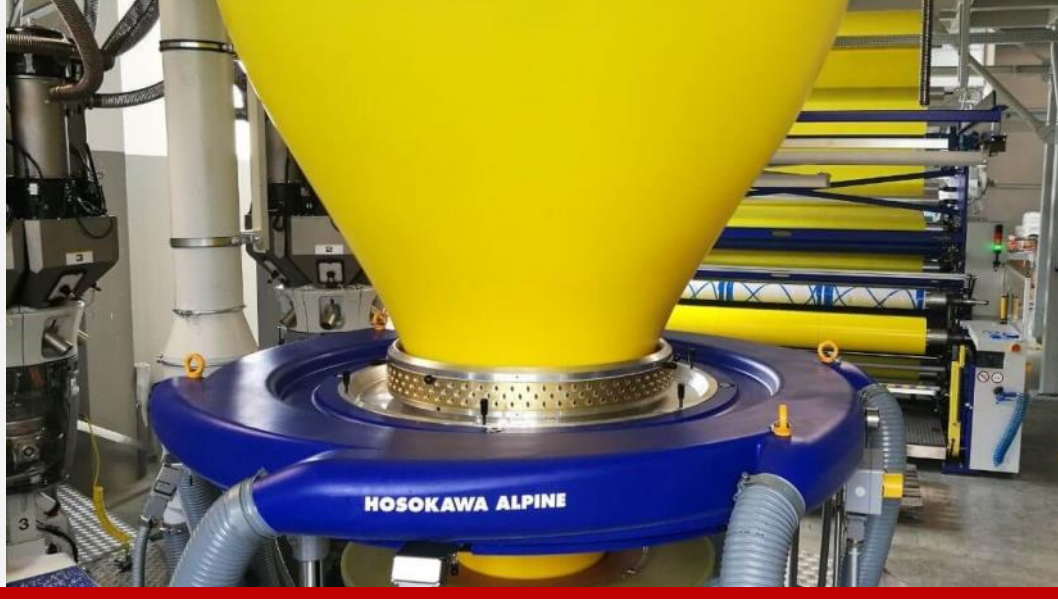
TOOLS FOR SMART MINDS

Case Study



Software 4.0 for the Interconnection of Machinery for a Packaging Company

Ogliari

Challenge

- Interconnection of a heat-sealing machine and an extruder machine
- Compliance with the requirements of the Italian National Industry 4.0 Plan
- To know the production status in real time
- Automation of data collection
- Collect production and process information
- To trace machine stats

Solution

- Based on a system consisting of iDaq, Digital Factory 4.0 and Lilium communicating with the company's machinery and MES

Resources

- iDaq
- Digital Factory 4.0 Lite
- Lilium

Challenge

The Ogliari company produces professional packaging for food and pharmaceutical companies. The goal of Ogliari is to receive some basic data from a heat-sealing machine and a Hosokawa Alpine F3 extruder machine, and **interconnect** the latter one with the **MES** to **increase efficiency**.

The aim is to **automate data collection**, to **trace machine states**, the **number of pieces produced**, to know **the speed and production time**, the **working and set-point temperatures**, the **thicknesses** and the **quantity** of the **plastic films produced**.

The second goal is to seize the opportunity offered by the Italian National Industry 4.0 Plan, which offers state incentives to promote the technological innovation of the country: it is therefore necessary to respect the requirements of the legislature in this regard.

Above, Hosokawa Alpine F3 film extruder

Ogliari srl is a family-run company with a thirty-year know-how, whose propensity to invest in machinery and new technologies is incessant.

The company, which specializes in flexible plastic packaging and high density coils, has constantly improved the quality of its products thanks to the insertion of machines

for extrusion equipped with cutting-edge innovative systems.

Ogliari srl is able to meet the demands of the various sectors for non-standard measures and innovative materials, thanks also to continuous technological updating.

The strength of Ogliari, in addition to family continuity, is customization, flexibility in studying tailored packaging and highly functional solutions.

The sectors that the company addresses are food, pharma, cosmetics, technical packaging and coupling.

We have the specialization in the pharmaceutical and food sector supported by the Uni En Iso 9001 certified system since 2004.

www.ogliariimballaggi.eu

Ogliari Imballaggi srl

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Solution

To meet the needs of Ogliari, we used our software for Industry 4.0: iDaq, Digital Factory 4.0 and Lilium, achieving the objectives with a complete and scalable solution in a short time.

iDaq is used to communicate directly with the machines (heat sealer and extruder) through **OPC** protocol and through other dedicated protocols.

Hosokawa Alpine F3 film extruder

iDaq collects the main production data listed below.

Data acquired from **Hosokawa Alpine F3 film extruder**:

- **Machine status**
- Working and set-point **temperatures**
- Production **speed**
- **Thicknesses** and **quantities** of the plastic films produced (**extrusion quantities**)

Data acquired from **Mobert G200 heat sealer**:

- Machine **status**
- **Number** of bags produced
- Production **time**

Digital Factory 4.0 provides a **global view of the plant** and forwards the parameters of the batch to be performed on the **Hosokawa Alpine F3** machine on the basis of what the operator has chosen from the MES.

