

Arpa 

Take Industry 4.0 to New Heights  
with Insight  
from Arpa Industriale

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**FENIX<sup>®</sup>**

**Stefano Rossetti**  
Production Manager HPL Factory  
Arpa Industriale

ARPA High Quality Surface Materials since 1954

FENIX Innovative Materials since 2013

# COMPANY OVERVIEW

*“Arpa drives innovation in interior design, working hand-in-hand with its partners to create excellent sustainable Made-in-Italy solutions”*

Arpa Industriale, part of Broadview Holding, manufactures and sells high quality materials for interior design

Foundation year: 1954

Employees: 575

Production site: 1, HQ in Bra (NW of Italy)

Production area: 150.000 sqm

Product lines: High Pressure Laminates, FENIX Innovative Materials

Key-drivers: Innovation and Sustainability

Major applications of Arpa's materials: kitchen, furniture, shop fittings and other interior surfaces



# FENIX® INNOVATIVE MATERIALS FOR INTERIOR DESIGN

FENIX is the innovative material brand with an Italian design soul, launched in 2013. An open design system, a harmonious synthesis between a stylistic colour choice, unique proprietary technology and value creation. FENIX believes in simplicity, beauty, sustainability and performance as a way to help its partners create distinctive, beautiful and enduring designs.

A unique brand for never-ending interior design stories.

Main features: Extremely Matt, Soft touch, Anti-fingerprint, Thermal healing of superficial micro-scratches

FENIX have these characteristics by undergoing a particular series of processes, including a multilayer coating and the use of next-generation acrylic resins, which are hardened and fixed through an Electron Beam Curing process.

With low light reflectivity, their surface is extremely opaque, soft touch and antifingerprint.

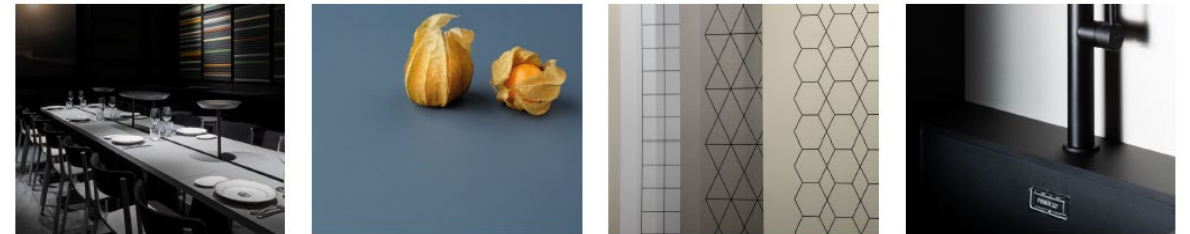


Product lines: **FENIX NTM®**, **FENIX NTM® Bloom**, **FENIX NTA®**

Colours: **27**

FENIX Integrated Solutions: **Kitchen Sinks, Washbasins**

Applications: **Kitchen, Bathroom, Furniture, Retail, Healthcare, Hospitality, Office, Transportation, Industrial Design**



FENIX surface materials became one of the most important product lines for Arpa Industriale > their success led to the design and construction of an ad hoc 4.0 factory.

# FENIX® INNOVATIVE MATERIALS FOR INTERIOR DESIGN



FENIX®: AN OPEN DESIGN SYSTEM TO ADD VALUE FOR INTERIOR DESIGN APPLICATIONS







# THE “FENIX® CHALLENGE”

A high-end and unique material brought unique challenges:

- FENIX’s material production is expensive and prone to defects when using traditional HPL production process
- Conceiving, Engineering and Building an innovative factory **solely dedicated to the FENIX production**

FENIX Factory provided Arpa an ideal opportunity to:

- customize a complex production process to achieve ambitious targets
- Improve product quality while meeting sustainability targets for water, energy, and waste reduction



