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AKKODiS

Thinkers & Makers

A Smart Industry tech magazine, sharing insights and stories from the people that make incredible happen through their ideas & their actions.

Will ChatGPT Change The Way We Work?

Multimodality
High-Tech Automotive Companies are Becoming More Than Manufacturers

Solar Power Storage
The Battery to Power your Home

Accelerating Vaccine Development
With The Power Of Macros

AKKODIS

Make Incredible Happen

Welcome To Thinker & Makers, The Smart Industry Tech Magazine

Thinkers & Makers' is an inclusive concept that humanizes the approach to engineering and technology. It encompasses the breadth of our people and how we identify and solve problems at Akkodis. We are Thinkers who stretch outside their comfort zones to drive innovation, and Makers who team up with clients and partners to turn those innovations into tangible solutions. Together, we enable a smarter, more sustainable tomorrow. This is the 'Smart' in Smart Industry…and it will be brought to life over and over again in this, and every issue of Thinkers & Makers magazine.

Editorial

“ The Era of Smart Industry is Now

Jan Gupta
President Akkodis

Welcome to the inaugural issue of Thinkers & Makers – the Smart Industry tech magazine brought to you by Akkodis.

You might ask, ‘What is Smart Industry?’ Simply put, Smart Industry is where engineering, IT and digital converge into a connected world. It is reshaping entire industries, creating opportunities to perform better, make our lives easier and help to safeguard our planet.

Why Smart Industry Matters

The world is struggling with unprecedented challenges ranging from climate change and the global energy crisis to sustainable transportation and the sweeping social transformation posed by an aging population. The good news is that digitalization and game-changing technologies are helping to solve these, and many other challenges.

By leveraging digitalization — connecting everything, using data more intelligently and building smarter products and systems — we are engineering a smarter and more sustainable tomorrow. This is the power of Smart Industry!

The world's industries are engines for economic growth and social development. Smart Industry is transforming them all. It is helping to usher in a future in Life Sciences & Healthcare marked by precision medicine, hastened development of vaccines and simulated medical training that mimics reality more closely than ever before.

Smart Industry is also accelerating the Automotive & Transportation industry's race to electrify, the emergence of the software defined car and autonomous driving, and the development of shared, flexible, and integrated mobility offerings. In Aerospace, it's pushing the envelope of SATCOM tech with the advent of low earth orbit satellites integrated with on-ground networks. And, in Energy & Clean Tech, Smart Industry is empowering prosumers through the development of innovative distributed energy resource management solutions, such as scalable, solar battery storage applications.

You, Smart Industry and Akkodis

In the pages that follow, you'll read real stories of how, together, we are enabling the transition to Smart Industry. We'll explore some of the innovative engineering and digital solutions that are helping organizations around the world to leverage data and analytics to inform sharper decisions, improve operational efficiency, generate new business models, and ensure workforce readiness.

But it is not all about the tech...

After all, if we do not weave the right combination of human viewpoints into the design, development, and deployment of technology, we will fail to unlock its full potential. That is why we've also brought in the voices of leading experts behind the solutions, from clients, partners, and our own team. Solving these challenges of our time, at the pace that's needed, requires trust, collaboration, and partnership. No single company can do it alone – it's about culture and mindset.

Incredible things can happen when minds meet, and sleeves get rolled up. I hope you enjoy this edition of Thinkers & Makers and together, let's get inspired by what's possible!

Solar Power Storage

The Battery to Power your Home

Helped by Akkodis, Solar energy specialist SENEC is spreading its wings. The Leipzig-based company is expanding outside Germany, in Europe and beyond, as well as increasing and updating its portfolio of energy storage solutions for homes. SENEC has been developing sustainable energy solutions that bring together solar panels, energy storage and electric vehicle (EV) charging stations since 2009.

Since 2009 SENEC has been in the business of developing sustainable energy solutions integrating solar panels, energy storage, and charging stations for electric vehicles. Currently, 75.000 SENEC storage systems are operating across Germany. That number is expected to increase sharply, not least due to the current energy crisis emphasizing the advantages of homeowners producing and consuming their own energy.

More than a Battery

The centerpiece of the SENEC portfolio is the SENEC.Home energy storage box. The newest version, SENEC.Home 4, can store up to 25.2 kWh. But a battery is not just a battery, and it's not only defined by its storage capacity. To deliver value to the customer it must fit in with other systems and infrastructures, such as billing software, installation and maintenance systems, backends, databases and much more.

Since 2019, Akkodis Germany has been developing a large part of the software to do that job–with around 45 consultants engaged in various SENEC projects, it's one of the largest commitments in the Akkodis Germany portfolio.

The Akkodis solar power platform team is working on the newest version of the energy storage system, the Home 4, as well as on its predecessor, the Home 3, and on various other connected devices and services including software to configure the storage unit or the solar panels and wall box for charging an EV. The system has to be configured for connection to the energy grid. And the companies selling and installing the system have their own web interface including technical information and calculation tools too.

Beginning with Billing

It all began, back in 2019, with billing. EnBW, Germany's third-largest energy company, had acquired SENEC the year before and hired Akkodis to help migrate to the EnBW billing system, named PowerCloud.

That accomplished, the team began updating the web portal used by the more than 1,200 installers selling and setting up SENEC products. The PIP (Partner Installer Portal) helps installers find the right solution for the customer, based on factors including, for example, the energy needs of the household and the position of the solar panels on the roof. The new PIP is making life easier for installers, for instance allowing them to configure the storage unit via the cloud instead of connecting directly to the unit via cable. The PIP is designed with modern technology, including the latest Angular software tools.

Splitting the Monolith

The next task was to modernize and scale the backend of the system. Sven Thiergen, Senior Backend Developer covering backend business logic, database handling, real-time message processing and cloud deployments, took a key role.

"The old version had been built as a monolith and was reaching its limit and starting to get into problems to scale," he says.

The solution was to split the monolith into sub-parts and deploy a microservices architecture instead, with new additions and features as microservices in Kubernetes.

"With a modern cloud approach, the backend is now ready to handle much more data than before," Thiergen says.

"It has been an interesting challenge to design a backend that can scale, while also being able to store large amounts of data," Thiergen adds. SENEC gives a 10-year guarantee on the storage capacity of its batteries, and as the batteries are the most vulnerable part of the whole system, all battery-related data is stored. In fact, more or less any data from the system will be stored for a long period of time, to improve the design and to develop predictive maintenance tools.

"We're working on that project as well, helping develop machine learning tools to reduce defects and crashes in the future," Thiergen says.

Real-time Communication

Describing the technology, Thiergen and Hoffmann point to one important feature in the new, updated SENEC.Home 4 device: real-time communication.

While the embedded control system of the device currently transmits data every five minutes, the new version has switched to real-time communication, with Kafka as an event-streaming and central messaging platform. That makes the SENEC.Home 4 a truly real-time system and allows for much quicker control, supervision and prevention of issues such as battery overcharging or other factors that could affect performance and lifetime of the storage unit.

However, ensuring scalability is probably the most crucial contribution Akkodis has brought to SENEC. SENEC has grown to 500 employees in just three years, and is now expanding into Italy and Australia, both markets with specific requirements. Australian homeowners, for example, want to sell excess energy from their storage directly to their local energy grid. To do that, the system needs to support VPP (Virtual Power Plant), a software tool that bundles the output from small energy producers and sells it to grid operators.

In a few years' time, instead of 75,000, there could be 500,000 or even a million storage units in private homes across the globe–thanks to the careful work of the Akkodis solar power platform team, that growth should come without scalability issues.

Will ChatGPT Change The Way We Work?

It took Facebook 10 months and Netflix 3.5 years. ChatGPT achieved reached 1 million users in just five days. The fastest-growing app in the world has created huge interest and the world's digital behemoths are scrambling to integrate conversational Artificial Intelligence (AI) into their product portfolios. But what's in it for the rest of the business world? We ask three Akkodis experts for their opinion.

Denis Grandjean, Director for Data Intelligence, Akkodis France. With more than 25 years' experience in the IT sector, Grandjean works with big data, data analytics and data science, mainly with big clients in the industrial and service sectors.

-Firstly, I'd like to say, ChatGPT is not magic. It's just an algorithm, but a very powerful one. Trained on massive amounts of data, it can generate human-like text in response to prompts. It can answer complex questions, but it's not intelligent in itself, like a human. There is in fact no intelligence in Artificial Intelligence. There is mathematics and training. However, this is something other than the usual chatbot you meet when you're contacting your bank or insurance company. Because it's trained on so much data, it goes much deeper in its understanding, and then it answers. And it even has some degree of creativity, although it just mixes what it has learned.

