# RHEINMETALL DEFENCE

## EMLO – INFORMATION-BASED LOGISTICS OF THE FUTURE

"With EmLo all vehicle-information stakeholders will be supplied with relevant information, which helps them to improve their processes."

**Thomas Brandhuber,** Sales Manager, Rheinmetall Defence

## QUICK FACTS

**Company**
- Name: Rheinmetall Defence
- Location: Düsseldorf, Germany
- Industry: Aerospace and defense
- Products and services: Military equipment and services for deployment by armed forces
- Revenue: €1.9 billion
- Employees: 9,300
- Web site: www.rheinmetall-defence.com

**Challenges and Opportunities**
- Develop a sophisticated IT platform for deployment in military vehicles
- Streamline maintenance services for military vehicles and tanks

**Objectives**
- Monitor military vehicles
- Implement remote diagnostics to accelerate repairs
- Improve vehicle-based information management

**SAP® Solutions and Services**
Jointly developed platform to support real-time data exchange between vehicles and central SAP® software

**Implementation Highlights**
- Successful completion of proof-of-concept project
- Good collaboration between SAP, Rheinmetall Landsysteme, and the German Army
- Achievement of project goals

**Why SAP**
- Knowledge and expertise in the aerospace and defense industry
- Customer's extensive SAP software–based IT landscape
- SAP software support for end-to-end "factory to foxhole" process

**Benefits**
- Fewer breakdowns thanks to preventive maintenance
- Better maintenance services
- Timely alerts and notifications of problems
- Direct integration with existing SAP software
- Compliance with standard for military data exchange

**Existing Environment**
Extensive IT landscape based on SAP software

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Capturing accurate, real-time data on military vehicles deployed in remote areas is a logistical headache for armed forces as well as for the industry. But effective monitoring and preventive maintenance can reduce the number of incidents and improve the readiness of key military equipment by predicting damage due to normal wear and tear on the vehicle and optimizing maintenance effort and cost. Germany-based Rheinmetall Defence wanted to find a way of integrating data transmitted by tanks into the IT environment of its customer, the German Army. The company managed to integrate its EmLo software into the state-of-the-art SAP® ERP application to generate holistic value for the German Army.

Headquartered in Düsseldorf, Germany, Rheinmetall Defence is a leading manufacturer of military equipment for a wide variety of deployment scenarios. Its Rheinmetall Landsysteme division delivers products and services for armed forces on the ground. For example, the unit manufactures armored, command, and support vehicles as well as transporters and weapons stations. It also provides a wide range of services, such as training, simulation, equipment maintenance, and logistics. Rheinmetall Defence employs a workforce of 9,300 and posted revenues of €1.9 billion in 2009.

## Challenging Working Environments

Stakeholders in the military space are faced with a multitude of challenges. Army personnel in remote areas need reliable specialist vehicles to transport them safely and securely. As a result, it is vital that tanks and similar equipment are monitored and maintained on a regular basis to ensure they meet the highest standards. In addition, companies like Rheinmetall Landsysteme are constantly striving to make vehicles smarter and provide total contractor logistics support.

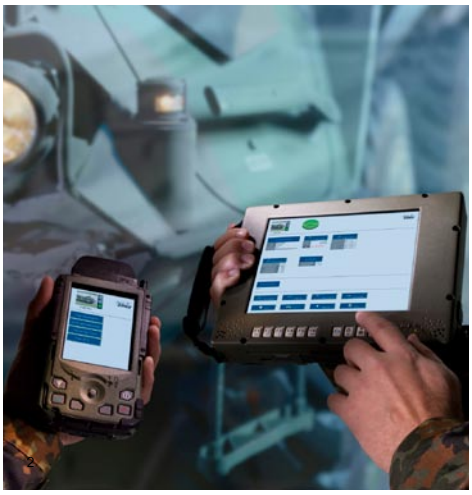
A key customer for Rheinmetall Landsysteme is the German Army. This organization was confronted with the challenge of capturing accurate data from its vehicles. To optimize maintenance provision and extend the lifetime of a vehicle, the Army needs operating data, failure reports, environmental data, forecast and procedure recommendations, configuration data, history data, and much more. Rheinmetall Landsysteme wanted to provide an answer to this challenge by creating a solution embedded in the vehicles that would record, evaluate, and forecast logistical data. The data would then be made available to a wide range of users, including operators, technicians, maintenance personnel, crew, material managers, and use managers.

## A Team with Expert Players

SAP has extensive industry-specific knowledge and could deliver the specialist skills required. What's more, Rheinmetall Landsysteme's own IT landscape is based on software from SAP – so it was an ideal match. During the course of the initiative, the partnership became a three-way collaboration between consultants and developers at SAP, IT professionals at Rheinmetall Landsysteme, and representatives from the German Army who were on hand to provide input on the specific functionality required.

## An Integrated Platform

The result of their efforts is a state-of-the-art software solution that can be fitted as standard equipment on new military vehicles. One feature of the solution – called EmLo – is to support direct communications between vehicles and central SAP software. "One of the key features of EmLo is to provide the logistical data for the SAP ERP application," states Thomas



> "EmLo is a Rheinmetall Landsysteme–developed joint product strategy for logistical processes that communicate with central SAP ERP software, for example, helping streamline maintenance and repair processes for vehicles."
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Brandhuber, sales manager at Rheinmetall. EmLo is also designed to communicate directly with national command and control systems.

An intelligent computer on board the vehicle – the EmLo Unit (Rheinmetall Landsysteme) – captures information like operation data, failure reports, and many other parameters to fulfill the forces' information needs. The computer then analyzes the data and detects immediately if something is amiss. Through a variety of intelligent alerts, it informs the crew if and when a problem arises and instructs them what necessary action to take. If, for example, a part has failed, the solution automatically informs mechanics at workshops, delivering accurate information and data to help repair staff diagnose the issue remotely. At the same time, the software synchronizes with the military's central SAP software environment in order to initiate whatever processes are necessary.

> "One of the key features of EmLo is to provide the logistical data automatically for the SAP ERP application."
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## Comprehensive Overview

Through the Rheinmetall Lifecycle Support Portal, decision makers on the customer side receive comprehensive, actionable insight into the status of their vehicles and of the spare parts ordered. All key data is displayed via a single interface, providing a near-real-time, at-a-glance overview. The EmLo Unit sends the latest facts and figures to the portal. Because data transmission can also be triggered manually, the portal is always up-to-date. Furthermore, detailed information on the assembly of parts making up a single vehicle is available. "This is important because almost every tank is designed for a specific deployment scenario or has several configurations and is therefore unique and a lot of variants exist," explains Brandhuber.

## Improved Maintenance, Better Planning

This cutting-edge solution is expected to bring a host of benefits for the armed forces. Thanks to accurate diagnostics, customers can look forward to improved, more targeted preventive maintenance, potentially extending the lifetime of military vehicles and improving readiness. What's more, because the solution provides prompt notifications, problems can be identified sooner, saving time and improving planning. The solution can be used to coordinate routine maintenance checks better and improve their efficiency. As a type of real-time failure reporting and corrective action system (FRACAS), EmLo is directly integrated with Rheinmetall Landsysteme's SAP software environment and the customer's IT landscape.

The solution provides a link between the vehicle and the SAP back-end software. "In short," observes Brandhuber, "EmLo is a Rheinmetall Landsysteme–developed joint product strategy for logistical processes that communicate with central SAP ERP software, for example, helping streamline maintenance and repair processes for vehicles."

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