ASAP
Part of HCLTech

ANNUAL REPORT

24

Content

Michael Neisen

Interview with Michael Neisen | CEO of the ASAP Group

Michael Neisen, CEO of the ASAP Group, looks back on an eventful year 2024. How he assesses the situation in the automotive industry, what makes him feel positive despite all the challenges – and why the ASAP Group, together with HCLTech, will make an important difference for customers in many markets around the world.

What is your assessment of 2024?

2024 was one of the most challenging years in the history of our company. Many things came together. These include the restructuring that we initiated with “ASAP Next Generation”, the new shareholder setup and getting to know our parent company HCLTech – for example its management, structures and expertise, in order to identify synergies and potentials for collaboration and incorporate them into a long-term strategy. Another point was the fundamental transformation and crisis in the automotive industry, which is far from over.

„Our overall portfolio is quite unique in automotive engineering“

Whether it is the extensive technology transfer for OEMs and suppliers, the high speed of innovation, the changing sales market in many regions and drive technology or whether it is new legal regulations regarding sustainability and environmental protection that bring additional uncertainties: The challenges are enormous. Rising energy, material and personnel costs are also having a massive impact on car manufacturers’ margins. This is being felt by suppliers, who are experiencing far more insolvencies than in previous years. Engineering service providers are also gradually coming under increasing pressure.

How does the ASAP Group address the numerous challenges?

These challenges can only be met by completely adapting to the changed circumstances. This includes, for example, adjusting the service portfolio and going international – with the opportunities to utilize best-cost resources, as well as venturing into new technologies and achieve customer diversification.

The topic of Software Defined Vehicle (SDV) is also of great importance. With a view to the Internet of Things (IoT), the automobile is increasingly becoming part of an infrastructure that is used by users like other devices under the premise of “always on.“ The fast and uncomplicated access to a wide variety of information is changing the significance of the automobile for many. The car is increasingly becoming a communication platform with autonomous driving functions, innovations, and climate-neutral drives. These factors play a role in the development of SDVs and affect drive systems, connectivity and aspects of autonomous driving.

These developments are significant for the cooperation with HCLTech, where we are pursuing a long-term strategy. HCLTech is a global IT and software corporation that has primarily operated in other industries and is now able to integrate many services and competencies into the automotive world in collaboration with the ASAP Group. This is important because it will require growing expertise to integrate a vehicle into the entire infrastructure in the future.

What does the collaboration with HCLTech look like in detail?

With HCLTech, we have the opportunity to integrate a variety of technologies into a vehicle and develop it cost-effectively at the same time. This applies, for example, to topics such as “System on the Chip“ or cloud-based solutions, where HCLTech is very closely linked to other industries. We can draw on this know-how and experience and ideally transfer it towards the customer. The ASAP Group is, in this context, the ideal frontend with its comprehensive knowledge of OEM processes and customer structures.

„All these challenges can only be met by fully adapting to the changed circumstances.“

Together with HCLTech, we have begun to develop and implement a global automotive engineering strategy in which these aspects are anchored and operationalized. This includes, among other things, bringing together the global sales units of HCLTech with the ASAP Management of the divisions and the business development to achieve mutual customer and service diversification. This means that we will reach new customers through HCLTech or their sales organization, while at the same time, our organization, along with the sales colleagues from HCLTech, will engage with our customers.

We have already achieved some initial joint successes in the customer environment and, in addition, have held some impressive presentations in front of the top management of our customers. Furthermore, we have set up a joint pre-development project on the topic of Software Defined Vehicles, where the entire development and value chain around the SDV is being mapped and worked on. While this is not a new topic for us, the global dimension is new.

There have been some changes in the management of ASAP. What are the reasons behind this?

Two managing directors have since left the company, and others will change. As a result, we have a leaner management structure, with a stronger focus on sales and technology. The changes in the ASAP management have occurred independently of HCLTech. Even before the start of our collaboration with HCLTech, we had discussed the transformation of the ASAP organization into a matrix structure. It became clear that a purely line-organized unit might no longer bring the highest possible added value to the respective customers. Therefore, we decided on a strong orientation towards technologies and moved into the cross-sectional responsibility of the divisions. Today, the company is managed by a committee to which the operational divisions and key accounts report.

Will the strategic direction of ASAP change?

Yes, the market demands require this, including the integration of offshore capacities. This means we will bring the ASAP units closer together with HCLTech's units. This clear focus is anchored in the global automotive strategy, so we can use cost advantages on one side and diverse technologies on the other. Competencies will also be integrated. A separate unit will be created to address market-specific requirements, to achieve pre-development work and to support the sales team.

In terms of content, focus remains on software and electronics in the new technology areas. Additionally, there will be an even more intense engagement with the area of Product and Application Lifecycle Management (PLM / ALM), in which HCLTech is specialized and works with renowned partners. We will also deal with manufacturing engineering, because

„In terms of content, focus remains on software and electronics in the new technology areas.“

engineering is not only about product development, but ultimately also involves the production area. The development of the strategic orientation is a comprehensive process that includes continuity, customer diversification, product and service portfolio, as well as internationalization and best-cost integration. In this context, it is conceivable that we will focus even more on building customer contacts abroad. Together with HCLTech, we are evaluating which customers and services are of interest for the company group and what specific delivery concepts can be derived from this.

For example, current inquiries from American customers are being handled directly in India. Therefore, it needs to be clarified which capacities and competencies of ASAP, for instance, might be necessary in the USA. There are many variables in the process of internationalization. However, it is not out of the question that, in the future, there could be, for example, ASAP USA or ASAP Sweden. Together with HCLTech, we can serve the most diverse markets.

What focus areas will you set to strengthen ASAP's competitiveness?

On the one hand, we will focus on the overall service portfolio of ASAP and HCLTech and highlight the added value for customers more clearly. Another important point will be cost discipline. Many corporations are undergoing major restructuring – also in technical development – and many suppliers are facing significant challenges. Therefore, we need to be even closer to the customer than ever before to be able to respond more quickly to changing requirements with appropriate solutions. This also involves further developing those customers with whom we are not yet collaborating as intensively as possible.

In 2025, both the new structure within ASAP and the collaboration within the corporate group with HCLTech must be further solidified. This includes the integration of Frank Petznick, Senior Vice President & Global Automotive Engineering Head of HCLTech, as well as Managing Director of the ASAP Group, who will bring the units closer together. In collaboration, we will continue to develop the global strategy for the entire automotive sector. I am very optimistic about the fact that we are offering a portfolio that is quite unique in automotive engineering.

„The further development of the strategic orientation is an overall process that includes consistency, customer diversification, product and service portfolio as well as internationalization and best-cost integration.“

Insights and perspectives

Review and outlook from the ASAP Management

Interviews with the ASAP Group Management about the events and highlights of 2024 and what developments and challenges await us in the coming years.

„A wide range of measures helps to ensure that ASAP remains well positioned“

Robert Morgner

Robert Morgner, CFO of the ASAP Group, explains important projects in the areas of HR, accounting and finance as well as projects in the areas of integrated management systems and facility management.

The transformation in the automotive industry presents significant challenges, particularly for German OEMs and system suppliers. New software platforms, declining sales figures, and, above all, increasing difficulties in the Chinese and European markets mean that our customers must find ways to quickly and efficiently gain or regain technological advantages. This development poses enormous challenges for engineering service providers. We have to become more competitive without losing quality or our technological focus.

As part of HCLTech, a globally leading IT service company, ASAP has a great opportunity to emerge stronger from this automotive crisis and further strengthen its role as a development partner for our customers.

HCLTech and ASAP can combine their technological capabilities with global, efficient service delivery and achieve competitiveness at the highest level. In addition to our traditional business, our customers now see us in significantly larger contract clusters.

Our customer base is also expanding. Together with HCLTech, we can approach and serve global customers. This is a real added value that only a few can offer.

In 2024, the integration of the ASAP Group into the HCLTech Group progressed further. This has been and continues to be a very comprehensive task, as our processes and systems, being those of a medium-sized company, naturally differ from those of a publicly listed global corporation. This affects all financial processes, from accounting to reporting requirements. At the same time as transitioning financial and accounting operations, we have fully centralized accounting at ASAP, including the insourcing of all processes. In 2025, we will continue to adjust and improve commercial processes and further automate reporting.

All HR areas and functions were also centrally consolidated in 2024. As a result, we were able to improve our services and increase efficiency. In 2025, we will continue to digitalize and automate. Additionally, we will focus on strategic workforce planning and development. In this context, we are also addressing internationalization – specifically what needs to be considered if ASAP employees work abroad in the future or how we can efficiently onboard HCLTech colleagues who temporarily work with us. Talent development and state-of-the-art training concepts will remain hallmarks of successful HR work at ASAP.

In the area of IMS (integrated management systems), we are maintaining our high standards. Among other achievements, we were recertified in accordance with ISO 9001. Additionally, we have introduced occupational safety and environmental management systems and have begun restructuring our energy management system. Given our customers‘ demands and increasing regulatory requirements, strong and stable management systems are a crucial foundation for the further development of our company. Our high customer ratings, reaching 90 percent, confirm that we are on the right track. The same applies to IT and data protection processes, where significant improvements were achieved over the past year, already from a high starting point.

We have also made significant progress within the facility management: all relevant topics, including compliance with operator obligations, building maintenance and fleet management, are now centrally managed by our facility management team.

In 2024, we made numerous adjustments – and we will continue the transformation in 2025. Various measures contribute to strengthening ASAP’s position, enabling us to grow even in a challenging market environment.

Martin Ott

„2024 was a challenging year for us, but we were able to set many things in the right direction“

COO Martin Ott explains the organizational changes at the ASAP Group at the start of 2024 and why a strong customer focus will be maintained in the future.

Due to our decentralized structure, which has grown over the years, we had very independent subsidiaries focused on local customer needs. As a result, these entities operated with varying degrees of specialization and, in some cases, different working methods. This approach was successful for a long time, but with the rise of interdisciplinary large-scale projects, the integration of near-shore and best-cost resources and the need to provide innovations in our operational project, cross-location collaboration within our specialist departments became increasingly important. Therefore, at the end of 2023, we decided to transition the company to a specialized divisional structure at the beginning of 2024. This allows us to operate more efficiently and flexibly within the newly established divisions.

We were well aware that this would be a significant challenge on top of our day-to-day business, but we also recognized the urgency of acting quickly – both due to the topics mentioned above and the upcoming changes within the ASAP Group, as well as the increasing integrated and international collaboration with our parent company HCLTech.

Despite all these internal tasks and changes, we were also determined to maintain – if not strengthen – our strong customer focus, which is so essential for the ASAP Group. It has always been very important to us to be on-site with our customers, understand their challenges and anticipate their needs. However, 2024 also presented us with challenges. Starting in the second quarter, we gradually felt the impact of the measures taken by our German key customers, whether OEMs or suppliers. Initially, these measures involved short-term project cancellations and postponements. However, we were also quickly involved in specific planning and early-stage activities to shape future collaboration models. Unsurprisingly, these discussions have focused primarily on cost reductions and shortening development cycles. I see these conversations as confirmation that our positioning – as both a highly customer-oriented development partner and a corporate entity with global delivery capabilities – was implemented at the right time.

Given the current market conditions, I am pleased that we were able to achieve overall stable business performance in 2024, with solid growth in some divisions. Our affiliation with the globally operating HCLTech Group has also proven beneficial, as it allows us to leverage existing access to international customers and integrate diverse technology and automotive engineering expertise for our clients. This strengthens our ability to maintain our market position in Germany while expanding internationally. Particularly in geographically comprehensive and large-scale projects, we can fully utilize HCLTech’s capabilities in terms of performance and scalability. Many of our customers are now considering various future scenarios and actively discussing their experiences and possibilities with us.

Therefore, in 2025, the internationalization and globalization of automotive engineering in collaboration with HCLTech will be one of our key focus areas. At the same time, we will continue to invest heavily in our existing customer relationships. Our goal is to position our automotive engineering expertise internationally while offering our German customers an optimal mix of local and global approaches and solutions.

For the automotive industry – especially in Europe and Germany – 2024 was a true crisis year, and the challenges will not subside in 2025. However, I firmly believe that the ASAP Group, as part of HCLTech, has both the expertise and the resources to emerge from this crisis even stronger. Continuous and cross-industry innovation, along with close collaboration with our customers, will remain the key factors in seizing future opportunities.

Marcus Hiller

„We are in the position to take on the challenges of engineering and IT topics“

COO Marcus Hiller on the increasing importance of IT technologies for the automotive industry – and how the ASAP Group is responding to this together with HCLTech.

So far, in the Software division, we have primarily managed and controlled our range of services in the areas of control software & function development, tool development & IT services, virtual validation & continuous integration locally at the sites. In 2024, we consistently restructured our division and achieved a comprehensive cross-cutting delivery capability for the ASAP Group. In the interests of affordability and cost optimization, we are increasingly collaborating with our colleagues from HCLTech.

In this context, we carefully assess what the customers need and how we can implement these requirements successfully. Overall, in 2024, we significantly shaped the success factors in the Software division for the future and are generally satisfied with this year.

A particular success worth highlighting is that in 2024, we passed an Automotive SPICE Level 2 assessment in a significant customer project, which demonstrates the high quality of electronics- and software-based systems. The biggest challenges were the often-high complexity of the tasks and the tight time frame. We addressed these challenges by intensifying collaboration and exchange within the teams. In particular, the support from experienced colleagues ensured that knowledge was shared, and innovative approaches were developed together.

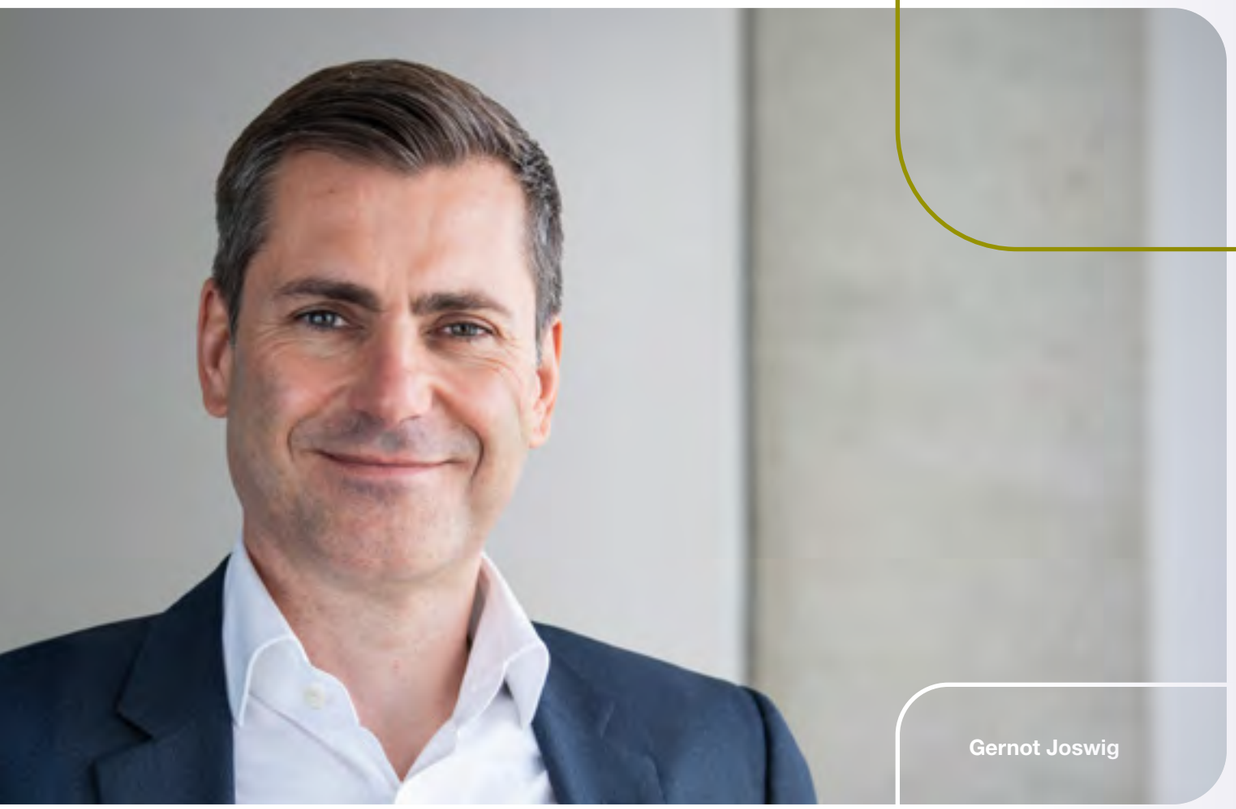
In 2025, we will further consolidate the services and competencies in the field of IT services. This is because the development of automotive electronics is now significantly influenced by IT solutions. This applies, for example, to enable vehicle connectivity or perform online software updates. The IT technologies required for this demand very specific expertise, which must be deliberately built and further developed. To ensure this in the best possible way, it makes sense to tackle this in a focused manner.

In the economically challenging year of 2025, the primary goal in both software and IT services will be to leverage the benefits of collaboration with HCLTech in terms of affordability and cost optimization and thus provide added value to our customers. We hope that despite the difficult overall situation, we will achieve growth in both areas.

I firmly believe in the determination and strength of the German automotive industry. It will be able to meet the challenges and offer solutions to the global automotive market that are competitive in terms of the renowned quality and innovative power.

The ongoing development of the automotive industry is exemplified by the Software Defined Vehicle (SDV), which leads to a completely new perspective on the automobile. The SDV represents the next big step in automotive development, offering numerous advantages, particularly for end customers. However, as with all automotive topics, the development of an SDV does not take place in one single step, but in many small steps.

Together, ASAP and HCLTech are capable of taking on the challenges from both engineering and IT-topics and making a significant contribution to the development of an SDV – just as they can play a positive role in the transformation of the automotive industry as a whole. This is because HCLTech was originally an IT company, and ASAP has its roots in vehicle development. The combination of both areas meets the requirements for development partners, especially when it comes to reducing time-to-market and the number of prototypes.



Gernot Joswig

„We are focusing even more on new ideas, strategies and solutions“

As CBDO of the ASAP Group, Gernot Joswig is responsible for business development and the newly structured key account management. The opportunities and challenges he sees.

Overall, it’s about adapting to the changing circumstances: The market is evolving, as is the way customers make their requests. They are increasingly relying on large suppliers who combine various capabilities and extensive know-how. The technologies have also changed – and will continue to evolve. We are responding to this, and we are making ASAP fit for the future. We have started to establish the necessary structures and processes. We are moving away from the old organizational structure with location-based focus and advancing to the next level with a divisional focus. In this process, our key account management has also changed: Until now, the individual managing directors have been sort of key account managers as well. We have restructured and centralized the key account management to strengthen direct customer contact and increase our impact. All elements of the business are tailored to customer needs and are governed through key account management. At the same time, we are expanding our scope at ASAP. Our customers benefit from the new processes and the expanded portfolio resulting from the merger with HCLTech.

