



Enel international experience in smart Grid cluster and consideration for Saudi market

Antonio Buondonno – Enel

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Enel a World Class Operator



29
Countries



65
Million
Customers*



41
Million
Smart
Meters **



85
GW
Installed
Capacity
(45% RES)



439
TWh
Distributed
Energy*



15
Billion €
EBITDA

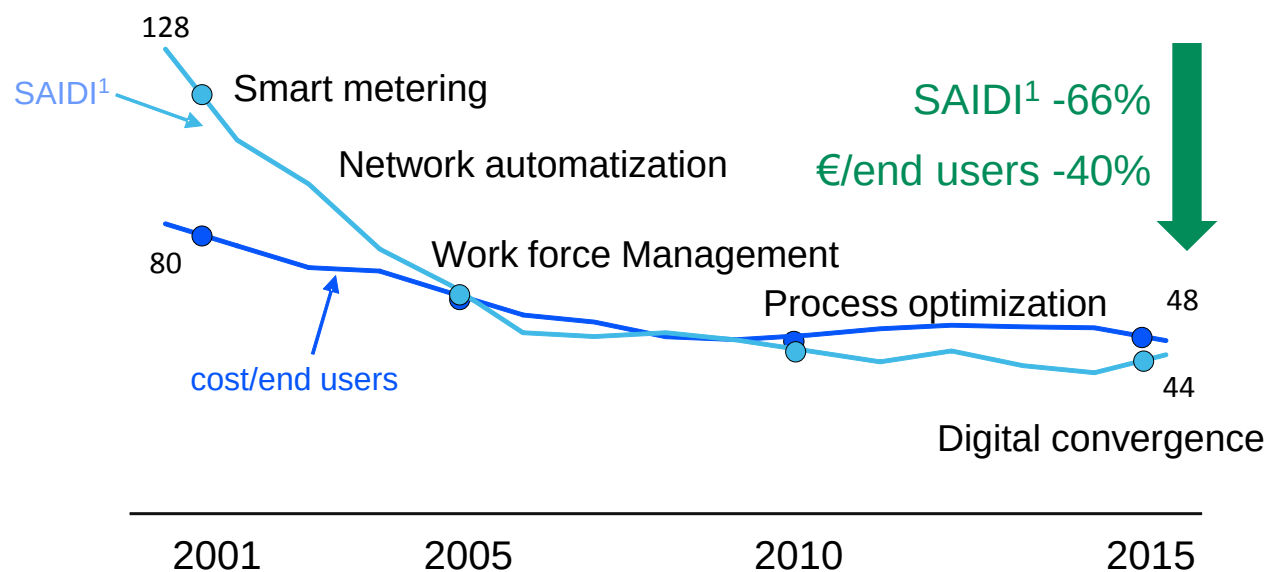
* including CELG Brazil (acquired 2017)

** 47 M including other DSOs

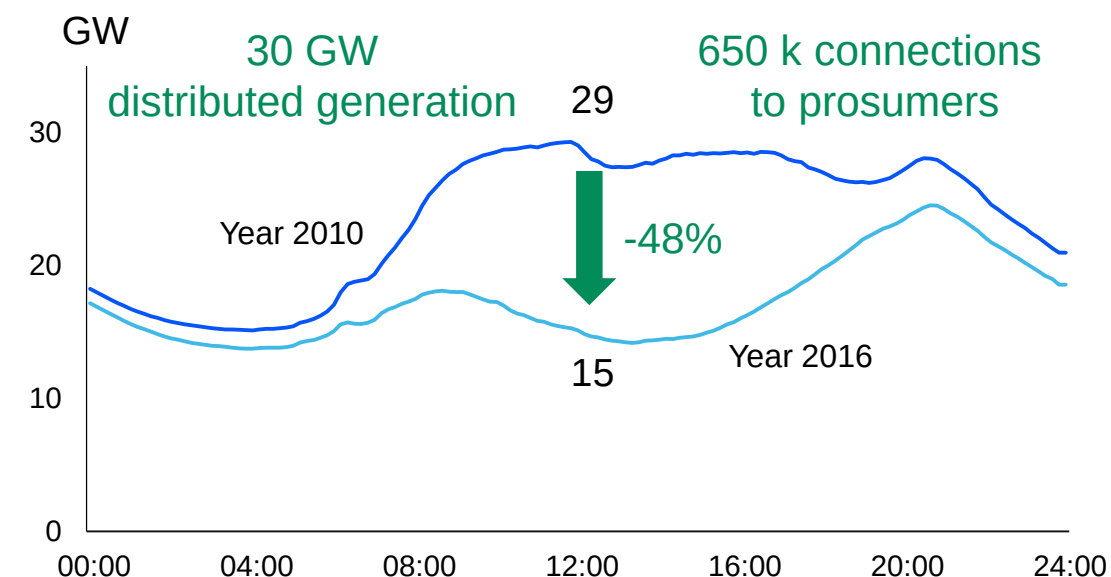
The industrial logic of network digitalization



