



CASE STUDY | AUTOMOTIVE | SPECIAL SOLUTION

# **CONTINENTAL BARUM**

CZECH REPUBLIC

SUCCESSFUL PILOT PROJECT

# NEW HIGH-BAY WAREHOUSE FOR EFFICIENT SORTING

The Otrokovice site of tire manufacturer Continental Barum was starting to burst at the seams. Not only had production increased massively, everything had also become much more complex: Otrokovice currently produces approximately 1,300 different items. The solution? A high-bay warehouse that also acts as an automated sorting and buffer store.

It's not only the production volume that has increased over the years – the range of tires has as well. The challenge here is that the blanks obtain their elasticity and their tire profile in the heating press. A wide variety of models are produced in parallel in several hundred presses. The tires therefore come off the production line in a random sequence. It stands to reason that the sorting, palletizing, and storage of the finished goods using forklifts or portal robots were bound to reach their limits in the near term.

These days, every automobile manufacturer expects us to tailor our tires to their model. In order to handle this complexity, you either need a lot of space – or an intelligent system.

Michael Štefka, Technical Manager

### Efficient sorting

Our pioneering solution was chosen following a period of in-depth analysis and consultation: erect the LTW high-bay warehouse as an automatic sorting and buffer store within the existing hall.

We also connected the entire warehouse via complex conveyor systems both to the production facility as well as to the order picking, finished goods storage, and quality control areas.



**Continental Barum s.r.o.**

Objízdná 1628  
765 02 Otrokovice, Tschechien  
barum.cz

**Founded:** 1993

Subsidiary of Continental AG. The tire factory is the largest employer in the Zlín region of the Czech Republic.

**Employees:** 3500

**Production:** 20 million tires a year for cars, trucks, and agricultural vehicles.



Palletizer robots calculate customer-specific pallet stack



Scannin portal: five cameras working in parallel



High-bay warehouse with conveyor system

### Managing complexity

Each day, 16,000 tires now pass through the high-bay warehouse. What's really smart about all this is that the tires are sorted by model. A pallet is not taken out of the warehouse until it has a full load of a certain type of tire. The intelligent sorting system then enables the goods to be optimally packed and dispatched.

After a construction period of just nine months, we were able to commission the highly dynamic stacker cranes without disrupting production.



**We provided the benchmark data: number of articles, output, and peaks. LTW took care of the optimum implementation.**

Michael Štefka, Technical Manager

### Trust breeds loyalty

Why did the customer entrust us with the implementation of this groundbreaking project? Because we've never done anything to disappoint them – which is why we've been awarded so many other projects. Worldwide, we've installed more than 40 systems for Continental since 2009 and have achieved A-Supplier status for the 11th time in a row since 2010. And it gets even better: as of 2021, Continental has also presented an award for „Best Supplier in the Category High Bay Storages & Automation“ – which we've just won again.

The automotive supplier is now collaborating with us on a new project for the Otokovice site – the largest project for Continental in the history of LTW.

More infos at:

[LTW.at/referenzen/detail/continental-barum](https://www.ltw.at/referenzen/detail/continental-barum)



# PROJECT OUTLINE



## HIGH-BAY WAREHOUSE

- In-house construction
- Galvanized steel rack
- Single-deep single-lot storage for tires
- Temperature range: + 5 °C to + 40 °C



## STACKER CRANES

- Aisle-bound design, two-mast structure
- Driving speed: 240 m/min
- Driving acceleration: 1.75 m/s<sup>2</sup>
- Lifting speed: 60 m/min
- Lifting acceleration: 1.0 m/s<sup>2</sup>



## CONVEYOR SYSTEM

- Production-site storage conveyor
- Discharge conveyor for manual respectively for automatic palletizing
  - Scanner for tire identification
  - Palletizing robots for tire sizes from 16" to 24"



## SOFTWARE

- Warehouse control and management system
- Visualization via WinCC
- Interface to MCAT (Continental's production planning system)
- Special storage and retrieval strategies for optimization of the storage performance