



explitia

Advanced IT solutions

for production plants

explitia.com | we produce it



Learn about us

explicitia

We create innovative and advanced **IT systems for production plants**. The implemented solutions **optimize** production processes which in turn reduces costs, increases **efficiency** and makes it possible to carry out production in a modern and more flexible way to enable constant and **sustainable development** in a fast-changing reality.

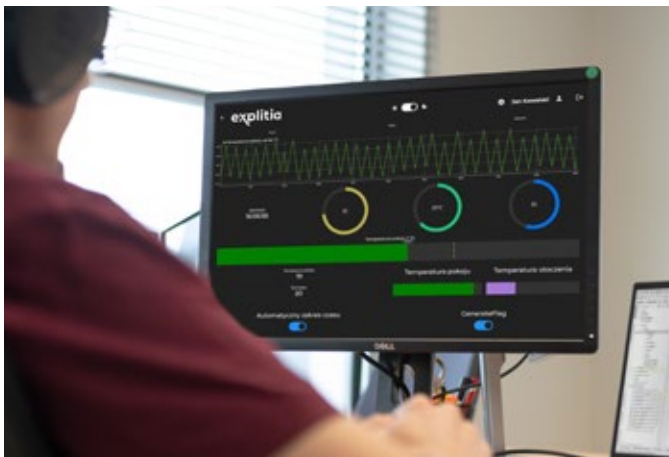
Find 3 product lines in our offer



Logistics Platform

An extensive plant logistics management system. Among others, it helps to properly arrange the goods in the warehouse and **optimize the transport of materials** from the warehouse to production according to the "just in time" method.

[More about Logistics Platform](#)



Production Portal

An advanced and scalable **MES (Manufacturing Execution System)** system which allows the implementation of one or several modules. The solution supports the optimization of many production processes including: production planning, constant process control, **product traceability**, downtime detection and reporting automation.

[More about Production Portal](#)



IT Services

We are technology advisors, and thanks to the combination of programming skills and knowledge regarding technological processes, we can offer a wide range of services including:

- Performing a **pre-implementation** analysis that determines the real challenges and needs of the production plant.
- Supporting the selection and implementation of **MES and SCADA systems** from global suppliers
- software (including AVEVA, COPA-DATA, GE Digital, Mitsubishi Electric, Siemens).
- Implementing fully **dedicated IT solutions**.
- Preparing advanced reporting using Microsoft Power BI and Microsoft Reporting Services, as well as tools for storing and processing relational databases, including: Microsoft SQL Server.

[More about IT Services](#)



In numbers:

3

PRODUCT LINES

COOPERATING MODULES

10+

50+

SPECIALISTS
PROGRAMMERS
AUTOMATION SPECIALISTS
PROJECT MANAGERS
APPLICATION ARCHITECTS

OF OUR EMPLOYEES HAVE BEEN
WITH US FOR MORE THAN **2 YEARS**

90%

300+

WORKING APPLICATIONS



Our mission is to co-create a safer world by providing advanced IT solutions for production plants. Thanks to professional advice and the systems we implement we help production plants to:

- **reduce costs** – by optimizing production processes,
- **generate higher profits** – thanks to better efficiency,
- **improve communication between teams** – due to process automation and integration with external systems, we improve product safety standards.

Learn about us

explicitia



Team of explicitia

explitia's values



Flexibility

concerns both customer relations and an agile approach to the purchasing process and the implemented solution. Thanks to the flexibility of the **offered systems** we can implement tools most **suited to the organization** we cooperate with (challenges, level of technological development, staff, experience and standards).

Empathy

in relationships with clients, we always strive to be independent advisors who focus on the **specific challenges** of the production plant. From a range of different tools, we adapt the offer to the **client's needs and capabilities**.



Cooperation

is visible at every level of our work and repeatedly appreciated by customers. It is the cooperation that makes it possible for us to implement a solution that meets the client's needs and responds to real challenges. A collaborative mindset also helps us in effective functioning of our internal teams. Moreover, in cooperation with the Silesian University of Technology and local schools, we organize internships and work placements. We help students to start working in their profession offering them the opportunity to benefit from knowledge and practices of experienced specialists.

explitia's quarterly



Newsletter

What are you going to receive for free:

- information on explitia's products development
- case studies, testimonials, interviews with our customers
- news from the explitia's life
- articles about Industry 4.0 written by the explitia team



Sing up





Production Portal

A scalable solution that goes well beyond the standard **Manufacturing Execution System (MES)** class system.

