Agenda

Introduction

SAP Plant Maintenance – From reactive to proactive

SAP Plant Maintenance – Front end users

Demos

How to get started

SAP Predictive Maintenance

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Where are maintenance and service today?

Different stakeholders with different concerns

OEM	Service provider	Maintenance Planner

OEM

- **How** can I improve my product's reliability and uptime for my customer?
- **How** can I reduce my warranty costs?
- **How** can I generate new service revenue streams?

Service provider
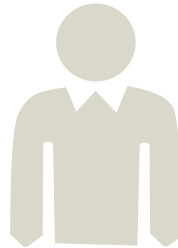
- **How** can I provide the best service at the right time?
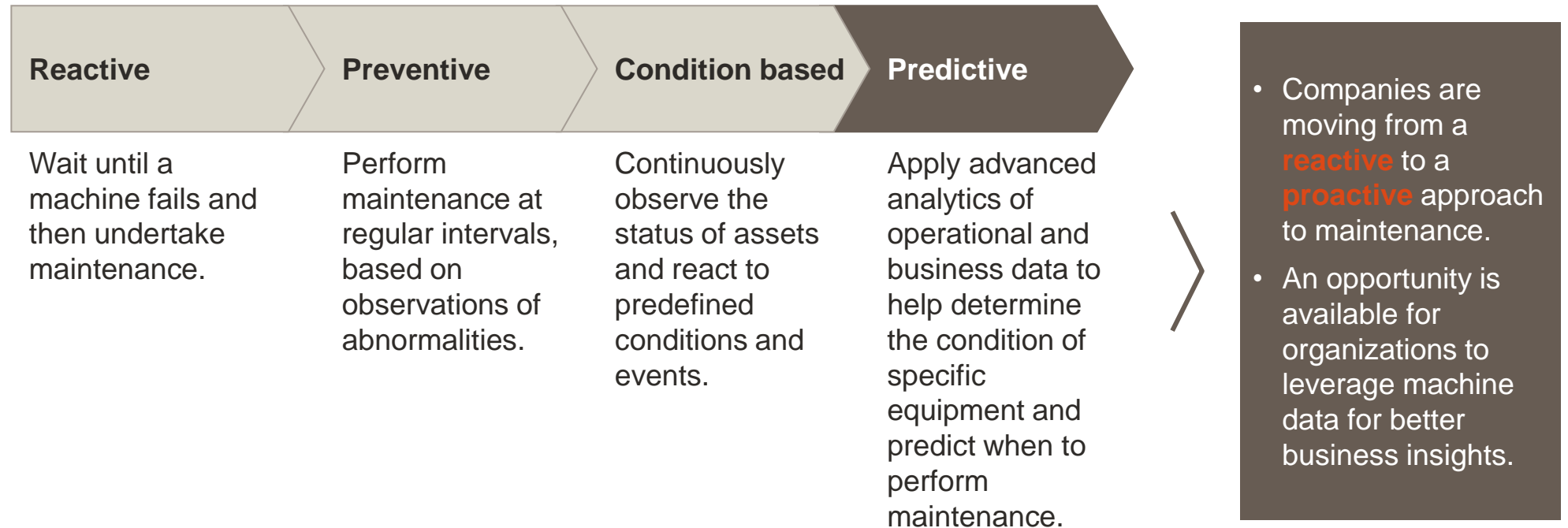
Maintenance Planner

- **How** can I utilize my maintenance budget better?
- **How** can I prevent unplanned asset downtime?
- **How** can I prioritize maintenance activities and operate with reduced risks?

Where are maintenance and service heading?

Organizations are maturing their maintenance strategies

Reactive	Preventive	Condition based	Predictive
Wait until a machine fails and then undertake maintenance.	Perform maintenance at regular intervals, based on observations of abnormalities.	Continuously observe the status of assets and react to predefined conditions and events.	Apply advanced analytics of operational and business data to help determine the condition of specific equipment and predict when to perform maintenance.

- Companies are moving from a **reactive** to a **proactive** approach to maintenance.
- An opportunity is available for organizations to leverage machine data for better business insights.

Why is the trend an advantage?

