

Eyes and Ears for the Car of the Future

**Terahertz sensors and networks
for next generation smart
automotive electronic systems**

Related Projects

This newsletter will give you a glimpse of the Car2TERA project progress and related activities, such as conferences, workshops, upcoming events, and other exciting news concerning the project activities.

Coordinated by Technikon in Villach, the project has successfully started with the Kick-Off meeting in January 2019 and promises to keep Europe in the car sensing technology spotlight. The project effort will leverage recent European advances in the semiconductor, microsystem and nanoelectronics technologies.



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Budget

€ 3.9 Million

100% EU-funded



Consortium

9 Partners

5 countries



Duration

39 Months

01/2019 - 03/2022

About

From Advanced Driver Assistance Systems (ADAS) to fully Automated Vehicles, Car2TERA combines the results of recent achievements in semiconductor, micro- and nanoelectronics scientific projects. Car2TERA emerging technology and innovation will take next generation cars to the next level.

Past Meetings

Kick-Off Meeting

The Car2TERA kick-off meeting took place on January 28th and 29th, 2019 and was hosted by TECHNIKON in Villach/Austria. This multi-national gathering was the perfect opportunity to review the upcoming project, work on and assign some to do's and even spend some time in the Technikon recording studio to record the first podcast for the project. Overall, the consortium agreed; it was a great start to a great project.



Technical Meeting in Gothenburg

The first technical meeting for Car2TERA was held at Chalmers University, Gothenburg, Sweden on June 13th and 14th, 2019, to discuss the technical progress of the project. Work packages were presented with a focus on the deliverables due in the first six months. The primary demonstrator is an in-cabin car safety sensor for pre and post-crash passenger monitoring. The secondary demonstrator deals with wide-band THz-over-plastic links for short-range, intra-base station interconnect.



Upcoming meetings

Intermediate review meeting

The Car2TERA intermediate review meeting will take place on the 16th and 17th of September 2019 in Brussels, Belgium. Consortium members will gather to give updates on status of tasks, work packages and discuss any new issues for resolution. The European Commission will assess the project's first nine months and offer feedback and perhaps make some recommendations.



Current status of the project

The Car2TERA project is currently examining electronic smart systems (ESS) in the range of 150 to 330 GHz. Consequently, two main applications were identified for the potential implementation of the project.

Partners will analyse the applications with its system level requirements. Moreover, the deliverable will present the final results of the system requirements for the THz car radar application and for the telecommunication application are stated. This includes both technical specifications and economical expectations.

Dissemination material

Podcast

In our podcast, we speak with Joachim Oberhammer, scientific lead of the Car2TERA project, about goals, expectations, challenges, results and the kick-off meeting.

Press Release

Press release was issued on 15th January and was the official announcement of the Car2TERA project.

Announcement Letter

The official announcement letter contains all relevant information about the Car2TERA H2020 project.

Project Leaflet

The official leaflet of the Car2TERA H2020 project presents Consortium, Project Information, Mission, Vision and Goals of the project.

THz micromachining presentation

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Consortium

The Car2TERA consortium consists of eight highly qualified industrial and academic partners from various backgrounds and five different countries (Austria, Sweden, Poland, Italy and Spain), making it well positioned to achieve its objectives.



Past Events

2nd Towards THz Communications Workshop
7th of March
@Albert Borschette Congress Centre,
Brussels (Belgium)

International Microwave Symposium
2nd-7th of June
@Boston (USA)

GRAPHENE 2019
25th-28th of June
@Rome (Italy)



Upcoming Events

European Microwave Week 2019
29th September - 04th October 2019
@Paris, France

All past and upcoming events can be found on the Car2TERA official webpage:

car2tera.eu/events

Related Projects



The mission of the M3TERA project was to provide a wide-spread use of low cost- THz technology in our society, enabled by a micromachined heterogeneous integration platform, which provides an unique way to highly-integrated, volume-manufacturable, cost- and energy-efficient, reconfigurable submillimeter-wave and THz systems.

EU Horizon 2020, under grant agreement No. 644039



DREAM project aims in developing low cost and small form factor components, systems and algorithms. This will enable flexible, high-data rate and power efficient D-band backhauling/ front hauling into beyond 5G mobile networks.

EU Horizon 2020 under grant agreement No 761390



The SERENA project aims to extend the limits of mainstream semiconductor technologies by developing a low-cost and high-performance (high-power and high-efficiency) hybrid integration platform for mm-wave systems develop a GaN-on-Silicon cost- and power efficient mm-wave 5G beam-steering system.

EU Horizon 2020, under grant agreement No. 779305



EPIC aims to develop a new generation of Forward-Error-Correction (FEC) codes to enable practical wireless Tb/s link technology corresponding to a 10x 100x throughput improvement over the state-of-the-art (SoA). EPIC will validate and demonstrate the developed FEC technology in virtual silicon tape-out and provide a first-in-class wireless Tb/s FEC chipset architecture block.

EU Horizon 2020, under grant agreement No. 760150



ThoR is a joint EU-Japan project which aims to provide technical solutions for the data networks beyond 5G based on 300 GHz RF wireless links. ThoR will apply these European and Japanese state-of-the-art photonic and electronic technologies to build an ultra-high bandwidth, high dynamic range transceiver operating at 300 GHz.

EU Horizon 2020, under grant agreement No. 814523



ULTRAWAVE project objective is to develop a high capacity backhaul which enables 5G cell densification by exploiting bands beyond 100 GHz. ULTRAWAVE is empowered by the combination of three main technologies: vacuum electronics, solid-state electronics and photonics.

EU Horizon 2020 under grant agreement No. 762119