LogicaCMG

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March 6th, Brussels

RFID in Asset Management:
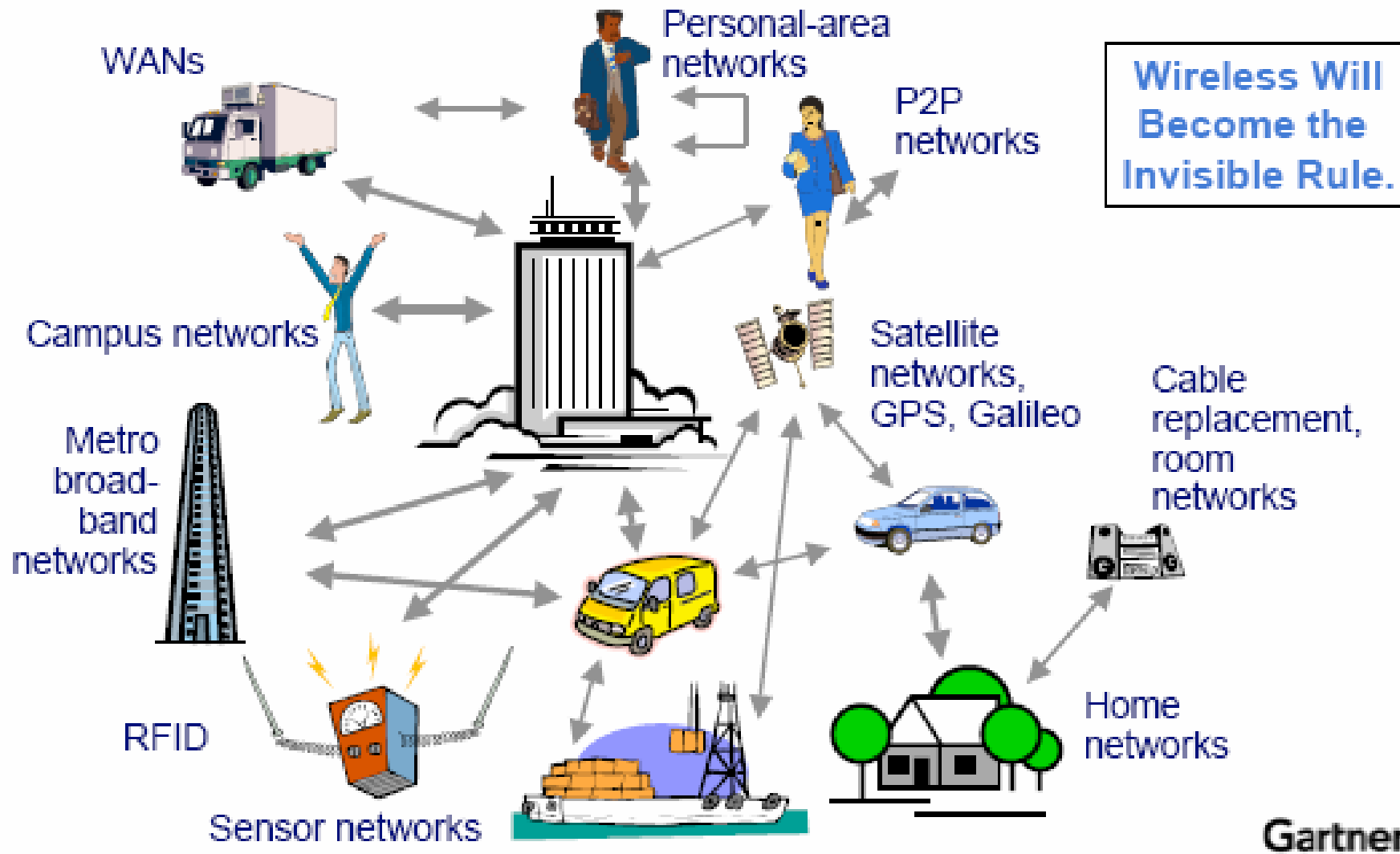**European Case Studies**