Move from reactive to proactive business processes

From reactive behavior …

SAP today provides postmortem view on business processes
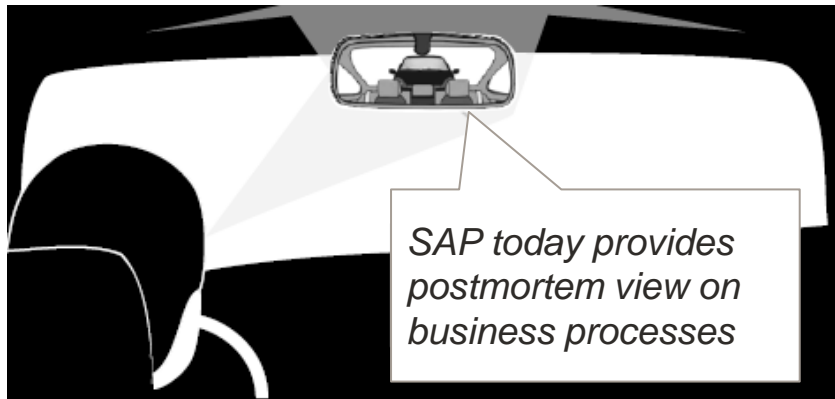
Change manage-ment

…To proactive decision making

IoT provides a proactive and after-the-fact view of business processes.

Digitization of enterprises with the Internet of Things (IoT)

HISTORICAL AND REAL-TIME DATA
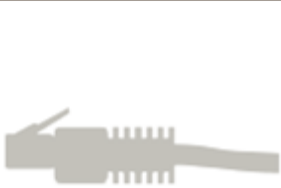
DATA-DRIVEN VIEW OF BUSINESS

Why now?

The world is more connected, enabling digitization of businesses

80%

Reduction in the price of sensors, microprocessors, and wireless technologies over the past four years[1]

2–5 years

For the IoT to become mainstream[2]

75%

Percent of businesses will be digital by 2020[2]

1 Economist Intelligence Unit – "The Rise of the Machines"
2 Internal SAP study provided by Boston Consulting Group, 2016

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What is the business benefit?

Improving asset reliability promises large savings opportunities

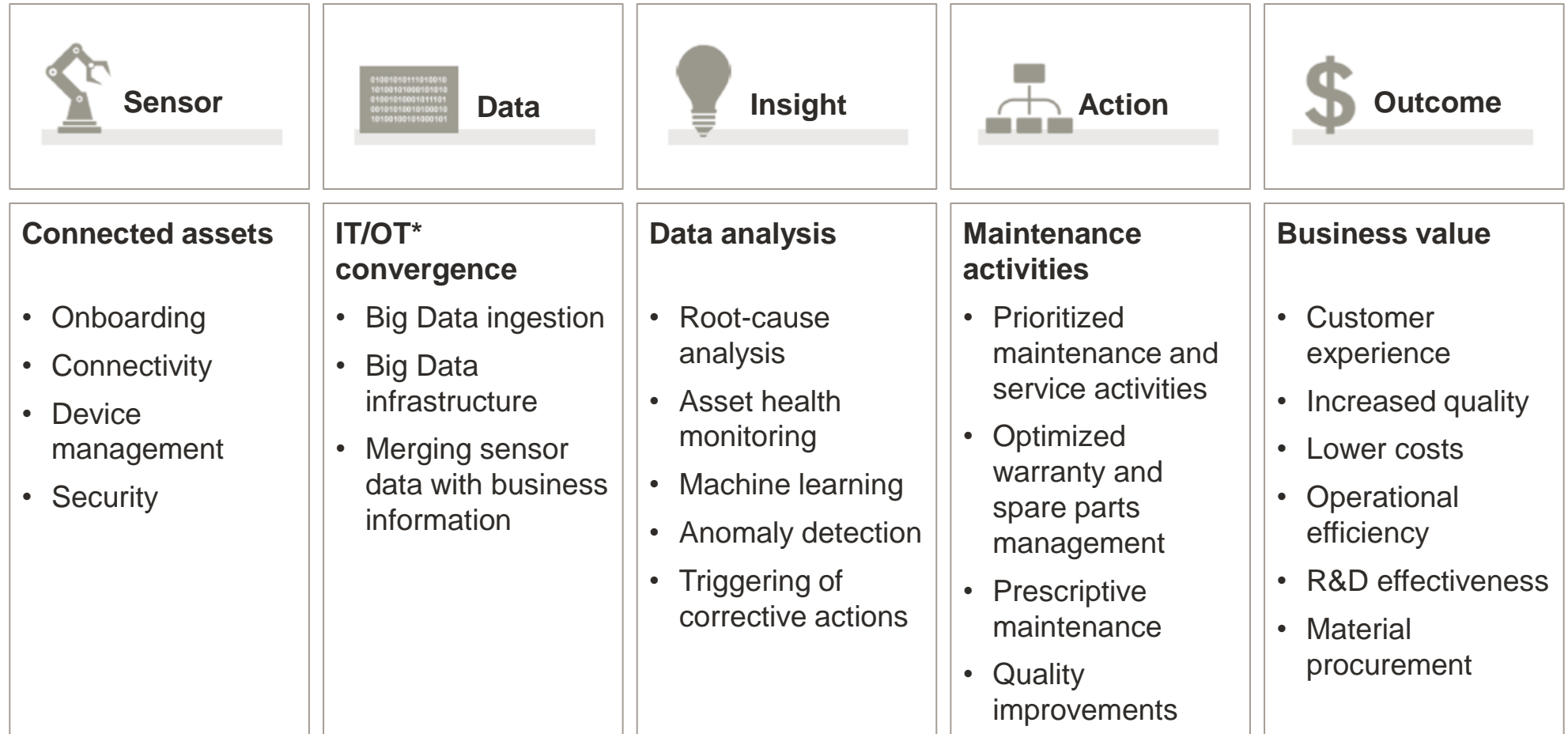|		
Manufacturing	**10% – 40%**	Reduction of maintenance costs of factory equipment
	Up to 50%	Reduction of equipment downtime
	3% – 5%	Reduction of equipment capital investment by extending the useful life of machinery
Work sites Oil and gas, mining, and construction	**5% – 10%**	Reduction of maintenance costs
	3% – 5%	Increase in output by avoiding unplanned outages
	5% – 10%	Reduction of equipment capital investment by extending the useful life of machinery

