SAP for Utilities Roadmap: 2016 - 2017

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Global Vice President, Head of Utilities Industry Business Unit
SAP
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About SAP industry road maps

Companies today are planning their digital journeys - transforming business models, reengineering business processes, and reimagining work.

**SAP industry road** maps highlight innovations that may help you plan and implement your digital journey. They span products relevant to lines of business in your industry and explain how our innovations may add value to your business.

In our road maps, you can learn about our innovations along three different timelines:

1. **Recent innovations** for our solutions that have been launched in the past weeks or months and can already be purchased.

2. **Planned innovations** for our solutions that are intended to be launched in the short term or midterm.

3. **Future direction** provides a long-term perspective on high-level development plans for innovations for our solutions – inspired by your requirements.
SAP Enables the Digital Energy Network

The mandate: properly manage increasing disruption, complexity, and uncertainty

Volatile energy prices with decentralized generation

Aging infrastructure and stringent environment regulations

Adoption of Smart Meter / Smart Grid technology / Cyber Security

The “new” customer engagement model
SAP envisions the Digital Energy Network
Re-evaluate

Assets
Relationships
Digital capabilities
Re-Imagine the Power Utilities Value Chain: 2050

- Decentralized Generation
- Storage & Flexibility Services
- Sourcing & Trading
- Power Transmission Services
- Market Coordination
- Power Distribution Service
- Meter Point Operations
- Retail
- New Products & Services

Business models

Business processes

Work
Our vision: enable utilities companies to transform business models, reengineer business processes, and reimagine work

Our future direction: provide an integrated digital platform with SAP S/4HANA at the core, available in the cloud and on premise, interconnecting the utilities value chain to drive Live Business outcomes.
Summary: SAP’s Planned Roadmap for the Digital Utility

- Multichannel 2.0 & 2.1, Mobile Apps
- Accelerated Energy Settlement
- IS-U HANA Live, type ahead search
- Customer Connection EAM & CRM
- HANA Smart Search IC
- CRM HANA Live
- B2B Load Profile Management
- Demand Side Management
- IT/OT Asset Health Prototype

- EDM/Smart Meter enhancements (EhP 8)
- Geographical Enablement Framework (GEF) first application adoptions
- Geographical Enablement Framework (GEF)

- PdMS On-Premise Edition 1
- S/4HANA 1511 FPS02 analytical content

- S/4HANA 1511 FPS02
- S/4HANA 1610 Ux simplification by Fiori

- Multichannel on S/4HANA
- S/4HANA 1610 FPS02

- Cloud for Customer (1505, 1508, 1511)
- B2C processes for Call Center Operations

- Call Center Operations C4C on S/4HANA

- Supplier Management 2.0
- Cloud for Customer Call Center Operations (further versions)

- Customer Connection (IS-U & CRM)
- SAP IoT Platform: further use cases SAP & Partner

- Ariba CI-7 Integration Release

- Energy Analysis on SAP IoT Platform

- Cloud for Customer (1505, 1508, 1511)

- PdMS On-Premise Edition 3

- Customer Connection (IS-U & CRM)
- S/4HANA 17XX further IS-U simplifications and next Fiori waves

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### Our digital platform supports the business priorities of your company today

<table>
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Explore our utilities solutions on [SAP Solution Explorer](#)
SAP S/4HANA is at the core of our digital platform for utilities today

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SAP S/4HANA recent innovation highlights for utilities

Customer experience
- Customer Engagement Platform (F1)
- Enablement of industry-specific utilities in SAP S/4HANA
- Enhancements to SAP Fiori apps for internal sales representatives in SAP S/4HANA Cloud
- SAP Fiori apps for accounts receivable managers (FI-CA)

Intelligent grid
- Enablement of industry-specific utilities in SAP S/4HANA
- SAP Fiori apps for employees for maintenance in SAP S/4HANA
- SAP Fiori apps for inventory management in SAP S/4HANA Cloud