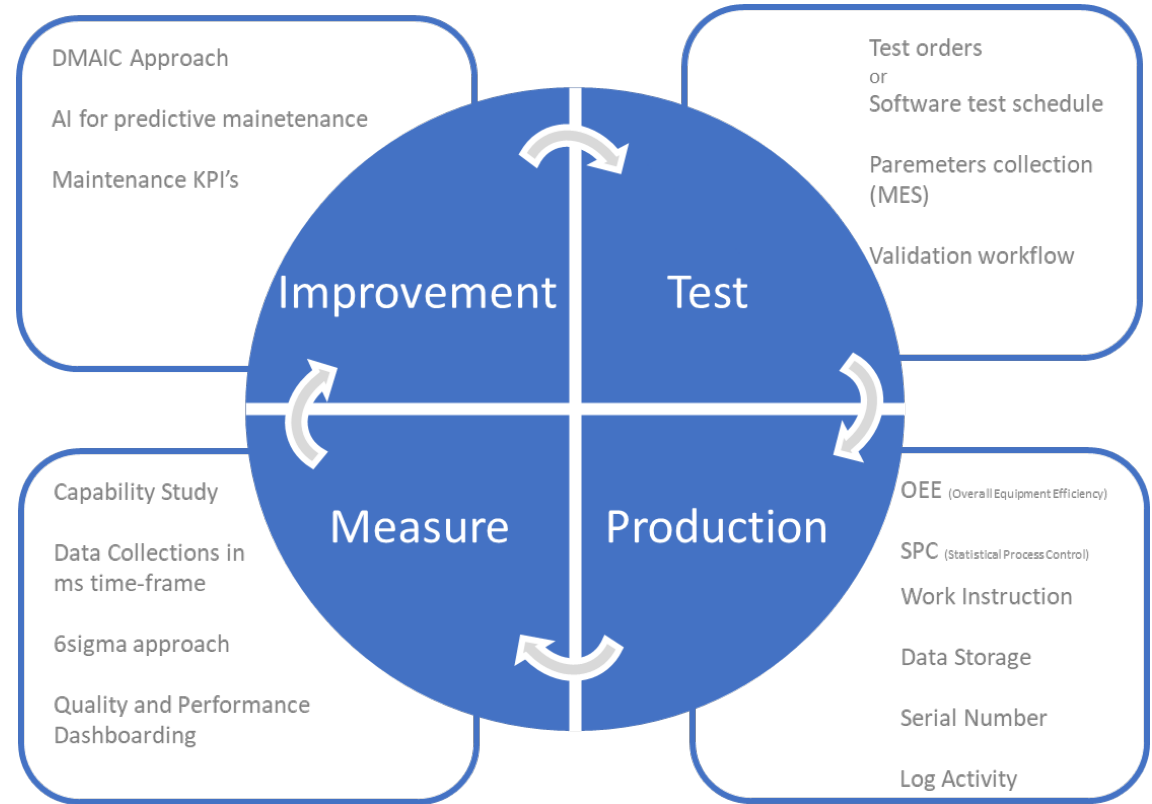
*FENIX Factory view at night*

# “WISDOM OF PERFORMANCE BEHAVIOUR” FENIX FACTORY BUSINESS MODEL

We developed a tailored business model:

- **Behaviour driven** methodology to guarantee performance improvements:
  - Test – Measure – Analyze in order to identify the best performances
  - Crystalize wisdom and knowledge in an automated production line
- **Predictive analytics** as a next step for:
  - Maintenance
  - Motion control

