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# DHL EXEL SLOVAKIA, S.R.O.

Case Study: M2L System Implementation





## DHL EXEL SLOVAKIA, S.R.O.

DHL is a global leader in the logistics market offering a comprehensive portfolio of logistics and transportation services through its four divisions.

- **Location:** Bratislava
- **Function:** Internal logistics for automotive manufacture
- **Capacity:** logistics for 400,000 cars annually
- **Employees:** 1200
- **Initial state** as of 2015



## BACKGROUND

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With multiple cars being processed simultaneously, there was a need for more precise navigation, sequencing, and control of parts picking.

Manual control of these processes increased the risk of errors, slowed down operations, and made it difficult to keep track of the status of individual stations.

The goal was to streamline the flow of parts, simplify operators' work, and ensure reliable control during parts picking.



## REQUIREMENTS

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- Navigating worker to a designated position in the warehouse
- Picking parts by one worker for multiple cars at the same time
- Automating the parts ordering processes
- Checking the correctness of picked parts
- Retaining original shelves and large boxes

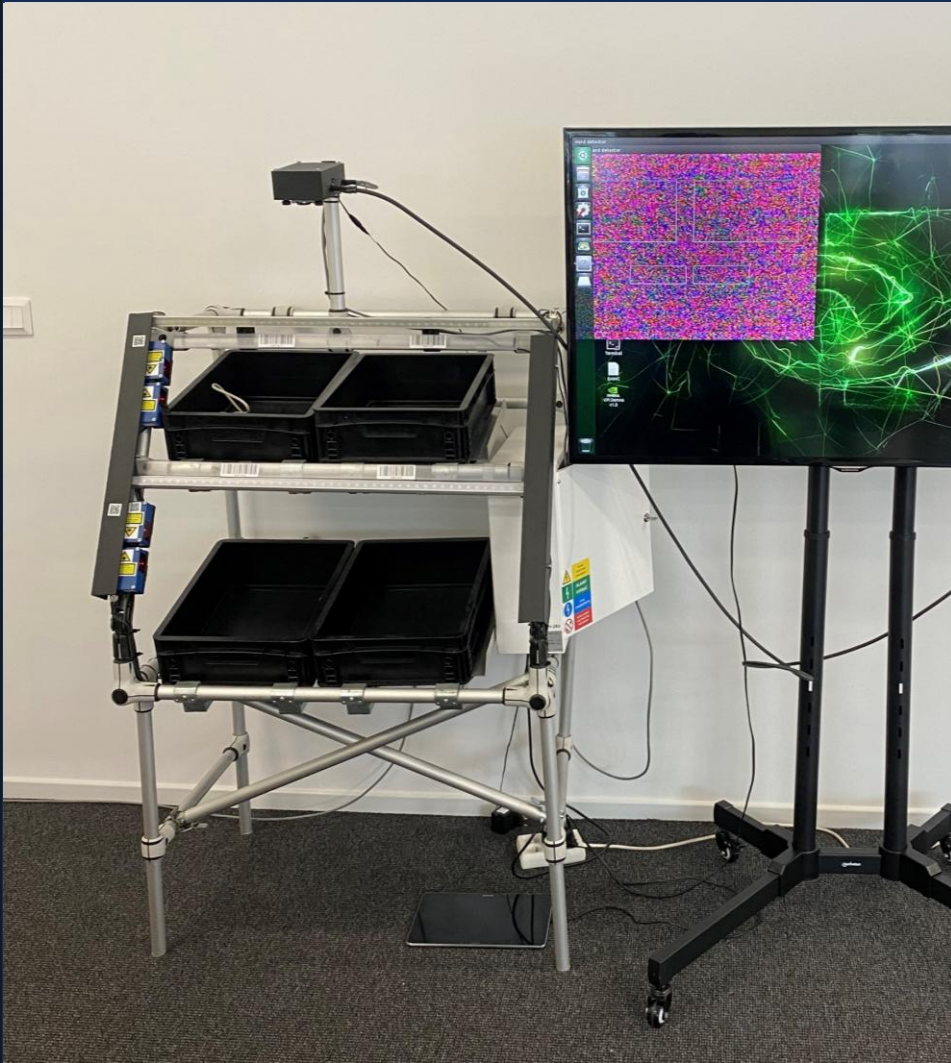


## OUR SOLUTION

We used programmable RGB LED strips for simultaneous navigation and sequencing of multiple cars. We distinguish individual cars and the number of parts picked by means of the different colours and number of the LEDs lit.

By combining the pick by light and push to light methods we have designed and created a unique system, Manipulate 2 Light, protected by industrial design: PUV50145-2014.

We achieved checking pick-up from larger positions using a laser sensor with a range of up to 10 m.



## BENEFITS

- High modularity and customisation
- Quick to installation
- Defining and resizing positions simply by pulling hand
- Protocols / orders differentiated using multi-colour LEDs
- Real-time overview of the part types at the workplace
- Shorter time to train new personnel / deputy personnel
- Identification of new parts at the workplace – a system of error messages for new parts missing at the workplace



## BENEFITS

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- Parts management of at the workplace during technical shifts – KNR from which to load a new index/part
- Digitised records of parts loaded – for customer complaints, we can find out which part we loaded (evidence of errors)
- It is possible to evaluate the number of parts loaded by each section and the frequency of the parts loaded (ABC analysis)
- System extended by a new functionality of invoking a scheduler – promptly replacing an empty pallet by a full one



## RESULTS

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Currently, the system is deployed in a 1,300 square-metre warehouse at seven separate workplaces.

There are 300 active parts in all of the workplaces at one moment, which in the current production rate makes a total of about 2000 picks per shift.

DHL expands our cooperation and continues to incorporate additional components of our systems in its solutions, including WMS, TLS and tailor-made applications.

When we presented our M2L system to Mr. Jaroslav Holeček, President of the Automotive Industry Association, who visited our company in Žilina, he said that our solutions are the way towards Industry 4.0.



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