



# Innovation in Digital Economy

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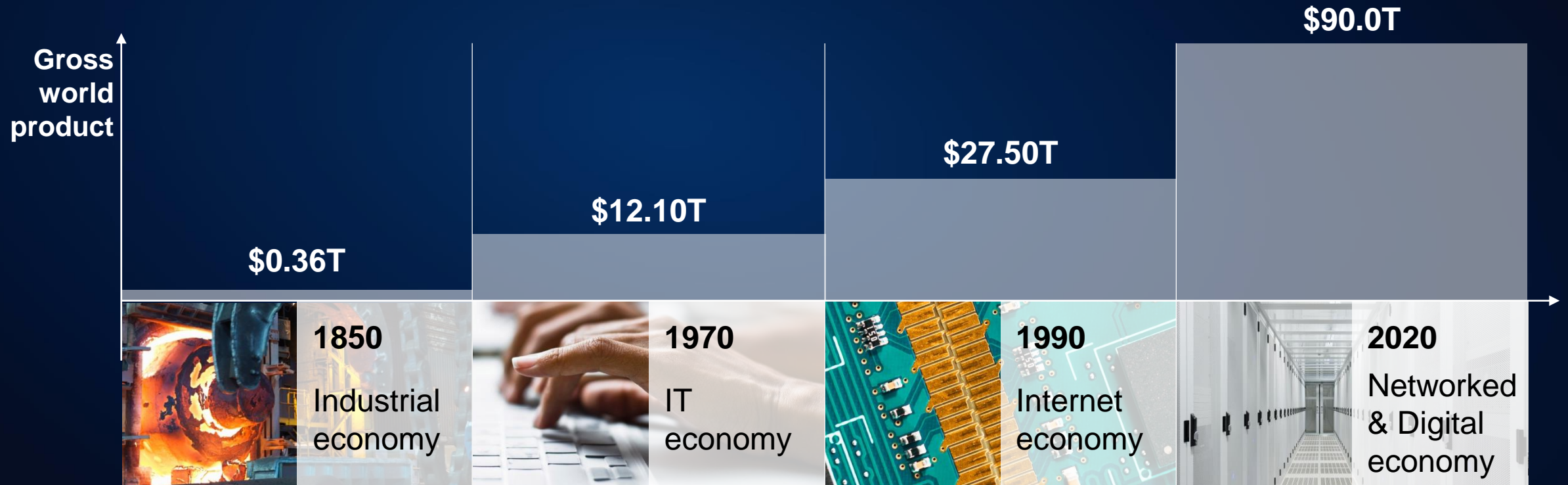
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EVP, Internet of Things & Customer Innovation



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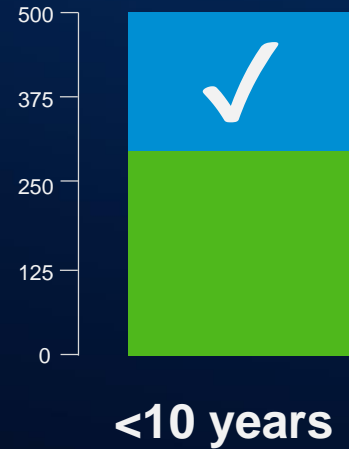
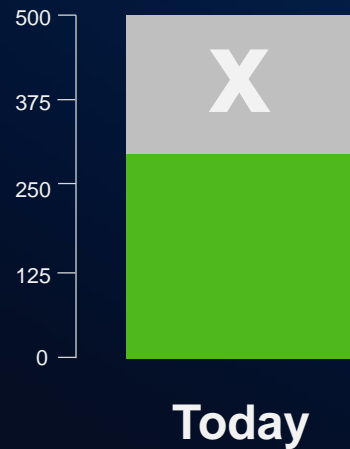
# Digital economy: The next economic revolution