SAP HANA® and SAP® SCM modules are the backbone of our success



*FENIX Factory Field Business Model*

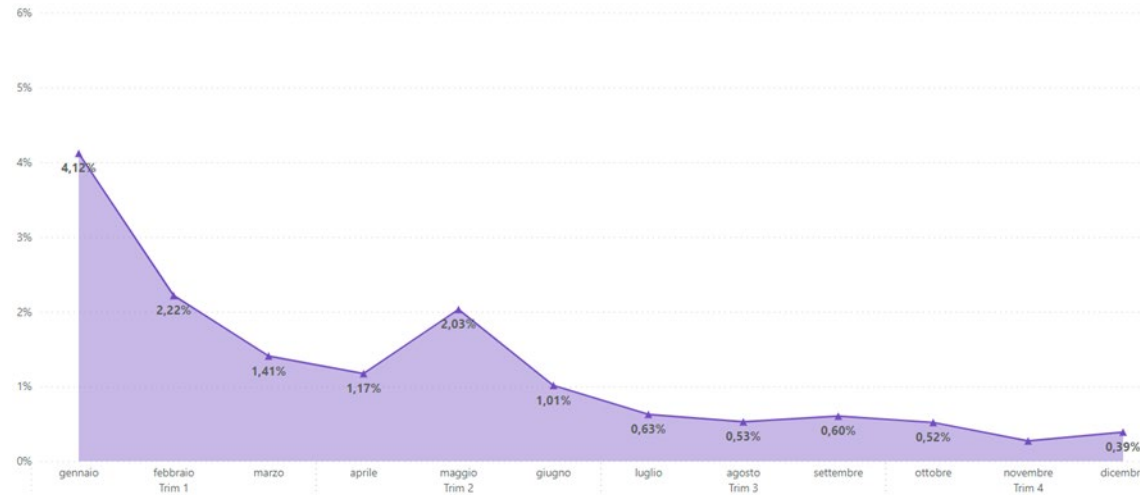
# IMPROVING QUALITY MEANS SHRINKING THE FACTORY FOOTPRINT

Thanks to **SAP® tools**, we manage to apply our business model to different business area and obtaining **remarkable results** from the first year of operation:

- Quality improved by a factor of 5
- Productivity increased by a factory of 6

## €750,000

Production cost savings in the first year



# IMPROVING QUALITY MEANS SHRINKING THE FACTORY FOOTPRINT

This has been the driver to **reduce also the factory footprint:**

- Energy and water reductions through smart, automated consumption fine-tuning
- Reduction of scrap waste almost down to zero by using best-practice machine learning algorithms
- Scrap reduction of about **500 tons** during first year
- Fenix products are carbon neutral (SGS certificated)

# 80%

Reduction in water, energy, and other resources used



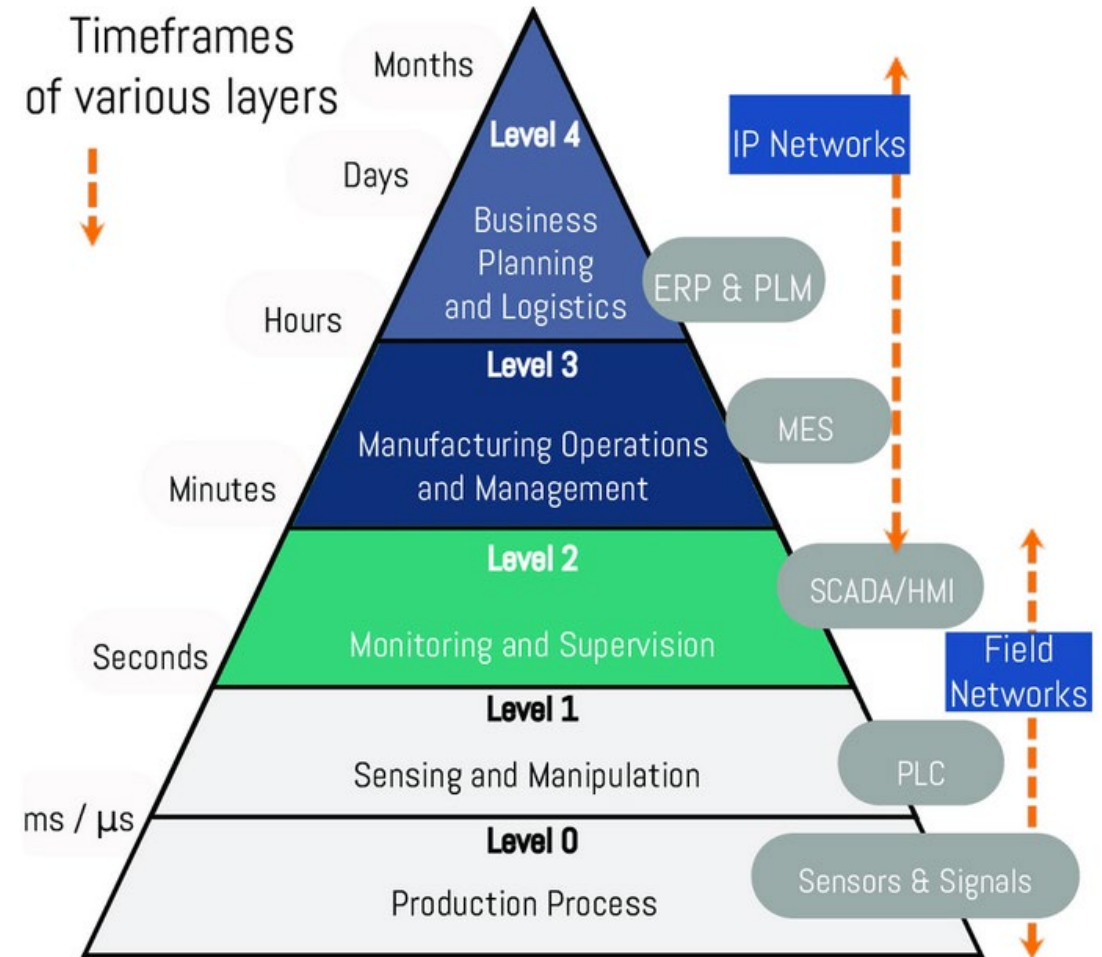
«FROM CRADLE TO GRAVE»