Operational efficiency for plants and grids
- PdMS for Utilities (F1)
- Incident management in SAP S/4HANA
- Health and safety management with SAP S/4HANA
- Maintenance execution as part of SAP S/4HANA Enterprise Management

Energy supply chain optimization
- SAP Fiori apps for inventory management in SAP S/4HANA
- SAP Transportation Management operating side by side with SAP S/4HANA Enterprise Management
- Real-time inventory management through the redesigned data model in SAP S/4HANA Cloud

View all SAP S/4HANA innovations for utilities in SAP Innovation Discovery
SAP S/4HANA planned and future innovations for utilities

Planned innovations

Customer experience
- SAP Fiori app for billing specialists
- Analytical content (core data services views) for billing and invoicing
- Multichannel on SAP S/4HANA

Intelligent grid
- SAP Fiori app for meter data specialists
- Analytical content 1 (core data services views) for device management
- Innovations in SAP S/4HANA

Operational efficiency for plants and grids
- Continuous innovation with SAP S/4HANA – incident analytics, SAP Fiori apps
- Continuous innovation with work clearance and permit management, including a mobile work clearance management application (SAP S/4HANA)

SAP HANA Asset Analytics rapid-deployment solution

Energy supply chain optimization
- Incident management in SAP S/4HANA
- Project services, project team – SAP S/4HANA Cloud
- SAP Fiori apps for project team members

Future direction

Customer experience
- Back-office launch center in SAP S/4HANA
- SAP Fiori apps (including apps for customer engagement)
- Support for integration scenarios with cloud solutions from SAP for energy companies (based on SAP HANA Cloud Platform)

Intelligent grid
- SAP Fiori apps (such as those for grid usage experts)
- Further analytical content

Support for integration scenarios with cloud solutions from SAP for energy companies

Operational efficiency for plants and grids
- Cloud-based applications for transactional and collaborative scenarios (SAP S/4HANA)
- Proactive maintenance strategy planning (SAP S/4HANA)
- Use of predictive and real-time analytics to improve safety and risk management (SAP S/4HANA)

Energy supply chain optimization
- Use of predictive and real-time analytics to improve safety and risk management (SAP S/4HANA)
- Leveraging air and wastewater emissions process capabilities (SAP S/4HANA)
- Support for workers everywhere on any device (SAP S/4HANA)

(based on SAP HANA Cloud Platform)

View all SAP S/4HANA innovations for utilities in SAP Innovation Discovery
Other recent innovation highlights for utilities

Customer experience
- SAP Hybris Cloud for Customer – utilities call center solution
- Visibility into digital spending in SAP Hybris Marketing

SAP Hybris Billing, pricing simulation – customer behavior modeling

Intelligent grid
- Meter-data-management-related enhancements for solutions
- SAP Energy Demand-Side Management for Utilities, SAP for Utilities, wave 3

Operational efficiency for plants and grids
- SAP Asset Intelligence Network
- Dashboards for SAP Predictive Maintenance and Service, cloud edition

Vibration analysis for SAP Predictive Maintenance and Service, cloud edition

Energy supply chain optimization
- Hydrocarbon supply chain optimization on SAP HANA
- Usability enhancements in project management
- Cash flow planning for SAP Commercial Project Management

View all innovations for utilities in SAP Innovation Discovery
Other innovation highlights for utilities

### Planned innovations

#### Customer experience
- SAP Hybris Cloud for Customer – utilities call center solution continued
- Omnichannel commerce – consolidation of customer master data

#### Omnichannel commerce – pricing and promotion service

#### Intelligent grid
- Asset health management for utilities
- SAP Energy Analysis
- Vibration analysis for SAP Predictive Maintenance and Service, cloud edition

#### Operational efficiency for plants and grids
- SAP Geographical Enablement Framework
- Dashboards for SAP Predictive Maintenance and Service, cloud edition
- Health and safety management analytics