SOLUTIONS THAT MATTER

Agenda

1. Introduction
2. RFID in Asset Management
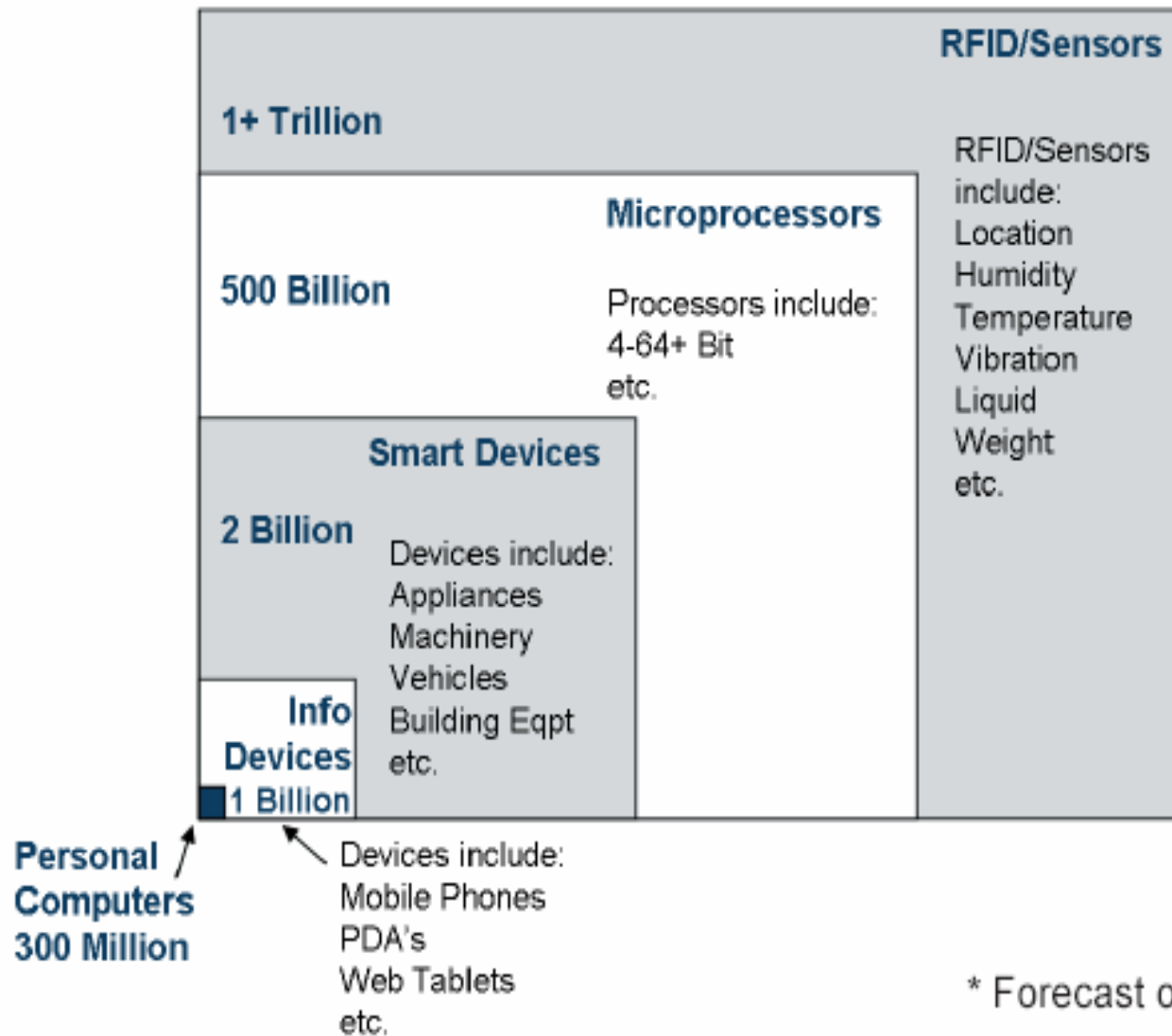3. Case Studies
4. Summary

Wireless: inevitable in our society

WANs

Personal-area networks

P2P networks

Campus networks

Metro broad-band networks

RFID

Sensor networks

Satellite networks, GPS, Galileo

Cable replacement, room networks

Home networks

Wireless Will Become the Invisible Rule.

Gartner

Connecting the physical and digital world

Implications….

RFID/Sensors

1+ Trillion

RFID/Sensors include:
Location
Humidity
Temperature
Vibration
Liquid
Weight
etc.

Microprocessors

500 Billion

Processors include:
4-64+ Bit
etc.

Smart Devices

2 Billion

Devices include:
Appliances
Machinery
Vehicles
Building Eqpt
etc.

