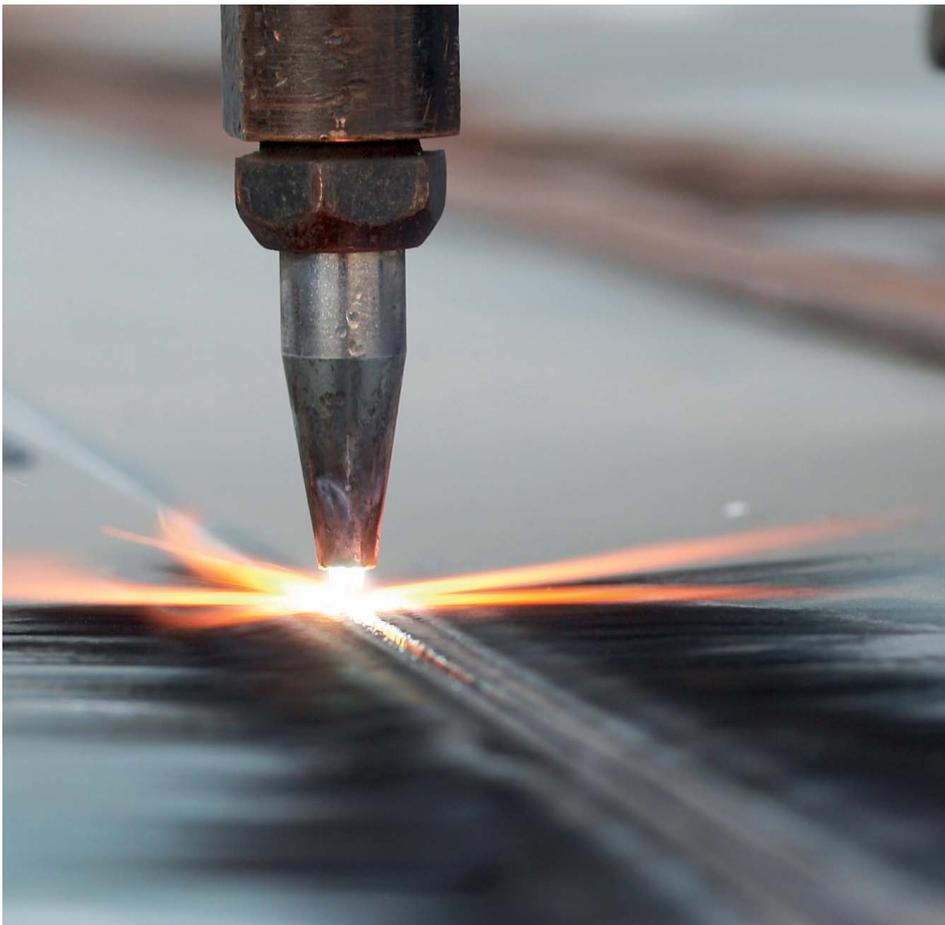


# fact-based MES consultancy supports clear business decisions

When Johnson Controls considered the strategic implications of MES, substantiation and preparation were of paramount importance.



**Warren Johnson patented the first electric room thermostat in 1883. Since then, the company he founded has grown to become a global powerhouse in the building control, power unit and automotive industries. Continuing success is based on the unceasing drive for innovation and manufacturing excellence across its workforce of over 150,000, spanning 1,300 worldwide locations.**

Johnson Controls understand long-term survival and success. They know how to evaluate their own operations, seeking to identify and drive opportunities for improvement across the company. Over the last five years or so, in the fragile global economic climate, this has been more critical than ever before.

The pressure to excel, however, is driven by more than market turbulence. Fundamental changes in the nature of the manufacturing supply chain have affected Johnson Controls, just as they have impacted the companies they serve. This is particularly noticeable in the automotive sector, in which companies purchasing components from Johnson Controls now demand unprecedented agility from their suppliers.

In this context, Johnson Controls decided it was time to take a new look at Manufacturing Execution Systems, and chose Atos to help them undertake this critical analysis.

