

# Utility Coach

Σxperience. Σxcellence. Σminence.

Digital disruption of  
the utility business

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# Agenda

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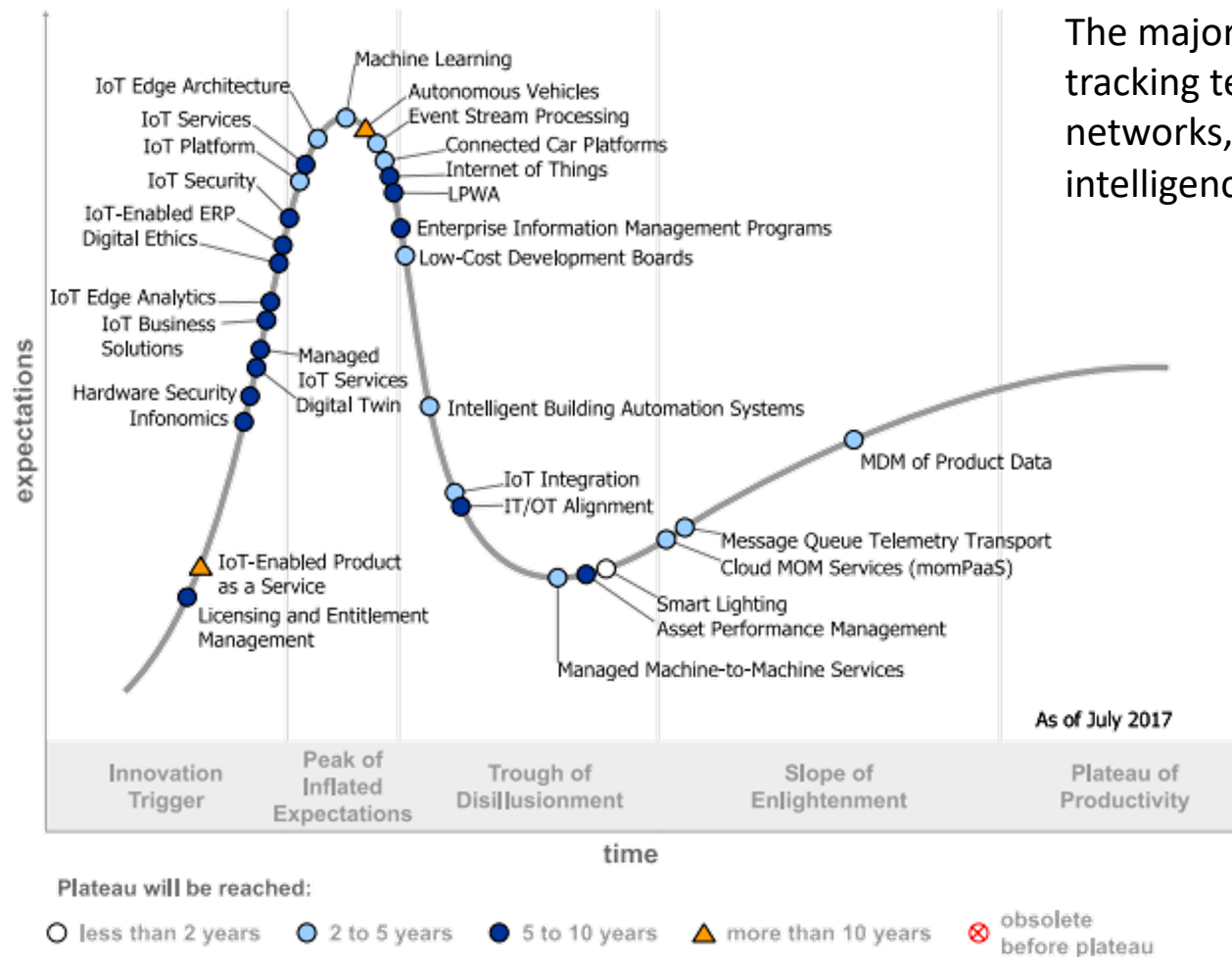
- How do four (4) digital disruptive technologies impact utilities?
- How can disruptive technologies support the business requirements of utilities?
- What are the possible responses to digital disruptive technologies?
- What are the impacts of digital disruption?
  - It is not only about the technology