Source: Department of Economics, UC Berkeley, BAIN 8 MacroTrends Brief

# Corporate Life Expectancy

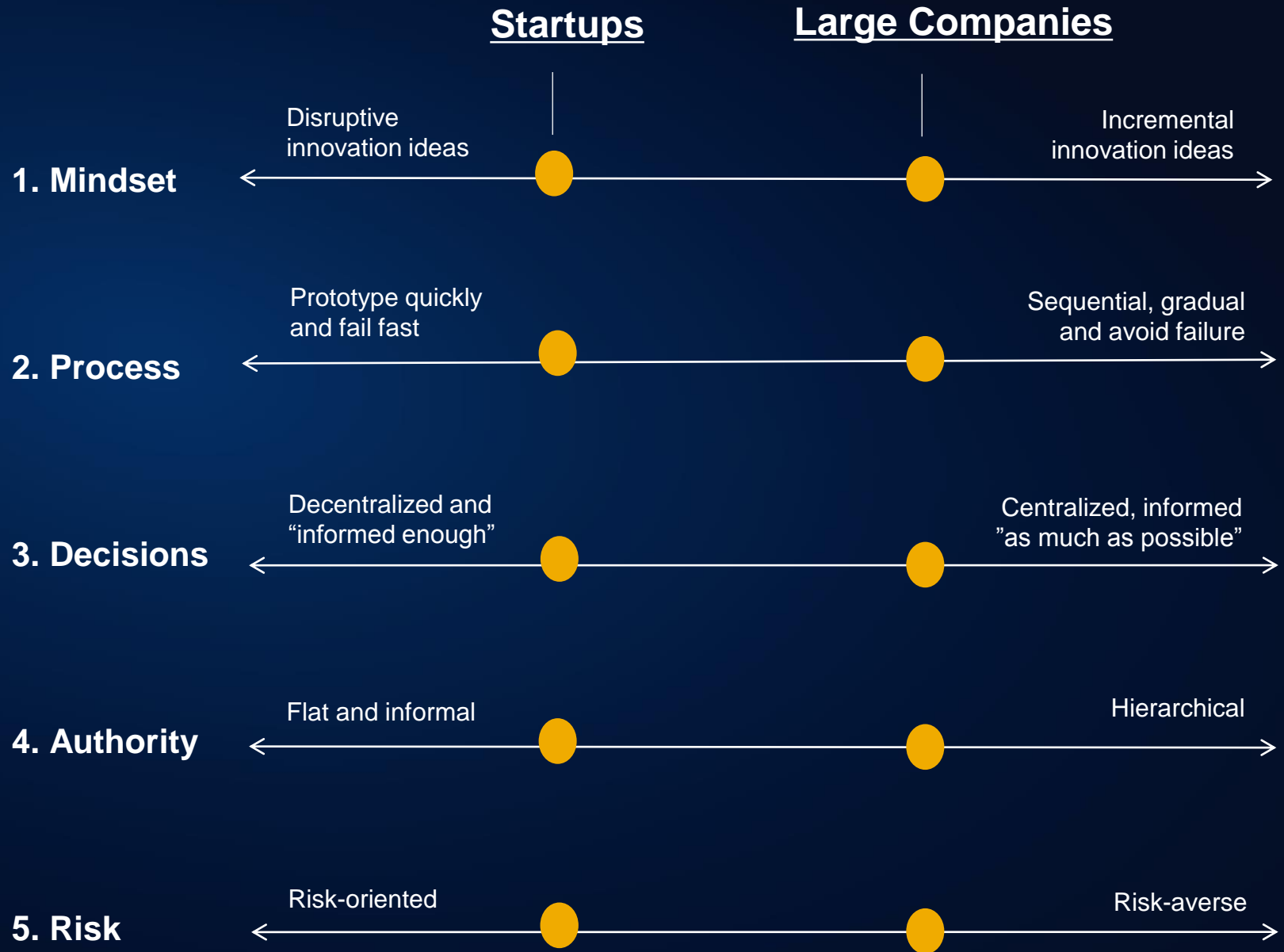
Unless they adapt, **40%** of the S&P 500 will no longer exist in the next 10 years