#### Energy supply chain optimization
- SAP Sustainability Performance Management analytic application
- Commodity management – delivery allocation to pricing lots
- Collaboration portal for SAP Transportation Management

### Future direction

#### Customer experience
- Integration of customer engagement and commerce solutions with industry-specific processes (SAP Hybris Commerce, SAP Hybris Marketing, SAP Hybris Billing)
- Personal and relevant marketing based on real-time customer insights across multiple touch points
- Cloud-based B2B sales process with direct integration to ISU billing system

#### Intelligent grid
- Enhancements for Internet of Things enablement
- Metered and sensor data management platform
- Predictive maintenance

#### Operational efficiency for plants and grids
- Further real-world awareness (Internet of Things) and M2M connectivity leveraging the SAP HANA platform
- Further extension of predictive and real-time analytics

#### Energy supply chain optimization
- Simplified user experience – trader’s cockpit
- Enhanced trading functionalities and analytics
- Hedge accounting enhancements and legal compliance

View all innovations for utilities in [SAP Innovation Discovery](#)
Discover more utilities innovations
Click on dark blue boxes to view innovations in SAP Innovation Discovery

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Find out how Digital Business will impact our innovations going forward

See appendix for more innovation highlights in this document

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SAP’s Digital Strategy for Energy
Cloud for Energy is an important cornerstone for completing our S/4HANA solution for Energy

The new Energy World...

...requires integrated views on IT and OT data...

Customer View (IT)

- Contracts
- Interests
- Activity in Social Media
- Revenue / Profitability
- Installed Assets
- ...

Asset View (OT)

- Energy Flow (Time Series)
- Sensor Data (temperature, etc.)
- Likelihood of Failure
- ...

...which are provided by S/4HANA with CEC and Cloud for Energy

Closing the loop for IT/OT integration as “competition killer” against Oracle, SalesForce, C3Energy, etc.
Back-Office Launch Center in S/4HANA
Planned Scope

1. **S/4HANA Enterprise Search for Utilities**
   - IS-U Business master data, e.g. business partner, contract account, contract
   - IS-U Technical master data, e.g. connection object, premise, point of delivery, device/meter
   - IS-U Transactional data, e.g. invoice number

2. **S/4HANA Overviews for Utilities**
   - Visualizes selected utilities data in a hierarchical tree
   - Relevant attributes and meaningful descriptions provide a quick overview to the agent
   - Configurable and extensible

3. **S/4HANA Multi-Step Process Tool**
   - Enables back-office agents to execute multi-step processes
   - Sequence of steps pre-defined by power users
   - Configurable and extensible

4. **Most Important Utilities Multi-Step Processes on S/4 HANA**
   - Sequence of Fiori apps linked together using the S/4HANA Multi-Step Process Tool
   - Use case example: A back-office agent resolves a customer inquiry which cannot be concluded in call center
Next step: SAP’s product development team will conduct interviews (phone calls) with power users defining/running IS-U front office processes

Timeframe: June/July 2016
Duration: 1 – 2 hours

Option (but no obligation) to join further activities within SAP’s Customer Engagement Initiative

Interested? Any questions? Reach out to michael.ernzerhoff@sap.com or read http://scn.sap.com/community/utilities/blog/2016/05/03/influence-sap-back-office-launch-center-under-s4hana-for-utilities
Customer Connection SAP for Utilities (IS-U & CRM)

Project timeline

Collect
- Collection of Improvement Requests
- Comment on Improvement Requests where appropriate
- Open project workspace

Select
- Selection of Improvement Requests for implementation
- Detailed analysis and decision on implementation
- Close project workspace July 15th 2016

Develop
- Development of improvements, delivery via Notes/Support Package
- Develop and deliver Notes and Support Packages

Use
- Productive use in customers’ systems
- Continuous improvement of the Customer Connection process

Customers
- Submit Improvement Requests, subscribe to prioritize requests
- Provide feedback in development, support testing
- Provide feedback on productive use

Kick-Off
- May 4th 2016
- Speaker’s Corner Sessions

Final Call
- Beg July 2016

Selection Call
- End Sept 2016

Delivery Call
- Beg. Q2 2017
Feedback is Requested

- What information do you need from SAP to plan a journey to S/4HANA?

