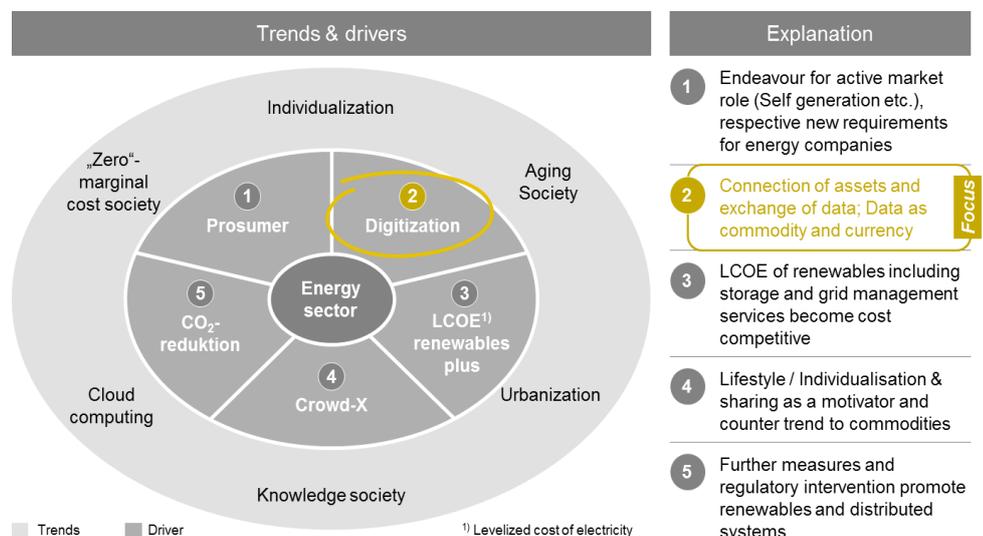# IT on its way to become core business

Digitization increases IT requirements for utilities

The proliferation of distributed energy resources, the progress made in connectivity, new concepts for trading and managing energy flows decentral – all of these developments will transform the energy industry in the future. However, the process of digitization probably poses the biggest challenge for utilities. The energy sector in direct comparison to other sectors such as media, finance or communication finds itself only at the beginning of this rapid development. Consequently, utilities are faced with substantial need to catch up in terms of digitization, especially regarding IT technologies and competencies.

Digitization describes the growing degree of interconnection of assets and the continuously increasing importance of collection and analysis of data. Digitization incorporates the clustering of multiple different technologies (e.g. Industry 4.0, M2M communication, internet of things, big data analytics and artificial intelligence), that interact among each other and thus lead to digitization of the industry. While these developments have impact on both business and IT activities, the pure nature of digitization increases the requirements for any IT department in utilities to manage the digital transformation.

Trends & drivers

Individualization

„Zero"- marginal cost society

Aging Society

(1) Prosumer

(2) Digitization

Energy sector

(5) CO$_2$-reduktion

(3) LCOE[1] renewables plus

Cloud computing

(4) Crowd-X

Urbanization

Knowledge society

Trends   Driver

[1] Levelized cost of electricity

Explanation

(1) Endeavour for active market role (Self generation etc.), respective new requirements for energy companies

(2) Connection of assets and exchange of data; Data as commodity and currency   *Focus*

(3) LCOE of renewables including storage and grid management services become cost competitive

(4) Lifestyle / Individualisation & sharing as a motivator and counter trend to commodities

(5) Further measures and regulatory intervention promote renewables and distributed systems

## IT as business partner for core business activities

While IT departments in most utilities have historically been regarded as support functions, this is about to change. Business processes need to be digitized and automatized, and any new digital business model will require IT know-how as a core function. Topics can range from cloud computing infrastructure, to Internet-of-things networks and software platforms, blockchain technologies or IT security issues. Data analytics know-how and the capability to rationalize and/or fully automatize core functions along the value chain will become mandatory for any successful utility. In order for this to work, IT departments need to grow into actual business partners for the core business of the utility.

Managing both day-to-day IT operations and new challenges

The challenge for any IT department in this process will be to manage day-to-day IT operations, further develop the existing IT infrastructure and successfully introduce new technologies and methodologies together with the business at the same time. IT organisations can address these challenges by following three approaches:

Approach 1: Core process efficiency and automatization
Approach 2: (Agile) implementation projects
Approach 3: Capability build-up for IT 4.0

- Introduction of agile project management methods
- Professionalization of sourcing and provider management
- Setup of IT governance processes for bimodal IT
- Integration of cloud applications

(Agile) implementation projects

IT 4.0
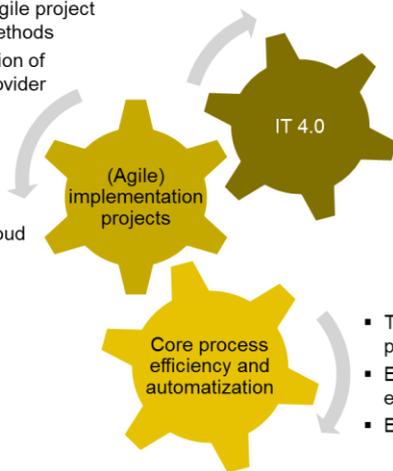
- Setup / utilization of a «Digital Lab»
- Implementation / enhancement of Big Data / Data Analytics Technologies
- Setup of new competences / skills and introduction of new roles
- Strengthening of cross functional collaboration
- Continuous technology review and stakeholder dialogue

Core process efficiency and automatization

- Technical support for a higher degree of process automation
- Embedment of IT architecture in enterprise architecture
- Establishment of data management

The first approach aims at supporting efficient core processes through high process automation, a consistent IT architecture with minimal interfaces and state-of-the-art expertise in data management. The second approach supports the efficient execution of IT projects through the implementation of new concepts and methodologies in IT project management. Last but not least, the third approach "IT 4.0" aims at following IT trends and building up new know-how necessary to successfully support any business department in its digital transformation.

IT departments need to become a digital transformation coach

Digitization increases the requirements for IT know-how and competencies in any utility. In order for a digital transformation to be successful, both IT and business departments need to work together more closely. On the one hand, business functions lack the know-how and expertise to fully understand the implications and opportunities of these new technologies, so they are not able to express their IT requirements by themselves. On the other hand, any IT department will not be able to successfully consult business without a deep understanding of business model, customer requirements and processes involved. By following the three outlined approaches IT organisations can successfully manage the increased IT requirements in daily operations and at the same time become an internal coach for the business of utilities and support them in seizing the opportunities of the digital transformation along the whole value chain.

The Advisory House supports you in managing your IT challenges in digitization

The Advisory House is a focussed management consultancy to Europe's energy and energy technology industry, employing over 50 consultants and operating out of four locations in Germany, Switzerland, Austria and the UK. We have repeatedly been awarded "Hidden Champion" of the Consulting market in the category "energy industry" since 2012.

Because of our industry expertise, we understand the strategic and operational challenges for utilities facing digitization. We have expertise in the technologies, competencies and know-how necessary for the digital transformation of your organization. Together with our clients we have developed frameworks for new digital business models, the required IT capabilities as well as best practices to improve IT operations throughout the value chain.

Please contact us to schedule a comprehensive workshop to discuss the individual challenges your IT organization is facing regarding digitization. We will be happy to provide you our detailed view on a future digital utility, give you examples for best practices in your areas of interest and discuss the steps you need to take to fully seize your operational and market opportunities in digitization.

Inspiring Energy