Info Devices
1 Billion

Personal Computers 300 Million

Devices include:
Mobile Phones
PDA's
Web Tablets
etc.

* Forecast of installed base, 2010

Source: FocalPoint, 2003
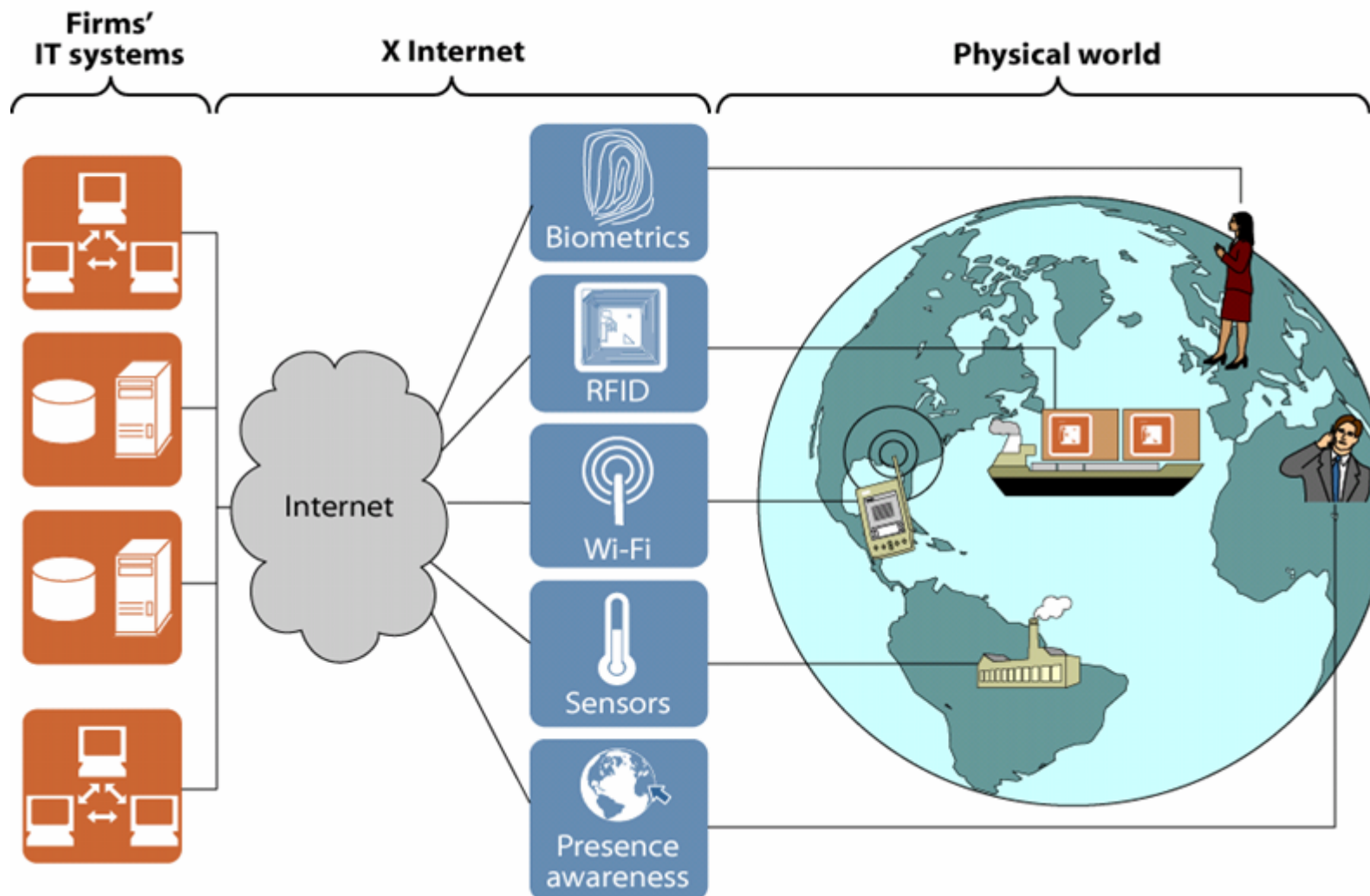
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Gartner

