

A close-up photograph of a hand pressing a circular button on a car dashboard. The button is illuminated with a bright blue glow and has the words "FUTURE" and "START" printed on it in white, separated by a horizontal line. The background is a dark, textured surface, likely the car's interior.

FUTURE
START

CES 2021

Mobility is the Heartbeat of Life

Holistic Engineering and Technologies

ERIKA

PPP* Research Project in Generic HPC Platform

Scope

- › Evaluation of a new communication technology for creating a future-capable in-vehicle data network for High Performance Computing (HPC)

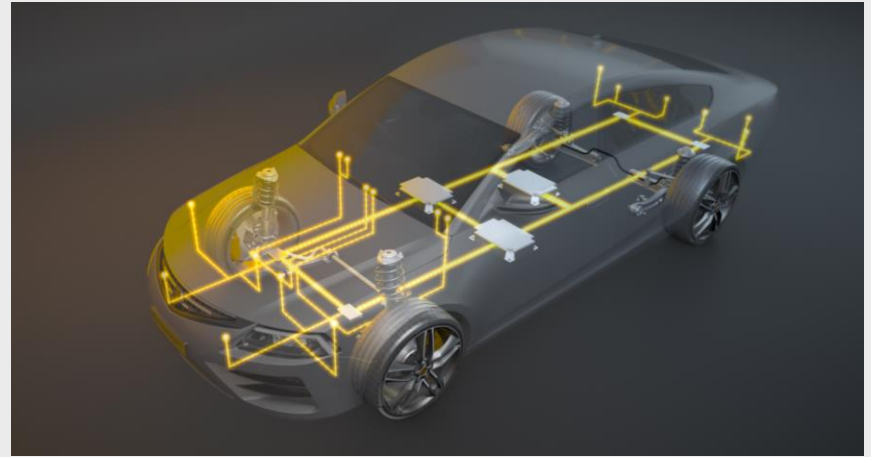
Project Description

- › PPP project evaluating the latest 5G based data modulation approaches
- › Consortia lead by Continental with strong collaborative network of partners

Advantages

- › Highly efficient and robust data communication
- › Fulfilling automotive future requirements by being flexible and upgradeable
- › New network topology (towards 2030): Reduced and simplified network and wiring complexity, supporting future network architectures

* Public Private Partnership



aufgrund eines Beschlusses des Deutschen Bundestages



If interested in this technology, contact us for more information

Next Steps in Truck Safety

Addressing single function and system solutions

Scope

- › Provide concepts for scalable system solutions for cost optimized multiple safety functions

Project Description

- › Develop scalable system solution concept for all identified use cases and fulfill legal requirements
- › Evaluate usability of ultrasonic technology for active safety applications (e.g. for “Moving-off info system”)
- › Implement systems including ultrasonic sensors and fusion algorithm concept in a demonstration truck

Advantages

- › Mandated by EU regulation >> 100% fitment
- › Provides solutions to technology leaders and followers
- › Intense synergies by connecting different technology fields and bundling organizational units



Future Chassis Products – Brake

Non-hydraulic Electric brakes

Scope

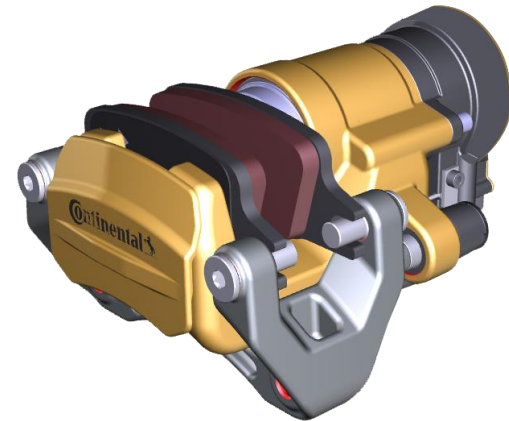
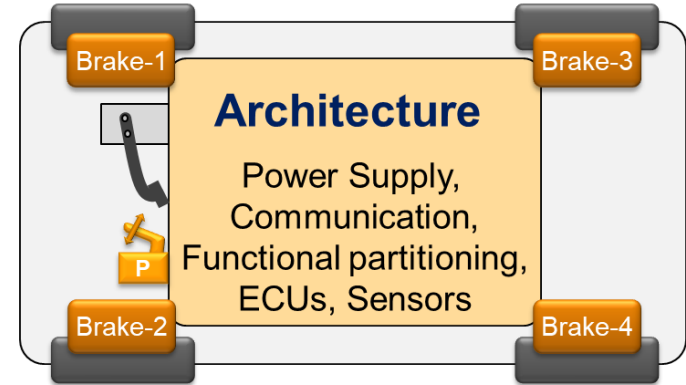
- › Shape fully electrified brakes systems

