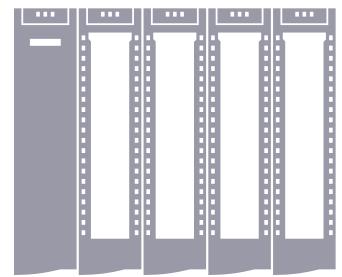


SIEMENS

SIMATIC ET 200MP –
more than just I/Os,
thanks to system features





The distributed I/O system for SIMATIC S7-1500 Advanced Controllers

The ET 200MP I/O system is scalable and permits a distributed use of S7-1500 IO modules connected to either a SIMATIC S7-1500 controller or any other PROFINET/PROFIBUS controller.

SIMATIC ET 200MP is a modular, distributed I/O system that can be used in a wide variety of applications. It complies with IP 20 degree of protection and is intended for installation in a control cabinet. SIMATIC ET 200MP features a high channel density and improves space utilization in the control cabinet thanks to its small footprint.

Fit for the digital transformation

The advance of digitalization also means a higher demand for recorded signals. The station can be expanded with up to 30 I/O modules, each of which includes up to 64 channels. The availability of data is also guaranteed thanks to the active backplane bus with up to 12 slots. For example, while quality assurance data continues to be written, the process can continue unhindered.

Highest performance

As an I/O system for a SIMATIC S7-1500 Advanced Controller, SIMATIC ET 200MP offers you maximum performance. With PROFINET IRT for isochronous mode, clock rates of up to 250 µs are possible, while the digital input modules boast of a very short input delay of 50 µs. The analog modules offer a conversion time of 62.5 µs or 125 µs for 8 channels.

Providing data and tools for consistent, end-to-end engineering



"I want consistent data storage for my configuration without always having to enter everything twice."

"Siemens already provides all the data necessary for control panel design in electronic form. Let's just see if we can come up with a solution to your problem."

Starting with plant engineering, SIMATIC ET 200MP supports companies in designing a digital factory using digital workflows. The free TIA Selection Tool helps you to select and configure the necessary products. You can run it directly without admin rights and it's also available in a cloud version.

Seamless data transfer

You can easily export the module configuration and data for further use in the TIA Portal and ECAD systems. With the TIA Selection Tool, you can obtain the complete Bill of Materials (BOM) with a simple press of a button. Automation Markup Language (AutomationML) serves as an interface for importing and exporting data. Additional CAx data, such as EPLAN macros and 3D models, is available for all ET200MP modules.