# SAP® - “SINGLE SOURCE OF TRUTH”

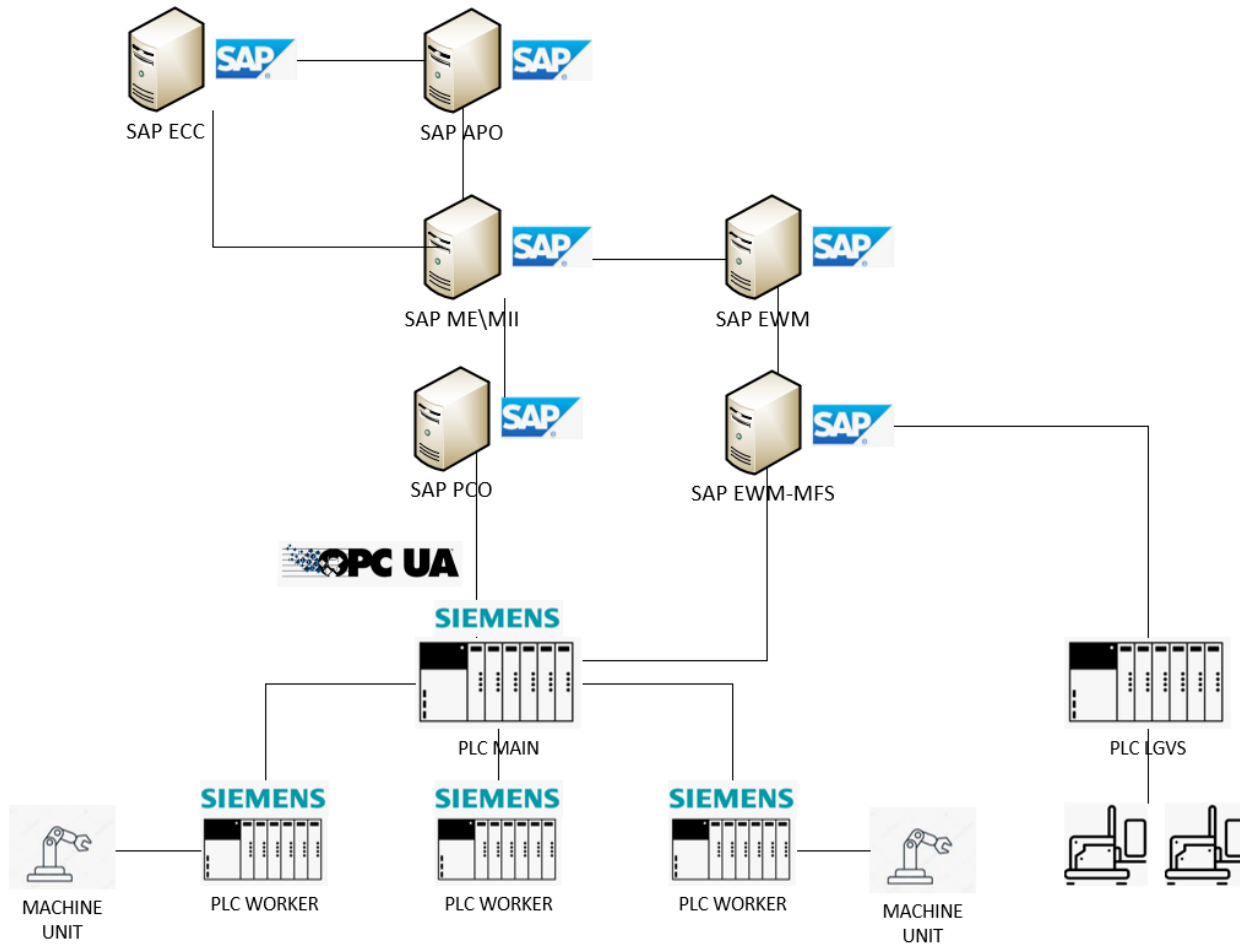
SAP® **Business Technology Platform** enabled innovative capability and became the **backbone** of the FENIX business model:

- Direct, no-latency connection between the factory’s 1,600 sensors and its core SAP® software operations, and resource efficiency with predictive analytics from **SAP HANA®**
- **Real-time monitoring** of factory sensor data with customized performance dashboards from the **SAP Analytics Cloud** solution
- Automation through SAP Manufacturing Execution, SAP Manufacturing Integration and Intelligence (SAP MII), and SAP Extended Warehouse Management (SAP EWM) applications



Conventional automation pyramid ANSI/ISA-95 model

# SAP® - ARPA INDUSTRIALE'S LANDSCAPE



## Arpa SAP® Infrastructure for Industries includes:

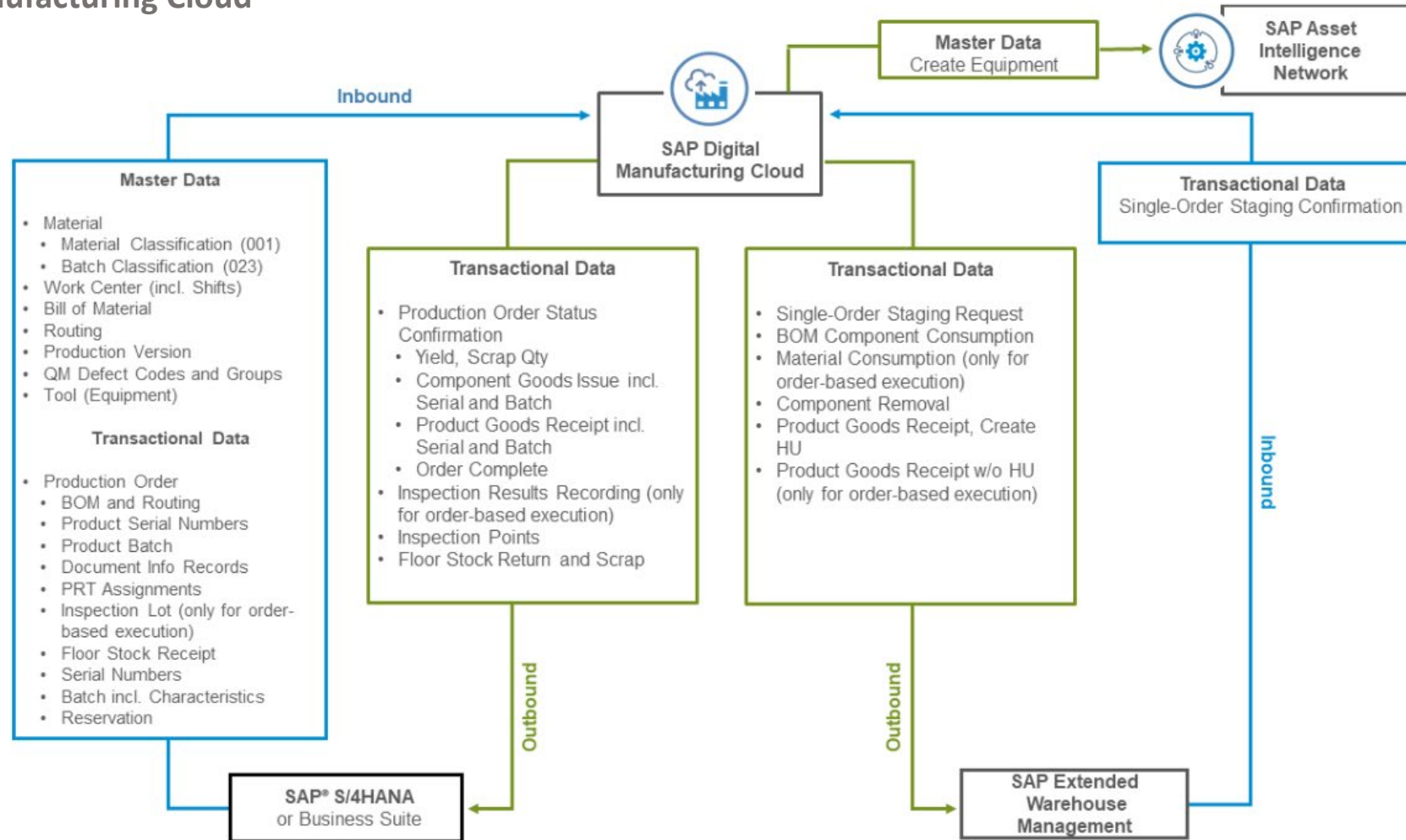
- SAP ECC (ERP);
- SAP APO for Scheduling;
- SAP EWM Warehouse Management;
- SAP MFS Message Flow System;
- SAP ME for Manufacturing Execution
- SAP PCO for communication with PLC;

