AMIA Systems
We are an IT Company who is developing its own software SIMOGGA™ which helps manufacturing companies to achieve Operational Excellence.

SIMOGGA SOFTWARE
An innovative and interactive software dedicated to simplify your work and to improve your efficiency. It allows you to Visualize, Quantity and Optimize your Production processes.

CONSULTING
We guide you through transitions by combining IT and Innovation to help you achieve Operational Excellence.

TRAINING
We empower your teams by training them to use the SIMOGGA solutions at their full capacity.

The simple, visual and interactive solution

1. Layout design
   Visualize, Quantify and Optimize Factory Layout

2. Planner
   Simulate, Plan and Schedule Production

3. Connect
   Collect and Analyze data directly from the source (ERP, MES, Machines)
A graphical LEAN tool to visualize, quantify and optimize operations to achieve Operational Excellence

**Why digitalize Lean?**

Lean is a methodology and a spirit mindset. But when we want to start in this field, ?
When we are already on this mindset, how to looking beyond the local and micro improvements?
How to take a global perspective on your site and to be able to propose improvements with a positive impact for all the departements and not locally?
This perspective is complex to analyse manually with the common tools (Post-it, drawings, Excel, Visio…). The help of a software can greatly facilitate the analysis. SIMOGGA has been developed with this orientation:

- supporting the daily work by simplifying the complex analysis;
- offering visual representations to take the right decision anytime,
- convincing people (on the field or the management) the interest of your visual and quantified propositions.

**SIMOGGA Solutions**

SIMOGGA Solutions is composed different module reduction lants, maintenance ites and arehouse. These unique and innovative solutions guides the users through the improvement and optimization process that allows them to achieve operational excellence.

- Because everybody is unique and has their own process of reflection, SIMOGGA proposes different alternative tools to achieve the same goal, from optimisation and automatic solutions to manual creations guided by SIMOGGA through methods, KPIs, graphs, tools.
- To create a consensus and facilitate the change management, all the stakeholders have to participate to the creation process. SIMOGGA proposes an approach based on the simulation of “what-if” scenarios to take into account the different opinions and compare them into comprehensive and visual dashboards.
- There is no just one way to apply Lean. Each company will adapt it to its specificities, constraints. The combination of methodologies (Lean with other methods like Quick Response Manufacturing (QRM), Systematic Layout Planning (SLP), Cellular manufacturing, Lean for Job Shop) allows the users to think differently and generate new solutions “out of the box”.
- A complete and global analysis can be time consuming for the data collection. SIMOGGA is able to provide pertinent results with few amounts of data and identify quick wins. From macro to micro data: set global data and progressively increase the granularity if it is necessary.
- A transformation / improvement program is progressive and incremental. SIMOGGA supports theses steps through a Costs/Benefits analysis for each level of transformation (Kilometers, Costs and Time spent in the transport, Lead Time and Work-In-Progress). By feeding SIMOGGA with “up-to-date” data, the transformation strategy will evolve with the company.

**Environment**

- Discreet environment
- High Mix, Low Volume
- Great complexity (in process and flow)
- Integrating a large human capital component

**Benefits**

- Increase collaboration for all actors involved in the change process
- Involve all the operators in designing solutions that benefit the entire plant facility
- Accelerate the decision-making process and improve agility by decreasing management time
- Awaken the reactivity to market demands and improve the “on time delivery”
- Awaken eased problem identification and easy solution development
- Propose a complete toolbox to suit the different ways of working and encourage ideation
- Decrease the factory workload, factory traffic through the creation of product families and cells
- Improve the throughput, resource usage, Lead time and WIP by decreasing waste

**Contact**

Emmanuelle Vin
M : +32 479 727 905
E : evin@AMIA-Systems.com

AMIA Systems S.A.
Drooteekstraat 13
1020 Brussels, Belgium
www.amia-systems.com
SIMOGGA to digitalize your Lean Approach

1. **Visualize** flows, factory layouts and planning setups to validate data, resources and processes in the entire plant.
2. **Analyze** flows by using dynamic spaghetti diagrams, decrease the complexity of your global analysis by using filters and various tools to allow immediate problem assessments, build machine cells (QRM and cellular manufacturing) and dedicate them to product families.
3. **Create** multiple scenarios guided by proposed optimisation or manually build out of the box solutions which take the knowledge from the field.
4. **Evaluate** different solutions through planning simulations and create dynamic Value Stream Mapping (VSM) to reduce waste in your processes.
5. **Compare** and decide together as a team and pick solutions that are suitable and beneficial for the company’s capacities and restrictions.
6. **Collaborate** with each other throughout the continuous improvement process with SIMOGGA Solutions.