Service Improvement: Best case Italy



RES Integration: Power requested to HV operator Italy



Digitalization enables renewable sustainability and performance improvement in a continuously changing energy world

1.SAIDI: minutes per year

Why Smart Grid are so important

Enel Smart Grid Experience – toward operational excellency

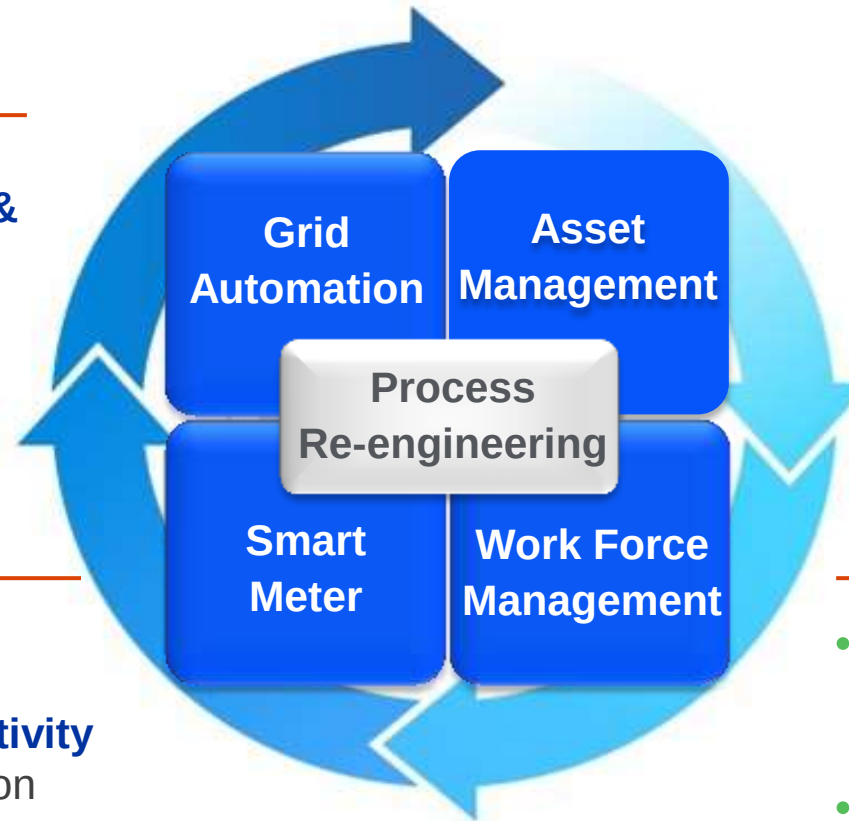


Network Automation

- Full HV and MV network automatic faults identification & clearing
- RES integration

Smart Meter (AMI)

