

June
2020

TIA Portal options

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[siemens.com/tia-portal](https://www.siemens.com/tia-portal)



TIA Portal

Product overview with engineering and runtime options



Totally Integrated Automation Portal

	 SIMATIC STEP 7	 SIMATIC WinCC	 SINAMICS Startdrive	 SIMOTION SCOUT TIA	SIRIUS SIMOCODE
Engineering- options	TIA Portal Multiuser Engineering  				
	TIA Portal Teamcenter Gateway  				
	TIA Portal Cloud Connector  				
	TIA User Management Component  				
	SIMATIC Energy Suite ES  				
	SIMATIC S7-PLCSIM Advanced  				
	SIMATIC STEP 7 Safety  				
	SIMATIC ODK 1500S  				
	SIMATIC Target 1500S for SIMULINK 				
	SiVArc  				
Runtime- options	SIMATIC ProDiag  				
	SIMATIC Energy Suite RT / S7-EE-Monitor  				
	SIMATIC OPC UA  				
	WinCC/WebUX ¹⁾  				

1) Component of WinCC Runtime Professional



Integrated Engineering with SIMATIC SiVArc

Integrated Engineering with the TIA Portal

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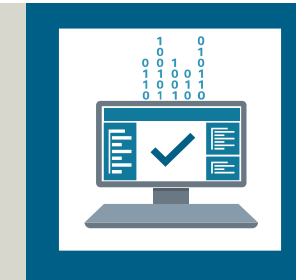
**Reduce
your time-to-market!**



One for all



**Handle know-
how reliably
and efficiently**



**Reliably
avoid errors**

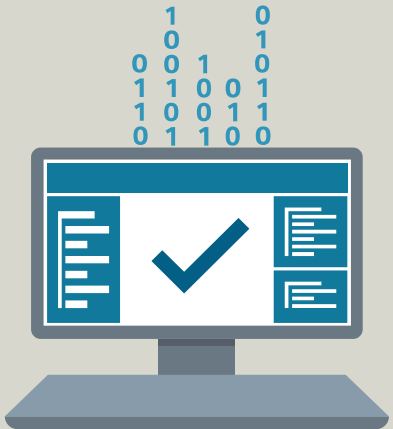


**Coordinated
working within
a team**

**Generating
instead of
programming**

Integrated Engineering with the TIA Portal

Generating
instead of
programming



Implement machine and plant diagnostics rapidly and simply

... through automatic code generation and the visualization of monitoring with ProDiag

NEW



Easy implementation of efficient energy management

... thanks to the intuitive configuration of measuring components and the automatic generation of the control program

NEW



Automatically generate PLC objects

... with connected code generators via the TIA Portal Openness interface



SIMATIC Visualization Architect SiVArc

... for the automatic generation of HMI visualization solutions

USP

... Create
solutions
faster

SIMATIC SiVArc – Simple, fast and flexible creation of ... HMI projects on TIA Portal



... for **system integrators and solution partners**,
... who want to **conveniently, quickly and flexibly create**
... an **HMI solution**
... **automatically on TIA Portal.**

Software generator which can be configured **without programming knowledge.**

SIMATIC SiVArc – Simple, fast and flexible creation of ... HMI projects on TIA Portal

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Efficient



...automatic generation of visualization objects
(variables, screen objects, pictures)