**Human Benefits**

- Easy to use and involves the teams
- 2D solution to facilitate the use and the understanding by all the stakeholders
- **Accelerator** for the decision-making process and increases collaboration
- A **collaborative** approach to facilitate change management
- Eased **problem identification** and development of various solutions
- Increase of the **agility** to respond to the variability (Resource’s aleas, products, demand, investment…)
- Save capital investment, time and costs

**Operational Benefits**

- Dynamic **Spaghetti Diagram** for thousand of products in one click
- Immediate dynamic **VSM** (Value Stream Mapping)
- **Bottleneck** detection and support to remove it
- **Global view** of the site low, efficiency, throughput and capacity under material and human constraints
- Waste elimination and costs, lead time, WIP reduction
- Immediate assessment of KPIs
- **Multiscenarios** and dashboards to compare the different alternatives

**AMIA Systems**

AMIA Systems develops visual, simple and interactive solutions to facilitate the organisational improvements of production/maintenance sites and warehouses. Human oriented, our softwares allow to create together the solutions for tomorrow.
A graphical LEAN tool to visualize, quantify and optimize factory layout design based on global flow analysis

**Environment**
- Discreet production environment
- High mix, low volume
- Great complexity (in process and flow)
- Integrating a large human capital component (high expertise)

**Benefits**
- Save Capital Investments, Time and Costs
- Improve product quality
- Give material flow efficiency
- Eliminate waste during production
- Reduce Lead Time
- Reduce the distance travelled by personnel or material handling
- Increase overall plant productivity
- Simulate the plant throughput
- Reduce inventory

**Functions**
- Easy to use
- 2D factory layouts to facilitate the understanding by all the stakeholders
- Only few amounts of required data to perform analysis
- Immediate assessment of KPIs
- Multi-scenarios and dashboards to compare the different alternatives
- Automatic optimization of the layout to target the best solution
- Incremental transformation by building manually your own good solution
- Automatic identification of product families
- A collaborative approach to facilitate the change management
- Multiple types of licenses available (fixed, floating, renting by jetton or period)

**About**
SIMOGGA Layout Design is a unique and innovative tool used to visualize, quantify and optimize factory layouts based on global flow analysis. It is a tool that guides manufacturing companies through the improvement and optimization process that allows them to achieve operational excellence. SIMOGGA Layout Design aims at improving factory efficiency by decreasing complexity in the flow analysis process that permits plant management to take strategic decisions.

It is a software too that permits manufacturers to visualize and modify production flows and it allows them to redesign their factory through a helicopter view by using easily modified spaghetti diagrams; which permits to see all the optimized flows by the repositioning of machines, moving of factory equipment, combining of unnecessary workflow stations and analysing of the required investment to simplify the flows and dedicate equipment’s to product families.

SIMOGGA Layout Design cultivates on the knowledge and experience of all key players involved in the improvement process from plant managers to operators. Its interactive ergonomic user interface allows a collaborative approach for all actors involved to allow them create efficient plant layouts and help them prioritize improvement ideas which make for better process efficiency at different levels of production. The uniqueness of the software is the fact that it allows ensure all the operators involvement to design solutions that facilitate the process of change by improved layout efficiency which accelerates the decision-making process.