-There are already a lot of business use cases such as generating content for marketing and advertising, and web content in general. And you could imagine use cases in customer relationship management, giving precise and personalized answers to specific questions raised by customers.

-Another interesting use case is code development and automation. It's a bit like having a junior programmer at hand. It gives you something you can use as a draft, and that saves you some time. On the other hand, there are already examples of people trying to use it to develop malware. If you ask it to analyze a website from a security point of view, it gives you all the steps to test its defenses. So, if you're a beginner in hacking, it can teach you how to attack a website.

> "ChatGPT is not magic. It's just an algorithm, but a very powerful one.

- Seen from a business perspective the crucial point in all this is return on investment. If you decide to invest in such a model for your specific business case, you must ask yourself, how much will it cost to train it and to run it afterwards, and does the cost make sense compared to your gain?

- But even more importantly, when I look at our clients, conversational AI is far from the top of their priorities. That's because the essential prerequisites for all this are digital continuity and clean data. Yes, you can do complex data science and analytics, and you can build powerful algorithms trained on large amounts of data. But only with good data, and getting good data is 80% of the work. Our clients have not yet reached sufficient maturity in their use of data. They need the right tools and data platforms, and they must find ways to connect their IT systems, their Internet of Things (IoT) environment, their machines. Let's first break data silos, automate data flows and learzn on data to improve the business processes, and bring the right information to the right users. Only once this vital work is done, will it start to make sense to implement more complex tools.

Hans Christian Lønstad, lead engineer at Akkodis' Norway operations. Lønstad has more than 20 years' software and hardware experience within embedded computing, industrial IoT and digitalization.

- A lot of people are interested in ChatGPT, and I definitely share their interest. I can see the big companies flocking around it as well. Regarding the application itself, it's important to split it in two halves. One part is the content it's distributing, the other is the way it's presenting it. I believe there are some issues around that combination.

- Firstly, the content is not really fact-based. ChatGPT lies a lot, actually. It constructs stuff, so it's not a reliable source of information. It has no relation at all to facts, and it's not a curated source of information. It constructs information from what it has seen most frequently. The most popular phrases are being rephrased using a language model, which is actually quite good, as it can write about topics in a human-sounding way.

- That's part of the attraction, but it's part of the problem as well, because it's not necessarily fact-based and correct. And users could even perceive ChatGPT as more authoritative than other sources, because it produces text that reads as if it has been written by a human. Moreover, I think we'll soon see some legal issues emerging, for instance when people use it as a medical or financial adviser.

- However, it will be interesting to see how Microsoft, Google and other big players are going to monetize this type of conversational AI. In my opinion, the race for ChatGPT is probably going to be a monetizing race, following the well-known three phases of platform development. First you attract users, then you bring in advertisers. Reaching the third phase, the main goal of the platform will be not to serve users or advertisers, but to make money itself, and present the content that makes the most money. We'll have to wait and see how that goes.

If you ask me which business cases I see in my own line of work, maybe the servicing of complex systems could benefit from the conversational approach. If the people servicing a highly automated factory, instead of browsing through manuals, could type their observations into a chatbot, it could guide them in the right direction to fix the problem. It could be a kind of documentation portal for a complex system, provided it has been trained on the relevant data. But actually, that's always the problem with AI. It requires large amounts of data to work properly, and when you look at specific use cases and specific industries, you rarely have the data volume necessary. Furthermore, it's not curated, so it could be a source of error for the AI system.

- I understand why many people are fascinated by ChatGPT but to use it in business, it needs to be directed somehow, and I think you will struggle with getting the data you need to support your business case. So, although it looks promising it might fade away anyway. We'll just have to see how it goes.

- However, when we look at AI and machine learning in general, by far the most popular applications are camera- and image-based. It's well-established in face recognition, surveillance, and crowd control, and it's used extensively in industry for production and quality control. There, you don't necessarily need a huge data set to build your application. A few thousand images may be sufficient.

- In fact, I find AI-powered image creators far more interesting than their text-based counterparts, for instance, DALL-E, developed by the same people that are behind Chat GPT. That's interesting because the system doesn't just repeat what it has seen most often. It starts experimenting, and synthesizes stuff. For creative people, such a tool must be a great way to get new ideas.

Jeremy Dennis, Global Product Owner, Söze; Global Analytics Lead, Akkodis Australia. Jeremy is a data management expert with many years of experience in delivering complex, enterprise, integrated information management solutions in both the public and private sectors. He has worked across the mining & energy, oil & gas, law enforcement & justice and lands and education sectors.

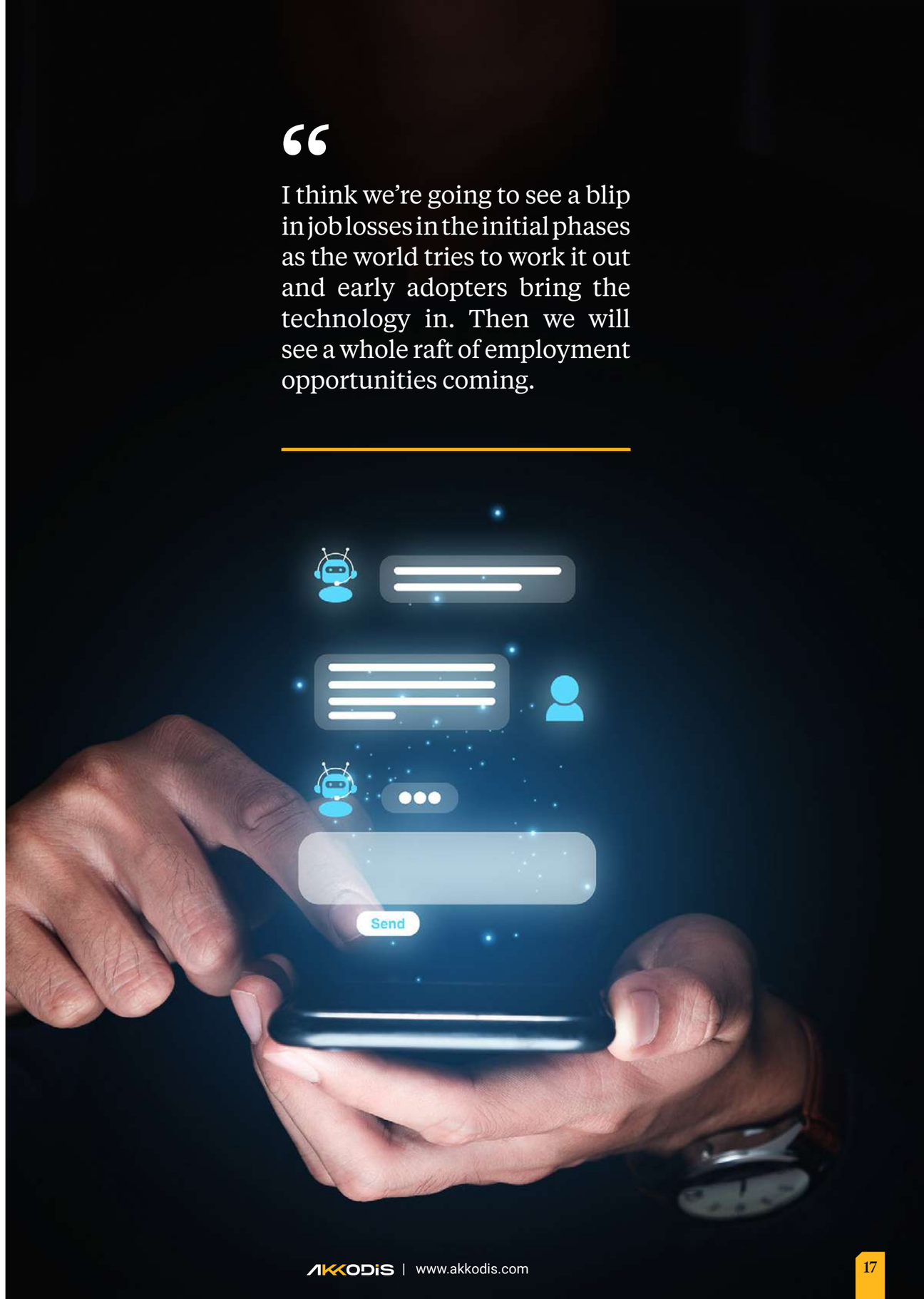
- I do share in the fascination over ChatGPT, not just from a technology perspective, although I understand the technology and how it works underneath the covers. What I find absolutely fascinating is that this is the first time I've engaged with an AI-type technology with responses so similar to what I would expect from a human. That is shattering the sense of reality most people have, because there's that real fear of robots and what their impact on society will be. And of course, we don't know, which makes it both scary and exciting.

