

Die Oberbürgermeisterin

## Press release

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Koelnmesse / City of Cologne:

# Sustainable mobility: digitalisation of the traffic guidance system reduces pollution

In close cooperation with the City of Cologne, Koelnmesse GmbH has fundamentally renewed its traffic guidance system, which dates back to 2005, and adapted it to the significantly increased complexity of traffic volume. From now on, all logistics and visitor traffic can be controlled according to the respective traffic situation. This will make traffic at trade fairs safer and smoother in the future, while significantly reducing emissions of carbon dioxide and nitrogen oxide.<sup>1)</sup> "Sustainable mobility transformation and a good transport infrastructure are essential for us. Our goal consists of achieving sustainable mobility that is both environmentally friendly and economically efficient," says Managing Officer Herbert Marner.

Renewal of the traffic guidance system is part of the overall strategy for the digitalisation of traffic management at Koelnmesse and in the City of Cologne. The measures are supported and promoted by the Federal Ministry of Transport and Digital Infrastructure as part of the "Digitalisation of Municipal Transport Systems".

As part of the project, dynamic and static signposts have been replaced or new ones installed by the City of Cologne's Traffic Management Office. Special attention was paid to the choice of locations in order to create a coherent overall system in combination with existing static signposts and the City's guidance system. From now on, all trade fair traffic will be routed to Koelnmesse using a radial grid of signposts. Another core element of digitalisation is the interaction of the new traffic guidance system with the NUNAV navigation app. The app uses collaborative routing to make individual driving recommendations along the routes defined in the radial grid, thus distributing traffic ideally within the road network. "We have developed another digital building block to improve the customer experience and increase the success of our trade fairs for Koelnmesse and our customers. In addition, we are making an active contribution to the City of Cologne's clean air plan by reducing congestion and waiting times," says Dr. Georg Klumpe, Vice President Infrastructure at Koelnmesse GmbH. Andrea Blome, Deputy Mayor for Mobility and Real Estate of the City of Cologne, adds: "In partnership with Koelnmesse, we have installed one of the most modern guidance systems on the roads for what we hope will soon be a resumption of operations. With this new way of guiding visitors and directing exhibitors, we are implementing a multitude of options to keep traffic impacts at trade show events to a minimum, while providing a high level of service and appeal."

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1) Expert reports attribute a NO<sub>x</sub> reduction potential of up to 5 µg/m to the activation of digitalized traffic routing, primarily by way of savings in search and destination traffic. Go-live is still pending due to the fact that trade fair activity came to a standstill in the last few months due to Covid-19.

### **Multi-stage planning process**

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Experts from PTV Transport Consult GmbH and the specialist departments of the City of Cologne's Traffic Management Office supported Koelnmesse in the multi-stage planning process. The first step consisted of documenting the existing situation throughout Cologne's entire main road network, mapping all of Koelnmesse's signposts and processing them using a geo-information system. Together with the City of Cologne, a grid of signposts was then defined and visualised, via which trade fair traffic would be guided in future. Based on this, the existing static signage was checked for completeness.

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The dynamic signage in the vicinity of the trade fair is planned in such a way that there are sufficient display options for all Koelnmesse destinations (parking lots, gates, entrances) at all crossroads. The use of full-matrix LED panels offers the required flexibility in display. Thus, even the number of dynamic display locations could be reduced from 31 to 21 compared to the existing guidance system.

### **Implementation on schedule despite uncertainties**

Thanks to the strong commitment of those responsible for the project on behalf of the City of Cologne and Koelnmesse, the project was completed on schedule. At one point, for example, numerous underground supply lines in the area of the planned new sites along Deutz-Mülheimer Strasse jeopardised implementation. Alternative locations were then found through the intensive efforts and rapid coordination of all parties involved. Mobile traffic signs were used in the area of the trade fair roundabout so that they can continue to be used during the medium-term redesign of the intersection area and installed at the final location after reconstruction.

### **Interfaces for uniform traffic guidance**

The fully dynamic system generates the required display content based on the defined grid and prepared image content. Test routines to ensure consistent signage are also included. Interfaces to the City of Cologne and the NUNAV navigation app ensure that road users receive consistent route guidance across all systems - whether app, municipal traffic control system or the trade fair's own traffic guidance system.

### **Modernisation of the trade fair traffic guidance system in numbers:**

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- 21 dynamic signpost locations in the area surrounding the trade fair
- 10 static signposts in the area surrounding the trade fair
- 4 static signposts in the municipal area
- 2 static signposts on the motorways
- 30 RGB LED vario panels
- 6 new cantilevers/double jibs
- 7 new tubular masts
- 2 new large signboards with LED inserts
- 45 new small signposts

### **About Koelnmesse:**

Koelnmesse employs more than 900 people and in 2019 had a global turnover of more than 400 million euro. As a city trade fair in the heart of Europe, it occupies the third largest trade fair grounds in Germany and, with almost 400,000 m<sup>2</sup> of hall and outdoor space, is among the top ten largest trade fair grounds in the world. Each year, Koelnmesse organises and manages around 80 trade fairs, guest events and special events in Cologne and in the most important markets all over the world. Its portfolio reaches over 54,000 exhibiting companies from 122 countries and around three million visitors from more than 200 nations. In the years ahead, Koelnmesse is investing more than 700 million euro in the development of the trade fair grounds and its digital infrastructure in the most extensive investment programme in its history, to allow it to cover all event formats in the future.

Photo material for Koelnmesse:

<https://www.koelnmesse.com/news/image-database/image-database.php>