With HCLTech by its side, ASAP is well-positioned. Customers are now bundling much larger project packages and are highly dependent on fast and cost-effective implementation. As a result, they are increasingly seeking strategic partners with access to global resources – ready to support the complete vehicle development process when needed. The first major customer projects with HCLTech have already been launched. We are already receiving a lot of positive feedback, confirming that merging with HCLTech was the right decision. This enables us to scale both vertically and horizontally without limits.

The importance and the significant advantage of this is particularly evident in the area of Software Defined Vehicle (SDV): The SDV not only requires traditional automotive engineering expertise, but also a very high level of IT competence. ASAP and HCLTech offer both together. Many other competitors are unable to deliver this at such a high level of quality.

My general experience is that one should not see oneself as a “follower” or try to copy others but instead focus strongly on innovations. The ASAP Group has been doing this very successfully for many years. We will place even more emphasis on this approach and focus even more on new ideas, strategies and solutions.

The challenges in the industry are diverse: One of the biggest challenges for car manufacturers, in my view, is bringing the right products on the market at the right time and at the right price. We can help OEMs by shortening development times through leaner processes and by also contributing to cost efficiency. We are able to achieve this, among other things, through BCC resources, but also by positioning ourselves as a technology supplier within the overall corporation alongside HCLTech.

In the future, the pace will be set even more than before by three markets – the Asian market, the European market, and the NAFTA market including the USA, Canada and Mexico. Therefore, our focus in developing our business model is on these three markets.

The global presence, along with the technical and capacitive range, is crucial for successfully implementing the comprehensive transformation process in the automotive industry. We – the ASAP Group, together with HCLTech – are the partner of the future, providing everything needed for this.

Robert Werner

Two ASAP pioneers say goodbye

COO Robert Werner was on board even before ASAP was officially launched on January 1, 2010. He left the company at the turn 2025, looking back on eventful times.

The main reason I chose ASAP back then was that we wanted to create something new – a company where we had always wanted to work ourselves. A company that puts people at the center and aligns its actions entirely with the values of the ASAP Identity: human, refreshing, authentic, competent and inspiring. Combined with our passion for automobiles. And that's exactly what we did. For us, it was always about the people in the company. And there were always people who approached me and said that this is exactly why they are part of the ASAP Group.

But the beginning was far from easy. Christmas 2009, for example, just before the official launch on January 1, 2010, when the first furniture for ASAP arrived. We thought it would come fully assembled – but instead, it was all in individual parts. So, we called up family and friends and asked if they'd be up for assembling chairs and setting up monitors. It was a great time! From there, ASAP's projects and responsibilities kept growing – like the construction of the current ASAP headquarter in the Sachsstraße 1A in Gaimersheim, which we moved into in 2012.

Over time, we expanded to other locations, such as Wolfsburg and Stuttgart, and developed new business areas. For example, Software, Wiring Systems or Test & Validation, where cutting-edge test centers were developed from the most basic beginnings. One significant milestone was the entry – and later exit – of ZF as a strategic partner. With ZF, we not only expanded our testing and software portfolio, but also co-developed autonomous shuttles. While the project wasn't pursued further, it demonstrated how ASAP has consistently been involved in technological developments.

What I will remember most, though, are the many people I had the privilege of working with at the ASAP Group – creating and experimenting with new things. Often, it felt like a "coming-of-age story", where we built something from nothing.

I have always found it special that there were people who firmly believed in the success alongside me and gave so much for ASAP – even when things were difficult, challenging or complicated. The way ASAP has evolved has exceeded all expectations. In one of the first strategy meetings, Michael Neisen predicted that, one day, we might reach 800 employees. And we just thought, "This is completely crazy!" But it wasn't so crazy after all because today we are twice as many. However, ASAP's development in this way was hard to imagine and certainly not something that could have been planned.

I view the merger with HCLTech very positively, especially considering developments in the engineering market. Beyond the opportunities presented by automotive trends such as digitization, connectivity and autonomous driving, the merger offers many additional possibilities. These include access to international markets and adjacent fields that go beyond traditional automotive engineering. The opening of an HCLTech GenAI lab together with SAP at the ASAP Munich site highlights this great potential.

Sometimes, I feel a bit nostalgic that I can no longer be part of such journeys – but that's also a good thing. Personally, I can very well imagine trying something completely different. And if I decide to do so, I will approach it with the same enthusiasm with which I once chose ASAP.

„We wanted to create a company where we had always wanted to work ourselves"

Christian Schweiger

COO Christian Schweiger has worked for the ASAP Group for almost 15 years. He shares what he believes defines ASAP's identity and why he sees the company as well-positioned for the future.

I joined ASAP back then because the company had a clear focus on the future and set technological benchmarks. The founding of ASAP Electronics with a focus on developing test systems (such as Hardware-in-the-Loop) and testing electronic components, was a key enabler for the growth strategy of the ASAP Group.

One of the first major successes was that – thanks to the commitment of Michael Neisen – we were able to quickly convince an OEM in Munich to include ASAP in its supplier network. Without this step, ASAP's presence in Munich today, with over 250 employees, would likely not exist in its current size and form.

Another major milestone later was securing a five-year framework agreement with an automotive manufacturer in Baden-Wuerttemberg for the testing of electric drive machines. This was crucial for our business development as it provided long-term planning security and sent a strong signal to the market.

Early on, we focused on the validation of drivetrain components, quickly becoming the most important partner for many customers. The fact that Michael Neisen, Robert Werner and I had already worked together for 15 years before joining ASAP certainly contributed to this success.

We have always focused on our strengths, continuously improving them while addressing our weaknesses. Even in times of crisis, we invested and adapted to new challenges. This willingness to take risks paid off. We consciously planned long-term, always asking ourselves: What and who do we need for the next steps?

Strong leadership has been a key factor in our success. To me, that means actively supporting and challenging employees – qualifying them, maintaining an ongoing dialogue and providing them with a professional home. ASAP fulfills this commitment to a remarkable degree – something I still see it as a true unique selling point in the industry. This is especially evident in the company culture and the resulting "ASAP Spirit". It has always been rewarding to see colleagues grow, take on leadership roles and develop within the company. That is the essence of the ASAP Group's identity, which has evolved over 15 years – a strong sense of togetherness and a shared ability to recognize and shape industry trends.

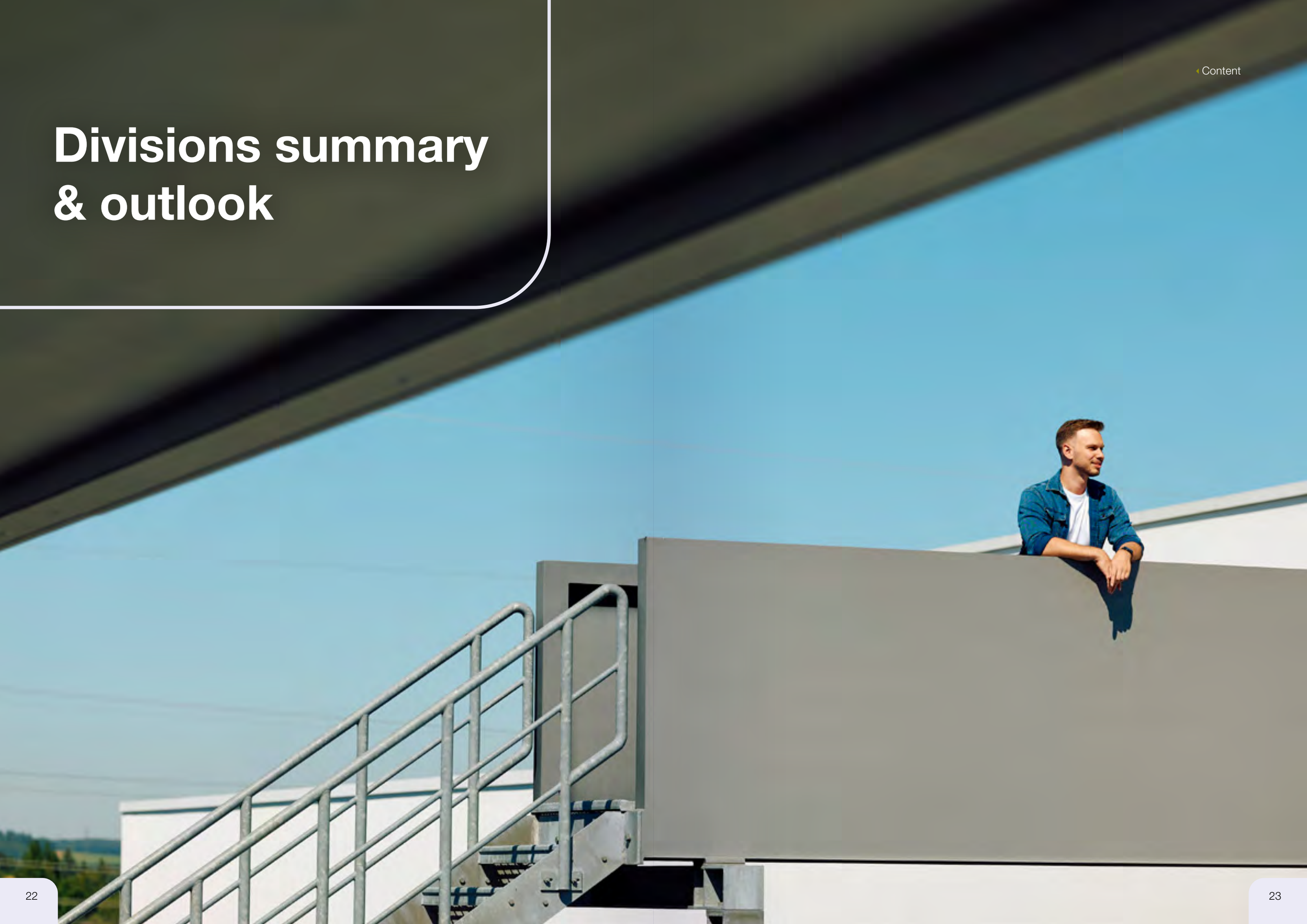
Looking at the current challenges in the automotive industry, the connection between ASAP and HCLTech makes me optimistic. It offers the opportunity to gain new customers – first in Europe and then in the USA and Asia.

It's even possible that entirely new industry fields could open up, especially since HCLTech operates across multiple sectors. The original business model was highly successful for a long time, but the cost pressure continues to rise. That's why integrating BCC capacities is a logical step.

As the automotive industry undergoes fundamental change, we must adapt. I always say: 'Preserve what defines your identity, stick together in difficult times and find solutions together.' That has always been the core of ASAP. We often said: 'We'll see it through – despite all the obstacles. And it was always a pleasure to see how many people were inspired by this spirit of optimism.

„It was great to inspire people again and again with this spirit of optimism"

Divisions summary & outlook



„We have more and more impact on all functions in the overall vehicle“

Tim Bayer

Tim Bayer | Director Division Electrics/Electronics

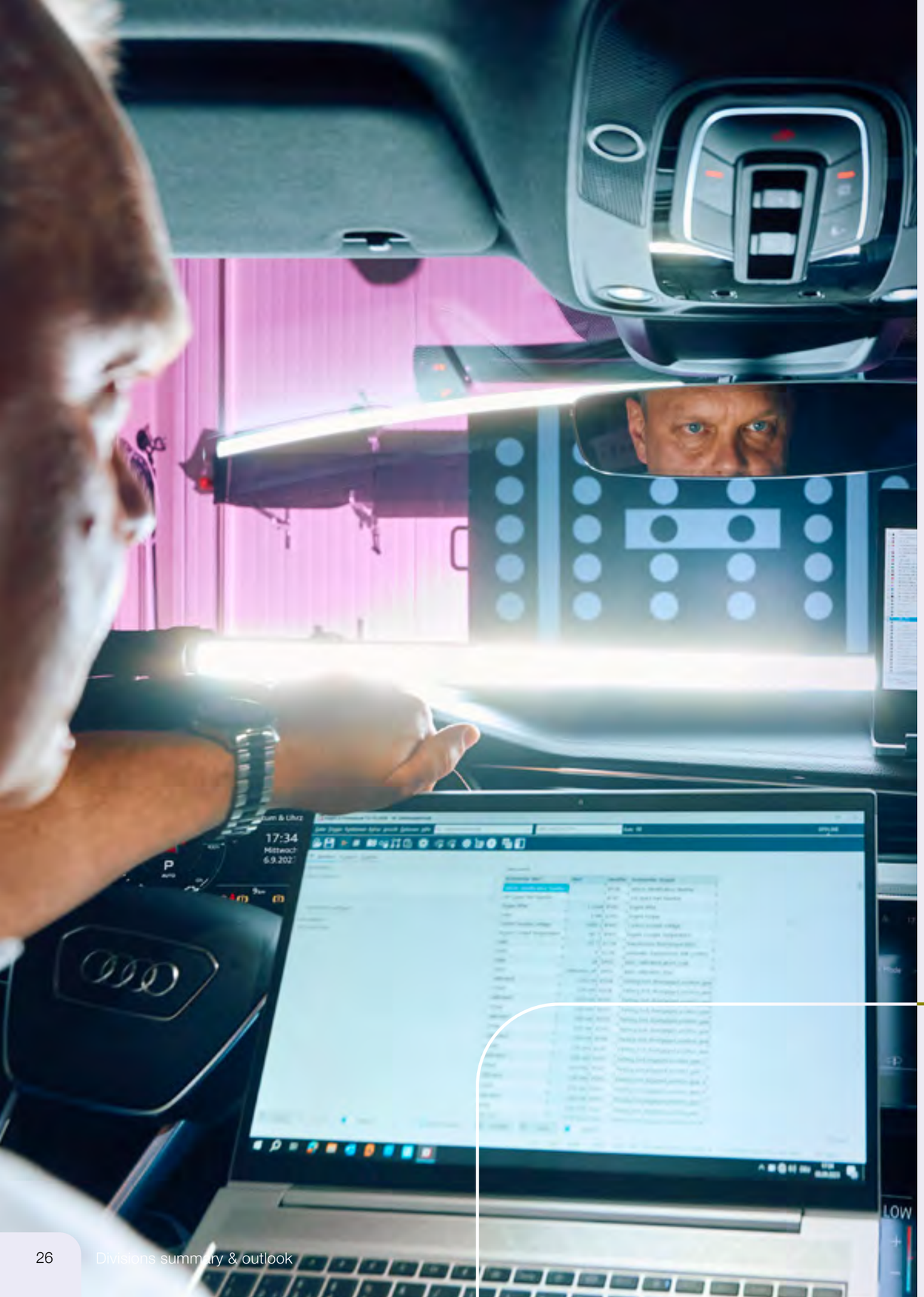
In 2024, we restructured the Electrics/Electronics division and are now working extensively across locations and customers. This promotes technology transfer and ensures efficient project execution.

Last year, the focus in the E/E sector was on validating connectivity functions, driver assistance systems as well as e-mobility in general. Test automation played a key role in this. Notable achievements include the development of driving scenarios for the validation of autonomous driving functions, the establishment of a digital lifecycle management for online updates and the full-scale implementation of a HiL test house for the validation of overall vehicles with complete vehicle HiLs at ASAP.

We have also expanded our service portfolio, for example, in the areas of systems engineering and requirements engineering. We have grown across the entire V-model, not just on the right side, where ASAP has traditionally been strong. As a result, we now have a much greater impact on all functions of the complete vehicle. This is particularly important as customers increasingly request end-to-end solutions from a single source.

Additionally, we were able to acquire new customers in 2024. For instance, an existing customer recommended us to its subsidiaries. Once again, it has paid off that we have a deep understanding of customer requirements, collaborate closely and deliver high-quality standards. These factors build trust and strengthen our market reputation.

The next step is to manage E/E topics in an even more cost-efficient way within the network. A major advantage lies in the fact that automotive manufacturers are shifting more towards Software Defined Vehicles (SDVs), which requires a complete overhaul of vehicle architecture. To achieve this, and to significantly reduce time-to-market, they need development partners with the necessary expertise and resources.

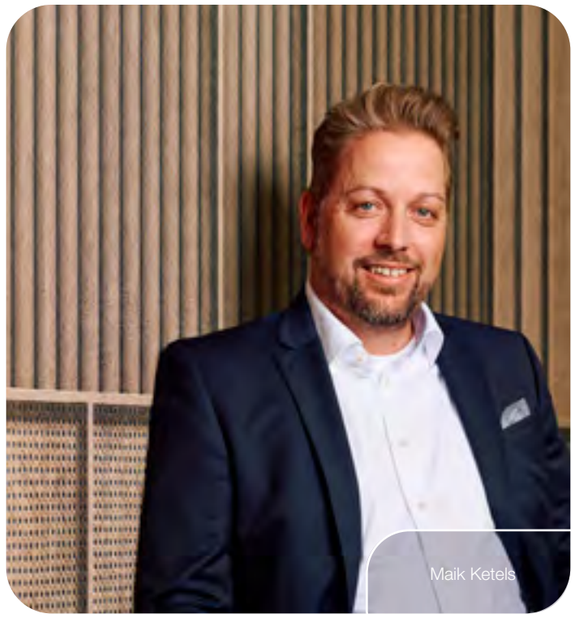


Maik Ketels | Director Division Electrics/Electronics

In 2024, we have consolidated and aligned the Electrics/Electronics division with the goal of executing projects across multiple locations – while maintaining clearly defined responsibilities and accountabilities. With the new E/E structure, we can respond even more effectively to the demands and developments of the market.

For example, we have expanded our ADAS expertise and continued to grow in the validation of complex functions and systems. In 2024, we also set a goal to strengthen our customers‘ capabilities in artificial intelligence (AI) and data analytics. We were able to win several projects related to data acquisition and processing, which will help our customers integrate these key technologies into their products and projects—saving both time and costs. Another major project focuses on the scalability of software solutions and their updates on corresponding hardware. We are working to ensure that software updates for all relevant components will be carried out efficiently – both on-site at the customer’s and remotely.

Our fundamental approach is that every project should not only be technically sound but also implemented at a high organizational and strategic level. Furthermore, we focus on ensuring that all objectives align with our customers‘ business interests. We rely on a professional and partner-like approach and transparent communication, fostering long-term relationships. In 2024, we were also able to further expand our customer base.



Maik Ketels

The increasing requirements for software integration into vehicle systems demand deep technological expertise and a clear strategic focus. These are precisely our strengths, and we continuously invest in them. In doing so, we not only significantly support our customers‘ long-term viability but also create opportunities to operate globally with our parent company HCLTech.