- Yes, I'm very interested in its impact seen from an employment perspective. In general, when new technologies come out, many people's immediate reaction is fear of losing their jobs. But history tells us that's a temporary thing. After a while we learn to understand and apply new technologies in certain ways, which leads to further developments and then more jobs are created. ChatGPT is going to be no exception. I think we're going to see a blip in job losses in the initial phases as the world tries to work it out and early adopters bring the technology in. Then we will see a whole raft of employment opportunities coming.

- As an IT professional, I see a significant impact on coding. I run a development team, and we're experimenting with the capabilities of ChatGPT. One thing is that it's like having a junior programmer on your team. You can ask it to give you a template that does a certain activity, and it provides you with a draft. But we don't find that to be the most useful part. What we find really useful is code explanation. Sometimes ChatGPT will come back and highlight edge cases or bugs that we just didn't think about because we became quite myopic when we were focusing on solving a particular problem. So that's something we've found to be very useful and interesting.

- The other thing that we get a bit of a time dividend on, is commenting and notes. Rather than spending a lot of time putting detailed commentary around why something is occurring or how something's functioning, we can now use ChatGPT to provide some of that commentary for us. This is good code hygiene, and moreover it frees us up as programmers. Now we don't need to explain what the code is doing, because the machine does that for us, but we can actually change our thinking and say, well, what was the intention behind me doing this with respect to the problem I'm trying to solve? It's that shift of thinking that ChatGPT is affording us, because we don't have all of the time in the world. So, when we're focusing all of our time on solving the problem, getting the code written and trying to put as much comment as we can within a certain time frame, we'll often forget maybe the most important part–what was the context and why was I solving this problem in the first place? Using these sorts of technologies means I can just focus on doing that. That causes a mental shift, and that I see as being very exciting in this space.

"I think we're going to see a blip in job losses in the initial phases as the world tries to work it out and early adopters bring the technology in. Then we will see a whole raft of employment opportunities coming.



The Future Of Healthcare Is Precision

Welcome to the future of healthcare–it's called precision medicine. Every patient is unique and deserves to be individually treated, so we are striving for treatments tailored to the individual in every way possible. Precision medicine will gradually, but fundamentally, change the life sciences and healthcare industry.

In the not-too-distant future, your treatment could be developed especially for you. It will be based on your personal DNA and RNA, together with data about your specific health condition collected by your healthcare wearables, which may have monitored you for years. Your e-doctor will continuously check your wellbeing and administer your personalized medicine at just the right moment.

This is what the world of precision medicine looks like. It encompasses the convergence of genomic testing, advanced diagnostics, digital health records, 24/7 monitoring of patients and much more into an intensely data-driven approach to individual healthcare.

Mass-produced pharmaceuticals will still be needed, of course. But this new trend is growing stronger and stronger:

Today, approximately 30% of the world's data is being generated by the healthcare industry. By 2025, the compound annual growth rate of data for healthcare will reach 36%. That's 6% faster than manufacturing, 10% faster than financial services, and 11% faster than media & entertainment.

(Source: RBC Capital Markets: The healthcare data explosion)

Why Precision Medicine?

You could argue that medicine already is, and has always been, about precision, that it's nothing new. For instance, a blood transfusion is based on the patient's blood type, and treatment is to a great extent based on a patient's health, age, and lifestyle.

Healthcare is becoming increasingly personal and tailor-made.

However, new discoveries and technologies take this to a whole new level. The rapidly expanding field of genomic testing reveals that your genes can influence how you respond to medications. New diagnostic methods are also becoming more and more precise in measuring the effect of a treatment and allowing for tiny adjustments to find the optimal solution for each individual patient. As health records are digitized and large health data bases created, sophisticated algorithms can start looking for patterns and hidden similarities, and discover new causal relations, leading to even more precise and customized treatments.

- **Globally, 1.249 million health and fitness apps were downloaded in Q1-Q2 2020 compared to 934 million during the same period a year earlier, a rise of around 34%.**
- **The global virtual diagnostics market is projected to grow annually by about 15.5% in 2019-2030**
- **The global telemedicine industry is expected to grow 19% a year by 2025**

(Source: Deloitte, Predicting the future of healthcare and life sciences in 2025)

Data at the Center

Looking at the Life Science product life cycle, data is at the center.

Each phase produces vast amounts of data. That applies from the development of drugs to testing, documenting, and seeking approval, from manufacturing the drug and securing its consistency and traceability, all the way to what the industry calls "post-marketing", including documenting the drug's actual efficiency and investigating possible side effects.

However, life sciences are not yet a truly digitalized and data-driven domain. Typically, data is siloed and not standardized in such a way that it can be subjected to large, cross-disciplinary analyses, using AI, for instance. Although healthcare and life sciences are producing vast amounts of data, the level of digitalization in the sector is still significantly lower than in other sectors such as banking and insurance.

New Technologies

In the coming years, a lot of new solutions have to be implemented to secure state-of-the-art data collection, data management, and data cleansing in the sector. A common data infrastructure is sorely needed, and the winners of the future will be the companies that succeed in this.

Harnessing the power of a common data infrastructure will speed up drug development and secure the ability of pharmaceutical companies to use their patent time as efficiently as possible. Also, data scientists can extract new knowledge from the data, using advanced statistical methods and machine learning to crunch large data sets.

Ubiquitous Sensors:

Networks of stationary and wearable sensors gather simple baseline measurements and flag anomalies

Standardized Diagnostics:

Samples and data from advanced omics and non-invasive tests are collected using a standardized master protocol including key meta data to ensure comparability

Data Platform:

Standardized results are continuously streamed through a secure network to an integrated data storage and computational platform

Impact Generation:

The platform aggregates the data and uses advanced machine learning algorithms to come up with diagnoses, prognoses, and optimal treatment plans for each patient

Continuous Feedback:

Patients are continuously monitored, and their outcomes data are used to adjust treatment plans and informtreatment algorithms for future patients

Accelerated Discovery:

Researchers and drug developers use this rich source of interconnected data to dramatically improve efficiency by rapidly testing hypotheses *(Source: McKinsey: Precision Medicine: Opening the aperture)*

Paradigm Shift

As in the automotive and aerospace industries, future growth will mainly originate in software and data. For the life sciences industry this paradigm shift is challenging the traditional ways of doing business. Creating change on such a fundamental level can be difficult, as there is a high level of regulation in the sector, together with a long-standing tradition of manual skills and craftsmanship, including when it comes to lab work. Nevertheless, change is necessary, and it will come.

The world of life sciences is at the starting point of this fundamental change. Akkodis is aware of the multi-level challenges the industry is facing as it seeks to adjust to accelerated market needs and to the push toward precision medicine. Therefore, we are bundling our competences and offering end-to-end solutions, including for manufacturing and data management. That is what the industry needs, in order to reach the next level of digitalization, whether in the laboratory, on the factory floor, or in the boardroom.

Akkodis is contributing to the transformation by offering a multitude of expert skills, refined through our work across different sectors. What's more, we speak the language of the life sciences industry and are familiar with the ground rules of this specific domain.

Welcome to the age of precision medicine. Together we are transforming the life sciences industry–for the benefit of everyone.

Read more about our expertise in Life Sciences & Healthcare

Car Sharing

Easy On The Outside, Complex On The Inside

For the development of a car sharing app for a young urban demographic, the watchwords are ease of use and seamless integration. Customers want everything rolled into one, delivered to them via an intuitive mobile phone user interface. Achieving that requires astonishing behind-the-scenes complexity. Akkodis makes it all work.

Never in its more than one hundred-year history has the car industry had to handle as much change as right now. Electrification and the emergence of the software-defined car are just two areas that are dramatically changing what cars can do and how they're built. On top of that, the role of the car seems to be evolving. Some experts even predict that the era of the private car will soon be over.

One thing's for certain: A growing group of primarily young customers is looking at the car in a different way than their parents, and the car industry is reacting accordingly. The industry is beginning to think of itself as more than just a manufacturer of vehicles. Auto manufacturers are adding new dimensions to their business, in an effort to become digital mobility companies, offering their vehicles as one layer among many in new solutions tailored to the mobility landscape of the future.