Lilium deals with the **transfer of data to the company database**, from which the MES extrapolates the information for viewing and archiving, and the transfer of data from the database to **Digital Factory 4.0** and **iDaq**.

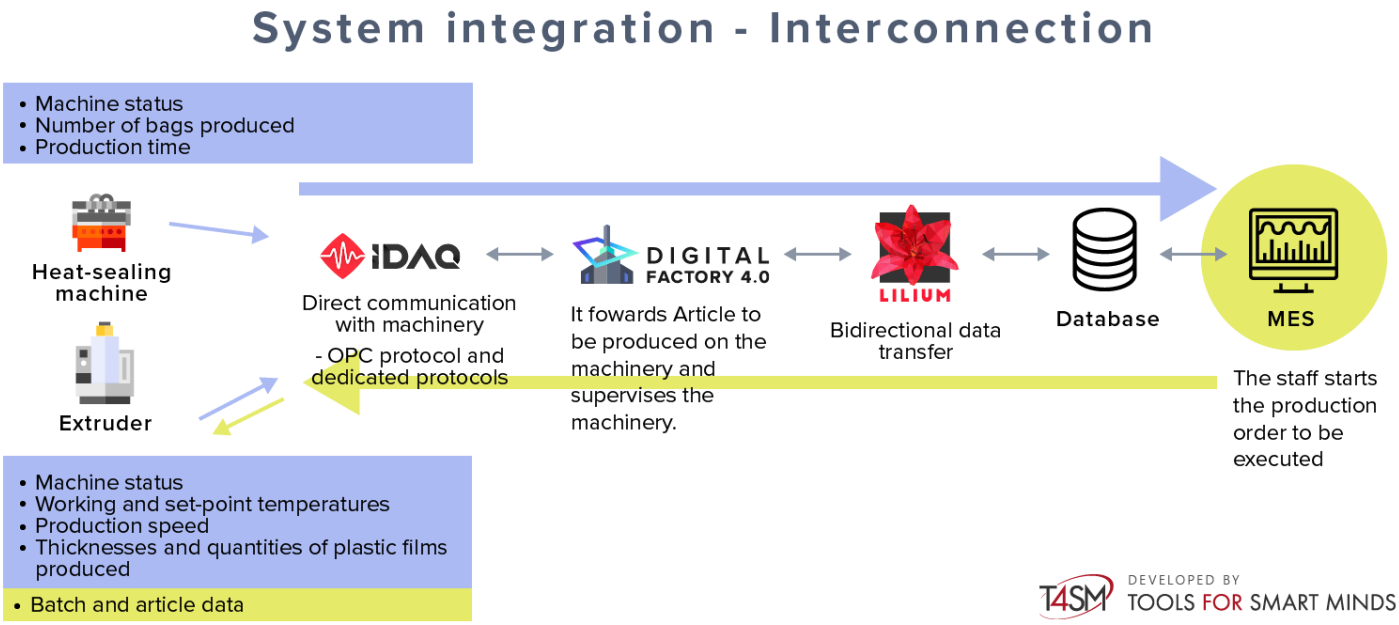

Diagram of the interconnection of Hosokawa Alpine F3 film extruder and Mobert G200 heat sealer

TOOLS for SMART MINDS (T4SM) is a system integrator that develops software solutions for manufacturing companies.

T4SM is Alliance Partner of National Instruments and the development team consists of Certified LabVIEW Architects (CLA) who have long experience in LV Real-Time Programming and LV-FPGA.

T4SM designs from scratch to high-quality solutions easily integrable with third-party products, which help customers to shorten time-to-market of their systems.

T4SM uses the AGILE methodology for the development of software projects and the co-design of applications with immediate benefits for customers, helping them to gain a competitive advantage over competitors.

For technical support and product information:

www.toolsforsmartminds.com

TOOLS for SMART MINDS

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Benefits and Results

All the pre-set objectives have been achieved, allowing Ogliari to obtain significant benefits:

- **Time-saving:** the items to be produced by order initiated by the MES are sent directly to the specific machine involved.
- **Cost determination:** with all the automatically collected production data it is possible to have an accurate cost report.
- **Reduction of human errors:** data acquisition is automatic, reducing errors due to manual operations.
- **Traceability:** all the data of the production cycle are tracked and there is a production history committed per batch.
- **Company interconnection and tax benefits:** the legislature requirement for company interconnection between machinery and management has been respected in order to have access to tax benefits offered by the Italian National Industry 4.0 Plan

Client Comment

"I am very satisfied with the collaboration we had with T4SM in the realization of this project. In addition to demonstrating considerable technical and design expertise, they were able to propose innovative and very useful solutions, which now allow us to have a constantly updated and monitored situation in our production process."

Osvaldo Ogliari – Owner — Ogliari Srl