- What level of specific guidance do you expect from SAP?

- What is the time horizon for an ideal road map (6 months, 1 year, 2 year+)?

- What are the key dimensions an ideal road map should cover (e.g. LoB, Industry solutions, Technology, Migration paths, …)?

- What do you like about the current roadmaps that we should not change?

- What further ideas do you have to improve our roadmaps?
Demonstrations

Internet of Things

Predictive Maintenance & Service Platform (PdMS)
Digital Benchmarking is Now Available!

Digital Readiness Benchmarking for Utilities

- Forecast Energy Demand
- Maintain Assets
- Identify Assets
- Predict Failure
- Receive Real-time Alerts
- Forecast Loads
- Monitor Connectivity
- Offer Consumption Details via Mobile
- Forecast Residual Energy
- Predict Time-of-Use
- Offer Consumption Based Power Products
- Provide Omni-Channel Access

TOP 25%  Average  Customer Importance  Customer Coverage
12 Utilities Best Practices to Assess Your Digital Readiness

**Generation**

1. The organization has the ability to forecast energy demand in near real time for the day-ahead or intraday market.

2. The organization has the ability to determine the best time for a wind turbine to be maintained relative to the weather, power demand and/or market price situation.

3. The organization can predict the potential of asset failure, determine the best sequence for asset repair and still adhere to delivery commitments.

**Transmission/Distribution**

4. The organization can predict the potential of transmission line or sub-station failure and determine the best sequence for asset repair or replacement.

5. The organization can receive real-time alerts when a customer is disconnected from the grid.

6. The organization has the ability to forecast the load at a specific nodal point multiple times per hour.

**Meter and System Operators**

7. The organization has the ability to remotely and automatically check whether a customer is still physically connected to the distribution grid.

8. The organization can provide customers with time-of-use consumption via a mobile app and/or self-service.

9. The organization has the ability to reliably forecast the required residual energy to cover shortfalls through the short termed markets.

**Retail & Service**

10. The organization can balance demand and supply levels by predicting customers’ time-of-use consumption.

11. The organization has developed new power products to drive desired consumption behavior and identify target customers segments.

12. The organization can offer its customers consumption-based power products and can also provide them omnichannel access to consumption and accruals.

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How Your Digital Readiness Compares To Your Peers

[Diagram showing comparison of digital readiness across different sectors with scores for each segment highlighted.

- Digital Readiness - Generation: 3.0 Average, 1.0 Customer Coverage, 1.3 Customer Importance
- Digital Readiness - Transmission/Distribution: 3.0 Average, 1.0 Customer Coverage, 1.7 Customer Importance
- Digital Readiness - Meter and System Operators: 5.0 TOP 25%, 5.0 Average, 4.0 Customer Coverage, 3.7 Customer Importance
- Digital Readiness - Retail/Service: 4.0 Average, 4.0 Customer Coverage, 4.0 Customer Importance]
Digital Readiness-Meter and System Operators

Digital Capabilities

1. The organization has the ability to remotely and automatically check whether a customer is still physically connected to the distribution grid.
2. The organization can provide customers with time-of-use consumption via a mobile app and/or self-service.
3. The organization has the ability to reliably forecast the required residual energy to cover shortfalls through the short term markets.