It is a modular system – **you can freely select individual elements and combine them.**



Among others, modules allow you to implement:

- product **traceability**;
- optimal production **planning**;
- real-time indication of production **efficiency**;
- detection of the causes of **downtime**;
- automatic **reporting**;
- visualization and historicization of all **data** and indicators;
- production genealogy** – from manual and automatic stations, aimed at direct data collection from the PLC;
- automatic production **accounting**;
- elimination of paper **reporting**;
- collecting data on **cost components** in the context of the specific finished product.

A system that never ages

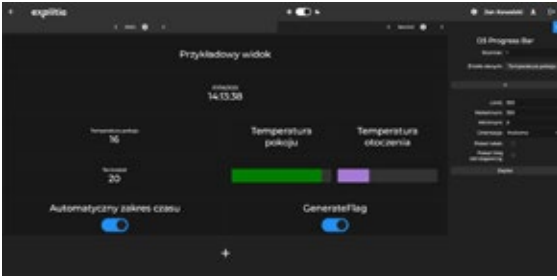
We want the implemented technologies to respond to the specific challenges of a given machine park and to support optimal production despite changing conditions and guidelines. That's why we are constantly developing our solutions - you can implement a part of the system and gradually expand its capabilities with new functions. Thanks to this, you will check the practicality of the purchased tool and start feeling the benefits of the solution faster. This approach to implementing an IT system is also an excellent way to change management.

Production Portal Architecture



[More about Production Portal](#)

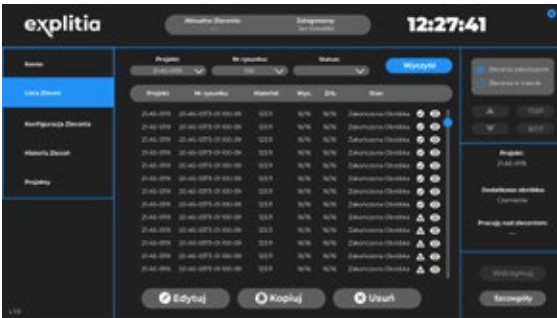




Data collection and visualization

Constant checking the indications from many devices, machines, rooms or systems is time-consuming and difficult to analyze. A modern IT solution allows you to **automatically collect and visualize data** from various sources. The tool can also act as an EMS (Energy Management System) system - you gain constant access to both new and archived information, including: **consumption of electricity and other energy carriers**. Thanks to this, you can effectively manage utilities in your company.

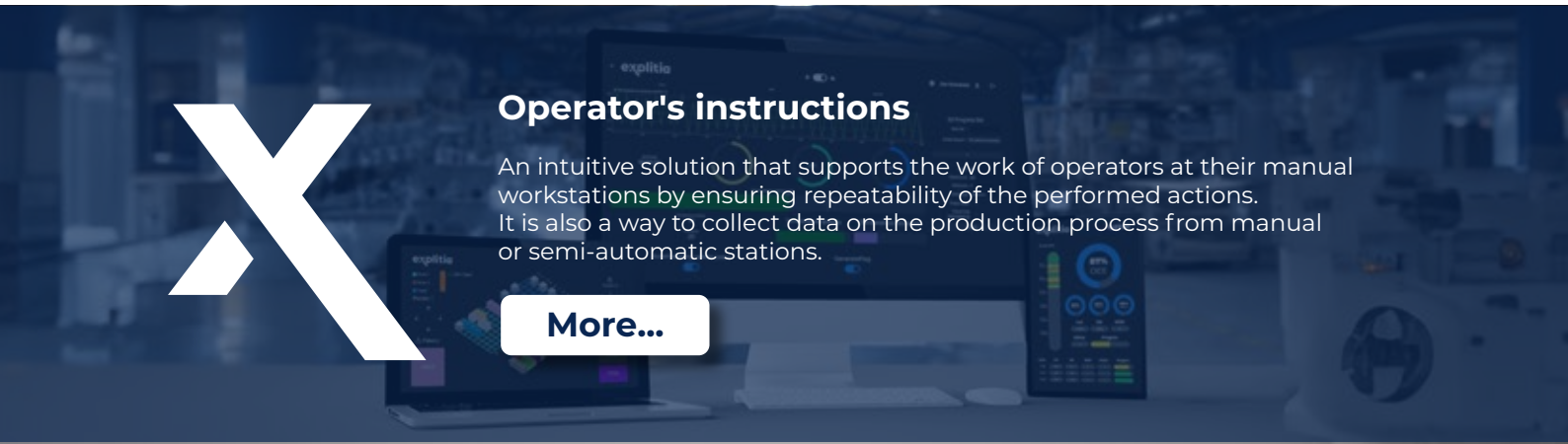
[More...](#)