Industry Research

Publication Date: 25 October 2005

ID Number: G00131258

Asset Management Is the Low-Hanging Fruit of RFID

Predictions

- Asset management projects will provide the fastest route to driving return-on-investment (ROI) benefits from RFID technologies through 2010.
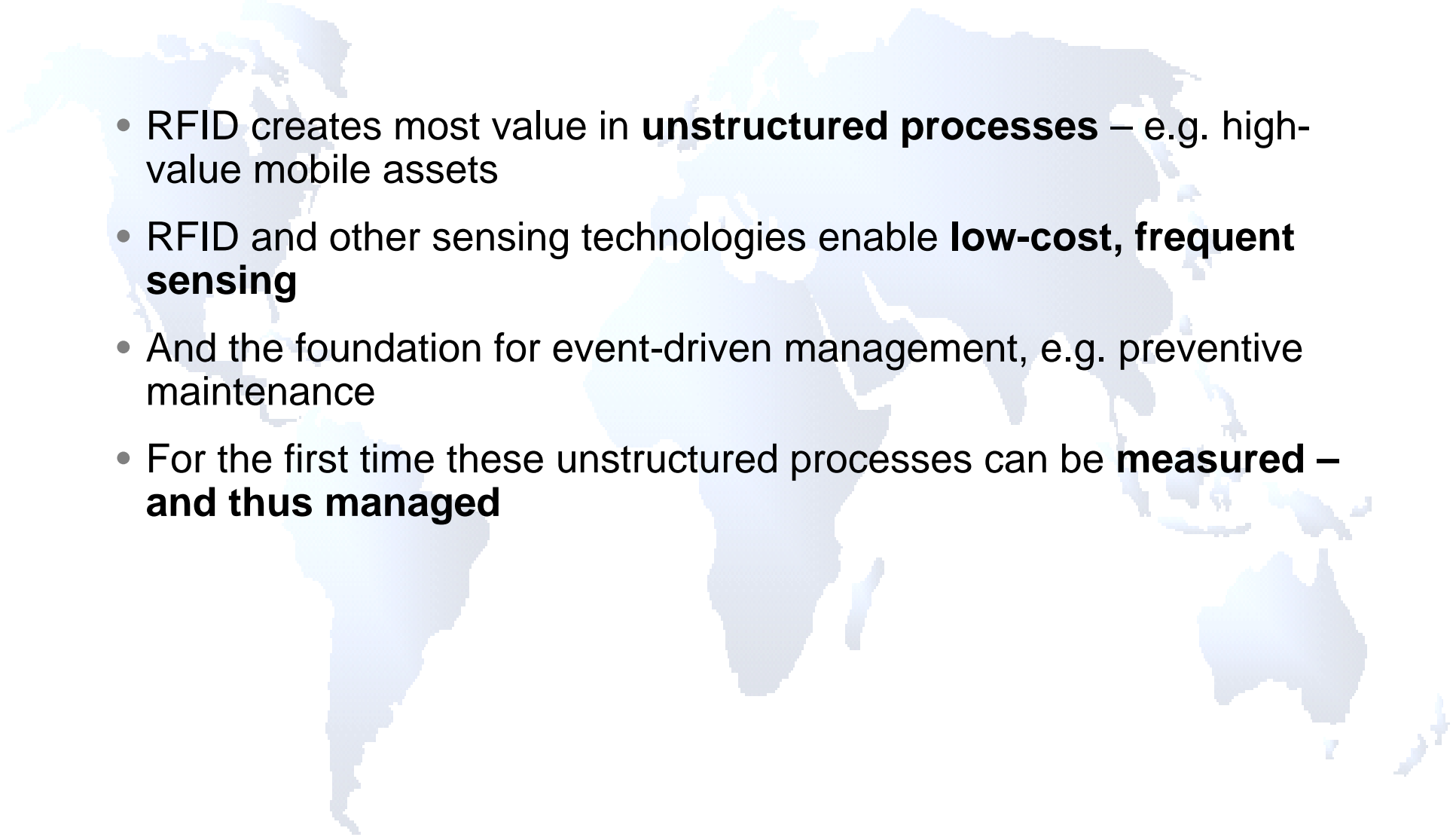
RFID adds intelligence to your assets

- **You can ask your assets:**
  - **Who are you?**
  - **Who owns you?**
  - **Who repaired you?**
  - **What is your destination?**
  - **Where do you come from?**
  - **When do you need to be serviced?**

