

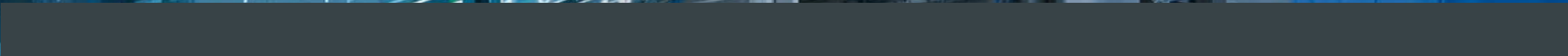


Systemoverview

Machine-level visualization with SIMATIC HMI

Efficient to a new level

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



Content

Added value = More value!



SIMATIC HMI – the sm@rt interface

HMI solutions are the only interface between man and machine. Optimal interaction between the two makes a valuable contribution in the following ways:

- Productivity – means competitiveness
- Efficiency – means cost savings
- Usability – means time savings



“Overall, we saved a lot of time in development and became even more flexible in terms of engineering.”

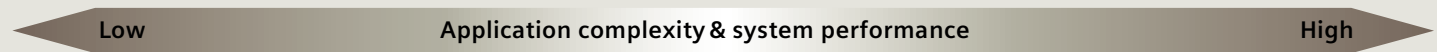
Florian Ruegg, Solinaut GmbH

SIMATIC HMI

Efficiency in machine-level operator control and monitoring

Equipment for monitoring and operator control is needed wherever people have to work with machinery and plants performing tasks A to Z. It is not difficult to find the right device for the specific task. The challenge is to find a solution that is future-proof and flexible, that can be integrated into higher-level networks, and that can also meet the ever-increasing demands for transparency and data provision.

SIMATIC HMI Panels have proven their value in many different applications in all industrial sectors over many years. The range of the systems in use is just as wide as that of the applications and technologies in the respective plants.



For entry-level

Basic HMI is recommended for simple applications with a limited quantity scale and where the price-performance ratio is important in addition to a fast and intuitive operation.

The devices offer a brilliant display quality and high-power visualization. This significantly facilitates the operation even of simple machines and equipment. Through turnkey and flexible solutions, you also save valuable time during installation and engineering.

For higher demands

If you are looking for a panel-based solution for more demanding applications with larger quantity scales, make a decision for Advanced HMI.

The user benefits from excellent functionality and a wide range of devices and applications, with key or touch operation. Both stationary and mobile solutions are available.

For very high-end solutions

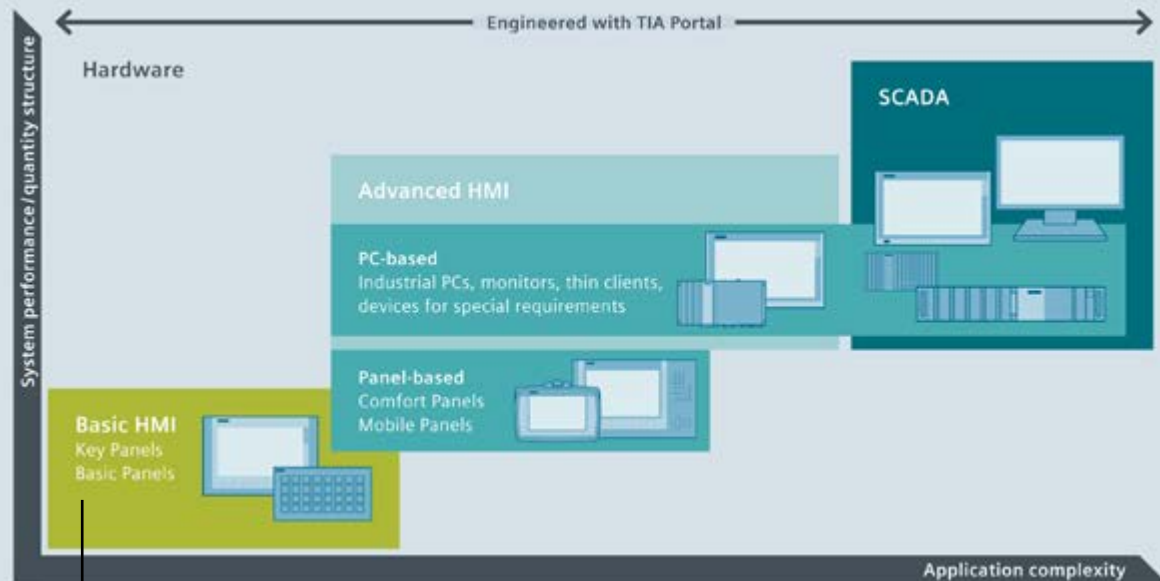
If production places particularly high demands on the quantity and type of information that must be processed and documented, a PC-based system is recommended. It offers the appropriate options for sufficient storage space, processing power, and data connectivity.

