



VERTICA

Addressing Operations and Customer Experience with Analytics in Utilities

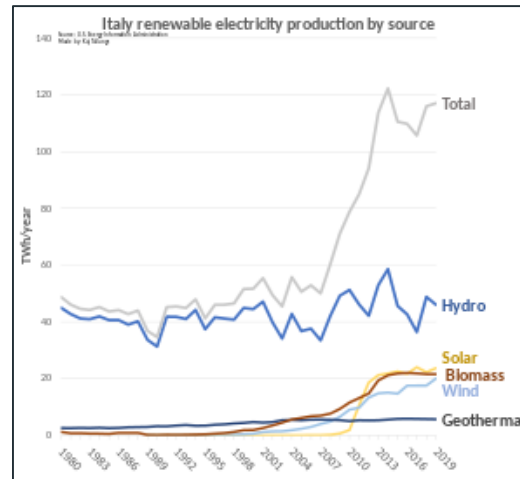
IoT Data in Utilities

Smart Meters



A smart meter reporting at 15-minute intervals will generate 400MB of data per year – Deploying AMI for 1 million customers generates ~ 400TB per year.

Distributed and Renewable Energy Resources



In Italy, renewable electricity sources, including wind and solar, are growing
DERs will outstrip centralized power generation by 5-1 globally by 2024

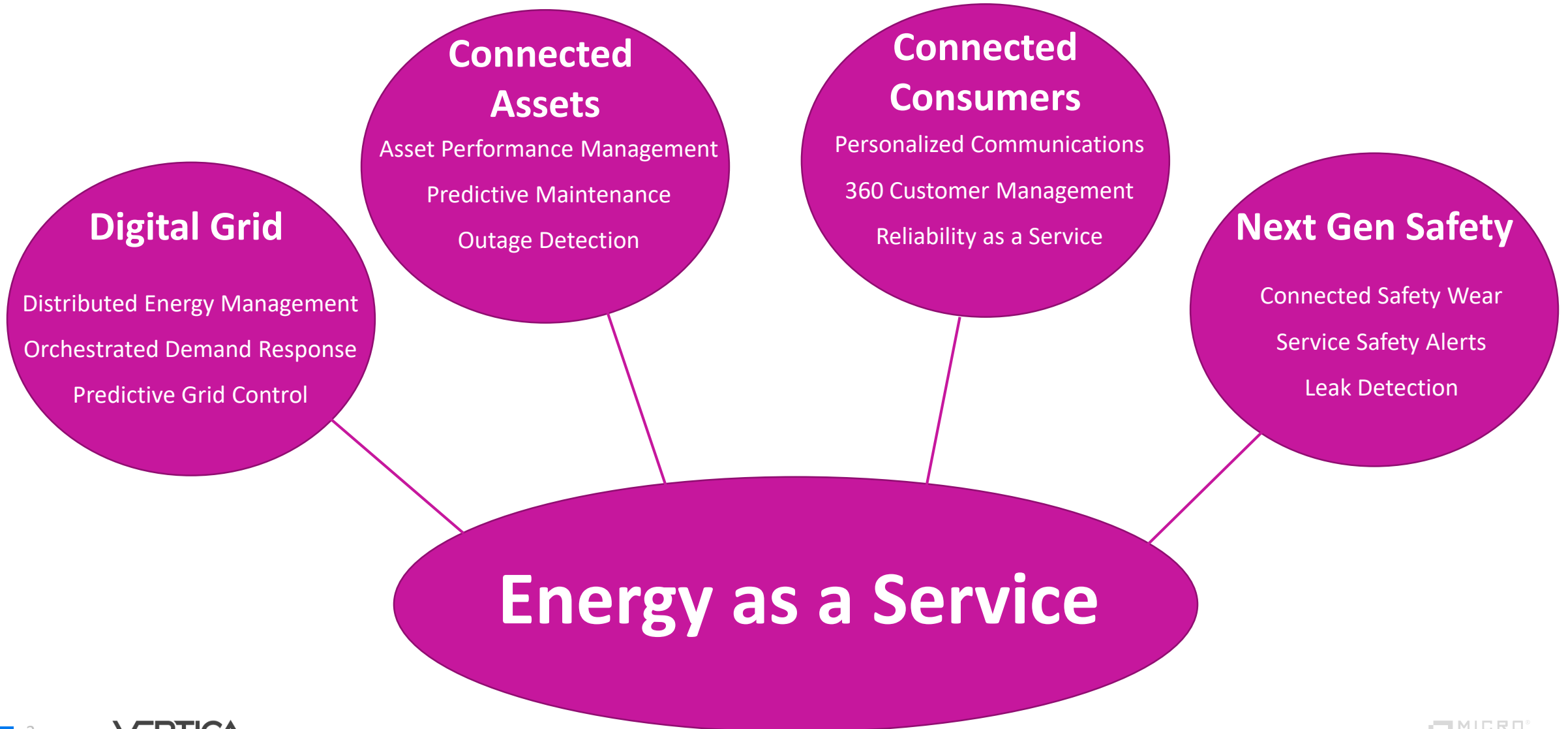
83% of EU households could be “prosumers” by 2050

Digitization of physical assets



Utilities must have a real-time view into the performance and condition of physical assets through techniques such as digital twinning.

Big Data enables Energy as a Service



Big Data Challenges in Utilities

Access to Data

- IT/OT Convergence is necessary and a priority, but progress has been slow.
- Data silos abound
- Data volume and variety are enormous

Lack of Talent

- Enterprise bandwidth is incredibly limited
- Data science skills gap

Slow move to the cloud

- Challenges include security & regulatory concerns, IT governance issues, and lack of cloud skills.



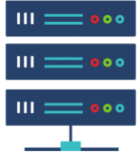
A Unified Approach to Big Data Analytics in Utilities

Manage the volume, variety & velocity of data

Smart Meters



IT & OT Systems



Connected Assets & Digital Twins



Batch & Streaming

Distributed Unified Analytics Platform

Analyze in place
Operationalize AI & ML

In-Database ML

Geospatial

Time Series

Event Series

Text Analytics

SQL



python

C++

Java

Real-Time & Predictive

BI & Visualization

looker

Qlik

tableau

Power BI

ORACLE
BUSINESS INTELLIGENCE

Multi-Cloud & Hybrid Cloud



Maximizing efficiency in 1.5 million solar power systems with IoT data

Customer: A solar power company that monitors and manages 1.5 million solar power systems.

Challenge: Reduce lost energy and lost revenue by leveraging advanced and real-time performance analytics

Solution: Vertica Advanced Analytics Platform

Outcomes:

- Ingests 4 billion IoT data records daily (150GB).
- Uses time-series and inference capabilities to measure performance of connected modules to ensure energy efficiency, fault prevention, and ultimately cost savings.
- Fast time to production, low maintenance, high performance

