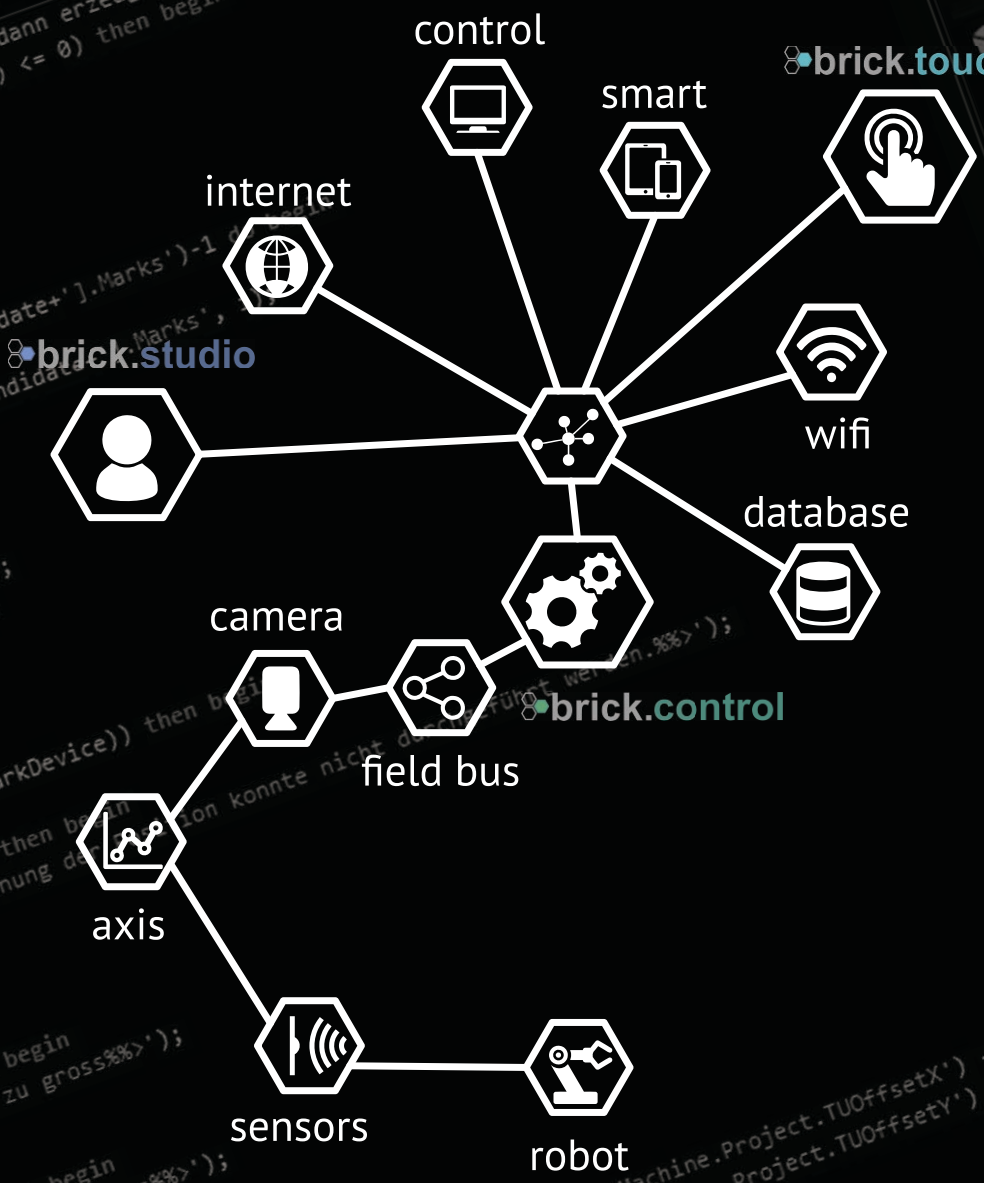
MicroContact

brick.technology



BRICK.TECHNOLOGY PC-BASED MACHINE CONTROL

CONTENT

DISCOVERING BRICK

THE SIMPLICITY AND FUNCTIONALITY OF THE STEADY DEVELOPED MACHINE CONTROL HAS SATISFIED OUR CUSTOMERS FOR MORE THAN 25 YEARS.