„We rely on a partner-like approach and transparent communication“

„I am convinced that the changes will also offer many opportunities“

Dominik Sedlmair

Dominik Sedlmair | Director Division Test & Validation

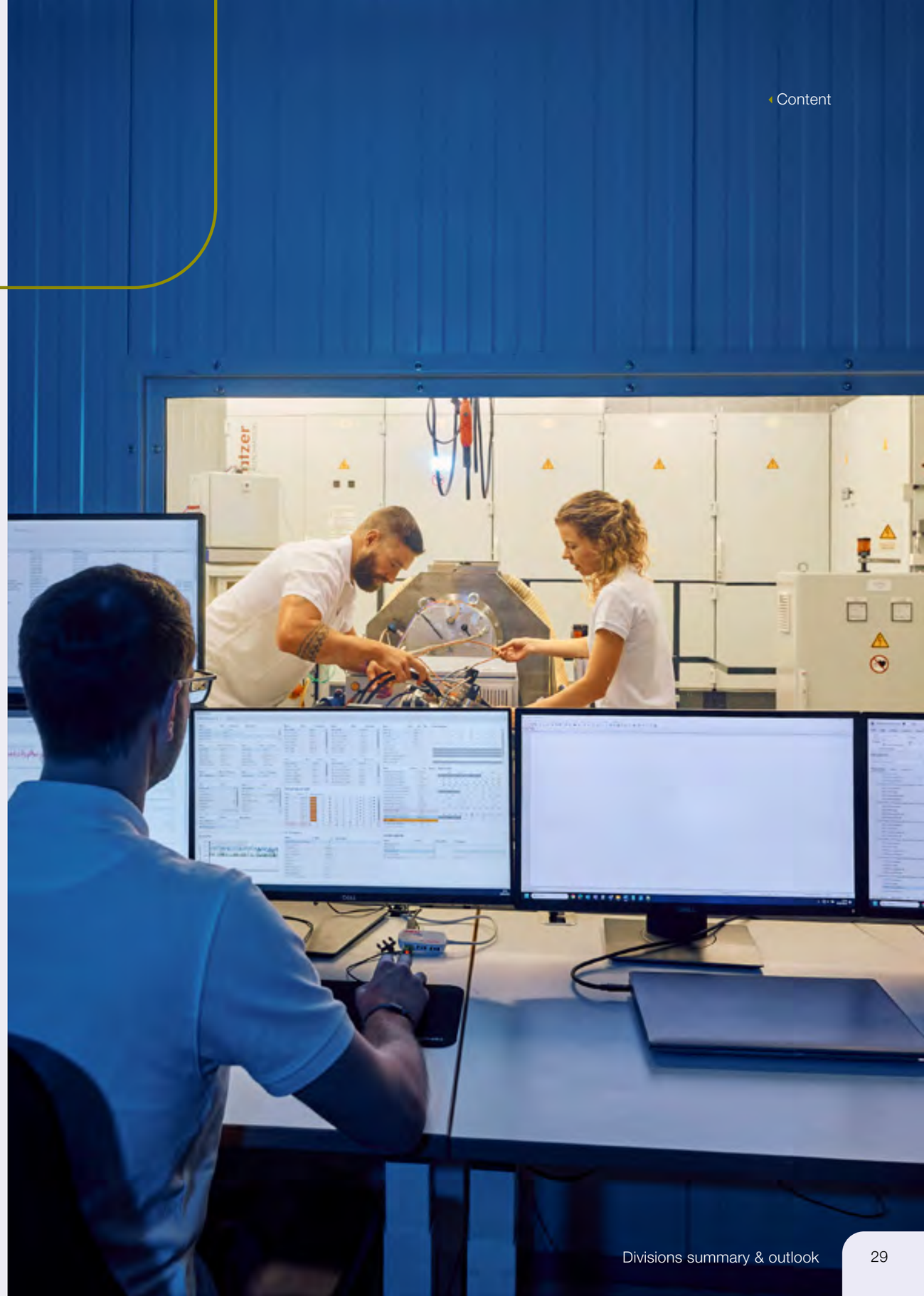
Our broad range of real and virtual validation capabilities, along with our modern, high-quality laboratory environment featuring powerful testing systems – particularly in the field of e-mobility – enables scalable, cost-efficient and rapidly deployable solutions.

In addition to testing services, which are now utilized by more than 50 different customers, we also develop, build and deliver complete test systems. In 2024, we further developed our services across locations and expanded our portfolio.

Our added value for customers lies in our ability to respond flexibly to new requirements and access experts in all vehicle domains. This includes complex troubleshooting for customer-side software problems or short-term adjustments regarding electronics, mechanics or test automation. Our expertise and passion for testing automotive components were once again evident in 2024 through strong project results, high customer satisfaction and further customer diversification. For example, we successfully completed our first e-drive project for a premium manufacturer of electric sports cars.

At the same time, 2024 was marked by short-term market changes and various project shifts, which our entire team tackled with great dedication. One of our key projects, in a sense, was maintaining constant communication with all customers to continually find effective solutions on short notice.

2025 will also be a challenging year. However, I am firmly convinced that there will be many long-term opportunities. In the coming years, numerous tasks will need to be addressed in the areas of e-drives, charging infrastructure and further development of vehicle architecture. With our high-quality equipment, extensive experience, and broad expertise, we are well-prepared for these challenges.



Jürgen Meyer | Director Division Software

We are highly customer- and market-oriented, always trying to provide real added value to the customers. In this context, we continuously optimize our services and the way we work together.

This approach proved successful once again in 2024. For instance, we successfully passed an A-SPICE Level 2 assessment. This was only possible because of the deep understanding of our customers and their requirements, our broad technical expertise – including our PMT know-how – and the close collaboration within the Software division and with other ASAP divisions.

The intensified cross-location collaboration in 2024 also had a positive impact in other areas. Together with the divisions Consulting & Service and Electrics/Electronics, we established a project house around the ALM tool Codebeamer, bringing together experts from different fields. The goal: to offer customers a comprehensive service portfolio and meet their needs in the best and fastest way possible.

With the Electrics/Electronics division, we consolidated our expertise in virtual validation and took an innovative step forward. The result was TestSphere, a solution that reduces test design time by up to 75%, enables automated test implementation, integrates seamlessly into existing tool landscapes and utilizes keyword-driven testing as a methodology.

Jürgen Meyer

Beyond this, our customers benefit from a broad set of methods and tools – such as our PAK automation solution or our ASAP GenAI solution. Both make a significant contribution to reducing development and validation times.

We take pride in our many long-term customer relationships. In 2025, we aim to further expand our customer base. Changes at OEMs, which are increasingly focusing on synergies, open up new opportunities for us. We will also place greater emphasis on Tier-1 suppliers, for whom we are implementing projects based on our proprietary PMT landscape. As part of HCLTech, our global activities will also increase.

„We are continuously optimizing our services and the way we work together“

„We handle every project with the utmost care“

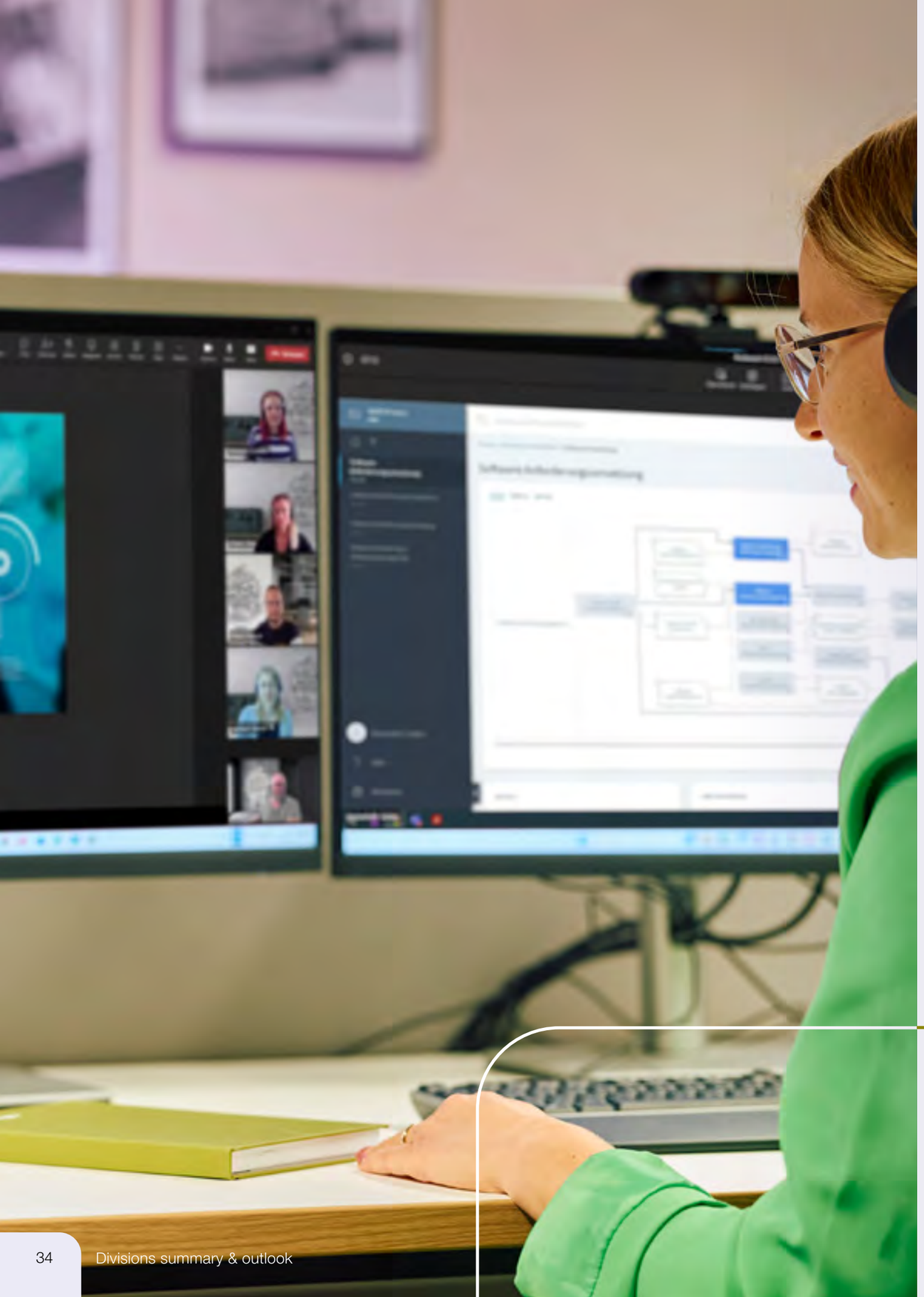
Stefan Schmidt

Stefan Schmidt | Director Division Vehicle Engineering

All areas of the Vehicle Engineering division are currently handling numerous promising inquiries and proposals. Our priority is to manage each successfully acquired project with the utmost care. The strong internal alignment within the division, which we restructured in 2024, greatly supports this effort. We defined objectives, strategies, as well as processes and implemented them step by step. As part of this restructuring, we integrated wiring systems development into the Vehicle Engineering division. We successfully expanded our wiring systems development activities in collaboration with a major OEM. Additionally, other Vehicle Engineering units have implemented larger projects, such as continuing the tooling design for a major manufacturer.

In 2024, we once again demonstrated the added value we provide to customers through our cross-divisional service integration. Large-scale inquiries and proposals were realized by pooling the resources and expertise of the ASAP Group. Additionally, in all inquiries and proposals, we will integrate BCC capacities from HCLTech, which enhances our scalability.

The current market presents several challenges. However, collaborating with HCLTech allows us to respond to shifting competitive conditions and develop new perspectives. This enables us to diversify our services while expanding existing customer relationships. Moreover, we see a second opportunity in acquiring new customers through and together with HCLTech, generating enthusiasm for ASAP. For OEMs in Germany, for example, we serve as the frontend, while HCLTech provides nearshore and offshore services globally. This setup strengthens our position and allows us to stay focused. It is essential to think beyond traditional boundaries.



Heinz Schwartz | Director Division Consulting & Service

In 2024, we refined our service portfolio and divisional structure to ensure readiness for the future. We support the entire product lifecycle across interface and cross-sectional functions – ranging from consulting and project management to process development and communication strategy. The latter is developed and implemented by our in-house full-service agency, code | Communication & Design, which recently celebrated its 15th anniversary.

Currently, our customers focus on speed and cost efficiency in development. That is why, in 2024, we worked intensively on integrating best-cost capacities through our parent company HCLTech. This presents significant opportunities for us and our customers. PLM and ALM tool solutions, provided and applied by HCLTech and ASAP, will offer substantial potential.

Additionally, offshore capacities will generate significant cost advantages for all parties involved. I am therefore optimistic that we will be able to expand our customer base and gain market share. At the same time, we will remain the direct point of contact for our customers on-site.

The automotive industry is undergoing a comprehensive transformation. Against this backdrop, the Consulting sector gained further importance in 2024 and will continue to be a key factor in the coming months.

Heinz Schwartz

We support and advise OEMs during their transformation, assisting in the introduction and restructuring of processes, methods, and tools, as well as in the execution of targeted communication measures.

For 2025, we are preparing to continue our largest individual project for a German OEM. As outlined above, we will rely on proven approaches – integrating both larger BCC resources and ASAP employees across different areas. Furthermore, the customer has entrusted us with significant responsibilities within this project, such as approval processes. This trust reinforces our position as a strong and reliable partner – both now and in the future.

„We support many customers through a comprehensive change process“

Figures | Data | Facts

For ASAP Group in 2024

50

nationalities are represented in our workforce

7

business, innovations, employer and design awards were received in 2024

164 m

euros turnover recorded in 2024

22,2%

average annual growth (CAGR) since 2010

19

our position on the ‘Automobilwoche’ ranking of the top 25 development service providers with the highest global turnover

1.590

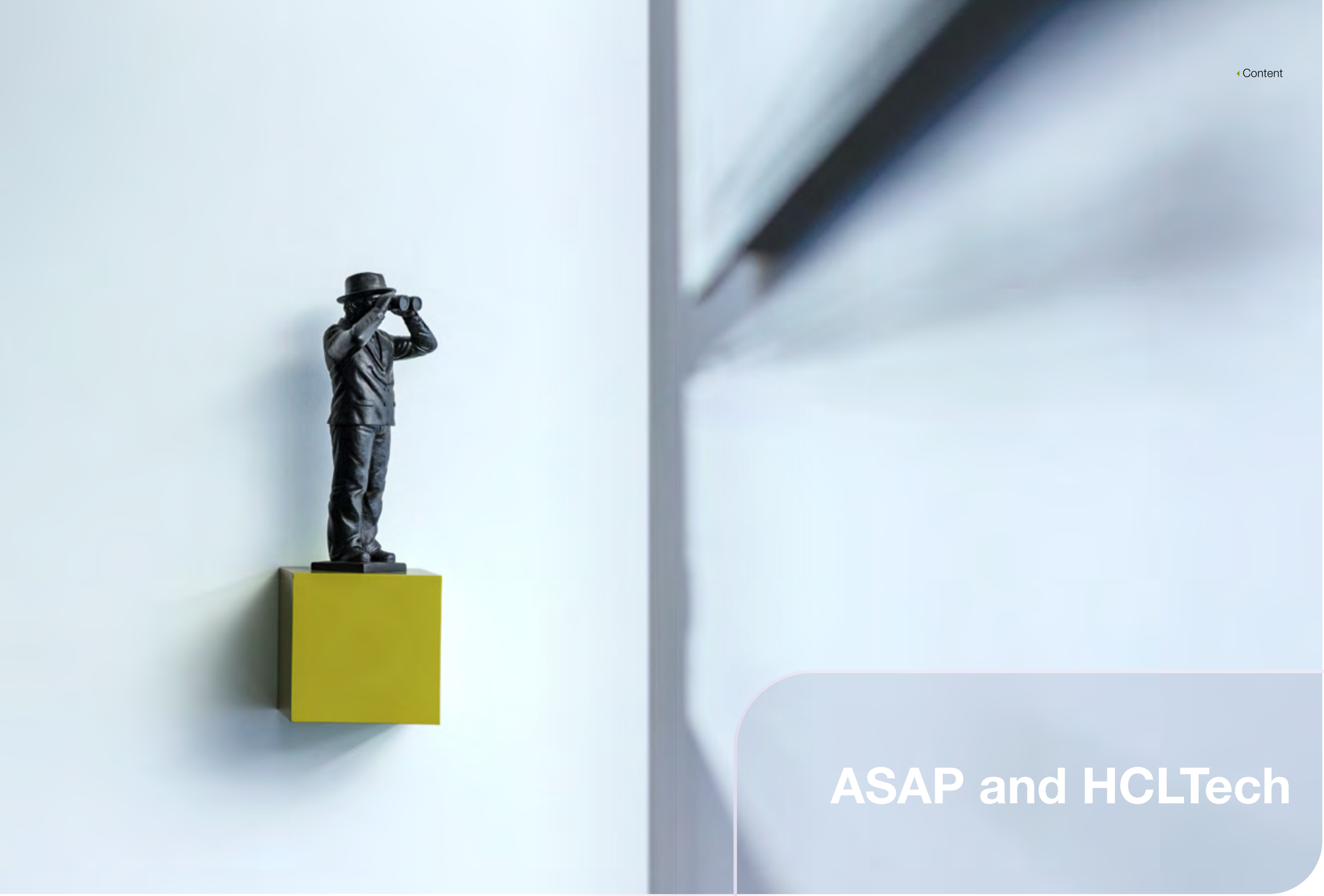
people work for us at 8 locations

35%

of the added value was generated in mobile working

8

time in succession: leading innovator among German medium-sized companies



ASAP and HCLTech

Michael Neisen

Interview with Michael Neisen, CEO of the ASAP Group

Since August 31, 2023, the automotive engineering partner ASAP has been an independent, wholly owned subsidiary of the IT and technology group HCLTech. On this occasion, 'Automobil Industrie' spoke with Michael Neisen, CEO of the ASAP Group, about the reasons behind this decision, the first year of collaboration, and shared goals for the future.

In 2022 and 2023, you reported revenues of €151 million and €171 million, respectively. How do these increases break down organic growth and acquisitions? What role did the sale to HCLTech on August, 31 2023, play in this?

The revenue growth in 2022 and 2023 was almost entirely driven by the organic growth of the ASAP Group. This organic growth is based on ASAP's strategic direction: Since our realignment and the establishment of the holding company along with new locations in 2010, we have focused on new technology areas in the automotive sector. As a result, in recent years, our service areas – Electrics/Electronics, Software, and High-Voltage Component Validation – have experienced particularly strong growth. Additionally, we successfully leveraged synergies within our portfolio to expand our customer base, particularly in the Volkswagen Group ecosystem. The sale of ASAP's shares to HCLTech in 2023 had no impact on these revenue increases.

„The globalization of automotive engineering together with HCLTech will play an essential role“

ZF has sold its shares in ASAP. Why did you then decide to sell the entire company to HCLTech instead of bringing in a new shareholder?

