



Success Story
AUTOMOTIVE

STREAMLINED DEVELOPMENT WORKFLOW THROUGH TERRAFORM ENTERPRISE

The adoption of Terraform Enterprise by a German automotive company enabled a successful technical and cultural change.

demicon.de

This success story demonstrates how we helped our client, a software hub of a German automotive company, to both improve the overall Developer Experience (DevEx) and also help minimise cloud waste, implementing a streamlined development workflow migrating to Terraform Enterprise – a crucial step to ensure light speed time-to-market in this highly competitive area.

INDUSTRY AUTOMOTIVE

CLIENT SOFTWARE HUB OF A GERMAN AUTOMOTIVE OEM

TOOLS AWS, TERRAFORM ENTERPRISE

COMPETENCES OF DEMICON

- Extensive AWS & TERRAFORM know-how
- Certified experts
- Vast experience in the automotive industry
- Strong analytical and methodological competence
- Customised solution approaches
- In-depth expertise in process standardisation and automation

“Following a pragmatic and collaborative approach with the client’s teams, we could migrate from the legacy system to Terraform Enterprise efficiently and smoothly without downtime.”

RICO NUGUID

BUSINESS UNIT LEAD & PRINCIPAL CLOUD
SOLUTION ARCHITECT AT DEMICON



BENEFITS FOR OUR CLIENT

-  Increased quality & efficiency of software development
-  Enhanced resiliency through automation
-  Improved teamwork & the developer experience
-  Maximised productivity & faster onboarding through standardisation
-  Elevated competitive advantage through innovation
-  Boosted profitability & sustainability with substantial cost savings

STREAMLINED DEVELOPMENT WORKFLOW THROUGH TERRAFORM ENTERPRISE

BERLIN & STUTTGART, DEMICON

The IT environment for automotive companies is changing dramatically. To thrive in the contemporary digital world, IT leaders must evolve from ITIL-based gatekeeping to enabling shared self-service processes for improved digital experiences.

The Cloud is quickly becoming the default choice for organisations to deliver new value to their users. Forward-looking companies must adopt a cloud operating model — a framework for adopting cloud services — to maximise their agility, reliability, and security in order to deliver superior user experiences and outcomes.

Today's cars are no longer just a means of transportation, and digital experience has become the primary interface between cars and drivers. Modern digital interactions are designed to provide rich,



personalised experiences informed by interactions between the car's Electronic Control Units (ECUs), the cloud and intelligence as quickly as possible.

For most automotive companies, these digital transformation efforts mean delivering new solutions and constituent value faster, including a significantly reduced time to market, to provide the best customer experience as soon as possible. Organisations undergoing a digital transformation unavoidably put pressure on the teams delivering and supporting embedded software applications. The cloud is an inevitable part of this shift as it presents the opportunity to deploy on-demand services at a limitless scale rapidly. In addition, implementing automated, self-service platforms is essential to help these organisations overcome widespread skills gaps and free up critical IT resources to focus on end-user value.





THE PROJECT & ITS CHALLENGES

At the beginning of the project, our client had an existing legacy development workflow in place.

The solution was initially designed and implemented with the focus on Infrastructure as Code. At that time, the context, requirements, and number of users were different. However, as new features and patches were added, new developers were onboarded, and requirements changed, the core solution was not re-evaluated.

The challenges faced were significant, as the lack of flexibility slowed down innovation delivery. Maintaining a high-quality service became more complex and time-consuming. Consequently, developer satisfaction was decreasing, and keeping employees motivated and confident in releasing new features was challenging. This evolution in cloud adoption is seen in many companies that face the challenges of maturing their cloud infrastructure (see maturity model below).



MATURITY MODEL

Intending to find a fast yet sustainable and scalable way to solve the problem, the company's management consulted DEMICON.

KEY PRACTICES	CRITERIA >			
	LOW MATURITY: ADOPTING Early implementation or adoption of critical cloud practices	LOW MATURITY: STANDARDISING Standardisation on the use of critical cloud practices	HIGH MATURITY: SCALING Full-scale adoption & governance of critical cloud practices	
INFRASTRUCTURE	Infrastructure as code	Cost optimisation tools	Policy & enforcement	Publishing & managing standard images
SECURITY	Secrets management	Encrypting secrets at rest	Data encryption & tokenisation	Dynamic secrets
NETWORKING	Cloud networking	Automating networking infrastructure	Securing traffic	Network observability solutions
APPLICATIONS	Using build pipelines	Continuous integration / continuous delivery (CI/CD)	Automating container builds	Customising release pipelines
PLATFORM TEAM OPERATIONS	Taking operational responsibility for site reliability	Developing & standardising cloud infrastructure strategy	Architecting cloud solutions	Defining & measuring site reliability

LEVEL OF MATURITY →

SOURCE: Forrester Consulting: "Operational Maturity Maximizes Multicloud Scale Operational Cloud Practices To Strengthen Security, Leverage Skills, And Minimize Costs, May 2023



DEMICON'S SMT PHILOSOPHY

The unique approach of the DEMICON System, Methods & Team (SMT) Philosophy helps bridge the gap between processes, methods and tools. It plays a vital role in software development by ensuring that the software system is designed in a scalable and maintainable way while addressing the customer's specific challenges. Various methods and techniques are used to create efficient, reliable and easy-to-maintain software systems.

The DEMICON System, Methods & Team approach focuses on software systems' design, architecture, and implementation. The team is responsible for creating and maintaining the foundational structure of IT and software projects, which includes designing the high-level architecture, defining the data model, establishing coding standards, and implementing core functionality.





OUR APPROACH

During the evaluation phase, DEMICON, with the System, Methods & Team approach, obtained an overview of the existing development workflow, best practices in place, tool landscape and the customer's requirements.

