

Press Release

“5G Autobahn to Autoroute” (5G A2A):

First cross-border 5G highway corridor between France and Germany to enable innovative driving functions

- Vantage Towers, TOTEM, O₂ Telefónica, Orange, htw saar deploy high-frequency 5G corridor on a highway from Metz to Saarbrücken
- Seamless cross-border 5G high-speed network enables innovative cooperative, connected and automated driving functions
- 5G A2A project is funded by the European Union under the Connecting Europe Facility

Düsseldorf, 15 January 2025 – A German-French consortium establishes a 5G highway corridor to achieve gigabit-speed connectivity on the road. Tower companies (TowerCos) Vantage Towers and TOTEM, mobile network operators O₂ Telefónica and Orange, as well as the University of Applied Sciences Saarland (htw saar) have entered into a pioneering cooperation. The aim of the collaboration is to create the first cross-border 5G highway corridor between France and Germany along one of the Europe’s busiest routes. It will link the cities of Metz and Saarbrücken via the 60-kilometer highway segment ready to enable innovative connected and automated mobility services. Construction of the corridor, called “5G Autobahn to Autoroute” (5G A2A), is scheduled to begin in early 2025, with the landmark project to be completed by the end of 2027.

This 5G A2A corridor will ensure high-speed data coverage, and enable a wide range of cooperative, connected and automated mobility use cases. Connectivity on the highways of tomorrow will not only allow watching a movie in the backseat, but also facilitate connected innovation for enhanced security and experience for drivers and passengers. The high-frequency 5G network deployed through this partnership between Metz and Saarbrücken will provide uninterrupted gigabit-speed and low latency 5G coverage to support the testing of advanced mobility functions such as cooperative lane changing and anticipated cooperative collision avoidance, automatic and autonomous traffic jam alerts, enabling testing of next-generation (partially) automated vehicles and promoting cross-border technological innovation.

The project includes a section in Germany along the A6 highway and a section in France along the A4 and A320 highways. The planned 5G A2A corridor runs along the Trans-European Transport Network ATLANTIC. On both sides of the border, a tandem of a TowerCo and a mobile network operator is driving the project. In Germany, this is Vantage Towers and O₂ Telefónica, while Orange and TOTEM are contributing on the French side. In addition, the project is supported by htw saar with scientific expertise.

5G A2A is funded by the European Union under the Connecting Europe Facility Digital Program and managed by the Health and Digital Executive Agency. The funding is for the development of high-performance digital infrastructure in Europe, such as 5G network coverage along cross-border corridors. The project is supported by the *Région Grand Est* in France and by the *Saarland Ministry of Economic Affairs, Innovation, Digital and Energy* in Germany.

The infrastructure underscores the long-term commitment of the cooperation partners to sustainable digital connectivity across national borders. In Germany, up to five radio towers will be erected to support the use of a distributed antenna system (DAS). O₂ Telefónica uses its 5G spectrum at 3.6 gigahertz to provide seamless coverage of the highway section with high-performance 5G. Consumers will benefit from this, as will industrial tests carried out as part of the collaboration. This setup also supports a neutral host model that allows multiple network operators to use the infrastructure – for broader connectivity and improved efficiency. In France, the partners are relying on a mix of eight new radio masts and the upgrade of up to eight existing masts to ensure dedicated 5G coverage along the corridor in the 3.5 GHz frequency.

Christian Hillbrant, CEO of Vantage Towers: “With the establishment of the Franco-German 5G A2A corridor, we are further advancing the digital transformation in Europe. Together with our project partners O₂ Telefónica, Orange, TOTEM and htw saar, we are creating an infrastructure that enables uninterrupted cross-border coverage and, in the future, the use of advanced mobility applications such as autonomous driving functions – setting new standards for digital connectivity.”

Nicolas Roy, CEO of TOTEM: “This project is an incredible proof of cooperation among TowerCos and mobile network operators to provide last generation’s mobile 5G network between Metz and Saarbrücken. This project relies on the top industrial expertise of each actor, dedicated to providing a better connectivity for all along the way. With this project, TOTEM illustrates the ability of its team to deploy bespoke and specific infrastructure solutions in a cross-border environment.

Mallik Rao, Chief Technology & Enterprise Officer of O₂ Telefónica: “We are building a 5G highway to test how to provide consumers and companies with gigabit speeds in the best possible way while driving. This can be a major step towards making connected driving a reality in Germany. We are looking forward to be partnering with the automotive and logistics industries to implement and test digital networking solutions of the future, based on our high-performance 5G network. The project is a prime example of how digitalization in Europe must not stop at borders.”

Thierry Marigny, Director Grand Est Region of Orange: “Orange is proud to be involved in the deployment of the first next-generation 5G corridor between Metz and Saarbrücken. This pioneering project will make this cross-border route the first in Europe to enable the use of connected vehicles and equipment. In future, users of this route will benefit from driver assistance services to enhance their comfort and safety in their connected vehicles”.

Prof. Dr.-Ing. Horst Wieker, Leader ITS Research Group of htw saar: “The project is an integral part of htw saar's ongoing efforts to increase the safety of connected vehicles and to realize automated driving in cross-border traffic. The htw saar is proud to be able to support the transition from research to live operation with its renowned partners, to implement innovative applications, and to evaluate the project scientifically.”

