Smart Metering

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Schneider Electric

Leading Smart Grid Solutions

A complete MV and LV portfolio and a full
set of management software for a more reliable, efficient, and secure grid

Schneider Electric

Substation & feeder automation portfolio for Utilities

Substation Automation

Substation Control Systems

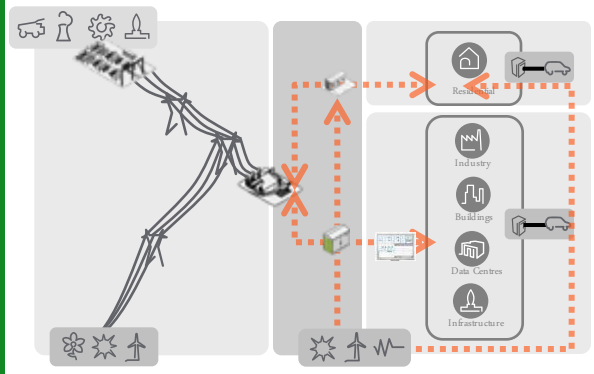
Feeder Automation

RTU, bay controller, fault detector

Protection IEDs

Protection relays 61850

SEPAM ® MICOM ®



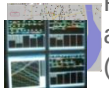
Reliability & Efficiency

- Advanced grid management
- Integration of renewables
- Optimize network operations
- Safety & Security

Schneider Electric TELVENT

Real time software suite for global grid management

ADMS



Power network control and management (SCADA/DMS/OMS/EMS)

Geographic Info Systems

Life cycle asset management

Smart Metering

Meter data control, rollout & operations

Field control devices

Remote Terminal Units (IEC-61850)

Integration services

US, Canada, Europe

Telvent Global Client Base

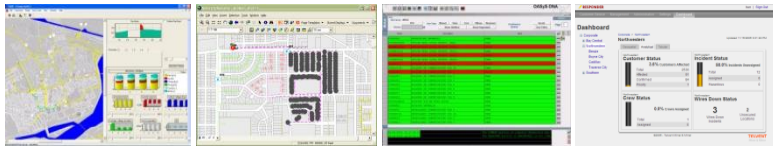
> 45 years experience & > 590 utilities around the world

Smart Grid Solution

Integration is the key

Smart Operation

GIS/SCADA/DMS/OMS Integration



- ArcFM GIS
- OASyS DNA
- DMS Sw
- OMS Sw
- DR/DSM

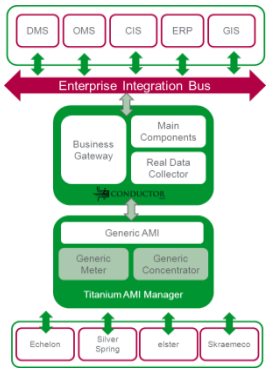
SGS

- MDM - Conductpr
- AMI - Titanium
- Metering Infras.
- EV

- SubCAT
- T&D
- Substation Automation
- IEC 61850
- DG

Smart Metering

Advanced Meter Infrastructure (AMI)

