



@rgemas Glass Industry Sector Solutions

**Industry 4.0 applications**

[www.argebilisim.com](http://www.argebilisim.com)



## Lean Transformation Before Digitalization

For digital transformation, the production system must be made Lean, traceable and measurable. Lean Transformation studies should be carried out in production. Arge Bilişim consultant staff prepares the company for digital transformation by providing training, theoretical consultancy and applied consultancy services in order to realize this transformation.



## OEE Improvement

It is a KPI used to measure the efficiency of production machines. The OEE of each production machine; performance, quality, operation, planned and unplanned downtime, breakdown-maintenance and open-closed can be measured and reported in real time. @rgemas MES not only measures the OEE of production machines in real time, but also measures and reports the performance of the operators who feed or use the machine in real time.



# ISO Standards Compliant Reports

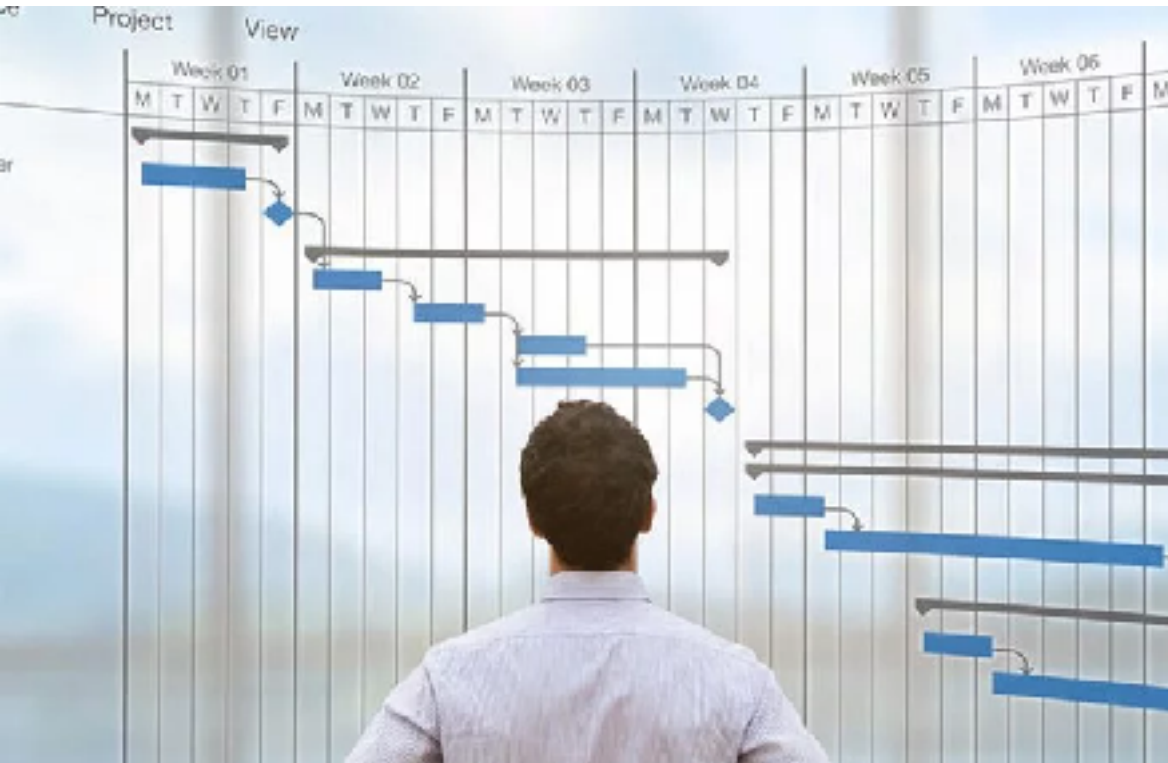
The @rgemas ERP material requirements planning software and @rgeMAS production management software offered by Arge Bilişim include the reports required by the ISO9001 standard used in automotive. We provide reports that are easily acceptable in both main industry and ISO audits. With these reports, we provide our customers with the information systems needed for continuous improvement. Thus, our customer is successful in audits.





