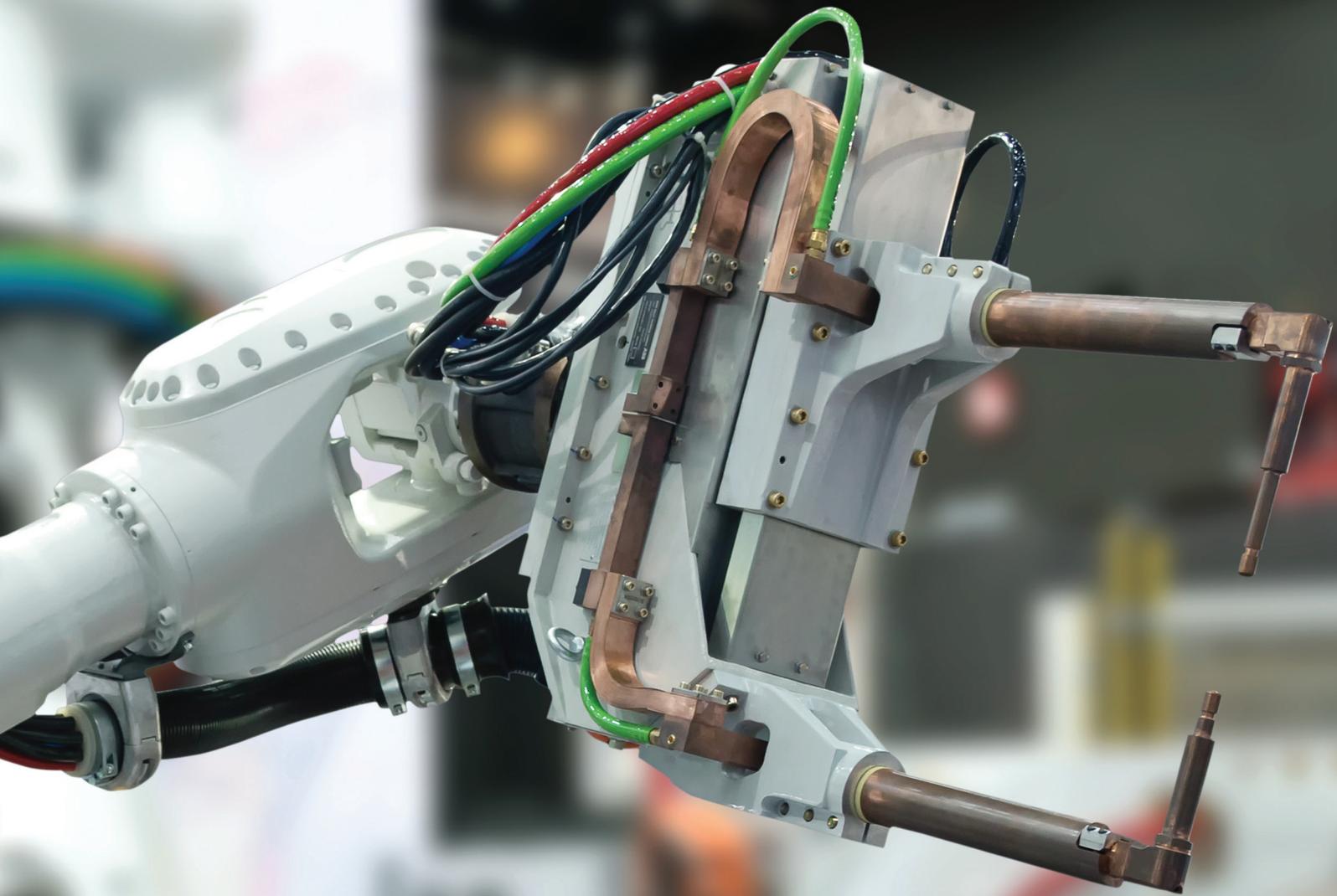


Make Industry 4.0 work for you

The Industrial Internet of Things and Industry 4.0.

CONTROL TECHNIQUES™

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1

Small Steps to Success

Some organisations may be fully embracing the benefits of Industry 4.0 while for others the grand idea is a fair way off. Even so there are still lots of opportunities to be had in the short term. In our research many respondents note that operational efficiency was their customers' highest concern. This is indeed an order winning factor and one which is quite easy to achieve, even without significant investment.