# Singing from the same hymn book

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- **Digital** is a signal transmission that conveys information through a series of coded pulses representing 1s and 0s (binary code)
- **Digitisation** refers to the process of changing from analogue to digital form
- **Digitalisation** is the use of digital technologies to change a business model and provide new revenue and value-producing opportunities; it is the process of moving to a digital business
- **Disruptive technology** refers to a new and fundamentally different way to meet customers' needs and/or deliver products and services that they desire faster, better, and less expensively than the traditional means

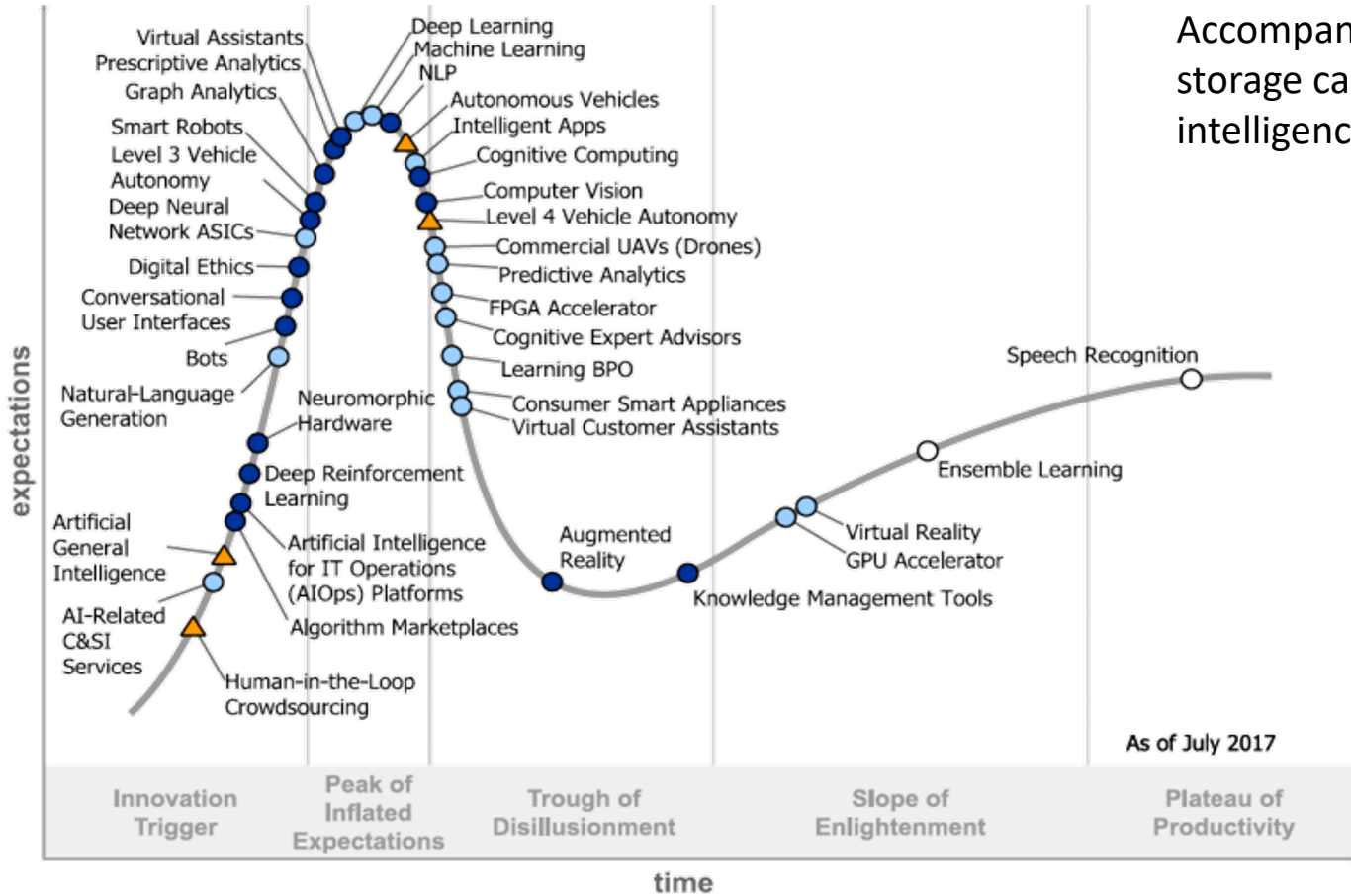
# Disruptive digital technology: Internet of things (IoT)