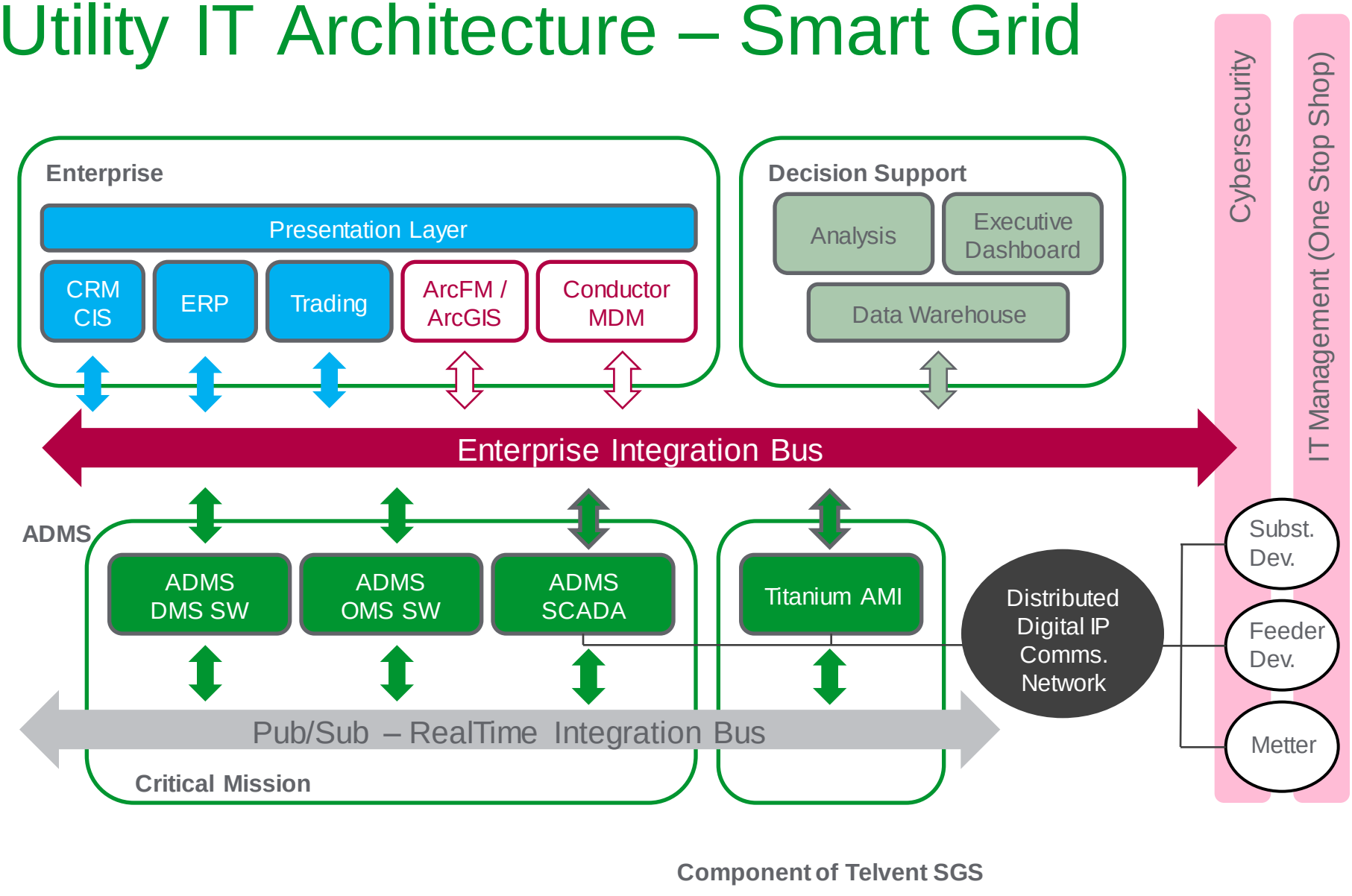


Smart Network

Data Acquisition and Substation Automation

System **integration** is key in Telvent's strategy to offer the market the Smart Grid Solution (SGS)

Utility IT Architecture – Smart Grid



Component of Telvent SGS

Smart Metering

The tip of the iceberg

AMM - Automatic Metering Management

Potential benefits through the leverage of information from AMM such as:

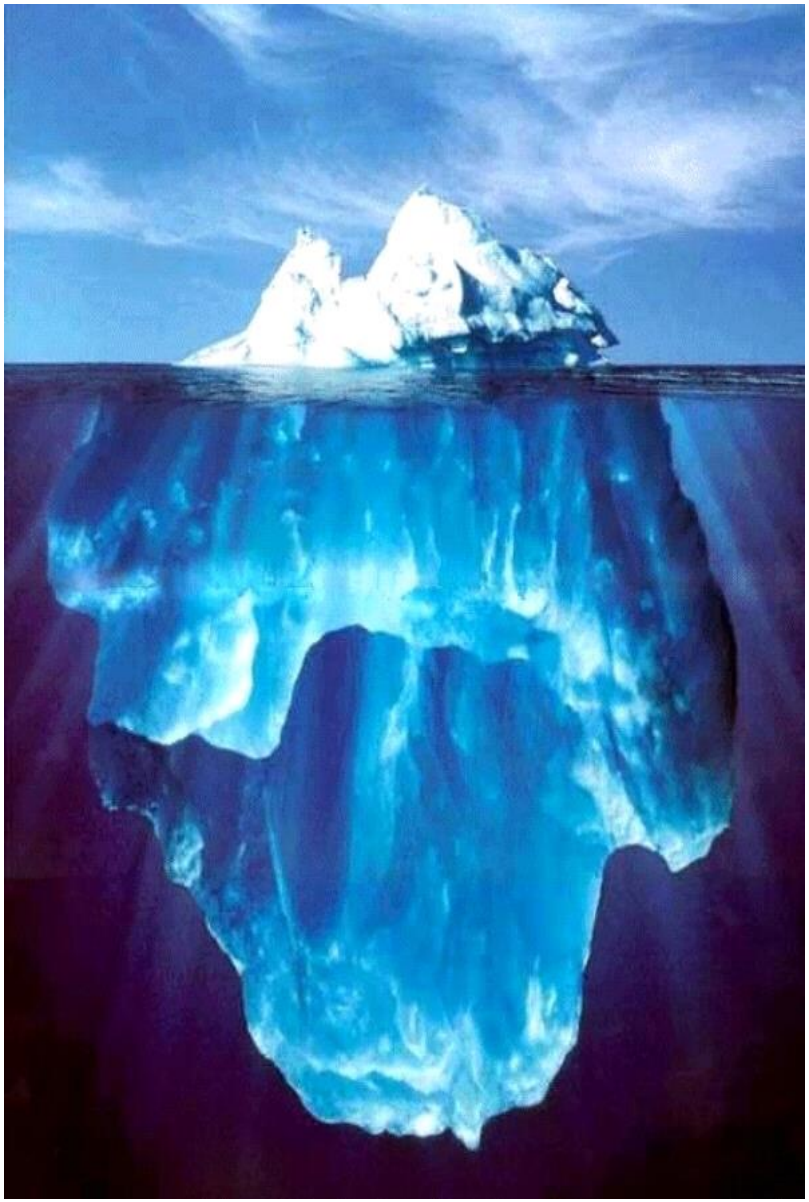
- Improve asset management
- Optimize network usage
- Optimize network operation
- Optimize network maintenance
- Increase efficiency
- Increase network reliability
- Manage load profiles
- Demand side management
- Enable customer choice
- Increase customer service