Planning of production orders

The system improves and automates communication between the planner and the machine operator. It assists in creating an optimal and flexible **order schedule**, informs about work progress, collects data from the production process and historicizes data on manufactured goods. The tool reduces cycle times which influences efficiency. It also allows linking with the BOM or **integration with other IT solutions**.

[More...](#)



Operator's instructions

An intuitive solution that supports the work of operators at their manual workstations by ensuring repeatability of the performed actions. It is also a way to collect data on the production process from manual or semi-automatic stations.

[More...](#)

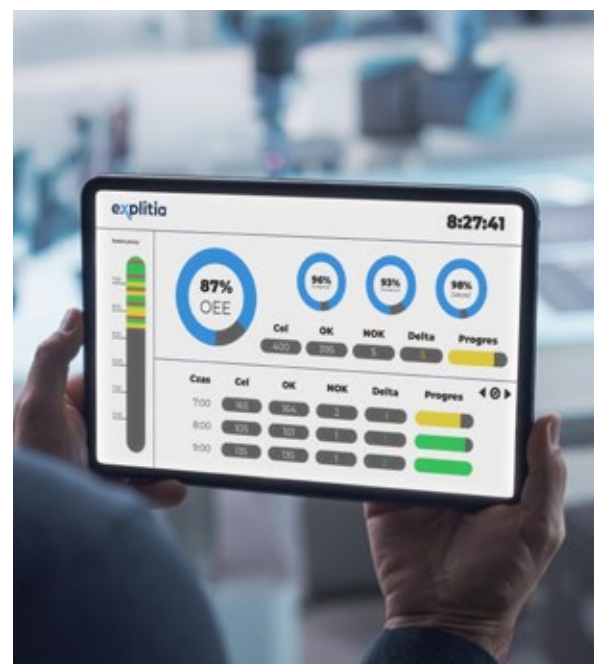
Production status visualization

The system continuously provides information on the current state of the production process. Thanks to this, it helps in making business decisions, e.g. regarding process optimization or introduction of changes to the production plan. Constant access to **performance indicators** in turn allows you to easily provide information on the productivity level of the entire manufacturing process or a single workstation.

Thanks to the system, you gain constant insight into current events, historical data and indicators including:

- efficiency (**OEE**) at which the line operates;
- condition of lines and machines;
- the number of materials produced in the context of a given **production order**;
- production cycle time;
- alarm data;
- **causes of downtime**;
- information related to process quality.

[More...](#)





Statistical process control

Using advanced statistical tools, the module is responsible for continuous data collection from production processes and their **constant analysis**. This allows you to detect deviations even before a real problem occurs. It also enables quick identification of the source of **problems in the process**. As a result, it affects:

- efficient business decision-making;
- reducing the number of NOKs;
- increasing efficiency;
- production quality;
- reducing production costs.

[More...](#)

Traceability

A scalable system for **building production genealogies** in real time collects and connects data from many sources, providing the following information:

- 1** **What components** the product was made of.
What semi-finished products are included in the finished product.
- 3** **Which supplier and from what batch of material** the raw materials come from.
On what machines and under what conditions the components were manufactured.
- 5** **Where and when** the item was produced.
Which employees were involved in the production process.
- 7** **Who purchased a given product** or a given production batch.

Full knowledge about the manufactured product has a positive impact on the quality of the manufactured goods. It also allows you to reduce costs and increase production safety and flexibility.

[More...](#)

Production reporting

Production reports contain a range of information presented in a visual and easy-to-analyze form. They are based, among other, on such tools as Microsoft Power BI or Microsoft SQL Server. However, it is not only the data but also the **appropriate contexts** in relation to the machine, operator and process that allow an effective response.

explitia reports range from general information (overview of production for the entire day) to detailed data regarding a specific order, machine and product. Based on the data, key indicators are calculated which helps to detect **space for optimization** faster, increase security, and support investment and business decisions.