- Massive quick implementation, 100% coverage of customers,
- Focus on loss reduction, productivity increase, back office rationalization
- Now new breakthrough solution integrated with LV network automation, multimetering + new services



meters
AND more
OPEN TECHNOLOGIES

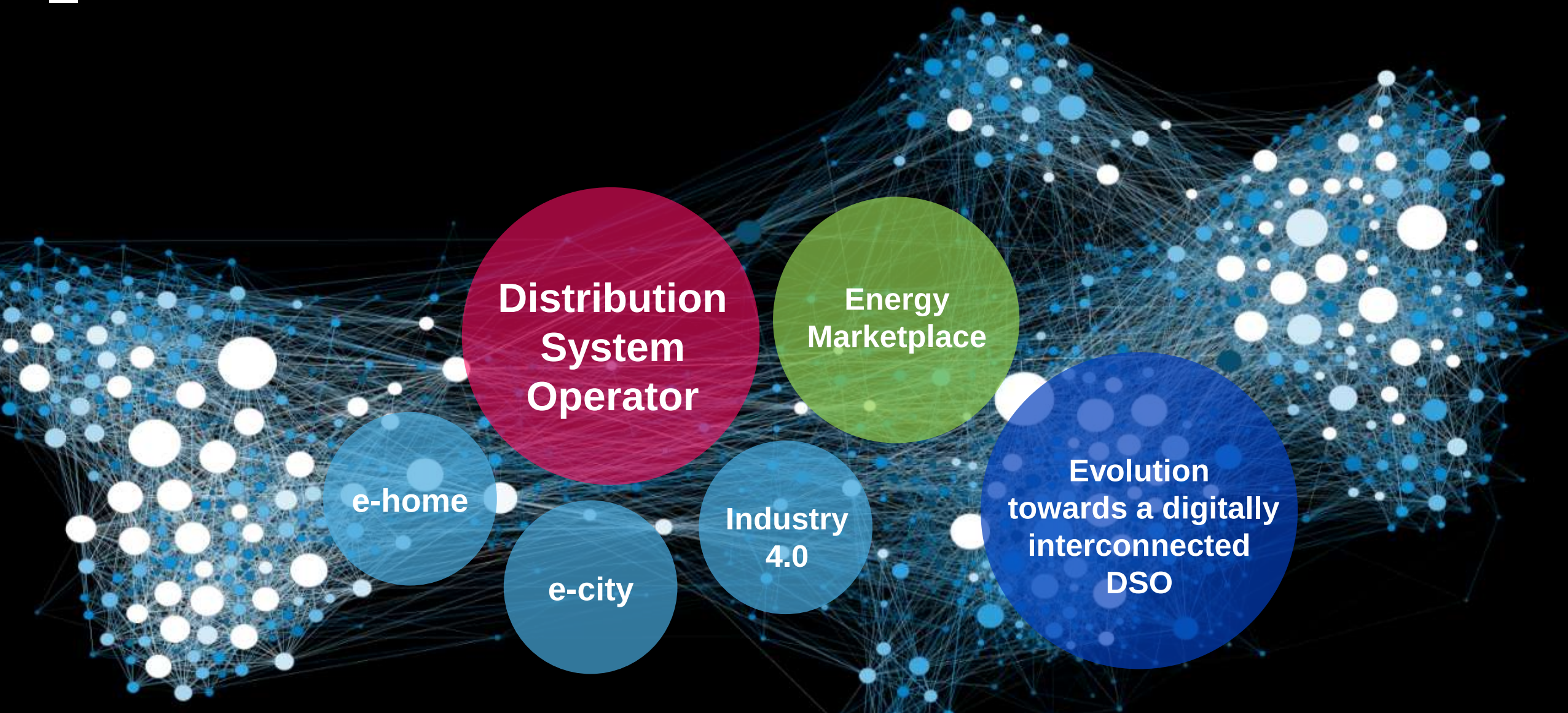
Asset Management

- Satellite mapping of network assets
- Database of network events
- Optimization of network capital allocation and maintenance based on risk-return analysis

WFM

- All Enel teams connected via GIS localization, on board network cartography
- Paperless operation: mobile Apps for all field operations + Dynamic work scheduling/ control
- Now implementing virtual reality + wearables aimed at zero accident