- ArcFM GIS
- OASyS DNA
- DMS Sw
- Responder OMS

SGS

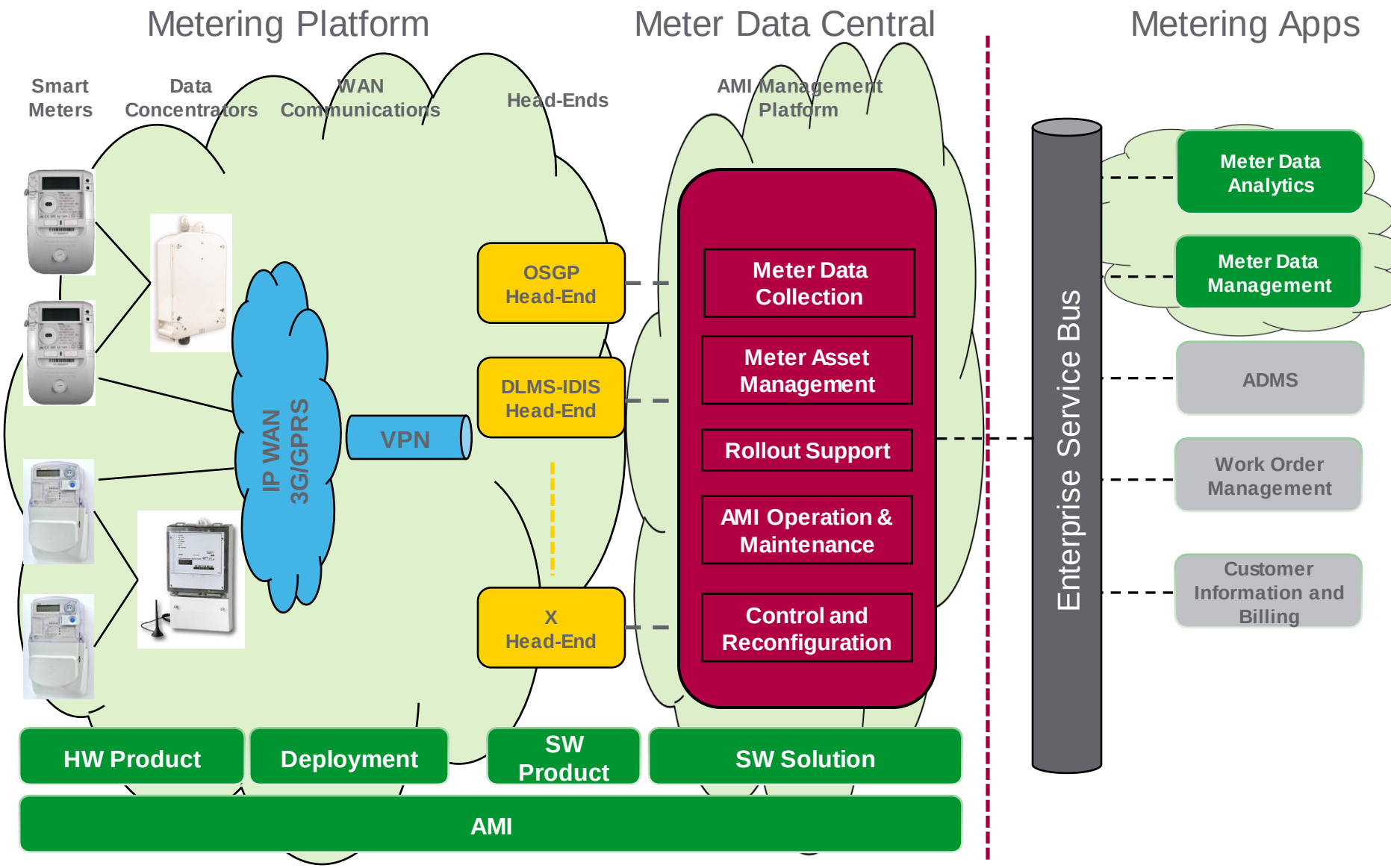
- MDM
- Titanium AMI
- Meter Opers.