[More...](#)



Order No.	Product	Product ID	Start Date	End Date	Status	Batch No.	Lot No.	Machine	Operator
1000000001	1000000001	1000000001	2023-01-01 08:00:00	2023-01-01 12:00:00	OK	1000000001	1000000001	1000000001	1000000001
1000000002	1000000002	1000000002	2023-01-01 08:00:00	2023-01-01 12:00:00	OK	1000000002	1000000002	1000000002	1000000002
1000000003	1000000003	1000000003	2023-01-01 08:00:00	2023-01-01 12:00:00	OK	1000000003	1000000003	1000000003	1000000003
1000000004	1000000004	1000000004	2023-01-01 08:00:00	2023-01-01 12:00:00	OK	1000000004	1000000004	1000000004	1000000004
1000000005	1000000005	1000000005	2023-01-01 08:00:00	2023-01-01 12:00:00	OK	1000000005	1000000005	1000000005	1000000005

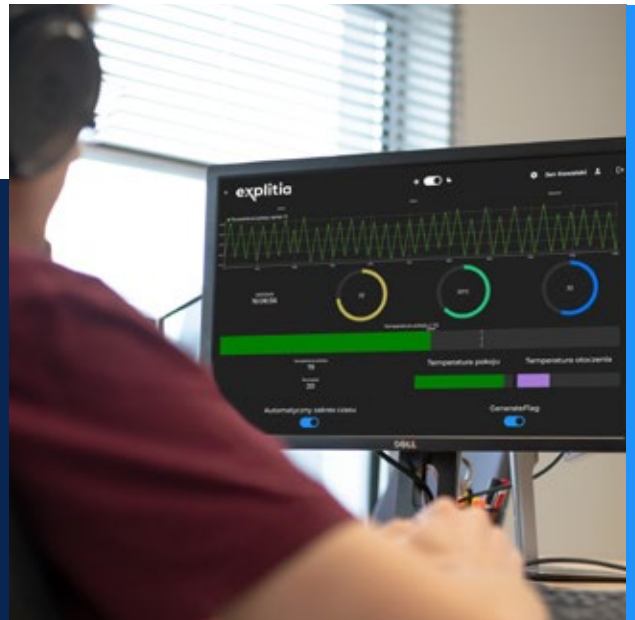


IT Services

We help production plants to implement and develop the idea of Industry 4.0

Our team is characterized by interdisciplinary competences. We combine programming skills with knowledge in the field of production technology. Thanks to this, we are independent technology advisors – we can offer a wide range of solutions in a specific area.

Discover the full offer of IT services from explitia!



IT services – unique features

Unique competences

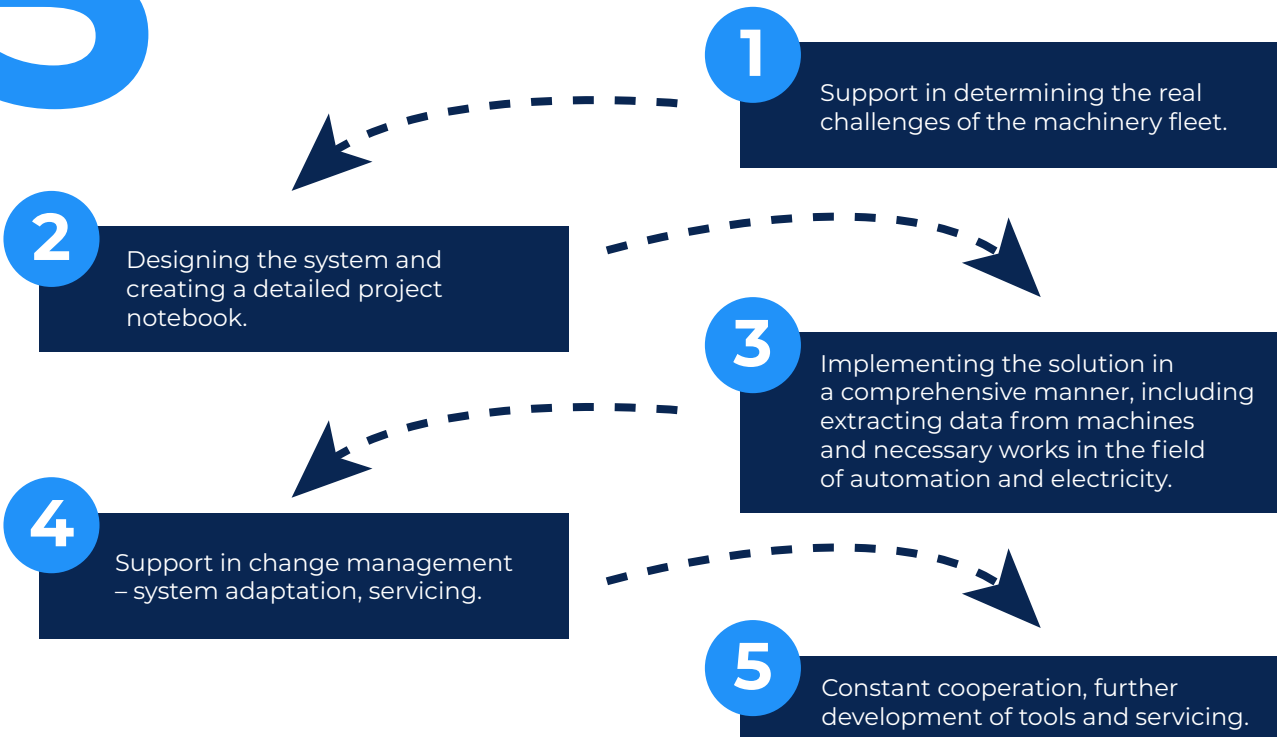
The explitia team is characterized by a unique combination of competences in the field of **production technology and programming**. explitia specialists know perfectly well how to **obtain data directly from machines** and present it in appropriate contexts, important from a business perspective.

