

Berlin, 24 March 2016

**Schleicher Electronic at Hannover Messe, 25-29 April, Hall 3 / Stand B17**

## **Smart Factory: wireless safety**

**Demand is growing for wireless transmission solutions for industrial production. Wireless communication has not so far played a role in safety-related applications – the fundamental failsafe reliability cannot be guaranteed. For that reason automation specialist Schleicher Electronic will in future rely on the “EchoRing™” wireless communication system. This will make safe wireless communication possible for the first time in the “Smart Factory”.**

Industry still relies on wired communication systems. And for good reason: They offer high reliability, failsafe performance and data interception protection, as well as low delay times. If, for example, an emergency stop signal does not reach the machine because of reception interference, the user's life may be endangered. The problem is that wired communication will soon reach its limits in the “smart factory” of the future. The demand for interference-free, reliable wireless communication is continuously growing for that reason.

### **Safety thanks to Echo**

Schleicher Electronic, one of Germany's leading providers of automation solutions, will in future therefore rely on “EchoRing™” from the Berlin startup company “R 3 – Reliable Realtime Radio Communications GmbH”. This failsafe, high-performance, real-time wireless system is based on a logical Token Ring process, using dynamically structured cooperative mechanisms. Unlike in conventional Token Ring processes, however, the signal, known as the token, is not passed from one node to the next. Instead, any node can be selected if the intended node is occupied. As a second level of safety the recipient is also notified of the cooperation node. This cooperation node sends the signal again if there is no confirmation from the recipient. This guarantees reliable transmission in real time.

Should a signal be lost, an optimised “ARQ State Machine” ensures its rapid replacement. The continuous monitoring of all transmission paths in the system prevents loss of channel quality by automatically triggering measures to prevent a complete system crash. Consequently, even safety-critical applications can be run wirelessly.

“EchoRing™” will be used in Schleicher's control systems in future. Integration into the OP 50 Mz hand-held control unit for wireless safety networking is currently in preparation. In addition to the application of “EchoRing™” within the context of Industry 4.0, the use of this technology in intra-vehicle and intra-cabin communication in aircraft is also being investigated.



## **Schleicher Electronic and R3 Communications at Hannover Messe: Hall 3 / Stand B17**

### **About R3 Communications**

R3 - Reliable Realtime Radio Communications GmbH is an award-winning Berlin Deep-Tech startup. R3 Communications, established in 2015, develops ultra-reliable, real-time radio communication systems. It focuses on applications in the field of Smart Factories/Industry 4.0.

[www.r3coms.com](http://www.r3coms.com)

### **About SchleicherElectronic**

Schleicher Electronic is a leading provider of automation & control solutions and the only medium-sized company owning a proprietary NC kernel for use in the manufacture of machines and plants. Since 1937 Schleicher has been standing for quality, innovation and experience: What began in 1958 with the invention of the multifunctional time relay was perpetuated with the development in 1985 of the proprietary NC kernel and with the company's own programming and production of customized control systems. This company's longstanding tradition in innovation has its origin in Berlin, a major worldwide science hub; Cooperative projects with internationally renowned research institutes ensure constant inspiration for new development, giving Schleicher Electronic that decisive edge in the area of complex, high performance industrial applications. The company's four core competencies include high-performance control systems, relays, electronic engineering services (EES) and electronic manufacturing services (EMS). Featuring roughly 75 employees, Schleicher Electronic does its manufacturing exclusively at its premises in Berlin ("Made in Germany"). Schleicher solutions are in use worldwide. Amongst many others, the customer base proudly includes Siemens AG, BMW AG and Sick AG.

[www.schleicher.berlin](http://www.schleicher.berlin)

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