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Partner talk Siemens: AI on the machine level in industrial automation

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Artificial intelligence, with all its different facets, makes a considerable contribution, especially in industry, toward reducing the usual expense of programming and engineering, making the control logic more agile and flexible with regard to changes in the ambient conditions and structuring production processes with greater flexibility and precision. With Future of Automation, Siemens is offering far-reaching insights into the future of automation and the role of artificial intelligence within the portfolio of Totally Integrated Automation. This means scalable solutions from the field level to the controller and edge level and all the way to the Cloud. This means that an AI solution can be scaled in terms of the environment and the target application: At the machine on the field level where fast, deterministic decisions are required, or across all machines or plants with a significantly higher quantity of data to be processed and a corresponding demand for computing power. To enable AI at the lowest level Siemens introduced a Technology module, the S7-1500 TM NPU (neural processing unit), which enables the efficient processing of neural networks. This allows to use machine-learning algorithms, for example, visual quality checks in production plants or image-guided robot system. This allows a considerably more efficient and more "human-like" behaviour possible.

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Session Classification: Computing architectures for machine learning, data acquisition and processing part 1