Digital DSO → Big Data hub

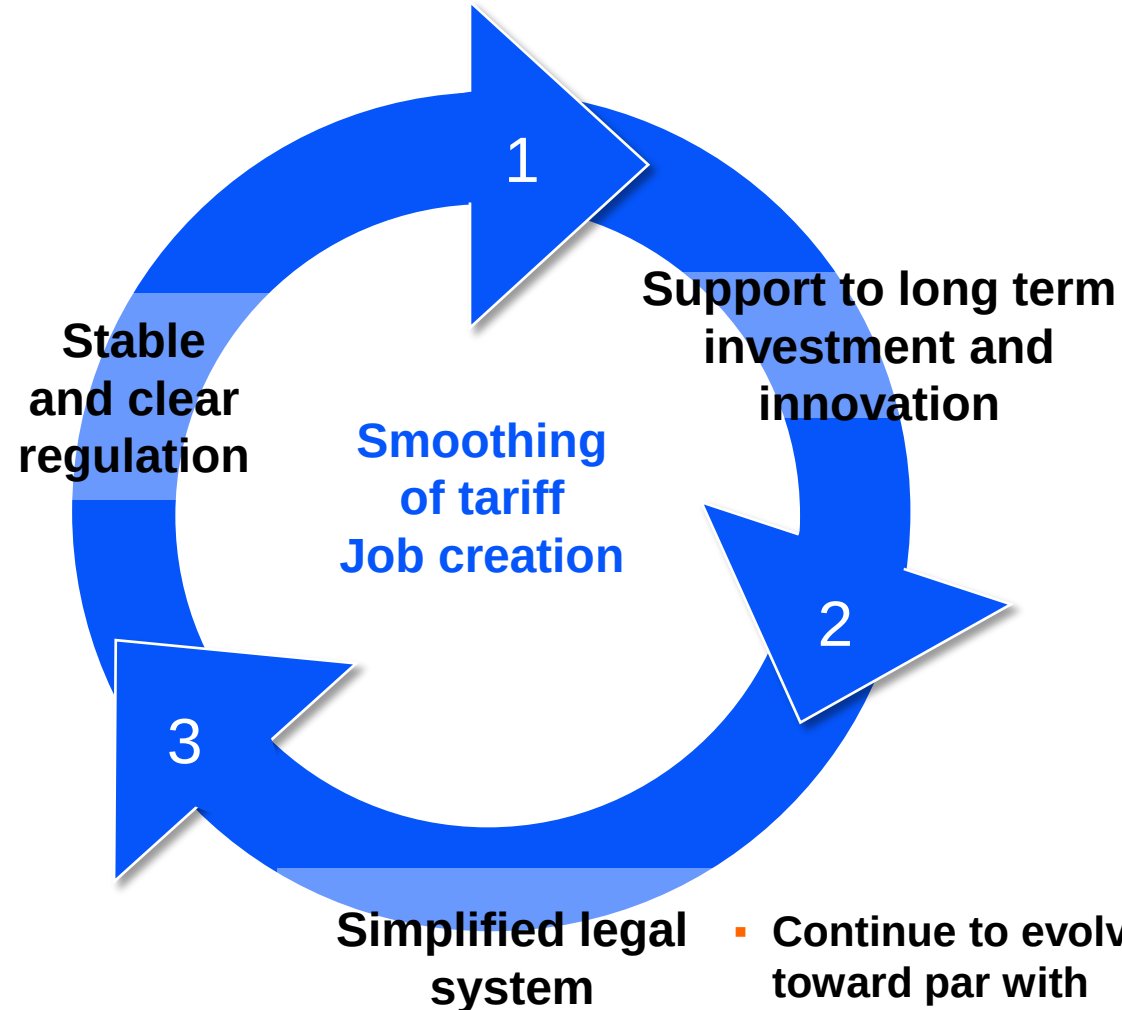


What is required for Smart Grid

Enel experience on Regulation and Legislation - possible solutions for GCC market



- **Independent Regulator**
- **Stable long term distribution tariff:**
regulation and visibility for 4-5 years
- **Focus of tariff on efficiency and Quality of Service**
- **Quick 100% roll-out of Smart Meters and Smart Grids on proven technologies**



- **Premium rate on innovation**
- **Allowing for sustainable payback of investments in smart meter/ smart grids**
- **Incentives for national R&D initiatives** in manufacturing smart meters and other smart grid elements

- **Continue to evolve laws toward par with International Standards**

Thanks!

Antonio Buondonno
Enel Global Infrastructure & Networks
Head of East Europe, Africa and Middle East
Business Development