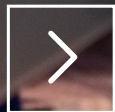


Unlocking the power of data in factories

Part 2: A guide to starting your data project



Business



A guide to starting your data project

Manufacturers must digitally transform their business to remain competitive, reduce costs, and improve agility to deal with market disruption. To do this, they need to make informed decisions based on the right data, which will be used to maximize profit and create a safer working environment.

In this ebook, we offer advice on setting up a data project. This includes selecting data sources, creating a data management infrastructure, choosing the best technology infrastructure, and following the recommended steps for setting up a data monetization pilot.

**Emmanuelle Routier,
Vice President Smart Industries,
Orange Business**



“Demystifying data represents an essential initial step. To navigate the industrial landscape effectively, manufacturers need to adopt the right mindset. Consider data as a raw material akin to any other: there are deposits to extract, refine, and ultimately exploit.

Next, prioritize user and business leadership over technology in your data projects. Ask yourself: What business outcome do you envision for your company’s future? Then explore how data can propel you toward that goal – whether through operational optimization or the provision of additional services.”



Introduction

Data sources

Data management

Infrastructure

Project stages

Why Orange



Choosing your data sources

There are many different data sources available for your data project and choosing the right ones is essential for success. We have highlighted the range of data sources and their typical applications below.



Machine data

- Fault history
- Machine parameters
- Temperature
- Humidity
- Lubrication frequency
- Material quantities
- Energy consumption

Financial data

- Equipment costs
- Scrap value
- Maintenance costs
- Product prices
- Raw materials prices

Weather data

- Air humidity
- Ambient temperature
- Atmospheric pressure

Supplier data

- Raw materials origin
- Raw materials characteristics
- Raw materials anomalies rate
- Frequency of deliveries

Customer data

- Satisfaction surveys
- Purchasing preferences
- Customer expectations



Assessing the standard and quality of ongoing production processes

Anticipating maintenance requirements



Optimizing investment and production choices



Avoiding machine malfunction or damage



Adapting machine parameters
Improving product traceability



Improving the quality of under-performing products
Aligning product quality with customer expectations

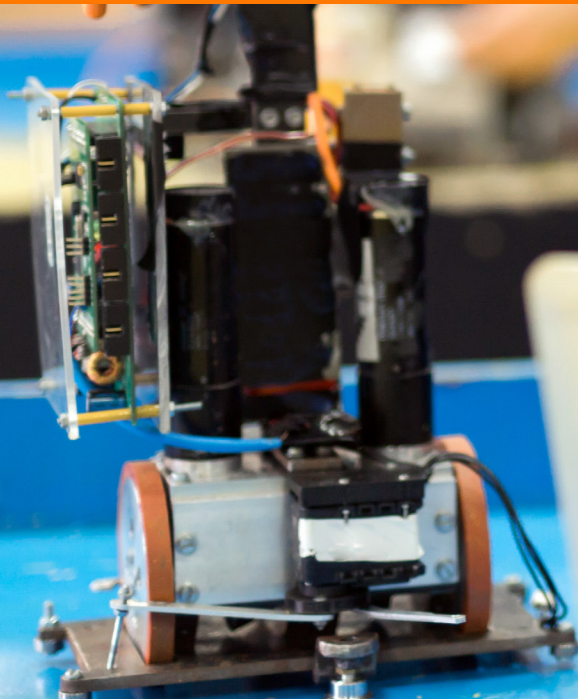


Our experts' opinions

Antoine Chevrier, Business and Innovation consulting lead for Europe at Orange Business

“Data is frequently underutilized in industrial companies. For example, we once had a customer who used data solely for reporting purposes, overlooking the potential of activating predictive maintenance – even though all the necessary resources were available. Our primary mission is to encourage clients to view data as a foundational layer and an additional means to achieve business objectives.

To foster this mindset shift, global data governance must be established, moving away from the prevalent process-driven approach common in the industrial world today. Often, the best approach is to visit other plants that have matured in this area and demonstrate what can be achieved.”



Data management infrastructure

Data management and governance are key requisites for your data management project. Be sure to address all of the factors outlined below.

Ensuring data quality

Data must be reprocessed to make it 100% reliable and operable:

- Checking consistency and uniformity
- Ensuring regulatory compliance
- Making data updates and defining archiving processes

Sorting data

Not all data has the same value for your business, so it needs to be sorted. The key is to keep only useful data, which also reduces storage costs and energy consumption.

Creating the right data visualization

Visualization tools must be easy to understand and make data intelligible to meet individual needs. This includes:

- Cross-referencing indicators
- Global reporting
- Configurable views
- Layout choices
- Data extraction

Collecting data

Gathering data, including digitizing paper data, is a key step to guarantee the completeness of information and the quality of indicators.