Performant

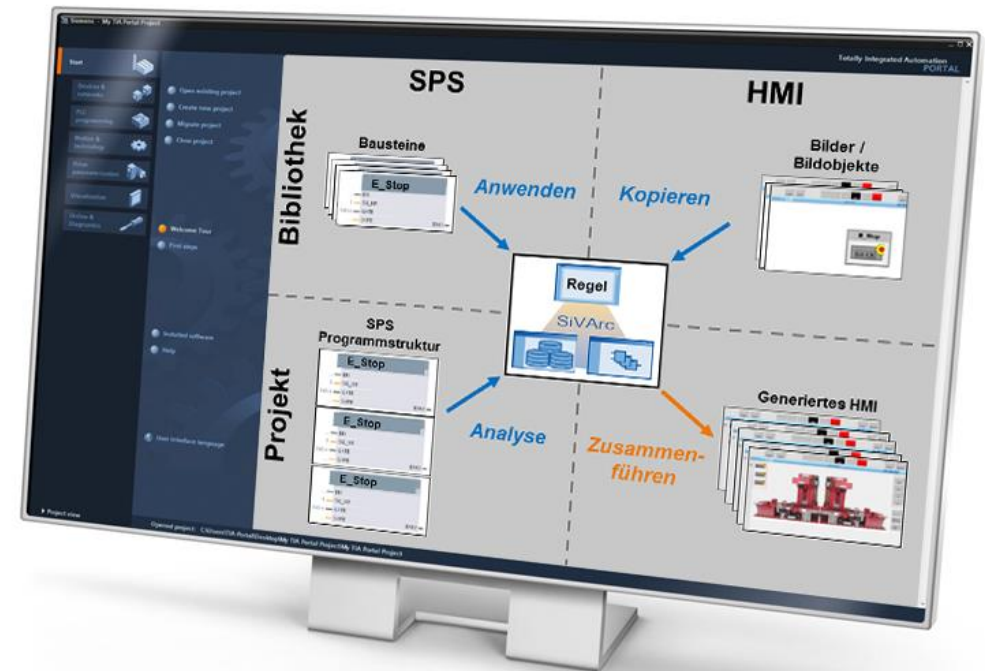


...fast (change) generation

Up-to-date

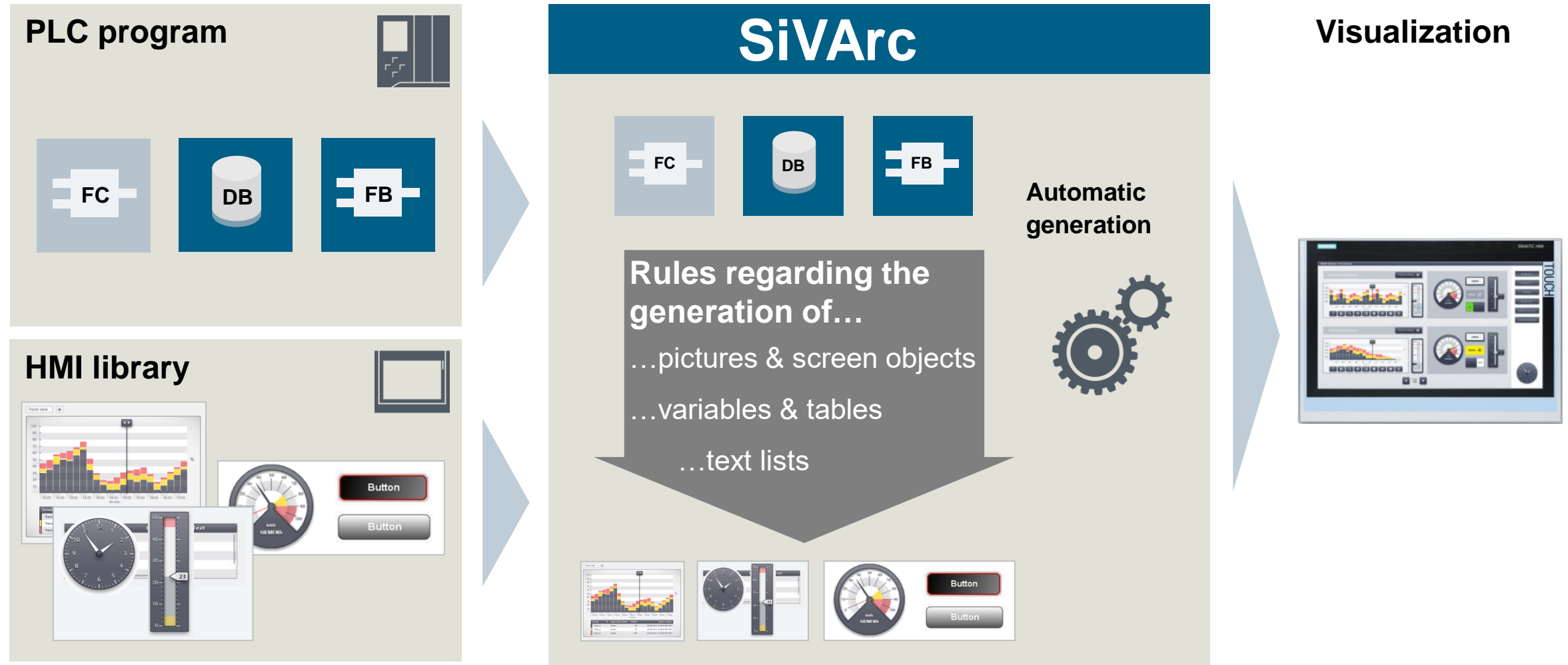


...automatic HMI adjustment,
e.g. after adding block instances



SIMATIC SiVArc – Simple, fast and flexible creation of ... HMI projects on TIA Portal

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SIMATIC SiVArc – Simple, fast and flexible creation of ... HMI projects on TIA Portal



Engineering efficiency



- Automatic generation of variables, pictures, screen objects and text lists
- PLC program as basis for the creation of the visualization

Error reduction



- Automation of multiple, identical worksteps
- PLC program changes are automatically traced in the HMI

Performance



- Generates more than 75,000 objects within less than 10 minutes
- Fast change generation

Standardization



- The integration of libraries allows standardization
- Standardized solution possible at all company locations