# Effective Maintenance and Repair System

With the machine breakdown tracking module, it is aimed to minimize the downtime of the machines due to stoppages. Machine maintenance module is the module where machine maintenance is planned and monitored. Arge Bilişim provides consultancy services, software and hardware for the implementation of these modules



# Production Scheduling

@ргеSchedule has been developed for easy scheduling of even very complex production processes. With this module of @ргemas, multiple scheduling scenarios can be created and turned into real schedules. It is the module where scheduling is realized. Arge Bilişim provides consultancy services, software and hardware for the implementation of this module.



# Predictive Maintenance

It is the automatic sending of the maintenance need notification to the technical service personnel even if the machines are not due for maintenance. The purpose of predictive maintenance is to prevent poor quality and to minimize machine downtime and to prevent a decrease in efficiency.



# Real-Time Production Tracking

Each order, on the basis of its specifications, line entry and exit quantities are tracked in real time. At the same time, the quantity and quality data of the manufacturer in external production is also collected and reported on the internet. Arge Bilişim provides consultancy services, software and hardware for the implementation of this module.





# Traceable Product & Measurable Production System

Traceability is a crucial requirement for customer satisfaction and planned production. In addition, the traceability of the material during production is the basis of measurability. Arge Bilişim, with its industrial engineering staff, establishes bundle, kanban, supermarket and Lean Walking systems for a traceable production system. By building the traceable information system on this walking system, it designs traceable production. With the benefit of traceable production, traceability is ensured for each product in terms of material, labor, quality and energy.



# Quality Improvement

Arge Bilişim, with its industrial engineering staff, provides consultancy services on the installation of quality systems in factories, training on all kinds of quality control methods and quality development. Arge Bilişim engineers establish quality control systems that can be measured, evaluated and taken action in real-time with @rgemas MES software, which includes quality control modules such as in-line (statistical process control), end-of-line (end-of-line quality control), final quality control, internal non-conformity and inspection.



## **Work Plan (Rotation)**

It is a planning module that includes the operation bank, work plan (route) and target calculations required for pricing, planning, OEE measurement, productivity measurement and performance measurement. Arge Bilişim provides consultancy services, software and hardware for the implementation of this module.



# Standard Time Measurement (Stopwatch & MTM)

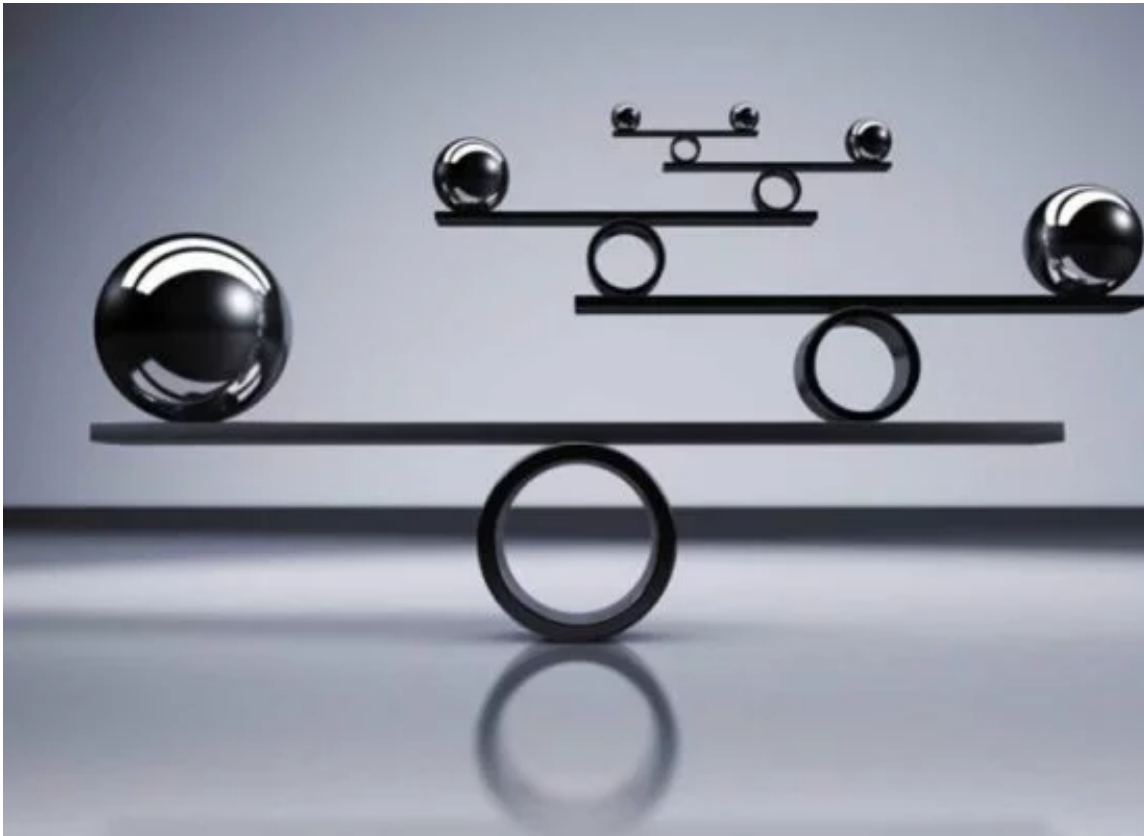
Standard time measurement with chronometer method is the module used for accurate measurement of operation standard times. MTM is the module used for the measurement, optimization and standardization of operation standard times with universal accuracy. Arge Bilişim provides consultancy services, software and hardware for the implementation of these modules.