Technology consulting

Our hallmark is the combination of empathy, flexibility and cooperation. These three special values make us approach each project individually. We help leaders of production plants go through the entire path of developing the **Industry 4.0 concept**.

5 steps of complex cooperation

5



IT services – examples of possibilities



Dedicated programming for production

Our offer of IT services includes both the implementation of explitia's own products and support in the selection and implementation of fully **dedicated IT tools**.

Our team consists of programmers, application architects, automation specialists and project managers, so we always approach projects comprehensively. In addition, we offer solutions that respond to the real needs of a given production plant.

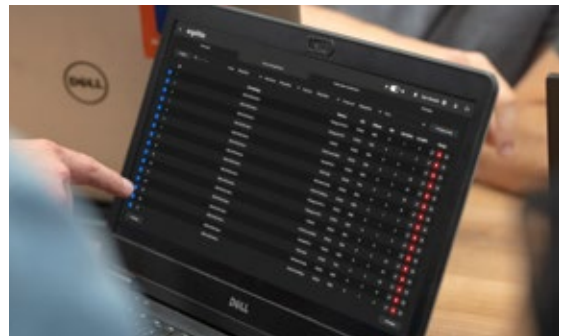
We provide **services all over the world** – our portfolio includes projects in Germany, the Netherlands, the USA, Great Britain, Mexico and more.

We have created solutions for **various industries**, including: automotive, food, chemical and household appliances sectors.

MES and SCADA systems

We have extensive knowledge of **production technology**. We know the standards and communication protocols of controllers. We also have main function blocks for MES systems. **We combine process knowledge with system programming**. Thanks to this, in addition to the implementation of our own solutions, we also offer support in the selection, design and implementation of MES and SCADA systems from global software suppliers (including AVEVA, COPA-DATA, GE Digital, Mitsubishi Electric, Siemens).

[More...](#)



Power BI report and relational databases

There are many benefits of reporting production processes! As experts in recording data from various sources and **combining OT and IT**, we offer reporting of all types of production data. For this purpose, we use tools including Microsoft Power BI and Microsoft Reporting Services. In addition, we offer our partners tools for storing and processing relational databases, including: Microsoft SQL Server.

Pre-implementation analysis

We work with clients in a consultative manner. We help people managing production plants to find specific **areas for automation and development**. Together, we conduct a detailed pre-implementation analysis and create a concept of the system's operation and a plan for the implementation and subsequent development of the new technology. A pre-implementation audit and a detailed project manual allow you to determine the **real needs of a given machine park** and optimal IT solutions.

[More...](#)



IT Services – selected competences



Check out what part of the explitia team has knowledge of using modern tools and programming languages.

90%

Data visualization e.g. Microsoft Power BI and Microsoft Reporting Services.

Database including Microsoft SQL Server.

80%

Programming languages e.g. C#, C++, JavaScript, Python, TSQL/SQL, VBA.