Transparent Operation with SIMATIC ProDiag

Transparent operation with TIA Portal

Diagnostics management

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Diagnostics management

Increased availability of machines and production plants



Immediately detect errors in the automation system
... through integrated system diagnostics across all system components



Efficient diagnostics of process malfunctions

... with the standardized machine and plant diagnostics SIMATIC ProDiag



... reduce production outages

Machine and plant diagnostics with SIMATIC ProDiag ... analysis of errors in the manufacturing process

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Fast identification of errors

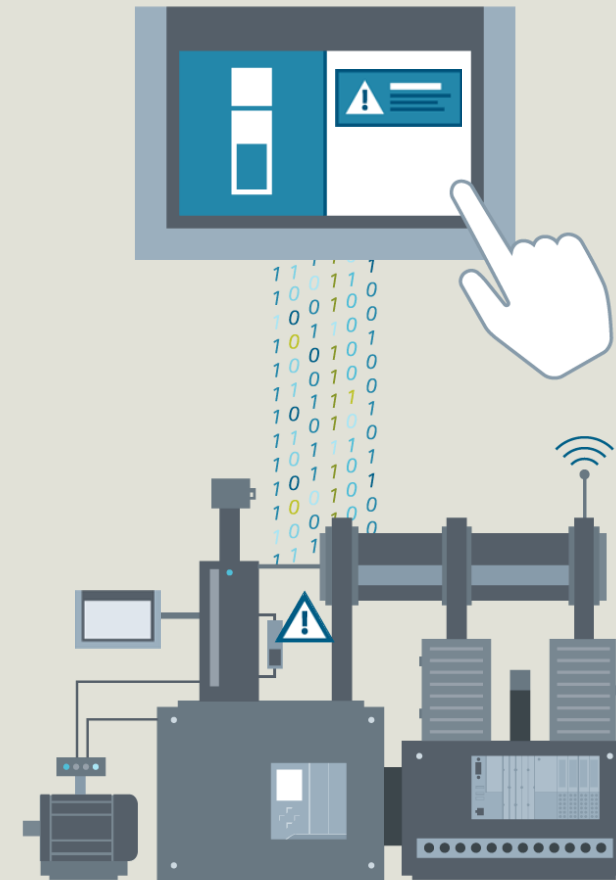
- + ... display of the faulty operands directly in the message with symbol and commentary

Fixing errors quickly

- + ... through clear information about fault location, fault cause and information about troubleshooting

"Service without PG"

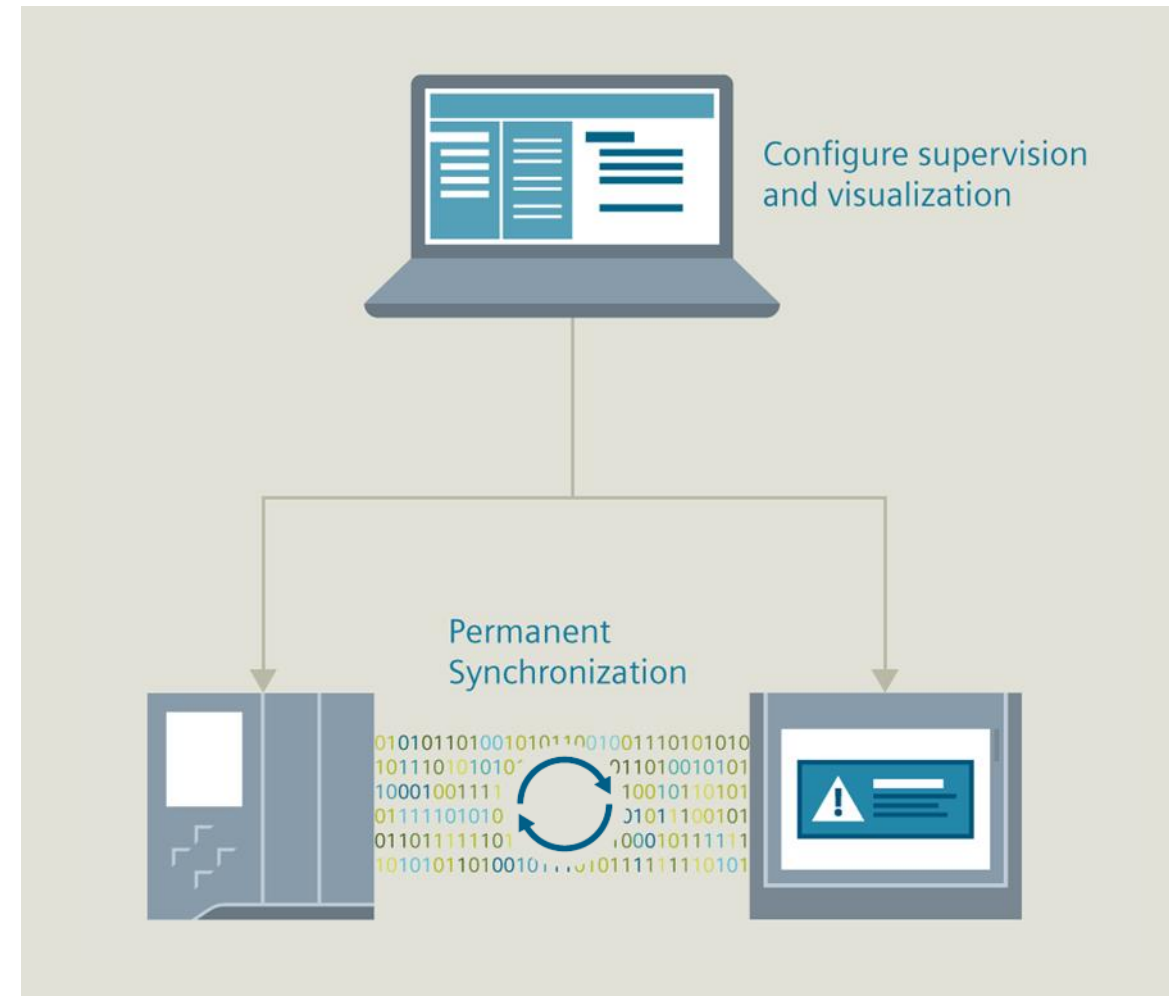
- + ... overview representations and detail diagnostics directly on the HMI device