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Buying, Renting, Sharing

One of Europe's biggest auto industry manufacturers recently bought a car rental company, invested millions of euros in a car sharing app, launched a ride hailing service, and is developing automated valet parking software.

The car sharing app, developed in cooperation with Akkodis Germany, was launched in 2019 and 2020 in two major European cities. It includes 2,300 electric vehicles and hundreds of thousands of customers, and there are plans to launch it in other large cities in Europe. Due to a confidentiality agreement, we are not allowed to mention the name of the company.

Young and Urban

The service is a free-floating car sharing service–that means there are no fixed parking places–users can leave the car anywhere within a specified area of the city once they have finished using it.

The service targets young urban people used to interacting with the world via their mobile phones, so the project's main focus was developing a mobile application and a platform connecting to several backend services. The platform was designed to facilitate easy and highly automated user registration, app-driven locking and unlocking of cars and automated billing.

> "We have developed an Android and an iOS version, and with these apps the customer is able to do everything, says Frank Stumpf, software engineer at Akkodis Germany.

"Everything runs through the app," Stumpf says. "To get started the customers register their driver's license and billing information. Then they can look for a car nearby, book it, find where it's parked, and when they've found it, unlock it, and start it. When they've finished their trip, payment is taken automatically in the background via the app."

Complex Project

Squeezing all these services into one app, and developing a user-friendly interface, requires a lot of technical know-how. "The project has been one of the most complex ones Akkodis in Germany has handled," Stumpf says.

To make it as easy as possible for customers to sign up, Akkodis integrated a third-party service which automatically checks a user's driver's license for authenticity based on a mobile phone photo.

For basic car rental features such as starting and ending a rental and tracking the car, the team used a white-label backend developed by a car sharing service provider. Third-party services for parking are also integrated. As the service only offers electric vehicles, a charging service is built into the app as well. Finally, Akkodis provided the app with a billing solution. That was no easy task, as there are numerous ways to invoice customers, and many different payment service providers. Adding to the complexity, the app offers different tariffs and discount options, and invoices are sent to the users immediately.

Scalability was a high priority and the platform is designed to scale easily both on the user and the vehicle side. The Akkodis Germany team assisted the customer's own development team in building a platform architecture able to scale in a cloud environment. Backend and middleware development utilize cloud-native and serverless computing.

The platform also integrates business intelligence and data science tools that can make use of accumulated data to further develop and optimize the system.

Cloud Native

The car sharing app's native use of the cloud increases efficiency, explains Felix Rauchfuß, software developer at Akkodis Germany. He and his colleagues have followed a multi-cloud strategy, running the system in Google Cloud as well as Azure.

"Being cloud native means, that we don't set up virtual machines or Kubernetes clusters to deploy our microservice infrastructure. We use cloud-native services such as serverless functions. These are tiny microservices or nanoservices, which are a central serverless offering of most of the cloud providers today. We also use serverless databases, message brokers and API gateways," Rauchfuß says.

"We are deeply integrated into the cloud and that increases our operational efficiency. For example, infrastructure maintenance is reduced to a minimum, because the cloud providers take care of it and they are also responsible for scaling. If we double our customer number in two weeks, that's no problem because the cloud providers will do the scaling for us."

Reaching the Next Level

Since the launch of the car sharing service Akkodis has contributed to refining the service, introducing dynamic pricing, based on the use of each individual vehicle. Operational data is also used to increase the efficiency of the service agents looking after the vehicles, cleaning them, relocating them and driving them to charging stations.

In future, Akkodis is preparing to support its customer in reaching the next level of interconnectedness in e-mobility.

"Our customer has ambitious plans," Stumpf says.

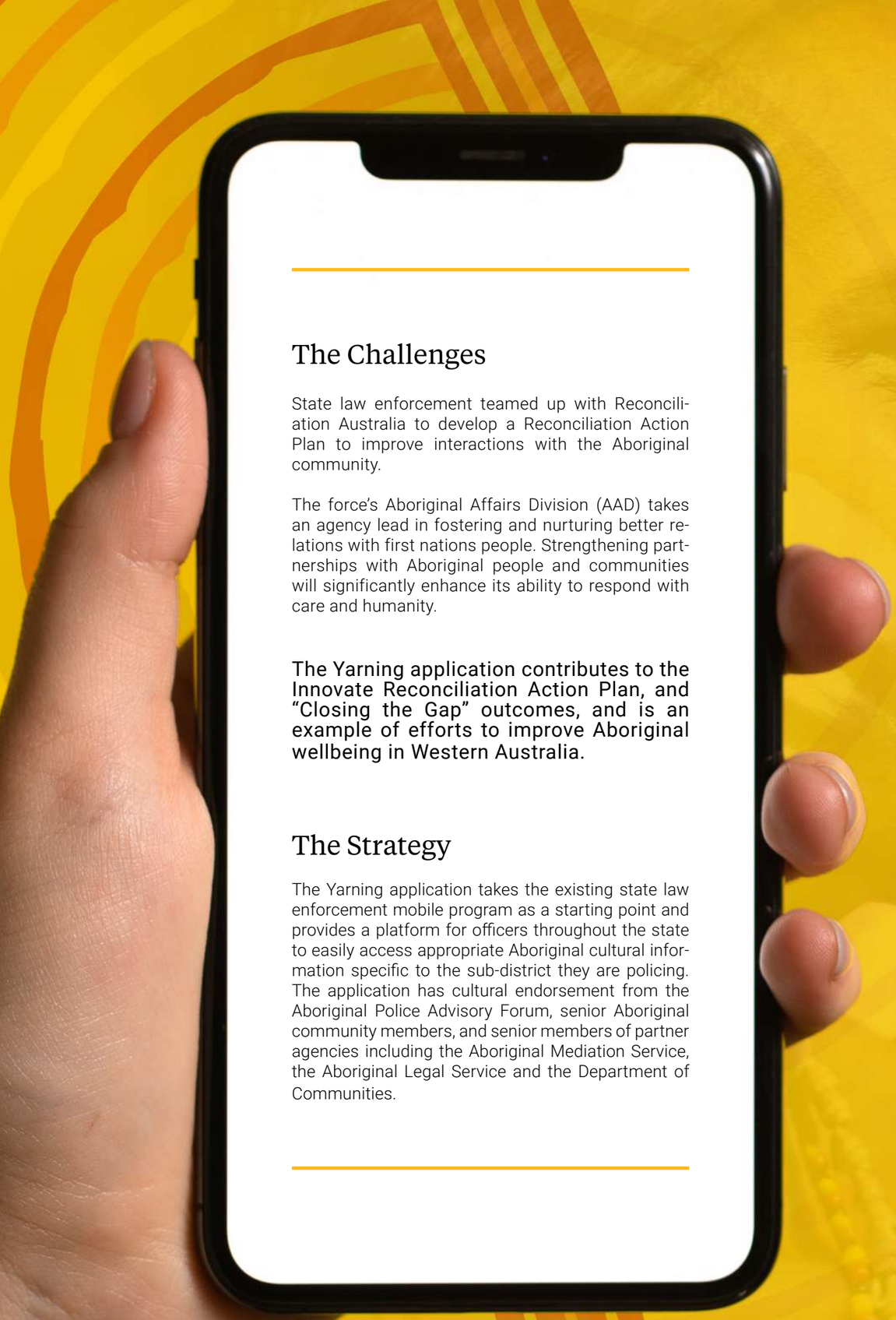
"And we are very much looking forward to contributing to that large-scale integration. It's really exciting to be part of the transformation of a large company as it evolves from pure car manufacturer to a central provider of one overall mobility platform.

Read more about our expertise in Automotive & Transportation

Law Enforcement & Yarning

Positive Community Change

In Aboriginal culture, 'yarning' means building respectful relationships. Akkodis, in partnership with Microsoft and the Aboriginal Affairs Division of the Western Australia Police Force (WAPOL), has delivered a mobile application to improve fairness and equality for Aboriginal communities during interactions with law enforcement officers. The app is built using the Microsoft Power Platform and provides spoken Aboriginal language interpretation of important information relating to rights in custody, COVID and youth messaging. It allows officers to select an Aboriginal language and play aloud key messages to improve understanding by Aboriginal people who may have English as a second, third or fourth language.



The Challenges

State law enforcement teamed up with Reconciliation Australia to develop a Reconciliation Action Plan to improve interactions with the Aboriginal community.

