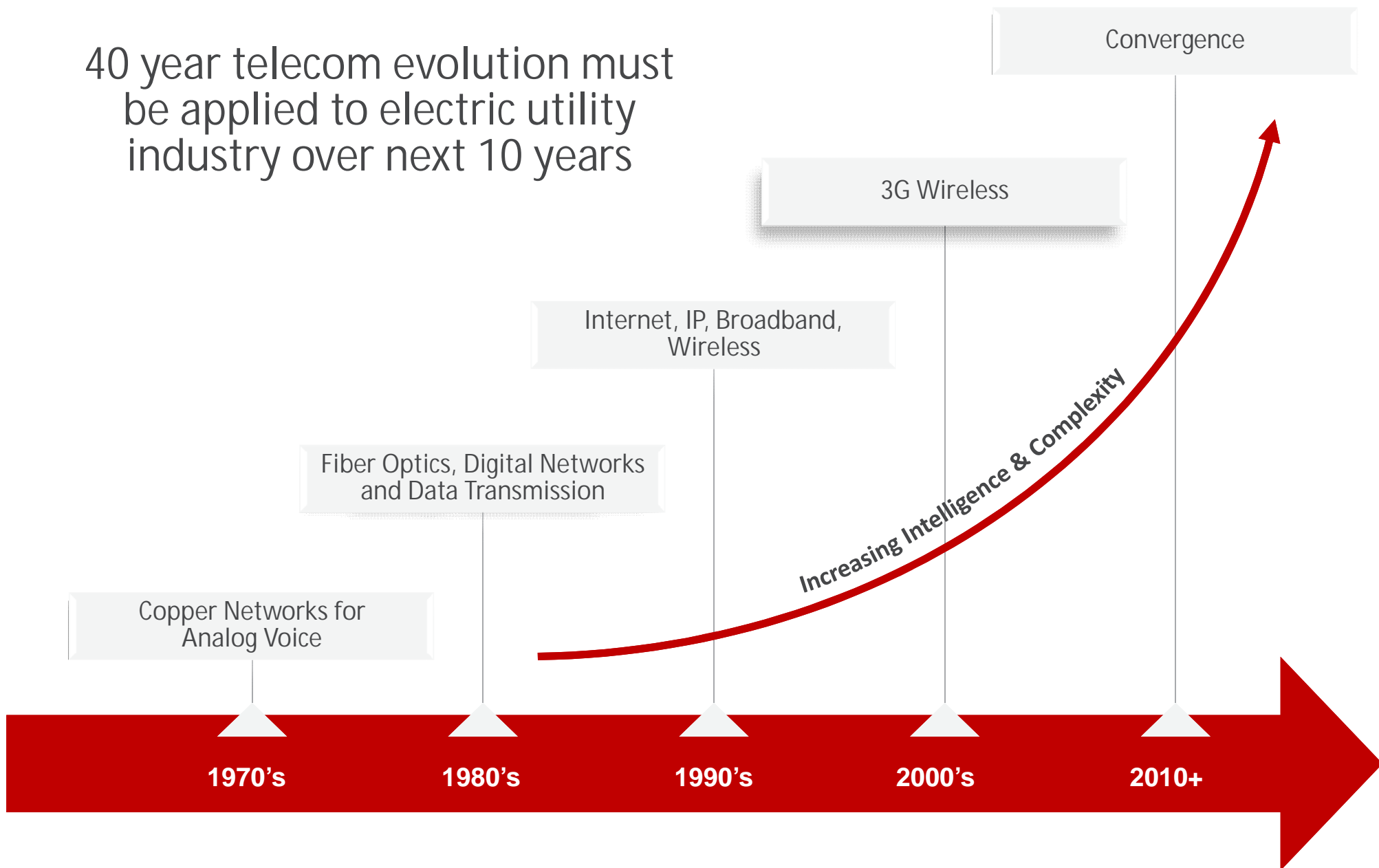
# → Rationalizing the Complexity





# Communications Network Evolution

40 year telecom evolution must be applied to electric utility industry over next 10 years



