Digital Transformation: A Game Changer for every Industry
What it is and what it means to the Energy sector and Transmission System Operators

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Digital Transformation: Circles of Change

- External Drivers
- Organizational Key Capabilities
- Key Areas of Change
- Key Enabling Technologies

- Security & Privacy
- Big Data
- Smart Manufacturing
- Agility
- Dynamic Partnerships
- Changing Competitive Landscape
- Rapid Innovation
- Product-to-Service-Transition
- Digital Transformation
- Ubiquitous Connectivity
- Innovativeness
- Organizational Flexibility
- Ever-changing Regulations
- Ever-increasing Attacks

- Internet of Things
- Robotics
- Blockchain
- Ubiquitous Sensors
- Know Your Customer
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Digital Transformation for TSOs

**Innovation-driven**
- Prosumers and their impact on networks and peak loads
- Renewable energy and their impact on networks and peak loads
- Smart Cities with Smart & Autonomous Grids

**Market-driven**
- Prosumers and their impact on energy trading
- Smart Meter Gateway Services and more for the DSOs

**Technology-driven**
- Big Data, Data Lakes, Data Management, Data Exchange, Analytics
- Blockchains for Distributed Use of Data
- Security and Privacy for the Smart Grid

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Prosumers can cause or cushion peak loads

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<thead>
<tr>
<th>Production</th>
<th>Consumption</th>
<th>Procurement</th>
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<tbody>
<tr>
<td>Production: Whenever the sun is shining</td>
<td>Storage: Whenever the vehicle isn’t used</td>
<td>Procurement: Whenever power is cheap</td>
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<tr>
<td>Vehicle ~21h/day as flexible storage</td>
<td>Feed: Whenever power is expensive</td>
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Smart Cities – Smart Grids – Autonomous Grids

Nice Grid – demonstrating the way towards autonomous grids („islanding“)

Changing the play for TSOs – autonomous grids need different services

Prosumers

Renewable Energy

Energy Management

Smart Metering

Decentralized Storage
Most DSOs will not be able to provide all services for smart cities, metering, etc.

Leading to

- Cooperations between DSOs
- Market entry of new players such as Telcos
- Market Opportunities for TSOs

Essential in the Digital Transformation: The face to the customer and consumer

Don’t miss that opportunity

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Blockchains are distributed ledgers

Characterized by

- Distributed
- Sequenced
- Time-stamped
- Tamper-proof

Massive opportunities for storage and exchange of data between the various parties in the market
Rethink your Role in the Market

Look at the opportunities – the TSO role will never be the same again
About KuppingerCole

• Founded in 2004
• International independent analyst organization
• Offers neutral advice, expertise, thought leadership, and practical relevance
• Supports companies, corporate users, integrators, and software manufacturers with tactical and strategic challenges
• Specialized in:
  • Information Security
  • Identity & Access Management (IAM)
  • Governance (IAG)
  • Risk Management & Compliance (GRC)
  • All areas concerning the Digital Transformation
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- Always up to Date
- Independent Advice

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- Great Networking Opportunities
- Meet the Experts

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**DATES:** Seattle: Sep 12-13 - Paris: Nov 28-29 - Singapore: Dec. 13-14

**Next Generation Marketing Executive Summit 2018**
**LOCATION:** Frankfurt, Germany
**DATE:** Feb. 06 – Feb. 07, 2018

**Digital Finance World 2018**
**LOCATION:** Frankfurt, Germany
**DATE:** February 28 - March 01, 2018

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