



Bringing Smart Safety solutions to life by digital clearance measurements

Employees in the oil, gas and chemical industry face hazards on a daily basis. To overcome them, the presence of gases in confined spaces must be detected pre-entry to ensure employee safety. Together, Dräger and SRB developed a digitised smart safety solution for a common customer saving time, improving accuracy and, most importantly, strengthening safety measures.

Challenges ahead

SRB's client, active in the oil refining business, was taking hundreds of thousands of measurements. Per refinery per year, employees were detecting gases with field devices and manually entered the readings into another system for documentation. This led to a paper trail of some 70,000 sheets per year¹. It created immense time losses, inefficiencies and potential inaccuracies. When Manfred Scheiner, Solution Architect, and a full team from SRB Consulting became on-site consultants, little light was seen at the end of the tunnel. They evaluated the area of plant maintenance and began streamlining shutdowns and turnarounds to improve operators' day-to-day efficiency.

SRB began developing a custom app for its client, based on SAP technology: AirAnalysis. It can be used to track values and organize data in a way that facilitates daily inspections, repairs, shutdowns and other issues around entry permits. Decisions can be made more effectively this way: Employees measure the gases present with a mobile gas meter, enter the readings into the app, and quickly receive information that allows them to make more informed and faster decisions.

New ventures: a 3-way collaboration

The method of data gathering and decision-making in the field was being streamlined – but, there remained a clear gap at one point in the process: data still needed to be entered manually, leaving room for errors and some time lapse. SRB's customer was already using Dräger X-am® 8000 mobile multi gas devices to take the relevant measurements before entering restricted areas.

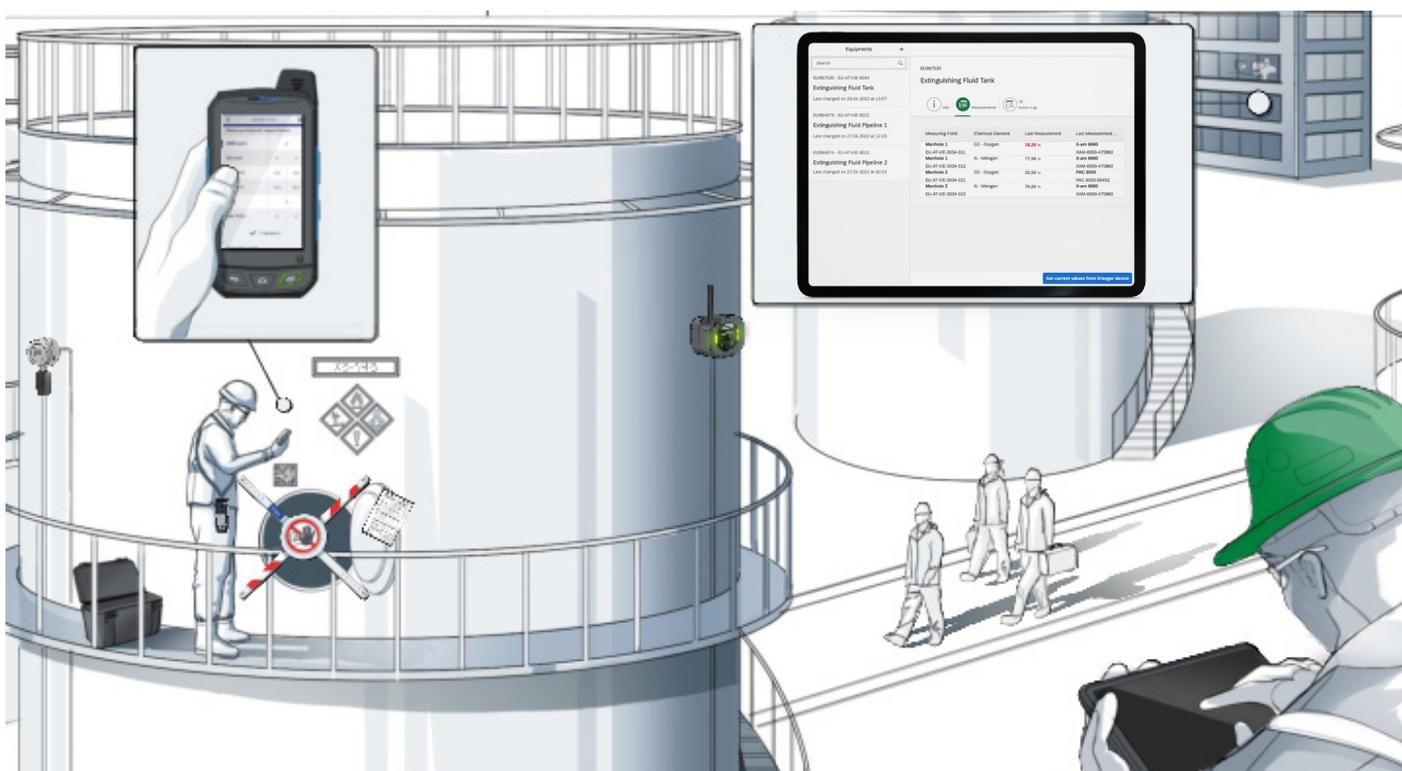
And thus, Dräger was commissioned to provide a comprehensive digitalised safety solution. A solution was to be found so that the data collected by the X-am® 8000 multi-gas devices in the field could be transferred directly to the app developed by SRB.