**Business value**
As the number of competition in the international marketplace is increasing, surviving in this environment is not easy. Sustainable Manufacturers are always searching for ways to produce high quality products at the lowest possible price to deliver satisfaction to their customers. Having a flexible production systems allows to respond to these needs and reach objectives with as few resources as possible. SIMOGGA Layout Design gives manufacturers a chance to define adequate processes for current or new products by having a global flow analysis which allows them to take strategic decisions, build solutions to save capital investment and time. SIMOGGA Layout Design is a tool used for workflow analysis and layout optimization in production plants combining visualization and quantification of the change processes. It supports Lean manufacturing methods that helps to transform factory layouts from functional to cellular.
**SIMOGGA Layout Design features**

- From macro to micro data: set global data and progressively increase the granularity
- Analyse the different flows (products, operators, supply, waste...) to accelerate management’s decision-making process
- Make a Costs/Benefits analysis for each level of transformation (Kilometers, Costs and Time spent in the transport, Lead Time and Work-In-Progress) to support the Lean Methodology by automatically analysing the Spaghetti Diagram and Dynamic VSM (Value Stream Mapping)
- Support Quick Response Manufacturing (QRM) methods by defining the product families and forming the cells to easily manage the factory (Cellular Manufacturing)
- Support Systematic Layout Planning (SLP) by simplifying the process of layout creation (Site, blow-ck and detailed layout) in all-in-one

**Simulate to achieve a consensus**

- The customer extracts their data from an ERP (or another database) to fill in an Excel sheet to be transformed into an “xml file”
- The data can be directly collected or changed through the SIMOGGA user interface
- The data and its reliability can be validated thanks to the visual view of flows and equipment
- The user creates the As-Is situation with SIMOGGA to analyse the current KPIs
- The user analyzes the data using SIMOGGA solutions to generate an efficient factory layout
  - A graphical view to allow the flow analysis without any constraints (technical, historical or cultural)
  - A factory view to design the layout, to improve the flows and to build various scenarios before applying the best one
  - A “quick compare” scenario interface to test and validate the changes of the production (demand variation, new product, new mix product, new investment…)
  - A high interactivity rate to capture the input of the operators and create a consensus
- The plant managers chooses the solution that best fits their needs

**Data and building Features**

- Use a simple picture of the factory blueprint to design the layout
- Support different types of areas such as site, building, floor area and cell to focus the analysis on identified areas
- Build the aisles for each zones by adding crosspoints, In/Out
- Create cells manually to keep the ownership of the solutions
- Create product families based on the cells or on various methodologies (Production Flow Analysis, ROC, similarities)
- Automatically optimize the location of equipment by zone or globally
- Optimize cell formation with a genetic algorithm
- Create your own filters (by products, machines, operators, product families)
- Simplify the flow analysis using filters to decrease the complexity
- Quickly identify machines operating below or above their capacity

**Analysis/Results Features**

- Review the layout taking into account all the part-mix ratios, not Pareto because 20% of the products will generate 80% of perturbations
- Analyze the traffic without technical, historical or cultural constraints in the graphical view
- Analyze the traffic with a specific layout using the “factory view”
- Build and test any layout solutions thanks to the great interactivity
- Compare the scenarios within a dashboard
- Analyze aisles congestions and direct connections between machines
- Show all possible routes within the factory to precisely evaluate all flows
- Export the results in CSV, TXT and PNG formats for more reporting flexibility
Advanced planning and scheduling software to visualize, quantify and optimize your production

Benefits
- Eased problem identification and development of various solutions
- Acceleration in the decision-making process and increases collaboration
- Unique tool for finite capacity planning and fine scheduling under constraints
- Simulated and controlled growth
- Reduction in costs, Lead Time, WIP
- Increase of the agility by anticipating the variation of load and reacting against production areas
- Easy to use and involve the teams

Functions
- Automatic scheduling to bring agility on the shop floor and for the commercial department
- Modification of all parameters of the schedule on the fly
- Immediate assessment of KPIs
- Generation of different scenarios to quickly compare the influence of the different decisions
- Graphical and visual representation of the schedule and of the blocking elements
- Visual analysis of the causes of delays (Machines, operators…)
- Integration of travel distances to optimize scheduling
- Tracking of operations and follow the production in real time dashboards
- Progressive deployment and integration to other systems/data base or stand alone

About
SIMOGGA Planner is a software solution used to simulate production planning and generate automated scheduling in real time. It provides detailed schedules of production which helps in scaling down existing problems related to manufacturing operations. It is a major enabler of achieving overall production efficiency by allowing manufacturing companies to visualize, quantify and optimize their entire production – by taking each constraint and specificity of the factory into account. SIMOGGA Planner enables plant managers to take full control of production which allows them to anticipate changes while being proactive.