- SubCAT
  - T&D
  - Substation Automation
  - IEC 61850

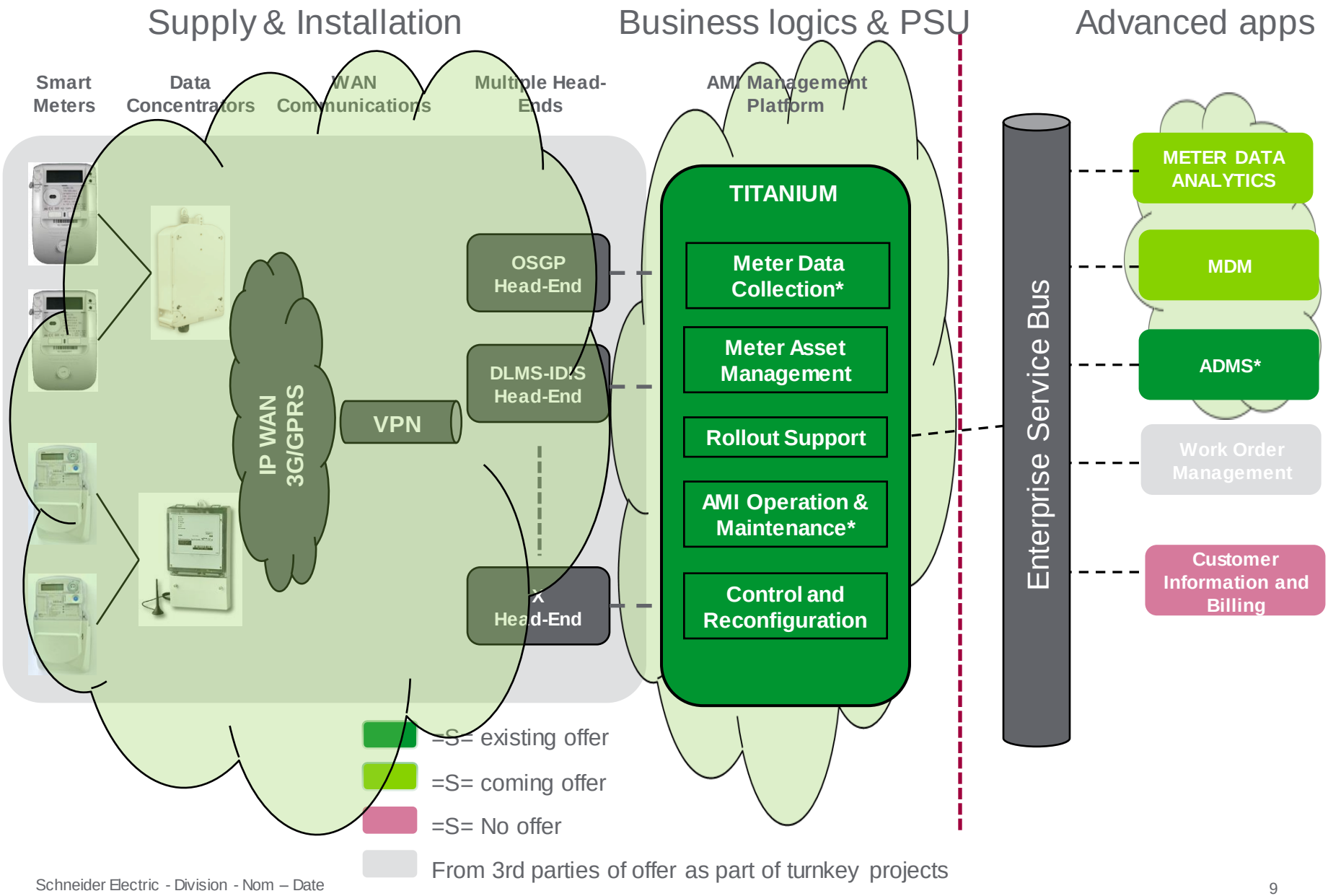


Schneider Electric Offering

Smart Metering – Solution Components



Smart Metering – Schneider Electric solution



Our Offering to Utilities

1 Process and IT support

- Metering process analysis and definition
- Development and deployment of IT systems
  - Business intelligence implementation
  - Integration of existing WOMs
- Deployment of the private cloud

2 Rollout Services

- Deployment of the metering infrastructure
  - Domestic meters
  - Data Concentrators
  - WAN infrastructure (M2M)
  - Configuration of metering equipment

3 O&M Services

- Delivery of metering information
  - Daily meter readings
  - Hourly meter readings
  - Network Events
  - PQ Data
- Remote operation of metering platform
  - Remote connect / disconnect of delivery site
- Field and remote maintenance of metering platform

