



XPONENTIAL Europe 2025 in Düsseldorf: in the middle of the market for uncrewed systems

Be it on the road, rail, water or in the air: the race for autonomous driving and control systems is on. Technology leaders are the USA, Japan, China and Germany. Uncrewed systems and robotics are the themes of XPONENTIAL Europe, which will kick off in 2025 as a new event organised by Messe Düsseldorf. An ideal location: because Germany is the biggest market for uncrewed systems in Europe.

MIRA, the car that autonomously drives through Düsseldorf, the uncrewed lighter vessel “Watertrack 8” on the Rhine, which is navigated by a control centre at Duisburg Ruhrort, or “Ariol”, the drone that delivers cargo to Lüdenscheid – these are all examples showing what can already be done with uncrewed systems today.

“Germany is the largest market for autonomous driving and control systems in Europe,” says Malte Seifert, Director Metals, Energy & Autonomous Technologies at Messe Düsseldorf. He is in charge of XPONENTIAL Europe, which will be held for the first time in Düsseldorf from 18 to 20 February 2025.



The European format of XPONENTIAL, which has already been the leading industry meeting point for uncrewed systems and robotics in the USA for 50 years, is held to allow especially German and European companies to introduce their cutting-edge technologies and international excellence to the market.

Ranking top in the development of autonomous driving systems

Patent applications also show that Germany and Europe are among the pacemakers for developing autonomous driving systems. According to the latest available figures of the German Patent and Trademark Office, German companies own 42% of the patents for this technology valid for the German market. This means, they rank first followed by Japanese (28%) and US (11%) companies.¹ With reference to all globally registered patents related to autonomous

¹https://www.dpma.de/english/services/public_relations/press_releases/20180301.html, 2017

driving Europe (33,614 patent applications) ranks ahead of the USA (28,479), Japan (10,505) and China (9,208).²

“This underscores the relevance Europe and Germany have in this field of technology,” says Seifert. North Rhine-Westphalia and the Rhine and Ruhr region play a leading role in Mobility 4.0 and uncrewed transport. This is also reflected by the on-going research projects and developments in the region.

North Rhine-Westphalia setting the pace

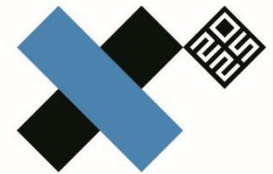
One of the top authorities for technology research is RWTH Aachen. At the Rhenish-Westphalian Technical University one of the largest research projects on autonomous driving was completed last year. Funded by the Federal Ministry of Education and Research (BMBF) four uncrewed, fully automated vehicle prototypes were realised with UNICARagil. The project leader here was ika, the Institute for Motor Vehicles, in cooperation with eight universities and nine companies. The result are four fully operational prototypes enabling different applications: autoCARGO for fully automatic parcel delivery, autoTAXI as a car-sharing option, autoSHUTTLE as a flexible complement for local public transport as well as autoELF as a family vehicle.



Another example from the field of autonomous rail transport is the “BrainTrain JuLiA”. Over a 10 km distance between the Lower Rhine cities of Jülich and Linnich solutions for partially and fully autonomous rail transport are currently being researched and tested.

Another lighthouse project is DRZ, the German Rescue Robotics Centre located in Dortmund. Also funded by the BMBF, autonomous robot systems and rescue vehicles for use in fires and rescue missions are developed at this centre. Here uncrewed systems such as ground robots or drones serve amongst other things to collect data in uncertain operational situations.

² <https://de.statista.com/statistik/daten/studie/1197823/umfrage/patente-mit-bezug-zum-autonomen-fahren-weltweit>, 2024



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Düsseldorf as an ideal location for XPONENTIAL Europe

“This makes Düsseldorf the ideal location for XPONENTIAL Europe”, says Seifert. XPONENTIAL Europe, he adds, highlights the keys for success: “This is where the market is, where the innovation drivers are and where the competencies of Messe Düsseldorf are as a globally active partner in the industrial sector.”

First industry leaders and start-ups on board

Registration levels are correspondingly good: in addition to the joint participation of the Unmanned Aviation Association (UAV DACH e.V.) we can already count the first renowned companies such as Dronivo, Germandrones, PIDSO, Rheinmetall with its subsidiary MIRA, RIEGL International, Saderet Limited, TESTEM as well as the Development Centre for Ship Technology and Transport Systems among our exhibitors. Add to this, numerous international start-ups as well as country pavilions from Denmark, Norway, Great Britain, Switzerland and Spain that have announced their participation.

EUROPEAN DRONE FORUM as kick-off

XPONENTIAL Europe is kicked off by the EUROPEAN DRONE FORUM, which is already held on the day before the trade show (17 February 2025). The Forum considered the most relevant European platform for the dialogue between the UAS industry and regulators, is organised by UAV DACH – the Unmanned Aviation Association DACH. This means that in addition to the leading international industry association AUVSI, EXPONENTIAL Europe can now also count on the most important sector association for unmanned aviation on Europe, UAV DACH, as a partner by its side.



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