

## 1 What is it?

Traceability is the essence of factory digitalization. It consists of collecting data on everything that happens to the product during the production process to later analyze them and improve both the efficiency of the process and the quality of the product.

## 2 Benefits

Thanks to the implementation of traceability in the factory, it is possible to clarify “when and where was produced what and by whom”. Its main benefits are the following:

### Security

In the event of any failure of the product in the market, DigiProces, as the manufacturer, can quickly present data on the raw materials and the production process that affect the product in question.

### Compliance


DigiProces can ensure that the production process followed to manufacture each product is in accordance with what is specified in the latest version of the documentation approved for its manufacturing.

### Conformance

DigiProces can prove that the quality standards required for each product/customer/market have been followed.

### Quality

DigiProces can find the root causes of problems that arise in the production process in an agile and easy way, which directly means an improvement of product quality. At the same time, the image of our customers is protected thanks to the fast and reliable response of DigiProces.

A background image of a factory floor with various machines and a worker. The image is partially obscured by a blue overlay containing text.

“We are not satisfied with just a test system in the end of the line. If we realize that something has gone wrong, we want to be able to link the failure with every process that has happened in our factory”.

David Batet. CTO

# 3 MES: FactoryLogix

DigiProces uses Aegis MES (Manufacturing Execution System), FactoryLogix, as a powerful tool for manufacturing control. FactoryLogix is responsible for collecting data for traceability, from reception of raw materials to the shipment of the product, going through all the manufacturing processes: kitting, SMT, THT, coating, Box Build, test and packaging.

Internal traceability at DigiProces has two main focuses:

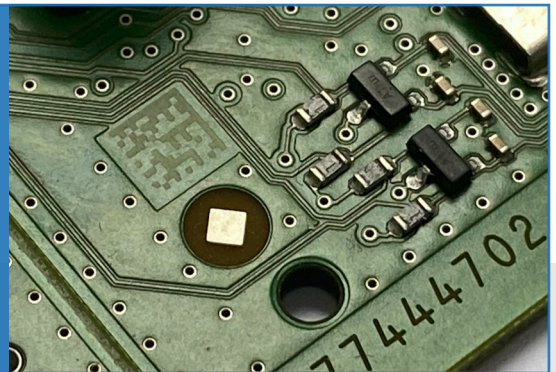
## ▶ Raw materials

The components are identified with unique numbers, against which we have information related to the supplier, order number, batch quantity, Date Code of the component...



## ▶ Processes

The production process always begins with the identification of the product to be manufactured with a unique identifier (S/N) engraved with laser in DMC (Data Matrix Code) format.



1. We use digital work instructions coming directly from process engineering, which, through the approval chain, releases them as the current ones for production. The version of this digital documentation is registered in the system against the production batch. The digital work instructions allow interaction with the operator for the introduction of process data if needed.



2. The process parameters of each phase are registered against the S/N.
3. The tooling used, also with a unique identifier, is recorded as the one used for the S/N in process.
4. Raw materials with a unique identifier are recorded as consumed in a particular S/N.

# Genealogy

Thanks to the traceability system of the factory, DigiProces has the genealogy (provenience) of each one of the products manufactured. FactoryLogix allows to enter a batch number of raw materials and receive as a response all the S/N that have these raw materials assembled. On the other hand, it allows to enter a S/N and receive as a response the entire production process associated with it with dates, process parameters, final test parameters, tools used and the operators involved.

