

A paradigm shift...

...In packaged gas tracking and asset management

By Rob Cockerill

A paradigm shift is underway with traditional notions of asset management. That's the view of Computers Unlimited, the US-based developer of TIMS Software for gas and welding distributors. It says that clever distributors – those that endeavour to see *over* the horizon – are positioning their businesses to take advantage of this paradigm shift.

The root cause of this shift revolves around the adoption of mobile applications that are deeply integrated

“The root cause of this shift revolves around the adoption of mobile applications...”

with the host ERP; digitisation is truly transforming the world of asset management and packaged gas tracking, as *gasworld* explores here in the latest instalment of its Smart Series of features.

The journey...

The gases industry has been on a decades-long journey to the highly digitised position it finds itself in today. For over a generation, in fact, bar-coding cylinders has been promised as the nirvana to achieve asset management and utilisation, says Doug Iversen, Director – Sales & Marketing at Computers Unlimited.

“Two motivations for tagging individual assets were clear: improved customer service (enhanced detail with cylinder transactions provided accuracy

for billing/collection purposes); and second, improved asset utilisation (essentially a first-generation form of *Inventory Control* applied to cylinder assets, similar to hardgood assets),” he explains.

“The hardware technology available 25 years ago was a severely limiting factor – handheld computers were expensive and under-powered, and the personnel asked to use the technology were unfamiliar with computers and intimidated. Now, jump forward a generation... When the computing power of modern smart devices are coupled with both cloud-based and broadband connectivity services, the shackles of first-generation asset management prototypes are completely shattered.”

Yet this is really still just the



beginning of this new dawn in asset management. Iversen says the data being collected today is naturally *exponentially* greater than traditional asset management systems, with modern BI tools converting data into relative and insightful information, allowing distributors to increase

efficiency and drive out waste in asset categories well beyond cylinders.

“Recognising the monetary value of improved cylinder control was certainly the epicentre of asset management in the traditional sense,” he adds.

“As the foundation and discipline for cylinder asset management was

then (25 years ago) constructed, a microscope was applied. Today, we not only have a much more powerful microscope, we can redirect the microscope of asset awareness to other undiscovered categories. Trucks, drivers, rental equipment, dock hands, fill plant operators and sales personnel ►

► are certainly all corporate assets that can now be included within the asset management *and analysis* sphere – simply give them a smart device so their work can capture the data.”

“Keeping the mobile devices tightly connected and integrated to the host ERP becomes more important than ever, and our case studies have revealed very profitable results.”

Evidence of this paradigm shift is also seen in conversations with other innovators in the digital and asset management space. Sam Fatoohi, Head of Business Development at Pulsa Sensors, tells *gasworld* that, “Remote asset visibility of all assets isn’t on the horizon, it’s here.”

“Distributors and customers who adopt the latest technology in this

space to streamline their operations and improve customer support will win, while those who waste time and money on efficient check stops, milk runs, and last-minute call-in orders will fall behind.”

“We believe that we have the right hardware and software that can not only enable full remote asset visibility, but also provide the necessary context that will enable gas distributors and customers to make the appropriate decisions based on that information. We are adding new sensors to enable monitoring more assets, and also continue to update our software to simplify decision making based on sensor data.”

And Pulsa believes that when it comes to the packaged gases business,

our theme this month, the door is not just ajar to these technologies – it’s wide open and an opportunity ready to be realised. “Over 90% of bulk tanks have some form of telemetry, while less than 5% of packaged gas applications use telemetry,” Fatoohi adds.

“With very affordable and easy to install sensors now available, you’re going to see that percentage rapidly increase to both meet customer demand and streamline distributor operations.”

Kevin Lynch, Senior Vice-President, Industrial Gases for Anova, the leading global IIoT company that supplies remote asset monitoring hardware and software and services, also acknowledged this step change in an exclusive feature for *gasworld* last month. He had enthused, “The impact ►

WHAT'S NEW WITH COMPUTERS UNLIMITED?

“Several initiatives are in the works, and three are getting immediate attention by both our existing users as well as the industry at large,” says Iversen. “First, CU’s suite of mobile apps continues to grow and offer an unparalleled breadth of functionality – the rate of product adoption has far exceeded our expectations.”

“The second initiative receiving attention has been our continued advances with Business Intelligence

(BI). Mobile applications have successfully accomplished two things: introduced powerful tools to personnel that had traditionally been left outside the walls of computing systems; and second, brought vast amounts of data previously unavailable to independent distributors. BI is the tool used to analyse the data by converting data to information, which allows extraordinary insight to areas of

operations and asset management previously undiscovered.”

“The third initiative aligns with the release of CU’s latest TIMS Version 8. Between various bits of re-tooling under the hood coupled with the technology stack it is built upon, users can expect to position themselves to take advantage of the next 5-7 years of enhanced productivity tools – including what we have planned for future mobile apps.”