Centralizing data

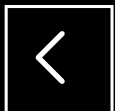
To cross-analyze the data, it must be stored in one place and standardized. The choice of technology is therefore important.

Facilitating data flow and sharing

Every user should be able to easily find the needed information, enabling effective use of the existing pool of data.

Securing data

Data security is a critical part in any data monetization project. Without it, there is a risk that insecure or inadequately secured data could lead to data alteration, loss or theft.



The technology foundations for industrial data use cases

The biggest challenge manufacturers face is getting data out of their fragmented systems in a scalable and secure way. Siloed data sources and legacy systems can make this difficult. The technology infrastructure is vital to success, and this includes sensors, networks, data analytics, and cyber security.



Sensors to connect machines

Data-driven factories use data from various sources to obtain insight, spot trends, and deploy resources efficiently. This isn't just data from ERP and CRM software. It also includes real-time data harvested from connected intelligent sensors and actuators across the factory floor, allowing inefficiencies and problems to be identified early.



[Read more in our factsheet](#)



Platforms to benefit from AI

Machine learning (ML) has become an essential tool enabling machines to learn from data and provide valuable insight, making them work better for longer and delivering new applications.



[Read our blog](#)



[Watch our video](#)

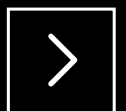
Our experts' opinions

Sam Waes, Head of Smart Industry Europe, Orange Business



“In the ever-changing industrial landscape, factory managers face a multitude of challenges. The macroeconomic environment is increasingly uncertain, making it difficult to navigate. Finding and retaining skilled workers for manufacturing operations is a pressing concern. The ability to adapt production setups and locations quickly has become essential to meet market demands. Moreover, technologies are evolving at a rapid pace, often outpacing implementation, while the production of goods requires specialization and adaptability, resulting in smaller batches and a greater need for flexibility.

To thrive amidst these challenges, factory managers must take decisive action. They need to prioritize the design of a robust data infrastructure that empowers their teams. This infrastructure will enable them to make informed decisions, enhance efficiency, and respond swiftly to changing market dynamics. By embracing agility and leveraging data-driven insights, factory managers can strengthen their competitiveness and ensure long-term success in the smart industry.”



Live Objects: a platform to connect industrial devices and sensors

“The Live Objects platform exemplifies the benefits of modern device management solutions, integrating connectivity, cloud services, and advanced cybersecurity. This integration helps industrial companies achieve significant increases in operational efficiency by streamlining data collection and processing.

Additionally, Live Objects extends the lifespan of your devices with its low-power protocol and ensures flexibility and future-proofing by supporting industry standards, thereby preventing vendor lock-in. This comprehensive approach not only optimizes your operations but also enhances your technological adaptability.”

[Read more here](#)

Miguel Muñoz de Morales, Head of Smart Industry Consulting - Europe, Orange Business



Networks: essential for optimum connectivity

Robust and secure connectivity is essential to become a successful data-driven factory. It connects systems, allowing data to be correlated and analyzed to make factories smarter, more profitable, safer, and more sustainable.



[Read more in our factsheet](#)

