**icom.plus module enables predictive maintenance with flexible data integration for high IT security**

Being able to predict and plan maintenance is the goal pursued by igus with its smart plastics solutions. Intelligent sensors, for example, measure the wear of energy chains, chainflex cables, slewing rings and linear guides. With the new icom.plus communication module, the customer can now decide in which form they would like to incorporate the acquired data from the sensors. From an offline version for restricted security environments up to a data connection to the igus server for automatic spare parts ordering, the user is free to integrate and access their data.

Under the name isense, igus offers a wide range of sensors that detect the condition of igus components, such as cables or energy chains. They measure wear and tear during operation, among other things, and alert the used as soon as a repair or exchange is required. By networking with the icom communication module, the data is transmitted to an intelligent system.

This module can be connected to all igus sensors. For example, with sensors for the measurement of abrasion, or the wear measurement of the pin-bore connection of the energy chain, as well as sensors for the detection of break and push-pull forces and for cable monitoring. Once the measured values from a sensor have been transferred to the icom module, they have to be "interpreted", i.e. understood so that an action command can be generated. So far, this has been possible via connection to the igus cloud. However, due to the increasing importance of IT security, many companies are increasingly relying on the development of their own SCADA systems, which is why igus has now advanced its data collector into icom.plus. With the new module, the customer can integrate the data in the way that best suits their systems.

The icom.plus is programmed via igus online configurators with initial service life algorithms. The special feature is that the new communication module can be operated offline upon customer request, after online installation without update function. In this ‘semi-offline‘ case, during an initial ’learning phase‘, the device requires a temporary, short-term secured IoT access to the igus server to match the calculation algorithms to the actual motion and environmental profile of the customer application. In very security restricted areas, the update can also be performed from the beginning via a storage medium completely offline. In this way, the user can flexibly design the connection of the module and their data and establish a balance between maximising the runtime and IT security.

The motion profile required for the calculation of the maintenance recommendation is read directly from the control system via the bus system of the machine. In the same way, the information about the number of days until the next recommended maintenance and freely definable warning messages about unusual changes in the sensor data are transferred to the PLC control. The user information is provided directly via the system monitor or via customer-specific SCADA systems.

With the online connection of the icom.plus, a continuous matching of the service life statement with the igus cloud takes place to enable maximum system runtimes with minimal failure risk. The data in the cloud draws on the 10 billion test cycles of energy chains and cables performed in the company's own 2,750 square metre test laboratory, and thanks to machine learning and AI, igus can provide precise information on the durability of the solutions used and inform the user about a necessary replacement in advance.

For more information about igus’ smart plastics, please visit: [www.igus.co.uk/smartplastics](http://www.igus.co.uk/smartplastics) or call igus directly on: 01604 677240.

**igus resources:**

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| social icons | Follow us at [twitter.com/igusUK](https://twitter.com/igusUK)  |
| Icon for web | Watch our videos at [igus.co.uk/YouTube](https://www.youtube.com/igusuk) |
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**About igus:**

Based in Northampton in the UK and with global headquarters in Cologne, Germany, igus is a leading international manufacturer of energy chain systems and polymer plain bearings. The family-run company is represented in 35 countries and employs 4,150 people around the world. In 2019, igus generated a turnover of 764 million euros with motion plastics, plastic components for moving applications.

With plastic bearing experience since 1964, cable carrier experience since 1971 and continuous-flex cable experience since 1989, igus provides the right solution based on 100,000 products available from stock, with between 1,500 and 2,500 new product introductions each year. igus operates the largest test laboratories and factories in its sector to offer customers quick turnaround times on innovative products and solutions tailored to their needs.

The terms igus, Apiro, chainflex, CFRIP, conprotect, CTD, drylin, dry-tech, dryspin, easy chain, e-chain, e-chain systems, e-ketten, e-kettensysteme, e-skin, flizz, ibow, igear, iglidur, igubal, kineKIT, manus, motion plastics, pikchain, plastics for longer life, readychain, readycable, ReBeL, speedigus, triflex, robolink, and xiros are protected by trademark laws in the Federal Republic of Germany and internationally, where applicable.

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