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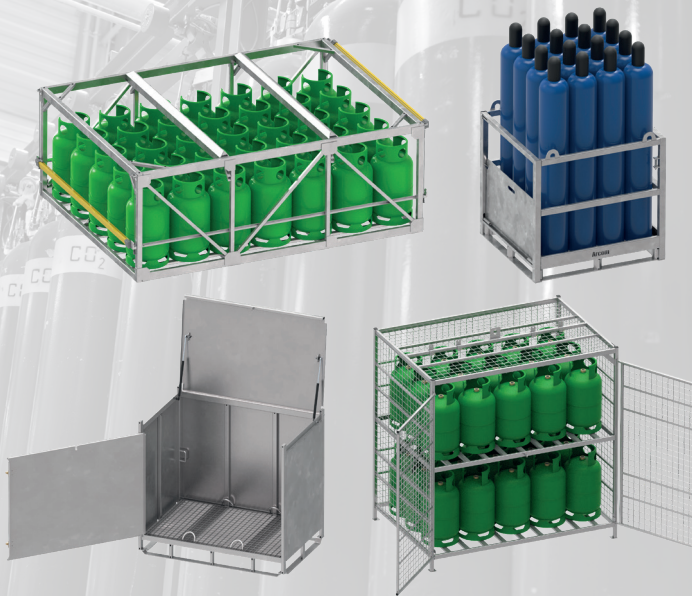
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► of IIoT and remote telemetry has changed the face of the industrial gases industry. We saw this clearly in 2020. It was an awful year. Yet, it provided incredible validation of our dedication and drive toward automated insight.”

“Hospitals were a prime example,” he continued. “Facing surging demand for medical oxygen unlike any we have ever seen, the hospital-installed IIoT cut a shining beam of hope through the chaos and uncertainty of 2020. Remote telemetry units on tanks of medical oxygen, helped to ensure that those who needed oxygen the most and those who had temporarily shuttered their ‘non-essential’ medical practices and were not in need, were all appropriately served. The provision of actionable insight about tank levels, combined with the ability to remotely monitor oxygen flow rates and vaporizer loadings, had life-saving benefit for the end users of tanks monitored with

Anova remote telemetry units.”

Factors accelerating change

Fatoohi earlier touches upon one of two factors widely seen as accelerating this paradigm shift over the last 1-2 years in particular – affordability and the impact of the Covid-19 pandemic.

Eric Wise, CEO of Wise Telemetry, which is itself in the midst of rolling out several hundred telemetry units at the moment for a nationwide customer, concurs that ever-decreasing costs are opening up new opportunities in packaged gas telemetry.

“The most obvious trend in packaged gas telemetry is that the technology continues to become more and more affordable. This opens new applications where telemetry will become commonplace over the next few years,” he says.

“One of the subtler but equally important developments, however,

is the increasing ease of integrating different software platforms. Route planning, ERP, and asset tracking software is becoming increasingly open and able to ‘talk’ to other software packages such as telemetry. This helps to prevent your data from being siloed into different programmes and instead allows you to use your data to its fullest potential.”

And Anova’s Lynch had also noted the shrinking costs when asked how one balances the cost of IIoT with the benefits, commenting, “Well, as these IIoT benefits expand, rapidly, there is more good news. The cost of IIoT technology has fallen as its benefits have risen.”

“New business models, such as Hardware-as-a-Service, have fuelled adoption, providing a means to acquire wide IIoT coverage with no upfront capital outlay. Being able to offer customers the right-sized solution for remote telemetry is key. Not every business needs, nor wants to pay for, the most powerful, versatile solution. Simpler solutions designed for specific tasks are frequently a viable option. IIoT technologies have never been so widely available and employed.”

Wise also echoes the earlier assertion that the clever distributors are stealing a march in adopting these technologies. “I think if you are a gas producer or distributor, it’s becoming increasingly

WHAT’S NEW WITH PULSA?

“We’re continuing to add significant capabilities to our hardware and software, while solving more problems for our customers,” says Fatoohi. “Over the past year, we’ve seen our sales grow almost 20% month over month, and that’s coincided with the release of some big features and capabilities, including

a wireless solar gateway, TMS integration, mobile maps support, HazLoc certification, and 6000 PSI high pressure sensors.”

Pulsa has also held almost 100 webinars over the last year as part of its response to the Covid-19 pandemic and continuing communications with its customers, new and existing alike.

important to have conversations with your clients about all of their telemetry options,” he adds.

“We’re seeing that when our customers engage their clients about monitoring items like manifolds, liquid cylinders, and dewars, they are often getting a positive response. If a distributor isn’t making their customers aware of these options, it’s really just a matter of time before a competing distributor will. You don’t want the first time your customer learns about this technology to be from your competitor.”

