



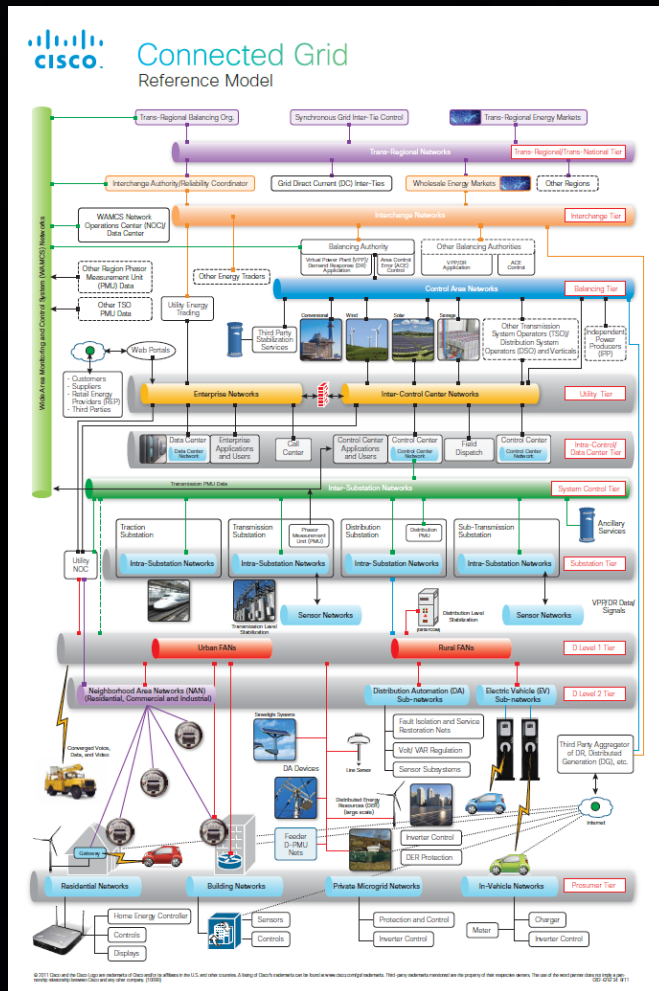
# Digitizing the Energy System

## *Powering Innovation and Innovating Power*

Rolf Adam, Director Energy & Smart Grid EMEAR

# The Intelligent Energy System

## Cisco Vision



“Transform energy production, distribution and consumption using an end-to-end IP platform to sustainably meet the world’s future energy needs.”



# Generation: Sustaining Operational Excellence

## Generation



Picture: RWE

### Offshore

From Monitoring to Robotics  
*How to ensure O&M in adverse conditions?*

### Conventional Global Remote

From Europe to Emerging  
*How to run power plants in South America / India from European headquarters?*

### Nuclear Operation/ Decommissioning

From Operations to Integrated Supply Chain  
*How to access a diminishing pool of experts?*

# Transmission: Operating Under Uncertainty

## Transmission



Picture: Keymile

### Legacy Technology

From Analogue to Digital  
*How to migrate systems, skills and employees to Smart Grid ready technology?*

### TSO – DSO Integration

From Central to Shared Responsibility for Stability  
*How to upskill DSO to cope with increased responsibility?*

### Prognosis and System Stability

From Experience to Algorithm  
*How to manage the future in an increasingly fragmented and complex system?*



# Distribution: Overboarding complexity

## Distribution



Picture: Western Power

### Grid Stability and Automation

From Dumb to Smart  
*How to deal with BIG / FAST Data?*

### Grid Based Storage

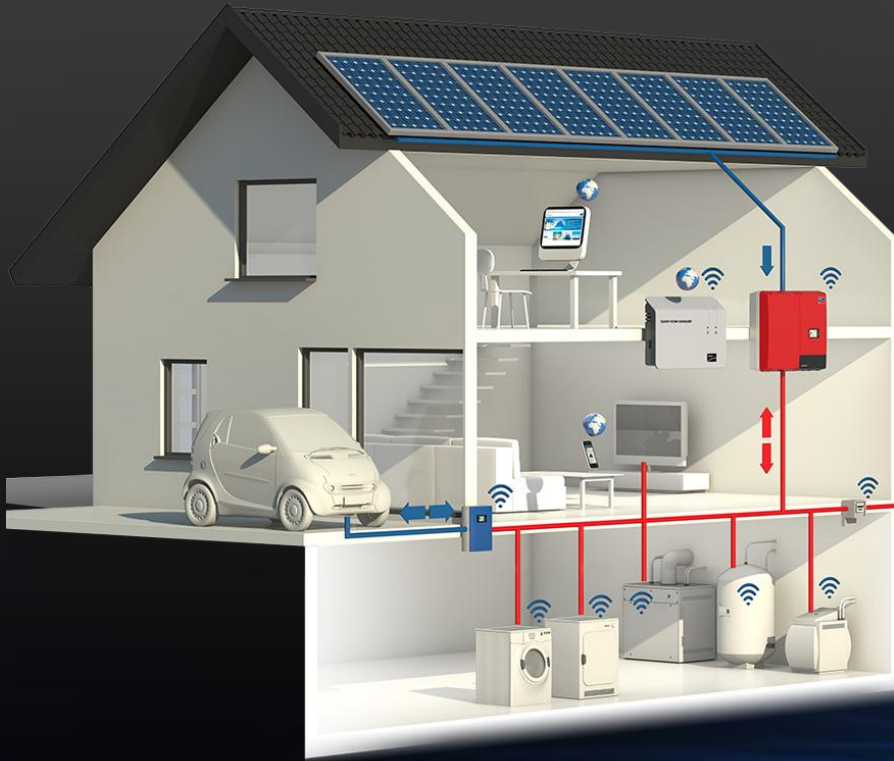
From Cables to Systems  
*Will storage replace cables and transformers?*

### Hybrid Infrastructures

From Single to Multi Purpose  
*How to align with mobility, lighting and communications?*

# Supply: Going Online

## Supply



Picture: SMA

## Energy aaS

From Electrons to Ambience  
*How will we consume energy in the future?*

## “Gridtailer”

From Retailer to System Operator  
*(When) will customers move off grid?*

## Supply / Demand Contracts

From Consumer to Prosumer  
*How to structure the relationship with prosumers free of subsidies?*

aaS: as a Service

# How to Move Forward

- *Regulator: Develop the 2050 market design in line with new realities rather than building on incremental change*
- *ICT Technology Vendor: Make a conscious decision on solution ownership versus embedded systems*
- *(Infrastructure) Investor: Understand the evolving market for outsourced infrastructure intelligence and operation*
- *Utility: Prepare to align your business model with 2050 instead of betting the company on today's set-up*



# Your Cisco Contact



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Thank you.