# Evidence is everything

## Joined-up MES

MES was not new to Johnson Controls. What was new, however, was the desire to understand the potential benefits of a more disciplined, joined-up and strategic approach to implementation. This was essential both in terms of cost-effectiveness and in terms of shared best practice.

The economic pressures felt by Johnson Controls in the recent economic downturn forced them to look critically at their own costs. This meant that both IT and quality teams at the company's many worldwide manufacturing plants needed to be able to deliver more with less.

Like many other manufacturing companies, Johnson Controls have historically had a strong sense of local autonomy at plant level. There are many positive aspects to this, not least the strong sense of teamwork it engenders. It is also true that the precise nature of operations differs from plant to plant, partly due to product and tooling, and partly due to local culture.

But reinventing applications and processes at plant level is expensive, inefficient and compromises agility. This is especially true where MES is concerned.

Antonello Palermo, Global Director of Shop Floor Systems explains, "We could only make the business case for MES if it delivered both economies of scale and the opportunity for widespread best practice. Ultimately, this is not about excellence at one plant - it is about setting the standard for every plant."

## Why Atos?

Johnson Controls and Atos have a well-established relationship. Atos has proved the quality of delivery over a number of critical, high-profile system integration projects. In 1997, Atos implemented the ERP system adopted by Johnson Controls across much of Europe. Atos also took responsibility for their Y2K initiative, and more recently has been tasked with the customization and design of the company's SAP-based shared financial services application.

Antonello Palermo explains, "Manufacturing companies make things - and that makes us very pragmatic. We always want to see the evidence - and that means our suppliers have to prove themselves on every project. Atos were quickly on the short-list for this critical MES consultancy, but the reason they won it was through references and demonstrable expertise."

**"Ultimately, MES is not about excellence at one plant - it is about setting the standard for every plant."**

**Antonello Palermo, Global Director  
Shop Floor Systems, Johnson Controls**

## Quality and cost

Quality is important, but so too is cost. "Atos were not the cheapest of the companies we considered, but they were the best value. They could demonstrate a depth of understanding in MES which set them apart and importantly could offer a specific library of MES best practices for automotive" states Palermo.

Vendor independence was non-negotiable. When a major deliverable of the consultancy focused on the choice of platform, Johnson Controls did not want a partner with a vested interest in promoting their own system.

## M<sup>4</sup>MES

### Four complimentary Atos MES consulting services

<b>ISA 95 Awareness Program</b>	As the international standard for the interface between enterprise and manufacturing operations management systems, it was essential that all those involved in the MES decision-making and implementation process at Johnson Controls had a clear, shared understanding of this foundation.
<b>Manufacturing Opportunity Scan</b>	This service analyzes and prioritizes critical areas within the manufacturing environment. The objective here was to maximize the effective scope of a potential MES implementation with a view to achieving radical operational improvement.
<b>Manufacturing IT Scan</b>	Once the cultural and operational opportunities have been identified, the implications for current and future shop floor and business IT need to be identified and analyzed. The impact of change and extended integration for heritage systems is particularly critical.
<b>Platform Selection</b>	Once the shared knowledge base for MES and ISA 95 has been established, and once the manufacturing and IT scenarios agreed, it is possible to consider the most appropriate choice of MES platform.

## Scope, Sequence and Scale

Atos were contracted to provide four clearly delineated MES consultancy services. Each of these services is a component part within the Atos M4MES methodology.

M4MES encapsulates the discipline and best practice of several years of mainstream MES engagements to date in most industry sectors. This formal capture of best practice not only helps ensure that engagements are focused and efficient, it also significantly reduces the risks posed by other more ad hoc approaches.

Sequence is critical, as leading Atos MES consultant, Alain Plasschaert explains, "The consulting services themselves follow a natural sequence, but the way in which we took these to Johnson Controls was even more important. This is not an academic exercise. You want the people who stand to benefit from the adoption of MES to understand those benefits, and then to become champions of the initiative themselves."

The overall consultancy engagement lasted for a little over six months. Atos and Johnson Controls began the analysis at the Lahnwerk Plant in Germany which produces vehicle seat chassis for many major automotive companies. As a site that had felt the downturn and pressure to reduce costs particularly keenly, Lahnwerk was a priority both in terms of efficiency and in terms of workforce morale.