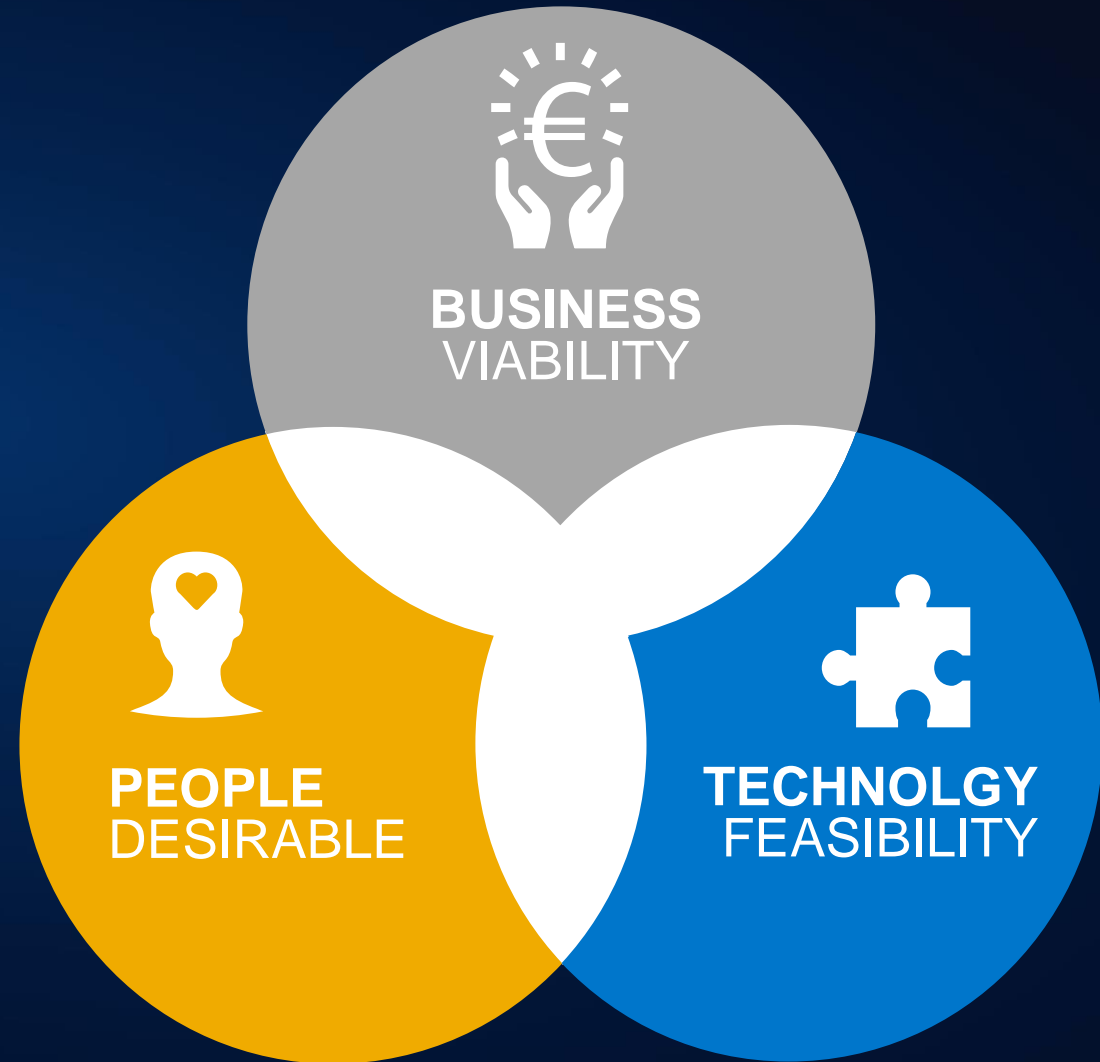
A large black Great Dane dog is sitting on a light-colored floor, looking down at a small black and white Chihuahua dog standing in front of it. The Great Dane is wearing a black collar with silver studs. The background is a plain, light-colored wall.

But why does **small beat big?**

# Comparative cultural trends between startups and large companies



# **Innovations** are Viable, Feasible and Desirable



Digital **technologies** are opening the space  
for new Innovations...