The force's Aboriginal Affairs Division (AAD) takes an agency lead in fostering and nurturing better relations with first nations people. Strengthening partnerships with Aboriginal people and communities will significantly enhance its ability to respond with care and humanity.

The Yarning application contributes to the Innovate Reconciliation Action Plan, and "Closing the Gap" outcomes, and is an example of efforts to improve Aboriginal wellbeing in Western Australia.

The Strategy

The Yarning application takes the existing state law enforcement mobile program as a starting point and provides a platform for officers throughout the state to easily access appropriate Aboriginal cultural information specific to the sub-district they are policing. The application has cultural endorsement from the Aboriginal Police Advisory Forum, senior Aboriginal community members, and senior members of partner agencies including the Aboriginal Mediation Service, the Aboriginal Legal Service and the Department of Communities.

The Objectives

WAPOL wanted to better understand Aboriginal culture and traditions to enhance respect. Developing this respect and embedding it into its organizational culture and service delivery will strengthen relationships, leading to better partnerships and outcomes for the Aboriginal community.

The Solution

State law enforcement designed and developed a new mobile application to improve fairness and equality for Aboriginal communities state-wide during interactions with police officers.

Yarning was designed to provide spoken Aboriginal interpretations of key messages, including those relating to rights in police custody and COVID-19. The application allows officers to select an Aboriginal language and play selected messages to improve understanding by Aboriginal people who may not have English as a first language.

After a trial in the Pilbara Police District in March 2021, the full application was released on 10 August 2021.

To date the feedback has been overwhelmingly positive. The application contains eight Aboriginal Languages interpreted by Aboriginal Interpreting WA with a further three to be added. The 11 languages are considered the Aboriginal languages that give the greatest coverage across Western Australia.

The Yarning application is agile and scalable to expand and provide other messages to Aboriginal people. For example, the inclusion and sharing of approved COVID-19 health messaging, emergency warning information and road safety messages.

The Yarning application was taken from concept to released product by Microsoft and Akkodis.

Accelerating Vaccine Development

With The Power Of Macros

To the uninitiated, macros are usually encountered in Excel, where they automate a repeated task. But biostatistician and macro magician Loïc François is taking macros to a whole other level. Meet the macros that are accelerating vaccine development and contributing to the digitalization of the pharma industry.

Loïc François, project manager and business developer at Akkodis, says there is a great deal too much "loose code" in the pharma industry. He is on a mission to rein it in. Why? Because loose code equals low efficiency, manual work and non-standardized processes. All of these are slowing down drug development in an industry wrestling with a complex challenge–the need to increase speed without compromising quality and safety.

Vaccine Shelf Life

Macros are part of the answer to that challenge, and François and his team of biostatisticians are experts in replacing loose code with powerful macros. They can be used in calculating the shelf life of a new vaccine. Just like food products, medicine has an expiration date, and calculating that date based on lab research requires a statistical model.

It has been common practice in the industry to cobble together different bits of code and programs, with a lot of manual effort and in a non-standardized way. François' team is replacing that cumbersome and error-prone procedure with a standardized, automatic program running the analysis–a so-called macro. That helps customers reduce a task taking days, maybe even weeks, to a click on a keyboard releasing the macro. An hour later it has produced the desired result, including graphs, tables and a report to go with it.

Statistics Everywhere

– Developing and producing medicines involves a lot of statistics–they are crucial to making sure a vaccine is efficient and can be produced in large quantities across different parts of the world. Macros speed up the process, François explains.

– Macros perform statistical analysis automatically and free up people's time to focus more on innovation, instead of performing repetitive tasks. Automated statistical analysis is crucial in parallel development, in which a vaccine and methods for its production are developed simultaneously. As you go through the different phases of clinical trials and study the vaccine's characteristics in terms of immunological response and safety, at the same time, you're developing the processes to produce the vaccine.

Stability and Comparability

Macros developed by François and his team, which has grown significantly over the past two years due to customer demand, are used in determining the stability and thus the shelf life of a vaccine. They can also accelerate processes related to comparability analysis, ensuring that the vaccine retains its characteristics throughout production.

Not only do these macros save time and ensure consistency, they also contribute to creating internal alignment between different development projects. Last but not least, they present results and reports to regulators in a uniform way, creating more fluent communication across the complex processes of vaccine development.

Key Sector Trends

Standardization and automation are buzz words in the pharma sector, François says. "Everything that can be standardized and automated will be standardized and automated."

This shift is needed, François believes, to reach the next level of digitalization in life sciences, including harnessing the power of big data and integrating simulation in drug development. To reach that new level, the sector must leave inefficient work practices behind, increase productivity and focus more on innovation, not least when it comes to statistics, which are front and center in drug development.

> "There is no room for any loose code in the pharma industry of the future, and macros are part of the journey towards automating and accelerating pharma processes.

Automation Journey

- We develop a new methodology, we standardize it and we make it automatic. And then we move on to the next one. There is huge interest in the sector for that approach, and we're currently experiencing a change of focus in customer requests, with our role evolving from actor to adviser.

- We're focusing more and more on senior level experts at our customers. Often, they come to us for advice at portfolio level, looking for help with advanced modelling to predict the possibility of a product reaching the market, based on different scenarios. They ask us to propose a design study to speed up development and make it more efficient. That's expert stuff, and I'm proud that we have that level of trust from our customers.

Multi-modality

High-Tech Automotive Companies are Becoming More Than Manufacturers

While it would be an exaggeration to claim that building cars is becoming a sideline in the auto business, steel, glass, rubber, brakes and engines are no longer the only focus. The industry is adapting to a shift in customer preferences, enabled by digital technology.

Digital services around the car are becoming more and more important as shared, flexible, and integrated mobility offerings–the mobility as a service (MaaS) approach–take off in cities across the world. If car manufacturers want to be among tomorrow's winners, they need to think of themselves as more than producers of vehicles. They should be aiming to become digital mobility companies.

We recently helped a client build a car sharing app and with new digital business models on the rise and customer preferences shifting towards e-commerce, the process of buying a new car is changing as well. A prominent example of this trend is the agency model, centralizing parts of the customer retail journey. In this model, the manufacturer becomes the retailer while the dealer remains the physical touchpoint with the customer. For manufacturers, direct sales are the response to new consumer expectations. They prefer a buying process as simple as the e-commerce experiences they are used to.

Akkodis experts helped a global leader in ride hailing to establish a cross-industry presence for e-scooters in more than 20 cities across four countries, underlining its position as a preferred global partner in the shared mobility ecosystem.

New kinds of car ownership are emerging as well. Some customer segments consider their vehicle to be an important part of who they are. These customers still value the traditional way of buying and owning the car that sits in their driveway. Others prefer to lease their car, long-term or short-term. At the opposite side of the spectrum, car ownership means absolutely nothing to other types of customers. They see cars as tightly linked to the climate crisis and believe they should be used only when really needed. For them cars are for convenience, not prestige or vanity. Mainly in urban areas, this new approach to mobility leads to the development of innovative car sharing and rental solutions focusing on ease-of-use, flexibility, and the smallest possible carbon footprint.

Our automated software streamlined leasing activities for a premium German manufacturer in France. The overall customer journey (backend and frontend) was condensed through the introduction of onsite robots with UI path technology. Robotic process automation (RPA) allowed for a convenient and individualized customer journey.

All this requires closely interconnected ecosystems of digital services, offering seamless, personalized customer experiences. The key differentiator of the future may not be how the vehicle is designed, its performance or its handling. It may very well be the quality and user experience of the services around it.

For a large German truck manufacturer, we've developed a digital fleet management system to enable real-time re-routing and more efficient fleet use. The system helps truck drivers in their daily work and is available as a mobile phone app and on a special handheld device inside the vehicle. It assists drivers with areas such as navigation, vehicle information, driving and rest times.

When it comes to the future of mobility, services, connectivity, and data are taking center stage. Vehicle manufacturers have an important role to play in this journey towards smart transportation and smart cities. That applies not only to the transport of people, but also of goods. If the basic value of a truck comes from its ability to carry a certain load, then adding software that can take care of route planning, billing, how to best load the truck and what to do if it breaks down, significantly increases its value for the customer. That is exactly what lies ahead for the automotive industry as manufacturers become mobility providers in a landscape increasingly characterized by multimodality and integrated ecosystems.

Digitalizing First Aid Training

Laerdal Medical, a major manufacturer of medical equipment and medical training products based in Stavanger, Norway, has a mission – to help save lives through medical technology.