Today, even general purpose drives can run with Ethernet or RS-485 (in conjunction with a PLC) to provide data analysis. In fact industrial Ethernet has been described as the backbone that connects all parts of a manufacturing business – from office to shop floor, and remote locations. The basic information we're receiving down the cable might not be ground-breaking from a technological perspective, but it gives feedback from critical components such as the drive. That means you can monitor real-time data in-situ, from a directly mounted HMI, networked computer or remotely over a VPN.

This level of connectivity makes it possible to analyse information from a range of machines within one factory. We can analyse aspects like cycle time, power usage, current or any other variables, helping to quickly identify and address production slippages associated with equipment failure over time.

As a manager, this data is invaluable. The research found that when users have access to "local" information in the factory makes it quick and easy to cross-check compliance with production standards such as total productive maintenance. Reflective analysis of data empowers your customers to take a proactive approach to preventative maintenance without high levels of technical ability.

Key note

Almost all businesses can gain from simple Industry 4.0 integration.

"Since 2001 we have been using the internet: all machines are connected to our factories for servicing and maintenance"

2

Building on Foundations of I4.0

In the research we also found that while many companies could appreciate the coming changes in technology, they were holding back from integration. A notable issue being the cost of implementation vs. the perceived benefits.

The maturity of the machine building market has meant that companies are looking for different ways to improve their products. One of the most profitable ways to do this is to offer additional services, such as preventative maintenance.

This alleviates a significant pressure for their customer. It also enables a huge opportunity for revenue generation with the introduction of externally monitored systems. Sharing production data give the customers the peace of mind that experts are watching over their systems. More importantly the change in technology is helping to address bigger issues like ageing populations and skills shortages. Both of these aspects are high risks for manufacturers. That's because technology is moving quickly, and we simply don't have enough specialists in the world. This is where the manufacturers can help.

For many businesses, maintenance provides a highly profitable revenue stream. It also gives you an opportunity to keep in contact with your customer. Using Industry 4.0 technology lets you analyse and schedule preventative maintenance so that you can utilise your workforce efficiently. The same goes for stocking spares; why hold high stock levels on the shelf when the system can flag your requirements as you go?

Industry 4.0 technology also provides data to support future sales of upgrades to existing customers. That's the same information you're using to prevent breakdowns. Over time this presents you with an opportunity to justify their investment into upgraded equipment. The data also provides the hard evidence to combat aggressive performance statements from competitors, which your customer may take at face value.

Key note

While the initial investment of time is required to develop your platform, there are sufficient benefits in both revenue growth and customer service to justify the upfront expense.

"It is important that people can see when parts are running out and need replacing"



3

A cloud too far

Our research suggests that there's an amount of fear involved in data security around cloud software, and that's understandable. In recent years, there have been some huge breaches in security.

In the future though, our interviewees suggest that everything will operate on the cloud. Most businesses already feel comfortable placing sensitive information such as customer names, information and quotations in a cloud-based CRM system. The difference is that a security breach on a machine has the potential to cause injury, while a CRM is only data. Nonetheless it exposes a significant difference in attitude.

That attitude is changing though, and it mostly depends on the level of investment. You already see cloud-based CRM systems used for capital equipment such as wind or solar plants. It makes a lot of sense to do so. Breakdowns have a huge cost implication. If you take Rolls Royce aero engines as a further example, everything is logged back to the manufacturer who use the data to manage the engines and perform servicing.

Because of the success of Industry 4.0 in high value applications, we're beginning to see the democratisation of data to lower value capital equipment. That is set to be a game changer as data will be logged continuously all the way down to individual motors, giving a rich picture of how well equipment is operating.

In the short-term those who are wary of cloud-based set-ups can benefit from remote monitoring instead. Logging in over a VPN means your customers can benefit from fast diagnostic support, and you reinforce the real value of your relationship going beyond the initial sale. In addition, you remove costly site visits to your customer, especially throughout the warranty period.

Key note

Although cloud software is beginning to help Industry 4.0 realise its potential, remote access over VPN is a viable entry point for businesses small and large to gain.

"I'm all into connectivity and ease of access and being able to monitor the drives"

4

Overcoming pain points

One of the biggest barriers to the growth of Industry 4.0 is the lack of standardisation. This is a big issue when we consider a connected factory and the lack of compatibility between systems and components. It is for this reason that our customers are considering open systems to enable Industry 4.0 driven technology in their businesses, particularly around the areas of communication protocol.

Key note

Consider which manufacturers provide open communications protocol to ensure compatibility and ease of integration.

"Being able to say we are compliant with Industry 4.0 is important from a marketing perspective"

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