Machine and plant diagnostics with SIMATIC ProDiag ... realized rapidly and simply

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- "Integrated"**
... automatic code generation and visualization of supervisions
- "Feedback-free"**
... define supervisions independently of the user program
- Always "up-to-date"**
... permanent synchronization of the HMI devices – also after changes in the user program



Machine and plant diagnostics with SIMATIC ProDiag

... efficient types of supervisions



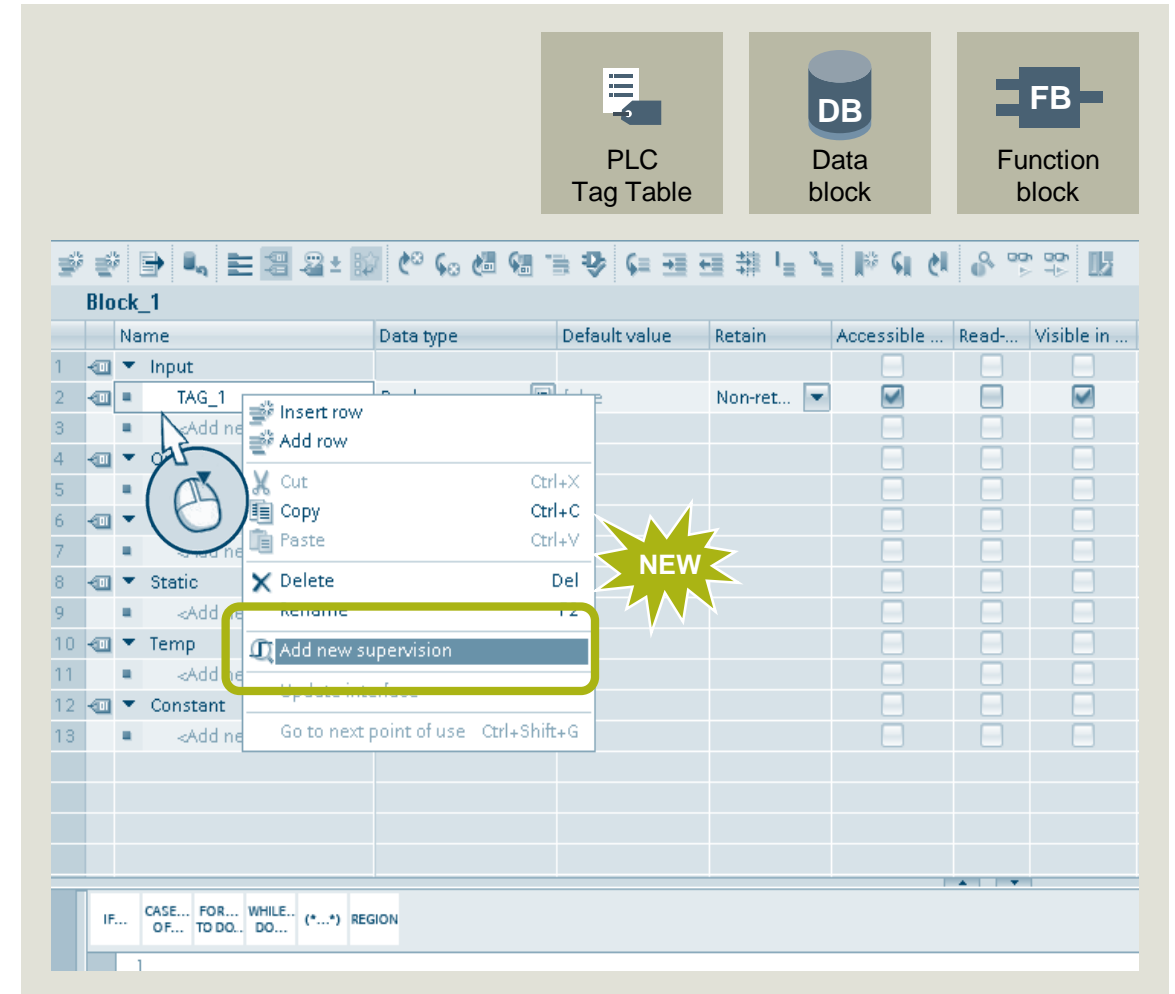
Machine and plant diagnostics with SIMATIC ProDiag ... full integration into TIA Portal