The major features of IoT are the integration of various identification and tracking technologies, such as wired and wireless sensors and actuator networks, enhanced communication protocols, and distributed intelligence for smart objects.

With the data collected from smart meters through IoT, utilities can offering enhanced customer service and provide new services like energy efficiency advice. Using sensors, customers can monitor home temperatures and energy usage.

# Disruptive digital technology: Artificial Intelligence (AI)



Accompanying the advances in calculation speed, the expansion of storage capacity and the progress of network technology, artificial intelligence (AI) has developed rapidly.



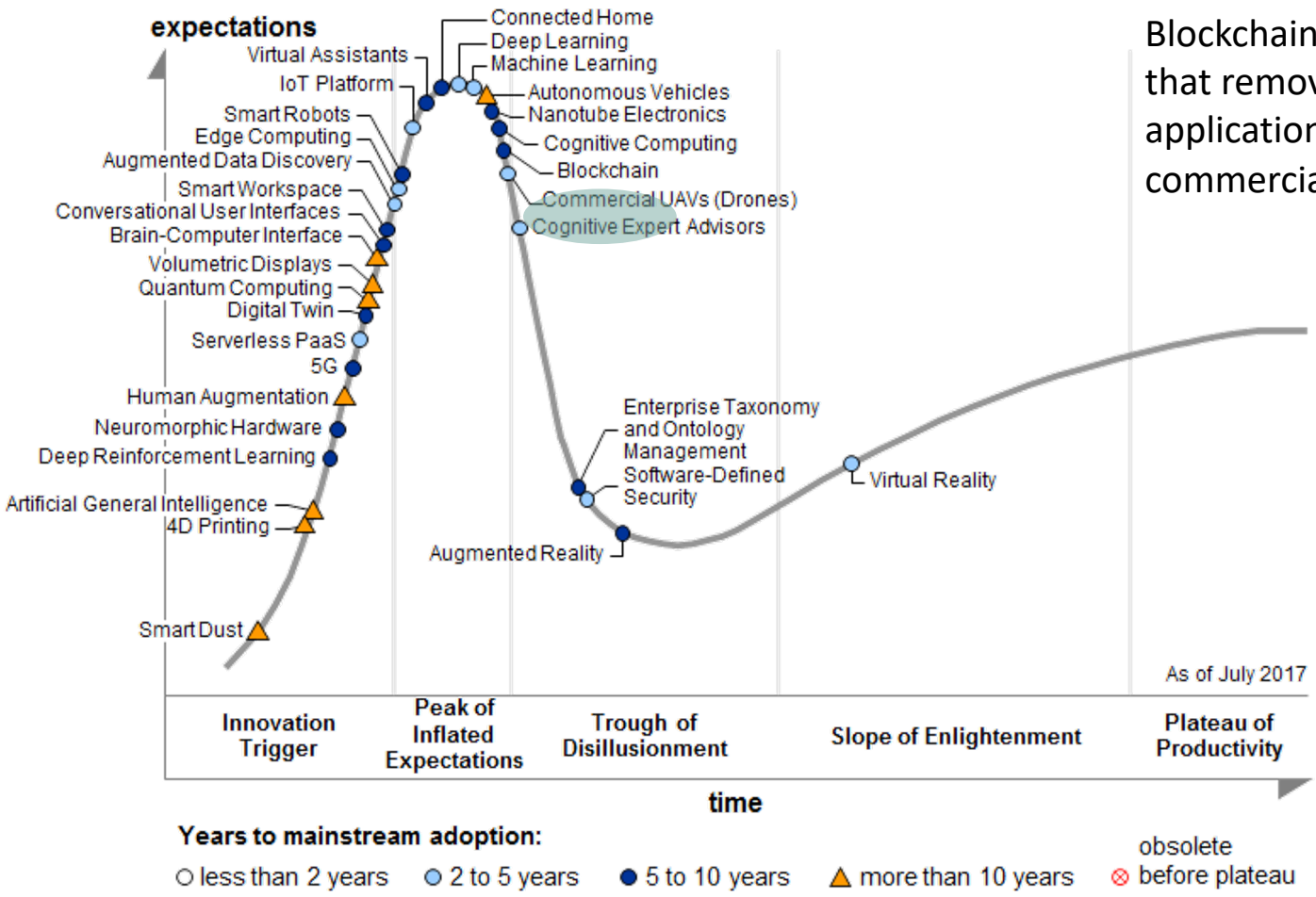
Predictive analytics enabled by AI is helping organisations to optimise operational and improving the overall performance of the utility. MI can detect fraud, manage billing expectations and, eventually, will predict energy load and the micromanaging of power delivery.