As with the clean energies megatrend, the digitisation movement was also accelerated by the impact of the pandemic over the last year, with so many walks of life forced to pivot to digital means of communicating and working. As Tim Fusco, CEO of TrackAbout, explains, “Sometimes external events push us to make changes faster than we would otherwise make them.”

Reflecting on the impact of Covid-19, he adds, “We saw that our clients who had already invested in cylinder tracking before the pandemic were able to much more easily manage their business remotely. Managers can log in to see real-time filling activity, cylinder inventory levels, truck loading status and other parts of the business without traveling from branch to branch.”

“We also saw more interest in contactless-delivery, where no person-to-person contact is needed to make a delivery. We are supporting this by rolling out a new feature to take photos of delivered cylinders. Much like how Amazon can prove a delivery with a photo, barcode scan, timestamp, and GPS coordinates, we do the same for our clients. Now our clients can have a very strong proof of delivery – even without a signature.”

Iversen affirmed that Computers Unlimited had also understandably seen this trend emerge over the last 12 months. “The Covid-19 affect that *has* been felt relates to our customers on-boarding new applications and upgrades. Climbing infection rates impaired the workforce, leaving distributors short-handed. Resources used to on-board new technology were diverted to cover day-to-day sales and operations, slowing some installations.”

“Still, the interest in technology stayed very strong, and any technology that supported either curb-side services or e-commerce were uninterrupted and have actually increased.”

In addition to concurring with these sentiments, Wise adds that the pandemic also inherently brought about a ‘large uptick’ in medical asset monitoring solutions. “Our business closely mirrors the general trends in the gas industry. When our customers

“Climbing infection rates impaired the workforce, leaving distributors short-handed...”

are adding business in a specific sector, their need for our telemetry devices increases accordingly,” he explains. “As you can imagine, 2020 saw a large uptick in the medical monitoring part of our business as hospitals required upgraded systems to meet demand. Similarly, the beverage sector was relatively quiet, due to the restrictions on restaurants. It’s rebounded though as restaurants reopen.”

Pulsa also noted the increased medical demand, with Fatoohi adding, “We also saw increased demand for our sensors in emergency medical and cannabis applications, with lowered demand (but now rebounding!) for sensors in beverage and refinery applications.”

Perhaps unsurprisingly, all of the digital asset management innovators *gasworld* spoke to for this feature noted how swiftly they were able to adapt to the newly digitised playbook in communications and operations that the pandemic enforced. Would we ►

► really have expected anything else?

Experience dilemma?

Simplification emerged as a common term in many of our interviewee's responses, with something of a united front in making technologies simpler and easier to use.

With a paradigm shift firmly underway, however, the question is raised whether a vacuum could emerge in experience and understanding of these technologies that are so rapidly sweeping through the industry. This is a recurring theme across so many industries, as anyone that studies digitisation will know. Iversen observes, "In my view, there is potential for an experience dilemma. And, when examined, the root cause of the crisis will be the lack of experience and

the overall wisdom that is gained from experience. Technology is a double-edged sword in this respect."

"Quality technology allows inexperienced personnel to become corporately productive much more quickly, bypassing the tribal knowledge experience. In many circumstances, the uniformity technology imposes can yield predictable and preferred outcomes; however, as we witness employment turnover – which is contra-longevity – the long-term effect may be a reduction in the experienced personnel pool. Technology is a poor replacement for experience."

He adds, "We are witnessing siloes of understanding – a 'keyhole' view of sorts – that, in time, may come home to roost in ways not anticipated. Responsibilities that become overly compartmentalized fail to provide insight to the whole. We are witnessing this across many industries, not just gas and welding distribution."

Wise appears to allude to a similar thread here, as he responds to our question about the aims for Wise Telemetry in the year ahead – describing the importance of users getting 'the most value out of the data'. He says, "We anticipate 2021 to be another year of strong growth

both for Wise Telemetry and for the telemetry market as a whole.

At Wise Telemetry, this means building on the international successes we had in 2020 as we continue to bring our technology to new markets. It also means continuing to help our users get the most value out of the

data provided by our devices. Our new software developments will help to accomplish this."

Likewise, TrackAbout sees a need to make better or more widespread use of that significant volume of data harvested today. Fusco observes benefits to be leveraged in a helicopter view of business operations, as well as the intricate details on an operational level. "I think what we need to be doing is moving asset management data beyond daily operations and bring it more strongly to the board room, for senior management to use to oversee the business," he comments.

"We are sitting on mountains of operational data and we need to do more to help the best companies use it as a competitive advantage." **GW**

90%
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have some form of
telemetry

WHAT'S NEW WITH WISE TELEMETRY?

"Our latest generation of telemetry hardware which we launched last year, the Elite 2.0, has been a strong success," enthuses Wise. "Our customers are greatly enjoying the new features and capabilities of this device."

"We've also begun to see the first customers upgrading their 2G/3G telemetry units as the network shutdown gets closer on the horizon."

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