Initially, there were no plans to sell the entire company. The M&A process was launched with the goal of finding a new strategic partner for ZF Friedrichshafen AG's shares in the ASAP Group. Our top priority was identifying a partner who could complement our technological focus, particularly in Software Defined Vehicles (SDVs), Electrics/Electronics, and Software, while also offering a strong corporate culture and financial stability to further expand the ASAP Group. As part of this selection process, HCLTech – a global leader in IT and software – emerged as a key bidder. We ultimately accepted HCLTech's offer to acquire 100% of the company shares for several reasons: We see long-term viability, international expansion, technological enhancement, access to offshore and nearshore resources, and further customer diversification as key advantages of joining forces with HCLTech. For ASAP, our customers and partners, this connection opens doors to HCLTech's global network while allowing us to further refine our automotive engineering profile as an independent subsidiary.

The acquisition by HCLTech was approved very quickly. People often complain about excessive bureaucracy. What was your experience with this transaction and the regulatory environment in Germany in general?

We were also surprised by how quickly the authorities approved the deal and how short the timeframe was between signing and closing. Actually, we had expected the process to extend well into autumn 2023. In this case, the much-discussed „bureaucratic monster“ did not become an obstacle.

How was the first year between HCLTech and the ASAP Group? What key initiatives have you already implemented, and what important projects are planned for the future?

The first year has been characterized by mutual learning and knowledge exchange regarding our capabilities and expertise. This included visits to ASAP locations by HCLTech's management, as well as visits to the HCLTech's headquarter and multiple facilities in India by an ASAP delegation.

Additionally, we have started developing and implementing our global automotive engineering strategy. The technological synergies between both companies – especially in Software Defined Vehicles and Chip-to-Cloud solutions – are immense and form the core of our strategy. We have also analyzed existing customer relationships and launched joint sales activities in Europe and the USA, which have already yielded positive results for both companies.

How will ASAP be positioned in the future? Are you entering new business areas or domains, or are any service segments being phased out?

With the acquisition of the ASAP Group, HCLTech has gained access to the German automotive engineering market, which is the largest outsourcing market in the world. ASAP will continue to operate as an independent brand and company, backed by the strength and capabilities of HCLTech.

ASAP serves as the enabler for the automotive engineering sector within the HCLTech Group. ASAP will not discontinue any services within its five divisions – Electrics/Electronics, Software, Consulting & Service, Test & Validation and Vehicle Engineering. On the contrary, through the collaboration with HCLTech, it will significantly expand its portfolio and thus strengthen its position on the market, particularly in the transformation to the Software Defined Vehicle. This will play an essential role in the globalization of automotive engineering together with HCLTech.

How will you structure ASAP's management team? Will there be new additions from HCLTech, or have there already been any?

Regardless of the merger with HCLTech at the beginning of 2024, we transitioned ASAP's organization to a matrix structure. This has significantly improved cross-location collaboration within our divisions while strengthening the sales activities in the key accounts. There are no plans to introduce new management members from HCLTech. The ongoing development and expansion of the ASAP Group will be carried out by the existing management team. However, our collaboration with HCLTech colleagues will be strengthened through the consolidated leadership responsibilities within ASAP's executive team, which includes the roles of COO, CBDO and CFO.

HCLTech already has several branches in Germany. Its website highlights a major bank and an energy provider as key customers. What are ASAP's core competencies from HCLTech's perspective, and how do you plan to position yourselves as a group together?

HCLTech operates in 60 countries with approximately 225,000 employees worldwide, including Germany. However, its largest customers primarily come from other industries. Through ASAP, HCLTech is now expanding its access to automotive customers, offering IT and software services to the sector. The ASAP Group serves as the automotive engineering enabler for Germany and Europe. ASAP's core competencies lie in Software Defined Vehicles and C.A.S.E. technologies (Connected, Autonomous, Shared, Electrified). By combining this expertise with HCLTech's strengths in IT, software, AI and GenAI, we see significant synergies for the automobile as an IoT (Internet of Things) device and the electrified „car of the future." As an automotive engineering company, our partnership with HCLTech allows us to offer an optimal service portfolio.

What is HCLTech's focus in the automotive sector?

HCLTech focus in the automotive sector is to be an end-to-end development and integration partner, delivering comprehensive solutions based on over 30 years of engineering experience. HCLTech brings its IT and software expertise to the automotive sector, as well as proven technologies and methodologies from other industries to develop customized solutions. The company has a strong presence in next-generation automotive technologies, including Chip-to-Cloud, C.A.S.E., Software Defined Vehicles (SDVs) and Virtual Validation. Our joint goal is to become the global leader in automotive engineering and drive the transformation of mobility.

It seems that Indian engineering service providers have begun expanding their presence in Germany or have at least announced plans to do so. What makes the German market so attractive?

The expansion of Indian engineering service providers into Germany did not just begin – it has been underway for many years. Key drivers for working with Indian partners include globalization, resources, cost efficiency as well as expertise in IT and software. Over the past decades, many OEMs and suppliers have established their own development centers in India. At the same time, Germany has become the world's strongest outsourcing market for automotive engineering. Given these factors, it is only logical for Indian engineering firms to expand into Germany. We, at ASAP, are excited to embark on this journey together with HCLTech.

One year of ASAP and HCLTech

Joint vision

HCLTech and ASAP merged at the end of August 2023. Since then, many synergies and projects have emerged from joint expertise.

The merger of HCLTech and ASAP is a significant milestone for both companies. Their shared vision of securing a leading position in the German and international automotive industry strengthens their partnership. The synergies created by combining their expertise are becoming evident in various areas.

Merger of the ASAP Group with HCLTech

With the closing of the deal, ASAP has officially become a wholly owned subsidiary of HCLTech. This merger brings numerous advantages: ASAP is now part of a financially strong corporation with an international presence. This strengthens its market position and facilitates access to new markets and customers.

Visit from CVK – executive meeting and site tour

In December 2023, C Vijayakumar, CEO & Managing Director of HCLTech, visited ASAP's site in Ingolstadt. This meeting emphasized our role as a part of the HCLTech family and reinforced our shared vision.

HCLTech Management visits ASAP

The meeting with HCLTech Management in January 2024 provided an ideal platform for intensive dialogue. It allowed our departments to showcase expertise and achievements, highlighting what sets the ASAP Group apart: innovative solutions, technological excellence and strong commitment to quality.

ASAP visits HCLTech Headquarter and Indian sites

Change of perspective: In March 2024, the management of the ASAP Group visited the HCLTech sited in India. In addition to site tours of the HCLTech headquarter and the locations in India, valuable in-person discussions took place.

Trade Fairs 2024 – HCLTech and ASAP present joint expertise

At the Bharat Mobility Global Expo 2024 in February in New Delhi, India, both companies showcased their comprehensive capabilities as development partners for the automotive industry to a broad international audience. During their debut at VECS 2024 in Gothenburg, Sweden, in May, visitors gained insights into HCLTech and ASAP's service portfolio and synergies.

Presentation of the joint service portfolio

In August, Michael Neisen (CEO of the ASAP Group) and Gernot Joswig (CBDO of the ASAP Group) traveled to Pune, India, to present ASAP's service portfolio and expertise in collaboration with HCLTech to decision-makers from an automotive company.

Joint Live-Webinar on virtual validation

At the end of August, HCLTech and ASAP hosted their first joint live webinar featuring speakers from both companies. The virtual event provided insights into forward-thinking concepts in the field of Software Defined Vehicles and virtual validation.

Welcome to HCLTech – Frank Petznick

Since October 2024, Frank Petznick has been the new Vice President and Global Head of Automotive Engineering at HCLTech ERS. He is now responsible for the global automotive engineering across all ERS service areas, including the ASAP Group.

Major customer workshop

In November, HCLTech and ASAP presented their joint service portfolio to an automotive company through a cross-divisional showcase of the combined expertise during a full-day workshop.

„We provide tangible added value to both, established automotive customers and new players“

Frank Petznick on the role of the ASAP Group in the globalization of automotive engineering

Frank Petznick has been Senior Vice President & Global Automotive Engineering Head HCLTech and Managing Director of the ASAP Group since October 2024. In this dual role, he is jointly responsible with Michael Neisen, CEO of the ASAP Group, for the further development and implementation of HCLTech's global automotive engineering, including ASAP. What potential he sees for the future and what sets HCLTech and ASAP apart from the competition.

How do you evaluate the merger of ASAP and HCLTech after the first few months in your dual role?

This constellation offers a great deal of potential. However, we still have a long way to go before we truly grow into one big team. I see my role as introducing different worlds to each other and making the unspoken expectations of colleagues from both ASAP and HCL visible and explicit. That means bringing people together and highlighting commonalities as well as complementary aspects. This process requires openness but can foster a great deal of understanding. It's not just about technical aspects; it's also about understanding one another and becoming more aware of how things are perceived from the other side. Additionally, it's important to shape this diversity into a unified message for our customers.

What characterizes HCLTech and ASAP, and how do the strengths come into play?

With around 225,000 employees and a global presence, HCLTech is a highly structured corporation with a strong operational focus, closely analyzing customer needs. At HCLTech, the automotive sector is structured vertically, with its numerous interfaces to other industries and areas. This allows for the implementation of projects of all sizes. The key is to integrate HCLTech's expertise and ASAP's know-how into actual projects. The goal is to establish a joint global automotive unit, initially focusing on the European market.

How are you implementing the global automotive strategy?

We plan to first increase awareness of ASAP and HCLTech's combined strengths in the German market and then expand our portfolio into Sweden and France. HCLTech benefits from ASAP's strong network in Germany, while ASAP gains access to HCLTech's extensive network in other European countries.

Our aim is to develop an operational model that can be implemented worldwide. This requires defining the roles each company should and can play. It's not just a technical issue but also a cultural one: For example, can ASAP transfer what it does successfully in Germany one-to-one to the USA or Japan? Or do we need different strategies for these markets, by first

Frank Petznick

„It is certainly an advantage if we take a global perspective and set the right priorities together.“

HCLTech is present in 60 countries

establishing strong local presences that understand the regional market and leverage the expertise of both ASAP and HCLTech? These various aspects must be integrated into a comprehensive strategy and made actionable – transforming from abstract concepts into implementable units.

Many of the challenges we saw in the automotive industry in 2024, such as cost pressures, increased competition and sales difficulties, will continue to manifest in 2025. At the same time, 2025 will be a crucial year for ASAP and HCLTech because ASAP and HCLTech will grow together. We have begun implementing our long-term strategy and are already seeing the first successes. Some customers have been convinced by the strength of a robust back-office in India and a strong front-office in Germany.

What else makes you optimistic about ASAP and HCLTech?

ASAP has a long history in automotive engineering, meaning it has a deep understanding of processes and workflows in this field. HCLTech, on the other hand, brings expertise from other industries, such as aerospace and transportation. This allows us to apply a wide range of knowledge and experience in complex ways and actively shape the transformation. This is evident, for example, in the field of Software Defined Vehicles (SDVs). For a long time, cars have become moving computers, increasingly relying on cloud-based neural networks rather than traditional programming. Both ASAP and HCLTech have extensive expertise in this area.

As ASAP and HCLTech continue to merge, an important priority is to preserve ASAP’s well-known spirit while transitioning the company into a new corporate culture. ASAP should not simply become another corporate division; but ASAP’s DNA rather should be retained. One thing that stands out to me is the enthusiasm people have for their fields. We want to preserve this passion while also considering evolving customer demands and industry trends.

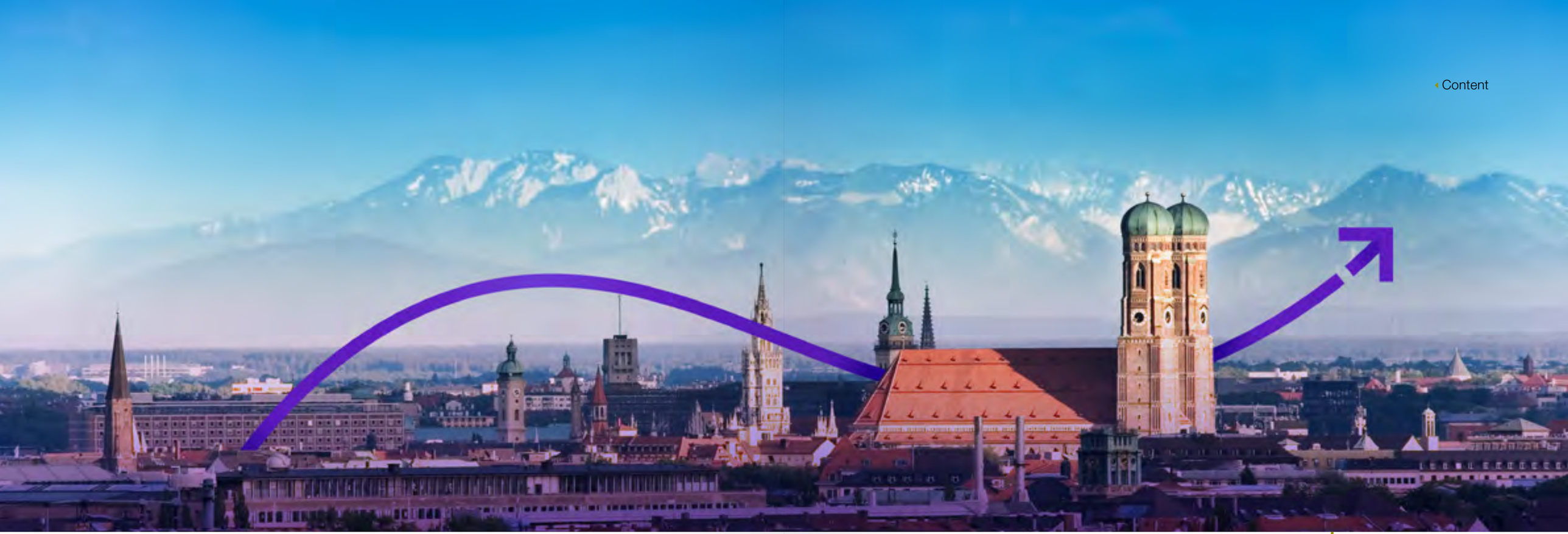
Where is the automotive industry headed?

The automotive industry will be a completely different industry in the future. One thing is certain: the leading roles will not necessarily be held by the same companies that have dominated the past decades. Instead, new players with different approaches will implement projects. We talk about vehicles that will become significantly less complex to develop and manufacture, with fewer mechanical components – while becoming increasingly software-driven.

I am convinced that we can provide tangible added value in this environment. This applies both to new players, for whom we also offer solutions, and to established customers, as we bring fresh insights into our collaboration.

This transformation goes far beyond the shift in powertrains; it will affect all processes and the very way we think about automobiles and mobility. Naturally, this brings many challenges. However, the automotive industry has always been an industry driven by innovation. For that reason alone, I see many positive opportunities ahead.

„The automotive industry will be a completely different industry in the future.“



HCLTech launches Innovation Lab for AI at the Munich site

The HCLTech AI & Cloud Native Lab in partnership with SAP supports, among others, joint customers of HCLTech and ASAP by developing scalable AI solutions.

At the end of 2024, HCLTech inaugurated the HCLTech AI & Cloud Native Lab in partnership with software giant SAP at the ASAP building in Munich. The lab's goal is to enable customers to leverage artificial intelligence for various business processes and accelerate their digital transformation.

The HCLTech AI & Cloud Native Lab at the ASAP building in Munich is part of a global network of HCLTech's AI & Cloud Native Labs, with additional facilities in the UK, the USA, Singapore and India.

Among other things, the innovation lab in Munich is driving the development of customized GenAI-powered solutions that combine the functions of HCLTech's AI Force platform with SAP AI Core. AI Force by HCLTech is a patented GenAI platform for software development and IT applications.

SAP AI Core provides the infrastructure to integrate AI functions into business applications. "The lab in Munich highlights our strong partnership with SAP and demonstrates our combined AI capabilities to provide exceptional value to our customers," said Vijay Guntur, Global Chief Technology Officer and Head of Ecosystems, HCLTech.

Additionally, the HCLTech AI & Cloud Native Lab, in collaboration with SAP, supports shared customers of HCLTech and ASAP by developing scalable AI solutions in the field of automotive engineering. For example, AI tools are becoming increasingly important for optimizing validation strategies.

AI and HCL Platform Services & Solution Assets

Deodatt Bawachkar

How to successfully shape the transformation in the automotive industry

Deodatt Bawachkar, Head of Digital Design Practice EMEA at HCLTech, talks about the opportunities and challenges of electrification for the automotive industry, the importance of AI and ALM tools – and how customers of HCLTech and ASAP benefit from it.

Why electrification and the Software Defined Vehicle (SDV) pose challenges for many OEMs.

The industry is experiencing a shift towards electrification and Software Defined Vehicles (SDVs), particularly among European OEMs. China has taken the lead in the manufacturing of electric vehicles, shifting the automotive industry's focus from hardware expertise to software proficiency. However, Europe is catching up.

AI in automotive engineering – benefits and use cases

AI is primarily applied in automotive design and manufacturing. In digital design, AI/GenAI plays a transformative role by enhancing efficiency, innovation, and safety in modern vehicle development.

AI/GenAI can be used on both sides of the V-model within vehicle development. On the one hand, it improves the design process by accelerating requirements definition. On the other hand, it optimizes the verification and validation process by quickly analyzing and testing components, assemblies and entire vehicles. As part of its GenAI initiatives, HCLTech employs solutions from the ALM (Application Lifecycle Management) spectrum and has developed accelerators such as ALMate and SwiftX. The ASAP Group, with its strengths in verification and validation within the V-model, also leverages AI to automate and predict hardware test results and HiL (Hardware-in-the-Loop) as well as SiL (Software-in-the-Loop) approaches.

Why HCLTech invested in AI early

HCLTech was an early adaptor of AI technologies, leading to the development of its central AI platform, AI Force. AI Force is a dynamic suite of GenAI-powered solutions that injects intelligence into every phase of the software engineering lifecycle, optimizing processes for maximum efficiency, higher quality and reduced costs. By leveraging GenAI models, tools and technologies, AI Force helps accelerate product development, improve quality assurance and enhance data analytics.

Why HCLTech provides access to a comprehensive portfolio of ALM tools – and how customers of HCLTech and ASAP benefit from it.

ASAP is committed to expanding its presence across all aspects of the V-model. As part of this strategy, ASAP is progressively integrating various ALM tools into its portfolio to complement existing solutions like PAK. HCLTech and ASAP's comprehensive solution portfolio ensures complete coverage of the V-model for their customers.

HCLTech's expertise in Product Lifecycle Management (PLM) and product design spans the middle section of the V-model (covering geometric design, change management, supplier collaboration, sustainability considerations, CO2 footprint calculations, material handling, and more). The end-to-end portfolio, created through the synergy of HCLTech's expertise as a global technology provider and ASAP's leadership in automotive engineering, offers a unique advantage to customers in the automotive industry. Rarely do customers receive an "all-in-one" solution, as provided by HCLTech and ASAP. The benefits include:

- Faster time-to market through advanced technologies like GenAI
- Minimized rework by leveraging decades of industry experience
- Lower costs through scalability and flexibility
- Improved vehicle quality in both hardware and software, enhancing user experience and customer satisfaction.