Project Description

- › Unify know-how within Continental's brake units to define electrical brake systems adapted to future markets in order to provide a market leading solution
- › Full brake by wire scalable Architectures
- › Smart Electric Brake Actuators (wet, dry or frictionless)

Advantages

- › Vehicle manufacturer: Plug & play assembly, fully automated production, firewall freedom, crash safety, enables new flexible modular vehicle concepts
- › End User: Less maintenance – e.g. no brake fluid
- › Optimal brake systems for future demands in terms of functionality and costs



example
for an
**Electric
Brake**

PreCrash Safety Monitor

Scope

- › Development of algorithm for prediction of crash properties before “moment of impact” by integration of environmental sensors

Project Description

- › Integration of environmental sensor information in Passive Safety Systems
- › Enhancing of environmental sensors for crash prediction
- › Adjust and adapt the restraining system to enable deployment before “moment of impact”

Advantages

- › Crash Information before actual impact leads to significant improvement of passenger protection opportunities
- › Gaining time to react before a crash
- › Deployment before “moment of impact” based on crash type and occupant pose
- › Provide the best protection for vehicle passengers



Next Generation Cabin Sensing Algorithms

Scope

- › Deploying next generation cabin- sensing algorithms on demonstrators

Project Description

- › Evaluate and validate Continental's advanced engineered cabin sensing algorithms with our Synthetic Data Generation Tool (SDGT) to achieve best maturity as early as possible
- › Embedding latest "PC based" next-gen. algorithms on demonstrators to enable real-life experience
- › Develop new cabin- sensing algorithms to increase safety, comfort and performance for L1- L5 mobility

Advantages

- › To be BEST IN CLASS in real-life experience
- › Focusing on the complete cabin (driver, passengers, children, objects, etc.) to pave the path for future legislations



Collision Warning for vulnerable road users

Scope

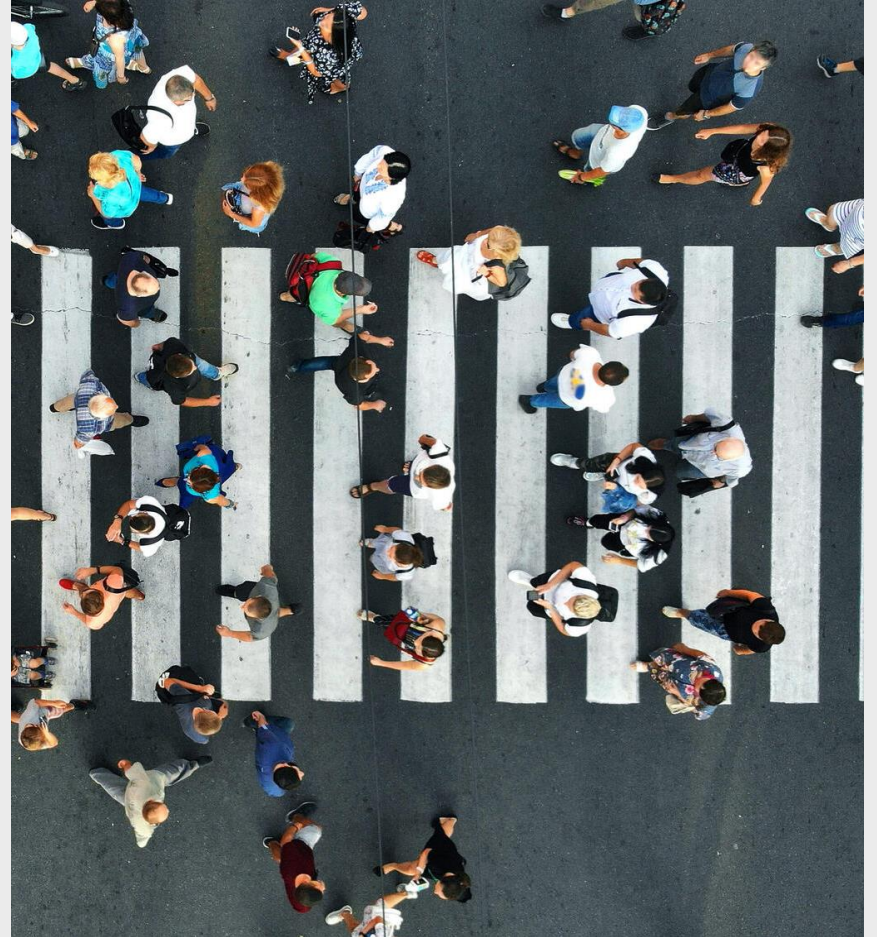
- › Enhance Intelligent Intersection with collision warnings for vulnerable road users (VRUs)