The user can either opt for a centralized solution, in which the visualization and PC are a single unit, or for a decentralized solution with an industrial monitor as a thin client.

SIMATIC HMI Software in the TIA Portal

more than just a visualization
software

From machine-level visualization all the way to the high-performance SCADA system, SIMATIC WinCC in the TIA Portal and its efficient tools covers the entire engineering and visualization software spectrum – integrated across all performance classes!



References

Machine-level visualization for success

The SIMATIC HMI portfolio brings numerous practical automation solutions to life. Companies such as the Swiss-based Solinaut can offer specialized engineering services and software development support. The cooperation with Siemens over the Totally Integrated Automation engineering framework (TIA Portal) allows all project participants to greatly benefit.

Programmers can save considerable amounts of time on development. End customers, on the other hand, are pleased at receiving a solution that is clearly structured, intuitively easy to operate and tailored to their individual specifications.

The success of SIMATIC HMI is underscored by numerous client projects. It is used for diverse visualization tasks in a wide range of Industries. If there is one thing that all of the companies have in common, it is the enormous headway that SIMATIC HMI panels have allowed them to make.



The top 3 tools

for your optimum
HMI solution

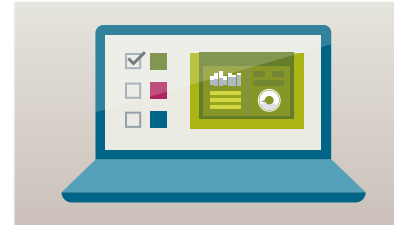
HMI Toolbox



It is usually the small things that make everyday life easier. For example, we offer: A stopwatch, calculator, calendar and many more such devices.



HMI Template & Designs



Simply drag and drop to create unique user interface – with perfect usability and modifiable designs!



Remote access



Easy maintenance and service at all times – even from remote locations. And all this with access protection!



SIMATIC Basic HMI

Economic realization
of simple HMI tasks

“In our company where, in effect, a single person does all the engineering, we notice the excellent support provided by the TIA Portal.”

Markus Achermann,
Geschäftsleiter AC Schwimmbadtechnik



SIMATIC HMI Key Panels



You can use the SIMATIC HMI KP8 / KP8F and KP32F key panels to quickly realize operator panels. Since they are prefabricated are ready for installation, you will save of time and money setting them up.

A smart alternative to long-travel keys:

- Flexible installation and direct installation in the control cabinet (IP65)
- Buttons with LED backlighting (5 colors)
- Connection via PROFINET with integrated switch
- Digital I/Os for connecting key switches or lamps, for example
- Integrated safety functionality; fail-safe transmission of safety-related signals via PROFIsafe

Your advantages at a glance

- Up to 60% less overhead for wiring and installation
- Direct connection of an emergency stop button or other fail-safe signals possible
- Easy integration into the automation solution

SIMATIC HMI Basic Panels



Did you know?

To start smart and save money, we offer starter kits in conjunction with one of our basic controllers – SIMATIC S7-1200 or LOGO!



Basic Panels are made for the cost-effective implementation of simple visualization tasks on the machine level. Their basic features and functionality as well as the especially attractive price make them perfect entry-level devices.

Beauty is simplicity:

- High-resolution, dimmable widescreen displays from 4" to 12" with 64,000 colors (also configurable for portrait format)
- Combined operation via touch screen and freely configurable keys
- USB connection for project transfer, data archiving, keyboard, mouse, etc.
- PROFIBUS or PROFINET versions for process communication

Your advantages at a glance

- Highest usability through innovative graphical user interface
- Fast start-up and archivable data recording
- Perfect interaction with the S7-1200 basic controller

Devices for special requirements



SIPLUS Basic Panels

For simple automation tasks under extreme environmental conditions, special hardened SIPLUS versions are available offering increased operational reliability.