Important trends in automotive engineering

Electrification and connectivity

- Electrification: EVs (Electric Vehicles) are re-shaping the industry, requiring new vehicle architecture, design approaches and validation processes.
- Connectivity: Connected vehicles have existed for years but are evolving with 5G and 6G integration, transforming cars into intelligent systems that enhance traffic safety and driving experiences.

Digital tools and automation

- Model-based Systems Engineering (MBSE): this approach is also used in the automotive industry and simplifies complex designs by centralizing models. It proves to be crucial for managing the electronics and software components of modern vehicles.
- Automation: robotics, supplemented by AI, streamlines manufacturing processes, improves product quality and reduces operational costs through the convergence of IT, OT (Operational Technology) and ET (Engineering Technology).

Advanced technologies like AI/GenAI:

These technologies are used, among other things, to develop new models, predict customer preferences and improve autonomous driving capabilities.

Deep Dive: ALM tools as enablers for OEMs in the transformation

Which ALM tools the industry relies on and how HCLTech has responded with its approaches and solutions

ALM plays a crucial role for automotive OEMs, particularly in their Smart Vehicle strategy. The shift towards Software Defined Vehicles (SDVs) has made the vehicle development process more complex in many areas, because the electrification and automation of vehicles are the reason why key innovations in modern vehicles are now software driven. In the world of Software Defined Vehicles, connectivity, digital assistants, and cybersecurity are critical for the future. The industry, therefore, relies on ALM tools that manage a vehicle's entire lifecycle – from development to disposal. ALM tools standardize collaboration between software teams and other departments, allowing for automated software development and deployment. This, in turn, shortens the time from product conception and development to production and market launch and reduces costs.

Although HCLTech does not offer its own ALM platform, it has developed solutions that enhance the capabilities of commercial off-the-shelf (COTS) ALM platforms using modern technologies like GenAI. These solutions benefit customers of both HCLTech and ASAP.

ALMate: boosting productivity with automated analysis, generation and test case creation

One of these solutions is ALMate. ALMate is a GenAI-based tool designed for COTS-ALM platforms like PTC Codebeamer and Siemens Polarion. It improves productivity by automating quality analysis, subsystem requirement generation, test case creation, translation and summarization of requirements. ALMate supports multiple industries, including automotive, aerospace & defense (A&D), medical technology, high-tech and semiconductors. ALMate evaluates requirement quality based on INCOSE guidelines, identifying ambiguities, inconsistencies and other issues to ensure well-defined requirements. Future roadmaps for ALMate include expanding the A-SPICE framework. ALMate supports the generation/drilldown of requirements across all levels. Based on the provided context/reference documents, requirements can be generated with the corresponding work item type in the ALM platform, with traceability to the reference data. It is also possible to automatically generate test cases based on the defined requirements, which accelerates the testing process and ensures comprehensive test coverage.

ALMate supports the translation of requirements and other documents in multiple languages, facilitating global collaboration across teams and geographies. ALMate can transform long documents, lists of requirements or test case repositories into concise, easy-to-follow summaries, saving time for approval.

SwiftX: support from requirement definition to the entire vehicle development process

Another key solution HCLTech has launched is SwiftX, designed to support customers in their digital transformation from requirement definition to the entire vehicle development process. SwiftX assists with the migration of existing ALM solutions, whether COTS-based or fully custom-built. Migration is a complex process, especially when lifecycle traceability is essential. SwiftX reduces this complexity by providing a robust technology platform that addresses common migration challenges.

Innovation Corner

The Smart Execution Platform STEP ensures a high degree of scalability

STEP middleware from ASAP enables communication between test automation and test system

By Hussam Hamzat, Senior Expert in the Test Systems division at the ASAP Group, and Rudolf Mittermeier, Development Engineer in the Test Systems division at the ASAP Group

Introduction: High degree of test automation is becoming increasingly important

The demands of modern vehicles on their E/E-systems in hardware and software are increasing: the development cycles of vehicles are becoming shorter, while the complexity of the E/E systems is rapidly growing because electronic systems generate and process increasing amounts of data. Test bench architecture must be adapted and further developed to cope not only with the data volumes but also to be able to deliver a greater number of results of higher quality more quickly.

New testing strategies need to be designed, and the test environment must be adapted to new interfaces and protocols. In this context, data from control units, communication buses, measuring devices, and data streams from complex smart sensors like cameras or lidar are recorded, evaluated, and assessed. When collecting data from various sources, their synchronization as well as their correlation in evaluation are paramount. This is unachievable without the development of new intelligent (AI) algorithms and functions in the test bench software, which can identify patterns and anomalies (Big Data) during scenario-based testing.

Therefore, a high degree of test automation is becoming increasingly important to meet all requirements as quickly, efficiently, and with high quality as possible. New device drivers and protocols must be integrated or supported.

The call for automation is facing increasing demands

Test bench operations are mostly still manual and conducted in an 8-hour shift. Furthermore, distributed decentralized controls form the test bench architecture. This leads to low efficiency, consumes many resources, and results in limited repeatability. The objective is to deliver more and better results in a shorter time.

Thereby, it is essential to increase the degree of automation and thus the efficiency of the test field. Manual steps in end-to-end validation must be replaced by mechatronic systems that can ensure automated multi-shift operations. Intelligent electronic assemblies and measuring devices are a prerequisite for this. Under real-time requirements, sensors are simulated or stimulated, faults and paths are switched, or measurements are conducted.

In order to control or configure the individual devices and components, various software programs are required according to the current state of the art, associated with the acquisition of multiple licenses. The employees need to familiarize themselves with the programs and carry out complex configurations and implementations.

The ASAP Group has responded to the challenges by developing the Smart Test Execution Platform (STEP), which is used in all ASAP test benches, such as lifetime simulation plants for component testing and integration test benches for the validation of the entire wiring system. STEP consolidates the different components on a single software platform instead of controlling the test bench from various application programs. Thereby, STEP centrally supports the functions of various applications, such as writing an analog output, the controlling of a climate chamber, or the receiving of a CAN message.

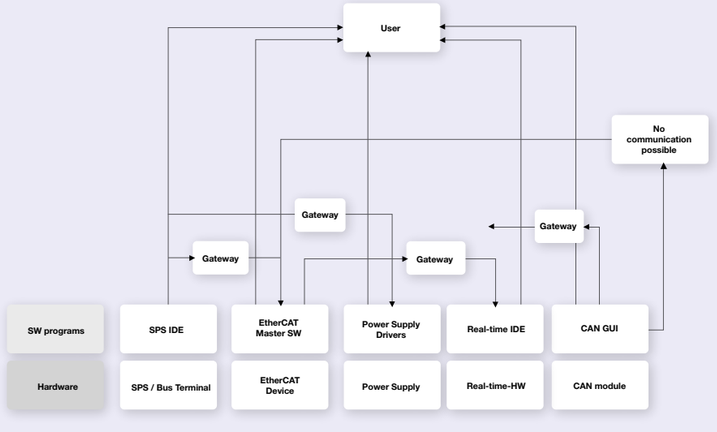
Open interfaces ensure high flexibility

STEP ensures that components with different protocols and interfaces can exchange data and offers a variety of interfaces and drivers for that purpose. This makes it easy to add and integrate devices that are not yet included to meet new requirements.

Through STEP, the overall system becomes an open system. In the test bench configuration and control, STEP acts as middleware, integrating various devices. For example, a power supply, chiller, AIO modules, signal generator, datalogger, CAN interfaces, or a climate chamber can be connected and linked to a central data acquisition system or automation software.

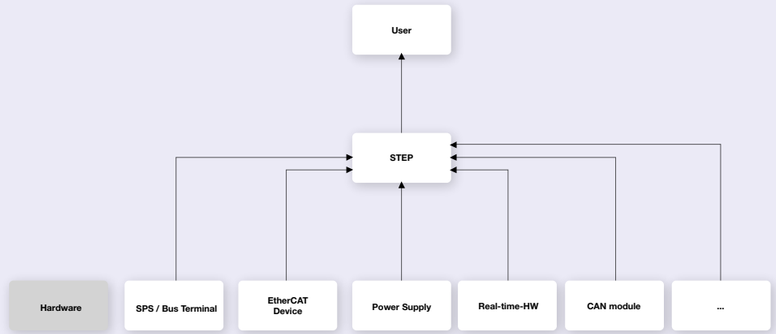
By offering open interfaces, STEP provides a high degree of flexibility. This is achieved through a wide range of supported communication protocols. Thus, devices from different manufacturers can be integrated into the test bench to meet new configuration requirements. This open architecture serves as a key characteristic to which all other aspects are built. Additionally, it is important that not only hardware components can be connected but also interfaces to other software applications are possible. For instance, measurements data generated via an FDX interface can be read from an application and logged into a STEP measurement file. Some well-known protocols serve as concrete examples. For applications that require real-time capability, STEP not only provides an interface supporting the EtherCAT protocol but in this case also functions as the EtherCAT main device. Furthermore, STEP offers a communication interface to the ASAP in-house development Current Loupe, which enables the transmission of current and voltage measurement data using the TCP/IP protocol. Laboratory measuring devices that support SCPI commands can also be integrated into the test bench, eliminating the need for manual range switching or saving measurements directly on the multimeter. Other important supported protocols include, for example, CAN and Modbus. In addition to interfaces for device connectivity, STEP offers various access options for flexible middleware operation. The user interface is typically accessible via a web browser, allowing all functions to be controlled through a graphical interface. STEP also provides a REST API, enabling users to integrate its functionalities into custom scripts using any client. This allows automated processes to be freely defined and directly mapped. Another advantage of this integration is that, in combination with STEP, other high-level programming languages can be used for component connectivity and control. Using the ASAP tool STEP2CANoe, STEP can be directly integrated into the test automation environment and execute tasks triggered from there.

The following image shows a test bench without the use of STEP:



The various programs and devices are linked with each other in a complex and complicated way via gateways, or cannot communicate with each other at all due to a lack of standardized interfaces

The next image shows the same test bench with the use of STEP:

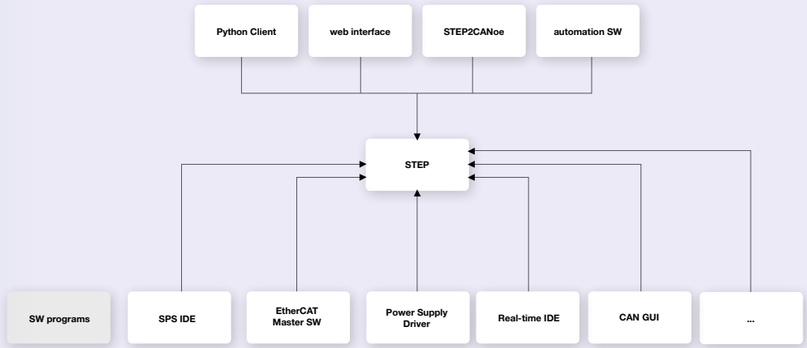


Centralized connection and integration of all test bench components via STEP

Unified platform simplifies the entire testing process

Without a unified system, the environment is characterized by a lack of integration capabilities, where each device operates separately. This requires users to control each device through its own interface, resulting in a highly complex and difficult to manage combination of software applications and protocols. This fragmented structure increases the workload for users and makes centralized management or automation of the test bench more difficult. The core issue lies in the lack of centralized control and communication, which consumes a significant amount of time and leads to higher costs and redundant efforts. STEP by ASAP offers a unified platform that integrates and abstracts all devices within a central interface. Users can control

The following image shows how STEP is used:



STEP is used to connect it with the test bench components as well as the external interfaces that enable the control of STEP

the system as a single entity, regardless of the underlying protocols or software requirements of the devices. This interface allows for easy integration into automation systems.

By providing a unified platform as middleware, STEP enables the parallel acquisition of any analog and digital signals from different sources, for example, in a measurement file. This process is time-synchronized, meaning all data points share a unified timestamp and the same sampling rate. As a result, individual measurements can be directly compared without the need to conduct multiple separate measurements and merge the results in a table afterwards. The log file automatically processes the values, ensuring they are displayed time-synchronized and with the same resolution.

In addition to digital and analog I/O signals, STEP can also handle data packets from CAN bus connections. Through its interface with test automation software, measurement values and control signals can be directly utilized via the test automation interface. STEP thus creates a bridge to the actual hardware.

Without STEP, a simple comparison of measurement values for behavioral analysis and logical verification would not be possible. For example, for the CAN message “Turn on windshield wipers”, the output for the windshield wipers must be activated. Without the measurement values, the temporal connection of this action remains unclear – was the output already active when the signal was sent or not? Moreover, by consolidating various input sources, complex relationships can be analyzed more efficiently or even made analyzable in the first place.

Reducing complexity to increase efficiency

In current test benches, each device usually requires individual configuration. This necessitates the use of different software applications, communication protocols, and often expensive licenses. For instance, if a test system consists of six devices, the user must operate six different programs and interfaces, significantly complicating the workflow. The challenges lie in the inconsistency of the software, the need to develop in-depth knowledge of the respective protocols, and the high time investment required for manually configuring each device. Furthermore, this distributed setup complicates automation, as the devices do not work together in a unified manner.

The solution is to automate technical processes through software that handles all complex tasks in the background. This allows users to operate through an easy-to-use interface, reducing workload and significantly simplifying processes.

Easy setup of test environments

Managing device changes in test systems is typically associated with limited flexibility. Each device operates independently from the others, meaning any modification requires extensive manual adjustments, including the installation of specialized software and potential protocol updates to ensure compatibility. Furthermore, these processes are often poorly documented, increasing the risk of work disruptions and data loss during short-term changes. Consequently, replacing or modifying a device can lead to partial or complete system downtime. Additionally, the probability of system errors increases as users must interact with multiple software platforms to integrate the new device. This fragmentation makes updates expensive and inefficient.

ASAP‘s middleware resolves this issue by providing a flexible platform that allows devices to be quickly added or replaced without requiring a complete system reconfiguration. Once the new device is connected and basic connection data is entered, the software automatically detects it and ensures seamless integration into the existing system. This solution minimizes system interruptions, accelerates the setup process, and offers high flexibility to accommodate short-term changes without disrupting workflows.

At the same time, STEP can meet a wide range of customer requirements and integrate proprietary protocols. No specialized expertise or in-depth study of the device’s API is required to incorporate various components — this task is handled by the auto-configuration feature. To integrate a new component, the user simply connects it to STEP and runs the auto-configuration. In the background, STEP, as middleware, establishes the necessary connection to the module and provides communication. The user does not need to worry about the device’s API and can proceed directly with its use. There is no need to manually create specific drivers for component integration, which would otherwise require expert knowledge and consume time.

Through the use of pipes, drivers or other interfaces can be implemented in any high-level programming language. This independence from specific programming languages in driver implementation enhances modularity and accelerates processes. Furthermore, some high-level languages are better suited for component integration due to pre-existing libraries, making integration more efficient.

Conclusion: ASAP provides everything from a single source

STEP is the result of several thousand hours of development work and benefits a wide range of users in the automation industry. However, ASAP goes one step further – not only providing STEP as middleware but also offering the test bench itself. This combines the best of all worlds in the field of test and validation: in addition to automated test bench initialization using STEP, ASAP offers short coordination paths between software and hardware implementation, independence from manufacturers thanks to the option of integrating any components, the integration of in-house development such as ASAP Current Loupe, as well as the implementation of test bench control and the option of recording measured values. In short, the entire process can be implemented quickly, and the complete system can easily be put into operation. This is particularly crucial in an increasingly complex and software defined automotive world.

ASAP Group develops comprehensive TestSphere

Rethinking virtual validation

The automotive industry is increasingly transforming into a software defined world. In this environment, previous validation strategies are reaching their limits. The ASAP Group has responded by developing a comprehensive testing system which is based on a keyword-driven framework and can be used to validate software requirements in a way that saves time and money.

The comprehensive ASAP TestSphere connects tools and systems

To achieve comprehensive modularity and scalability in software validation, ASAP has designed the test system to integrate infrastructures ranging from Model-in-the-Loop to Hardware-in-the-Loop. This allows customers to seamlessly integrate their testing approaches and tools from requirement definition to release.

In this process, the test design is decoupled from the existing tool landscape, enabling customers to continue using their familiar systems. This ensures high flexibility and speed, as customers neither have to modify their existing tool environment nor familiarize themselves with new tools.

Specifically, this is a validation ecosystem that separated the development of vehicle-specific functions from the development of the test bench's basic system.

The core of this test bench independent ASAP TestSphere, which is built around existing tools and systems and communicates via standardized interfaces, is the tool-independent editor.

This editor connects to the respective ALM tool, system architecture and the customer's test system via bridges. It visualizes all data in a well-structured user interface.

Automated keyword-driven testing fixes bugs at the beginning

With the comprehensive ASAP TestSphere, ASAP experts also implement tool-independent, automated keyword-driven testing, which is a core component of the ASAP test system. Keyword-driven testing allows test cases to be written only once and easily adapted and reused across different test systems, test levels, and test frameworks. Errors are detected and corrected early in the keywords, ensuring their elimination across all subsequent test cases.

Thanks to ASAP's modular and scalable test system, the effort required for test design can be reduced to just 25% of the original workload. This also significantly accelerates and simplifies the actual implementation.

ASAP has developed an innovative TestSphere for the fast and uncomplicated validation of software requirements

Application Lifecycle Management tools as learning systems

Maximum flexibility and speed

Why Codebeamer and PAK have become indispensable additions to many software-centered projects in the field of automotive engineering but are still being further developed – and shaped by users in the process.

By Jürgen Meyer | Director Division Software at ASAP Group

“Level Up: PAK & Codebeamer“ – many of our customers and partners are not only familiar with our slogan – they already appreciate the added value that the use of ASAP’s automation solution, PAK, offers when integrated into an Application Lifecycle Management (ALM) system like Codebeamer. This added value is best described as maximum flexibility and the highest possible speed in the implementation of software-driven projects. The ALM tool Codebeamer is used for centralized requirements management, software and hardware development as well as test management. It enables seamless integration of all development steps – from system specification to the start of series production (SOP) of a vehicle model. Meanwhile PAK, ASAP’s Process Automation Kit, is a framework for customized, reusable automation and a valuable addition to common DevOps practices.

Both products complement each other perfectly

Codebeamer and PAK complement each other perfectly to the benefit of users. Additionally, the ASAP Group offers a full range of services related to the development and integration of Codebeamer: from data model and template development to process development in accordance with Automotive-SPICE guidelines, as well as extension, adapter and methodology development, rapid prototyping, automation, project migration, 1st, 2nd, and 3rd level support and necessary training. We deploy expert teams from relevant engineering fields who leverage their expertise to integrate even the most customized functions.

Codebeamer and PAK have become indispensable for many software-driven projects. Furthermore, both are “living“ systems that continuously learn and are constantly evolving for the benefit of customers and partners – and at the same time are shaped by their input. Just like with common DevOps approaches, the focus is on automating and integrating workflows, tools and ideas from different teams. But equally important is empowering people and teams.