When Laerdal wanted a rugged wireless device that could control patient simulators, and use up-to-date training material and simulations through connectivity with a cloud solution, the company knew where to come.

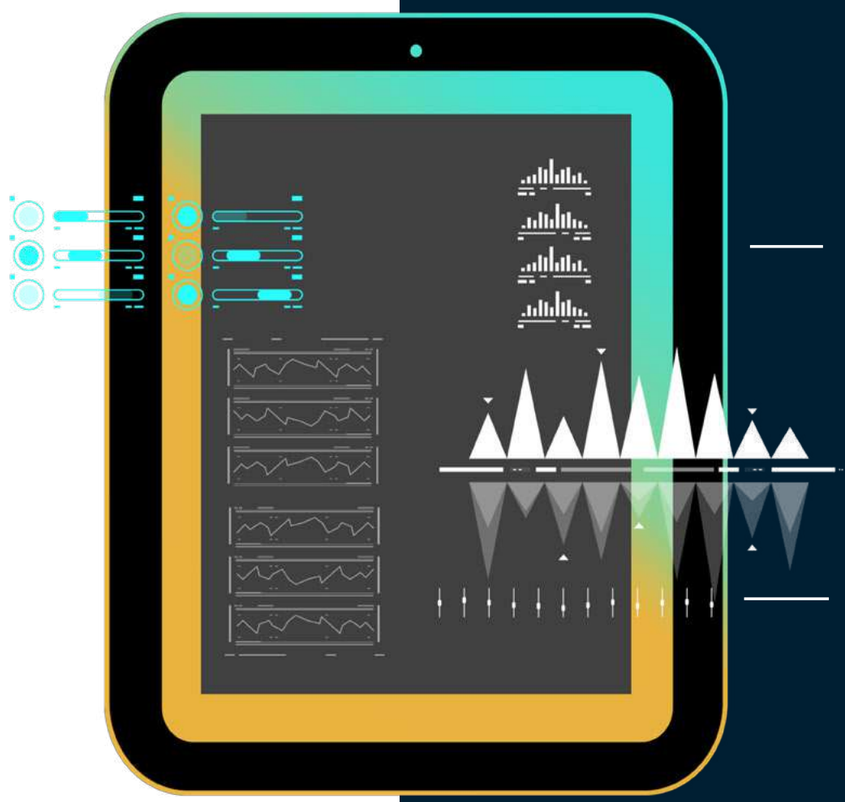
Akkodis has been working with Laerdal Medical for nearly a decade, delivering IoT solutions, including more than 40,000 wireless handheld controllers, used to simulate training scenarios. Akkodis contributed full hardware development of both units as well as the firmware securing connectivity between the mannequin and the tablet.

> “One of most the rewarding things in working with Laerdal is being a part of the company’s vision to help save lives

Terje Jensvik
Technical Manager at Akkodis’ operations in Norway

The training system enables high quality education and training for medical staff and students in medical institutions worldwide. Hospital staff and students are trained in a safe yet realistic and practical environment and can access up-to-date training material through the cloud solution.

Akkodis has recently helped Laerdal explore new ways in which wireless technology can optimize the user-friendliness of its products.



Project description:

Development of wireless handheld controller (SimPad PLUS) to be used in a medical training system for Laerdal Medical, an international supplier of training and treatment equipment

SimPad PLUS had to deliver on tough EMC/ESD design criteria, as well as certification and documentation in compliance with government regulations

Akkodis’ contribution:

- Customization of hardware and software from idea/concept to delivery/production for handheld PC
- Support and maintenance
- Life cycle management
- Testing and verification
- Global shipment management from Taiwan

Technology/skills applied:

- HW: Ruggedization and customization of handheld platform
- SW: Low-level and middle-layer code and API for easy SW development on handheld ARM CPU
- Connectivity: IoT-enabled solution through WiFi/BT
- AI-enabled features

Key selling factors:

- Multidisciplinary capabilities (HW/SW)
- Embedded HW/SW experience and track-record
- Life Cycle Management capability
- Past customer relationship
- Partner network for development and production (Taiwan)

5G from Space, Industry 4.0 on Water:

The Internet of Things via Satellite

The world of satellite communications is changing, promising more data throughput, broader coverage, and lower price per bit. New satellite constellations are coming too. Specialists from Akkodis in Denmark are helping one of the leading global satcom companies to stay ahead of the competition.

Akkodis Denmark specializes in providing experts to tech companies in need of embedded developers. That may seem a niche business in the engineering consultancy domain–and it is–but embedded experts are in high demand, now more than ever.

Akkodis specialists have long been working alongside Cobham Satcom's own engineers, providing expert knowledge in hardware design, RF antenna technology, software and more. They have helped strengthen Cobham Satcom's position as a global leader in satellite communications.

Complete Satcom Chain

Cobham Satcom is unique in developing and producing equipment for the complete satcom chain. The only exception is the satellites themselves, which are built by Boeing, Airbus and others.

Cobham Satcom builds the ground stations that connect the satellites to the public internet and to cellular networks as well as the terminals connecting directly to satellites, custom built for planes, ships, and vehicles. Every application has different requirements. A satellite terminal on a ship, for example, needs to have a moveable antenna that can point very precisely to a satellite, even in high seas and rough weather.

Current trends in the satcom industry are driven by the same trend that has transformed your mobile phone into so much more than just a device for making phone calls. It's about constant access to the internet, about transfer of large amounts of data, connected devices, IoT and everything else that makes up today's connected, always-on world.

Low Earth Orbit

It's all happening in the satcom world, and Akkodis specialists are playing their part in pushing the envelope of satcom tech. The most spectacular and heavily hyped newcomers are the LEO (Low Earth Orbit) constellations, backed by tech celebrities such as Elon Musk and Jeff Bezos. These swarms of small satellites will be circling the earth at about 800 km, while conventional satellites are much farther away, 36,000 km from the earth's surface. Conventional satellites are geosynchronous , meaning they follow the earth's rotation, while LEO-satellites are crisscrossing above us. The LEO vision promises high throughput, low latency, global coverage, and disruptive pricing. However, LEOs are still in their infancy, and although they are in the spotlight, other exciting developments are taking place within conventional satellite systems. These are becoming more powerful and efficient and thereby lowering the price for connectivity and opening up new market segments for the satcom industry.

Maritime Satcom

The maritime industry is an ideal example of why and how satellite communications are changing and evolving.

Increasing amounts of data are being transmitted back and forth between ships and land-based control centers. Automation, decision support, remote monitoring of engines and more are becoming integral parts of shipping. Some people call it "Industry 4.0 on water". Previously only crew welfare services such as video streaming needed powerful satellite links but now ships are integrated into a wealth of digital systems including for coordinating traffic in harbors and channels and customs clearance.

Large control centers onshore handle more and more operations, processing data from the ships and helping the crew to run them as efficiently as possible, for instance by optimizing fuel consumption. Instead of taking time off when the ship is on the open sea, the crew can also now take care of administrative tasks remotely with a computer and internet access.

300 Ships

Cobham Satcom is a world leader in maritime satcom, equipping thousands of ships with antenna systems over the years. Satcom connectivity has become mission critical in the shipping business and customers are seeking more powerful antennas and higher throughput through single or dual antenna setup.

To meet this new need for powerful connectivity, satcom providers such as Cobham are strengthening their products, including through the use of higher transmission frequencies that allow for a larger transmission load. However, these frequencies are more vulnerable to interference caused by rain, fog, or stormy weather.

Making that work is just one of the challenges for Cobham Satcom developers and the expert consultants helping them.

0.1 % Accuracy

Developing new types of antennas is another challenge. Cobham Satcom is building parabolic antennas that can point to a satellite with 0.1-degree accuracy, even when the antenna is on a ship moving back and forth in high seas. Typically, two connected antennas are used to secure the connection.

All this requires expert knowledge in mechanics, control technology and software, including everything that goes into state-of-the-art embedded solutions, such as GPIO pins, embedded and real-time Linux and protocol handling.

The emerging LEO constellations add an extra level of complexity. Instead of pointing to one geosynchronous satellite, LEO terminals must choose which LEO satellite to connect to, follow it while it's in range, and then jump to the next … and the next.

5G and New Markets

While satellite communication is becoming increasingly powerful, it is beginning to take on new roles in the communication infrastructure covering the globe. Cobham Satcom is preparing to map the current population of geostationary satellites into the emerging 5G infrastructure, opening new business opportunities for satcom service providers.

