

## How to get a 100% transparent vision of the current reality of your plant operations, activities, and communications.

*The path towards Industry 4.0 involves implementing a series of new methodologies, cutting-edge technologies, and changes in the corporate culture to improve the efficiency of operations, access to information and the optimization of communications at all levels of the company. The objective of this digital transformation is to increase industrial competitiveness, reduce costs and maximize benefits. Having a digitization plan is the first step. The company must be aware that change is necessary, but not just any change.*

In the current paradigm there are many technologies with different purposes. One of these is the Manufacturing Execution System (MES). It is a software focused on production management which plans, monitors and documents the management of the plant. The implementation of this technology represents a substantial improvement in how production is managed in the plant and has benefits to all levels of the organization.

There are often cases where hasty or poorly thought-out decisions lead to very high investments in software, but without the expected or promised results. Implementing such a system can be lengthy, tedious, confusing, unprofitable and may even be a waste of time and resources. Avoiding this scenario should be the highest priority for any company that wants to grow towards 4.0. We should always think about how things are being done today and what the business needs. Without solving these questions, it becomes very difficult to visualize the way forward.

Tracing a tailored strategy reduces the risks of failure in the implementation of any digitization project. At AG Solution we offer our clients a successful methodology that guarantees that the technologies we will install respond to their real needs and adapt to their digitization plan.

AG Solution's **Value Stream Mapping 4.0** service provides a 100% transparent vision of the current reality of plant operations, activities, and communications. From this point and through consulting, we can design the optimized future state and the most important thing: the path to that future.



1. AUDIT



2. PREFERRED  
IMPROVEMENT SELECTION



3. IMPLEMENTATION &  
MEASUREMENT

The VSM 4.0 methodology is built as a Greek temple, each column stands to guarantee the digital success:

#### Product end-to-end

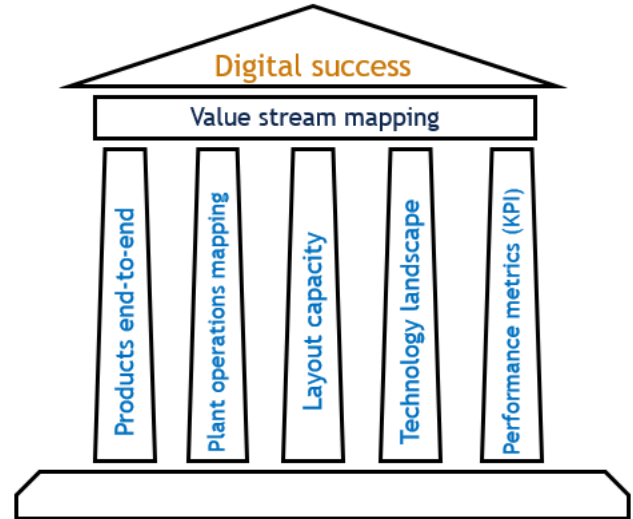
The Value Stream Mapping (VSM) or value flow map is a tool used in Lean Manufacturing to analyse the material and information flows required to make a product or service available to the end customer. This tool represents an efficient management method to analyse the current state and to design the improved future state of a specific process. It is a flow chart that shows all the critical steps in a specific process and easily quantifies the time and volume taken in each phase. Value stream maps show the flow of both materials and information as they go through the process.

#### Plant operations mapping

The VSM is useful to identify opportunities for improvement and eliminating or reducing wastes in the production process, thus increasing the efficiency of the value flow. Each of the operations that are carried out to manufacture the products are recorded according to whether they add or do not add value from the customer's point of view. This is eventually to eliminate the non-valuable ones.

#### Layout capacity

It is crucial to check the plant layout capacity in terms of material and equipment capacities. The result allows us to identify where to improve and design an optimized future state to meet the expectations.



#### Technology landscape

Once the material and information flows currently used for a process or for the entire plant have been identified, it must be determined which implanted technology manages each part of the process as the materials advance.

The technological matrix defines the state of maturity of a plant in terms of digitization, and it is precisely the state of said current matrix that should encourage digital transformation projects.

This analysis exercise allows detecting obsolete technologies, old versions and outdated software, redundant communications between processes, lack of automation in operations, etc ...

Once the technological matrix that is present in the different layers has been identified, it must be crossed and compared with the definition of the future state made in the previous phase. It is at this point that a list of functional and technological requirements can be drawn up that fit the vision of the future state.

### Performance metrics (KPIs)

Defining the Key Performance Indicators (KPI's) of each of the main departments related to the product flow (Production, Quality, Maintenance, and Inventory) is a key factor to get the real picture of the current state of the plant.

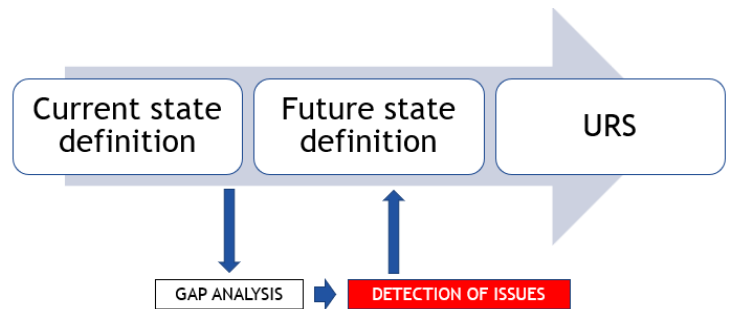
At this stage, depending on the criticality of the metric, it is common to find some KPI's that are very reliable and well defined and others that are less clear. Identifying the accuracy of the metrics definition and measurement allows us to detect where to align efforts to reach the desired future state.

### Digital Success: MES URS definition

To successfully execute this methodology, it is required the participation of each department that has direct action with the plant's operations. From the reception of materials through production, maintenance, quality, warehouse, and expeditions. Only in this way it will be possible to detect the real needs to which an MES system has to respond.

These will be reflected in a document of specifications required by users (URS document) that will allow you to immediately select the solution that fits best. With this information, the success of the implementation of the selected technology is maximized and the time of adoption by the users is considerably reduced.

Responding to how things are being done today and to what is being used allows us to know what needs to be modified to produce better and what needs to be implemented. It has been demonstrated that the strategic application of technology guarantees scalable results that translate into benefits in the short and medium term.



### Success Case: Liquats Vegetals

We have implemented our approach in over 40 factories already. One of these factories is at [Liquats Vegetals](#).



**Liquats Vegetals** produces 100% vegetable drinks using high-quality ingredients and water from the Montseny Natural Park. They were aware that change was necessary. Drawing a tailored strategy reduced the risks of failure in the implementation of any digitization project.

They had the need to automate and digitize their production management.



Their internal communication required improvement to access their production in real time.

After we executed our method there were several very visible benefits already. There was a significant reduction of risk in the implementation of an MES system. The factory is now able to choose the right MES technology according to the current needs and business strategy. If you would like to know more about this project you can always read about it [on our website](#).



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