Schneider Electric Experience

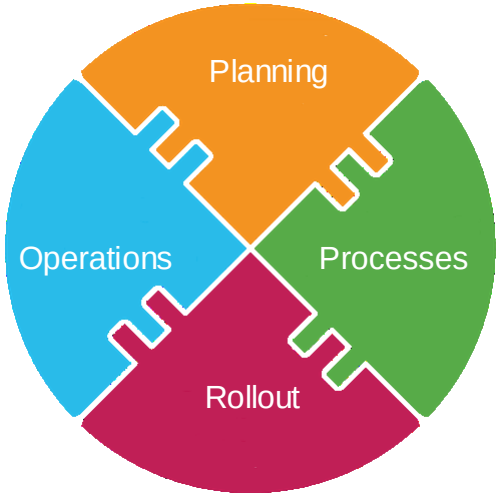
Project Approach

➔ Planning & Preparation Master Time Plan and resources identification and allocation, and complete risks assessment

➔IT & Process Development Utilities' internal processes re-arranged to support new coming available metering smart platform, and mitigate risks

➔Pilot and Mass Rollout Test and fine tune processes and IT systems to boost a massive deployment of the infrastructure

➔ Operations Delivery of reading services, for Utilities smart metering take off !



! Turn Key is the key
to guarantee success

Schneider Electric in the Nordics

Finland

Infrastructure

- 650.000 meter OSGP
- 25.000 data concentrators
- 2 x data centres
- 50.000 IHDs
- Titanium 4

Services

- Monthly Readings
- Daily Hourly Readings
- Scheduled Readings
- Basic Validation & Estimation
- Event handling & DMS Integration
- Local Connectivity

Fortum

Norway

- 100.000 meter OSGP
- 3.000 data concentrators
- Titanium 4

- Daily Readings
- Daily Hourly Readings
- Scheduled Readings
- Basic Validation & Estimation
- Event handling & DMS Integration
- Local Connectivity

