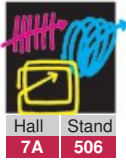


# Intelligent sensors – a chicken-and-egg problem?

The context of Industry 4.0 requires more than ever the manufacturers to provide their components with "intelligent added value". Manager Gebhard Kübler explains how the sensors supplier Kübler positions itself in this respect.



□ For over two years, in addition to components, Kübler is offering in the Functional Safety area corresponding service packages. How is this activity developing?

■ **Kübler:** Quite well. In the last two years, we invested strongly in our application and development department and set up a team with specialists who all qualified further to become certified safety engineers. So we are now able to address also larger projects in the area of Functional Safety with safe motion, and thus to generate turnover also with the service business. And we expect things to go on this way as, on the one hand, the market is growing and, on the other hand, safety know-how in this branch is scarce.

□ Concretely, what is the proportion of the services in the whole activity generated by Functional Safety?

■ **Kübler:** I think that we will generate next year about 10% of the position and motion business with safety products and services. Currently, the proportion is about two thirds for the products and one third for the services. We endeavor to develop further both areas, but we want to push especially the services.

□ Within the framework of the Industry 4.0 discussion, the sensor suppliers are increasingly expected to address the data processing and analysis topics. What will be Kübler's position in the future?

■ **Kübler:** We are currently addressing this topic especially in the drive technology area. In this area, the users require increasingly other information than just the speed. Some interfaces such as for example BISS are able already today to transmit a wide range of information. However, this is not purely an Industry 4.0 topic, it is rather due to the preventive maintenance aspect. But I agree with you. Beyond the interfaces subject matter, focus will in the future be set more and more on the way to process meaningfully the acquired and transmitted data - a topic that we are addressing intensely: at this

point, I would like to build a bridge with our Ethernet encoders. This protocol allows on the one hand to realize the drive technology - i. e. it is fast enough for the regulation - but also sufficiently transparent to allow the control to retrieve additional information relating to diagnostics and condition monitoring. My overall vision for our position and motion sensors is that in the future they will become significantly more intelligent and have IP addresses. However, we have today a certain chicken-and-egg problem in that regard. This still happens in many cases: you launch something on the market and nobody needs it. So the question is the following: how quickly do we want to become a pioneer and integrate things that will ultimately also increase the manufacturing costs?

□ Where do you see further lucrative fields of activity – both on the products and on the applications side – in which Kübler is not present yet, or only marginally?

■ **Kübler:** The linear measuring technology is for example an area that we are only starting now. We are currently setting up a punchy product management and defining its applications and markets. We are focusing in particular on systems that operate magnetically, but also on brand new optical technologies that we are currently developing in cooperation with universities.

The slip rings are another area that still has a huge potential. Last but not least, we are naturally working on further developments in encoder sensorics. So we are for example concentrating on systems with new physical principles.  
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**Gebhard Kübler: "Basically, I see already that sensors get an own identity and that in the future the standard sensor will transmit via Ethernet much more information than it does today."**

## New products for the SPS IPC Drives fair

In the encoder area, Kübler will show at the coming trade fair in Nuremberg, among others, the new generation of the Sendix F58 multiturn and singleturn encoders. While the previous generation already supported Profinet and Ethercat for Industrial Ethernet, the new devices now have a communication interface based on Ethernet/IP. With an RPI time of only 1 ms, this new encoder can be used for time-critical applications up to an update frequency of 1000 Hz. The implementation of DLR (Device Level Ring) ensures ring redundancy. This way, a single cable break does not lead to plant stoppage. These absolute encoders are available in solid shaft and blind hollow shaft versions. The latter has a diameter of 15 mm. The Sendix F5883 in the Motor-Line version is also a newcomer in the F58 family. In this optical encoder, Kübler replaced the mechanical gear with an 'electrical' gear, which allowed reducing the depth of the encoder by 27 mm to only 43 mm. The battery is not integrated externally in the cable, but directly in the encoder. Another feature: The F5883 has the same size as an incremental encoder. Kübler is convinced that this point will lead to a more widespread diffusion of multiturn encoders in geared motors.

In the Safety area too, Kübler is enlarging its portfolio – with the analogue expansion module Safety-M modular EMIO.SAI.200. This module is



**The analog Safety module is provided with a removable chip card to save the configuration data**



**The reduced depth of the Sendix F5883 will open up new possibilities when dimensioning the geared motor and installing the encoder in tight mounting spaces.**

particularly suitable for monitoring analog sensors or processing voltage, current or temperature signals. This device can process two analog signals simultaneously, therefore allowing the monitoring of min/max values or measuring ranges. The status LED on the front side allows simple local diagnostics. The SafeMonitor software moreover provides for in-depth diagnostics on a PC and remote maintenance.