

# BROSE

OPTIMIZATION OF INTERNAL LOGISTICS COSTS IN PRODUCTION

**elia**



## CASE STUDY

At Brose, we immediately reduced the cost of transporting finished products by 33%

Client:

**Brose**

Industry: Automotive  
Number of employees: 24,000

Brose has over 100 years of history and 24,000 employees. Every second new car in the world is equipped with at least one Brose product. The company manufactures technologies for doors, seats, electric motors and steering. Its expertise in mechatronics enhances the comfort, safety and efficiency of cars.

For more information, visit [www.brose.com](http://www.brose.com)

**brose**  
Technik für Automobile

1

## REQUIREMENTS

- Significantly reduce the costs of internal logistics for finished products in production
- To have a solution that will add to the company's image in front of customers
- To be able to expand the solution to other production sites

2

## SOLUTION

- Create software to read, interpret and display data from manufacturing PLCs
- Accurate predictions of product completion time and location
- Instructions for forklift drivers using tablets
- No risk of any interference with production PLCs

3

## BENEFITS ACHIEVED

- 33% cost savings immediately after deploying the solution
- "Wow effect" in front of customers and representatives of other branches
- Absolutely automatic system operation without the need for employee interaction
- New data and statistics for further optimization

# STARTING POINT

There are several production lines in the production hall. There is a constant need to bring input material to the lines and to take away finished products. In one production hall, this was done by six forklift drivers.

They drove around the hall on an ad hoc basis and when they saw a crate of finished products somewhere, they would take it away and bring in a new one. There was a space for significant optimization if we could quickly show the drivers precise information about when and where they should arrive.

brose SIGNALIZÁCIA

Katalóg výrobkov

Pridať výrobok Importovať z CSV Exportovať do CSV

Názov výrobku	Čas potrebný na výrobu		
YYR 456456456	65.00 min	/	x
C34897-100	0.68 min	/	x
C34897-000	0.72 min	/	x
C34896-100	0.68 min	/	x
C34896-000	0.72 min	/	x
C34895-100	0.79 min	/	x
C34895-000	0.79 min	/	x
C33873-502	1.10 min	/	x
C33873-501	1.10 min	/	x
C33873-500	1.10 min	/	x
C33873-402	1.10 min	/	x
C33873-401	1.10 min	/	x
C33873-400	1.10 min	/	x
C33873-102	1.10 min	/	x
C33873-101	1.10 min	/	x
C33873-100	1.10 min	/	x