Operation	Process Flow	Workstation	Category	Started	Finished	Action	Operator	Batch	Quantity	Assembly	Routed To Pathway
Laser Marking	Process Flow	V3 LINK	SWRSTGFLXLINK	6/29/2021 10:52:4...	6/29/2021 10:52:4...	Passed	Laser (xlink)	OFA20104001186	1	1510537W0RKL3G...	
SHT Print Top	Process Flow	Printer DEK	IT010163	6/29/2021 6:06:48...	6/29/2021 6:06:52...	Passed	AngieAdmin	OFA20104001186	1	1510537W0RKL3G...	
SHT SPT Top	Process Flow	SPT L1	SWRSTGFLXLINK	6/29/2021 6:11:14...	6/29/2021 6:11:19...	Passed	SV (xlink)	OFA20104001186	1	1510537W0RKL3G...	
SHT A01 Top	Process Flow	KY A01 ZENITH	SWRSTGFLXLINK	6/29/2021 6:29:59...	6/29/2021 6:30:06...	Passed	xlinkTransmitter	OFA20104001186	1	1510537W0RKL3G...	
SHT A01 Top	Process Flow	KY A01 ZENITH	SWRSTGFLXLINK	6/29/2021 6:29:59...	6/29/2021 6:30:06...	Passed	xlinkTransmitter	OFA20104001186	1	1510537W0RKL3G...	
SHT A01 Top	Process Flow	IT010164	IT010164	6/30/2021 6:42:49...	6/30/2021 6:42:59...	Passed	AngieAdmin	OFA20104001186	1	1510537W0RKL3G...	
SHT Place Top	Process Flow	IT010164	IT010164	6/30/2021 6:44:30...	6/30/2021 6:44:35...	Passed	AngieAdmin	OFA20104001186	1	1510537W0RKL3G...	
SHT Place Top	Process Flow	IT010164	IT010164	6/30/2021 6:44:45...	6/30/2021 6:44:53...	Passed	AngieAdmin	OFA20104001186	1	1510537W0RKL3G...	
SHT A01 Top	Process Flow	IT010164	IT010164	6/30/2021 6:45:48...	6/30/2021 6:45:58...	Passed	AngieAdmin	OFA20104001186	1	1510537W0RKL3G...	
Change the prod...	Process Flow	IT010164	IT010164	6/30/2021 6:46:22...	6/30/2021 6:46:22...	Route Updated	AngieAdmin	OFA20104001185	1	0537W0RKL3G - 0	
Change the prod...	Process Flow	IT010164	IT010164	6/30/2021 6:46:22...	6/30/2021 6:46:22...	Passed	AngieAdmin	OFA20104001185	1	0537W0RKL3G - 0	
Change the prod...	Process Flow	IT010164	IT010164	6/30/2021 6:46:24...	6/30/2021 6:47:35...	Passed	AngieAdmin	OFA20104001185	1	0537W0RKL3G - 0	
Change the prod...	Process Flow	IT010164	IT010164	6/30/2021 6:47:36...	6/30/2021 6:47:43...	Passed	AngieAdmin	OFA20104001185	1	0537W0RKL3G - 0	
TH1 Place - 1	Process Flow	TH1 WAVE L1 - 1	IT010164	6/30/2021 6:50:27...	6/30/2021 6:50:43...	Passed	AngieAdmin	OFA20104001185	1	0537W0RKL3G - 0	
Actividad	Started	Finished	Approval Status	Acknowledged By							
Recorridón de Porador Actividad #1	6/30/2021 6:50:27 PM	6/30/2021 6:50:32 PM	ok	AngieAdmin							
TH1 Place 2	Process Flow	IT010165	IT010165	6/30/2021 6:51:29...	6/30/2021 6:51:35...	Passed	AngieAdmin	OFA20104001185	1	0537W0RKL3G - 0	
TH1 Place 3	Process Flow	TH1 WAVE L1 - 3	IT010166	6/30/2021 6:52:00...	6/30/2021 6:52:26...	Passed	grosell	OFA20104001185	1	0537W0RKL3G - 0	

# 4 Test data management

DigiProces has a powerful software tool for the analysis and management of data from production test stations (Production Test Data Management System).

The analysis reports provide a quick overview of key production performance and product quality indicators, e.g. Cp, Cpk, Mean, Distribution etc, and enable you to focus your efforts where it really matters.

This software automatically imports production test results from automated test systems. All test results are statistically analyzed and stored in a central database, which allows an easy user access to the test data through search tools and select criteria in a web-based user interface. While importing the test results, our test data management tool automatically monitors any alarm conditions in the imported results (WECO rules) or in the monitored production process index values (Cpk).