- **And your assets will tell YOU:**
  - My temperature is too high
  - I am now here
  - My engine is turned on
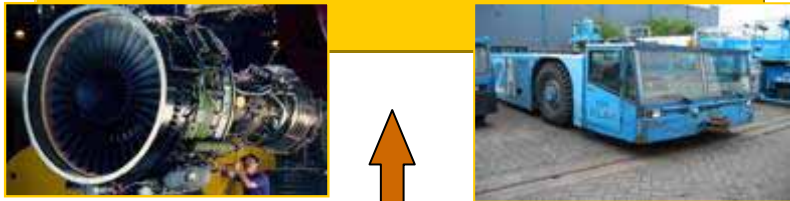 - I am behind schedule

What this means for your business

- RFID creates most value in **unstructured processes** – e.g. high-value mobile assets

- RFID and other sensing technologies enable **low-cost, frequent sensing**

- And the foundation for event-driven management, e.g. preventive maintenance

- For the first time these unstructured processes can be **measured – and thus managed**

The solution architecture

Physical World

Digital World

Remote Asset Monitoring

Dynamic Asset Status reports
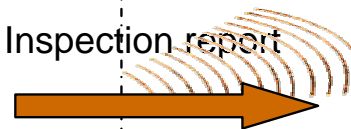
Backoffice environment

- **Condition monitoring**
- **Tracking & Tracing**
- **Inventory management**
- **Object management**
- **Contract management**
- **Order management**
- **Notification management**

Passive asset info

Workforce Management
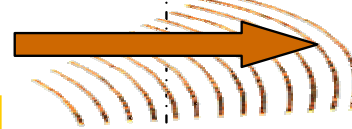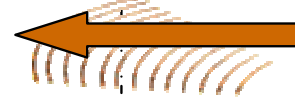
Inspection report

Work order

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1. FlyToget
2. KLM Equipment Services
3. Airbus

Case Study: FlyToGet

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Business Issue:	Flytoget, a Norwegian railway operator spent an enormous amount of mantime on checking the status of all train wheels. To prevent damage to the wagons and the infrastructure, stringent inspection of all wheelbarrows each day is necessary to be able to keep the ultimate service level of 99% availability.
How:	LogicaCMG designed, developed, integrated and implemented a the state-of-the-art remote monitoring system for the temperature of all train wheels. It uses active RFID with a temperature sensor, GPS for the real-time location of the train and GPRS for sending the data to the integrated web based system.
Results:	- Real-time information on temperatures at all wheels. - No more manhours spent on manual checking -Threshold detection via a graphical display of all trains, wheels and temperatures. - Increased availability through preventive maintenance.
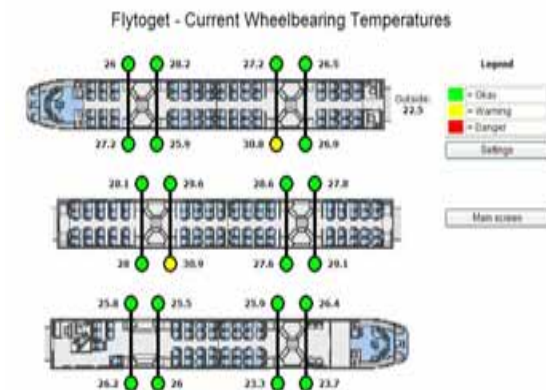
The Trains…

Speed: 240 km/h
16 train sets
Punctuality 95%
Availability: 99%

Departures:
Every 10 min from Oslo (19 minutes)
Every 20 min from Asker (42 minutes)