Manfred Scheiner, SRB

SAP Solution Architect & Team Leader Integrated Digital Maintenance, SRB Consulting Team GmbH

„Unlike other large companies, Dräger always lent us a sympathetic ear.“



¹As recorded in 2007



Identifying CSE Connect as a potential solution From R&D into practice

As an initial solution, Dräger Austria introduced CSE Connect to the customer. CSE Connect is a software solution that digitises the exchange of information during clearance measurement procedure. The data transfer between the CSE Connect smartphone app and web app takes place via a cloud connection. Dräger X-am® 8000 devices are designed to communicate directly with the CSE Connect smartphone app. However, this tool was not usable because the customer already had a proprietary solution in place: the AirAnalysis app designed and developed by SRB. So, it became clear that a new solution would be needed – one that enabled the X-am® 8000 devices to transfer data directly to the AirAnalysis app. In order to achieve this, Dräger Austria reached out to Lars Traut, Project Manager at Dräger global head- quarters in Lübeck, Germany.

For an effective customer solution, a way had to be found to integrate the X-am® 8000 devices into the existing ecosystem, including the AirAnalysis software provided by SRB. At the time, Dräger already had a Bluetooth GATT interface that could work with X-am® 8000 devices, but it was not yet fully developed and was still in the research and development phase. Lars Traut realised that this could be exactly the solution the customer needed. He presented the existing Bluetooth protocol to the client and the concept was well received. A prototype was subsequently created to integrate the X-am® 8000 Multigas device into the client's existing ecosystem, with the goal of having the device effectively „talk“ to the AirAnalysis software and automatically transfer data to the app.