Our client faced four key challenges: First, the team needed standardisation to enable better teamwork on interconnected projects. Second, the development workflow needed to be adapted to the growing teams and project size to facilitate and accelerate the development of new features and also increase overall quality. Third, the team needed to gain experience with the new solution and tooling to later migrate their applications from the legacy workflow to the new solution without causing any downtime. Fourth, ensuring strong security measures are in place to protect cloud resources..

Based on this evaluation phase, we assessed different options. Thanks to our extended cloud expertise and many years of experience, we created an in-depth evaluation where all the alternatives were documented and compared on various criteria related to the requirements gathered during the analytical phase. Terraform Enterprise was evaluated against other options and chosen as the best fit for our customer after comparing pros and cons.

Going on, we conducted a workshop with the stakeholders and management where we presented a vision of our proposed solution, Terraform Enterprise, and suggested a roadmap and an action plan to migrate smoothly from the legacy solution iteratively, team after team, project after project. Our team created a comprehensive architecture, which convinced our customer to invest in the solution and change how the development teams work in the cloud.



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WITH THE
FUTURE OF IT.

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WHY TERRAFORM ENTERPRISE?

The client, who was struggling with an outdated legacy setup and the need to improve productivity, keep up service quality and minimise cloud waste, decided to trust the DEMICON experts, having extensive experience in Hashicorp's Terraform Cloud & Terraform Enterprise products, to implement a tailor-made development workflow using Terraform Enterprise as the foundation stone of their entire Infrastructure as Code (IaC) platform.

Collaboration & Access Control:

Terraform Enterprise (TFE) provides powerful collaboration and access control features. These features simplify the management of users, teams, and permissions, ensuring that only the appropriate individuals can access specific infrastructure components. A crucial topic for extensive teams or organisations with intricate infrastructure configurations.

Version Control Integration:

TFE can integrate with version control systems like Git, enabling you to maintain Infrastructure as Code (IaC) configurations alongside your application code. The integration facilitates better collaboration, code review, and versioning of infrastructure changes.

Remote State Management:

TFE supports remote state management, which allows your team to share, lock, and manage Terraform state files centrally. Preventing conflicts and ensuring consistent state management across the team.

Policy Enforcement:

With TFE, you can define policy checks using HashiCorp's Sentinel language or Rego Policy Language to create policies. These policies can enforce compliance requirements, best practices, and other governance rules, making maintaining a consistent and compliant infrastructure easier.



Automated Workflows:

Terraform Enterprise allows you to set up automated workflows and pipelines, enabling continuous integration and continuous deployment (CI/CD) for your infrastructure. Making it easier to deploy changes rapidly while maintaining stability.

Performance & Scalability:

TFE is designed to handle large and complex infrastructures, making it suitable for organisations of all sizes. It can scale to accommodate the needs of your growing infrastructure and development teams.

Monitoring & Insights:

TFE provides visibility into your infrastructure changes and their impacts. It offers logging, monitoring, and reporting features, allowing you to track changes, troubleshoot issues, and analyse performance.

Support & Professional Services:

Terraform Enterprise gives you access to HashiCorp's official support and professional services, which can be valuable for resolving issues quickly and receiving expert guidance when needed.



THE IMPLEMENTATION PROCESS

After our initial assessment, the client opted for Terraform Enterprise. Our experts then designed and implemented a customised development workflow, using AWS as the cloud provider for hosting the infrastructure. This phase established a solid foundation for the platform and ensured a smooth migration process. This phase laid the foundation for a well-structured platform and successful migration.



In the next phase, the focus shifted to migration. To maximise efficiency while reducing complexity for the client's teams, DEMICON took over the redaction of the migration documentation and the creation of a blueprint primarily through automation for bootstrapping the teams and setting them on a good track for a seamless and successful migration.

Additionally, we provided hands-on training and best practices to ensure that developers and product owners could quickly familiarise themselves with the new ecosystem and tap into the benefits of the new infrastructure.

At this stage, the teams were able to schedule and manage the migration of their applications to Terraform Enterprise in close collaboration with the DEMICON experts.

Upon successful migration, our team focused on standardising processes and implementing governance policies. The goal was to define security boundaries, control costs and ensure everyone followed the best practices and conventions established.





THE BENEFITS – ALL WINS AT A GLANCE

As a result, the client was able to drastically improve developer experience, while, at the same time, boosting productivity, enhancing resiliency of the cloud infrastructure, increasing overall quality, and saving cloud costs – setting them up for significant competitive advantage and business growth thanks to a faster time-to-market.





CONCLUSION

Our client is now able to take advantage of all the benefits provided by Terraform Enterprise for their software development projects, thanks to the support of DEMICON. In this modern environment, the developer experience has been significantly improved, allowing our client to enhance the efficiency of their teams, and release new features to the market at a faster rate, without compromising on quality. With these new capabilities, our client is well-equipped to foster innovations in the automotive industry.

DEMICON is a multi-award winning IT service provider founded in 2008, and one of the leading AWS and Atlassian Platinum & Enterprise Solution Partners in the DACH market.

DEMICON has built a legacy based on deep technical expertise and strategic thinking, combined with a people-first approach. Our services range from customised software development and implementing scaled, agile methods, such as SAFe, to consulting on agile processes and hosting seminars and workshops.

Our team of experienced Enterprise Architects, Technical Consultants, Software Engineers, Business Consultants and Project Managers provide a wide range of solutions to help companies reach their digital goals.

TOGETHER WE WILL DESIGN
THE RIGHT SOLUTIONS FOR
YOUR VISION!



GET IN TOUCH