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## **Embever Launches World's First IoT Middleware for the New NB-IoT Technology.**

*Embever's innovative system let's developers easily build low-power Internet of things (IoT) products based on cellular technologies.*

Developing battery-powered IoT products that send and receive data via cellular networks is challenging. Such IoT devices require large amounts of energy due to the permanent connection needed for receiving data. Thus, cellular products need their batteries charged frequently. Embever offers an innovative software service that frees wireless products from this dependency.

*Embever Core* is a cloud-based middleware that enables developers to connect and control battery-powered IoT devices in an energy efficient and easy way with their web applications. Embever provides firmware and hardware components for the devices that use optimized protocols to communicate with Embever Core. The protocols are designed for data transfer with minimal overhead. In addition, Embever's firmware allows devices to enter a "Deep Sleep" mode. New information is synchronized with Embever Core depending on flexible user settings. The intelligent messaging system ensures that no data is lost while the devices are in deep sleep mode and no erroneous data can be sent to the devices. Devices using Embever Core achieve unprecedented energy efficiency because they only synchronize from time to time. IoT devices connected to the Embever Core can be operated in this way for years without battery replacement.

In addition to this novel approach Embever focuses on a new mobile radio standard, the Narrowband IoT (NB-IoT) technology. Embever Core uses UDP (User Datagram Protocol) for data transmission, which is the only IP based protocol supported by state-of-the-art NB-IoT modules. Hence, Embever Core is can bes used for NB-IoT applications today. NB-IoT has extremely low energy consumption, excellent indoor and outdoor coverage and low component cost. In conjunction with NB-IoT, Embever Core eliminates constraints due to high energy consumption and the dependency on local networks.

The Embever Core middleware is not limited to NB-IoT but also open to other technologies. Embever is actively working on the integration of other Low-Power-Wide-Area (LPWA) technologies.

Due to its innovative architecture, Embever Core enables new applications for wireless IoT products, that were previously neither economically nor technically feasible.

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### **About Embever**

Founded in of 2017, the Embever GmbH is active in the growing market of Internet-of-things (IoT). Embever operates Embever Core, a platform for the development of energy-efficient IoT products. The Embever GmbH is funded by the Ministry of Economics, Science and Digitalization of the state of Saxony-Anhalt and the European Union.

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