About Vantage Towers

Vantage Towers is a leading tower company in Europe with more than 86,000 sites in ten countries, connecting people, businesses and devices in cities and rural areas. The company was founded in 2020 and is headquartered in Düsseldorf.

Vantage Towers' portfolio includes towers, masts, rooftop sites, distributed antenna systems (DAS) and small cells. By building, operating and leasing this infrastructure to MNOs or other network providers such as IoT companies or utilities, Vantage Towers is making a significant contribution to a better-connected Europe.

While already 100% of the grid electricity that Vantage Towers uses to operate its infrastructure is obtained from renewable energy sources, green energy generation is piloted directly on site with the help of solar panels and micro wind turbines, and also hydrogen solutions are under testing. This fits well into the overall strategy of the company to drive a sustainable digitalisation in Europe and to support partners through technological innovation in decarbonisation and achieving their climate goals.

For more information, please visit our website at <https://www.vantagetowers.com/en>, follow us on X at @VantageTowers or connect with us on LinkedIn at www.linkedin.com/company/vantagetowers.

About TOTEM

TOTEM is a leader in the European TowerCo market, with of a footprint over 27,000 sites in France and Spain. Created in November 2021, TOTEM is an Orange subsidiary and provides its excellent grid of sites to all operators and IoT players to provide better connectivity for all, both in rural and urban areas.

Through infrastructure sharing, TOTEM plays a key role in building a more sustainable connectivity. As an independent and neutral player, TOTEM provides mutualised bespoke solutions for operators, as well as Distributed Antenna Solutions (DAS) for dense and enclosed areas such as stadiums or public transport. To improve connectivity in urban centers, TOTEM also deploys small cells in major cities in Spain including Madrid and Barcelona.

Connectivity, for everyone, everywhere, is at the heart of TOTEM's strategy, bringing together operators, local authorities, landlords and companies.

For more information, please visit our website at <https://www.totemtowers.com/> and connect with us on LinkedIn at <https://www.linkedin.com/company/totemtowers/>

About Orange

Orange is one of the world's leading telecommunications operators with revenues of 39.7 billion euros in 2023 and 128,000 employees worldwide at 30 September 2024, including 71,000 employees in France. The Group has a total customer base of 292 million customers worldwide at 30 September 2024, including 253 million mobile customers and 22 million fixed broadband customers. These figures have been restated to account for the deconsolidation of certain activities in Spain following the creation of MASORANGE. The Group is present in 26 countries (including non-consolidated countries).

Orange is also a leading provider of global IT and telecommunication services to multinational companies under the brand Orange Business. In February 2023, the Group presented its strategic plan 'Lead the Future', built on a new business model and guided by responsibility and efficiency. 'Lead the Future' capitalizes on network excellence to reinforce Orange's leadership in service quality.

Orange is listed on Euronext Paris (symbol ORA) and on the New York Stock Exchange (symbol ORAN).

For more information on the internet and on your mobile: www.orange.com, www.orange-business.com and the Orange News app or to follow us on X: @presseorange.

About O₂ Telefónica

O₂ Telefónica is a leading full-service provider of telecommunications services for private and business customers. The portfolio of the core brand O₂ and various secondary and partner brands includes traditional telephony and internet connections as well as innovative digital services in the area of the Internet of Things and data analysis. In mobile communications, O₂ Telefónica serves more than 45 million mobile connections (incl. M2M - as at 30/09/2024). No network operator connects more people in this country. The company's high-performance and award-winning mobile network reaches more than 99% of the population. In the fixed network, O₂ Telefónica offers its customers the greatest technological diversity and geographical availability of any provider in Germany. In the 2023 financial year, the company generated a turnover of 8.6 billion euros with around 7,500 employees. The company is majority-owned by the Spanish telecommunications group Telefónica S.A., based in Madrid, one of the largest telecommunications groups in the world.

About htw saar

The htw saar is a research- and application-oriented university with a pronounced regional focus and a strong international orientation. Boasting a high level of practical experience

and an extensive corporate network, it trains qualified and high-performing young managers with a sense of social responsibility. In the field of research and development, the htw saar sees itself as an innovation driver and initiator in the industrial and social transformation of a region long dominated by coal and steel.

The competence centre Future – Transportation - Society (FTS) (Kompetenzzentrum Future - Transportation - Society) focuses on future mobility with an interdisciplinary approach encompassing society, economy, technology, and transportation. Future mobility, in particular automated vehicles and driving, is of particular importance: Real-world testing in a medium-sized city, autonomous operation as a research project at a global supplier, and participation in Gaia X projects are just a few examples.

The ITS research group (FGVT) as part of the FTS of htw saar has 20 years of experience in the acquisition and management of federal and EU projects. The research areas of the FGVT have developed from pure technology research to impact-oriented research. In addition to the competence in communication and information technology in ITS, electromobility and autonomous driving, the research group is characterized by its competence in traffic and economics. Ongoing projects and research efforts are expanding these to include socio-technical, technological, psychological, and energy-economic aspects, so that transdisciplinarity and the ability to coordinate transversal projects have become the strengths of the FGVT.

Media contacts:

Vantage Towers: Leif Baiker, leif.baiker@vantagetowers.com
TOTEM: Mathilde Boistay, mathilde.boistay@totemtowers.com
O₂ Telefónica: Florian Streicher, florian.streicher@telefonica.com
Orange: Anthony Parmantier, anthony.parmantier@orange.com
htw saar: Katja Jung, pressestelle@htwsaar.de