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+ **"independent"**
... of language editors / program code

+ **"comprehensive"**
... also for safety and
know-protected blocks

+ **"consistent"**
... Integration in cross-reference
functions with permanent data
consistency



Machine and plant diagnostics with SIMATIC ProDiag

... project-specific specification of the most important settings

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"efficient"

- + ... one-off specification of the alarm structure

"intelligent"

- + ... alarm texts are derived automatically from the texts existing in the project

"international"

- + ... complete foreign-language handling of the TIA Portal is available

The screenshot displays the SIMATIC ProDiag software interface. The top section shows the 'Supervision settings' configuration window. A yellow arrow points from the 'Tags' section of the 'Supervision settings' to the 'Tag table' at the bottom. A yellow starburst with the word 'NEW' is in the top right corner. The 'Tag table' is a table with columns: Name, Data type, Address, Retain, Visibl..., Acces..., Read..., Supervisi..., and Comment. The first row shows 'My tag' with a data type of 'Bool' and address '%I0.0'. The second row shows '<Add new...'. The 'Comment' column for the first row contains 'My tag comment'.

Name	Data type	Address	Retain	Visibl...	Acces...	Read...	Supervisi...	Comment
My tag	Bool	%I0.0						My tag comment
<Add new...								

Machine and plant diagnostics with SIMATIC ProDiag ... automatic update of the operating stations



"interruption-free"

... HMI devices do not have to exit the runtime mode in case of changes



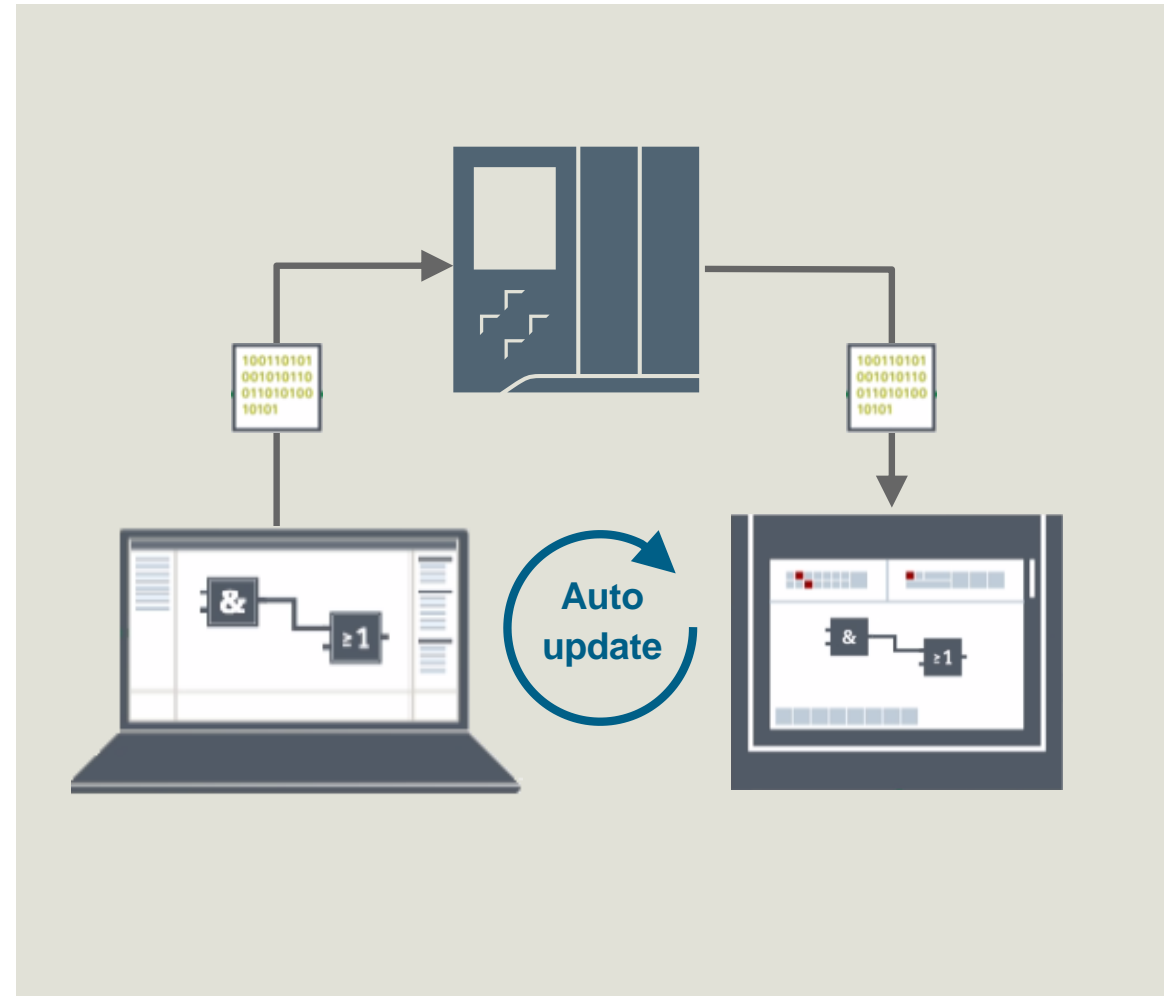
"time-saving"