Growing demand for Codebeamer

In the past year alone, the demand for Codebeamer has increased significantly. The market’s need – and urgency – to implement Codebeamer is growing. The customer base has expanded significantly, in part due to the PTC partner network, where we collaborate with other companies as key Codebeamer partners in the DACH region, exchanging ideas and expanding contacts. Additionally, our affiliation with the global player HCLTech, to which we belong as an independent subsidiary, plays a role. HCLTech has been a Global System Integrator (GSI) for the PTC partner network for many years. It offers the entire PTC product portfolio and is also a partner for other manufacturer’s products, which are sometimes integrated with or replaced by Codebeamer – for instance, in data migration projects. HCLTech also covers additional systems such as Creo and Windchill. Within this ecosystem, we can provide scalable, global 24/7 ALM services – from consulting to implementation and maintenance – while leveraging an extensive set of tools. Moreover, HCLTech continuously develops tools around Coedebeamer.

As an independent subsidiary of HCLTech, ASAP combines stability with an innovative mindset. The partnership brings together the best of both worlds – ASAP’s agility and flexibility in automotive engineering with HCLTech’s extensive resources and global network. With 1,600 employees in Germany, ASAP offers comprehensive services focusing on megatrends such as e-mobility, autonomous driving and connectivity. Meanwhile, the IT corporation HCLTech employs around 225,000 people across more than 60 countries. Customers everywhere benefit from this combined IT and engineering expertise, along with genuine end-to-end services.

Even greater scalability, speed and quality

With each application, PAK becomes an even better complement to Codebeamer, as every implementa-

tion generates new insights. This leads to increased scalability, speed and quality for customers and partners. Take data migration, for example: In most cases, a one-time migration is not feasible. Instead, the previous system often needs to remain operational while simultaneously being transferred into the new environment, which then must function properly. This is no simple task – especially given the sheer volume of data that needs to be processed. Customers benefit from ASAP's experts, who are familiar with all relevant tools and always find a solution. They leverage Codebeamer's complexity to extract the features best suited to each customer and project.

Like PAK, Codebeamer is not a silo solution. Recognizing this, ASAP has established a project house where experts from various divisions continuously optimize Codebeamer's application. This is a true "learning by doing" approach – or more precisely, an "optimization by using" approach – where customers and and partners contribute by utilizing the tools in practice.

New dimension of functionality

What does this mean in real-world application? Codebeamer is no longer used solely in automotive engineering departments. Increasingly, it is now also centrally hosted by IT departments and in the cloud, enabling simultaneous use by multiple users. Codebeamer offers an exceptionally high level of functionality that other ALM systems do not provide. 'Level up' in a new dimension.

AI at ASAP: Faster, safer, more efficient

The ASAP Group is developing an AI platform to revolutionize ADAS/AD development

The ASAP Group is conducting extensive research on the integration of AI/GenAI into the creation and validation of software requirements. As part of this, it has set up a tool to support software experts in the development of ADAS/AD functions.

The GenAI solution developed by ASAP can be used, for example, to significantly speed up the underlying keyword-driven testing. It takes over tasks that would otherwise be carried out manually with a much higher time expenditure: The ASAP AI essentially ‘extracts’ the corresponding keywords from the requirements in no time, from which test cases are generated and listed.

The AI solution developed by ASAP significantly increases efficiency in software development, especially in the automotive industry. It has been trained with ASAP’s specific automotive know-how and can effectively multiply this expertise. The AI not only helps developers analyze code, create documentation and conduct tests, but also assist in code generation and error analysis. This massively accelerates the validation and release of software requirements. Time-consuming, monotonous tasks are automated, allowing developers to focus on reviewing, optimizing and further developing the results.

The ASAP GenAI, which can be integrated into the ASAP TestSphere or ASAP’s Process Automation Kit (PAK), is an in-house development and is operated in its own cloud. This has the advantage that users do not need to acquire additional licenses and can benefit from very high data security and low latency.

The ASAP solution can be seamlessly integrated into various tools thanks to a dedicated interface, enabling efficient process automation. Additionally, it is easy and intuitive to use – either through a co-pilot that can be embedded as a smart assistant in development environments or through a classic web interface. This makes it easy and flexible to use for different applications.

The core is the RAG pipeline developed by ASAP experts themselves which allows users to train the AI quickly and easily. It enables the processing of large data volumes in a short time and efficiently incorporates the know-how of entire teams or departments. Thanks to integrated user management, a structured and secure administration of access rights is also ensured.

The simplification and acceleration of development and validation processes through the ASAP AI solution is particularly relevant given the high complexity of creating and validating software functions for autonomous driving.

Master Image Creator 3.0 by ASAP

The ASAP Group is developing a new test system for validating dynamic user interfaces in automobiles

Modern vehicles are increasingly equipped with a growing number of display systems. These are used not only to display information but also as input systems for operating the vehicle. Validating user interfaces (UI) is an extremely complex and laborious process. The ASAP Group has responded to this challenge by developing a new market-ready system that automates the UI testing process, making it faster, easier and more cost-effective.

By David Speth, Senior Expert in Electronics Development at the ASAP Group

Whether detailed information about vehicle operation, navigation, or infotainment, whether the integration of assistance systems or personal devices such as mobile phones – including the display of calls and video conferences – today's software-based automobiles can – and must – integrate significantly more applications than before. This is also reflected in the fact that the display areas have become significantly larger. Drivers expect to be informed at all times, and that the vehicle can be operated intuitively and safely. [1]

Automobile manufacturers are finding solutions to the challenging task of how the numerous functions can be integrated and how the information can be displayed accurately and understandably to customers. In this context, testing the display systems, namely the user interfaces (UI), has also become much more complex. After all, significantly more functions need to be tested, and a much larger amount of data must be processed. The significantly increased complexity has accelerated the development of test automation through software applications.

Highly automated testing processes check, among other things, whether the corresponding images are displayed as planned by the automobile manufacturers. For example, is the navigation arrow positioned correctly, and is its movement plausible? Are there no overlapping elements? This also means that individual elements need to be hidden at the right time, for instance, when warnings are received. Given head-up displays with 3D images and augmented reality elements such as 3D navigation arrows (drones) and distance warnings or lane-keeping assistance, this is a challenging task. UI testing repeatedly creates different dynamic system states to ensure that the display systems function correctly at all times.

Growing demand for automated user interface testing

The ASAP Group has specialized in UI testing for many years. It has responded to the steadily increasing demands and developed a new tool to support test automation – the Master Image Creator (MIC) in its third version. MIC3.0, as it is officially named, enables faster, more comfortable and cost-effective validation of complex display systems. MIC3.0 is more scalable, flexible and powerful than previous versions, which often reached their limits with complex requirements. The fact that MIC3.0 is not only an improvement of the previous MIC versions but for the first time a completely independent ASAP tool, contributes to its high scalability and cost reduction as customers need to purchase only one license for MIC3.0.

MIC3.0 integrates many helpful approaches and concepts. It works well with the concept of keyword-driven testing (KDT), utilizes an advanced markup language, includes AI tools and employs a specialized image processing framework.

Generation of basic reference images for cluster instruments

The basis of the current version and its predecessors is the approach of the ASAP Group, which involves creating detailed reference images of user interfaces for validation purposes. These reference images are used to assess the actual screenshots from vehicle control units, such as traffic and navigation signs, as well as digital speedometers. This achieves end-to-end validation from design to the actual display, ensuring that no display information is lost along the entire chain. Years ago, the ASAP Group developed the first version of the Windows application tool Master Image Creator (MIC) based on this premise. The first MIC version was primarily used to generate basic reference images for cluster instruments. For this purpose, a suitable reference image of an intersection was created from thousands of reference data points. This first MIC version used QT Open Source along with an earlier version of QML (Qt Quick1) as the frontend technology – and it was already a milestone for UI automation testing.
The display control devices have been continuously

enhanced with more features and functions. A combined instrument in a ten-year-old vehicle is no longer comparable to a modern combined instrument. The significantly more complex display control devices had already greatly increased the requirements for UI automation testing several years ago.

Additional functions for even more complex software validation

Therefore, ASAP experts developed the Master Image Creator into its second version, MIC2, back then. The primary goal was to expand the creation of reference images. Among other improvements, image comparison was optimized through enhanced text and color recognition, as well as the integration of additional image processing functions, such as high-quality pixel comparison, template matching and feature matching.

The increased functionality of MIC2 was also supported by the integration of additional widgets – for example interactive elements – and the integration of JavaScript scripts, making it easier to customize the user interface. UI components like images, texts and rectangles could now be modified in real time.

The actual display of the screen is validated in MIC2 using an image comparison algorithm that overlays the reference image from a tool with the screenshot from the control unit. In this process, MIC2 ensures that image processing is carried out separately and independently from the customer's test processing system. Important automation processes are applied here: This central and outsourced image processing is controlled by a test automation system via the API (Application Programming Interface). The standardized REST API provides a uniform and reusable interface, which is particularly useful in conjunction with the keyword-driven testing (KDT) used by the ASAP Group. KDT is a system where test cases are composed of reusable blocks (keywords). In the test automation system, individual keywords are implemented rather than complete test cases, ultimately saving significant time in designing and implementing the actual test cases.

These fundamental architectural changes in MIC2, which also include the integration of control for image capture hardware such as cameras and frame grabbers, have significantly increased the efficiency, stability and flexibility of the test workflow. As a result, MIC2 was able to meet very complex requirements in UI testing.

Technical limitations in complex scenarios

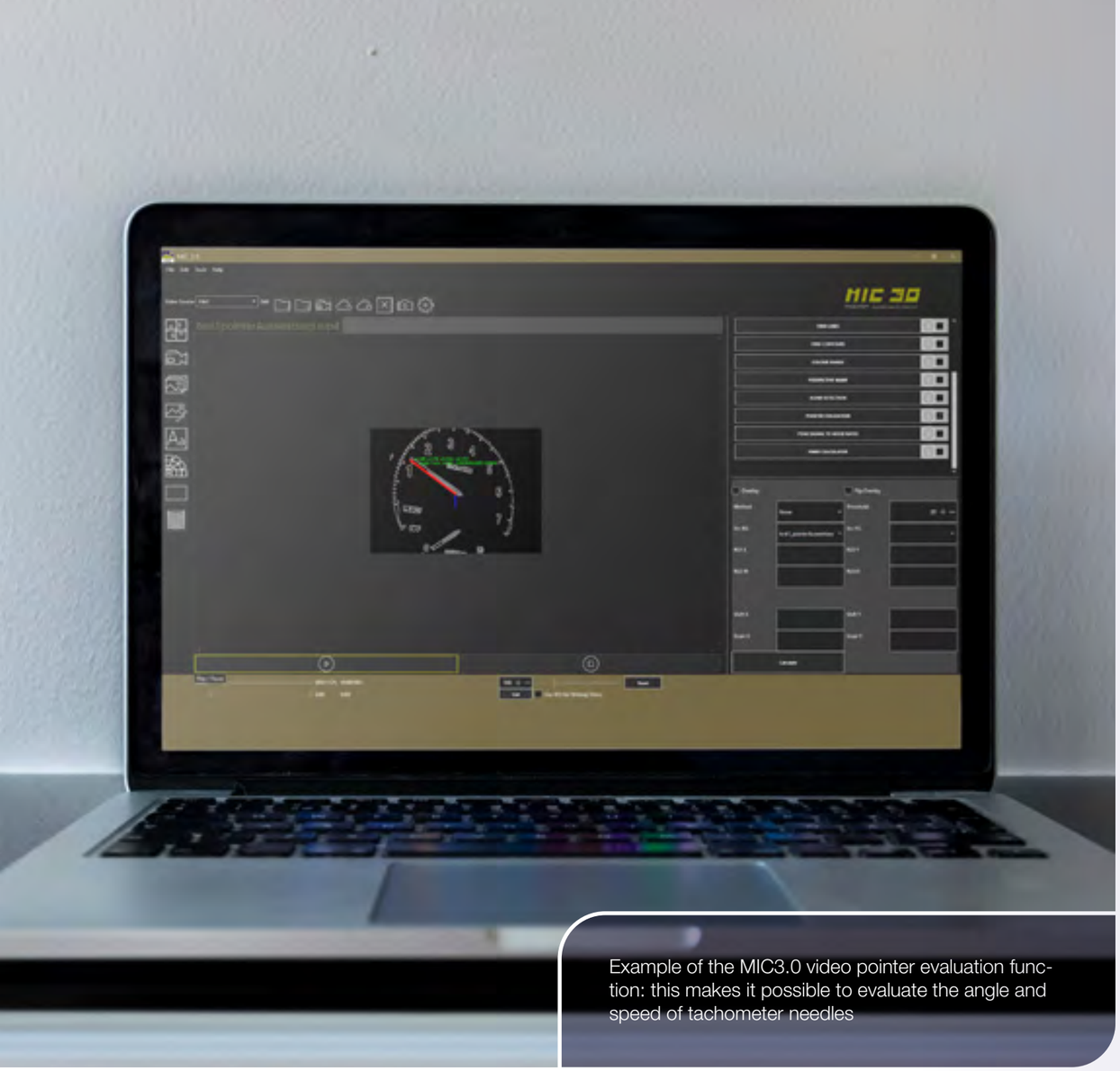
Despite numerous improvements compared to the first MIC version, further challenges remained. These included significantly increased costs following a change in the Qt licensing model, as well as a certain degree of unpredictability in the application of the Qt Modeling Language (QML).

The Qt framework and Qt Modeling Language are among the most important tools for creating interactive user interfaces, as they offer cross-platform functionality that allows developers to write code once and use it across different operating systems as needed. [2] However, due to changes in licensing terms, the Qt framework has become less cost-efficient, especially for user interface testing applications like the Master Image Creator, which rely exclusively on the Windows environment. Additionally, it became evident that QML's behavior during code execution in complex scenarios – such as real-time data processing and rendering – was sometimes unpredictable and less precise. This is because the QML engine does not enforce a specific order of code execution. As a result, delays in validation can occur when testers depend on a variable for display, but that variable has not yet been calculated at the time of rendering. [3] Another challenge was the complexity of the Qt framework and C++, which are the primary programming languages of MIC and MIC2. They are not easy to master, leading to increased training costs and in some cases, temporarily reducing team productivity.

MIC3.0 offers AI-supported object recognition, where, for example, vehicles are classified and highlighted in a video

"Spaghetti code" complicates handling

Over time, the second version of the Master Image Creator (MIC2) became increasingly difficult to manage. Although MIC2 offers the advantage of being highly customizable to project-specific requirements,



Example of the MIC3.0 video pointer evaluation function: this makes it possible to evaluate the angle and speed of tachometer needles

this flexibility gradually led to an increasingly unstructured source code. Due to the wide range of specific demands, the code evolved into a deeply nested “spaghetti code,” in which more and more functions and features were added – a classic case of feature creep. These changes had to be considered while ensuring that the testing effort remained optimally balanced with the results, meaning that high software quality was maintained, and testing remained efficient.

More flexible, modular and powerful with new features

As a result, the ASAP Group decided to further develop MIC2 into MIC3.0. The approach: to retain what has proven effective while enhancing functionality and improving usability. To achieve this, ASAP’s experts chose to continue using the existing QML code along with XAML, Window’s markup language for UI rendering, while designing a new parser – specifically a C# parser – to manage a backend logic. This C# parser is significantly easier to handle for beginners compared to C++ and QT Designer. [4]

The most complex challenge in this context was the development of the new parser, which interprets QML code and effectively translates it into XAML. The parser converts input data, such as text input, into a data structure. This structure mechanically reflects the entered data and validates the syntax using a set of so-called grammatical rules. These rules serve as a framework for generating code that a computer can interpret, supporting the parser in translating the input code into a machine-readable format. Without an appropriate parser, simplifying handling and expanding MIC2s functionality into MIC3.0 would not have been possible. [5] Thanks to the structure of the new parser, MIC3.0 can now leverage the reliability and robustness of XAML within the Windows Presentation Foundation (WPF), the UI framework for Windows desktop applications, while maintaining MIC2’s original functionality. The reference images created by MIC3.0 are identical to those of MIC2, which was an explicit goal of ASAP’S experts. The result is that a new parser and a new rendering engine operate in the background, yet the final output remains unchanged. This was intentional since the MIC2 reference images were already considered perfect.

ASAP begins development of its own markup language

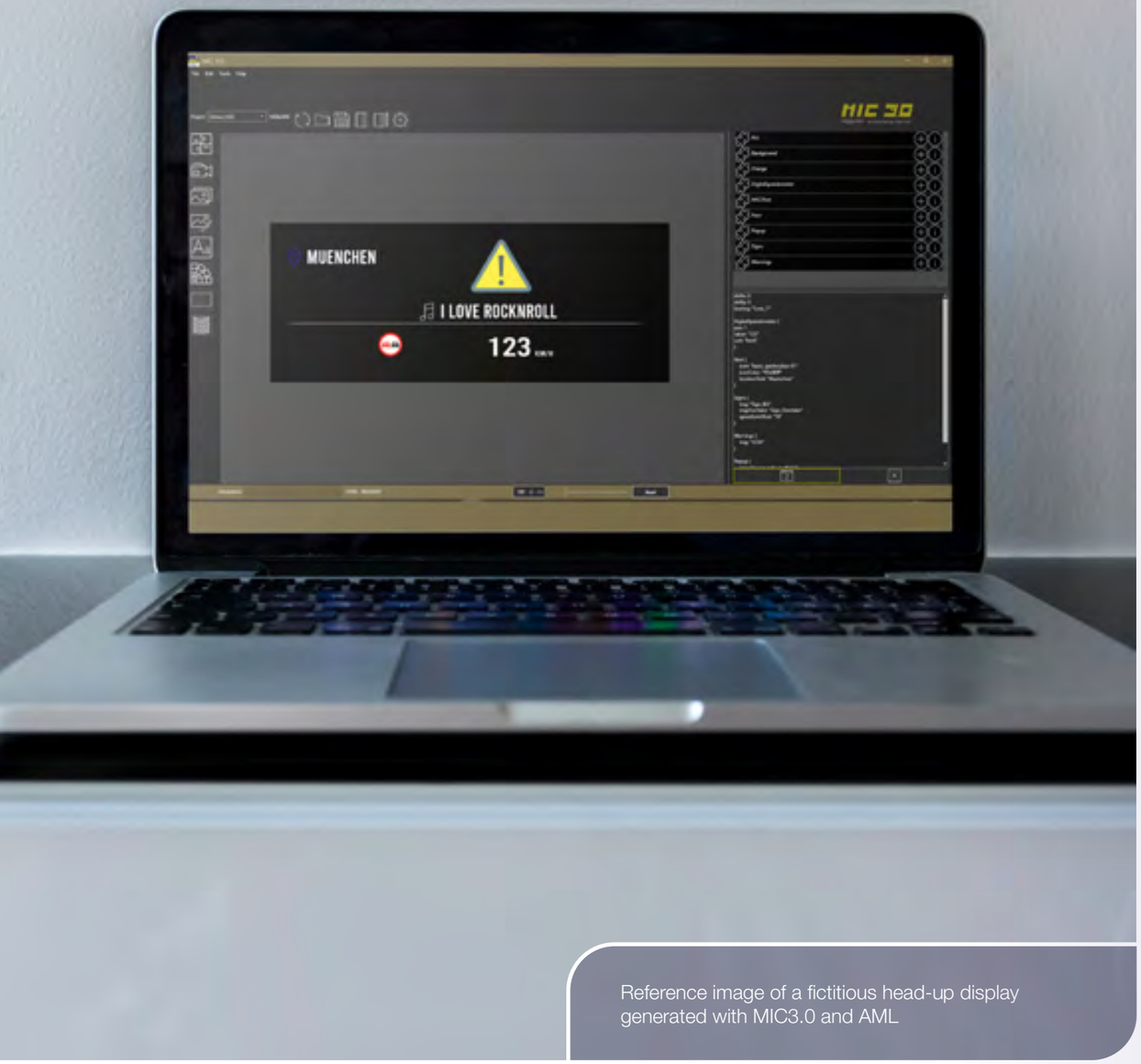
Going even further, ASAP has begun developing its own markup language as part of MIC3.0 – the ASAP Markup Language. AML represents an evolution of QML and is designed to significantly improve MIC3.0’s functionality and usability in the long run.