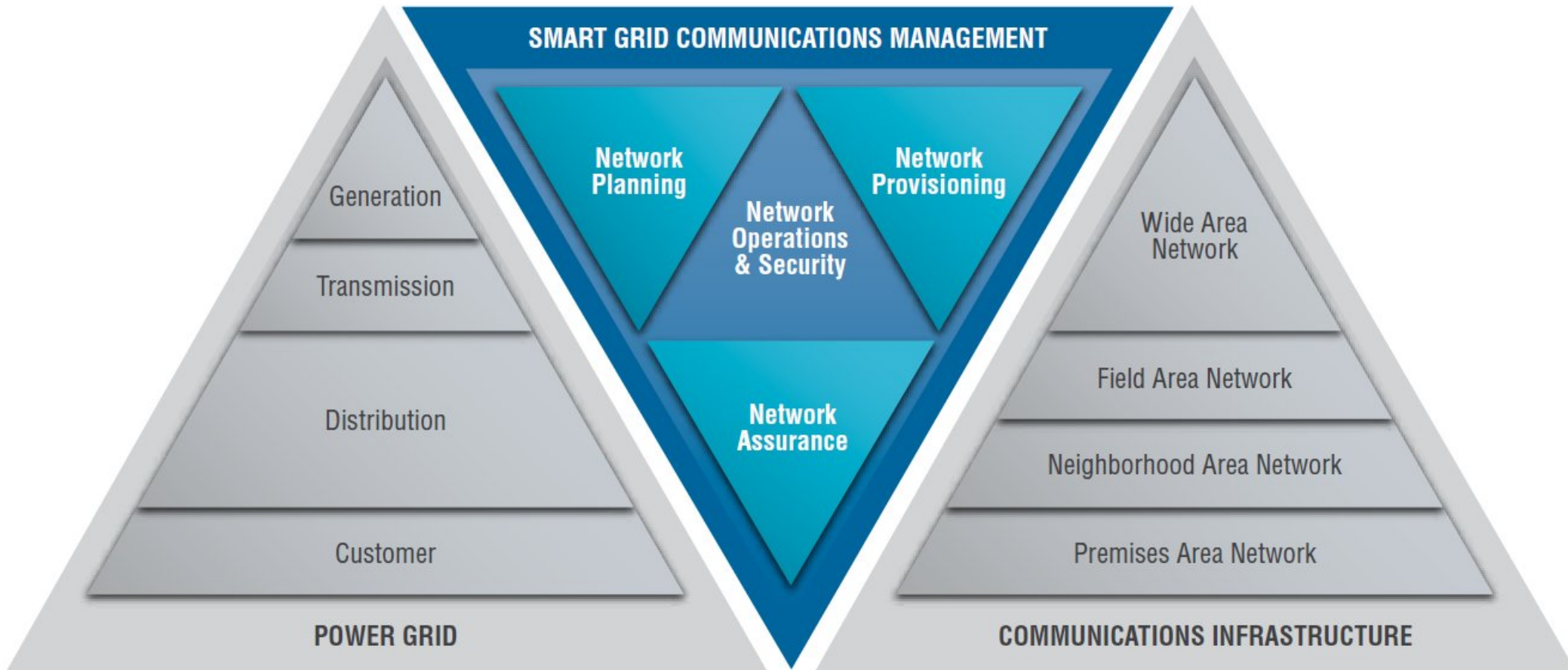
# → How can I manage growing complexity while maintaining reliability, safety, and security?



- Know your network
- Configuration & control
- Maintain accuracy
- On-going operations & maintenance