The Lahnwerk assessments were then used as a boilerplate for on-site analysis at a further two plants in Germany, and at four plants in Johnson Controls home state of Michigan, USA. They were also used for remote analysis at a further six plants in Europe and a further four in the USA and Mexico.

For Antonello Palermo, the benefits of this approach were clear, "By starting with the priority site, and then rolling the initiative quickly across the Metals Division, we built momentum and substantiated support.

Everything is evidence-based, and it was fascinating to see how quickly barriers of perceived difference evaporated as our plant teams recognized common challenges and opportunities."

## Status and Results

Following the execution of these four MES consultancy services, Johnson Controls is now ready to plan the actual implementation of a coordinated MES strategy across its worldwide Metals Division plant.

The business case has been clearly defined and presented, and the benefits assessment has shown that the Johnson Controls stakeholders can expect to make significant annual savings through the strategic adoption of MES across ten key plants. Payback would be achieved in less than two years for most plants, and most importantly, the system will act as the foundation for ongoing and sustainable operational improvement.

Following a successful proof-of-concept conducted at the Lahnwerk plant in February 2011, Johnson Controls will undertake a major pilot, through which the full business and shop floor control integration is to be tested and refined. This will span all key processes including scheduling, production tracking and traceability, inventory and replenishment.

Apart from the clearly identified cost savings, coordinated MES adoption will allow Johnson Controls to pass on all important quality and service improvements to its clients. They can expect greater agility and responsiveness - essential when more and more motor manufacturers are building to order as a means of reducing inventory - and they can expect exceptional transparency too - knowing the status, condition and genealogy of every order.

Atos has helped Johnson Controls make the business case. Platform selection is being finalized, and full implementation is planned to start in 2012.

## Atos: the client view

On 1 July 2011, Atos Origin and Siemens IT Solutions and Services became one company: the new Atos. We asked Antonello Palermo what this means for Johnson Controls ...

"We have a long relationship with Atos. Until now, we have seen them primarily as a European SI and managed services company. This new increase in scale changes that. As a global company, Johnson Controls is keen to discover how to get the most both from your newly expanded operations and from the links you maintain with Siemens."

## International Collaboration

The success of this extended MES consultancy and analysis demanded a high degree of international collaboration. "Throughout the project," Antonello Palermo observed, "the team work was exceptional, we had an extended project team spanning Europe, North America and China, in which every member made a highly professional collaborative contribution to a successful end result."

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## About Atos

Atos is an international information technology services company with annual 2010 pro forma revenues of EUR 8.6 billion and 74,000 employees in 42 countries. Serving a global client base, it delivers hi-tech transactional services, consulting and technology services, systems integration and managed services. With its deep technology expertise and industry knowledge, it works with clients across the following market sectors: Manufacturing, Retail, Services; Public, Health & Transport; Financial Services; Telecoms, Media & Technology; Energy & Utilities.

Atos is focused on business technology that powers progress and helps organizations to create their firm of the future. It is the Worldwide Information Technology Partner for the Olympic Games and is quoted on the Paris Eurolist Market. Atos operates under the brands Atos, Atos Consulting and Technology Services, Atos Worldline and Atos Worldgrid. For more information, visit: [atos.net](http://atos.net)

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## Johnson Controls

Johnson Controls is a global diversified technology and industrial leader serving customers in more than 150 countries. Our 154,000 employees create quality products, services and solutions to optimize energy and operational efficiencies of buildings; lead-acid automotive batteries and advanced batteries for hybrid and electric vehicles; and interior systems for automobiles. Our commitment to sustainability dates back to our roots in 1885, with the invention of the first electric room thermostat. Through our growth strategies and by increasing market share we are committed to delivering value to shareholders and making our customers successful. In 2011, Corporate Responsibility Magazine recognized Johnson Controls as the #1 company in its annual "100 Best Corporate Citizens" list.

For more information, contact: [dialogue@atos.net](mailto:dialogue@atos.net)

[atos.net](http://atos.net)

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