SIMOGGA Planner allows all possible alternative planning setups to be tested and compared in order to find the scenario that is most suitable and beneficial for the entire plant. Its easy to use graphical user interface allows the involvement of different stakeholders to build solutions together to facilitate the change management process. The visual and interactive interface permits to identify machines that are either under or over capacitated and those that generate a lot of waiting time; which makes for easy identification of bottlenecks during the different periods of production and greatly contributes to the reduction in Lead Time. But facilitates the tracking of the different levels of the Work-In-Progress to initiate increase in the plant’s overall productivity.

Business value
Keeping track of all the operational activities in a plant can sometimes be challenging for manufacturers. A company’s ability to anticipate changes, control both the production planning and scheduling have become the most important elements that every manufacturer wants to recognize. This is because during production, a variety of materials and labour need to be smoothly coordinated to meet customer requirements and evolving market demand.

The planning system of SIMOGGA improves factory efficiency by scheduling and planning each operation of production in the best possible way by taking into account the operational constraints and limited resources.
Decrease Leadtime by 25 to 75%
Decrease the planning management time by 50 to 75%
Increase the throughput, resource usage and operational agility
Improve the delivery date and time
Decrease the WIP on the shop floor
Increase the efficiency of each actor of the factory

**SIMOGGA Planner features**

- From macro to micro data: set global data and progressively increase the granularity
- Use different levels of details to simulate a part or the whole shop floor
- Insert data extracted from ERP through Excel/XML input or direct integration
- Manipulate data through the user interface and visualize them (example: Gantt chart with operations precedence’s)
- Use flow representation (SIMOGGA Layout Design) to validate the data and their consistency
- Configure the schedule based on the needs (shifts, capacity, resources…).
- Build the first scenario with a small amount of data to gradually increase the complexity
- Build and compare various scenarios before applying the best one

**Progressive deployment from simulations to real time scheduling**

The planning system of SIMOGGA improves factory efficiency by scheduling and planning each operation of production in the best possible way by using gradual step by step processes that are distinguished in four levels:

1. The **modeling** and optimizing of a production site by simulation. The simulation model enables the planning of the production while considering constraints, available materials and human resources
2. The deletion of Excel files and the creation of the **schedule automatically** based on the data extracted from the ERP
3. The continuous adaptation of planning according to the current state of production through **progressive integration** with ERP
4. The **continuous improvement** of agility based on data collected, analyzed and transformed into visual information

**Data Features**

- Set a global shift for the factory and sub-shifts for each resource (human and material)
- Schedule each step of the processes from the setup to the measurement and control
- Assign **multiple resources** (Machine, equipment, tools, human) to each operation
- Use alternative routing and process to automatically reassign the products to different machines

**Constraints**

- Customize the batches
- Group products for specific machines and operations
- Dedicate operator(s) to specific machines, zones or by skills
- Limit the number of concurrent orders treated in the shop floor
- Define the schedule’s **priority** (Due date, Release date, …)
- Set a machine as bottleneck to pull the production

**Analysis/Results Features**

- Simulate the production with randomized orders if the list of orders is not available
- View detailed information on each machine/product/order
- Visualize **highlighted bottleneck(s)** based on the waiting time and analyse the causes of these delays (Machines, equipment or operator’s availabilities)
- **Remove the bottleneck** machines by using alternative processes and redirect the workload to machines that are not operating to full capacity
- Visualize Gantt Chart of the schedule for machines and equipment
- Compare multiples KPIs (Lead Time, Use of machines, Lateness, Makespan, Waiting time, Buffer size, etc.)
- Show multiple graphs representing each **KPI**
- Quickly compare **multiple scenarios**, data and results
- Generate the long-term planning and validates the capacity
- Schedule the list of tasks by WorkCentre, by worker
- Export files and results in CSV, JPG, PNG
A visual simulator to analyze your data, give a visual representation and guide you to optimize the warehouse

**Environment**
- Manual picking environment
- High Mix, Low Volume
- Great complexity (in process and flow)
- Integrating a large human capital component

**Human Benefits**
- Easily identify problems and create various solutions
- Accelerate the decision-making process and increase collaboration
- Reduce the arduousness of the work
- Increase of the agility by anticipating the variation of load and reacting against unplanned events
- Involve the teams thanks to the easy to use

**Users Benefits**
- Support the **Lean team** by quantifying the benefits of the improvement suggestions (Costs/Benefits analysis)
- Support the **logistical team** by offering a global view of the warehouse (flows and product rotations) and its efficiency
- Support the **strategy** by simulating picking strategies before implementing the best one (thanks to the comprehensive and operational parameters)
- Support the **business controller** by offering visual KPIs (efficiency by sectors, by operators...)