Complete solution in a single product. No third party software.

SAP integration between systems is simple, fast and reliable.

# SAP® - NEXT STEP ARPA INDUSTRIALE (2022-2023)

## Sap Digital Manufacturing Cloud



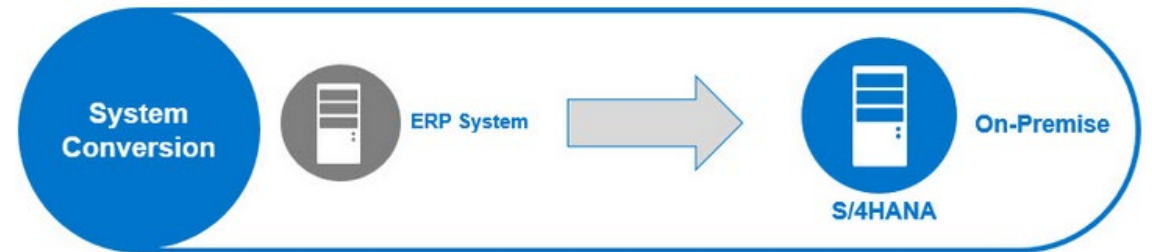
# SAP® - NEXT STEP ARPA INDUSTRIALE (2022-2023)

## Sap Integrate Business Plan



## Migration to S\4HANA

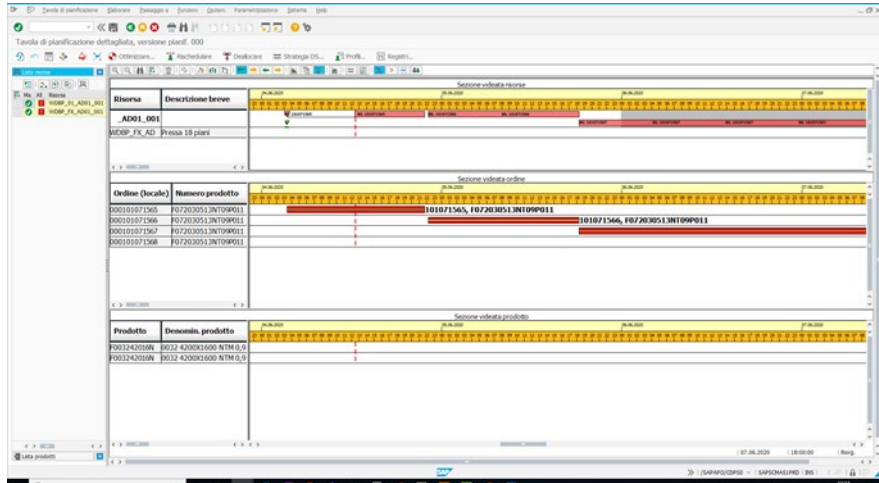
- ERP System
- SCM System



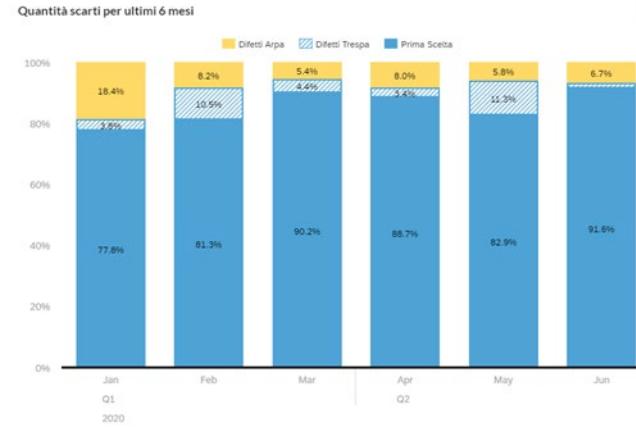