Plateau will be reached:

- less than 2 years
- 2 to 5 years
- 5 to 10 years
- ▲ more than 10 years
- ⊗ obsolete before plateau



# 4 Disruptive digital technology: Blockchain



Blockchain is a shared, distributed, decentralized and tokenized ledger that removes business friction by being independent of individual applications or participants. It allows untrusted parties to exchange commercial transactions.



With utilities trying to move to a more customer-centric business model, blockchain can capture data from smart meters, creating a secure digital identity for each customer. This identity can reveal a customer's preferences and habits, enabling tailored services and product offerings.

# Disruptive technologies support the business requirements of utilities

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## Business requirements

Flexibility to integrate renewables and DER

## Examples



Installed a comprehensive process optimization solution to reduce its minimum load to less than 40% of the nominal output increasing the flexibility of the thermal plant

Supply reliable power

**FINGRID**

Implemented a centralised asset management solution, big data analytics and spatial analytics platform to enable predictive maintenance, save costs and boost reliability.

Cost reduction



Traded energy through a new market place using blockchain technology, removing the central broker and reducing the cost of power procurement.

Source: Adapted from Deloitte

# Disruptive technologies support the business requirements of utilities

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## Business requirements

## Examples

Customer centricity



In partnership with Siemens launched Brooklyn Microgrid which uses blockchain technology to enable peer-to-peer energy sale

Customer engagement



Use high speed predictive analytics to transform its customer service strategy from reactive to proactive and provides personalised experience to customers

