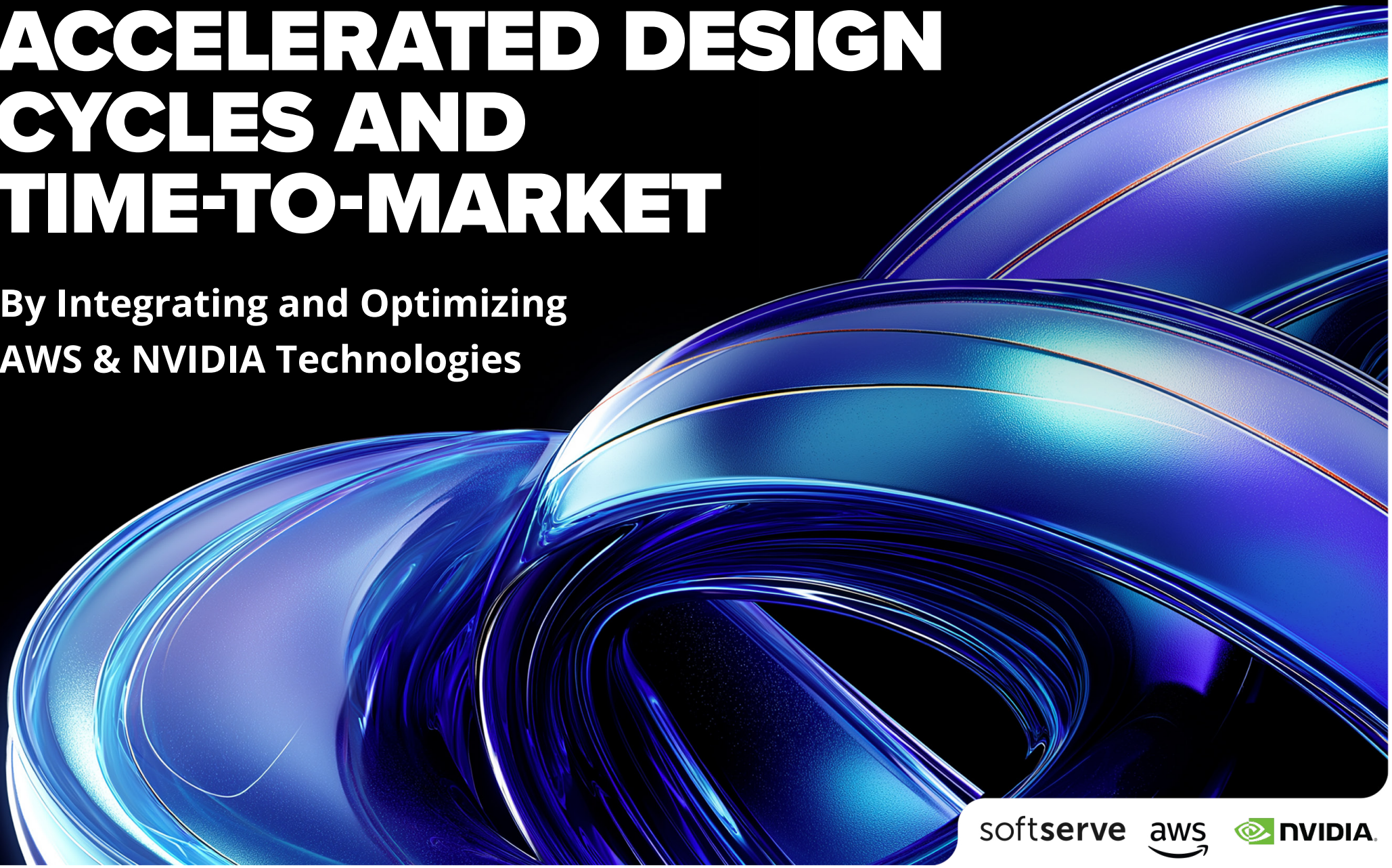
Case Study

TOP AUTOMAKER ACCELERATED DESIGN CYCLES AND TIME-TO-MARKET

By Integrating and Optimizing AWS & NVIDIA Technologies



softserve aws NVIDIA

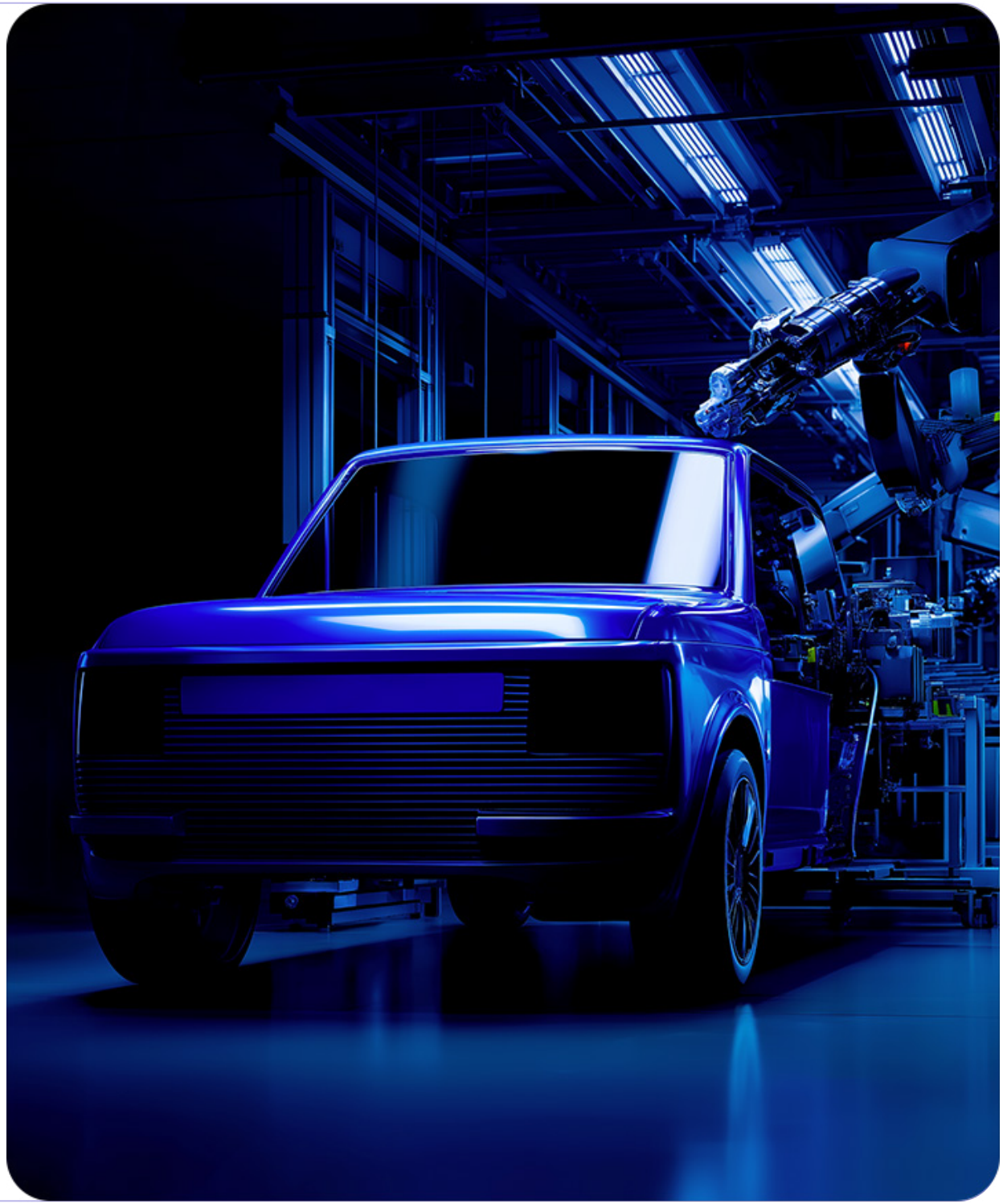
A leading global automaker wanted to significantly reduce new vehicle design development cycles and accelerate time-to-market for new models. It needed to improve existing processes, where cross-functional engineering teams in multiple locations operated within a fragmented ecosystem of 3D tools and workflows, each utilizing different data formats.

This lack of integration had created disconnected teams and inefficient workflows, resulting in extended project lead times due to prolonged iteration cycles. The automaker believed that a production-ready OpenUSD based digital twin platform would enhance real-time collaboration among engineering teams working on 3D projects and enable wider efficiencies across the organization.

Seamless integration

The automaker therefore decided to leverage NVIDIA Omniverse™ libraries to enhance their digital twin platform. NVIDIA Omniverse is a collection of open libraries, SDKs, and APIs for developing industrial digital twins and physical AI simulation. Omniverse libraries provide the essential ingredients for developers to build and deploy advanced 3D applications, transforming workflows, accelerating time to market, and allowing validation of AI systems before real-world deployment.

They were looking to move quickly from a PoC stage into deploying and scaling on AWS in a production environment, all while following AWS best practices and using infrastructure as code (IaC).



SoftServe coordination

AWS Cloud allows scalability, reliability, and security for the Nucleus software, and SoftServe was the premier implementation/consulting partner proposed by AWS to complete the complex task on time and on budget.

SoftServe was asked to install the first production environment, intended to improve workflows for design teams in the initial stage of their production logistics chain. After completion, further stages are expected to follow suit.

SoftServe's deep knowledge of both NVIDIA Omniverse libraries and AWS infrastructure was a key factor in the eventual success of the project. We created and deployed the AWS infrastructure, leveraging AWS services such as Amazon VPC, Amazon EC2, Amazon EBS, and others. This was deployed as IaC, using AWS Cloud Development Kit, to make the solution easy to scale and manage for future extension and additional functionality.

Logistical chain

Vehicle manufacturers can lower costs and time-to-market by moving towards simulation first for the complete logistical manufacturing chain. This takes it from design to engineering to manufacturing, and to the final sales process. Eventually, sales teams will also be able to perform interactive demos for clients of their yet-to-be-produced cars and more.

