NETWORKING, COMMUNICATION, EFFICIENCY

Horizontal and Vertical Integration with zenon

PRODUCE WITH GREATER FLEXIBILITY, react more quickly and, in doing so, become even more efficient – with minimal consumption of resources of course. How can that work?

The Internet – the mother of networking – was invented in order to use the capacities of mainframe computers more effectively. Even now, more than 30 years later, networking and the integration it makes possible are still important factors for increased efficiency, for example, in the case of correlating production data from different sources within a manufacturing operation.

Two of the most important factors for smarter production are horizontal and vertical integration. Horizontal integration means networking between individual machines, items of equipment or production units. Vertical integration networks beyond traditional production hierarchy levels – from the sensor to the business level of the company.

COMBAT THE KNOWLEDGE SILOS AND COMMUNICATION ISLANDS

In "typical" modern production, there are usually different machines and equipment from different manufacturers in use, which differ in terms of the degree of automation, the technology and even the communication standard.

Vertical integration entails additional hurdles. In addition to technical challenges, such as different networks and standards between automation and IT, it is most of all organizational aspects that play a role.

Communication islands leave technological gaps that must be compensated for on a daily basis – by means of notes, verbally or via third-party systems. This is laborious, slow and liable to error. This also distracts the employee from their most important task – creatively and intelligently driving forward continuous improvement. Different teams must therefore work throughout disciplines and open up existing knowledge silos.

HORIZONTAL INTEGRATION WITH ZENON

When using zenon on several machines and items of equipment, multi-project administration and the *straton binding* protocol offer very powerful integration capabilities.

It is precisely in such a heterogeneous environment where zenon's native ability to communicate plays a decisive role for horizontal integration with other solutions. It also allows different areas such as machines, storage systems and resources to be networked.

Example of usage:
A company produces with machines and equipment from different manufacturers, which are integrated in parallel with zenon. Relevant information on status and performance is available on each machine and also on all other machines. Machine operators thus have complete transparency over the entire process, and can optimize the equipment effectively and avoid downtime. In addition, the machines communicate with one another autonomously in order to synchronize the individual process steps optimally.
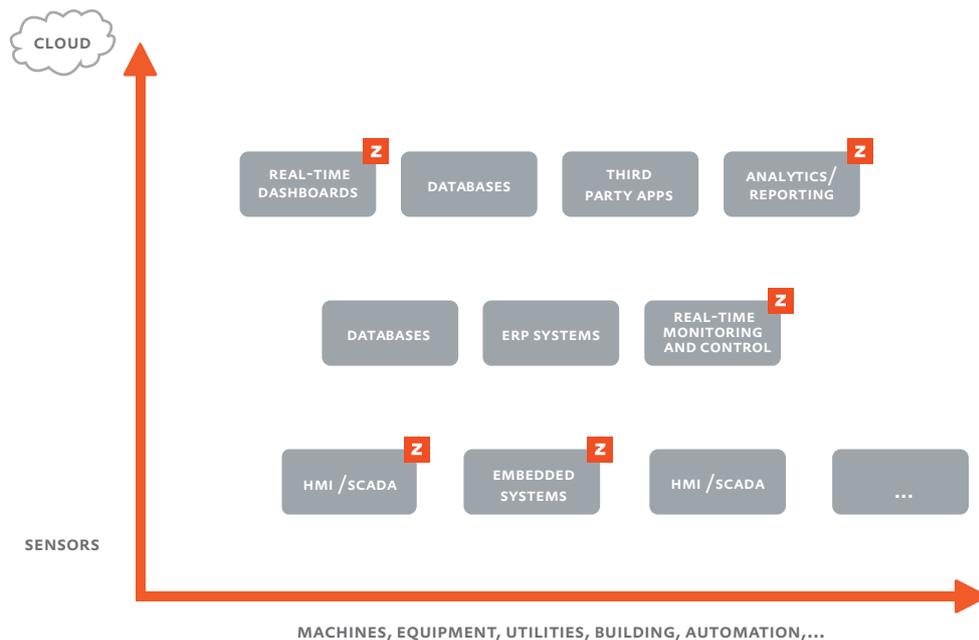
Horizontal integration and vertical integration with zenon.

VERTICAL INTEGRATION WITH ZENON

Vertical integration with zenon ranges from the sensor through to the ERP – or the cloud. What is particularly useful is that the integration functions entirely bi-directionally. This allows both the exchange of data and status messages, as well as control commands.

Example of usage:

A manufacturing company with several locations operates energy management throughout the company. zenon collects and processes energy and process data from the complete infrastructure. In doing so, a full impression of all consumption is obtained, from production through to resources and building services systems. The data is processed in near real-time in a zenon machine cloud and is available for dashboards and analysis. Energy managers use the company-wide transparency of all consumption to identify savings potential. They can thus further the process of continuous improvement with the local production teams.

PHILLIP WERR
MARKETING MANAGER

TECH FACTS

HORIZONTAL INTEGRATION WITH ZENON

- Over 300 native
  communication protocols
- Multi-project administration
- Client/Server – Server/Client topology
- straton Binding
- Application programming
  interface (API)

VERTICAL INTEGRATION WITH ZENON

- Over 300 native
  communication protocols
- ERP interface (SAP ERP,
  Microsoft Dynamics)
- SQL Server Interface
- Web Server
- Everywhere Server (Smartphone Apps)
- Cloud integration