



Opportunities and Challenges in Digital Manufacturing

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Airbus Group Digital Transformation

Improve internal operations

Further grow in services and improve products

Invent disruptive business models



Change culture

Value can be created everywhere

Industrial Operations, Products & Customers, Support Functions

One key objective: Build the Factory of the future

To gain productivity, quality, flexibility



Predictive Analytics

Big Data

3D Scanning

Mobility & Portable

3D Visualisation

Paperless

RFID

Augmented Reality

3D Printing

Robots & Cobots

Social Network

Smart Tools & connected machines

+450 initiatives

Challenge is a lot about reuse, synergies and scaling up successes

Multiple pilots are under assessment or deployment

A significant step was achieved with RFIDs giving a digital existence to moving objects

Automated + digital traceability



No more paperwork!!!



Automation in Assembly



Automation in Logistics



Benefits : for automated, paperless and digital attestation of lifejackets in A330 , time reduction from 14 hours to 26 minutes !

Current challenge is to connect objects and manufacturing tools to relevant data bases and be able to run real time factory simulation

PLM
Authoring & simulations

MES
Execution & monitoring



Smart machining
Machine physics simulation
Optimization
Adaptive process

ERP
Global orchestration

Integration platform & Smart Controller

- Plug and play / Wireless
- Data Model
- Process Execution Engine
- Supervision Engine
- User guidance



PLM – Product Lifecycle Management
MES – Manufacturing Execution System
ERP – Enterprise resource planning
SMEs – Small and Medium Enterprises (supply chain)



Integrated solution

- Industrial IoT should access to the product definition (PLM)
- Industrial IoT should be enabled by a Process Execution Engine

IoT With Big Data Analytics

- Capitalization of past experiences to improve our process and our products

IoT to support Digital Twin & Real time factory simulation

- A complete view of the product and the process performance