**About**
SIMOGGA Analytics is a software solution specifically dedicated to the warehouses, to improve the efficiency of the site. Feeding on the data from the WMS our ERP, it transforms these huge amount of data in a visual representation to **easily achieve complex analysis and take the right decision anytime.**

This solution has been designed with field people for field people (Logisticien, Improvement team, Business controllers...) to **simplify their work** and make them more agile and flexible. It combines a flow optimisation module and a simulation module to bring the best results, but these results are always given in a visual way to facilitate the analysis and the understanding.

**Business value**
It is a major enabler of achieving overall efficiency by allowing logistical companies to visualize, quantify and optimize their entire warehouse – by taking each constraint and specificity of the site into account. SIMOGGA’s easy to use graphical user interface allows the involvement of different stakeholders to **build solutions together** to facilitate the change management process. The visual and interactive interface makes it possible to quickly identify area(s) to find the best potential of improvement. The user is guided in its improvement search through various KPIs.

Because the demand constantly evolves and the data changes during the different periods, SIMOGGA Analytics will offer you the possibility to be reactive and become proactive by taking into account your forecasts.

The speed and the efficiency of the analysis allows the user to regularly improve his site. By uploading the last period of picking, **SIMOGGA Analytics** will propose a few **quick wins** (weekly, monthly...) with the best potential and the real achieved gains will be observed during the next period. The user can decide the speed to at which sets in place the proposed improvements.

**Contact**
Emmanuelle Vin
M: +32 479 727 905
@ evin@AMIA-Systems.com

AMIA Systems S.A.
Drootbeekstraat 13
1020 Brussels, Belgium
www.amia-systems.com
Simulate to achieve a consensus

1. The customer extracts their data from an ERP/WMS (or another database) to fill in an Excel sheet to be transformed into an “xml file”
   - The data can be directly collected or changed through the SIMOGGA user interface
   - The design of the layout is built in the **Layout view** to define the different storage and product location
2. The data and its reliability can be validated thanks to the visual view of flows and storages
3. Based on the historical picking data, the user creates the As-Is situation with SIMOGGA to analyse the current KPIs
   - The **As-Is view** offers the flow analysis and an evaluation of all the KPIs (Arduousness, kilometers, efficiency…)
   - The transport time is computed by the simulator (based on the layout) to extract the real picking time (by zones and workers)
4. The user is guided in SIMOGGA to reach improvements and simulate various scenarios to generate an efficient warehouse
   - A **“quick compare” scenario** interface to test and validate the changes in the warehouse (Product location, layout modification, picking strategy, demand variation, new products, new investment…)
   - A high **interactivity** rate to capture the input of the operators and create a consensus
5. The improvements can be spread over time and follow the reality on the field by inserting new data

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Analysis/Results Features

- Create easily and quickly the **layout** with thousand of stock locations (based on templates)
- Create your own **filters** (by products, machines, operators, product families)
- Simplify the **flow analysis** using filters to decrease the complexity
- Analyze the **aisles congestion** and remove it by changing the layout
- Create **product families** (Product Flow Analysis, ROC, Similarities)
- Quickly identify **product locations** with low, medium or high rotation
- View detailed information on each Location/Product/Worker (usage and the evolution over time: Average, Tendency, Variation…)
- Visualize highlighted row concentrating the **best improvements**
- Quantify the required **human resources** to reach the goals
- Compare multiples KPIs (Arduousness, kilometers, product rotation, Potential of improvements, standard picking time, etc.)
- Show multiple **graphs** representing each KPI
- Quickly compare **multiple scenarios**, data and results
- Modify all parameters of the schedule on the fly
- Export files and results in CSV, JPG, PNG

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