# SAP® - FENIX FACTORY DASHBOARDS

## Production Scheduling

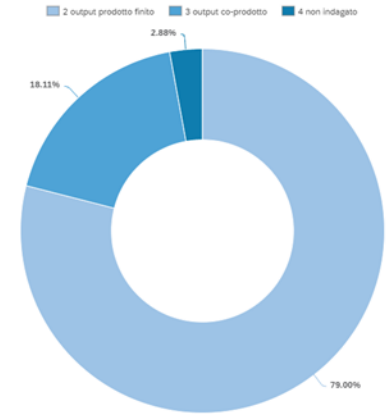


## Quality Results

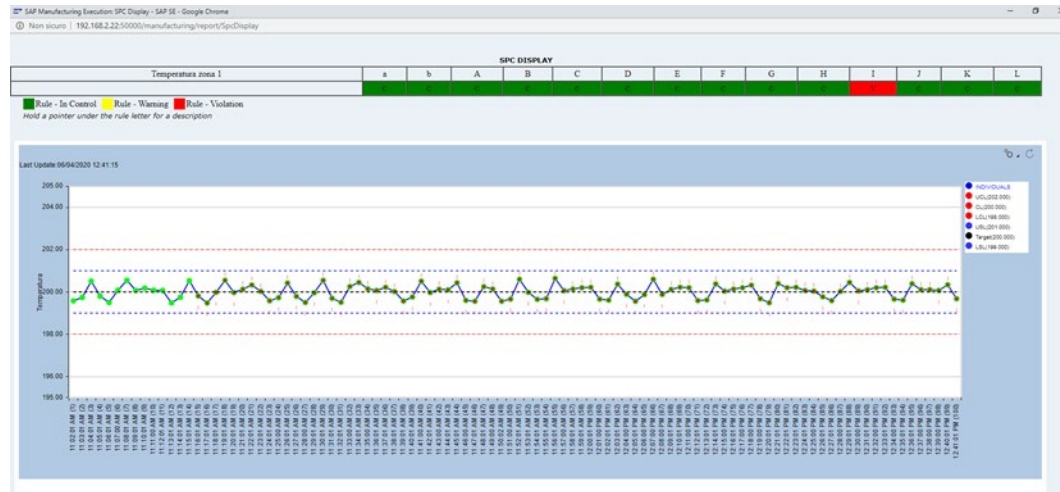


## Arpa MASS BALANCE REPORT

Tons per PRODOTTO FINITO, CO-PRODOTTO e NON INDAGATO

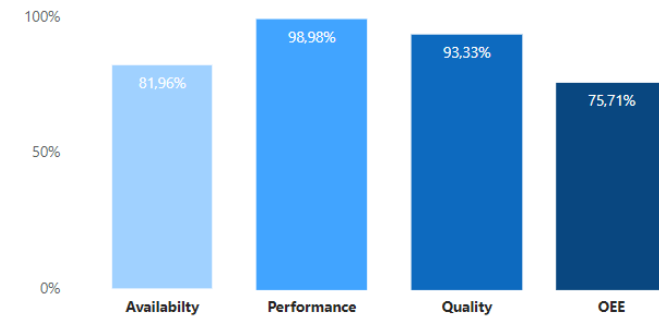


## Statistic Process Control



## OEE

### Indicators



[arpa@arpaindustriale.com](mailto:arpa@arpaindustriale.com)

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[info@fenixforinteriors.com](mailto:info@fenixforinteriors.com)