The main advantage of AML is its ease of use and application. It refines the functionalities introduced by QML, streamlining the development process and enhancing the efficiency of automated UI testing systems. QML, in some cases, has far too many functions for reference image creation. The actually relevant and required functions are directly translated into AML, which, among other things, simplifies the coloring of symbols in the code. MIC3.0 is thus a more flexible, modular and powerful version of MIC2, developed in a new programming environment and with a new programming language. ASAP’s experts continue to use the same image processing library and algorithms from MIC2 but port them into the new environment with the new language. The key advantage is that the required reference image functions – highly variable depending on the vehicle model – can now be tested more easily. This is also crucial for the future, as the number of functions will continue to grow. [6]

In addition to developing the markup language, MIC3.0 has been expanded with new video analysis functions compared to its predecessors. This enhancement enables the evaluation of increasingly dynamic and augmented displays, such as head-up displays. MIC3.0 now includes AI-based object recognition that, through machine learning can be trained on various display functions or widgets of control units. This allows them to be reliably identified and assigned in test automation.

Conclusion and outlook

In the future, MIC3.0 is even expected to function as a server-based, centralized application – another significant advancement. This would greatly simplify



Reference image of a fictitious head-up display generated with MIC3.0 and AML

resource management on test bench computers. MIC3.0 enables UI testing according to the latest standards, benefiting both manufacturers and end users, who experience the results in the form of technically sophisticated and intuitively operable user interfaces.

References:

[1] MASTER'S THESIS, Jay Jadhao, "Designing a markup language for dynamic user interfaces and implementing a parser algorithm for the designed language", Ostbayerische Technische Hochschule Regensburg, Faculty of Applied Natural Sciences and Cultural Studies, May 2024.

[2] Singh, D., "An introduction to qt and qml: Building powerful user interfaces," DEV Community, May 2023. [Online]. Available: https://dev.to/techishdeep/an-introduction-to-qt-and-qml-building-powerful-user-interfaces-52lj

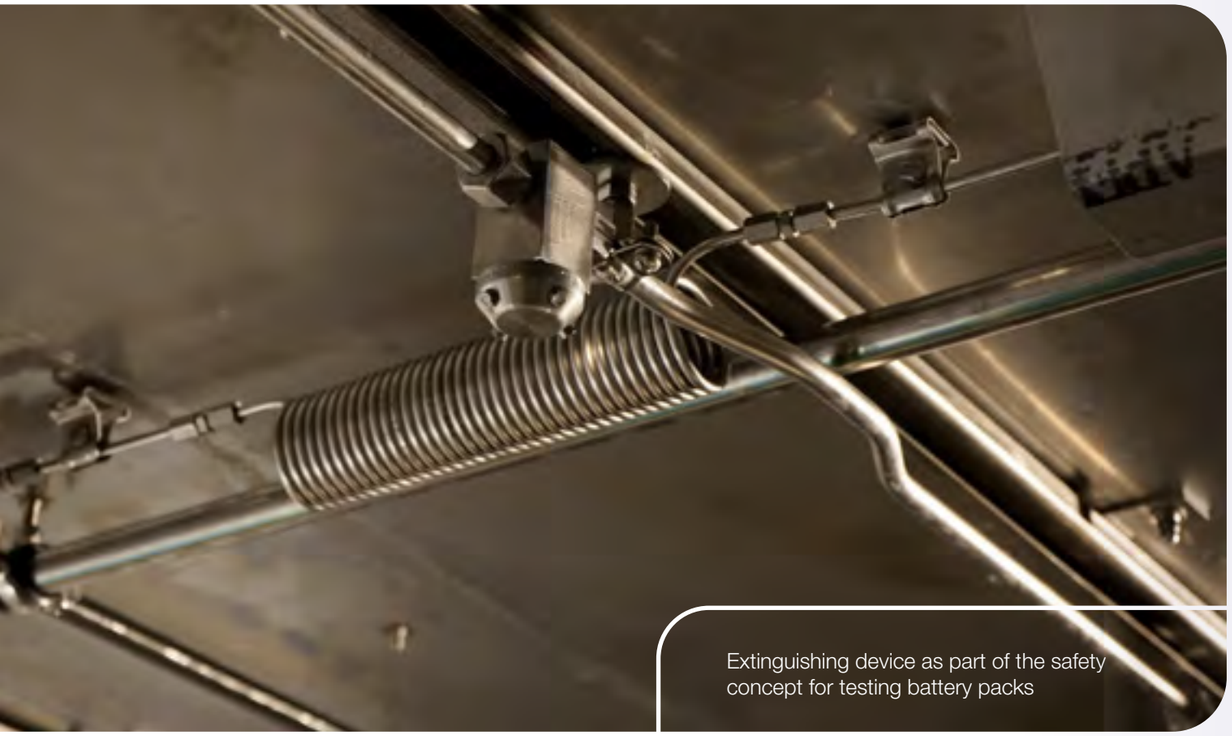
[3] MASTER'S THESIS, Jay Jadhao, "Designing a markup language for dynamic user interfaces and implementing a parser algorithm for the designed language", Ostbayerische Technische Hochschule Regensburg, Faculty of Applied Natural Sciences and Cultural Studies, May 2024.

[4] Clark, J., Introduction to XAML with WPF, JeremyBytes.com, 2010. [Online]. Available: http://www.jeremybytes.com/Downloads/IntroductonToXAML.pdf

[5] MASTER'S THESIS, Jay Jadhao, "Designing a markup language for dynamic user interfaces and implementing a parser algorithm for the designed language", Ostbayerische Technische Hochschule Regensburg, Faculty of Applied Natural Sciences and Cultural Studies, May 2024.

[6] Gelperin D.et al., "The growth of software testing," Communications of the ACM, vol. 31, no. 6, pp. 687–695, 1988. [Online]. Available: https://www.researchgate.net/publication/234808293_The_growth_of_software_testing

Tests of complete battery packs



Extinguishing device as part of the safety concept for testing battery packs

The ASAP Group is expanding its range of battery testing services for e-mobility

Complete battery packs can now be tested for quality and life cycle. ASAP is meeting customer needs by expanding its portfolio and continuously investing in testing and validation centers.

The ASAP Group, an engineering partner to the automotive industry, has further expanded its service portfolio in the battery testing field. In addition to its existing extensive testing services in the field of e-mobility, it is now also possible to test complete battery packs simultaneously at the Ingolstadt site. The existing test facilities have been upgraded with testing and safety technology as well as an automation system to enable battery pack testing. With this step, ASAP has responded to the continuously high market demand and has further strengthened its position in terms of consistency and battery expertise. “The need to validate complete battery packs has not decreased, contrary to earlier assumptions and will remain an essential service in the Test & Validation segment as the number of electric vehicles continues to rise,” says Dominik Sedlmair, Director Division Test & Validation at the ASAP Group. “With the newly created capability to test complete battery packs in terms of quality and life cycle, we are laying the foundation for further expansion of this promising service field. The exact expansion will depend on market conditions,” Sedlmair continues.

Battery Pack testing in compliance with a comprehensive safety concept

The validation of complete battery packs presents a major challenge in terms of the required resources and technical expertise. In accordance with a comprehensive safety concept, ASAP’s experts conduct automotive standard tests based on common OEM standards within the specified operating limits of the battery packs. The facilities also enable the validation of a Battery Management System (BMS), including a fully functional high-voltage battery.

The service portfolio includes environmental testing under various temperature and climatic conditions, electrical characterization and thermal testing as well es determining storage capacity under changing conditions. In addition, so-called life cycle tests are conducted at constant or varying temperatures to validate the calculated life cycle of battery packs, considering mission profiles. “Expanding our portfolio to include validation not only at the cell and module level but for entire battery systems was a logical step. This is evident in the fact that our test benches for battery pack testing are already well utilized with existing customer orders,” says Dominik Sedlmair, Director Division Test & Validation at ASAP.

Accredited ASAP Test and Validation centers at three locations in Germany

The ASAP Group operates three accredited Test & Validation centers at locations in Ingolstadt, Sachsenheim and Wolfsburg, offering comprehensive solutions in the Test & Validation sector. These range from the design and manufacture of customized test systems to the implementation of all process steps for component testing and life cycle validation. A key focus is on e-mobility.

In line with its strategy, the ASAP Group continuously invests in expanding its Test & Validation centers and its end-to-end services in Germany. For example, in 2021, a new test hall with approximately 750 square meters of space was commissioned at the Wolfsburg site, expanding development and validation services, particularly in e-mobility topics such as safety tests at the cell and module level and cell characterization.

ASAP has a total of 70 test benches across all locations. Each year, about 600 test specimens pass through the laboratories, undergoing high-temperature and temperature fluctuating testing, requirement-based software and functional tests, as well as environmental, corrosion and strength tests on LV and HV components. Through continuous expansion, the total test area of the centers now exceeds 6,000 square meters. ASAP is thus a leading partner for the validation of electric drive systems in the German-speaking automotive industry, with a focus on life cycle and power electronics.

Cooling circuit test bench for the validation of thermal management

Thermal management in electrified vehicles

ASAP offers a comprehensive concept for validating complex functions

Thermal management in electrified vehicles (TME) is highly demanding in terms of the integral networking of cooling and refrigeration circuits, directly affecting charging times, range and component conditions. As a result, the requirements for validating TME are also very high. These include analyzing complex functions such as heat and cooling distribution and recovery. The ASAP Group has extensive experience in TEM and interior climate control and offers customized methods and tools for automatic evaluation as well as driving simulations to identify errors in early project phases.

By Niklaas Krause, Manager E/E | Validation at the ASAP Group, and Nils Hollmann, Team Lead E/E | Validation at the ASAP Group

The thermal management of electrified vehicles helps ensure that an automobile operates safely with the highest possible efficiency. In this context, thermal management (TME) focuses on optimizing the cooling and heating balance in the drivetrain, battery, and passenger compartment to maintain low emission levels while ensuring a high level of interior comfort. At the same time, it directly affects charging times, range, and component protection. High requirements must be met to effectively utilize the battery‘s performance and to cool or heat it as needed, just like the electric motor and power electronics, while also providing comfort functions. [1]

The optimal interaction of the cooling and refrigeration circuits is controlled by thermal management. For example, the e-axle must always be cooled, while the battery needs to be cooled or heated as needed. Additionally, waste heat from a combustion engine is no longer available for heating the cabin, necessitating energy-efficient solutions such as heat pumps. Components directly controlled or analyzed by TME include valves, pressure and temperature sensors, an electric climate compressor, water pumps, and high-voltage heaters.

The validation requirements are accordingly extensive. Among other things, system and environmental conditions, circuit selection, and routine handling (such as the filling process) must be tested. Additionally, diagnostics must be performed for components such as the battery circuit, the electric machine circuit, fan control, the heating and cooling circuit with its valves and temperature sensors, as well as signal processing and conditioning.

ASAP is distinguished by many years of experience in thermal management and interior climate control, offering customized tools and methods for automatic evaluation and driving simulations. These include keyword-driven testing, where predefined keywords for various test cases and levels can be easily adjusted, as well as back-to-back tests, where identical test steps are carried out in different variations for the same functions. These methods accelerate validation and increase result traceability. Additionally, ASAP thinks outside the box: Validation experts at ASAP collaborate closely with colleagues specializing in other vehicle development areas, integrating their expertise into TME validation. The goal is to identify as many interrelations and dependencies as possible in the early project phases, ensuring high efficiency in the validation process.

Thermal Management contributes to range and comfort

A fundamental aspect of thermal management (TME) is the inherent trade-off between vehicle range and interior comfort. Since the available energy is limited, climate control can significantly reduce the range of electric vehicles. [2] An energy-efficient thermal management system balances both factors, enabling efficient operation without major comfort compromises.

The importance of thermal management is evident for example, in battery charging efficiency: a battery charges most efficiently when it is at the optimal temperature. Reaching this temperature under normal driving conditions can take up to 50 kilometers. However, when a charging station is selected via the vehicle’s built-in navigation system, the thermal management system actively ensures that the battery reaches the ideal temperature for charging – regardless of the distance to the next station.

Test bench with cooling circuit

Thermal Management helps to implement legal requirements

Thermal management not only plays a crucial role in enabling the electric motor to reach its full potential and ensuring effective interior temperature control, but it also helps ensure compliance with legal regulations designed to protect human health and the environment. One key aspect of this is its involvement in the development of onboard diagnostics (OBD), a specialized diagnostic system that covers OBD-relevant criteria. This diagnostic system was first introduced in the U.S. by the California Air Resources Board (CARB) in 1988 in response to persistently high ozone levels. In Europe, OBD legislation has been relevant since 1996. Most countries follow OBD requirements based on either U.S. (CARB) or European (ECE/EU) emission regulations, though some, such as China and Japan, are developing their own legislation.

The primary objective of OBD regulations has been to ensure compliance with emission standards throughout a vehicle's lifetime. Over time, OBD legislation has evolved into OBD-II diagnostics, which mandates an onboard electronic monitoring system that continuously checks emission-related components (sensors and actuators) for electrical faults. While initially developed for combustion engines, these regulations also apply to electric and plug-in hybrid electric vehicles (PHEVs) under the SAE J1979-3 ZEV standard. According to this standard, all emission-relevant control units must feature corresponding diagnostic functions. In electrified vehicles, the proper functioning of this electronic monitoring system is tested in conjunction with thermal management.

For manufacturers, it is highly beneficial if the teams responsible for vehicle validation have extensive expertise in functional validation. Additionally, close collaboration with experts from other stages of vehicle development – such as software and hardware integration and validation – is of advantage. This interdisciplinary exchange helps ensure that the complex requirements of thermal management validation are implemented efficiently and at a high level.

ASAP Group covers the entire V-model

The ASAP Group has traditionally been strong on the right side of the V-model, which is characterized by the validation and testing process. The validated components, assemblies, and functions are gradually integrated into systems and subsequently into the overall vehicle before final approval. Before this, the left side of the V-Model outlines the requirements and specification process, in which the functional and technical specifications of the overall vehicle, as well as its systems and components, are defined based on customer requirements. Over the years, the ASAP Group has continuously expanded its expertise in TME. By now, it has acquired know-how across the entire V-Model and is actively involved in ongoing projects.

The validation and testing process for TME at ASAP is carried out by an experienced team of experts. This team is responsible for the comprehensive functional validation – both of individual components and the overall system. ASAP supports customers in developing the concept and conducts simulations as well as the validation of the entire hardware and software system. This includes the application of keyword-driven testing, where predefined keywords for various test cases and levels can be easily adapted, as well as back-to-back testing, in which the same test steps are executed in different variations for identical functions.

Thermal management itself encompasses complex areas such as battery management, preconditioning – for example ensuring the battery's state of charge and the vehicle's interior temperature are at optimal levels before departure – and interior experience design. The interior experience, for example, is an interplay of climate control (TME), the human-machine interface (HMI) with video functionality, as well as the audio system and lighting. Depending on the selected scenario, integration and control take place accordingly. The TME regulates the interior temperature and activates various comfort functions depending on the variant or optional features chosen. Lighting, sound, and features such as seat and steering wheel heating are adapted to specific scenarios.

More vehicle models, derivatives and functions need to be tested

For a top-ot-the-range SUV, the TME now comprises around 3,000 requirements and nearly 50 functions, some of which are interconnected.