The standard for extreme conditions:

- Corrosive gas resistance to chemical, biological and mechanically active substances and salt mist
- 100% dewing and ice formation allowed
- Extended temperature range (-40 to +70 °C)
- Installation altitudes of -1,000 to +5,000 meters

Your advantages at a glance

- Continuous operation even in rough conditions
- Reduced production downtime and performance degradation
- High degree of investment security

Panel-based

SIMATIC Advanced HMI

Realization of demanding,
complex HMI tasks with a
high level of convenience

*“Our customers expect a
good, attractive design for the
visualization and modern
control options.”*

(Anton Forstnhäusler, Team Leader
Electrical Design / PLC / Electrical Assembly,
KNOLL Maschinenbau GmbH)



SIMATIC HMI Comfort Panels

Did you know?

To start smart and save money, we offer starter kits with Comfort Panel, SIMATIC WinCC Comfort and accessories!



SIMATIC HMI Comfort Panels are designed for implementation of high-performance visualization applications on the machine-level. High performance, functionality and numerous integrated interfaces offer the greatest convenience in high-end applications.

Convenience without compromise:

- Brilliant, stepless dimmable widescreen displays from 4" to 22" with 16 million colors (configurable for portrait format)
- Touch or key operation and viewing angles of up to 170°
- Integrated system card for automatic backups
- Power management on the machine, even with PROFlenergy
- Perfect interaction with the advanced controller SIMATIC S7-1500

Your advantages at a glance

- Wide range of products, continuously scalable
- Flexibility thanks as standard functionality (including VB scripts and various viewers for system documentation and websites)
- Maximum data security, also in case of service



SIMATIC HMI Mobile Panels



Take power and safety directly in your hands. When it comes to high-end mobile applications, opt for mobile panels. These are also for fail-safe machines and widely distributed plants.

Safe and secure:

- Brilliant, stepless dimmable widescreen displays with 4", 7" or 9" and 16 million colors
- Location identification via terminal box
- Comprehensive, integrated solutions with Safety Integrated
- Flexible evaluation of the safety switch elements, for example, via fail-safe S7 controllers
- Unique illuminated emergency stop button with PROFSafe

Your advantages at a glance

- Highly ergonomic, combined with industrial design
- Space-saving and flexible in connection and installation
- Unique integration in safety applications

Devices for special requirements



Outdoor Panels

The outdoor panels are specifically designed for outdoor use and certified for numerous Industries. They are extremely robust, readable in all lighting conditions, and safe to use.

“Convenience” for any use outdoors:

- Extreme application ranges from $-30\text{ }^{\circ}\text{C}$ to $+60\text{ }^{\circ}\text{C}$ at an elevation of 3,000 meters
- IP66-protected front panel with high UV resistance
- Glare-free daylight-readable display with automatic brightness control
- High vibration and shock resistance

Further versions available:

IP65

INOX



PC-based

SIMATIC Advanced HMI

Efficient realization of even the most demanding and complex HMI tasks

“After all, the right user-oriented design says more than a thousand words.”

Arno Rathmann, Kosch AG



SIMATIC Industry Panel-PCs



Did you know?

With SIMATIC industry PCs, you can now save double – with turnkey pre-installed embedded bundles for faster commissioning and by ordering your industry PCs with software as a cost-optimized total package.



The most complex visualization and control tasks can be realized centrally on the machine with extremely compact industrial panel PCs. From embedded to the high-end industrial PCs, you can find optimum solution in our portfolio – to meet the many requirements of your automation system.

Greater emphasis on individuality:

- Brilliant widescreen displays from 7" to 22" with innovative single- or multi-touch technology
- High-performance processors and fast, robust mass storage (SSD, CFast)
- A variety of interfaces and configurations
- High quality and serviceability

Your advantages at a glance

- Processing large amounts of data quickly
- Flexible configuration and expansion
- High data security and system availability in continuous operation

SIMATIC IFP and SIMATIC ITC



Siemens has two innovative options for distributed control concepts. SIMATIC industrial monitors and thin clients are used as desktop devices for control centers, as built-in devices for operator panels or as PC-based visualization and control solutions in which the control unit is operated separately.

Much more than just an industrial monitor!