While the traditional users of satcom–government agencies and businesses–have a growing need for powerful connectivity, new users and applications are coming. New markets open up, as the capabilities increase and the price per bit goes down.

Satellite communications are changing fast and specialists from Akkodis Denmark are helping one of the global satcom leaders stay ahead of the competition.

Meet the Thinkers behind the Tech

Jens Kolind is a senior test specialist focusing on integration, acceptance and performance testing of complex software and electronics systems. He has extensive experience in designing test methods and environments from the ground up, and working in large, international development teams.

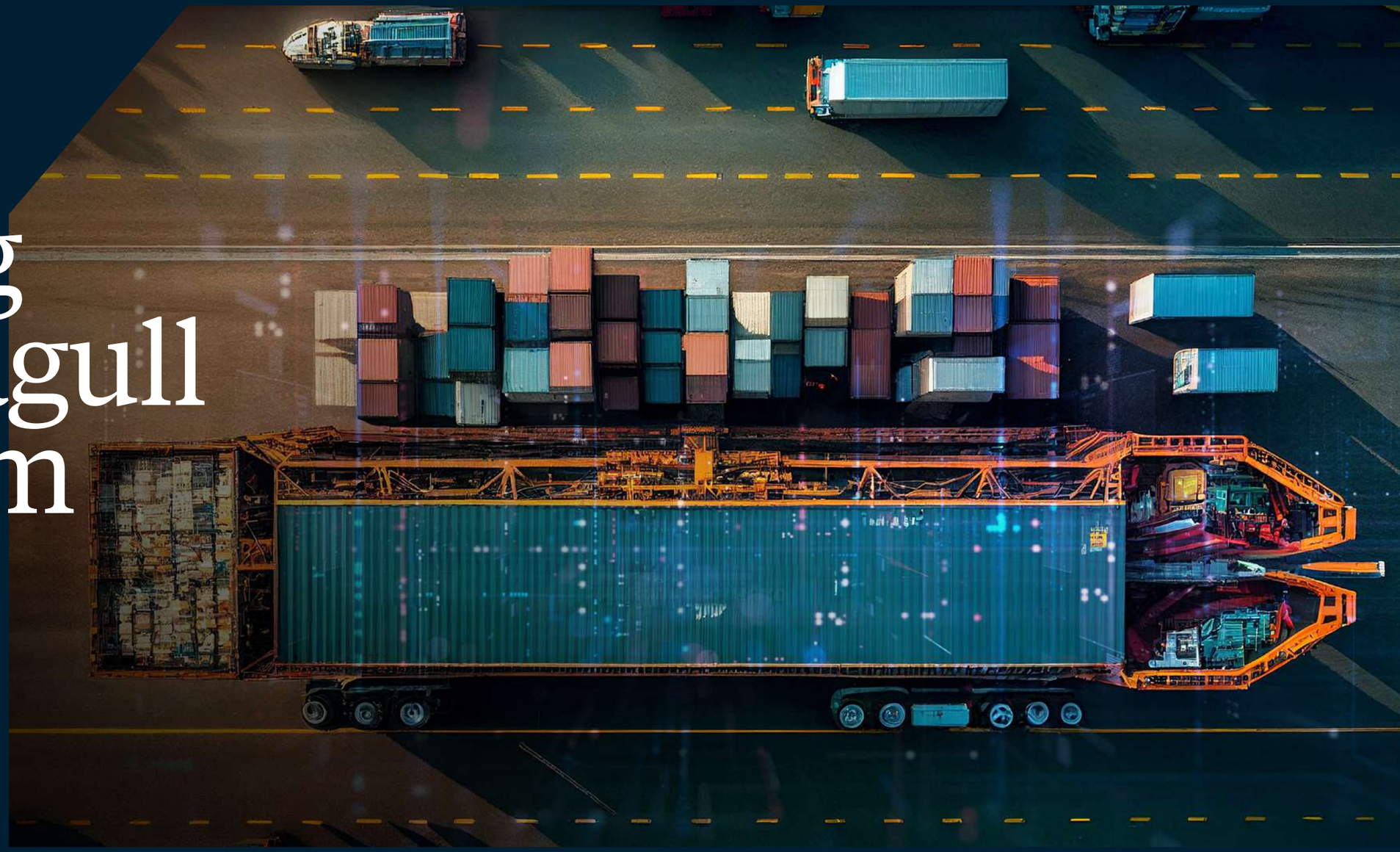
Kolind is working on a major new Cobham project, which develops ground stations and satellite terminals for a new range of geosynchronous satellites. The ground stations are the gateways between the satellite and various telephone networks and the internet. Jens is one of the people responsible for software integration and testing.

Jesper Nordling is a project manager specializing in IT and development projects. With more than 10 years' experience in quality management and broad experience in leading large development teams, Nordling can execute complex projects with tight deadlines. He is PRINCE2, LEAN management and SCRUM master certified.

Among Nordling's current projects is the development of a new type of omnidirectional antenna for maritime safety. Regulators have introduced a new set of technical specifications regarding the ability of ships to connect to satellites even in very rough weather, to ensure that emergency signals can be transmitted.

Solving the Seagull Problem

Making Autonomous Container Trucks Safe, Efficient & Error-Free



Fedor Schreiber and his team of software engineers are moving heavy loads. Not with their bare hands–an autonomous container truck will do the heavy lifting–but Akkodis Research is developing autonomous driving technology for electric container shuttles in the port of Antwerp.

The seagull problem is just one out of the many challenges Schreiber and his team are addressing as they implement driverless container transport between two terminals in the port of Antwerp.

As any human driver will know, birds standing on the road will eventually move out of the way, although often at the last possible moment. The driverless truck transporting containers from A to B will face the same situation. As its sensors discover a seagull blocking its path, to react correctly it must identify the object as a bird, and not confuse it with, for example, a human being. Based on that identification it must decide to drive on, and continue to perform its task, quickly and safely.

The solution to the seagull problem involves object classification and so-called bounding boxes, which enable the autonomous driving software to make correct decisions, even in the special case of a seagull. Schreiber is confident that powerful sensors and sophisticated software will successfully tackle the many challenges faced in a large and busy container harbor.

Green Port of the Future

Schreiber's work is part of the PIONEERS project, a large EU-funded research and innovation project aimed at shaping the green port of the future. The European ports of Antwerp-Bruges, Constantza, Barcelona, and Venlo are participating in PIONEERS, together with companies and universities. They all bring different know-how on digitalizing, optimizing, and automating port operations and making them more sustainable.

Akkodis Research's task in the PIONEERS project is to develop and deploy an autonomous driving system for container-carrying heavy load vehicles, that were previously operated manually. The system will be installed on electric container shuttles built by the Dutch company VDL, enabling them to run fully autonomously 24/7. Schreiber and his team are giving these vehicles eyes, situational and contextual awareness, and the ability to react to what is happening in their surroundings.

Sensors and Software

In the port of Antwerp, 40 containers are moved about every hour. That requires complex, tailor-made technology, adapted to the specific conditions of a large and hectic container port. Sophisticated sensors and autonomous driving software are the two key elements of the solution.

Before focusing on its software brain, let's have a look at the sensory system of the autonomous container shuttle. For the vehicle to understand its surroundings it must be able to detect them. That is done via three high-performance LIDAR sensors, mounted on the front and back of the vehicle. Schreiber's team is also considering conventional cameras to supplement the LIDAR input and have more sensor redundancy. Apart from detecting its immediate surroundings, it is crucial for the vehicle to know its exact position everywhere and at all times.

"In a container port, that can be tricky, with containers stacked three or four high, sometimes blocking the radio signals required for positioning," Schreiber explains. "To solve that problem, a powerful triple frequency receiver ensures stable radio contact to the GPS system and eliminates any blind spots."

Special Requirements

The development team is working on connecting the sensor input to the software stack. The team takes the existing Akkodis autonomous driving software stack, developed in-house and containing features such as collision avoidance, and the ability to follow a predefined track, and adapting it to the special requirements of the PIONEERS project. As the software is developed for passenger vehicles it must be tweaked to fit the dimensions of a large and heavy container truck. Its weight also means that longer braking distances must be factored in.

"Stable operations at all times are essential. A container port is a busy place, and every second counts. There is no time for container trucks unable to take the right decision in front of a seagull," Schreiber says.