Value added services

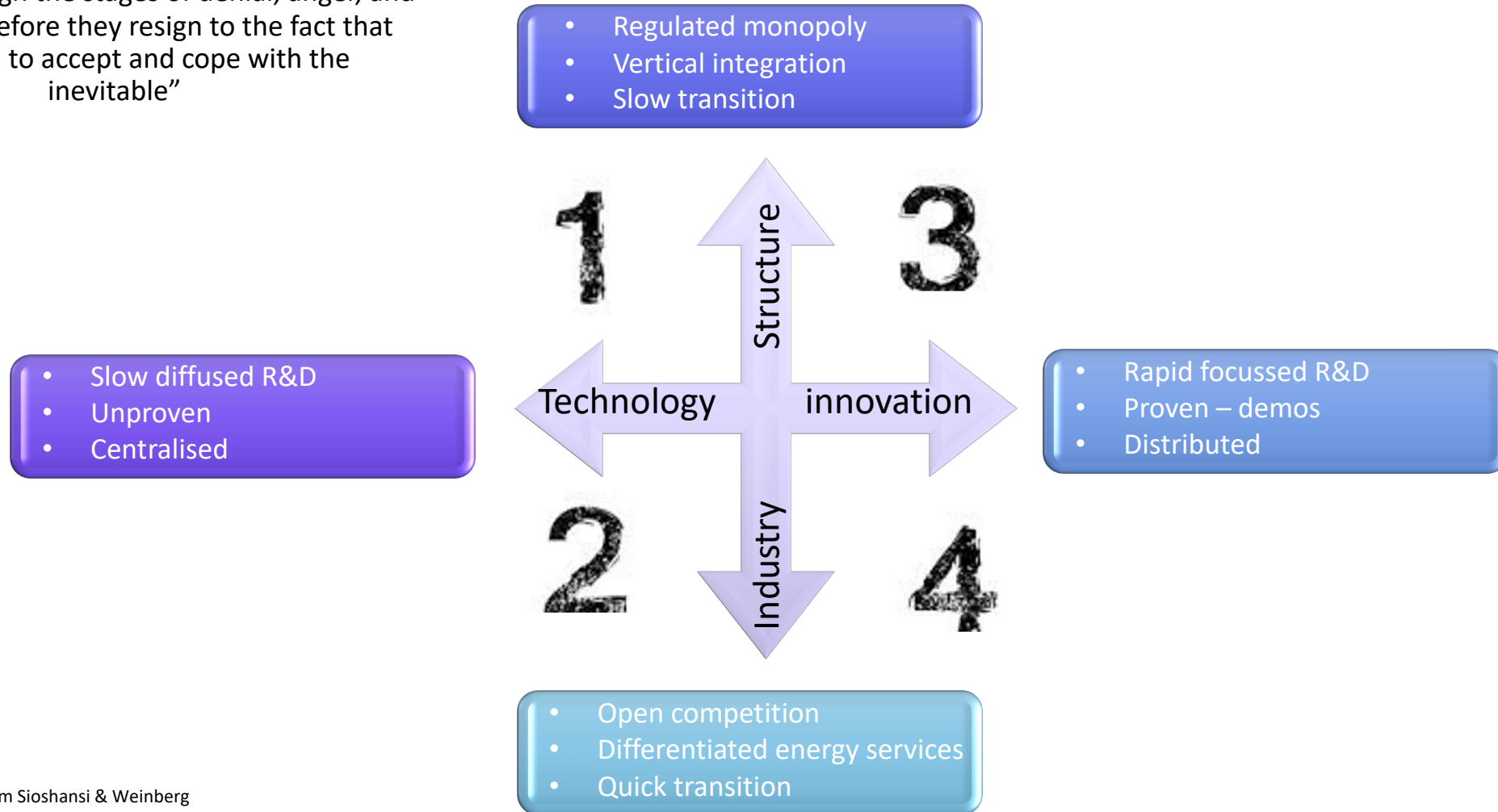


Online market platform where consumers can procure energy efficient appliances for their homes. They can apply for utility rebates through this channel

Source: Adapted from Deloitte

# Utility industry's possible responses to disruptive technologies

“They go through the stages of denial, anger, and frustration, before they resign to the fact that they need to accept and cope with the inevitable”



Source: Adapted from Sioshansi & Weinberg

# Impact of digital disruptive technologies

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## Strategy

- Lower barriers-to-entry
- Expand market reach
- Disperse industry boundaries
- Create new industries
- Introduce liquid and transparent marketplaces
- Shift bargaining power to the customer
- Introduce new dimensions to value creation and value capture

## Business model

- Impact customer communication, service delivery, customisation and distribution channels
- Increase outsourcing and atomisation
- Demand agile and trans-functional organisation structures
- Separate value chain activities
- Unbundle products
- Reconfigure assets from ownership to accessibility
- Share assets between alliances and partnerships

## Culture

- Collaboration
- Immersive, co-creative environment
- Move from controlling to empowering people
- “Outside-in” thinking – with focus on customer
- Entrepreneurial mindset
- Innovation vs maintenance

# In conclusion

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- Most utilities acknowledge the importance of digitalisation and the opportunities it creates to improve efficiencies, reduce costs and better serve their customers
- However, very few utilities have begun a digital transformation because the investment may not be motivated in the short term for an industry struggling with flat or declining demand and revenues
- But customers and competitors will increase pressure on utilities to adapt and therefore the **journey** must start as soon as possible in a controlled and phased approach

# Thank you

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