Project Description

- › Improve collision warning accuracy by incorporating infrastructure data (e.g. traffic light signal information) and digital map
- › Predicting possible collisions by merging intersection and traffic data for the holistic VRU environment
- › Develop Mobile Network Operator (MNO) agnostic service to increase system coverage

Advantages

- › Partnership with Mobile Providers in Multi MNO Edge Cloud based VRU protection service
- › Intelligent Intersections will be more attractive in the market due to VRU protection capabilities
- › Fleet operators (e.g. e-scooters and bicycles) in urban areas will be able to reduce damage insurance claims
- › Urban planners and insurance providers will have environment monitoring services improving road safety



Intelligent Intersection

Next Generation Features

Scope

- › New features and sensing for the Intelligent Intersection to add new value and USP to the system

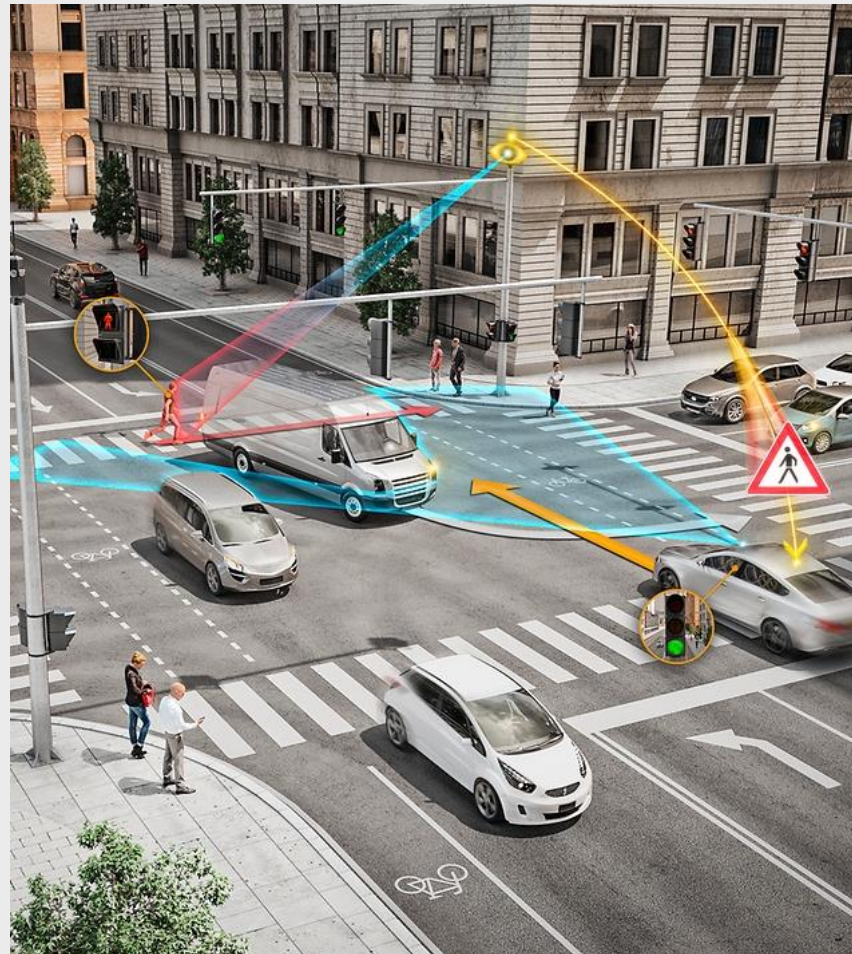
Project Description

- › Camera agnostic object detection, classification and fusion into environment model
- › Explore, analyze and develop the services for OEM interoperability, safety and efficiency features
- › UWB as sensor input to system and communications path to vehicles & VRUs

Advantages

- › Camera input & fusion differentiates our system by improving robustness of VRU safety applications
- › OEM interoperability features add to IIS USP
- › UWB as an additional sensor input has potential to further differentiate IIS and enables new safety applications with VRU

IIS = Intelligent Intersection | UWB = Ultra Wideband | VRU = Vulnerable Road User