Screenshot website

Flytoget - Current Wheelbearing Temperatures
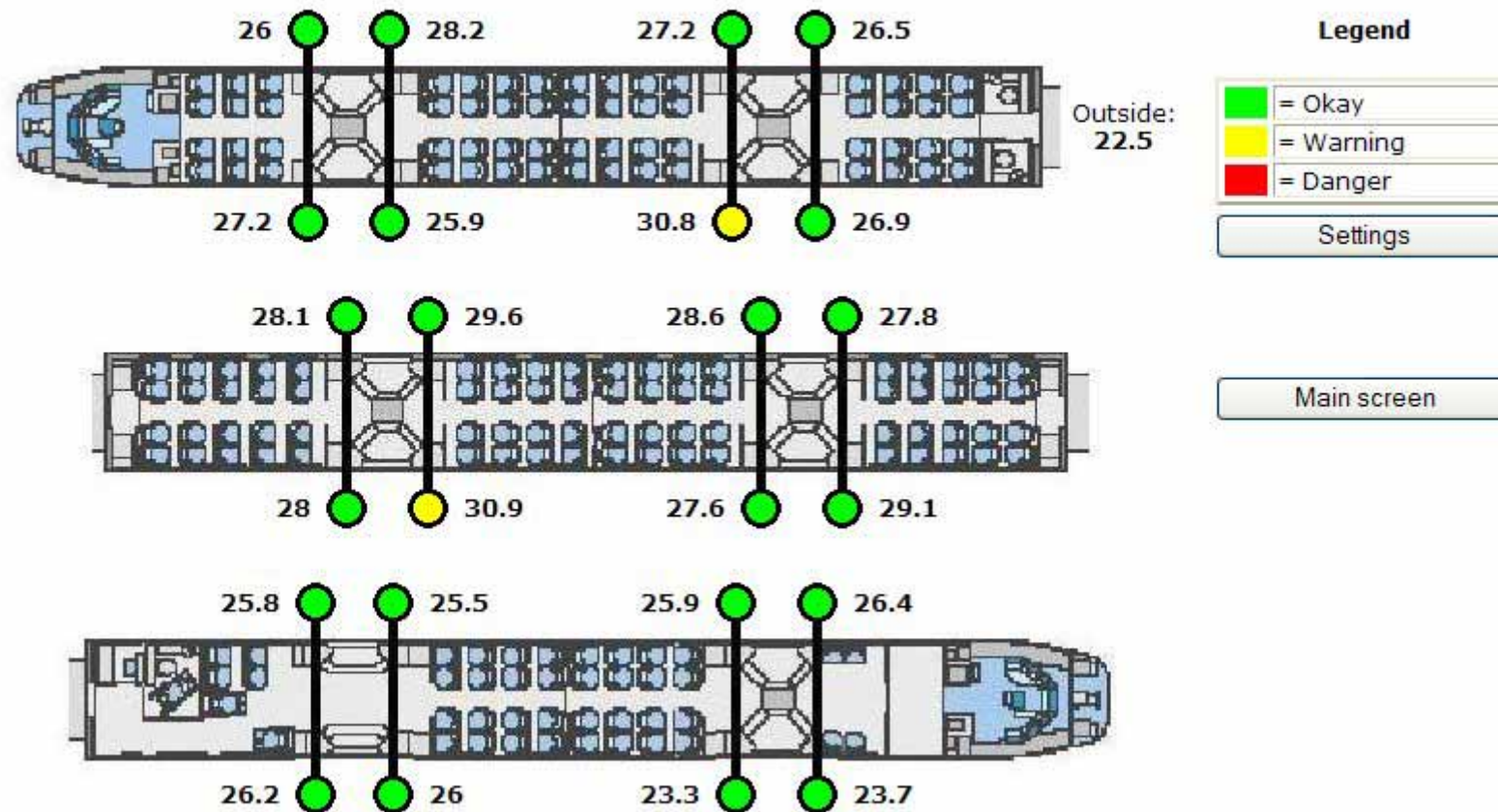
Case Study: KLM Equipment Services

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Business Issue:	KLM aims to create a common pool of vehicles at Schiphol Airport, creating efficiencies through lower pool size and better efficiency. KLM wanted to know how RFID and wireless technology could help in achieving these benefits.
How:	LogicaCMG developed and implemented an RFID-based solution to track and monitor vehicles at the airport, combining RFID with sensors, wireless communication, GPS and GEO-ICT.
Results:	Real-time visibility of vehicles enables better asset and human resource management. KLM is expecting to save over £1m through a reduction in fleet without lowering service levels.

Case Study: Airbus

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Business Issue:	Tool management process was labour intensive - required significant paperwork, extended non-availability of tools, poor data quality and inflexible processes.

How:	LogicaCMG undertook consultancy to identify potential efficiencies in tool-management process. Selected hardware partners and middleware to enable technical requirements from Airbus on airworthy-ness to be met. Managed integration with SAP + 3rd parties.

Results:	Acceleration of processes; faster and more accurate data availability. Higher data accuracy due to automatic data capturing. Easier, faster and improved flow of information between all participants in the supply chain. Faster loan tool re-availability. Ability to trace the parts' complete history.