- Brilliant widescreen displays from 12" to 22" with single- (ITC) or multi-touch technology (IFP) and fast response times
- For installation or support arm / pedestal mounting (IP65)
- For the industrial 24-hour use
- Detached placement via DisplayPort / DVI, USB or Ethernet (ITC)

Your advantages at a glance

- High system availability ensured
- Universal application: 15m / 30m / unlimited
- Very user-friendly with gesture and multi-touch operation

Devices for special requirements

IP65

PRO – for all-round protection

The all-round IP65 protected PRO devices and expansion modules enable flexible operation via support arm or pedestal. The service-friendly rear panel is easy to detach, even after installation, for example, when replacing the memory card or subsequent cabling.

INOX

INOX – for hygienic production

These tested stainless steel devices offer safety and cleanliness for hygienic applications in the field of pharmaceuticals, fine chemicals and the food and beverages industry. Their smooth, splinter-proof surface with degree of protection IP66K is easy to clean and liquids run off quickly.



EX – for genuinely hard cases

The HMI devices for hazardous areas can be used in zones 1/21 and 2/22 without implementing special measures, such as costly enclosures or additional certifications. This also applies to the chemical, oil/gas or shipbuilding industries.



Did you know?

Wherever your specific needs are not fully met by our standard equipment, Customized Automation provides the perfect solution. For example, we offer custom front panels that are available in a few days, even in small quantities.

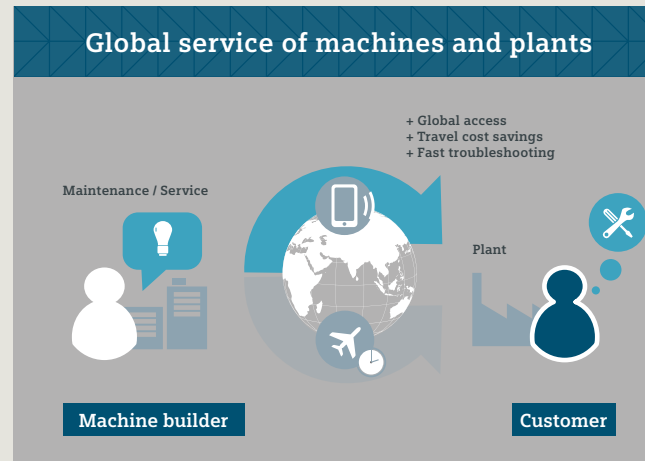
Smart remote

Smart remote control and monitoring

With the SIMATIC WinCC Sm@rtClient app (for Android and iOS), you get mobile remote operating and monitoring on your smartphone or tablet. You are thus informed at all times and can react accordingly even when you are not on-site. This innovative, web-based solution is also possible overarching SCADA applications with WinCC Professional.

The system solution for optimizing production

PC-based SIMATIC HMI/SCADA systems and SIMATIC industrial PCs form a high-performance and reliable platform for the acquisition, evaluation and visualization of data. The coordinated and certified package of hardware and software offers the highest quality in all areas.



Innovation in design and operation – glass front with multi-touch

The Industrial Flat Panels and some Panel PCs from Siemens support fast operation by means of intuitive gestures. This makes your visualization solutions become even more innovative and efficient.

More touch with multi-touch:

- Projected capacitive touch technology with simultaneous detection of 5 fingers
- Automatic detection of inadvertent contacts, e.g. with palm, drops, dirt etc.
- Anti-reflective glass front, scratch-resistant and chemical resistant
- Contrasting and sharp image display
- Approvals for various Industries (e.g. shipbuilding or hazardous areas)

Altendorf cheese dairy

Better quality with less resources

Efficient engineering – the basis for innovation

The Swiss company Solinaut provides engineering services and software development for automation solutions.

In cooperation with Siemens and by using the TIA Portal (Totally Integrated Automation) the system integrator provided the company valuable benefits.

Programmers save a great deal of time in the development. For example, several parameters can be created in a single step when engineering in the TIA Portal and blocks can be saved in libraries. In this way, Solinaut can concentrate on the important aspects of clear and intuitive visualization in an automation solution.

The results are tailor-made solutions to meet the needs of end users. For one such company, the Altendorf cheese dairy, it has more than paid for itself.

