Smart industry

Going digital down under

Case studies in digitising industrial and medical gases,
by **Stephen B. Harrison**

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"…when that emergency strikes, identification of the location of the closest cylinders is possible with just a few finger-clicks…"

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In many countries there is a type of fly which is born and dies in the same day. It goes by different names and the biology changes around the world, but this type of insect is well known. In England it is called the 'Mayfly', in Germany it is the 'Eintagsfliege'. Down Under, in Australia, it is also called a Mayfly… but it hatches in the late spring and early summer months around November and December. The question one might ask is, is digitalisation also a Mayfly, a one-day-wonder?

When we consider that we are now talking about Industry 4.0 it begs the question of what will come next. What will Industry 5.0 bring? Will digitalisation still be on the agenda when we are living in the age of that new buzzword? And thinking about telecommunications and your smartphone, are you ready for the inevitable obsolescence of 3G and 4G with the imminent introduction of 5G?

Perhaps the use of numbers in this context speaks of a continuous evolution which reflects a primary force that has driven mankind and the natural world to the wonders that exist today. That might be a constructive way to think about digitalisation; a progressive evolution of the way that we exploit and interact with digitally enabled technology to create a better world.

A high-level view from Down Under
Juan Lorenzo, Marketing Manager at Coregas in Australia, explains what he sees digitalisation meaning for industrial gases. "When we reflected on the next wave of innovation that would drive our business forward, we considered that the word 'digitalisation' is sometimes used with such breadth of meaning that it risks becoming meaningless."

"To help us see the wood for the trees, we started to look at three levels of innovation: process improvement, meaning we want to do things faster, more safely or more accurately; automation where we implement something to be more productive and 'digitalisation', which we reserve to use with the cases where we are creating genuinely new value for our customers."

Digitalisation means creating new value for the customer
Coregas has been rolling out a cylinder asset management tool which is using digitalisation to improve hospital patient outcomes. It is giving nurses more time to add the unique value that the personal touch can bring by doing what they do best: caring, touching and feeling for the patients in their care.

On the face of it, the App could be a cylinder asset management tool – clearly in the sweet spot of process improvement when we consider the three categories given above. But when we scratch beneath that we can see that the App is enabling so much more.

From a technical functionality perspective, we can describe this as using devices to track the location of medical gas cylinders as they are delivered to hospitals and as they move around inside hospitals from the stores to wards. The benefits to Coregas can be identified as reduction of the overall cost to serve the hospital and improving the utilisation of the cylinders, which are valuable capital assets thereby improving return on capital employed.

But, to prove the point of

"…it means that the nursing staff are free to concentrate on their patients"

'digitalisation' we need to move from these rather dry points of functionality and benefits to prove the claim of 'creating new value for the customer'. Lorenzo is clear about how this is achieved, "Coregas receives information from the App to assist with service provision and asset utilisation, but the groundbreaking point is that the App is also used by hospital staff. This means that they can see exactly where their cylinder inventory is. Gone are the days when the ward sisters needed to play on the safe side and always order a few extra cylinders to store away in a secret cupboard for that awkward emergency event when no full cylinders could be found.

"With full visibility of the cylinders around the hospital, staff are reassured that there will be adequate cylinders to fulfil the needs of their patients. Furthermore, when that emergency strikes, identification of the location of the closest cylinders is possible with just a few finger-clicks. It saves the hospital time and money. But, more importantly it means that the nursing staff are free to concentrate on their patients. And, when we talk to the hospitals about their experience with Coregas, the conversation can move beyond transactional elements into one where we are discussing how our partnership is

5G
At the moment it's Industry 4.0 and 4G. Will it soon be 5G and Industry 5.0?

delivering better patient care".

The App can be extended to add value and improve patient outcomes beyond cylinder tracking. Beds are another expensive capital item that hospitals need to track and manage. Using the App for tracking additional assets means even more added-value to the hospital. The digital transformation is thereby enabling a transformation of the relationship between the medical gases supplier and the hospital into one which will have the depth to stand the test of time.

Saving lives beyond the hospital
Digital technology is also being used at Coregas to reduce the risk of road-traffic accidents. A recent change programme resulted in the transfer of technology that was developed in the cockpit of Israeli fighter jets into the cabs of their delivery truck fleet. Instead of tracking cylinders, this innovation tracks the route and behaviour of the driver. Thirty vehicles have been fitted with a technology known as 'Mobileye'. It monitors braking patterns, deviations from the planned ▶
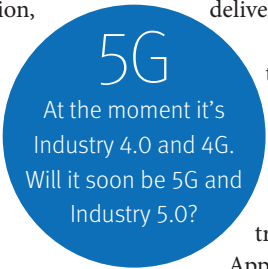
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route and can observe the driver's eye movement patterns to detect and warn for signs of drowsiness which is a potential killer on the road.

> "A collision can create an immense amount of damage to people and property, so vehicle safety is one of our top priorities. Our drivers see things in the same way..."

With this innovation it would be easy to imagine that the driving team would feel that they are being 'spied on' by management. Lorenzo picks up that point. "A collision can create an immense amount of damage to people and property, so vehicle safety is one of our top priorities. Our drivers see things in the same way. They recognise that their safety is at stake when driving and they appreciate that we are investing in them and their place of work. In fact, when we tested the Mobileye it was first used to provide feedback on the driving of senior management and within a short evaluation period it prevented a very serious accident."

"With everybody involved in the change programme, it avoided the potential stigma that an individual is being singled out for special attention."
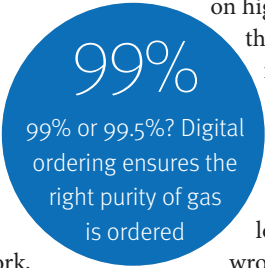
Making life easier

Electronic Data Interchange, or EDI, has been used for many years to improve the process of billing between industrial gases suppliers and their customers. It is still an ideal solution for many larger and mid-sized cylinder gases users. But, for smaller customers who are always on the move like refrigeration contractors or welding repair specialists who are never in the office but always at their place of work, something extra is required.

The same goes for gas users in the very largest of customers who, in the case of Australia, may be working in remote corners of vast mining complexes or working on gas pipelines that straddle thousands of kilometres of land. With this customer segment in mind, Coregas developed its 'Mobile App'. It allows gases users to scan cylinders using their smartphone for the purposes of inventory management such as stock taking and re-ordering

99%
99% or 99.5%? Digital ordering ensures the right purity of gas is ordered

product online. Gone are the days of ambiguous and frustrating conversations with the Coregas order-taking team that went something like this: "Hi, it's Fred here from the Big Mine Company. I've forgotten my account number, but I need another six cylinders of oxygen. I think that they are called G size. Or no, wait are they E size? And the purity is about 99%. Oh, sorry it's probably 99.5% that we want. I need them delivered to the stores down highway 6, not the normal stores on highway 2, but I've forgotten the drop point code you use for that."

With so many possibilities to order the wrong product in the wrong cylinder size, to be delivered to the wrong location and invoiced to the wrong department, the idea of one-click re-ordering using the Coregas Mobile App is a real time saver that helps everybody to get it right first time.

Lorenzo says that Coregas has thought through the safety implications of using smartphones around gases. He says, "We advise customers it is safe to use the barcode scanner in the Mobile App with inert and flammable gas cylinders that are stored in open locations, but for safety reasons, we recommend that the Mobile App is only used in non-intrinsically safe zones." gw

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