Data, Computational Power  
& Connectivity



Big Data Analytics &  
Intelligence



Human-Machine  
Interaction



Digital-to-Physical  
Conversion

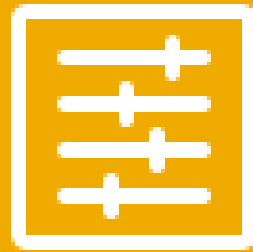


# **Example: Internet of Things** will be one of the most fundamental aspects of the digital transformation



**\$ 4-11 trillion**

Potential economic impact  
per year by 2025



**40 ZB**

Of data to be reached by digital  
universe by 2020



**80 %**

of business processes & products  
will be reinvented, digitalized or  
eliminated by 2020

# Creating value through Innovations



To manage the digital data & information flow we see **four major activities**

1.

### **Data & Information capturing and recording**

- Automated, real-time capturing of data
- Storing historical and new data on one single database

2.

### **Data & Information transfer**

- Digitally transfer information across departments, production sites, value chain steps and companies
- Ensure information transfer between IT and OT

3.

### **Data & Information analysis and synthesis**

- Automated identification of relevant data and analysis
- Synthesis of Analysis into relevant insights

4.

### **Turning Data & Information into action**

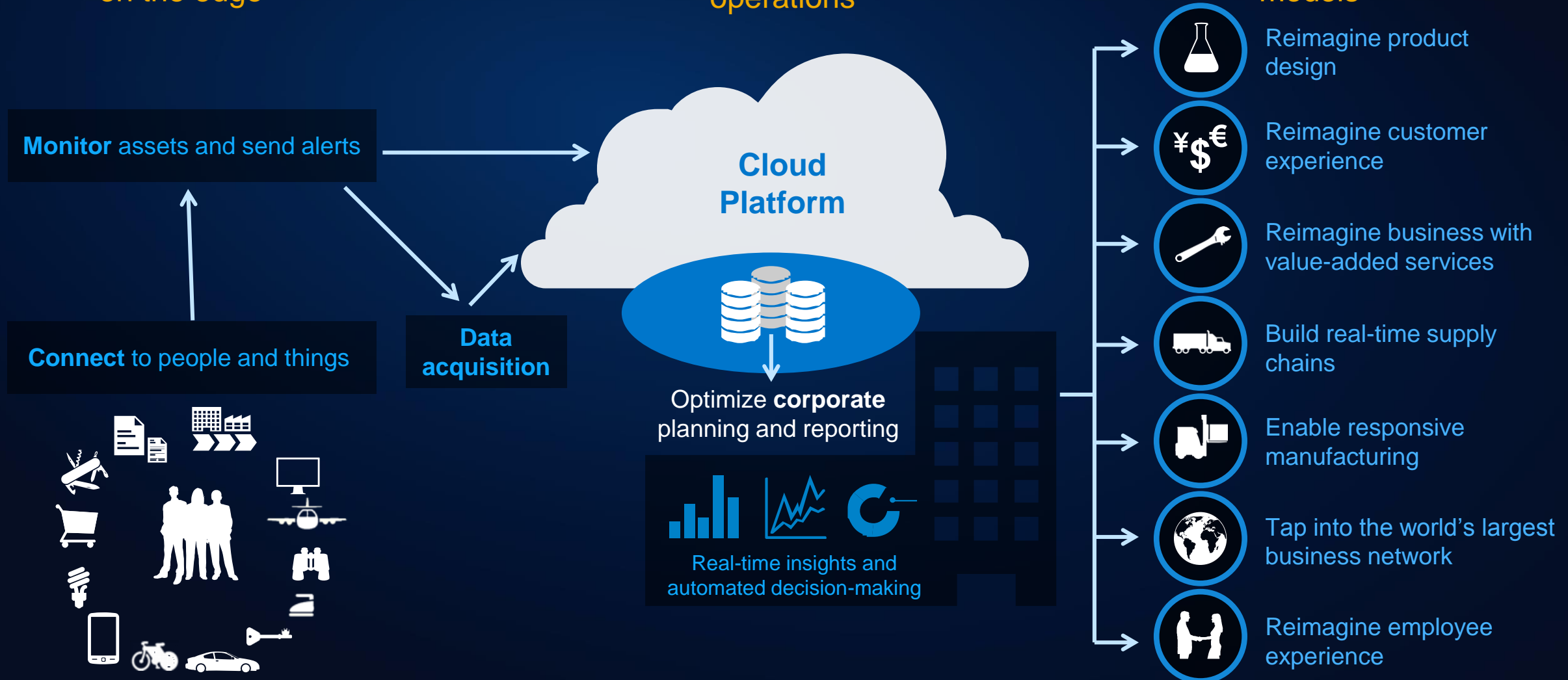
- Translation of analysis results into actions
- Feedback and continuous improvement