Fortum

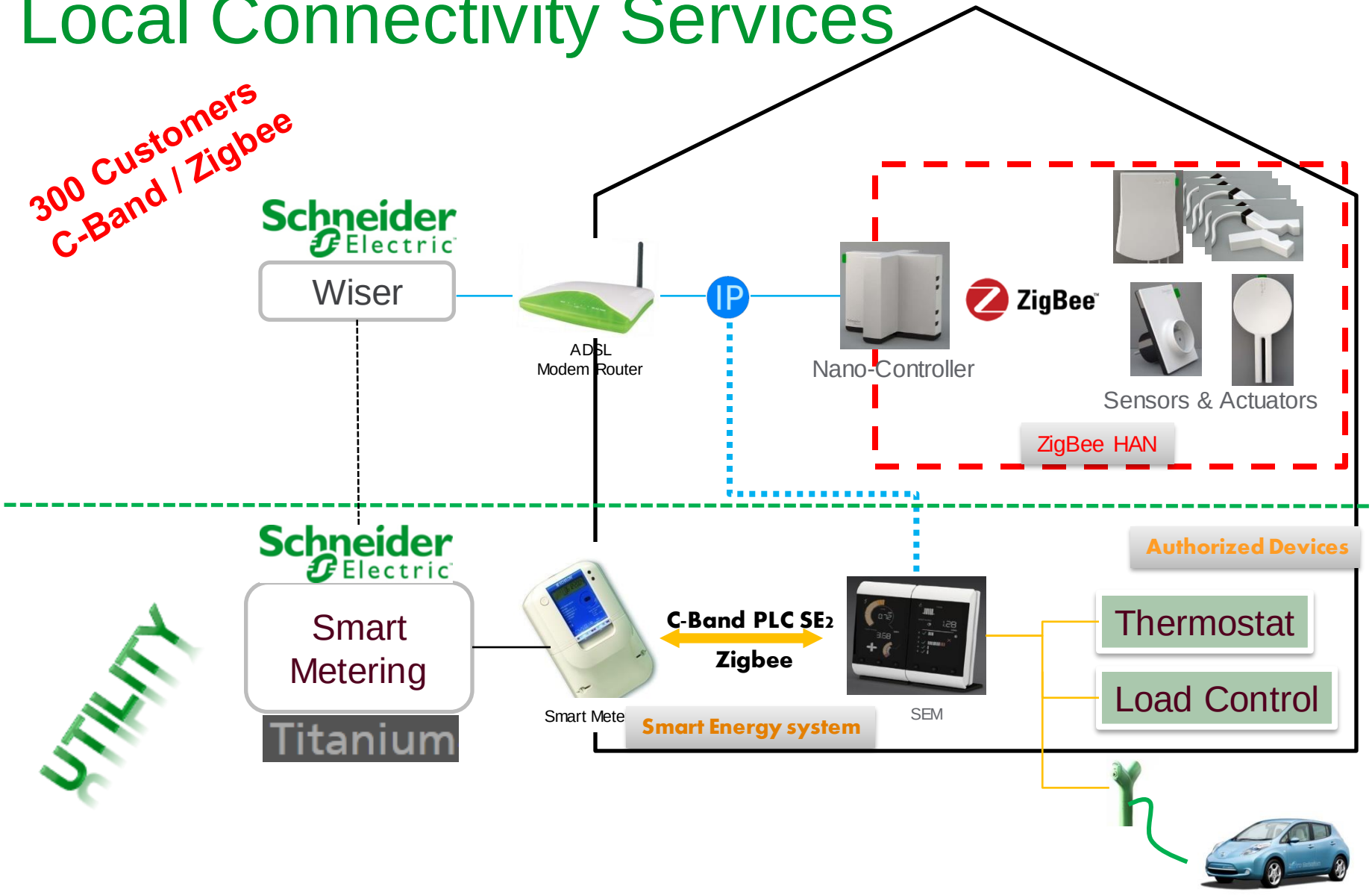
Sweden

- 650,000 meter OSGP
- 150.000 meter IDIS
- 25,000 data concentrators
- Titanium 3

- Daily Readings
- Daily Hourly Readings

VATTENFALL

Local Connectivity Services



> CONCLUSION

AMI Solution + Services

Solution

Titanium enables the deployment, management and integration of Smart Metering infrastructures

Consolidates meter data from **different metering technologies** and provides a **consistent interface** to MDM

Support for **multiple Head-Ends** (OSGP, DLMS, IDIS, Prime…)

Comprehensive solution to **support** the entire workflow of massive **rollout**

Comprehensive solution which provides the required tools and reports for **smart AMI operations** (status monitoring, incident management, KPIs of metering services,…)

Complete support for **remote operations**:
- Remote connect/disconnect
- Firmware upgrades for DCs and meters
- Device re-configuration
- On-demand service requests
- Time-based and dynamic load control
- Data collection for billing and interval reads

Full set of services to process and deliver both **power outage and power quality** events, including **service restoration** checks.

Support of **Home Area Networks (HAN)** services via Smart Energy profiles (ZigBee and C-Band)

Specific **service monitors** allow to track the service delivery level at any point in time for any of the meter reading services

Services

Managed Services - Rollout and Operation & Maintenance of smart metering infrastructures, taking full responsibility for AMI rollout and its operation & maintenance under an **outsourcing** contract for smart metering services

Technical IT operations, offered as an option of our managed services (servers monitoring, OS patching, backups…).

Application Management, offered as an option of managed services:
- Providing a service desk towards utility to support the AMI project
- Monitoring and maintaining the smart metering applications (patching and upgrades, performance monitoring, database maintenance,…)

Support & Maintenance – Sw investment protection programs which provide resolution of bugs and access to updates and upgrades for the different components of the solution

AMI Field Devices - Smart meters, data concentrators, modems and related equipment are offered as part of rollout managed services

Field Equipment Installation and Setup, partnering with field service companies to provide these services in both rollout and operational phases

WAN communication services, offered as part of our managed services partnering with WAN providers on a per project basis

Q & A

Smart Metering

Schneider Electric