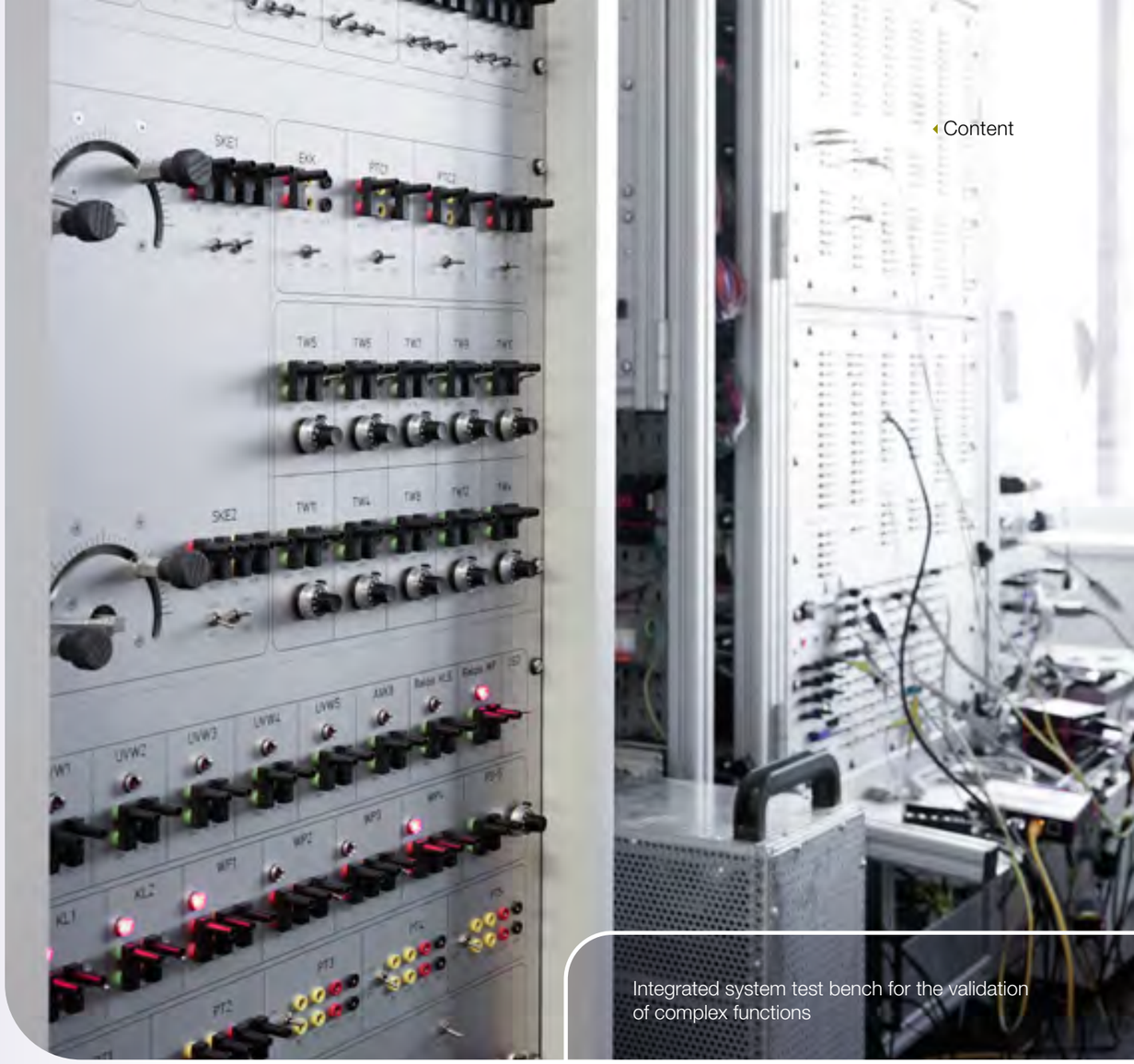
It also includes integration with Ethernet and CAN FD, networking with multiple partner ECUs, a master controller for four LIN buses, as well as approximately 51 LIN nodes, up to 47 analog actuators and up to 32 analog sensors. In this context, around 500 input and 100 output signals must be tested and analyzed, along with complex OBD and OBD-II diagnostics. Numerous components, control units, and systems are embedded within this framework. These include, for example, the battery management system, climate control unit, auxiliary heater, charger, and drivetrain. Other key components include the electric air conditioning compressor, high-voltage PTC/HV-H heater, shut-off valves, and pressure-temperature sensors for the refrigerant, as well as pumps, radiator fans, and various valves regulating the water cycle, along with temperature sensors.

The complexity of the testing process is evident in the following example: During validation, ASAP's experts analyze the properties of different refrigerants used in the air conditioning compressor. They examine which refrigerant is best suited for a specific compressor and what happens when the refrigerant is changed. Various factors must be considered – not only do different refrigerants have varying cooling capacities, but the pressure at which they circulate also differs depending on the refrigerant. ASAP's experts evaluate whether the hoses can withstand the pressure and friction caused by the refrigerant or whether alternative hoses are required. This issue has gained new relevance in the light of the F-Gas regulation, which is gradually banning refrigerants with high GWP values across Europe in the coming years. [3] Since more environmentally friendly alternatives with lower GWP values also referred to as CO2 equivalents – often operate at higher pressures, this characteristic must be considered and properly validated.

Conclusion: Real-world validation verifies virtual validation

ASAPs validation activities for thermal management cover the "complete package": specification and validation for combustion engines and more importantly, for electric powertrains, development of MiL and SiL test environments, test automation, test execution, HiL support and data analysis using TPT. ASAP not only ensures the validation of both the "old" and "new" automotive worlds – combustion engines and electric vehicles – but also bridges the gap between virtual and real-world validation. Whether the previously made assumptions are correct only becomes evident when testing the actual components or later within the system network with all involved ECUs and wiring. Frequently, unexpected malfunctions occur when all components interact with issues that simulations could neither predict nor replicate. For example, ASAP experts initially simulate component tests when searching for mechanical, electrical, and dynamic failures, as well as system errors.

Then, real components are tested. In some cases, parameters such as thermodynamics are simulated to analyze temperature, turbulence, and resulting airflow. After the simulation, the experts validate the results directly on the component itself. By meeting the extensive requirements for validation and verification, ASAP's expertise and close collaboration with specialists from other areas of vehicle development prove to be invaluable. This results in a more cost-effective, faster, and safer validation process – ultimately benefiting the customer.



Integrated system test bench for the validation of complex functions

References

[1] Karle, A. (2021). Elektromobilität: Grundlagen und Praxis (5th, fully rev. & expanded ed.). Hanser.

[2] Kampker, A., & Heimes, H. H. (eds.). (2024). Elektromobilität: Grundlagen einer Fortschrittstechnologie (3rd ed.). Springer Vieweg.

[3] Regulation (EU) 2019/631 of the European Parliament and of the Council of 17 April 2019 setting CO2 emission performance standards for new passenger cars and for new light commercial vehicles, and repealing Regulations (EC) No 443/2009 and (EU) No 510/2011

News 2024

15 years Communication & Design

Diverse team with professional expertise and technical know-how

ASAP‘s full-service agency offers 360-degree communication solutions for OEMs and Tier 1 suppliers. The renaming to code | Communication & Design brings the extensive service into focus.

„Our customers value our innovative, holistic approach“

For 15 years, the ASAP Group‘s full-service agency has been providing international automotive customers with comprehensive advice on communication and marketing issues. ASAP Communication Service, which has now been renamed to code | Communication & Design, covers all areas from consulting, marketing communications and virtual design to event management. Its customers are mainly OEMs and Tier-1 suppliers. A broad-based team develops and implements the complete portfolio of a full-service agency for them. Consulting solutions is a new area of focus. This includes support with Change Management or tool rollouts as well as the moderation of workshops and the creation of training concepts.

On the occasion of its 15th anniversary, ASAP Communication Service has changed its name to code | Communication & Design. The new appearance strengthens awareness of the agency‘s extensive portfolio. “The name code | Communication & Design also conveys the fact that our individual services combine to create a holistic, future-oriented image. This approach has become increasingly important for customers,” explains Heinz Schwartz, Director Division Consulting & Service at the ASAP Group, to which code | Communication & Design belongs.

In addition to its specialist knowledge, the 20-strong team benefits from an understanding of the automotive industry and know-how in the field of automotive engineering. This expertise also flows into the integration of new markets and communication trends such as (online) workshops and virtual training, which are usually part of the 360-degree strategy. “Our customers value our innovative, holistic approach. Not only do we find solutions for a wide range of issues, but we also show further-reaching perspectives through the implementation of the projects,” says Susanne Knutsson, Team Leader of code | Communication & Design.

German Design Award: Recognition for ASAP Group’s new brand identity

New look & feel brings ASAP’s identity to life

The ASAP Group was honored with the German Design Award 2025 in the category “Excellent Communications Design – Corporate Identity” for its “Works at ASAP” brand campaign implemented in 2024 and the comprehensive rebranding. The German Design Award is one of the most prestigious awards worldwide and represents outstanding design quality and innovative strength.

The international expert jury particularly appreciated the successful combination of modern corporate design and the overarching brand strategy. “The guiding principle ‘Works at ASAP’ excellently conveys the expertise in automotive engineering, the commitment as an employer and the corporate culture of the ASAP Group,” the jurors emphasized their statement.

The rebranding introduced in 2024 has significantly sharpened the brand identity of the ASAP Group. “A lot of passion went into our ASAP rebranding. Our goal was to make the ASAP brand more dynamic and contemporary, while also respecting our roots and values. Winning the German Design Award is a great recognition of our creative effort,” explains Ebru Kahraman, Head of Marketing and Corporate Communications at the ASAP Group.

The rebranding combines brand campaign, corporate design and style of communication into a cohesive overall concept. Whether it’s the employer branding campaign, corporate wear, or the redesigned website – the new brand identity makes ASAP’s values come alive and presents the brand in a modern and future-oriented way.

GERMAN DESIGN AWARD WINNER 2025

Award-winning

Innovative strength and corporate culture have received multiple awards

German CEO Excellence Award 2024: Award for Michael Neisen

Michael Neisen, CEO of the ASAP Group, has been honored with the German CEO Excellence Award 2024 in the category “Autonomous/EV Engineering“. The renowned magazine EU Business News recognized his strategic leadership and the visionary direction of the company group.

Under Neisen‘s leadership, the ASAP Group has developed from a start-up to a globally successful engineering partner for the automotive industry. From the very beginning, Neisen has focused on future-oriented technologies such as autonomous driving, e-mobility and connectivity. “I am delighted to receive this award. Of course it is not just for me, but also for the many dedicated colleagues at ASAP, without whom ASAP’s longstanding success story would not have been possible,” said Michael Neisen.

Neisen’s clear focus on the megatrends of the automotive industry and the emphasis on modern corporate culture have always been key factors in the success of the ASAP Group. Both drive innovation, efficient collaboration and a culture of appreciation. A milestone was reached in 2018 with the investment by ZF Friedrichshafen AG, laying the foundation for the expansion of the autonomous driving and e-mobility sectors.

In 2023, the acquisition by HCLTech paved the way for the ASAP Group’s entry into international markets. Together with HCLTech, ASAP is driving innovation in areas such as Software Defined Vehicles and IoT systems.

After studying automotive engineering at the Hamburg University of Applied Sciences in 1990, Neisen himself began his career as a body developer at one of Europe‘s leading engineering service providers and quickly became Managing Director. In 2009, Michael Neisen became a partner and took over the management of the company together with Gürsel Sen – this was followed by the reorientation of ASAP.

ASAP is once again ‘TOP Employer‘

Success in a row: In 2024, the ASAP Group was awarded the title ‘TOP Employer” for the ninth consecutive time. With the eleventh place in the ‘Automobile and suppliers’ category, ASAP is once again among the best employers in Germany. The award is based on a study conducted by the news magazine Focus in collaboration with the research institute FactField. The study is based on Germany-wide online surveys and employer evaluations.

TOP 100 Innovation Award for ASAP Group

Innovation leader in Germany: In 2024, the ASAP Group received the TOP 100 Innovation Award for the eighth consecutive time, once again ranking among the most innovative SME companies in Germany. The ASAP Group particularly impressed in the categories ‚Innovation success‘ and ‚Innovation-promoting top management‘. The award is based on a scientifically sound analysis of over 120 criteria by a team of experts.

WELT TV honors ASAP’s innovative strength

Recognition for exceptional innovative strength: In 2024, the ASAP Group once again received the “very high innovative strength“ award from the new channel WELT TV. In the annual survey conducted by the broadcaster in collaboration with the rating and ranking agency ServiceValue, it was determined which companies impress with their outstanding innovation strength. The study was based on over 216,000 managers ‘assessments of 2,379 German companies from 175 sectors.

German Design Award: Award for new brand identity

The new brand appearance of the ASAP Group impresses with its modern design and clear values. The combination of the rebranding and the ”Works at ASAP“ brand campaign was awarded the prestigious German Design Award 2025 for “Excellent Communications Design – Corporate Identity“.

“Leading Employer“: ASAP is among the top 1% of German employers

For the fifth time in a row, in 2024, the ASAP Group has once again received the “Leading Employer“ award, placing it among the top 1% percent of German employers nationwide and across industries. The award process involves the study of several hundred thousand companies and the analysis of millions of data points. According to its own statement, “Leading Employer“ is one of the most comprehensive employer evaluation systems worldwide.

“TOP COMPANY“: kununu quality seal for high employee satisfaction

Every year, the online evaluation platform presents the “TOP COMPANY“ award. “Recommended by employees“ is the statement behind the kununu quality seal ‘TOP COMPANY‘. This seal is awarded to companies that demonstrate high employee satisfaction. The assessment is based solely on employee reviews. The ASAP Group has been ranked among the top positions in the automotive industry on kununu for years.

Focus on social and ecological awareness

The ASAP Group improves key sustainability figures and further develops corporate culture

Defined values, leadership guidelines and a code of conduct provide orientation for management and employees. The objectives are reviewed regularly.

The ASAP sustainability management is part of the integrated management System at ASAP. The task of the sustainability management is to identify opportunities and risks at an early stage in order to develop and implement appropriate strategies and measures.

For the ASAP group, it is not only important to continuously improve its key sustainability figures, but also to further optimize the entire corporate culture with a strong awareness of ASAP's social responsibility.

Values and leadership guidelines provide orientation

The ASAP Group aligns its actions with values such as humanity, authenticity, competence, freshness and enthusiasm. In addition, six leadership guidelines provide orientation for management and employees. These guidelines focus on the aspects of objectives, responsibility, motivation, community, conduct and communication.

For ASAP it is also a matter of course to advocate for the protection of human rights and generally accepted labor standards throughout the entire value creation process and to commit to the UN Global Compact, which pursues the vision of a more inclusive and sustainable economy for the benefit of all people.

Furthermore, the ASAP Code of Conduct defines additional behavioral standards. These combine entrepreneurial actions with ethical principles and establish guidelines for integrity. Acting lawfully and fairly in daily business operations, as well as handling environmental resources responsibly – these are key priorities for the ASAP Group. The following examples illustrate how ASAP implements these commitments into practice.

Certified environmental management system

To ensure environmentally compliant operation, ASAP collaborates with a service provider that regularly reviews relevant laws and regulations and provides recommendations for action. These recommendations are implemented as part of the environmental management system and monitored for compliance through regular audits. The ASAP Group has had its environmental management system certified in accordance with the globally recognized standard DIN EN ISO 14001:2015.

High level of customer data protection

The ASAP Group has also implemented a systematic information security management system. The ASAP Group demonstrates its high level of expertise in this domain through relevant certifications such as ISO/IEC 27001 and regular assessments in accordance with TISAX standards, which represent the information security standards of the VDA.

Efficient energy use

One of the key objectives of ecological sustainability efforts is efficient energy use. Since the 2023 fiscal year, ASAP has had its efforts regularly reviewed by independent authorities through external certification in accordance with the DIN EN ISO 14001 standard and thereby ensures internal improvement processes.

This is evident, for example, in the fact that electricity consumption was identified as the most significant source of CO2 emissions with two thirds of the total energy consumption across all sites. In response, the ASAP Group has switched to sourcing almost 100% of its electricity from renewable energy sources.

ASAP Group “on tour“

In 2024, the automotive engineering partner presented its comprehensive service portfolio at numerous trade fairs. Here are some impressions.

ASAP Group at the DVN workshop in Munich

“With scenario-based testing, dynamic processes such as speed changes or complex traffic situations can be simulated realistically. Keyword-driven testing complements this by enabling the automated creation and adaptation of test cases, which leads to a significant increase in efficiency and time savings,” explains Patrick Goerg, Head of Electronics Development at the ASAP Group.

ASAP Group at VW PartnerForum Wolfsburg

Gernot Joswig, CBDO at the ASAP Group, summarizes: “The PartnerForum Volkswagen Development has proven to be a top-class platform. The opportunity to engage in direct exchange not only enabled us to make valuable contacts, but also to convince our existing and potential customers once again of the consistency and performance of our portfolio.”

ASAP Group at the 12th International Congress on Automotive Wiring Systems in Ludwigsburg

“It became clear that wiring systems development is a key area. It reflects the changes in the automotive industry in countless approaches, processes and components and always has to anticipate future requirements such as an increasing number of vehicle functions and new drives,” says Stefan Schmidt, Director Division Vehicle Engineering at the ASAP Group.

ASAP at the International Automotive Electronics Trade Fair VECS

Jan Mrochen, Team Coordinator Software | Virtual Validation, presented a modular and scalable test framework developed by ASAP which is used for Model-in-the-Loop (MiL), Software-in-the-Loop (SiL) and Hardware-in-the-Loop (HiL) test benches as well as vehicle testing. ASAP implements virtual integration platforms for the validation of control unit functions using environment simulations and optimizes the process by incorporating a consistent and test system-independent keyword-driven testing framework.

ASAP Group presented end-to-end service portfolio at PCIM Europe 2024

“PCIM has shown once again: In an increasingly software defined world, virtual validation is becoming more important without the physical testing of components and systems losing its significance. At ASAP, we are actively shaping this change and developing our processes and systems accordingly,” says Dominik Sedlmair, Director Division Test & Validation at the ASAP Group.

ASAP Group at the International Automotive Electronics Congress in Ludwigsburg

”The International Automotive Electronics Congress demonstrated that there is strong demand for both our PAK automation solution and our comprehensive service portfolio. ASAP experts with different automotive engineering focuses work closely together – always with the aim to offer the best solution for customers and partners,” summarizes Marcus Hiller, COO at the ASAP Group.

ASAP Group presented new tools for data migration and validation at the ELIV trade fair

Martin Ott, COO at the ASAP Group, looks back on his participation at the ELIV in Bonn: “At ASAP, we specifically bring together different ways of thinking and diverse expertise. In our experience, this promotes innovation and leads to the best possible solutions for our customers more quickly, even against the backdrop of the ever-increasing requirements of Software Defined Vehicles. This interdisciplinary approach has been further strengthened since the start of the collaboration between the ASAP Group and the global IT group HCLTech on August 31, 2023.”

W´ASAP: The ASAP Group podcast

Tune in for news and background information

W´ASAP is the name of the ASAP Podcast that provides exciting background information about projects, news, and the best stories from and with the people at the ASAP Group.

In a recent episode, Michael Neisen, CEO of the ASAP Group, and Frank Petznick, Senior Vice President & Global Automotive Engineering Head of HCLTech, as well as Managing Director of the ASAP Group, explain the joint strategy of HCLTech and the ASAP Group for the globalization of automotive engineering. The aspects this strategy covers and what customers in many markets around the world can benefit from.

Here’s the episode in German

In another episode, Eugen Wurzer, Director Key Account at the ASAP Group, talks about his experiences with intercultural diversity in everyday work life. His professional career has taken him to Italy and India, among other places. In the podcast, he provides insights into the challenges and opportunities of intercultural collaboration and how these learnings enrich his work at ASAP.

Here’s the episode in German

The topic of mental health is becoming increasingly important because it affects all of us, whether in our personal lives or at work. And especially in the professional world, we find inspiring stories. This story is about Patrick Goerg, Head of Electronics Development at the ASAP Group. In a podcast, he talks about his experience with depression – and how his work has helped him cope.

Here’s the episode in German

Imprint

Publisher
ASAP Holding GmbH
Sachsstraße 1A | 85080 Gaimersheim
Phone +49 8458 3389 0 | Fax +49 8458 3389 199
holding@asap.de

Head of Marketing/Corporate Communications
Ebru Kahraman

Editing and conception
Kerstin Hebeler

Design and production
Lukas Otting

Print
Kontrastreich GmbH | 63500 Seligenstadt

Photos
p. 49 HCLTech
p. 50 HCLTech
p. 54 GettyImages_1200103194_darekm101
p. 67 iStock_1180543403_metamorworks
p. 68 iStock_1291478674_NicoElNino
p. 70-71 iStock_1433041100_NicoElNino
p. 72 Pixabay_7633488_DeltaWorks
p. 77, 78, 80 Unsplash_Marcus Löfvenberg

asap.de/en