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Digital Services Platform

Scope

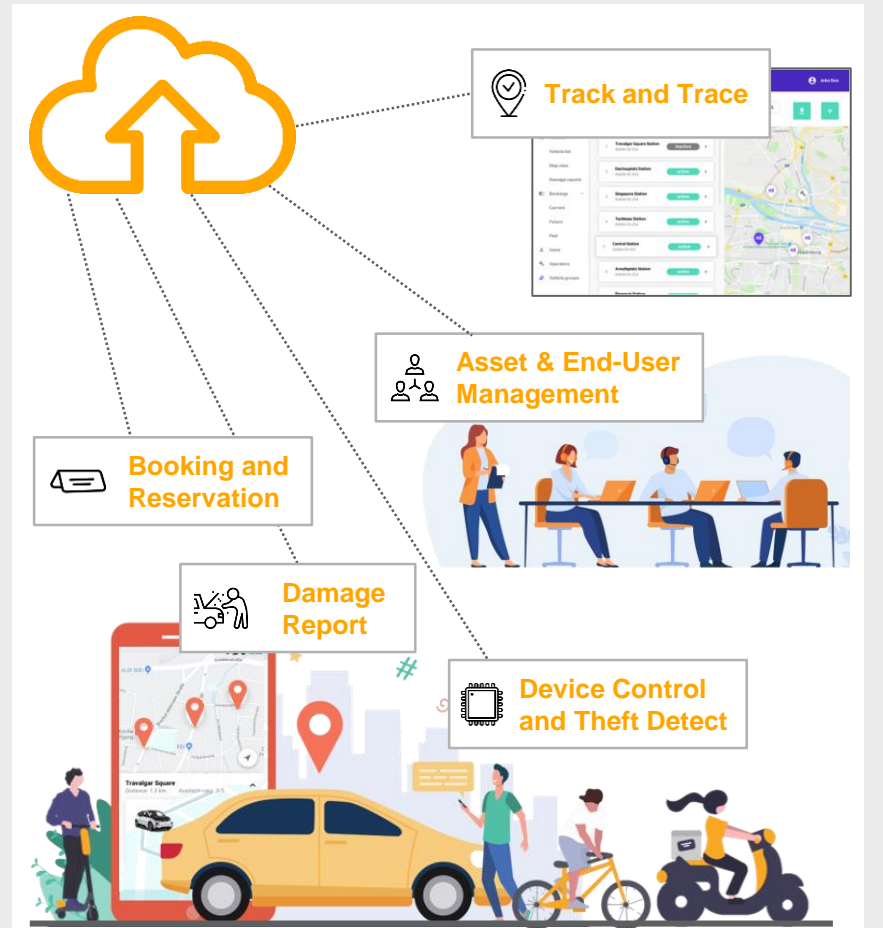
- › The “Digital Services Platform” connects any kind of vehicle/ drivetrain and offers dedicated services for sharing and fleet provider as well as for end consumers

Project Description

- › We offer comfort functions for “**End Consumers**” such as state-of-charge, vehicle navigation, opening/closing, etc.
- › In the case of “**Sharing and Fleet**”, vehicles can be placed into active rental service and taken out for repair on short notice. The operator can use a location manager to define the areas to be used in a city/region and set up so-called "No Go" areas. It also includes user management, a booking manager, and a comprehensive damage, repair, and feedback solution
- › In addition, our solution can be used to provide predictive maintenance services

Advantages

- › We as Continental are one of the **major players in drivetrain know-how** concerning access, control and monitoring
- › We offer **telematic hardware solutions for each vehicle type**
- › Our **services packages** and **business models are customized**
- › We focus on **automotive level security** to make data as protected as possible
- › Our **strategic direction is autonomous driving**; offering products and services