# Productivity & Performance Improvement

Arge Bilişim's industrial engineers are experts in productivity and quality-oriented factory setup, l-out design and implementation, work and method development (OPEX) department setup, work and time study training, traceable and measurable line setup, productivity measurement, bottleneck management training, fair wage system and bonus system setup, productivity improvement. It provides consultancy services to factories on these issues. The productivity module of @rgemas MES enables real-time measurement of productivity, lost time and performance.



# Balanced Line Setup & Assignment Optimization

Balanced line setup and continuous flow are essential for increasing productivity. Balanced lines must be established in order to provide each workstation with sufficient and high quality materials. Arge Bilişim, with its industrial engineering staff, provides theoretical and practical consultancy services on process management, balanced line installation to increase productivity, bottleneck management in factories. With the automatic line setup module of @rgemas MES, both line balancing and balanced line setup with real operators are implemented.



## **Short and Long Follow-up & Bottleneck Management Module**

These are the modules used for activities such as reaching the source of inefficiency and/or quality problems, collecting data from the source, analyzing and improving them in order to improve productivity and quality. Arge Bilişim provides consultancy services, software and hardware for the implementation of these modules.



## **Fair Wage & Bonus System**

The wage system is one of the most fundamental systems of an organization. A fair wage system has a direct positive impact on the firm in terms of both longevity and competitiveness. A bonus is an extra wage that employees earn if they bring in income above the target profit and is a conditional expense. Salary + bonus is a profitable and fair wage system for both the factory and the employees. Arge Bilişim encourages productivity and quality by establishing salary and bonus systems based on objective criteria in factories.





# **Demand Management**

It is the management of the demands required for the procurement of all tools and materials required for the continuity of production activities, either internally or externally. Arge Bilişim provides consultancy services, software and hardware for the implementation of this module.



# Purchasing

It is the management of the purchasing process. Needs can be created, ordered and tracked in lean form and/or by calculating with MRP. Arge Bilişim provides consultancy services, software and hardware for the implementation of this module.



# Warehouse & Inventory Management

These are the software modules required for the management of warehouse identification, warehouse management and stock movement processes. Arge Bilişim provides consultancy services for the implementation of these modules and offers software and hardware.



# Order Management

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These are the software modules where customer and production orders are entered, converted and managed. Planning related to orders (conversion to production orders, cancellation, increase, division, change) can be realized with these modules. Arge Bilişim provides consultancy services, software and hardware for the implementation of this module.





## **BOM & MRP**

These are the software modules used to calculate purchase orders, production orders and net requirements by using inventory data after the design of the BOM. Arge Bilişim provides consultancy services, software and hardware for the implementation of these modules.



# Product Design & Document Management

It is the module where product design is managed. Software modules where all revision, technical drawing and variant documents are archived and managed. Arge Bilişim provides consultancy services, software and hardware for the implementation of this module.