The Right Decisions

For Schreiber and his team, the main challenge is getting the system's ability to make decisions right. They must teach the vehicle to identify and classify various scenarios and make good decisions, while considering the specific environment of a container port. The developers are relying heavily on simulation software. New features of the self-driving software stack are tested and validated in a simulation environment, in which the vehicle's decisions can be tested in a variety of scenarios. The seagull scenario requires the system first to recognize it. That is done via bounding boxes that detect, define, and classify specific objects. Based on that information the developers can decide how the self-driving system should react.

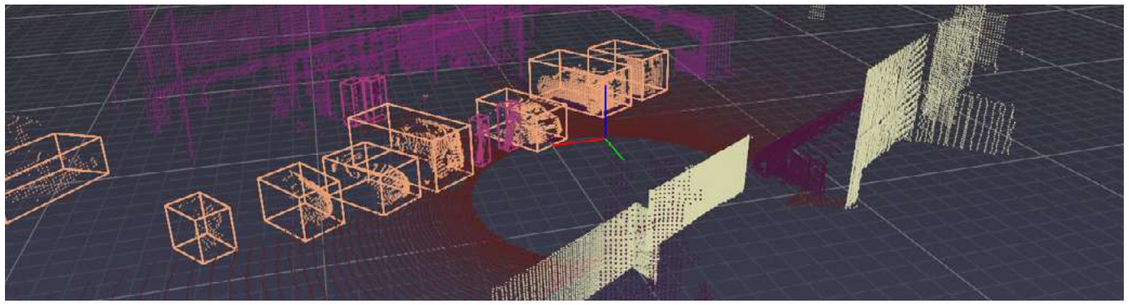
"The ability to make the correct decisions to be safe, stable, and reliable at all times is the most important function of the system," Schreiber says. "We're confident we'll achieve that goal."

Real-life Test

If, in the car sector, some of the excitement about fully autonomous driving has given way to a realization of how complex it will be to manage, it's a completely different story in closed-off and regulated settings such as an airport or a container harbor. They are much less complex and highly predictable and therefore better suited for the current technological state of autonomy.

But Schreiber still sees the potential of autonomous vehicles in everyday traffic. "I believe their time will come eventually." And the autonomous container trucks of the PIONEERS project will bring us a step closer to fully autonomous driving.

The PIONEERS project started at the end of 2021 and runs until 2026. The first autonomous VDL container shuttle will be tested at first in Breda and then in Antwerp, probably at the beginning of 2024.



The EU-funded PIONEERS (Portable Innovation Open Network for Efficiency and Emissions Reduction Solutions) project addresses the challenges faced by European ports in reducing their environmental impact while remaining competitive and offering added value in a sustainable global trade ecosystem. The four ports of Antwerp-Bruges, Constantza, Barcelona, and Venlo are participating in the project. The port of Antwerp-Bruges, operating the biggest port area in the world, leads the project, which consists of an international consortium of 46 partners. The project is financed by a €25 million grant from the European Horizon 2020 program. The PIONEERS consortium represents leading ports, terminal and transport operators, forwarders, knowledge institutes, technology developers, innovators, and public entities. The project will showcase concrete solutions for reducing greenhouse gas emissions in ports while safeguarding their competitiveness.

For more information visit: www.pioneers-ports.eu

Image of Lidar sensor

The vehicle is equipped with three 360° laser imaging (LIDAR) sensors, a high-performance one with 128 channels of vertical resolution and two complementary ones with 32 channels. The sensors produce a precise point cloud enabling detection, classification and localization of objects in the vehicle's surroundings.

To establish its exact coordinates the vehicle uses a triple frequency GNSS. The three antennas in combination with the internal IMU and optimization algorithm allow for the redundancy needed in a container port setting, where large metal objects can block the connection to GNSS satellites.

Broadband perception, accurate positioning and other AD components are aggregated in the model predictive control-based (MPC) software stack, which forms the central multidimensional decision maker.

Image of GNSS device

Read more about our expertise in Automotive & Transportation

Diving Into The Virtual World Of Tech & Training

As technology blurs the boundaries between the virtual and the physical, experts in the south of France are testing the potential of immersive learning. Across a range of industrial sectors, they are building virtual tech & training worlds, with huge success.

In the French industry stronghold of Toulouse, the digital & immersive experts have delivered more than 2,000 projects within immersive and digital learning. From a 10-minute e-learning lesson displayed on a laptop to expensive flight simulators, Akkodis design and develop solutions in all formats and across all industries–including automotive, life sciences, aerospace, and rail.

Akkodis has developed simulators for a French train manufacturer, with 15 of these in operation across the world, teaching train drivers to operate their train. Likewise, the team has designed highly detailed and interactive 3D models of aircraft engines, to train maintenance personnel. Equipped with virtual reality (VR) glasses, they learn how to work on a digital version of the engine, without the need for its physical counterpart. Akkodis has also designed 3D e-learning courses to teach production plant workers how to operate new manufacturing equipment.

Tech and Pedagogy

The secret behind the team's success is not the tech in itself. In fact, our experts warns against becoming too infatuated by the wow-effect of 3D and virtual reality.

Most importantly, you must think about what you want to achieve. What is your pedagogical objective? When you've defined the goal, you can choose the technology best suited to achieve that objective

Because of that approach, the 70+ expert staff that make up the team in France include not only 3D and virtual reality engineers but also teaching and e-learning experts, together with digital designers and gamification specialists. On top of that, Akkodis employs several subject matter experts, such as pilots and maintenance technicians, who contribute the invaluable domain knowledge needed to build immersive learning solutions.

Higher Retention Rate

They really do make a difference, the experts say.

A simple 10-minute e-learning module about metal bonding can be useful to hundreds of workers on an assembly line in an aircraft factory. With good e-learning tools you can cut the time needed to learn different tasks in half, and improve quality. We've evaluated a lot of projects, and in general, the Memory Retention Rate is four times higher compared to conventional solutions.

"As an example, for a large customer in life sciences, we've built a virtual medical lab to train lab technicians in vaccine development. We've trained hundreds of operators wearing Oculus VR headsets, and we've done it without taking up space in the real lab, using real equipment, which is very expensive. As a consequence, the customer had a return on investment in less than six months."

The Metaverse

It might be tempting to compare the virtual environments the team is building to what Mark Zuckerberg is attempting with his gigantic Metaverse project. However, there is a world of difference between the two.

"From a technical point of view, I understand the concept. But the Metaverse is not the place to do specific training sessions. For one thing, it's too simple and the quality of the 3D is not as good as we need it to be for our purposes. Also, we work with confidential data that must stay inside the companies we work for."

The Metaverse could be used in certain situations, however, such as introducing newcomers to a team of people working in different locations.

New Tech Coming

Quality and complexity are two of the main success factors for Akkodis in the field of immersive and digital learning for industrial purposes. And in that ongoing effort to build ever more convincing simulations and virtual products, the team is always on the lookout for new technology to build bridges between the virtual and the physical world.

Recently returned from one of the most influential tech events in the world, CES in Las Vegas, the team points to two innovations that Akkodis is going to integrate in its offerings, as soon as they are sufficiently mature:

"We are looking forward to haptic gloves with force feedback. The gloves give you the sensation of actually touching a button or flicking a switch, when you operate a flight simulator. Or when you're working in a virtual lab you can actually feel the weight of the bottles and petri dishes you're handling. Our customers would be excited to have that technology."

"Secondly, current VR headsets are too heavy. An operator can't wear an Oculus or HoloLens all day. What we need is for them to become much lighter and more powerful, with better display quality."

CES Las Vegas

The team didn't go to Las Vegas just to search for new gadgetry–Akkodis was there to present its own solutions as well. CES generated good discussions and confirmed how immersive and digital learning solutions are key for the Industry performance & transformation.

Bringing together engineering excellence, learning expertise and domain knowledge makes for a strong combination when building virtual tech and training worlds.

About Akkodis

Akkodis is a global digital engineering company and smart industry leader. We enable clients to advance in their digital transformation with Consulting, Solutions, Talent, and Academy services. Headquartered in Switzerland and part of the Adecco Group, Akkodis is a trusted tech partner to the world's industries. We co-create and pioneer solutions that help to solve major challenges, from accelerating the clean energy transition and green mobility, to improving user and patient centricity. Empowered by a culture of inclusion and diversity, our 50,000 tech experts in 30 countries across North America, EMEA and APAC, combine best-in-class technologies and cross industry knowledge to drive purposeful innovation for a more sustainable tomorrow.

We are passionate about Engineering a Smarter Future Together.

Read more about how we Make Incredible Happen

Engineering a Smarter Future Together.

AKKODIS

The global tech engineering company that
goes beyond possible, to make incredible happen.

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