Start planning the i4.0 transition today

At a CTC-hosted annual open day to showcase its Artisan 4.0 training initiative, managing director Johan Venter urged industry to start preparing for Industry 4.0 now, to enable them to take advantage of creative collaboration between automated machines and highly skilled people.

CTC's Johan Venter urges industry to start preparing for Industry 4.0 now.

The Internet of Things (IoT) and Industry 4.0 (i4.0) promise, 'lights out' manufacturing, where humans are left to handle only the highly skilled programming jobs, while machines are left to labour, day-in-day-out.

But there is another growing trend where artisanal craftsmanship meets automation. This pairing of seemingly separate spheres can enable the finest handmade products to be produced on a creative collaboration, Industry 5.0. There is no substitute, at least not yet, for human senses, and the feeling, thinking brain behind them. Yet neither is there a way for humans to work with the precision and unceasing drive of a robot. As a result, we are starting to find coworking robots in new environments beyond their usual factory floors - in bakeries, coffee shops and even vegetable farms, working alongside craftsmen who authenticate their trades through their unique human creativity.

What does this have to do with an i4.0 artisan? Like the skilled workers of the first industrial revolution, today's factory and back office workers are seeing tasks once managed by humans being handed over to robots and Artificial Intelligence 'bots'. They are hearing about the factory of the future and wondering what role they will play in the new operating model. Nobody is breaking machines yet, but concern on the factory floor is palpable.

Executives recognise that the adoption of i4.0 will require a massive transition in employee skills, recruitment and training. They understand that to achieve real and sustainable performance improvements, they need their i4.0 initiatives to succeed.

They understand that traditional manufacturing capabilities will need to be augmented and eventually replaced with new skills and requirements such as automation, programming, data analytics, artificial intelligence, system integration and software development. And they recognise that i4.0 will allow them to create new operating models which, in turn, will require additional changes for their organisation and their employees.

The challenge is significant. HR leaders will need to identify the new skills and capabilities. Those current employees willing and able to be upskilled and retrained will need to be identified. New talent will need to be attracted, retained and integrated into the business. New ways of working will need to be developed and formalised. And, all the while, the factory floor will need to keep operating and the business will need to keep growing.

Not surprisingly, manufacturing executives are struggling to develop a realistic and practical roadmap for driving this transformation over the next five years. Few want to move too quickly for fear of disruption but nobody wants to be left behind: technologically, commercially or in the race for talent.

As part of a recent i4.0 benchmarking exercise, our network of global Manufacturing professionals sat down with almost two dozen manufacturing leaders around the world. We asked them about their capability, talent and HR strategies. And we walked their factory floors to see their i4.0-related activities for ourselves. While top management certainly understood the significance of i4.0, few believed individual employees fully understood how their contributions helped drive the success of the organisation. Better communication, education and training are needed.

Some leaders in the research suggested that i4.0 might be a potential competitive differentiator, attracting new talent such as Millennials into a cool; technologically advanced; data-driven; and highly innovative industrial workplace. The problem will be in coaxing the older existing employees that they also *want* to be cool.

With more than 100 companies, attending visitors were shown around the top-class Artisan 4.0 training facility of the future, where training for artisans in the mining, metals, engineering and related sectors is based on collaboration with employers, product developers and other stakeholders in a search for sustainable training solutions that will prepare artisans for all of the opportunities of i4.0.

"This open day affords an invaluable opportunity to share information from the MQA and Merseta on artisan training grants that are available and to showcase what a bright future i4.0 artisans have," Venter concluded. ❑

WIKA miniature float switch for tank OEMs

WIKA is now able to offer OEM manufacturers a miniature float switch, the model RLS-7000/8000, which has one switch point and is particularly suitable for level monitoring in small tanks.

The WIKA RLS-8000 and RLS-7000 are small and economical float switches with a single switch point designed specifically for level monitoring in small tanks.

The performance and design of the float switch meet the requirement of original equipment manufacturers for reliable and economical components. In addition to the standard version, design-in solutions are also possible: The model RLS-7000/8000 can be adapted to the respective application through customisation of designs, tank connections and electrical connections. The switch can be installed vertically (RSL-7000) or horizontally (RSL-8000). Its switching function, normally open or normally closed, can be reversed by rotating the float body (RLS-7000) or the complete instrument (RLS-8000) through 180°.

The new float switch has been designed for a long service life. The instrument is available in a variety of robust and chemically resistant plastics with very low water absorption and its reed contacts provide up to a billion switching cycles, depending on the application. ❑