- Maintenance schedules can now be driven by sensor information that allows operators to perform only the required interventions at exactly the right time.

- With the use of machine learning algorithms (such as anomaly detection or lifecycle analysis), asset operators can predict failures early and implement corrective actions, which significantly increases the availability of critical assets.

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SAP Predictive Maintenance and Service solution

From sensor to outcome

Sensor	Data	Insight	Action	Outcome

Connected assets	**IT/OT* convergence**	**Data analysis**	**Maintenance activities**	**Business value**
• Onboarding • Connectivity • Device management • Security	• Big Data ingestion • Big Data infrastructure • Merging sensor data with business information	• Root-cause analysis • Asset health monitoring • Machine learning • Anomaly detection • Triggering of corrective actions	• Prioritized maintenance and service activities • Optimized warranty and spare parts management • Prescriptive maintenance • Quality improvements	• Customer experience • Increased quality • Lower costs • Operational efficiency • R&D effectiveness • Material procurement

* Operational technology

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Customer examples

STATOIL

- Oilrigs and Pump stations
- From paper, to mobile to sensors

KAESER KOMPRESSOREN

- Kaeser Kompressoren uses the Internet of Things (IoT) and predictive maintenance software to monitor its compressed air stations in real time. The company is able to avoid unplanned downtime and provide world-class service, 24/7.
- Furthermore they have generated new service streams by selling compressors by the usage.

