ARROWHEAD TOOLS

A PROCESS DATA GENERATOR TO BOOST DIGITAL MANUFACTURING

GOAL

Digital Manufacturing is based on intelligent process data handling, starting from data acquisition, to analysis and application. During the engineering and deployment of projects, many times reliable process data is missing. Here is where the Process Data Generator comes in the picture.
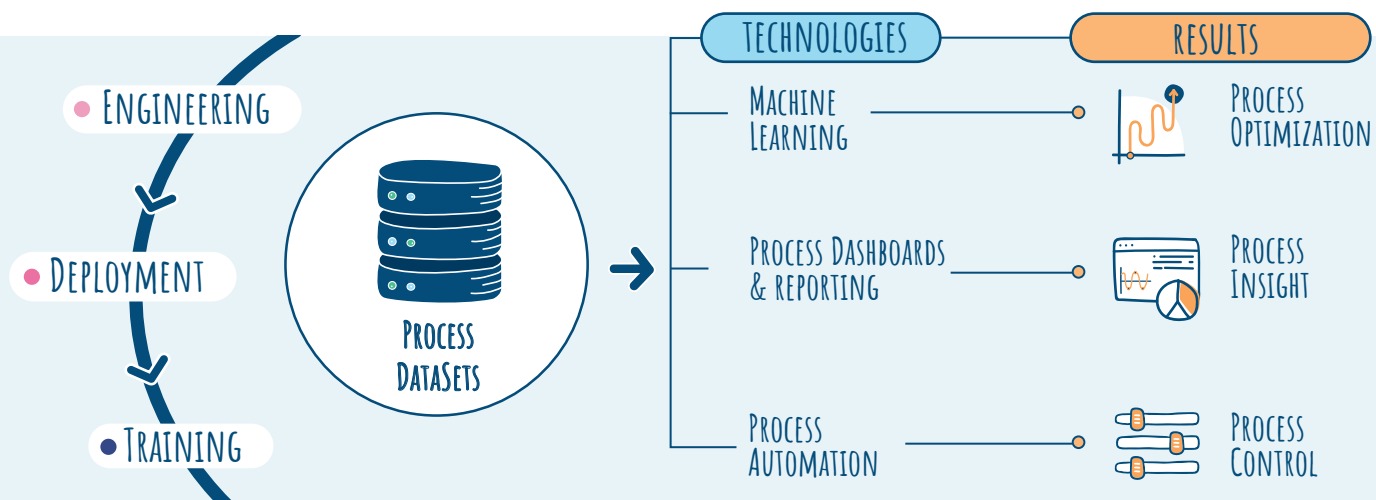
Challenge

Digitalization of production processes is becoming a strategic roadmap in every manufacturing segment. Since the proposed goals are more and more challenging, the implementation of the solutions becomes extremely complex and this in all aspects of the life cycle of the solution: programming, testing and Training.

While most of the technology is available, many times process data are missing or are incomplete to guarantee a reliable result in all circumstances. This makes that the solution is not always robust enough for industrial automation projects or digital manufacturing. MSI is pointing at a target that is focused on providing a software environment that allows to build a reliable process dataset, of any process or subprocess, and is called Process Data Generator.

Having reliable Process Datasets opens multiple opportunities for better Digital Manufacturing Projects since it gives the opportunity to gain process control, process insights and process optimization before "touching" the process. The tool will be a big support to do better programming, since more exhaustive tests will be done, including stress tests and exception tests. Additionally the PDG, integrated in a well designed HMI will allow good operator training.
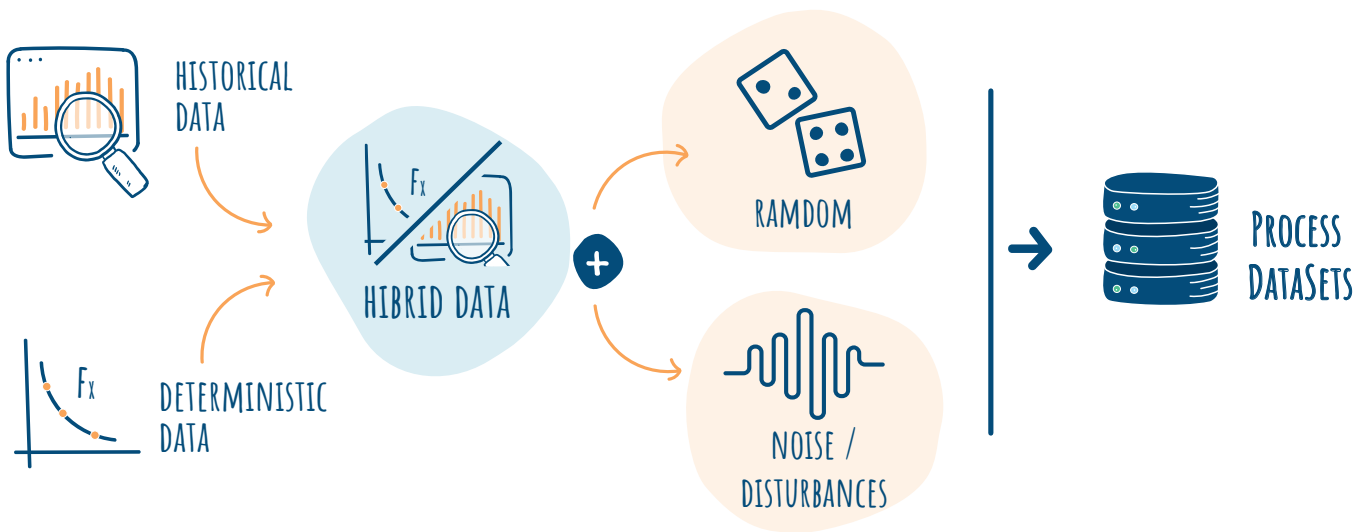
- Engineering
- Deployment
- Training

Process DataSets

TECHNOLOGIES | RESULTS

Machine Learning → Process Optimization

Process Dashboards & reporting → Process Insight

Process Automation → Process Control

ARTEMIS Industry Association

Engineering Phases

Requirements	Functional Design	Procurement Engineering	Deployment & Commissioning	Operation & Management	Maintenance	Evolution	Training & Education

Results

The software development done by MSI makes it possible to build Process datasets in different ways and with multiple levels of complexity. The PDG, Process Data Generator, can start from existing historical data, deterministic data or a combination of both.

These data can be transformed, randomised or disturbed in such a way that the original process data is enriched to fit better the needs of the characteristics of the required dataset.

HISTORICAL DATA

DETERMINISTIC DATA

HIBRID DATA

RAMDOM

NOISE / DISTURBANCES

PROCESS DATASETS

Partner Data

MSi grupo

MONDRAGON SISTEMAS

MSI is a provider of services for production process digitalization where it coverts historical process data into a data source for advanced control solutions for improved Energy Efficiency, Higher product quality and better maintenance. MSI has a broad experience in Glass Manufacturing, Metal transformation and water treatment plants.

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