



Every two months, IECEx Chairman Prof. Dr. Thorsten Arnhold provides an update on developments within his organisation.

I must confess that I am not totally convinced of all the supposed blessings of digitalisation. During my professional career, I have visited many manufacturers in many different industries all over the world and most of those with the highest levels of automation continue to employ significant numbers of manual workers, whether in production, transport or logistics.

Every day we see tens of thousands of trucks on our highways driven by experienced and responsible drivers. In the supermarket, I am happier to pay the cashier directly rather than attempt to use a checkout machine that will only allow me to pay on my third attempt, and then only when a human assistant comes over to help!

Call me old-fashioned, but I can't help but wonder what is going to happen to all those people once we are completely enveloped in the digital age with all the innovations and consequences we read about daily in the media, such as autonomously driven trains, ships and vehicles as well as robots dealing with the entire logistics chain in factories and supermarkets.

The pros and cons of digitalisation

The common reply to these concerns is – don't worry too much. Apparently, there will be many new jobs available for people in the age of digitalisation. A study by a US IT consultancy recently suggested several new job profiles in this brave new world including designer of aero taxis, planner of e-sport stadiums, smart-home designer and recycling specialist for data trash. Very good! But are these jobs realistic alternatives for forklift and truck drivers or factory hands?

Despite these concerns, I cannot deny the fact that we can expect many benefits from digitalisation in the hazardous area sector.

At its most basic, to keep standards of safety high throughout the whole operational life of equipment in these areas, it is necessary to conduct regular inspections and maintenance. But those responsible might have to manage a couple of thousand products covered by 'Ex' or functional safety standards, and when paperwork is involved, this can often prove an impossible task.

Now, however, thanks to digitalisation, equipment in hazardous locations is becoming smart.

One advantage is the easy identification of individual products by means of digital type labels. Inspection plans, equipment data, facility layouts, inspection records, repair protocols and many other important data are stored in special data banks.

If an inspection job is due, the database informs the technical management of the plant and the inspection plans and other necessary information are downloaded on tablet computers or smart phones.

These devices together with cameras, smart glasses and other digital

equipment establish a mobile worker concept for process plants, including hazardous areas.

If questions emerge during the work in the plant, experts or supervisors can be contacted, pictures can be taken and transmitted. After the job is done, the new data can be uploaded easily to the database. No more paperwork is necessary, the efficiency of work increases dramatically and sources of failure are removed.

No wonder that process industries are so eager to introduce these new systems into their plants, and so far, so good. However, these shiny new possibilities can make you forget that all these smart devices are powered by electrical energy, normally stored in batteries. As a consequence, those products have to meet all requirements which electrical products intended for use in hazardous areas have to fulfil.

At IEC and IECEx we have recognised these specific issues and their importance for the market. We have established a special IEC working group to deal with questions on how modern mobile digital devices can be safely transformed to meet the requirements of hazardous area standards.

Furthermore, we are making special efforts to intensify market surveillance. IECEx will be working hand in hand with the EU's ATEX ADCO to quickly ban unsafe mobile products from global markets, and a new working group dealing with these issues started work in May 2019 at the Singapore Meetings of IECEx.

So in hazardous areas at least, digitalisation is to be welcomed, and supporting this process will be a crucial part of the IECEx mission into the future. ■