DRIVING EFFICIENCY
EVEN FASTER

Customer Profile

Nissan Motor Co., Ltd., is one of the world's largest automobile manufacturers, with production facilities around the globe. In 1986, the company opened a plant in the United Kingdom, operated by Nissan Motor Manufacturing UK, a pan-European service provider to Nissan Europe. Today, the plant builds electric and other high-end cars, and is one of the most productive facilities of its kind in Europe. Its 6,700 employees produce over 500,000 vehicles per year, gaining it wide recognition as a benchmark in the automotive industry.

New Challenges

- Competition from the East
- Reliance on manual processes
- Aging internal mainframe architecture

Software AG Solutions

- IBM® zIIP™ Enablement powered by Natural
- Adabas Cluster Services powered by Adabas
- Event Replication powered by Adabas
- Eclipse-based Development powered by NaturalONE
- Infrastructure Monitoring powered by webMethods Optimize

Key Benefits

- Improved performance by 100%
- Boosted runtime by 30%
- Enabled 24/7 production
- Cut costs and modernized interoperability

Super continuity, zero downtime

Nissan Europe has relied on Software AG's Adabas & Natural for database management and application development since it opened its flagship plant in the U.K. in the 1980s. With continuous improvements in efficiency and speed, the partnership has helped Nissan Europe develop an entire suite of mission-critical applications that run on Adabas & Natural, touching everything from manufacturing, to purchasing, to sales and marketing. With zero software failures in the past 30 years, Nissan Europe returned to Software AG for the next step in the evolution of its Adabas & Natural systems: committing to a new efficiency-boosting, feature-enhancing, cost-reducing project running through 2022.

It was a smart move. Connected supply chains, digital manufacturing and dramatic improvements in robotics and machine learning have disrupted the automotive manufacturing market—and created openings to increase quality, improve agility and cut costs. The key for Nissan Europe was that the project would build on a long legacy of Adabas & Natural productivity, adding modern performance and gearing up for an unpredictable future.

A previous program was so successful—netting a 100 percent performance increase by eliminating database downtime—that it made perfect sense for Nissan Europe to once again choose Software AG as its preferred partner.

" When we decided to update our mainframe roadmap we turned to our partners at Software AG, with whom we have worked for more than 30 years. Adabas & Natural have offered us ever-improving efficiencies in terms of IT overhead and operational functionality."

— **Simon Johnson** | Mainframe Middleware Manager / Alliance IT | Nissan Europe

Digitalization was knocking at the door and bringing Nissan Europe's Adabas & Natural applications up to speed was going to be the foundation for continued success. So Nissan Europe embarked on a new journey to optimize, modernize and transform, with a mainframe roadmap designed for maximum strategic flexibility for the decades ahead.

" For decades we've tuned this system, and for decades Software AG has come through with enhancements that have exceeded our expectations. Now, we are implementing changes based around automation, efficient robotics, and a digital supply chain thanks to Adabas & Natural. And this is directly improving our bottom line."

— **Simon Johnson** | Mainframe Middleware Manager / Alliance IT | Nissan Europe

Un-throttled performance

For the coming phase of an IT transformation running through 2022, Nissan Europe is implementing a series of five Software AG products aimed at increasing automation, improving manufacturing quality, and reducing delays and manufacturing costs. This is allowing Nissan Europe to get the absolute most out of its current Adabas & Natural architecture, while keeping an eye to the future.

"Right from the very start of our discussions, it was clear that Software AG had a strong long-term strategy for Adabas & Natural that was going to work exactly to our advantage," says Simon Johnson, Mainframe Middleware Manager / Alliance IT."

"This sort of continuity, coupled with regular improvements, is exactly why we chose such a partner in the first place."

zIIP Enabler for Natural was a clear case for deployment because it required no changes to existing Natural applications. By offloading the majority of runtime processes from IBM® mainframe CPUs to non-throttled, dedicated zIIP processors, Natural saw a throughput boost, and Nissan Europe shifted away from pricey, metered clock-cycles across the whole mainframe environment.

Adabas Cluster Services will ensure those improvements aren't lost to downtime. After all, if the software goes down, Nissan Europe isn't making cars. Based on IBM's Parallel Sysplex® architecture, Adabas Cluster Services lets a multi-CPU environment appear as a single, super-powerful computer. The benefit is that if one of the coupled systems goes down, the others in the cluster dynamically handle the load. Such architecture offers a bonus speed-up through parallelization.

"Nissan Europe is always looking for an edge on its competition, especially that coming from the East," says Ian Porter, IT Planning Section Manager, Nissan Europe. "Cluster Services does that by letting us run 24/7 if we want, with the potential to have three eight-hour shifts when it's profitable to do so."

Next up is Adabas Event Replicator. Unlike ETL systems that run extracts daily or weekly—producing already out-of-date data by definition— Adabas Event Replicator will automate the process in real time, pushing data across Nissan Europe's networks. Nissan Europe set up the rules, clients subscribe and Adabas Event Replicator distributes data whenever it needs to go, wherever it needs to go, without human intervention.

Optimize for Infrastructure will be used to monitor Software AG's infrastructure components, including Adabas & Natural, and takes its heritage from the webMethods product family, which is also critical to Nissan Europe's operation. At Nissan Europe, where complex dealership, manufacturing and transportation networks need to be monitored across multiple systems, Optimize for Infrastructure will identify problems before they snowball. In past iterations of Nissan Europe's systems, if a dealer ordered a car, but didn't receive confirmation, the dealer may have hit the order button repeatedly—placing multiple orders. Optimize for Infrastructure will catch and locate such mistakes, and alert Nissan Europe quickly, saving time and money.

Finally, NaturalONE will fully modernize Nissan Europe's development tools, moving from a 3270 green-screen system to the modern Eclipse™ environment that new graduates are already familiar with. The old way has worked well for decades, but new trainees don't have the skills— and development in a 3270 paradigm has limitations that will never progress. Eclipse is the future, and NaturalONE is the bridge to getting there.

Tuned for acceleration

With an updated strategy being executed, Nissan Europe has positioned itself for maximum performance today—and seamless flexibility for the future. The company has already started to use components of Software AG's Digital Business Platform, and its mainframe strategy has evolved to stay competitive in a newly smart and lean manufacturing environment. Since the update brings the system in-line with modern interoperability standards and languages, future compatibility is in Nissan Europe's pocket.

No matter what the next 30 years bring, Nissan Europe will be able to adapt. And in an industry as competitive as automotive manufacturing such flexibility is the key to success.

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