Feast for the eyes – just like the cheese

Companies such as the Altendorf cheese dairy depend on automation due to the increasing global competition. One factor in this regard is to consistently make full use of the potential for optimization over the complete life cycle of a machine or plant. Specifically, this means less consumption of resources in production and to provide an operation intuitive enough that staff can concentrate on the quality of products.

This is why system integrator Solinaut developed a customized visualization concept for the Altendorf cheese dairy with decisive advantages:

- Enormously simplified process control for employees, including special panel screens with flow charts
- Quick access to functions through slide-in and pop-up windows
- More control and easy maintenance with remote access

This investment in automation has already paid off. The time spent in daily production has practically been cut in half. The dairy now uses significantly less energy and water. Owner Erich Keller can look positively into the future.



AC Schwimmbad- technik

Easy operation, easy system care

The company, based in Hochdorf near Lucerne Switzerland, designs and builds exclusive swimming pools and jacuzzis. Their customers are private clients, architects, as well as operators of hotels or campsites.

AC Schwimmbadtechnik is using a new operating concept to simplify the control and water treatment of private swimming pools with the aid of S7-1200 controllers and Basic Panels.

The Basic package replaces the previous solution that had several LEDs and push buttons, so now there is only one panel for all messages and information. This allows even non-specialists or private users to operate their water treatment very easily and to instantly know what to do.

Such an integrated solution offered many advantages for AC Schwimmbadtechnik as well. A relatively small company often lacks the resources to have in-house know-how for a variety of systems. Standard software significantly reduces the work involved.



„In our company where, in effect, a single person does all the engineering, we notice the excellent support provided by the TIA Portal.“

Markus Achermann,
Managing Director of AC Schwimmbadtechnik

KNOLL Maschinenbau GmbH

Full overview to the last detail

KNOLL Maschinenbau GmbH produces coolant cleaning systems for CNC processing. Each system is customized. Not only with the structural conditions, but also in relation to the employed filter technology and cleaning performance. This affects all parts of the plant and the visualization as well.

The automation and drive technology in these systems is based almost fully on Siemens technology – even down to the SIMATIC S7 controllers and the latest generation of the SIMATIC HMI Comfort Panels. In the meantime, the panels have now become almost standard for KNOLL because buttons and switches are no longer enough for their customers.

For more complex systems or customers who want very detailed operating screens with corresponding plant visualization, the high resolution of the display and the excellent design options for the Comfort Panels are a big plus. A high-performance engineering framework such as the TIA Portal also helps to become more productive and to promote the growth of the company.



„Our customers expect a good, attractive design for the visualization and modern control options.“

Anton Forstehäusler,
Team Leader Electrical Design / PLC / Electrical Assembly
Knoll Maschinenbau GmbH

Korsch AG

Complex plants operated
with just a few clicks

Korsch AG has provided tablet presses for the pharmaceutical industry since 1918 and is regarded as one of the most important companies in this industry. Their catalog runs from special presses for research and development purposes, rotary presses for scale-up operation, and the production of medium-sized batches, all the way to high-performance presses for 24-hour operation.

A highlight of their range of products is the XT 600, a high-performance, double rotary press for processing large batches. The plant can produce one million mono-layer tablets and up to 360,000 bilayer tablets per hour.

Especially remarkable is the ultramodern control system that is visualized on a SIMATIC IFP 1900 Industrial Flat Panel Monitor. It is the first machine of its kind that relies on a multitouch-enabled, industrial monitor.

Siemens designed the user interface together with the company, Forma Cadera Design. One particularly important aspect when creating the operating concept was to show the main tasks of the operator as intuitive as possible. The number of clicks was minimized for this, so that little training was required to achieve operational reliability.

HMIs are a way to the future for the Korsch AG. They bring the products to the next level in terms of usability and thus provide the company a decisive competitive advantage.



„After all, the right user-oriented design says more than a thousand words.“

Arno Rathmann,
Korsch AG

Machine-based visualization with SIMATIC HMI

- Efficient in engineering
- Innovative in design and operation
- Brilliant HMI operator devices
- Protection – with certainty
- Rapid commissioning

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The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products. The requested performance features are binding only when they are expressly agreed upon in the concluded contract.

**SIMATIC
HMI –
All info!**



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