75%

Web-backend e.g. ASP.NET, Entity framework core, WCF, Python (Django, Flask), Node.js (express.js).

65%

Web-frontend e.g. Bootstrap, Foundation, Tailwind CSS, .NET (Blazor, Razor pages).

IT Services – software

SIEMENS

AVEVA



COPADATA



Power BI



More about IT Services

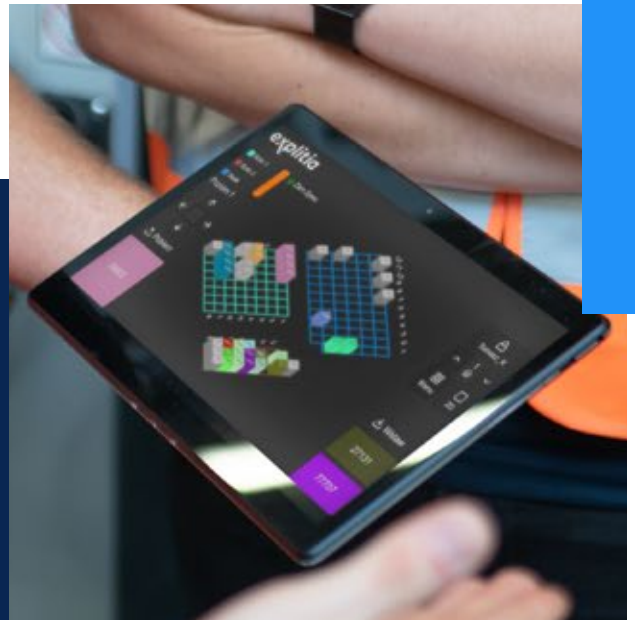




Logistics Platform

An extensive logistics management system inside the production plant. It consists of the solution supporting:

- management of production buffers in various areas of the production plant.
- transport of materials from the warehouse to production lines in accordance with the "Just in Time" method.



Logistics Platform – Benefits

- 1 Better human resources **management**.
- 2 Optimal use of **materials**.
- 3 Reducing the number of **downtimes** and queues on the line.
- 4 **Lower logistics costs** inside the production plant.
- 5 **Optimization of goods transport routes** from the warehouse to production lines.
- 6 Better use of **space at the production** station.
- 7 Finding the **assortment** in stock faster.
- 8 Monitoring the **expiry date** of products.

Advantages

- **Scalability of the solution** – you can implement one or more modules.
- Possibility of **expanding the system** in accordance with the actual needs of the enterprise.
- **Web applications** – you can use the solutions regardless of place, time and device.
- Possibility of **integration** with various external systems, e.g. ERP (including SAP), MES, WMS.



Implement with the explitia team

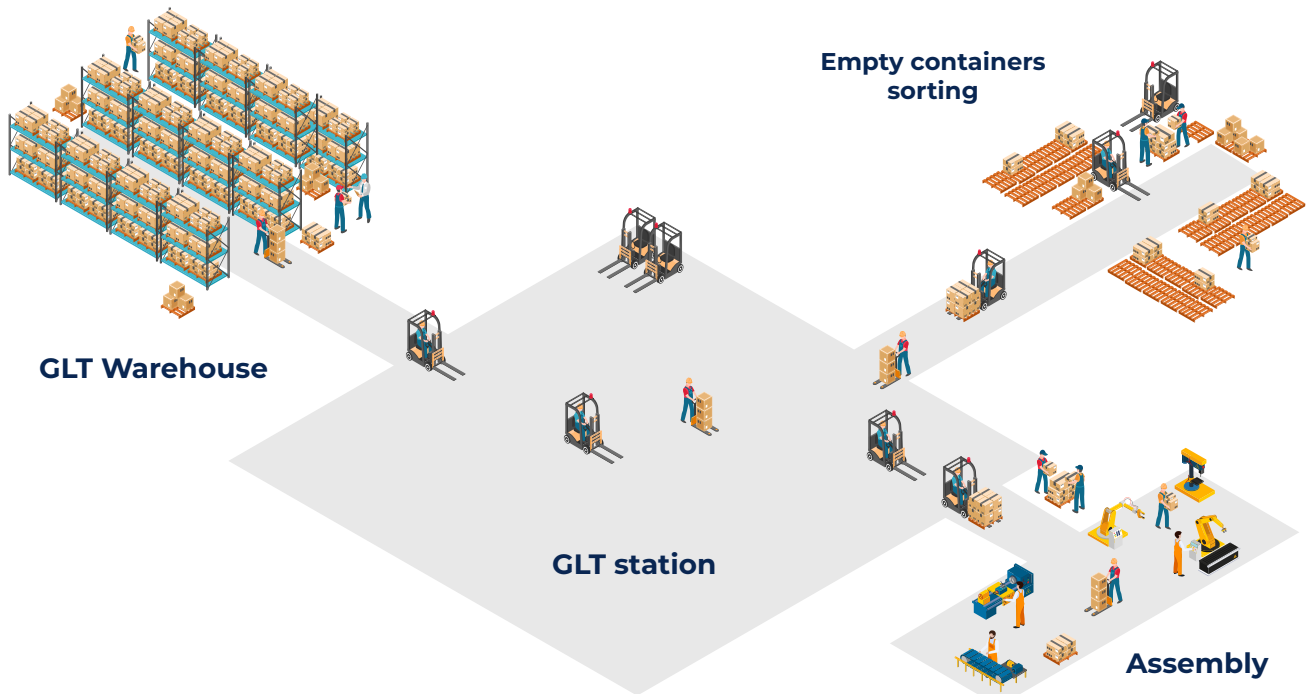
1. We have competences in integration with automation systems.
2. We have experience in implementing solutions for: the automotive and household appliances sectors as well as the food and chemical industries.

