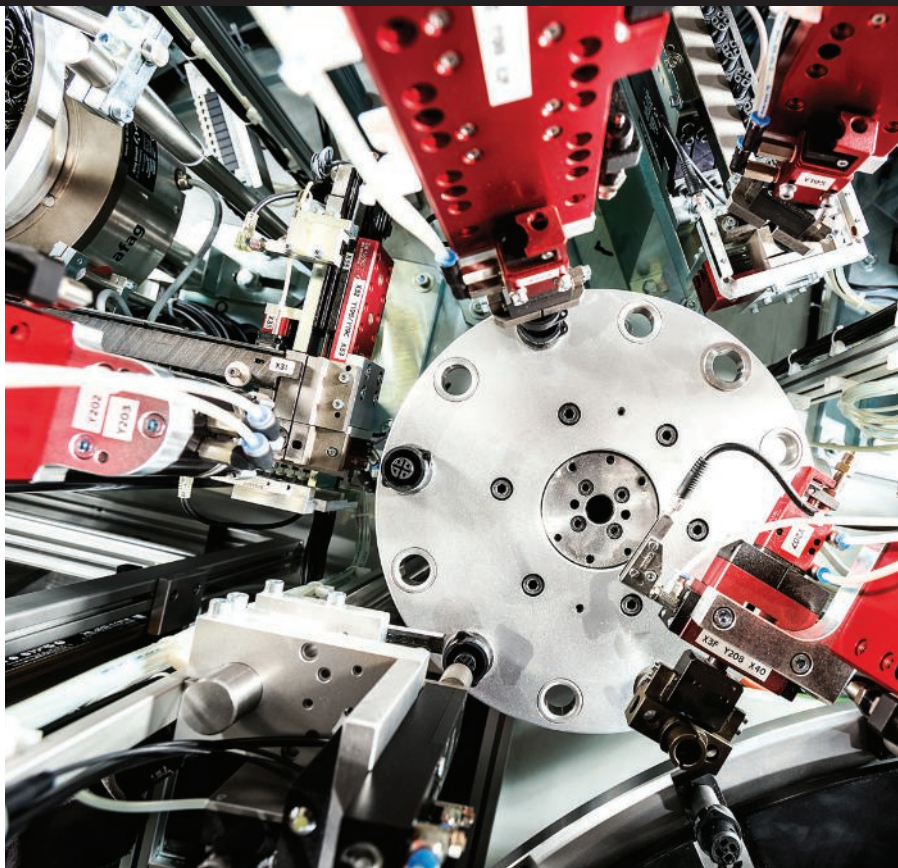


# GETTING smarter, GETTING cleverer

The market for industrial connectors is not only broad – from factories to farms – but is also seeing technological innovation. By **Neil Tyler**.



**W**ith applications from heavy equipment, industrial automation and process control to building and civil engineering, as well as machine tools, machinery and robotics, the market for industrial connectors is a dynamic one.

“We are seeing significant growth across a variety of sub-sectors, such as marine and undersea, metering and industrial vehicles and it’s being driven by the increased use of electronic systems, as well as by the emergence of sophisticated robotics and metering systems,” suggests Ben Green, technical and marketing communications manager with Harwin.

As a result, the demands from systems designers are changing.

“Designers are requesting rugged, safe connectors that are easy to assemble, durable and cost effective,” explains Giuseppe Lancella, vp sales EMEA, Smiths Connectors.

Green adds: “As connector usage proliferates so cost becomes an increasingly important issue.”

According to Binder’s UK managing director David Phillips: “We are experiencing a significant increase in demand for miniaturisation and greater pin density, higher IP ratings and there

is certainly a growing demand for mixed power and signal connectors.”

In the industrial market connector pitches have shrunk significantly, falling from 2 to 1.25mm, says Green.

“Another way of maximising space utilisation is to combine the functionality of connectors, combining signal, power and sometimes coax – even opto – into the same package,” he suggests.

Phillips says demand is also growing for connectors with a high degree of environmental protection. “Modern electronic systems require equipment that can be used with total confidence in harsh environments. This is also the case in the instrumentation market that has seen a growth of small, sophisticated, hand-held instruments designed for field use.”

## **Design flexibility**

Industrial applications require that connector designs can contend with shock, vibration and extreme temperatures.

“Operating conditions must be considered very carefully before a connector is specified,” says Green.

**“Designers are requesting rugged, safe connectors that are easy to assemble, durable and cost effective”**  
**Giuseppe Lancella**

As a result, many companies are offering a higher degree of design flexibility.

Smiths Connectors has, for example, developed what it calls the Transformer range, a comprehensive series of high density, modular connectors specifically for power applications.

“We’ve designed the Transformer range to include a number of new features; the most important being multiple configurations using the same piece parts,” says Lancella.

According to Lancella, the modularity of the design enables customers to create their own solution by supplying the elementary components or ‘building blocks’ of the whole connector.

“It employs a ‘do it yourself’ system based on the building block principle and has been customised for applications requiring the transmission of very high currents. The connectors use our High Power Contact (HPC) technology; a spring shaped contact made of aluminum or copper that

allows for more contact points to reduce overheating and to achieve low mating force during the connection.”

*New Transformer range of high density connectors from Smiths Connectors*