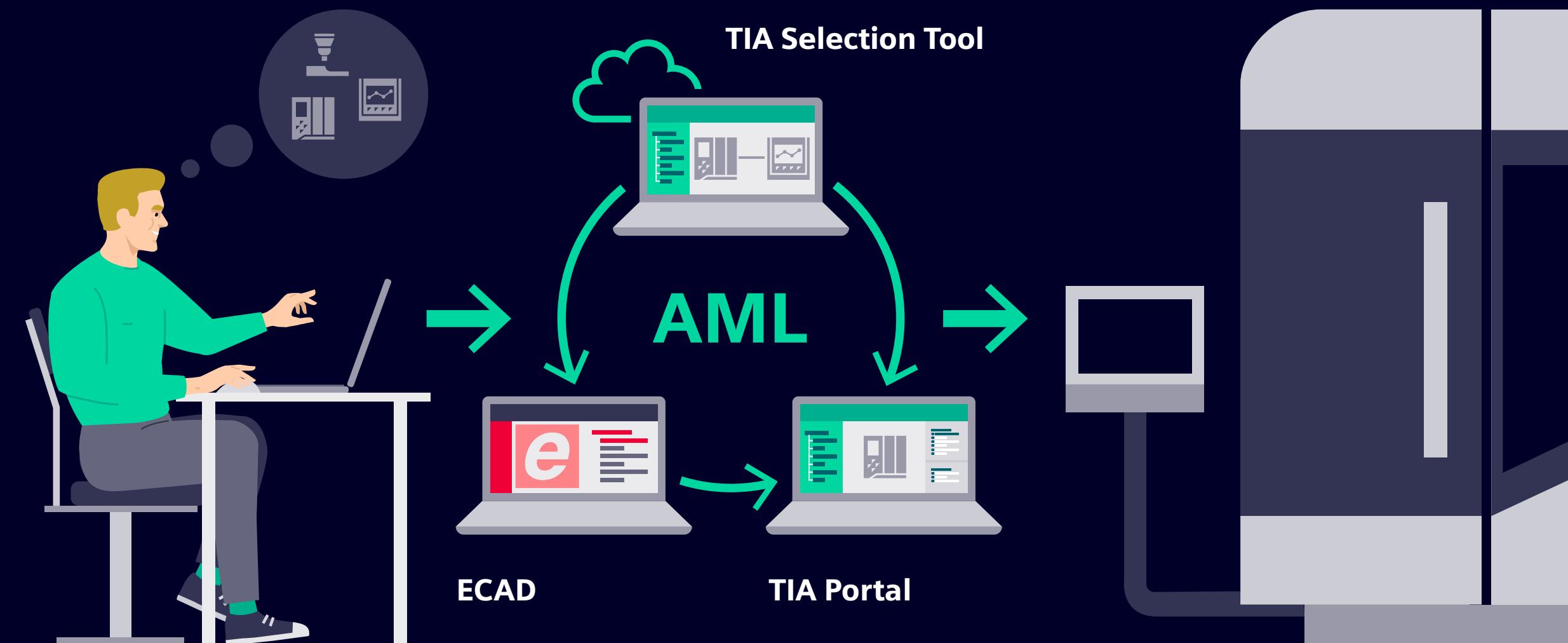
Thanks to consistent data storage and the elimination of duplicate manual entries, the quality of work is improved because errors are avoided.

Seamless transfer of planning and engineering data from the TIA Selection Tool

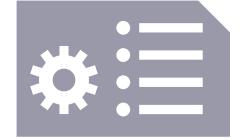


- Time and cost savings because the entire automation portfolio is configured correctly
- Quality improved because redundant planning and errors are avoided thanks to automatic data transfer
- Standard AML interface for total flexibility

↗ **TIA Selection Tool**



I&M data as a basis for plant management



"We have to expand our plant. But what are the components, where are they located, and are they all up to date?"

"Not a problem! We can find that out with the press of a button!"

You know how it goes: When a plant is in operation and there is a change in demand, the plant has to be expanded. Soon you're asking which components are installed where and whether they're still compatible with the new components. You can find out quickly and easily using standardized identification and maintenance (I&M) data.

A model of the plant with the press of a button

With the press of a button, you can obtain a complete model of the plant based on the electronic rating plate on Siemens components or on information from the particular manufacturer. You can display this data in the TIA Portal or on the CPU's

web server display, regardless of whether module slotting is central or distributed.

Using tools like the SIMATIC Automation Tool and PRONETA, you can scan the plant with the press of a button and export the results in an Excel file. That allows you to distribute them further or use them in your own tools for asset management.

 **SIMATIC Automation Tool**

 **PRONETA**

Predictive maintenance with integrated switching cycle counters



"Yet another unscheduled plant shutdown. That's really going to cost us!"

Sooner or later, a plant that is operating fails. But how can you keep downtimes to a minimum? With the aid of predictive maintenance, you can replace modules or sensors and actuators before faults occur.

Depending on the module, SIMATIC ET 200MP monitors the connected actuators (24 V DC high-feature modules) or integrated relays (230 V AC relay modules) via the integrated switching cycle counters. Based on the service life specified by the manufacturer, components can be replaced when they reach a specific number of switching cycles.

When an actuator is replaced, the counter value is reset to 0. When the module is replaced, the counter is preset via a single interface in the application program. By comparing the data from the relevant components, the switching cycle counter can detect anomalies that result in failures.

Simple, economical counting with digital modules



"I have to program a single counter. A counter module would be over-dimensioned and the solution in the user program is always so expensive to maintain."