Management of production buffers

The solution enables efficient and **effective management of production buffers** in various areas of the production plant. It is a WMS class system. It is perfect for production plants where **sympiosis between production and the warehouse** is important.

Delivery of materials from the warehouse to production lines according to the "Just in Time" method

The system helps to **deliver components to production lines** based on calculated (real-time) demand, in accordance with the Lean Manufacturing concept. It is perfect for plants with organized and planned production at assembly stations.



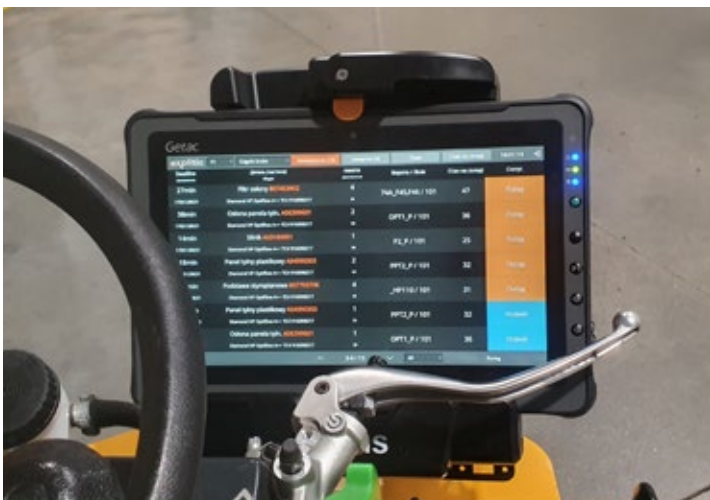
How the system works

The solution calculates the demand for parts so that the material is **delivered at the right time**. It is based on the data coming directly from automation systems, including:

- production counters;
- current states of components on the lines;
- production plan.

X

The expected material demand is presented on tablets placed on trolleys working in warehouses and delivering components to production lines.



[More...](#)

Advantages

- **Reducing the costs** associated with delivering materials between the warehouse and production.
- Better use of human **resources**.
- **Increased efficiency** by better management of employee's time and elimination of queues.
- **Optimization** of travel time and route.
- Supporting **production continuity**.
- **Reduction of inventories** on production lines.
- **Scalable** solution.
- Possibility of integration with external ones **ERP systems** (including SAP), WMS, MES.



[More about Logistics Platform](#)



Unique features of explitia



We combine programming skills and knowledge in the field of production technology.



We know how to extract data directly from machines and devices.



We support leaders – we present data from production processes in appropriate contexts, important from a business perspective.



We are independent technology advisors offering a wide range of solutions and tools in a specific, specialized field. We select the best solutions to the specific challenges of a given production plant.



We assist in the entire implementation process of the new technology – from determining the actual need and creating a detailed plan, through implementing the solution, to servicing the working tools.



We implement projects in a consultative and agile manner – our clients can count on professional knowledge, and our flexible approach in the purchasing process and the implemented solution.



We give you the opportunity to develop – all our systems are scalable. They enable the development and efficient implementation of subsequent elements.

