Manufacturing Intelligence
in the spotlight with MindSphere and Atos

At the very heart of the current challenges faced by industry, flexibility and anticipation seem to be the keywords in the inevitable transformation of production processes. Evolving business models, constant innovation, upgrading, customization, increasingly tough regulatory and environmental requirements, the endless search for competitive advantage.

All these challenges have to be addressed by ensuring that production lines can be rapidly reconfigured. You have to be able to produce complex products in small batches, very quickly, without sacrificing cost control or safety. And that will require production and process management tools that are much more accurate and responsive than those currently being used – never mind being intelligent enough to interpret signals that are too weak or too numerous for a human operator to spot.

The key to this massively improved operational efficiency is data. Not just data from the various management systems used by the enterprise and its partners – MES, PLM, CRM, SCM… – but also data collected on the ground itself. Using a multitude of sensors, cameras and RFID chips, it's now possible to understand production conditions, the status of a particular machine or the progress of a process, in real time and in great detail. And that means you can take into account early warning signs of possible breakdowns or wastage, for example, to anticipate problems and carry out predictive analyses. That's effectively what the Internet of Things (IoT) and Industry 4.0 are promising: the ability to reinvent, control and ultimately even to automate processes and predict events, using data to really boost flexibility and anticipation.

The vast majority of industrial enterprises are now convinced of the merits of such a transformation. Which is why Siemens has developed MindSphere – an integrated and secure industrial cloud, which Atos implements and enriches with its own added value solutions – to help businesses achieve these changes quickly and tangibly.

MindSphere acts as an accelerator in the switchover to Industry 4.0 and is based on three complementary technology layers. MindConnect, the foundation underpinning the whole solution, simplifies the implementation of the IoT in any industrial environment using open platform communications (OPC) or equivalent. With MindConnect Nano – a plug-and-play package that is installed on a particular machine, in a patch cabinet or router – you can collect real-time data about a tool, a production chain, a workshop or even the entire factory.

This data is then uploaded to the second element of the solution, the MindSphere cloud container. Gathered together in one place and structured according to the business challenges, the data is then accessible, useable and possibly shareable. In the case of production data, which is of course highly sensitive, security is a priority. The MindSphere container is deployable in the company's chosen environment, for example its private cloud, and no data stream is sent back down to the production system.

Finally, the third stage of the MindSphere 'rocket' is all about the interpretation and use of this data, using MindApps: a series of business applications developed by Siemens and Atos.

Thanks to its platform-based model and the use of standard and open technologies, MindSphere aims to bring together a true ecosystem involving industrial enterprises, startups and leading international suppliers which the business can rely on to develop its new manufacturing practices and rapidly bring on board even more innovations.

At the heart of this community, Atos plays an essential role, on the one hand as the key integrator and technology leader, and on the other as the provider of what is really the fourth pillar of MindSphere, the Codex Analytics platform. Thanks to the data science, data visualization, semantics, cognitive computing, artificial intelligence and high-performance capabilities combined in Codex, the business will be able to take full advantage of its data, imagine new uses, integrate predictive analysis into its processes (for example to support maintenance or scheduling activities) and embark on the path towards true Manufacturing Intelligence.

As a standardized and industrialized solution, MindSphere lets you dive into this revolution straight away. It only takes a few weeks to lay down a consistent and long-lasting foundation for the IoT, to converge your data into a secure container, and to prototype new scenarios that address your key strategic challenges. A veritable platform for innovation, MindSphere capitalizes on the work of integration and harmonization carried out in recent years by the leaders in computing for industrial applications, to enable them to offer real value-added services to their customers.

"Mindsphere will facilitate the development of new industrial uses and the integration of further innovations more rapidly."

Christophe Sabarots,
Head of Mindsphere & SAP Excellence Center

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About Atos

Atos SE (Societas Europaea) is a leader in digital transformation with circa 100,000 employees in 72 countries and pro forma annual revenue of circa € 12 billion. Serving a global client base, the Group is the European leader in Big Data, Cybersecurity, Digital Workplace and provides Cloud services, Infrastructure & Data Management, Business & Platform solutions, as well as transactional services through Worldline, the European leader in the payment industry. With its cutting edge technologies, digital expertise and industry knowledge, the Group supports the digital transformation of its clients across different business sectors: Defense, Financial Services, Health, Manufacturing, Media, Utilities, Public sector, Retail, Telecommunications, and Transportation. The Group is the Worldwide Information Technology Partner for the Olympic & Paralympic Games and is listed on the Euronext Paris market. Atos operates under the brands Atos, Atos Consulting, Atos Worldgrid, Bull, Canopy, Unify and Worldline.

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