



EMPRESA MUNICIPAL DE TRANSPORTES DE MADRID

PROVIDING BETTER BUS SERVICE WITH SERVICE-ORIENTED ARCHITECTURE

QUICK FACTS

Industry

Public sector

Employees

More than 7,000

Location

Madrid, Spain

Web Site

www.emtmadrid.es

SAP® Solutions and Services

SAP® ERP application, service-oriented architecture enabled by the SAP NetWeaver® technology platform

Implementation Partner

Accenture

Empresa Municipal de Transportes de Madrid S.A. (EMT Madrid), the provider of bus transportation for the city of Madrid, wanted to improve customer service. Using SAP® software and service-oriented architecture enabled by the SAP NetWeaver® technology platform, EMT Madrid and Accenture created composite applications for expediting bus repairs and increasing productivity. Now the company reports and fixes problems much faster, resulting in greater customer satisfaction.

Key Challenges

- Improve ability to adapt to market changes to secure competitive advantage
- Improve bus service for Madrid's people
- Decrease bus downtime
- Streamline repair- and warehousing-related processes to improve productivity
- Reduce time to obtain needed parts
- Integrate distributed SAP® and non-SAP software environment

Implementation Best Practices

- Developed composite applications using a mix of SAP software, non-SAP applications, and enterprise services
- Capitalized on Accenture's SOA experience
- Reengineered company's business processes to align with SAP and industry best practices
- Provided access to SAP software functionality residing in multiple systems and locations
- Adapted user interfaces to meet company needs

Financial and Strategic Benefits

- Equipped bus drivers to report maintenance problems immediately using mobile devices
- Improved visibility of bus maintenance costs
- Enabled close interdepartmental collaboration
- Automated and streamlined incident-reporting to repair process
- Enabled real-time view of inventory, ensuring availability of parts
- Optimized use of garages and warehouses
- Reduced administrative costs
- Improved customer service

Why SAP Was Selected

- Ability to leverage service-oriented architecture (SOA)
- Ability to quickly create and deploy composite applications
- Ease of integration with SAP and non-SAP software
- Scalability and performance of applications
- Anytime, anywhere access to information
- Implementation ease

Low Total Cost of Ownership

- Developed a solution based on enterprise services versus a one-off custom solution
- Used SOA to minimize development effort and time to value while maximizing software reusability
- Met all schedule, budget, and value goals
- Moved toward an internal support model
- Attained scalability and reliability
- Eliminated legacy and stand-alone systems

Operational Benefits

Key Performance Indicator	Impact
No. of buses available at 6:00 a.m.	+10%
Repair cycle time	5% to 80% faster
Repair shop productivity	+30%
Repair request response time	Reduced
Punctuality of bus service	Increased
Cost of spare parts inventory	Reduced
Warehouse productivity	Increased
Operating costs	Reduced
Customer satisfaction	Increased



“Service-oriented architecture allowed us to implement more integrated processes adapted to our needs, improve operations, reduce costs – and, ultimately, provide better service to the citizens of Madrid.”

Enrique Diego Bernardo, Head of the Engineering Division, Empresa Municipal de Transportes de Madrid S.A.

Empresa Municipal de Transportes de Madrid S.A. (EMT Madrid) provides transportation throughout the city of Madrid, Spain, through a network of 2,000 buses that run on 190 city lines to serve 500 million riders annually.

EMT Madrid is typical of many municipal bus operators. Like others, it faces competition from various modes of transportation and the potential emergence of competing bus lines. Like others, its main competitive weapon is a reputation for quality service. Like others, it achieves this reputation only by keeping buses on the road, not in the shop waiting for repairs. And like others, it cannot afford to buy more buses, so it must maximize the availability of its current fleet.

But EMT Madrid is not typical of municipal bus services in one enormous respect. Unlike others that are content with incremental improvements, the company is dedicated to ensuring superior customer service on an ongoing basis. To achieve this strategic objective, EMT Madrid dramatically improved its fleet availability by replacing decades-old legacy systems with a novel, leading-edge, high-tech solution for reducing bus maintenance and repair time. EMT Madrid partnered with Accenture to develop the solution that is comprised of composite applications and based on SAP® and non-SAP software, modern communication technologies, and service-oriented architecture (SOA). The SAP NetWeaver® technology platform is the enabling technical foundation for SOA.

Expediting Maintenance and Warehousing with SOA

One of the new applications expedites problem reporting and related repair processes by electronically linking buses, maintenance facilities, and parts warehouses. It allows bus drivers using on-board consoles to immediately inform repair shops about incidents. Maintenance personnel can then make sure that all necessary workers are in place and the right parts are available to swiftly return the buses to service. If roadside assistance is required, the staff arrives much faster and better equipped.

A second application improves efficiency of parts warehousing. Warehouse employees use mobile devices such as PDAs to quickly identify and locate the needed parts. The same devices link warehousing and other functions to expedite delivery of parts and ensure their availability for future needs.

By choosing SOA-enabled applications over a custom-developed solution, EMT Madrid gained many advantages: faster development and testing, better scalability and reusability, and full software maintenance support from SAP.

Improving Productivity and Customer Service

EMT Madrid now enjoys highly automated repair and warehousing processes that provide new levels of efficiency and productivity. It has managed to reduce the repair cycle time – from detection to resolution – by as much as 80%, enabling the

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company to put 10% more buses on the road for their daily routes at 6:00 a.m. Everyone involved is more efficient, too, especially in repair shops where productivity is up 30%. Most importantly, EMT Madrid is doing a better job of serving Madrid's citizens and securing its competitive position in the face of future uncertainties.

With better bus service in every respect and many internal cost savings, EMT has benefited greatly from service-oriented architecture. As Mario González Fernández, head of the information systems division at EMT, explains, “SOA allows us to follow a paperless approach to automating critical distributed business processes and systems, which in turn provides us with substantial efficiency improvements.”

Implementation Partner

Accenture, one of the world's premier systems integrators, is recognized as a pioneer in SAP software and service-oriented architecture. As a trust advisor, it helps clients around the globe achieve their goals by implementing SOA-enabled applications.


High performance. Delivered.

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