CITY OF VIENNA

- Parkinformationssysteme GmbH, an Austrian startup, help drivers find open parking spaces around Vienna? By using SAP Hybris solutions to process, analyze, and share vast amounts of sensor data in real time.
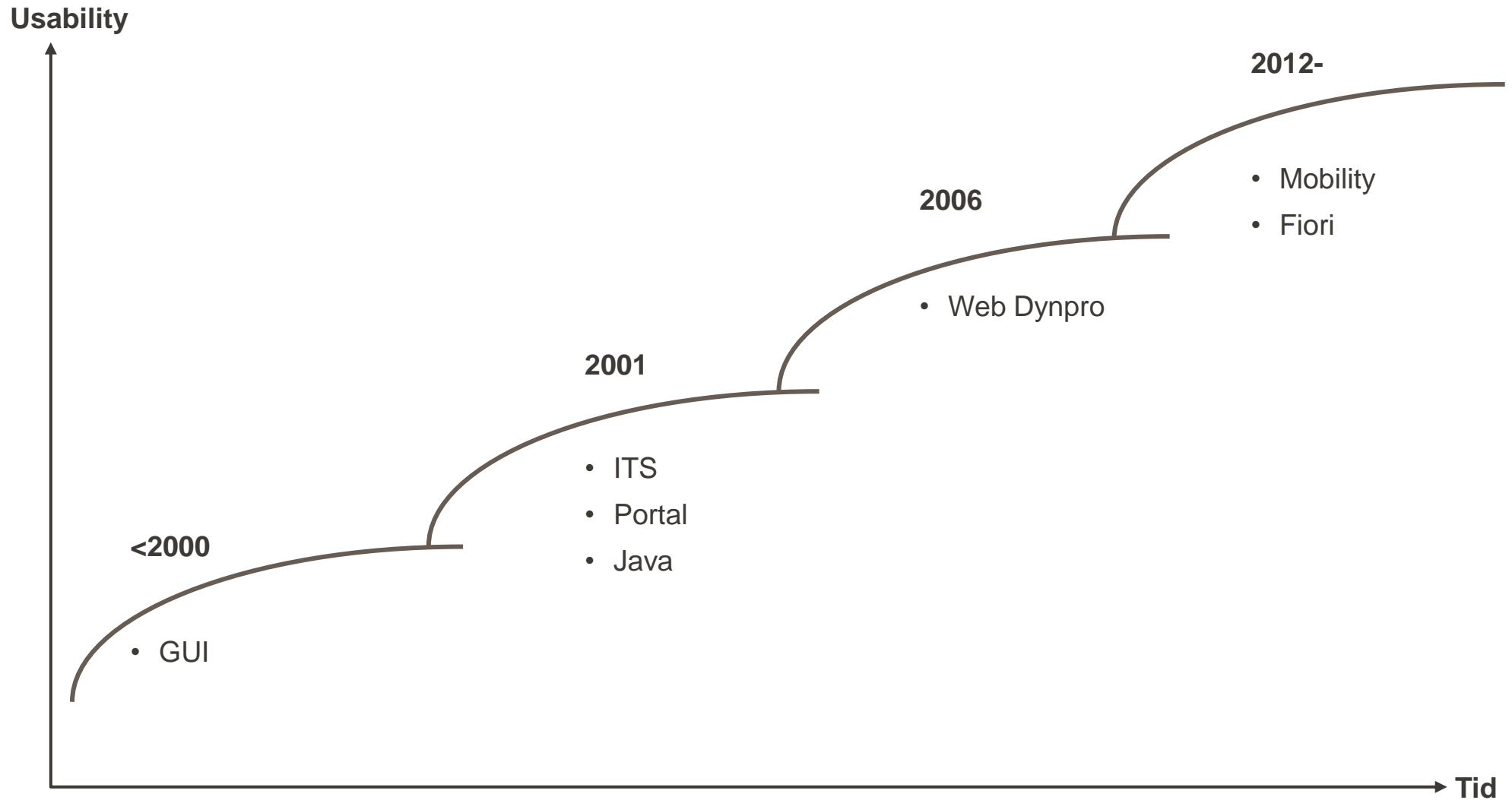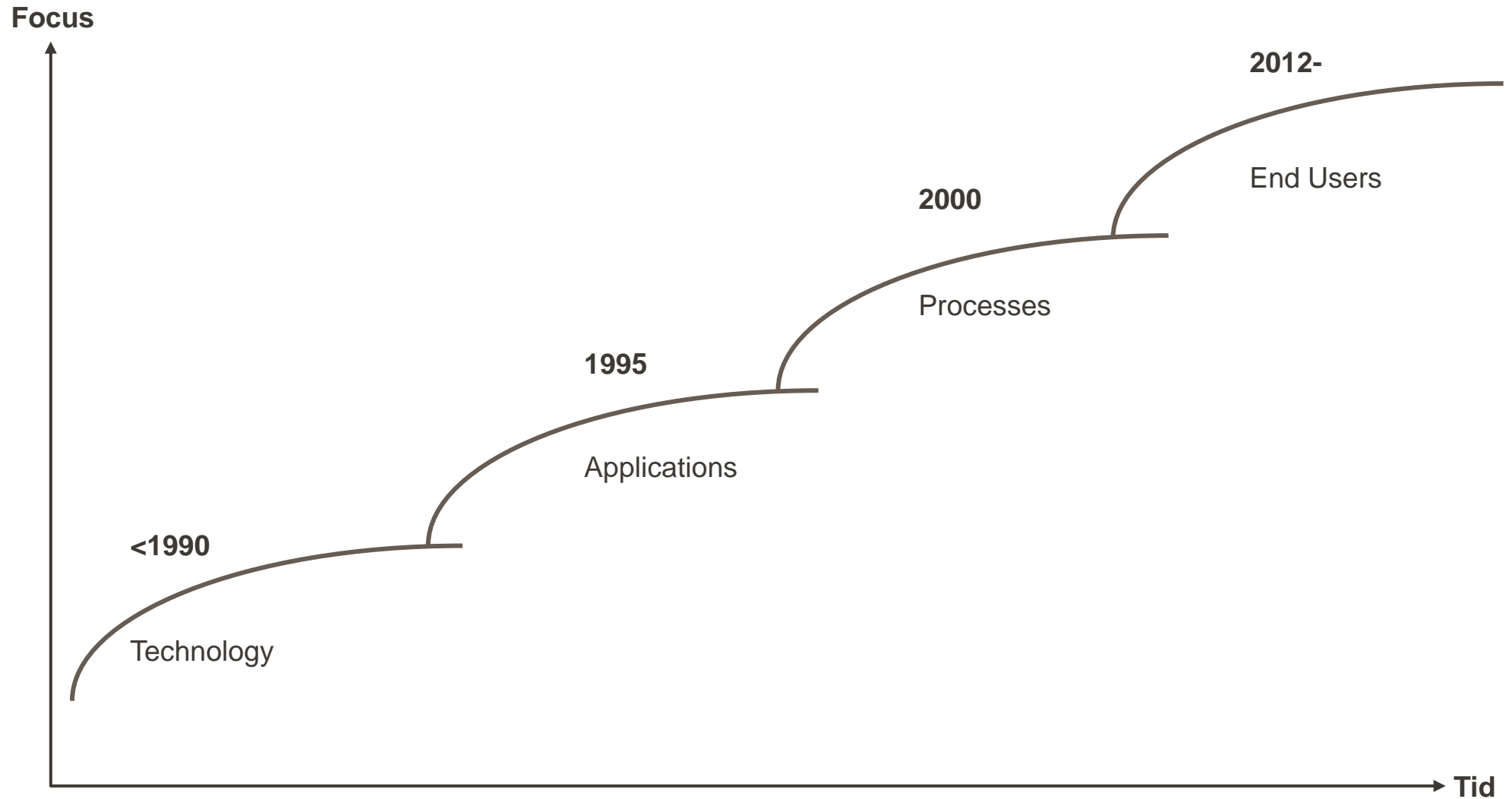
SAP Plant Maintenance

