



DIMOFAC

# Intelligent injection moulding Pilot line

IPC

## IPC IN A NUTSHELL

**Founded:** 2016

**Location:** Lyon, France

**Technology:** Injection Moulding

**Industry:** Plastic

**Website:** <https://ct-ipc.com/>



## ABOUT IPC

IPC is the Technical Centre of the French plastics and composites industry, with more than 3000 SMEs directly connected to IPC. As such, IPC is in charge of providing the plastics and composites industry with innovative and high added value facilities and manufacturing pilot lines, cutting edge expertise and services. IPC covers the full industry value chain with its key fields of expertise including design and simulation of parts and processes; advanced injection moulding and tooling; thermoplastics materials; composites materials; plastronics. Main markets addressed today encompass automotive, consumer goods, aeronautics, health, packaging, connectors, house appliances, horology. Developing new value chains is a key strategic issue with focus e.g. on micro / nanostructured plastic parts, microsystems on plastics; smart composites; multi-materials additive manufacturing.

## IPC PILOT LINE

This pilot aims to produce plastic parts by injection moulding process. The configuration of it consists of combining a mould, a material, an injection machine and a thermal controller. Setting and monitoring the process are based on the exchange of data between different Asset Administration Shells of the pilot assets. It also includes a Digital Twin of the injection process. The online quality inspection of plastic parts just after their moulding is also included. It consists of three different QC stations based on non-destructive technologies and one traceability station. The implementation of Asset Administration Shells makes it possible to exchange data to configure the workcell, save the QC results and traceability of the parts.

**Pilot line by IPC (FR) owning technologies for intelligent injection moulding for production of plastic products. The pilot line integrates data collection from multiple assets, namely injection machine, mould, engraving device and a dedicated inspection system for quality control. A digital twin of the injection moulding machine enables the calculation of advanced markers for process supervision.**



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## SERVICES OFFERED

### 1 Manufacturing Audit

AAS development of specific asset used in plastic manufacturing - Evaluate (time, cost, deay) the feasibility of module within a plastic factory.

### 2 Test before invest

Process recipe development - Configure the pilot line to company who would like to test module before investment. In that case The company have to provide a mold.

### 3 Product manufacturing with manufacturing data

Manufacturing of initial product for validation of the process, and production of process and quality windows

### 4 Workshop

Demonstration of the Pilot line

## BENEFITS

(Re)Configuration, preparation and supervision of Manufacturing of plastic product

(Re)Configuration and preparation of quality inspection devices for plastic products

## VALUE PER SERVICE



- **Demonstration of the Pilot line – Free**
- **Manufacturing Audit - 2/3 days of IPC workforce in client premises**
- **Test before Invest - TBD**