

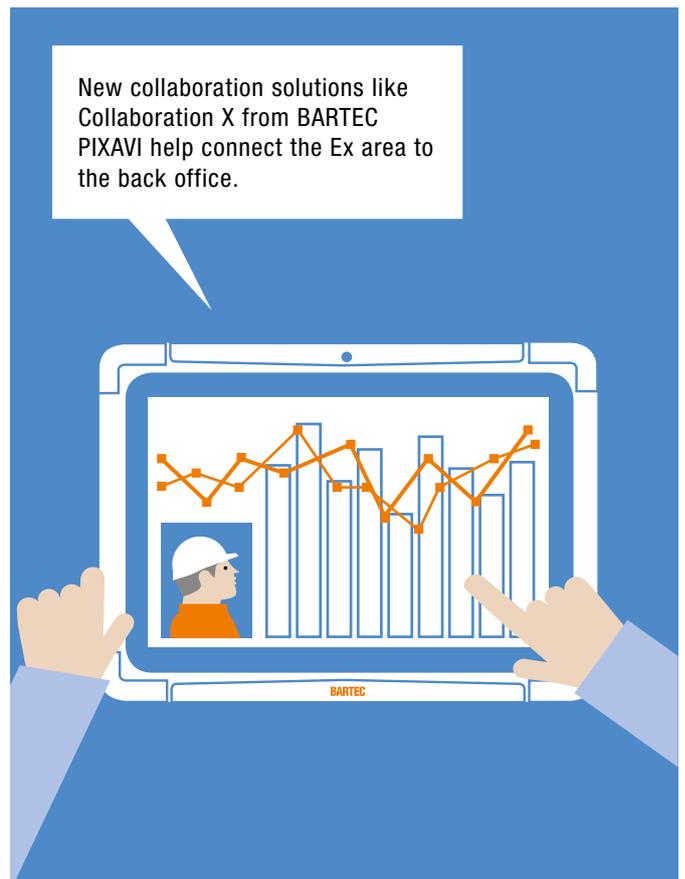
Innovation and transformation are two key parts of Process Industry 4.0. But how can the latest trends be transferred to hazardous areas? And what does this mean for mobile devices?

ENTERPRISE MOBILITY – CONNECT, PROTECT, IMPROVE

Collaborative production, as envisaged as part of Industry 4.0, cannot become reality without better communication between those who are involved in the business. But how can enterprise mobility and explosion protection go together?

Communication and collaboration

Everything is going to plan. The refinery manager treats himself to a few days in the sun in Florida. Then it happens. An incident. Using an ex-protected smartphone, the first photos are taken straight away and sent to the boss directly as an alert on his mobile. He can then immediately join a live video conference. A solution is quickly found together, and both the refinery operation and the manager's holiday can continue. Even high-res HD videos can be filmed on site and discussed online, such as in the event of a hairline crack in a water purifier. Outside of maintenance scenarios, too, the importance of communication and collaboration in hazardous areas is growing. Personnel are being spread ever more thinly, and mobile devices ensure that knowledge can be shared as required. Using intrinsically safe helmet cameras, smartphones and tablet PCs that transfer the office directly to the Ex area, along with all the necessary documentation, process can help new staff be productive from day one. The images and videos taken on site can then be combined immediately with the corresponding information and explanations, and lead the response wirelessly to the right location.



Ex-protected mobile devices must be intuitive to operate, but cannot be allowed to get in the way and impede safety.

Intuitive operation

But how is this technology accepted by users? Even the ancient Romans tended to take a negative view of all things new. Tellingly, the Latin term for this (*res novae*) also means turmoil or revolution. Will mobile workers in hazardous areas react sceptically out of a fear of an even greater workload when there's already a lot to do? The best way to help this is through explanation. Experience shows that once the added value like the extra safety, greater flexibility and a sustainably reduced workload is made clear, the willingness to go along with change grows. This benefits both workers and the company. This can go even faster in combination with personal benefits, such as when the oil rig worker can also use his mobile phone to keep in touch with his family far away.

Differentiated end devices

Handling is another factor that can influence user acceptance. If devices function in a similar way to those that people are used to, any initial apprehension quickly disappears. This requires, however, that the handling is just as simple and clear as on an iPhone. But there are certain requirements where personal and professional solutions differ significantly. For hazardous areas, for example, certified mobile devices cannot become a hindrance in a dangerous situation. Arm holsters and helmet cameras help workers keep their hands free in an emergency. On top of this, workers often have to be able to use the devices whilst wearing thick work gloves. This is a stark contrast to the continuing trend towards miniaturisation, as seen in the smartwatch, for example. What is the next step in Ex areas? Data glasses? Voice control? Or even implanted microprocessors? One thing is clear: The potential of enterprise mobility is nowhere near exhausted.

Where is the continuing trend towards miniaturisation leading? Is the helmet camera the precursor to data glasses or even microchips implanted beneath the skin?