# Digital data flow in action – Internet of Things

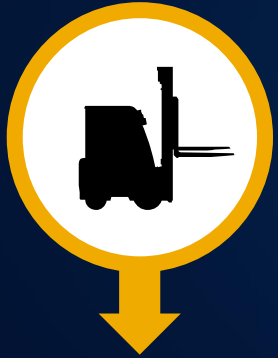
Connect with intelligence  
on the edge

Transform business  
operations

Reimagine business  
models



# Networked Economy and Big Data – high value opportunities



Connected  
Manufacturing

Increase product  
quality, throughput &  
operational efficiency



Predictive  
Maintenance

Maximize asset availability, improve  
customer service, minimize  
maintenance costs



Networked  
Logistics Hub

Deliver the right product at  
the right time and location with the  
right quantity and quality

Innovation Roadmap

Connected Retail

Vibration Analysis

Smart Consumer

Vehicles Network

Smart Safety

Optimized Production

Asset Intelligence Network

Smart Cities



# Demo

## SAP Predictive Maintenance and Service

Hayden Thompson Logout

10

P1 Alerts

36,204

Downtime

90%

Operational Availability

312,897

Flight Hours



Notification Center



Treemap



Heatmap



Alert Status



Lumira

### Alert Severity

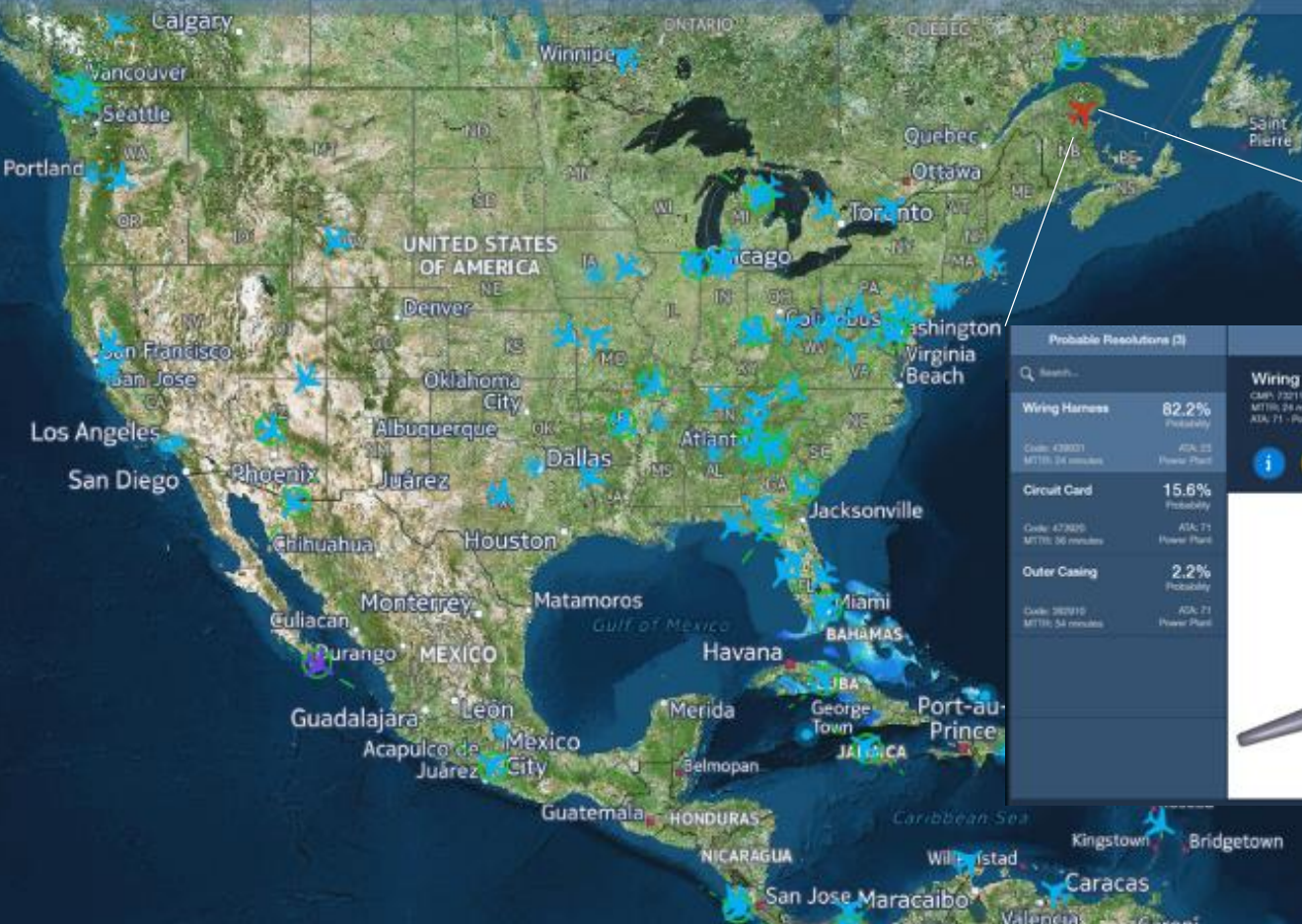
- All OK
- P3 Alerts
- P2 Alerts
- P1 Alerts