## PRODUCTION STATISTICS



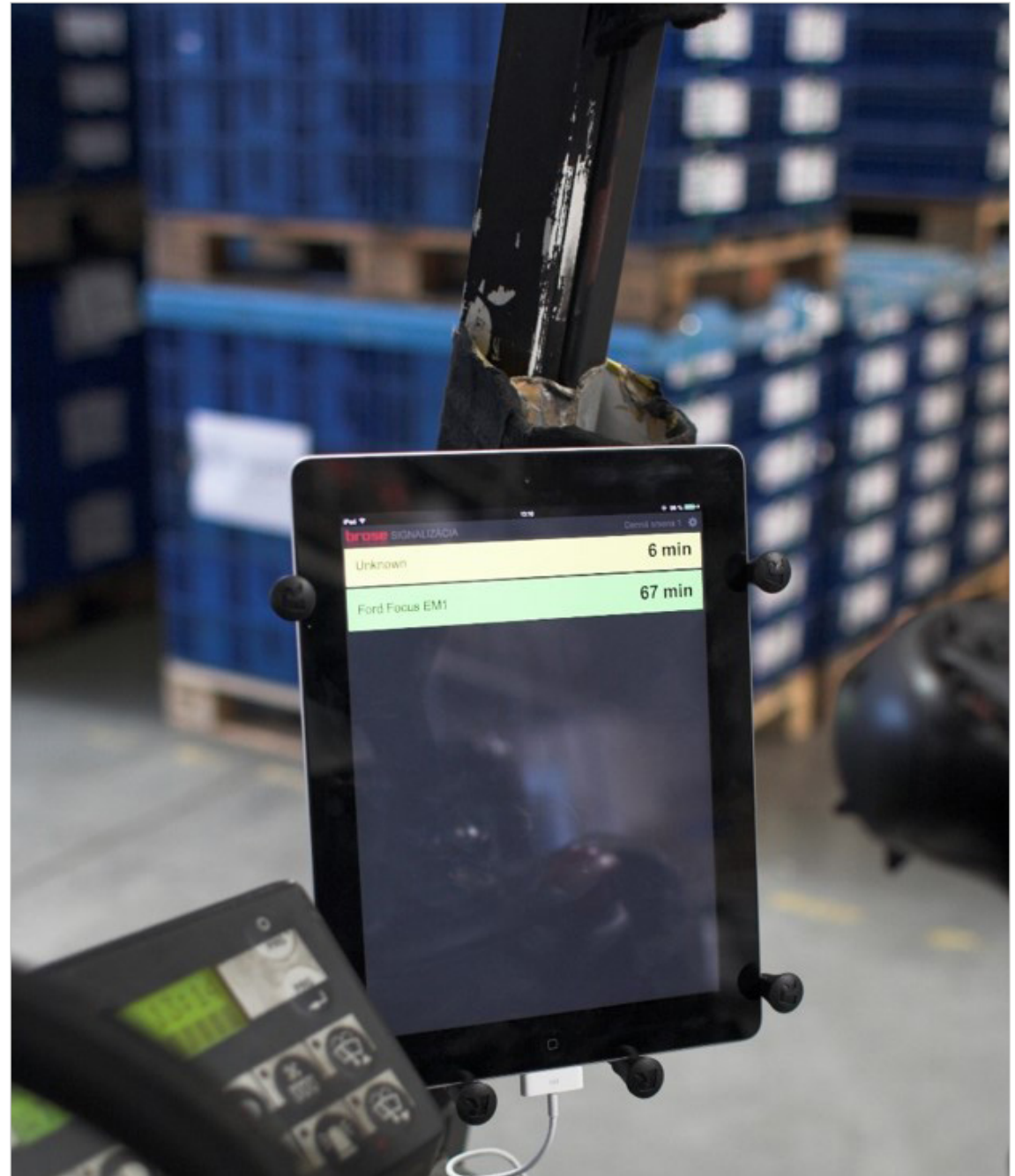
## SOLUTION

We created software that reads data from the production PLCs of each production line completely automatically. The software further interprets this data and produces very accurate predictions of when a batch of finished goods will be ready for collection on which line. We have installed tablets on all forklifts that show the drivers the precise time and location where they should arrive.

This integrated hardware-software solution allowed us to reduce the number of forklifts needed from 6 to 4 immediately after deployment. We immediately met our primary goal of significantly reducing internal logistics costs in production.

At the same time, our solution completely eliminated the risk of production downtime due to modifications or interventions in the production PLC software. On the contrary, we do not interfere with them in any way, we just connect to them and read the data provided. The software works completely automatically and does not need any interaction from employees.

Another benefit is the gain of completely new data from which statistics are generated and used for future optimization. Last but not least, the solution attracts the attention of customers and improves the company's image during inspections.



FORKLIFT INSTALLATION

KSUV Tiguan 1	Zafira predná / Astra 3D <b>5 min</b>	Yeti predné <b>9 min</b>
Audi A5 FH4 <b>POTVRDIŤ</b>	Focus 1	Focus 2
BMW 1	BMW 2	BMW 3
<b>BMW 4 NEOBSLUŽENÉ</b>	BMW 5	BMW 6
Focus 3	Focus 4 <b>18 min</b>	

TASK SIGNALING 1

<b>KSUV Tiguan 1</b> 23.03.2014 13:54	924761-105	<b>NEOBSLUŽENÉ</b>
Zafira predná / Astra 3D 23.03.2014 14:02	924761-121	<b>5 min</b>
Yeti predné 23.03.2014 14:14	924761-102	<b>9 min</b>
Focus 6 23.03.2014 14:21	924761-168	<b>14 min</b>
Audi A5 FH4 23.03.2014 14:30	924761-192	<b>POTVRDIŤ</b>

TASK SIGNALING 2

## ELIA, s. r. o.

ELIA is dedicated to the development of customized software solutions for clients in various fields. It mainly provides its services to clients operating in the banking and financial sector, e-learning, and automotive industry. The company is also involved in software design, user-experience as well as creative 2D and 3D graphics. In its 17 years on the market, the company has won several awards in the field of software development and creativity.

For more information, please visit [www.elia.sk](http://www.elia.sk)

## TESTIMONIAL

Thanks to ELIA's solution, we were able to increase efficiency and reduce internal logistics costs. Operators now receive precise instructions on the location and time of finished products. Based on this, we were able to optimize the number of them in daily operation. We have thus fulfilled our primary objective of reducing costs.

**Patrik Gürtler**

Logistic planner



**elia**

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