Not forgetting to address industrial cybersecurity from the outset

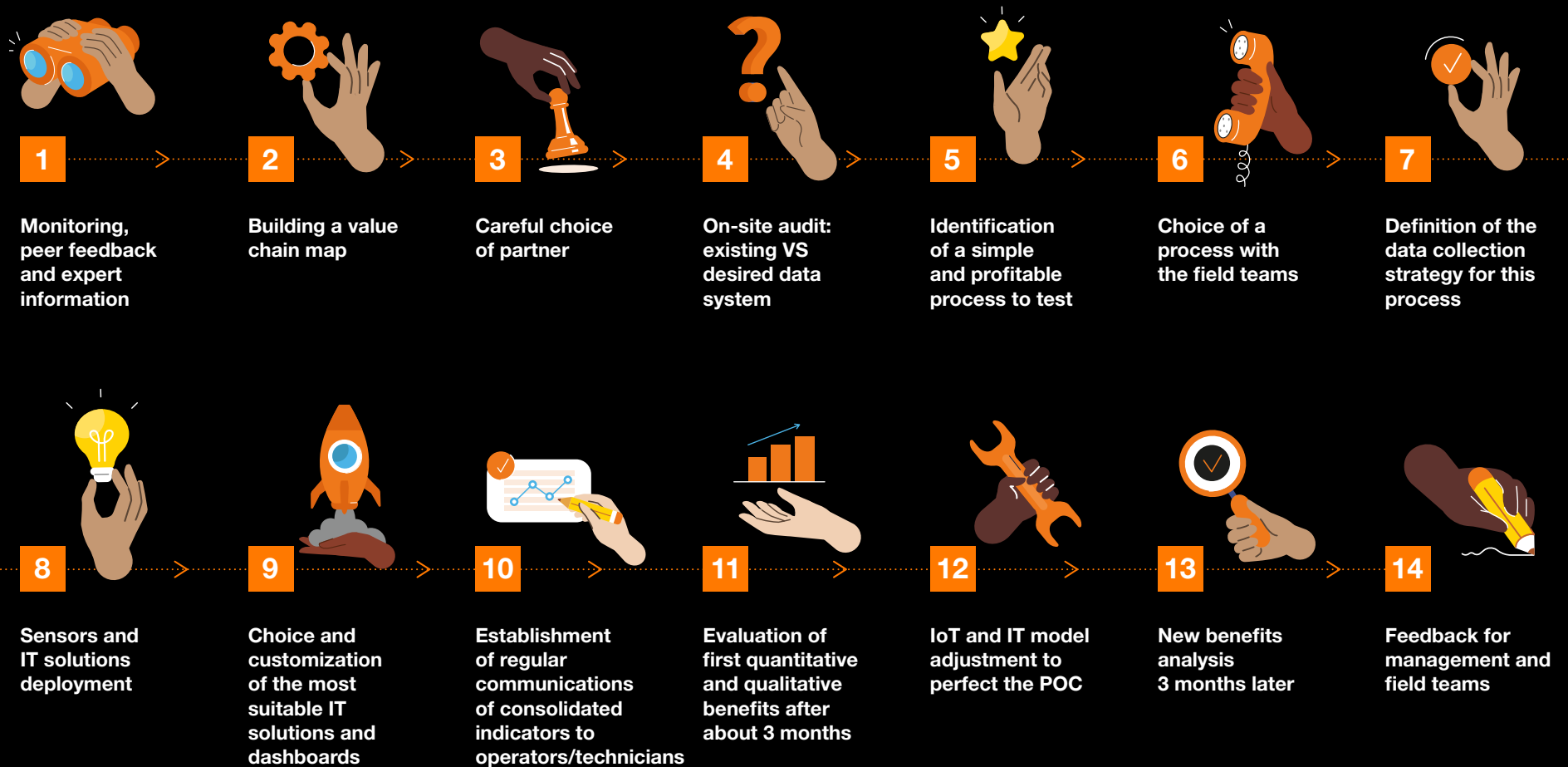
There is no smart manufacturing without effective cybersecurity. Manufacturing is already the industry the most affected by ransomware and other cyberattacks, according to Orange Cyberdefense.

Here are the seven most common security gaps identified in more than 90% of the plants audited by Orange Cyberdefense experts:

- ! Sensors to connect machines
- ! Unsecured OS and firmware
- ! No antivirus
- ! No security monitoring
- ! Permanently connected engineering stations
- ! Lack of detection capacity
- ! Unsecured protocols



Detailed steps to set up your data monetization pilot



Is the POC a success? Now it's time to scale up!



Why Orange Business

Orange Business has a unique skill set as a global integrator, communications operator and service provider along with genuine experience of the industrial world.



More than 26,000 customers in the industry sector



33% of our key international customers are manufacturers



Specific IoT approach for industry, its infrastructure, and its products



Cybersecurity expertise tailored to the specific environment and challenges of industry, with expertise from 3,000 cybersecurity experts at Orange Cyberdefense



Networks designed for connectivity that meets your production requirements, including LoRA, PMR, 4G, 5G, industrial LAN and edge computing

Recognized data and AI expertise



European leader in Data and AI



More than 700 IoT and data analytics experts



More than 50 Orange-approved sensors

Nine success factors

At Orange Business we consider the following nine factors are essential for success in industrial data projects.

1. Knowledge of the industrial sector (references, jargon, understanding of processes, etc.)
2. Data / AI specialization
3. Ability to manage the valuation data project from A to Z
4. Supply of resources needed to roll out a POC and scale it up
5. Expertise in the choice and management of fixed and wireless networks
6. Cybersecurity solutions tailored to industrial production environments
7. Consulting, global support and change management
8. Ability to find external funding to subsidize the project
9. Independence regarding industrial OT equipment set up in plants



We have developed an Operational Xperience factory demo to show the Orange Business capabilities in delivering industrial data projects based on an example of a coffee capsule manufacturing line.

Find out more [here](#)



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