Front End users and tools

- History
- Demo's
- How to get started

User Interfaces

Usability

2012-

- Mobility
- Fiori

2006

- Web Dynpro

2001

- ITS
- Portal
- Java

<2000

- GUI

Tid

Focus

Focus

- **<1990** Technology
- **1995** Applications
- **2000** Processes
- **2012-** End Users

Tid

Maintenance Worker

- Out in the field/out on the floor

- No or limited access to PC

- Paper based

- Double registration

- Handbooks need to be carried

- No Urgent updates

Demo's

- SAP Fiori
- Neptune Client
- SAP Work Manager
- SAP Service Manager
- Native Plant Maintenance applications

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How to get started with SAP Fiori

Business case

- Gain productivity, Data Quality
- Save training costs
- Decrease user errors
- Mobilize users
- **Value Calculator**
- Increase user satisfaction and solution adoption
- Strengthen relationship (IT and business)
- Fiori Launchpad

Do's and Dont's

- Think big – start small
- Involve end users
- Dont just create another UI – replace with something better

Technical requirements

- SAP Gateway server 2.0 SPS10
- SAP EHP7for SAP ERP6.0

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Questions?

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Om Implement

Implement Consulting Group er et dansk konsulenthus med kontorer i København, Oslo, Stockholm, Malmø, Göteborg og Zurich og i alt 600 ansatte. En dedikeret Maintenance Management har den nødvendige ekspertviden om vedligeholdsprocesser, SAP og IT.

Der er mange aspekter af vedligeholdsfunktionen og mulighederne for at optimere er talrige. Uanset om der er tale om optimering af oppetid, sikkerhedsaspekter, compliance, utilisation, investeringer, lagerbinding, indkøb m.v., har ICG mange års erfaring i at hjælpe såvel mindre lokale som store internationale koncerner med at identificere og realisere gevinstpotentialet.

ICG har værktøjerne, erfaringen og kompetencerne, som skal til for at løfte jeres vedligeholdsfunktion, hvad enten det sker gennem digitalisering, IoT, procesoptimering m.m. Kontakt os til en uformel dialog omkring jeres udfordringer, tanker og visioner eller blot for inspiration, og lær mere om hvordan ICG kan hjælpe netop jeres vedligeholdsfunktion.

I DDV-regi hjælper Implement med at drive SAP PM-netværket; Danmarks SAP PM ERFA-gruppe.

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Change with Impact.