

Press Information  
22<sup>nd</sup> February 2016

## **BMW presents the Vehicular CrowdCell at the Mobile World Congress 2016 in Barcelona.**

### **Mobile femtocells help to optimize future mobile radio networks.**

**Munich.** At this year's Mobile World Congress in Barcelona (22 – 25 February 2016) – which stands alongside the IFA in Berlin as Europe's most important mobile communications show – the BMW Group is unveiling the research project "Vehicular CrowdCell". This project extends the concept of the "Vehicular Small Cell" presented last year in Barcelona. While the "Vehicular Small Cell" is a mobile femtocell that optimises the mobile radio reception inside vehicles, it is now also capable to enhance the capacity and coverage of mobile radio networks. The BMW Group is teaming up with peiker and Nash Technologies to present a prototype of the "Vehicular CrowdCell" integrated into a BMW research vehicle.

The rapid growth of mobile data traffic, e.g. due to the increasing use of multi-media services such as music or video streaming with mobile devices, requires even more powerful mobile radio networks in the future. One strategy to increase the capacity and coverage of future networks is the integration of a large number of small cells and relays in addition to the existing base stations.

In 2015 the BMW Group, together with its partners peiker and Nash Technologies, presented the world's first mobile femtocell in a vehicle. The "Vehicular Small Cell" optimises the reception available to mobile devices inside vehicles via the vehicle's aerial. Now the concept has been extended to create the "Vehicular CrowdCell". Based on data traffic and coverage demands, the mobile femtocells are dynamically activated to locally enhance mobile radio networks.

#### **The benefits of Vehicular CrowdCells in practice.**

One possible application of "Vehicular CrowdCells" are car-sharing fleets – in particular with electric vehicles. Here, a large number of vehicles spread over cities and regions could serve as local radio relays when parked. If one or more users are located close to a mobile femtocell, it is activated on demand in order to increase the bandwidth or provide additional network coverage. In such a way, the performance of the existing network can be dynamically optimized.



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Benefits for mobile phone users in hotspots include a higher data rate and the absence of reception white spots – especially in areas where the signal coverage is low.

“The “Vehicular Small Cell” will optimise in-vehicle connectivity of mobile devices for our customers,” explains Dr. Peter Fertl, project manager at the BMW Group. “At the same time, the integration into a network of “Vehicular CrowdCells” will enable the ubiquitous and seamless availability of high-quality mobile radio connections outside the vehicle as well.”

The BMW Group has long been one of the world’s leading carmakers when it comes to the connectivity of drivers, their vehicles and the outside world. The company has been working continuously on the development of pioneering digital services alongside its innovative BMW ConnectedDrive services. The research project “Vehicular CrowdCell” lays the foundations for improving connectivity inside the vehicle and beyond.

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**The BMW Group**

With its three brands BMW, MINI and Rolls-Royce, the BMW Group is the world's leading premium manufacturer of automobiles and motorcycles and also provides premium financial and mobility services. As a global company, the BMW Group operates 30 production and assembly facilities in 14 countries and has a global sales network in more than 140 countries.

In 2015, the BMW Group sold approximately 2.247 million cars and nearly 137,000 motorcycles worldwide. The profit before tax for the financial year 2014 was approximately € 8.71 billion on revenues amounting to € 80.40 billion. As of 31 December 2014, the BMW Group had a workforce of 116,324 employees.

The success of the BMW Group has always been based on long-term thinking and responsible action. The company has therefore established ecological and social sustainability throughout the value chain, comprehensive product responsibility and a clear commitment to conserving resources as an integral part of its strategy.

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