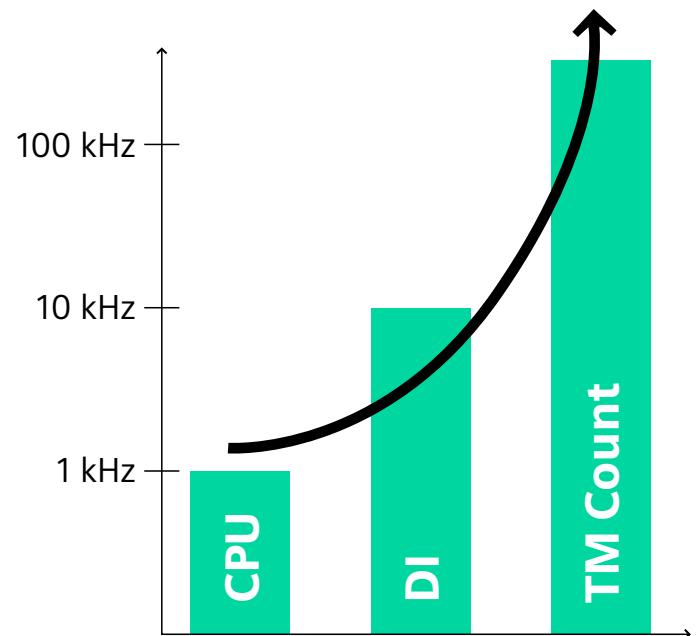
"I can help you with that. Now there are modules with a simpler solution."

Signal counting in the CPU either quickly reaches the limits of the counting frequency of 1 to 2 kHz or is performed by powerful technology modules that achieve up to 100 kHz but are much more expensive. The new SIMATIC ET 200MP digital modules are an economical way to bridge this gap.

Higher counting frequency

The 24 V DC high-feature modules currently reach a counting frequency of 6 to 20 kHz. The modules' operating mode doesn't change. With the appropriate modules, some of the inputs can be used as counters. The other channels can continue to be utilized normally.

The counters can be used both for process control and, for example, for statistical evaluations and quality control. As part of digitalization, the statistical values can also be transferred to the cloud where they can then be further processed.



Conversion of analog values on the module



"Errors always occur when analog values are converted to physical variables."

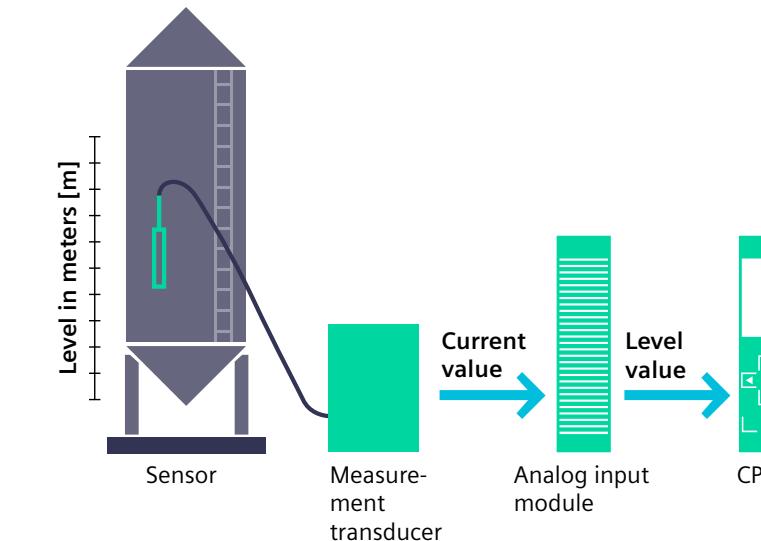
"Exactly! And every value that I want to send to the cloud has to be deliberately captured!"

"Look, there's an S7-1500 analog module that immediately gives us the physical variables."

The challenge of using analog modules is that the analog values for special requirements are calculated and converted differently. With the new high-feature modules, you can work at the much higher resolution of 32-bit REAL, which will give you many more decimal places for more precise algorithms.

Displaying physical values on the HMI

Up to 20 different physical variables can be selected for display on the HMI, such as the level of a silo in meters, the internal pressure of a container in bars, or the opening angle of a throttle valve in degrees. This saves you the trouble of converting the values on the CPU. The data can also be calculated in the program or used in the cloud or another system.



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