

# Supply Chain Logistic Application

Automotive Customer

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# AWS DevOps for Logistics

## CUSTOMER — Leading Automotive Manufacturer

The customer is a leading automotive manufacturer that specializes in high-performance vehicles. They have developed a Logistics Control System to manage all material control processes for logistics, offering an integration and process control level between the shop floor and the company's SAP logistics system for predominantly automated processes.

## CHALLENGE — Streamlining Supply Chain Operations

The client was grappling with enhancing efficiency in their supply chain operations. A paramount challenge was coordinating transportation of filled and empty containers via an Autonomous Transport System (ATS) and integrating this with their existing SAP infrastructure. Additionally, they sought to:

- Create an economical solution that managed the complexity of the supply chain while maintaining high performance and reliability.
- Adapt the system to new requirements, including changes in supply chain processes or emerging technologies.
- Scale the system to meet growth in users, operations, and geographical coverage without compromising performance or incurring significant costs.
- Integrate with various legacy systems, handle multiple API technologies, and manage increased response times.
- Build a robust monitoring and logging system to provide system performance insights, detect potential issues, and ensure swift resolution of problems.

## SOLUTION — AWS Services for an Efficient Supply Chain

To address these challenges, MHP deployed an AWS-based solution. This resulted in an adaptable SCMS that interfaced smoothly with the existing SAP system.

AWS services such as AWS Lambda, Amazon API Gateway, Amazon S3, and Amazon SQS were utilized to create a flexible architecture. This architecture allowed seamless integration between the SAP logistics system and ATS, providing a high degree of flexibility. The system was easily scalable and adaptable, ready to accommodate changes and expansions.

### Key components of the solution include:

- **AWS Lambda** for business logic and interfacing with the SAP logistics system.
- **Amazon API Gateway** for seamless communication between the frontend and backend systems.
- **Amazon S3** for storing and managing the application's frontend.
- **Amazon SQS** for decoupling the various system components.

### Monitoring and Logging:

- **Amazon CloudWatch** for logging, monitoring metrics, and setting alarms.
- **AWS X-Ray** for detailed monitoring and tracing of requests, helping identify performance bottlenecks.

## OUTCOMES – An Adaptable and Scalable Logistics Control System

The AWS-based solution successfully yielded a versatile and scalable SCMS that enhanced efficiency in supply chain processes. The system was quickly deployable in new markets or regions, ensuring sustained growth and success.

### Key outcomes include:

- **Rapid Development and Deployment:** The use of AWS services allowed quick response to new requirements and system adaptations.
- **Scalability and Adaptability:** The architecture ensured easy scaling to meet fluctuations in demand.
- **Seamless Integration with Legacy Systems:** The system interacted smoothly with various on-site systems, integrating with existing processes and infrastructure.
- **Enhanced Monitoring and Logging:** Amazon CloudWatch and AWS X-Ray provided valuable system performance insights and facilitated rapid problem resolution.
- **Improved Collaboration and Continuous Improvement:** The solution ensured that the supply chain management system remained updated and aligned with the client's evolving needs."

## ABOUT THE PARTNER - "ENABLING YOU TO SHAPE A BETTER TOMORROW"

Functioning as a technology and business partner, MHP digitalizes its customers' processes and products, and guides them through IT transformations along their entire value-creation chain. MHP is a digitalization pioneer for the mobility and manufacturing sectors with expertise that can be transferred to a wide range of industries. MHP is a distinguished AWS partner, currently holding the advanced tier status and offering Consulting as well as Software services to its customers. Additionally, MHP is a member of the APN Immersion Day program as well as AWS Well-Architected Partner, 2 AWS Competencies (DevOps and Migration ) and to date obtained 13 AWS Service Delivery Program Validations (SDPs) two of which MHP achieved as a launch partner.

MHP serves over 300 customers worldwide, including large corporations and innovative SMEs. MHP advises on both operational and strategic issues, offering proven IT and technology expertise as well as specific industry know-how. MHP operates internationally as OneTeam with headquarters in Germany and subsidiaries in the USA (since 2011), UK (since 2016), Romania (since 2014), and China (since 2013).

The MHP Group has been shaping the future alongside its customers for over 25 years. The MHP team of over 3,300 employees is united by the company's promise of excellence and sustainable success. This promise continues to drive MHP – today, tomorrow, and in the future.

"MHP: DRIVEN BY EXCELLENCE."