... much easier maintenance work



"seamless"

... system guarantees data consistency



SIMATIC Energy Suite

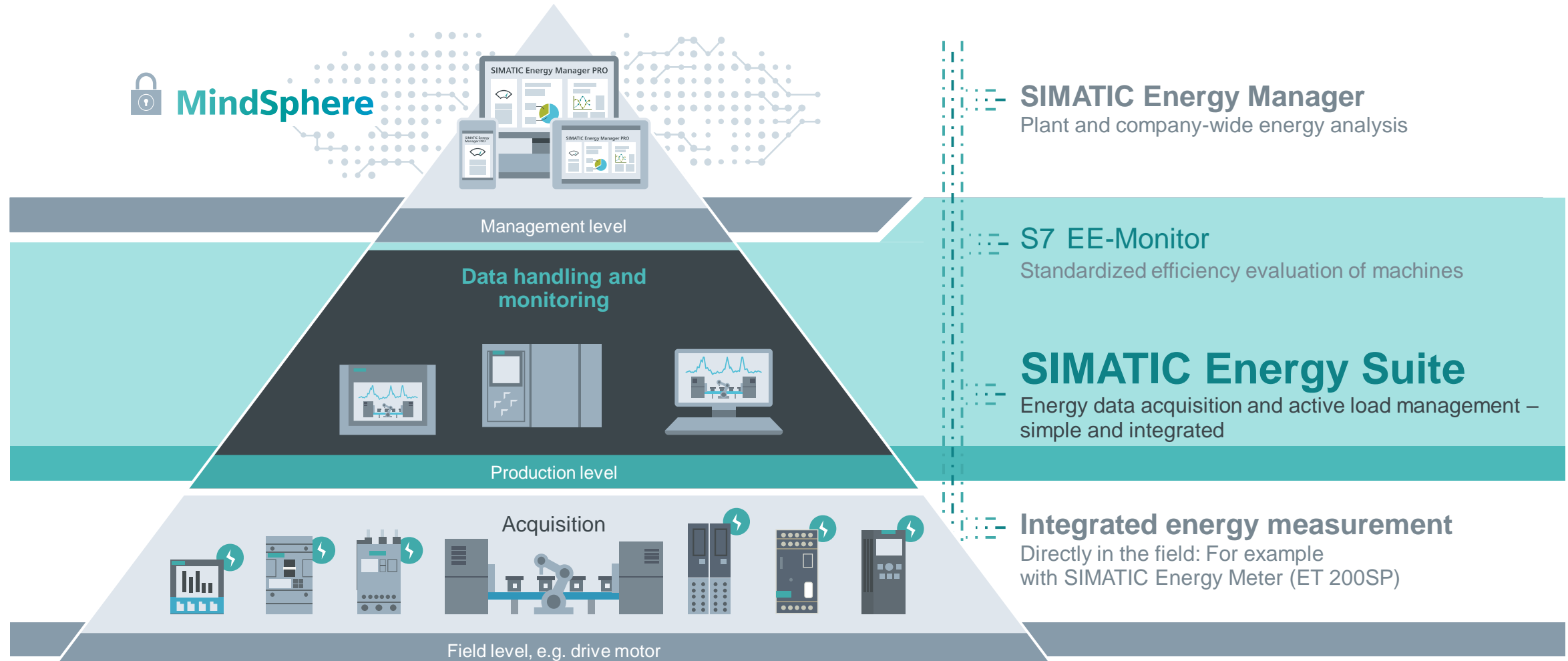
Intelligent Energy Management in Production
- simple and integrated