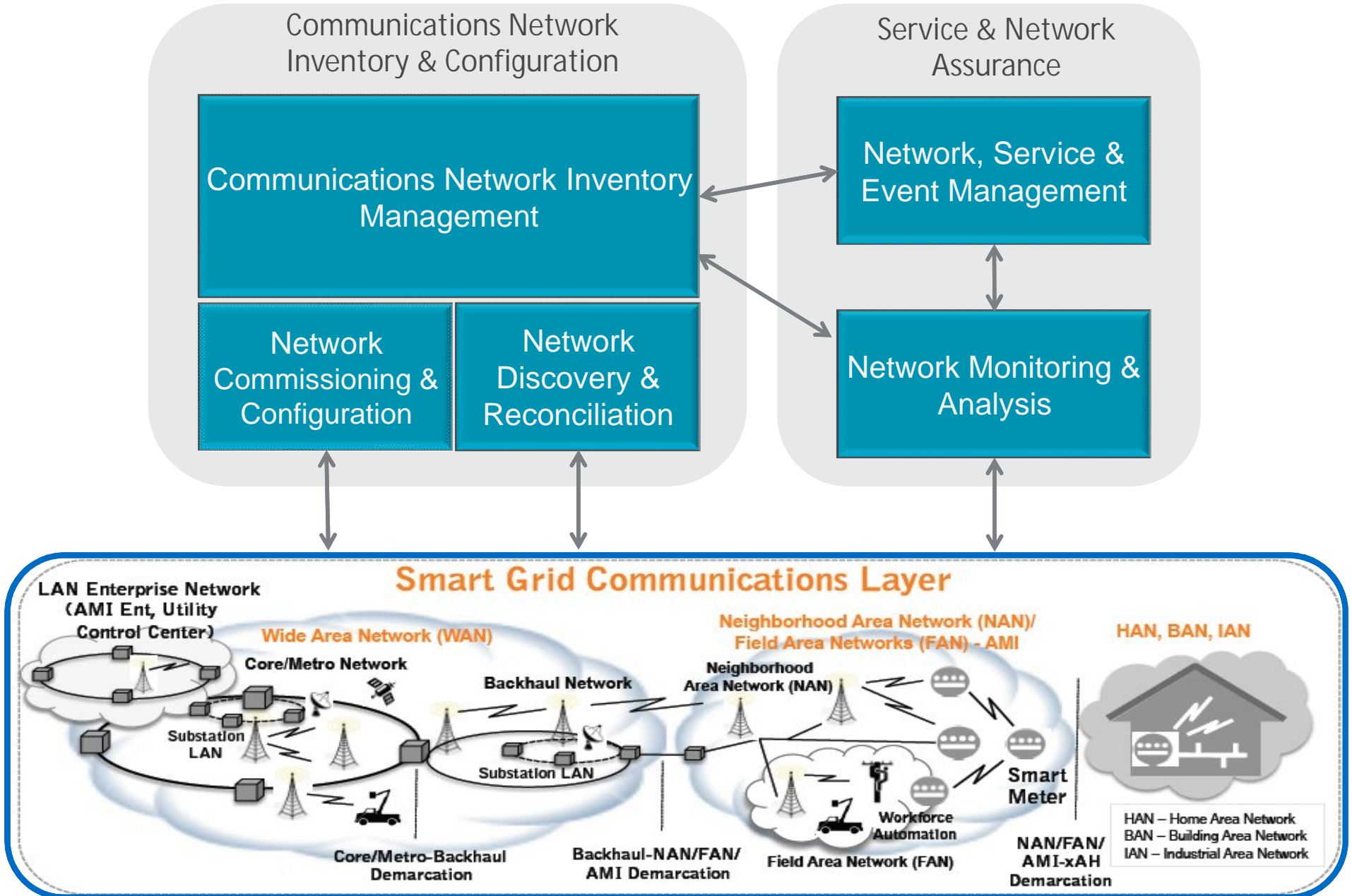


# Communications Network Management



Inadequate communications network operations a major threat

# Communications Network Management Architecture Concepts



# Return on Investment - Examples

## ■ Recovery of stranded Assets

- Estimated Asset Investment: \$ 500 M (small / med size Service Provider)
- Estimated Asset stranded: 5% (very conservative estimate)
- Estimated Asset recovered: 50%
- Immediate Capex Reduction: \$ 12.5 M

## ■ Fraud Management / Revenue Contribution

- Estimated Revenue Total of SP: \$ 1 Billion (med size SP)
- Estimated Revenue Leakage due to Fraud: 3% (depends on country)
- Estimated Revenue recovered: 30% (conservative)
- Immediate Revenue Contribution: \$ 9,000,000

## ■ Reduction in Fallout Rate

- Cost of Provisioning Fallout: 3M (med size SP)
- Estimated reduction in fallout rate: 20%
- Immediate Opex reduction: \$ 600,000

## → Recommendations

- Seize this opportunity to plan and design a future-proof, multi-technology communications network management architecture
- Reduce risk associated with a multi-vendor communications network management approach
- Leverage communications network intelligence to realize ROI through automation



Leverage cross-industry processes, systems & technology best practices to assure Smart Grid reliability, safety, security

# Q&A



<http://www.telcordia.com/smartgrid>

# → About Telcordia

The trusted expert for solving the most complex communications challenges.