In Robot Computer

Re-engineering High Performance Computers into Robot ECUs

Scope

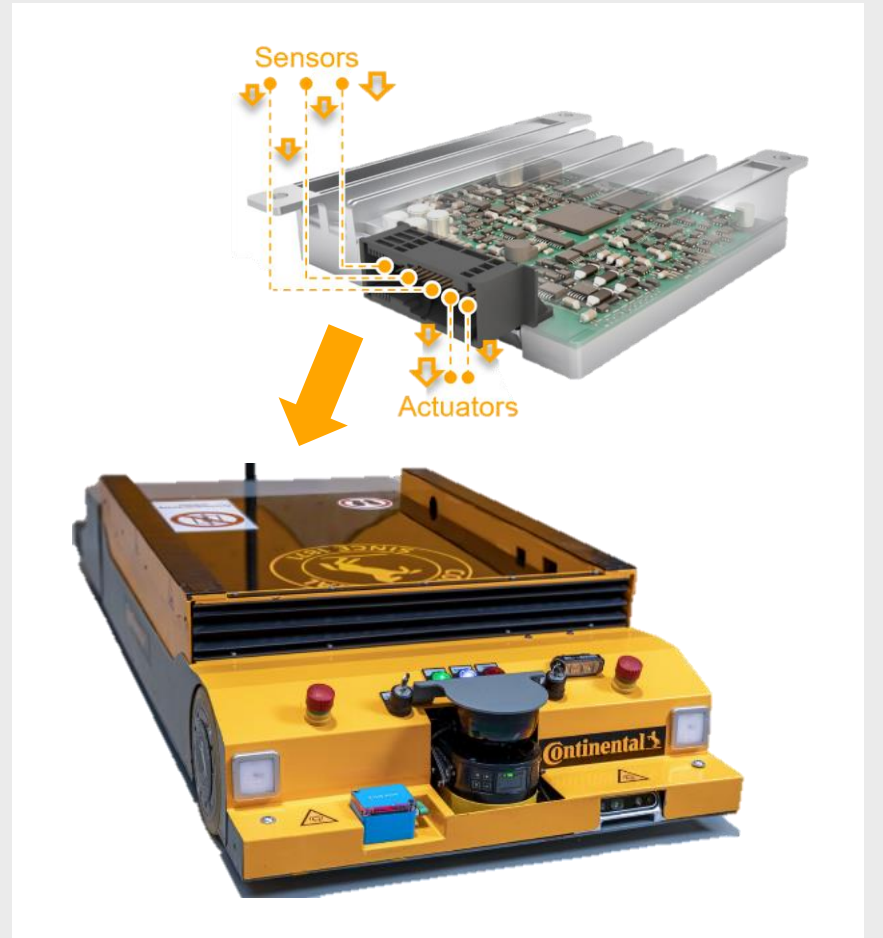
- › Extend existing ECU portfolio with software architecture that can serve several professional service robotics applications

Project Description

- › As Continental builds its own autonomous Automated Guided Vehicles (aAGV), we could use our expertise to build the ECUs to improve profit margins
- › We offer a Continental Robotics Fleet Management Software
- › We include all advantages of upcoming edge computing in order to extend functionalities and reduce costs of components at the same time

Advantages

- › Leverage on Continental's expertise building HPC (High Powered Computers) for building robot's ECU
- › Market leading functions bases on automotive expertise
- › Cost leading by leveraging sensor know how



Vehicle Data Consolidation Layer

Helping businesses to
“democratize” data

Scope

- › Delivering “ready-to-assemble” data solution stacks to enterprise business that depends on vehicle data

Project Description

- › Provides use-case ready vehicle data solutions from heterogeneous data sources
- › Aggregated, standardized and trusted by all stakeholders in the data flow chain

Advantages

- › Unify edge & cloud data sources (mixed-fleet vehicles, IOT sensors, OEM cloud feeds)
- › Automate the “hardwork” beneath the UI layer for the customer
- › Offer the first safe and trusted consolidation layer for heterogeneous data's out of multiple sources



Corriere

Last mile delivery robot

Last Mile Delivery Robots will be the largest robotics segment. Continental contributes to the future of mobility with autonomous solutions in the field of mobile robotics.

Goal: Seamless Point-to-point transportation of small goods/food

- › Autonomous outdoor navigation
- › Scalable deployment
- › Integrated fleet management

Facts to know

- › Certified by Singapore LTA* to drive on public sidewalks and pedestrian zones

Technical Highlights

- › Fully operational AI Stack
- › Cloud based route optimization and task distribution
- › Cloud based monitoring and remote maneuvering

Robot specification

- › Max speed: 7.5kmph
- › Payload: 20kg
- › Carrying capacity: 45 liter
- › Range: 30km

* Land Transport Authority



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Elektrobit at a glance

Driving the future of software

- › **3400 employees globally**
(incl. Argus excl. e.solutions, as of January 2020)
- › **Headquartered in Erlangen, Germany**
- › **23 offices in 11 countries** (Austria, China, Finland, France, Germany, India, Israel, Japan, Romania, South Korea, USA)
- › **Elektrobit's software powers over 1 billion devices in more than 100 million vehicles on the road**

ARGUS

CYBER SECURITY

- › Global Leader in Automotive Cyber Security
- › Prevent, detect and respond to cyber attacks targeting vehicles throughout their lifespan
- › On-Board and Off-Board solutions
- › Design and penetration testing
- › Regulation: WP29* consulting & tech

* The UNECE World Forum for Harmonization of Vehicle Regulations



portfolio



Vehicle infrastructure



Connected vehicle



User experience



Automated driving



Elektrobit Consulting



Engineering services

More Information

Get in touch with us!



More information can be found at

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