Open GATT interface

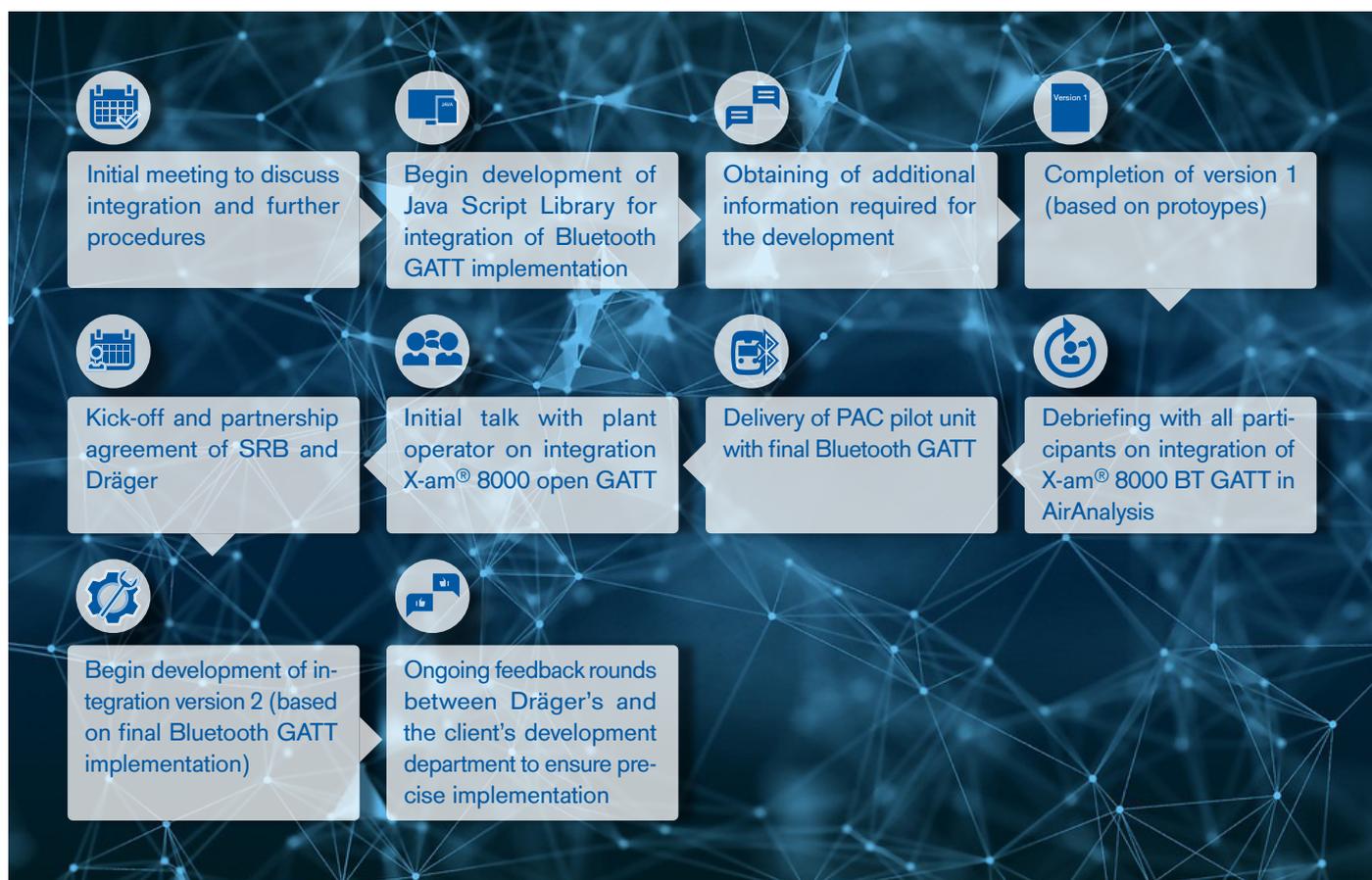
With Dräger Smart Safety you have the option to choose the Open GATT interface for a one-time license per device. The Open GATT license allows you to integrate live data from the gas meter into your system via Bluetooth. In this case, you handle the integration, with the benefit of system-independent products and cost savings.

Agile timeline

The 3-way collaboration was the first of its kind for Dräger in an industrial environment. Usually, they would work directly with a customer to provide a complete A-Z solution. A third party, like SRB, required a different working format. Manfred Scheiner from SRB expressed his concerns: "I thought it would take big rounds of creating angles and additional angles[...]and involving many other colleagues and lots of organisational stuff. But just around two-three months later, the first three prototypes arrived." Lars Traut, from Dräger, agreed that things ran smoothly, with a "good feeling right from the start" and good cooperation at eye level with an exchange of expertise that was beneficial to all involved. In May 2020, a proof of concept began: three prototype X-am® 8000 devices were provided to SRB. Just a month later, SRB succeeded in integrating the devices into their electronic release procedure (ePermit-to-work) within the SAP system. This required SRB working with a cluster of code in JavaScript and creating a source code to connect the dots between the Bluetooth protocol in the Dräger devices and the AirAnalysis app.

What is JavaScript

JavaScript is a programming language that allows web developers to create interactive websites. Along with HTML and CSS, it is one of the most commonly used programming languages in web development. JavaScript is used, for example, for automatically updated news feeds, animated graphics, search tools, for filling out forms, and other interactive functions. In JavaScript, complex control and monitoring requests can be programmed and linked to databases.