### Filter by

- Model Add
- Status Add
- Plane Add

### Map Markers

- Service Centers



Probable Resolutions (3)		Probable Resolution Detail	
Wiring Harness	82.2% Probability	Wiring Harness	82.2% Probability
Code: 438031	MTTR: 24 minutes	Code: 438031	MTTR: 24 minutes
Circuit Card	15.6% Probability	Circuit Card	15.6% Probability
Code: 473625	MTTR: 30 minutes	Code: 473625	MTTR: 30 minutes
Outer Casing	2.2% Probability	Outer Casing	2.2% Probability
Code: 382919	MTTR: 54 minutes	Code: 382919	MTTR: 54 minutes

# Creating Value through Innovation – Real examples



- ▶ From air-compressors to selling **“Air-as-a-Service”**



- ▶ Schedule **maintenance based on real-time life & health indicators**



- ▶ **Optimize both traffic and logistics operations** in order to allow larger quantities of goods to be transshipped in the port area.

# What is needed for Innovation in digital economy of Europe

## Balanced and adaptive regulations


### Ensure Data Privacy

- Maintain high standards of data protection rights for European citizens on personal data
- Ensure equal boundary conditions for European and non-European companies regarding personal data

### Adapt Regulations

- Allow for an **Industry Code of Conduct** to regulate usage of data
- Enhance EU General Data Protection Regulation to leverage anonymization and pseudonymization
- Plan for **evolving rules as we go**



- 
- Differentiated view on machine data
  - Emerging IoT/ Industry 4.0 Innovations
  - Business models Innovations



# What can we do to foster Innovation in Digital Economy?



Research  
Networks and Co-Innovation



Define & give guidelines



Fund research & innovation  
e.g. tax relief for R&E and 'upcycling'



Demonstrate the value of the  
digital world  
Innovative Solutions and Scenarios



Set standards for Digitization  
Reference Architectures and  
Industry Standards



Foster joint learning and  
international collaboration  
e.g. networks of testbeds



Grow the ecosystem  
e.g. Venture Capital



Ensure quality and build trust  
e.g. Security certification



Set legal foundation  
e.g. data economy and data  
protection



Companies



Consortia &  
Organizations



Politics &  
Legislation



# In Closing - magic formula for **Innovation**


$$\left[ \text{Creativity} + \text{Execution} \right] = \text{Innovation}$$

## **Key Drivers:**

Lean Start up culture, Open mindset, Design Thinking, Diversity plus “get hands dirty” and follow up through the end ...

Your **data is a treasure** – exploit it

Start **small**, think **BIG**





# Thank You!

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