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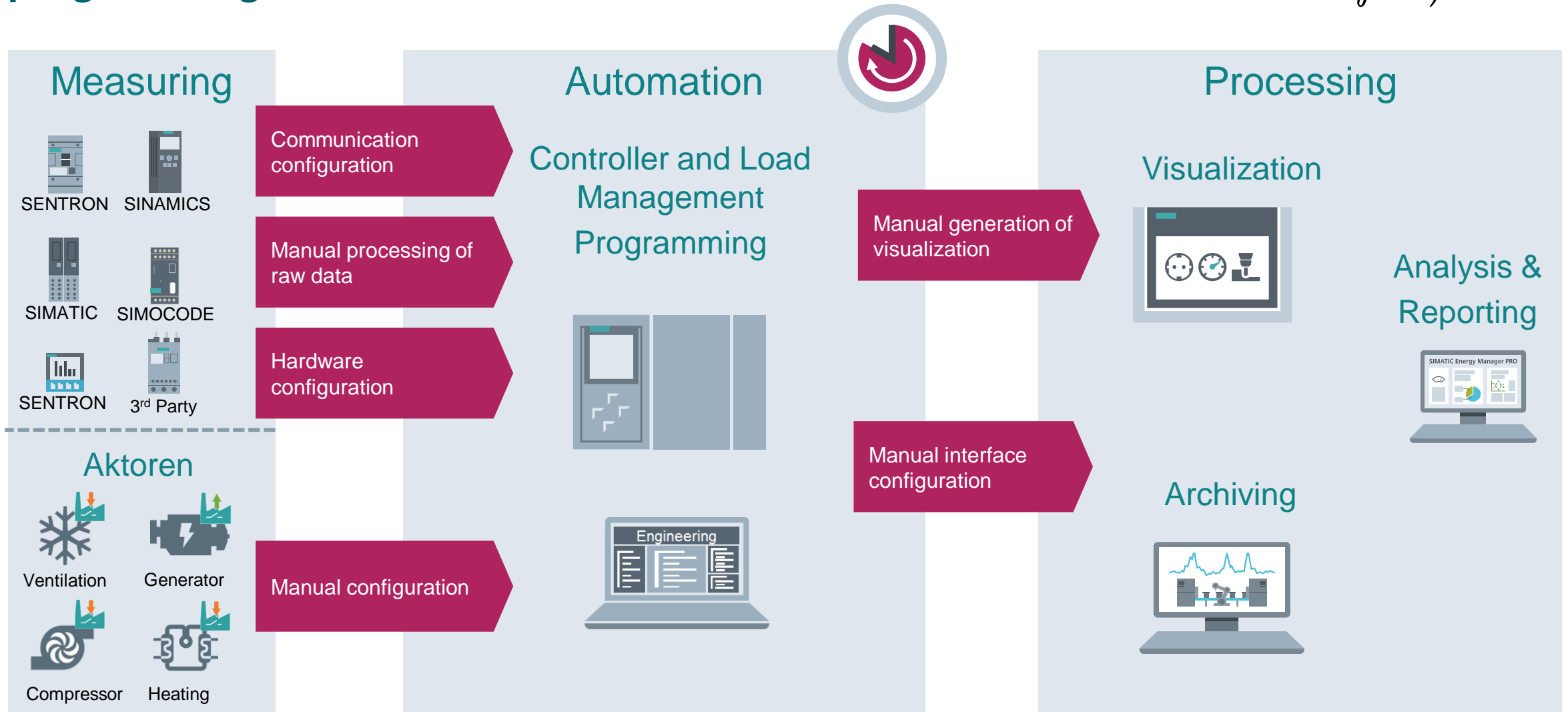
[siemens.com/energysuite](https://www.siemens.com/energysuite)

SIMATIC Energy Management – Transparency and efficiency from machine level to company level

