

Continental and TÜV SÜD launch partnership to make Autonomous Mobile Robots (AMRs) safer for public use

- **Continental and TÜV SÜD sign MoU to develop a set of safety criteria for Autonomous Mobile Robots (AMRs) to be deployed in cities, supporting more widespread adoption.**
- **One of the first projects the companies will collaborate on is the safe and secure teleoperation of AMRs used in last-mile deliveries.**

Singapore, 12 May 2022. There has been an increased interest in AMRs in recent years, especially since the pandemic started. Today, leading technology company Continental is including these state-of-the-art solutions into their product portfolio. Building on the company's years of extensive research in the robotics field, it is now ready to unveil Continental Mobile Robots, a new area in its robotics business. In September 2022, Continental will introduce to the AMR market its first-ever intralogistics robot, featuring the company's industry-leading technology and software solutions.

Many trials are being conducted globally, including in Singapore, to assess the capabilities of AMRs as well as their safety aspects. However, there has yet to be a city where AMRs have been deployed on a large commercial scale. Regulatory authorities around the world are looking closely into how AMRs can operate safely with other road or sidewalk users such as pedestrians, cyclists and drivers with vehicles or personal mobility devices.

Continental and TÜV SÜD, global provider of testing, inspection and certification services, announced today a complementary partnership to develop a set of safety criteria for the use of AMRs in the urban environment.

Mr Tan Kiat How, Minister of State for Communications and Information & National Development witnessed the Memorandum of Understanding (MoU) signing ceremony. The MoU serves to alleviate any safety concerns and enable massive AMR deployment in a complex and dynamic smart city, like Singapore.

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“I am glad that international companies like Continental and TÜV SÜD are developing a set of safety criteria to deploy Autonomous Mobile Robots (AMR) in urban environments, and chose to do so in Singapore. It is a sign of confidence in our regulatory and safety regimes. The safe use of AMR, especially in public areas like footpaths, is also important for Singapore as we harness technological innovations to meet future mobility needs. I hope that the outcomes of this collaboration can be scaled to other cities around the world to support their smart city developments,” said Mr Tan.

“Continental is very excited to partner a global leader like TÜV SÜD to solve the final challenge of assuring authorities of the safety of AMRs, so as to enable massive commercialization and adoption of such autonomous technologies, which also paves the way for Continental to be a market leader in the deployment of AMRs,” said Mr Kien Foh Lo, President and CEO of Continental Automotive Singapore.

“We are very happy to have TÜV SÜD, a global partner, supporting us in different regions and various AMRs to not only comply with legislations but to also set the standards for AMR safety. We are currently executing our growth strategy with Singapore and the available ecosystem as one of our cornerstones for the AMR business,” said Mr Pierre Pomper, Head of Autonomous Mobile Robots, Continental.

“The rising trend of autonomous technology has increased the need for safety of AMR operations. With our expertise in robotics safety, industrial connectivity and Operational Technology (OT) cybersecurity, we look forward to working with Continental to support new technological advances and develop potential safety framework for AMRs in the market,” said Mr Richard Hong, CEO of TÜV SÜD ASEAN.

One of the first few scenarios to assess will be the teleoperation or controlling of an AMR from a remote location. The key criteria in such an operation would be latency, cybersecurity, and reliability. This would certainly enable commercialization by reducing the cost of the safety operator which today is mandated by the Land Transport Authority (LTA) to follow the robot. With greater adoption and commercialization of AMRs in the future, one teleoperator could potentially manage up to 20 robots remotely and effectively reduce this cost by 20 times.

TÜV SÜD to assess safety of AMR trial at JTC Summit

Through the MoU, one of the projects which Continental and TÜV SÜD will collaborate on is a trial at the JTC Summit, using autonomous robots to fulfill last-mile delivery services. Working with JTC and LTA, robots developed by Continental will run on fixed routes, subjected to site-specific safety considerations, under a pilot to deliver food from the food and beverage outlets in Jurong East and the JTC Summit.

Robust safeguards are already in place during the trial as LTA requires trial autonomous vehicles (AVs) to undergo rigorous safety testing at the Centre of Excellence for Testing & Research of AVs – NTU (CETRAN) test circuit in the Jurong Innovation District before they can be trialed on public roads and paths.

TÜV SÜD will work closely with Continental to assess various safety aspects of this trial and develop a set of criteria that can potentially be used as the safety framework for AMRs deployed in cities.

Continental

Continental develops pioneering technologies and services for sustainable and connected mobility of people and their goods. Founded in 1871, the technology company offers safe, efficient, intelligent and affordable solutions for vehicles, machines, traffic and transportation. In 2021, Continental generated sales of €33.8 billion and currently employs more than 190,000 people in 58 countries and markets. On October 8, 2021, the company celebrated its 150th anniversary.

TÜV SÜD

Founded in 1866 as a steam boiler inspection association, the TÜV SÜD Group has evolved into a global enterprise. More than 25,000 employees work at over 1,000 locations in about 50 countries to continually improve technology, systems and expertise. They contribute significantly to making technical innovations such as Industry 4.0, autonomous driving and renewable energy safe and reliable.

<https://www.tuvsud.com/sg>

Press contact

Sim Toon Cheng
Head of Communications
Continental Automotive Singapore
Phone: +65 8128 9188
Email: sim.toon.cheng@continental.com



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Jo-Ee Chee
Marketing Executive
TÜV SÜD
Phone: +65 6973 6023
Email: jo-ee.chee@tuvsud.com

Dawna Chan
Public Relations Specialist
Absolute PR
Phone: +65 6221 2688
Email: dawnachan@absolutepr.com.sg

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Press portal: www.continental-press.com
Media center: www.continental.com/media-center

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