Success story

Once the code was ready, the three X-am® 8000 devices were tested over a proof of concept period of approximately four weeks. Thanks to fluid collaboration between the three parties, and particularly between Dräger and SRB working side by side to find a solution for the customer, this process ran efficiently – despite restrictions due to COVID-19.

Data transfer between the X-am® 8000 devices and the AirAnalysis app started successfully and automatically, allowing the staff on site to track the values and make solid decisions in real time. All information can be transferred to the cloud, digitizing it and making it easy to use multiple systems where it is needed. On top of that, this data can be

seamlessly integrated into the client's SAP system, allowing for effortless continuation of the workflow. The client may use already existing interface to collect and manage information from one source. Inspections and maintenance work are therefore faster and can be carried out without misunderstandings.

It was a very short journey from the initiation of the project start to the successful outcome. The key to this lay in the harmonious and timely cooperation between Dräger and SRB.

However, the journey is not over: SRB continues to refine the code to enable even more efficient and fluent data transfer. And Dräger plans to up-grade the devices, so they will be even more tailored to the customer's needs. Since the customer already has some 40 or 50 X-am® 8000 devices in use, the plan is for Dräger to update them with the standardised GATT protocol. Both Manfred Scheiner and Lars Traut indicate that this kind of solution "will become a standard in the industry".

Bright outlook

This collaboration may have been the first of its kind, but it won't be the last. From this particular case, Dräger was able to develop a standard protocol in collaboration with SRB and the customer. No doubt, this was a successful initiative – and the scalable solution can be used for other markets and industries. Lars Traut states: "The major goal is to establish such solutions in collaboration with our customers. It becomes mandatory to provide solutions that integrate devices into their ecosystems." To this end, both Manfred Scheiner and Lars Traut agree that there will certainly be further collaboration between Dräger and SRB to bring similar tailored solutions to market.

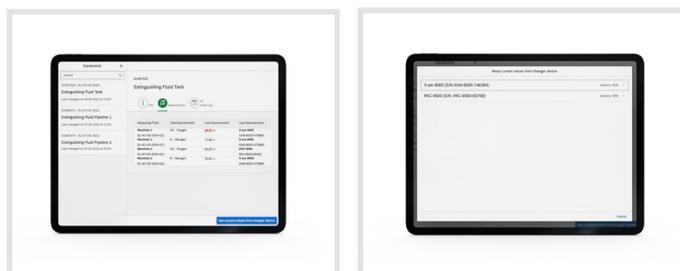
From SRB's perspective

According to Manfred Scheiner, from SRB, this was a showcase project because it proved that "it is possible to integrate hardware into our software solutions", which positively disrupted the viewpoint of some of his colleagues in the industry. Based on this success, new opportunities and bigger partnerships have opened up for SRB. He also speaks up on how important it is for others in the industry to embrace open source solutions: "If you have trust in your devices, in what you are delivering[...] then it only makes sense to bring it to market as open source, so that every developer is able to connect." Manfred Scheiner also puts emphasis on his respect for Dräger: "It's not as easy as it sounds to develop such an interface. It's also really interesting that such a big company is able to start a partnership and address the needs of those partners so efficiently. Unlike other large companies, Dräger always lent us a sympathetic ear."



Our partner SRB

Based in Vienna, SRB Consulting Team GmbH is one of the leading SAP consulting companies in Austria. The IT service provider models, implements and optimises the processes of its customers and accompanies them throughout their digital transformation.



Complete solutions with Dräger

Lars Traut from Dräger hopes that the deepened relationship between Dräger and SRB will lead to further joint digital projects. Solutions that go beyond gas detectors and will help to improve many other processes in the field. As for the standardised GATT protocol, he believes it will be a „benchmark solution“ becoming the standard to create more flexible solutions. Unlike proprietary solutions that cannot be configured or tailored to specific needs. „It's a great end-to-end solution because it's based on the industry standard.“

If you would like to optimise your clearance measurement process, please contact our local sales organisation. For more information on Smart Safety solutions, visit [Smart Safety – digital clearance measurement \(draeger.com\)](https://www.draeger.com)