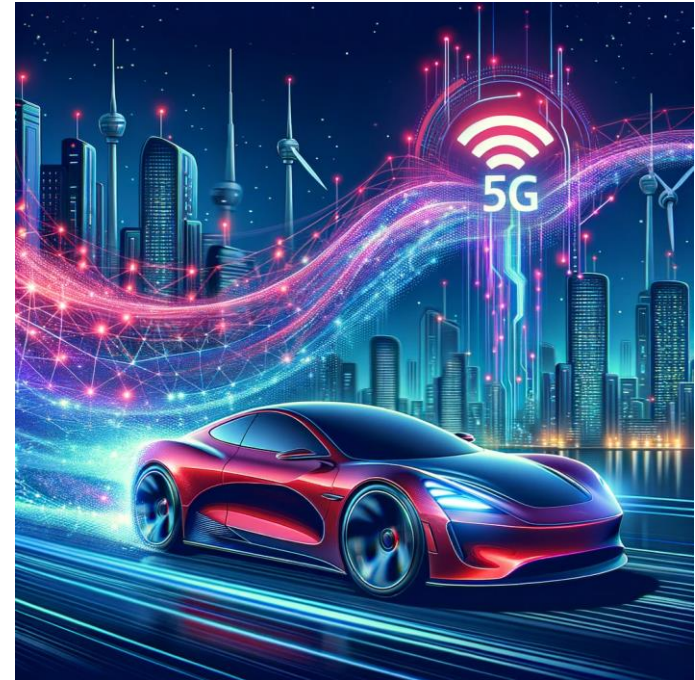


5G: A távközlés és felhő jövője a közlekedésben

Agenda

- Strengths of 5G for automotive industry
- Use cases in BOSCH:
 - Infrastructure Assisted Mobility
 - 5G Exploration
- Q&A



Strengths of 5G for automotive industry and self-driving

- **Enhanced security features:** A new layer of control for businesses.
- **Ultra-reliable and low latency:** Enable real-time use cases.
- **Cloud native:** New opportunities for providing Mobility-as-a-Service.



Infrastructure Assisted Mobility

IAM

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graph LR; IAM[IAM] --- B1[An economic, self-configuring and self-calibrating package of E/E components for vehicle manufacturers (OEMs).]; IAM --- B2[The PerfectIAM distributed edge solution that runs on any edge cloud-compute platform, which conforms to a desirable GAIA-X standard for infrastructure-assisted autonomous driving.]; IAM --- B3[A future traffic sensor solution, so-called roadside units (RSU), providing data, for example, from traffic cameras & radar sensors, tapping of traffic lights, which are connected to the edge cloud-compute platform via 5/6G.]
```

An economic, self-configuring and self-calibrating package of E/E components for vehicle manufacturers (OEMs).

The PerfectIAM distributed edge solution that runs on any edge cloud-compute platform, which conforms to a desirable GAIA-X standard for infrastructure-assisted autonomous driving.

A future traffic sensor solution, so-called roadside units (RSU), providing data, for example, from traffic cameras & radar sensors, tapping of traffic lights, which are connected to the edge cloud-compute platform via 5/6G.

Infrastructure Assisted Mobility

In 2021, **Bosch Research and the Carnegie Mellon University in Pittsburgh** teamed up to make 'spatial computing' reliable and real time capable.

- Create Digital Twins of Locations (e.g.: street intersections)
- Fusion of observations from all participants of the traffic
- In real-time

Infrastructure Assisted Mobility

Layered model:



Infrastructure Assisted Mobility

Safe By Design

- Communication is provided reliably by 5/6G
- Low chance of vehicles losing connectivity
- Onboard Level 2+ Safety features
- 24/7 Remote driver service



5G Exploration

- Collaboration between **Robert Bosch Kft.** and **Vodafone Magyarország Zrt.**
- How can the 5G network support the development of vehicle and driver assistance systems?
 - Simulation studies
 - Developments related to partially and fully autonomous vehicles
 - Engineering collaboration



Q & A