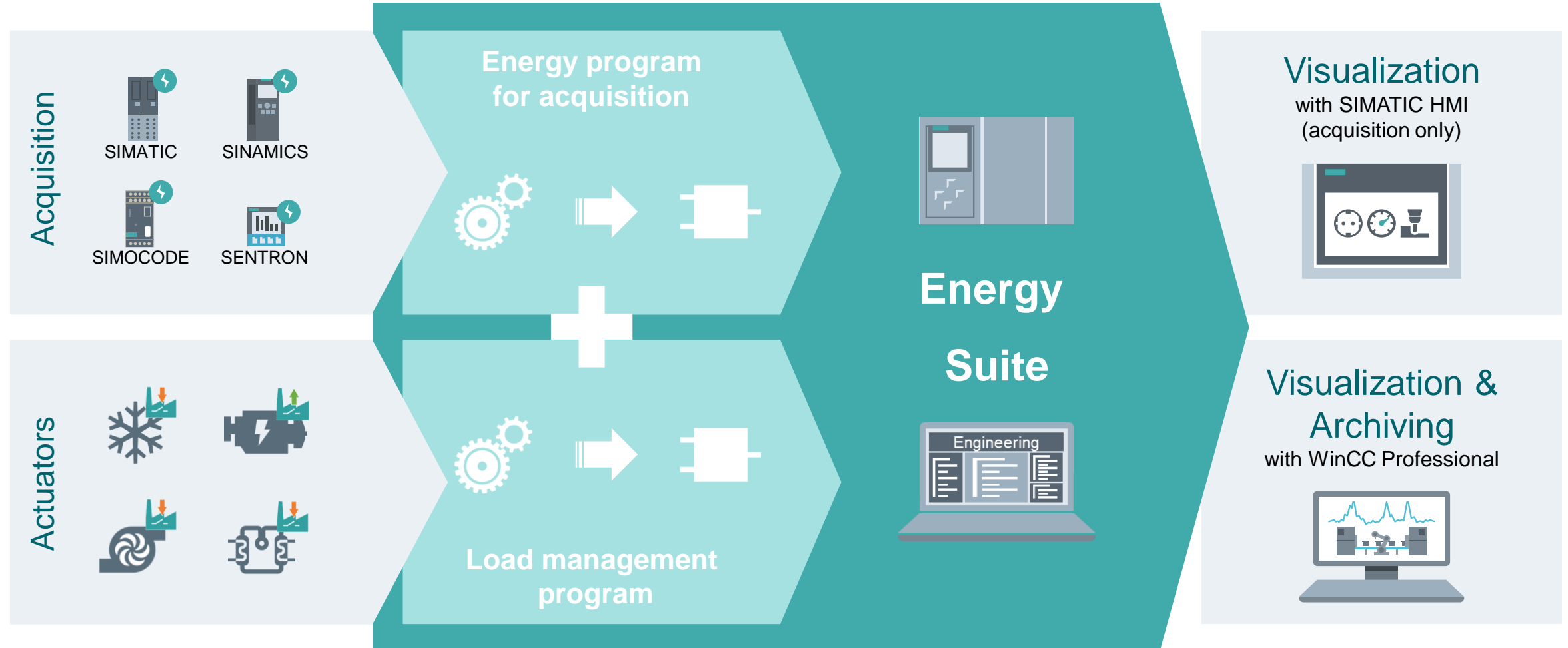
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Energy Management *without* Energy Suite requires additional programming



SIMATIC Energy Suite load management – Load management in the Energy Suite



SIMATIC Energy Suite - Highlights at a glance

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ISO 50001
zertifiziert



- ✓ **Considerable cost savings**
by reducing the predefined capacity limit with active, PLC-based load management
- ✓ **Increased energy data availability**
through archiving and intelligent buffering
- ✓ **Energy transparency within the production**
by linking production and energy data
- ✓ **Consistency and scalability**
with integration in TIA Portal and Energy Manager interface

SIMATIC Energy Suite offers you added value with intelligent functions



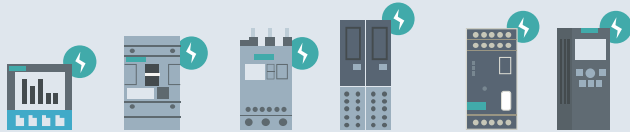
Feature / Function		Benefit
Innovative Load Management	▶	Considerable cost savings by downgrading the predefined capacity limit
Prognosis algorithm of the load management and prioritization of the actuators	▶	Even load distribution through independent connection or disconnection of consumers and generators
Direct integration of the PLC-based load management into the automation	▶	High reliability compared to PC-based load management
Automatable switching between parameter sets	▶	High flexibility for customer-specific requirements (e.g. high and low tariffs)
Automatic generation of energy data acquisition in TIA Portal	▶	Efficient implementation and error prevention during program generation
Intelligent data buffering on S7-1500 control	▶	Increased availability of energy data: data consistency even in the event of a fault

Active load management and energy data acquisition - simple and integrated

And can be easily integrated with these system and hardware requirements

Measurement devices

- Portfolio of SIMATIC, SENTRON, SINAMICS, SIRIUS, SIMOCODE and 3rd Party products

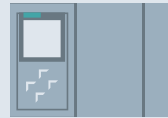


Actuators



SIMATIC CPU

- S7-1500 Controller



TIA Portal since V16

- Integrated option



Optional:

+ SIMATIC HMI

- Visualization directly on the panel



+ WinCC Professional

- Archiving of energy data
- Visualization of load management



Live Demo – SIVARC

<https://support.industry.siemens.com/cs/au/en/view/109740350>

Live Demo – PRODIAG

<https://support.industry.siemens.com/cs/au/en/view/109740151>