By leveraging both NVIDIA Omniverse libraries and AWS Infrastructure, the automaker's design team was able to quickly move from PoC and into production for their developers, starting the journey of leveraging a simulation-first approach to designing cars. It meant designers could now be on the same page at the same time.

The business benefits of a complete digital twin simulation include the ability to test new models in both driving environments and interactions with people. It includes simulating how the car should be assembled in manufacturing plants, training on-site robots on how to grip new parts and where to attach them to the car frame.

Team effort

Getting this right required a team effort. To facilitate it, SoftServe held weekly calls with the client, NVIDIA, and AWS, updating stakeholders on progress made, highlighting potential challenges, and explaining how to resolve them. This maintained the speed and transparency of delivery and meant that minor technical changes and architecture needs were quickly incorporated and implemented.

Proven practices

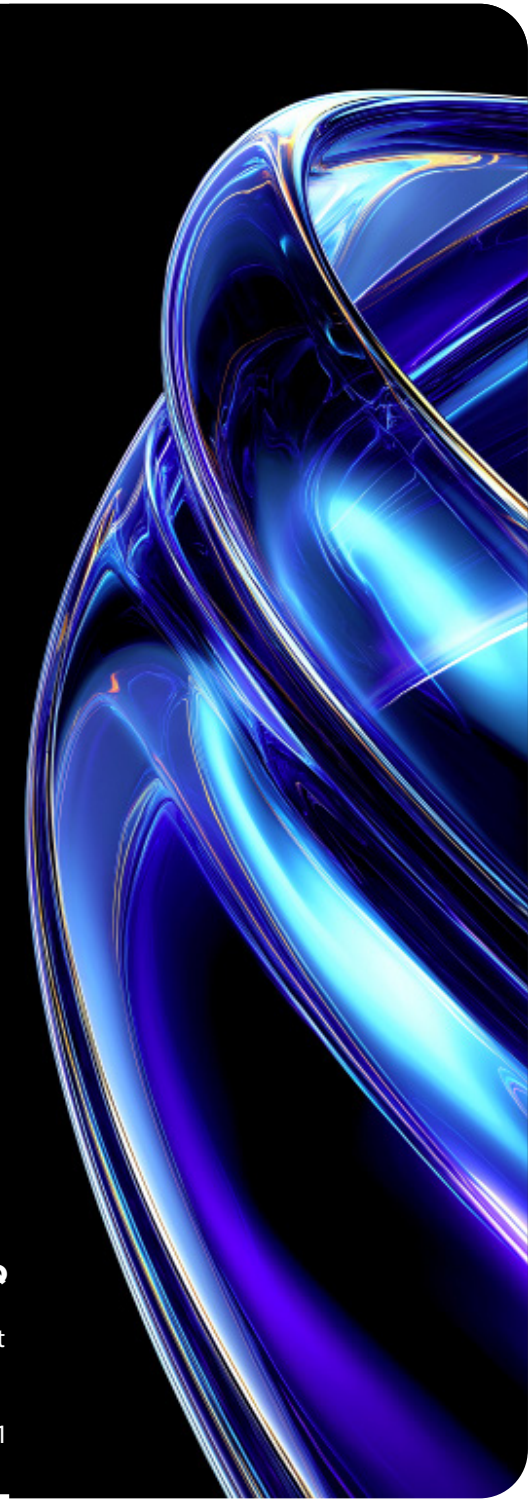
SoftServe's delivery method is built on client centricity, delivering with transparency and honesty, but also allowing suggestions for improvement when needed. This method was valued both by the client and our partners AWS and NVIDIA and showcased how an IT project can be delivered successfully using SoftServe's proven practices and values.

It meant the client could move its successful PoC into a scalable production environment and start onboarding designers onto the platform, beginning their simulation-first journey on NVIDIA Omniverse. It created new operating efficiencies and laid the foundations for extending these capabilities right across the design and production environments. Contact us to speak to one of our experts and learn how these solutions could work for your business.

Why SoftServe

SoftServe is a premier IT consulting and digital services provider. We expand the horizon of new technologies to solve today's complex business challenges and achieve meaningful outcomes for our clients. Clients confidently rely on SoftServe to architect and execute mature and innovative capabilities, such as digital engineering, data and analytics, cloud, and AI/ML.

Our global reputation is gained from more than 30 years of experience delivering superior digital solutions at exceptional speed by top-tier engineering talent to enterprise industries, including high tech, financial services, healthcare, life sciences, retail, energy, and manufacturing. Visit our website, blog, LinkedIn, Facebook, and X (Twitter) pages for more information, or follow this link to arrange a personal meeting with one of our experts.



NORTH AMERICAN HQ

201 W 5th Street, Suite 1550
Austin, TX 78701
+1 866 687 3588 (USA)
+1 647 948 7638 (Canada)

EUROPEAN HQ

30 Cannon Street
London EC4 6XH
United Kingdom
+44 333 006 4341