## **Cost Management**

These are the software modules where the cost of stocks, products and each order is calculated, reported and managed in terms of labor and material. Pricing, inventory costs and actual costs are prepared and calculated with these modules. Arge Bilişim provides consultancy services, software and hardware for the implementation of this module.



## **Supplier & Customer Assessment**

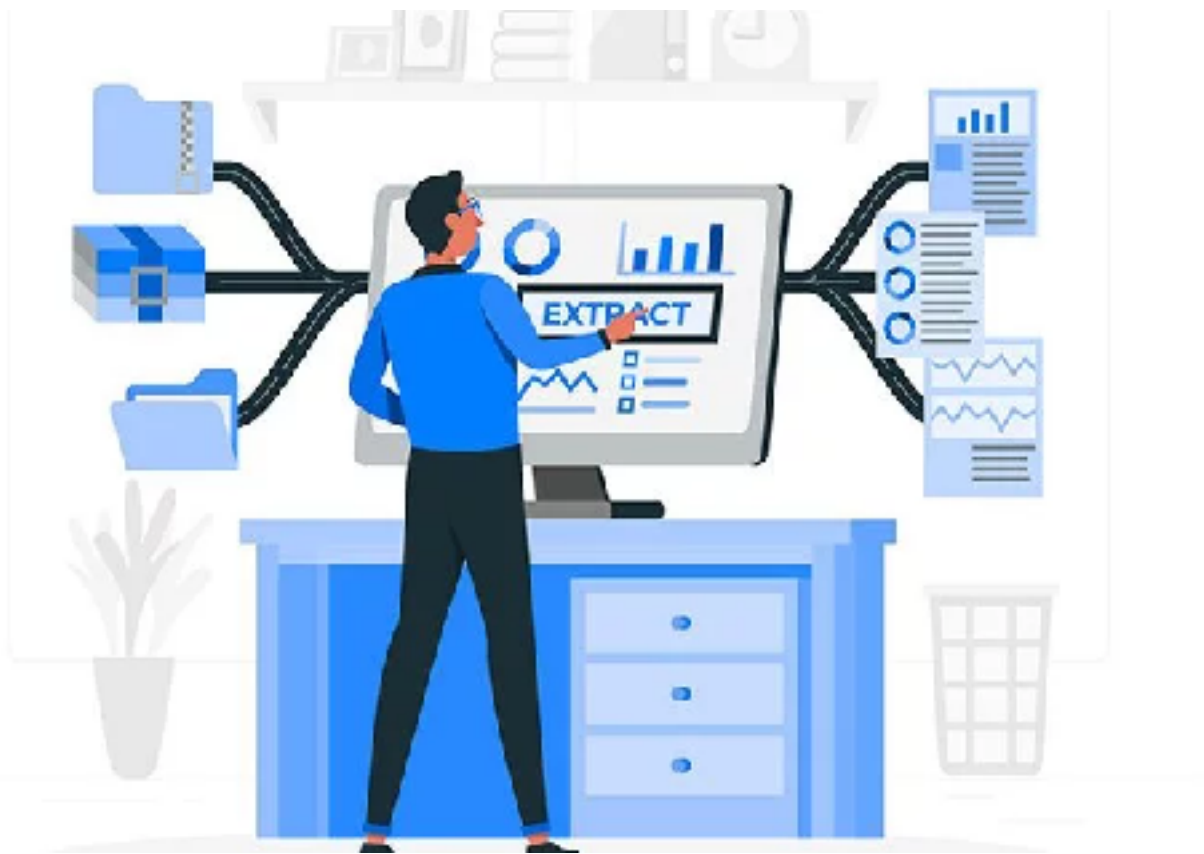
These are software modules for supplier and customer evaluation, where criteria are defined, entries are made, points are given and reported. Arge Bilişim provides consultancy services, software and hardware for the implementation of these modules.



# Human Resources Management

These are software modules that manage personnel attendance control and payroll processes. Arge Bilişim provides consultancy services, software and hardware for the implementation of this module.





# Software Integration

It is a software service for the integration of @rgemas with other software used by the company. More than 30 @rgemas integrations with other ERP and/or accounting software have been realized.