The complete loan tool cycle

Introducing a solution at Airbus

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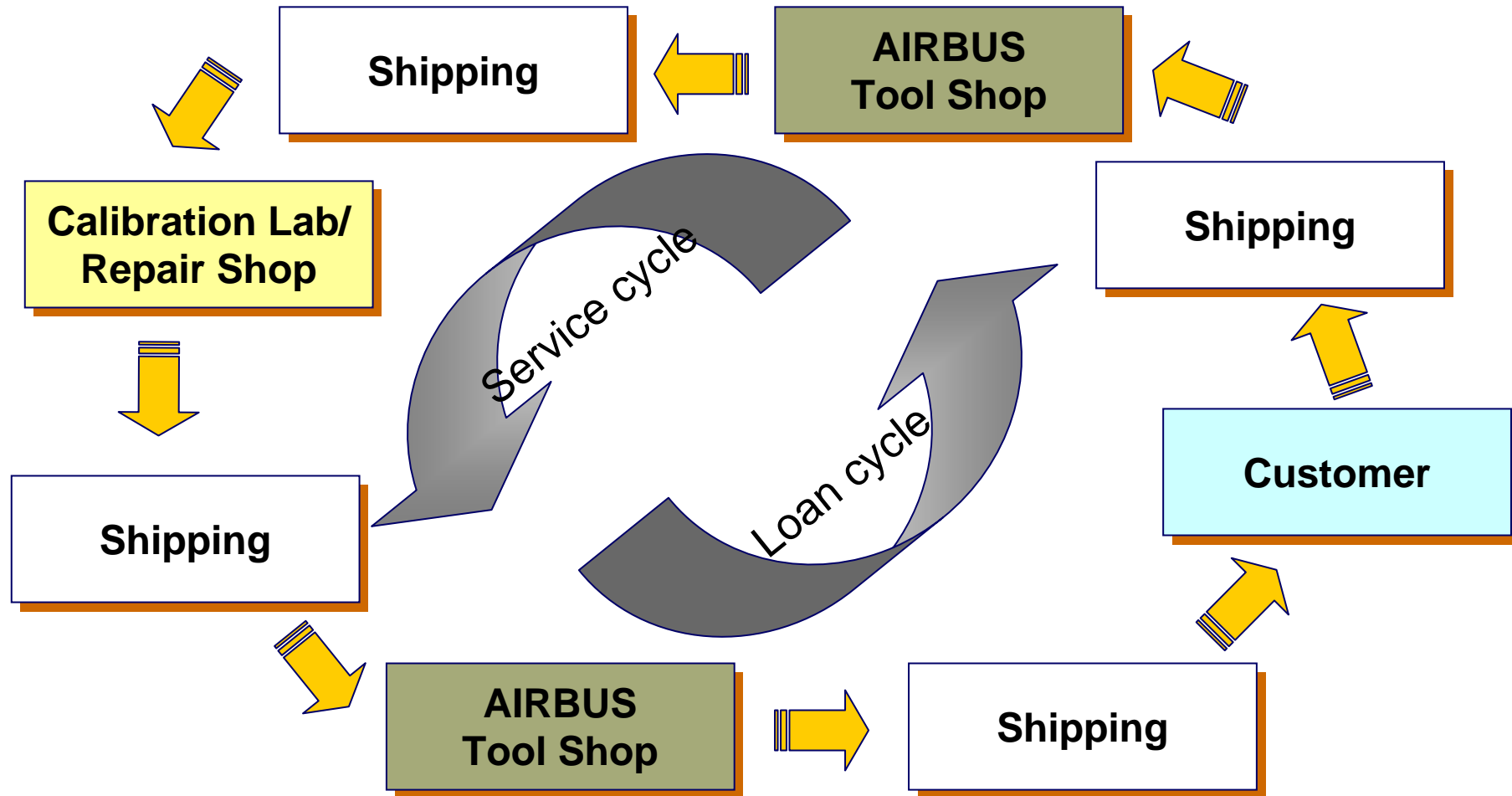
Last certificate

Original receipt number

Last check   Original certificate

Part number   Tool set   No. of units

Periodic check code   Serial number

Manufacturing date Periodic check interval

Complete paperwork available on tag

Designation   Length / weight / height

Net / gross/tare Owner   Next check

Test laboratory   Manufacturer

Original receipt date Vendor

Last receipt date

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Key messages

- Quick wins for RFID are in asset management, with following features:

  - Unstructured processes

  - High-value, mobile assets

- But remember, RFID is not the solution, only an enabler

- Achieving the business benefits may require changes to business processes and software applications

- And a combination of technologies, including RFID, sensors and wireless communication