Digital Capability Maturity Assessment

# Implications of Low Maturity

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<th>Capabilities Enabled by SAP Solutions</th>
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<td>• High unplanned outages</td>
<td>• Provide organization the ability to isolate point of failure quickly</td>
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<td>• High energy losses</td>
<td>• Help plan proactive action for restoration of disconnect</td>
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<td>2</td>
<td>• Stress on call centers</td>
<td>• Allow customers to gain insight into their current consumption data</td>
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<td>• Lower customer satisfaction</td>
<td>• Help organization establish customer self-service capabilities</td>
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<td>• Help customers interact with the utility wherever, whenever</td>
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<td>• High energy acquisition costs</td>
<td>• Help organization gain insight into future energy demand requirements</td>
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<td>• Help proactively plan for alternative energy sources to fulfill energy shortages</td>
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Digital Readiness - Retail/Service

Digital Capabilities

1. The organization can balance demand and supply levels by predicting customers' time-of-use consumption
2. The organization has developed new power products to drive desired consumption behavior and identify target customers segments
3. The organization can offer its customers consumption-based power products and can also provide them omnichannel access to consumption and accruals

Digital Capability Maturity Assessment

Implications of Low Maturity

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<td>• Energy demand and supply imbalance</td>
<td>• Help balance energy demand and supply requirements</td>
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<td></td>
<td>• High energy acquisition costs</td>
<td>• Enable organization to optimize energy spot market purchases</td>
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<td></td>
<td>• High load profiling costs</td>
<td>• Help increase profit margins with accurate forecasts</td>
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<td>2</td>
<td>• Loss of up/sell opportunities</td>
<td>• Enable 360 degree view of the customer</td>
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<td>• Low mobile access to customer data</td>
<td>• Help organization to customize products to meet customer's requirements</td>
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<td></td>
<td></td>
<td>• Help shorten time to bring new products and services to market</td>
</tr>
<tr>
<td>3</td>
<td>• High customer support cost</td>
<td>• Enable self-service capabilities for customers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Enable Omni-channel access to customers for their utility</td>
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<td>• Enable overall improvement in customer and employee satisfaction</td>
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SAP Solution Manager 7.2 and Focused Solutions
The Perfect Team for Your Digital Business Transformation

- One Process Landscape for Business and IT
- Process Management
- Agile Innovation
- Transparent requirements to deploy
- New User Experience
- Cloud & Hybrid
- On-Premise, Hybrid and Cloud Solutions
- SAP HANA
- Launchpad, Apps and Dashboards
- SAP Solution Manager on SAP HANA

DIGITAL BUSINESS
SAP S/4HANA
Digital Industries
Potential transition scenarios to SAP S/4HANA

Technical migration to SAP HANA

- SAP Business Suite powered by SAP HANA (Database Migration)
  - Transition to the SAP HANA platform
  - Improve enterprise template to optimize business processes using innovations enabled by SAP HANA
  - Leverage quick-wins, such as integrated analytics as part of implementation phases

Conversion

- ERP System Conversion and Migration (Conversion)
  - Leverage SAP toolset for system transformation to adapt and convert (map) current design into a design compatible with SAP S/4HANA
  - Execute custom code evaluation and conversion to SAP S/4HANA compatibility
  - Drive cloud adoption as a separate implementation track

Greenfield

- Accelerated Enterprise Build and Multi-Phased Deployment (Greenfield)
  - Implement SAP S/4HANA directly on a future SAP S/4HANA platform
  - Build an enterprise template to optimize business processes using innovations from SAP S/4HANA
  - Aligned to SAP solution road maps (as they become available)
  - Leverage quick-wins, such as cloud solutions as part of implementation phases

Functional phased Greenfield

- Accelerated Phased Build and Phased Deployment (Phased Greenfield)
  - Focused implementation for financial and master data processes into an SAP S/4HANA solution (SAP S/4HANA for central finance foundation)
  - Later phased roll-in of other functions possible
  - Drive cloud adoption as a separate implementation track

System consolidation

- Conversion and System Consolidation (Consolidation)
  - Leverage SAP software toolset for system transformation to adapt and convert (map) current design into a design compatible with SAP S/4HANA
  - Execute custom code evaluation and conversion to SAP S/4HANA compatibility
  - Consolidation and simplification of system landscape
  - Drive cloud adoption as a separate implementation track
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