

# DEWI - Dependable Embedded Wireless Infrastructure



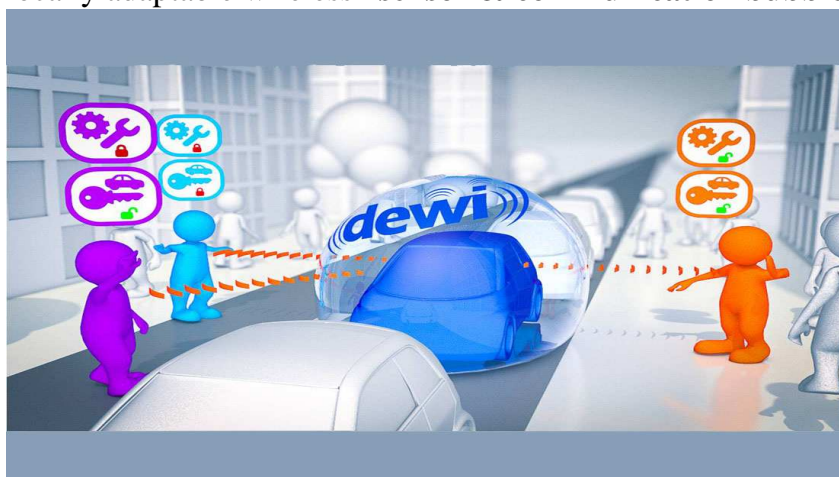
DEWI - led by the VIRTUAL VEHICLE Research Center in Graz/Austria - is a large pan-European initiative on Embedded Systems (wireless sensor networks and wireless communication) in the areas of transportation and building automation, involving 58 key players from 11 EU countries. With a project volume of ca. 40 M€, DEWI will prepare the ground for the broad introduction of such systems by a strong symbiosis between industry, research, and

education.

Today, wireless communication has found its way into the everyday life of almost all citizens, be it in private in public or in business. Embedded devices like mobile phones, WLAN routers, high-speed home entertainment connections or navigations systems are familiar to everyone. It is evident that the presence of this wireless technology has significantly eased the lives of citizens, by providing connectivity. However, wireless connections can reach far beyond mere communication needs of citizens. Furthermore, current wireless solutions do not have the common reference design and service-oriented architecture needed to build a market environment where competition enables lower prices for citizens.

## SENSOR & COMMUNICATION BUBBLE

DEWI aims to make this possible by providing **key solutions** for wireless seamless connectivity and interoperability in smart cities and infrastructures, by taking account of the everyday physical environments of citizens in buildings, cars, trains and airplanes, which will significantly contribute to the emerging smart home and smart public space. For this purpose, DEWI introduces the concept of a locally adaptable wireless “**sensor & communication bubble**”.



## **The locally adaptable wireless “sensor & communication” bubble of DEWI for the Automotive Domain showing different access rights.**

### **DEWI USE CASES**

Based on more than **30 clear business needs** identified by DEWI industrial partners, the concept of the “sensor & communication bubble” will be realized in **21 industry-driven use cases**, tackling challenges such as dependable, auto-configurable, optionally secure, short-range communication, local energy management (efficiency, harvesting, storage), the localization of sensors and mobile devices or the smart composability and integration of wireless sensor networks. These many and various use cases of DEWI will clearly highlight the advantages of replacing wired by wireless solutions.

### **DEWI KEY RESULTS**

The **key results** of DEWI will be shown in **attractive real-life demonstrators** of the DEWI “sensor & communication bubble”, such as wireless sensor networks for civil rocket launchers, off-highway vehicle for wireless vibration monitoring on operators, wireless technology for easier rolling stock maintenance and wireless sensor networks for improving building energy efficiency, for operation, maintenance and access control. The project will contribute to emerging international standards, influence new regulations and lay the basis for efficient certification process.

DEWI, with its **four industrial domains** (Aeronautics, Automotive, Rail, Building), will add clear **benefits for interoperability and cross-domain issues** in the area of wireless sensor networks & wireless communication in terms of re-usability of technological bricks (for flexible data acquisition, aggregation & fusion; HW/SW co-design; security, privacy and authorization; re-/auto-/self-configuration; smart energy management and harvesting; dependability, robustness & safety; wireless sensor/device detection & localization; and wireless standards) as well as architecture, processes and methods.

### **ADDRESSING SOCIETAL CHALLENGES**

The application innovations provided by DEWI fully address specific societal challenges, as supported by ARTEMIS, such as **“Green, safe & supportive transportation”** and **“Smart buildings & communities of the future”**. These solutions will allow citizens more local personal control, less stress, lower overhead and increased comfort and safety in everyday life. DEWI will significantly **contribute to employability** in Europe, by opening up novel business opportunities and new markets, especially for European SMEs in cooperation with large enterprises that have direct global market access. DEWI – having an unusually high share of SMEs - will create **new high-quality sustainable jobs**, and will **foster academic education** in the area of wireless sensor networks and wireless communication.

### **THE START**

On 27-28 March 2014 in Graz, Austria, some 15 journalists and more than 90 DEWI project partners attended a successful official DEWI kick-off meeting, and the media gave the project a profiling boost. The public homepage ([www.dewi-project.eu](http://www.dewi-project.eu)) presented there, provides further details on the project.

Until 2017, DEWI will employ ca. 150 researchers and developers working for a dependable embedded

wireless future in automotive, aeronautics, rail and building automation!

“The research leading to these results has received funding from the European Union’s Seventh Framework Program (FP7/2007-2013) for DEWI – Dependable Embedded Wireless Infrastructure Joint Undertaking under grant agreement № 621353 and from specific national programs and/or funding authorities.

© Copyright 2007-2014 ARTEMIS. All Rights Reserved.