The **Brick** machine control system offers the complete work environment in a special machinery construction. With **Brick**, you can commission, operate and maintain complex systems efficiently, safely and with state-of-the-art technology. From the control to the HMI, we provide a uniform concept from a single source. Enjoy the simplicity and consistency of **Brick**.

Efficient
Thanks to the consistency from the user interface to the control system, **Brick** literally takes over the work. Develop faster and better machine controls; your customers will be delighted!

Robust
Your system will become stronger than ever, by increasing the ability to configure more and program less. The stored components and functions have been tested for years in the 24-hour operation of the tough industrial environment.

Scalable
Use the latest generations of processors to make your system even faster. **Brick** uses all the cores of the most modern processors to get the most out of your system. In order to increase your system's performance capacity, insert large, fast memories and discover the unimagined possibilities.

Secure
With **Brick**, you determine who can read or modify the information you select. You can also grant permission to groups, users, devices, actions, or others as you need to. And in this way, rely on the system-wide security settings.

Communicative
Brick is very communicative. Interact with your systems using the latest interfaces and ask anything you want; you will receive an answer. You can also control **Brick** very easily from other systems. And rest assured because the **Brick** security system controls everything.

Multilingual
The language changes at the touch of a button. **Brick** supports you in the creation and update of new languages.

Trustworthy
Experience the familiarity of operating the equipment, which you know from the devices in your everyday life. Immerse yourself and discover the possibilities of control without fear of doing something wrong. You´ll be amazed by the look and feel of a real native app.

Optimized
Recognize the optimization potential of your facilities. Steadily improve your process and monitor your success. No need to guess because you will know what has led to a malfunction!

Unlimited
Monitor, analyze, or control your facilities via standardized or customized apps. No matter where you are. There are no limits. These are only determined by you; just how you think it is right.

Digital
Brick supports the digitization of your processes in all aspects. Link **Brick** to your MES system, gather the I/O states or analyze the past sequences of the machine conditions with the Log File Analyzer.

Young
Use ongoing improvements and developments to always keep up with the latest. You are investing in a system that will not only run in the future, but one that is also state-of-the-art.

BRICK.TECHNOLOGY

CONFIGURING INSTEAD OF PROGRAMMING IS BRICK'S PHILOSOPHY.

The **Brick** basic software is a PC-based machine control for complex systems. **brick.technology** is characterized by the simple and efficient creation of new processes and the management of the parameters in databases. The system knows its state at all times. All parameters can be queried and changed at any time.

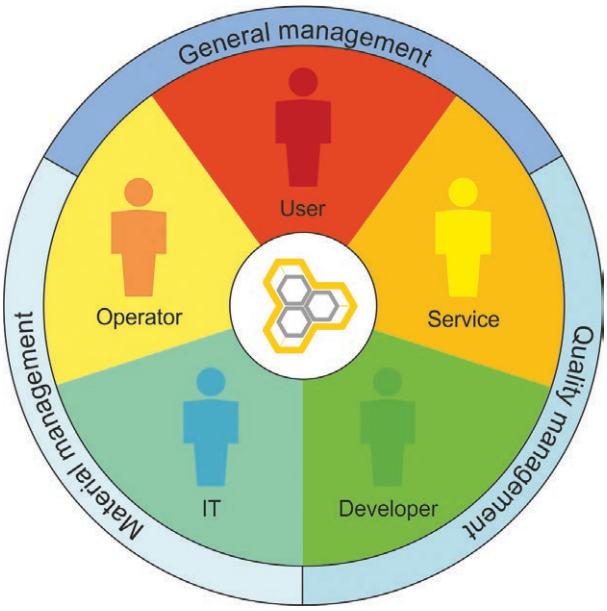
Brick functions independently from the hardware and enables communication with any number of axes, sensors, actuators, robots, and other peripheral devices of any manufacturer. All units can be intuitively controlled and read via a touch interface. The visual arrangement can be freely designed.

Meet user needs
brick.technology is Windows-based and designed to meet the needs of all stakeholders. This is the basis for an efficient, well thought-out and structured work in all phases of the unit´s life.

The **developer** has access to all states and parameters, which are centrally managed in the database. This enables him to program quickly and efficiently as well as to commission the machine in a structured manner.

The **IT** can easily integrate the machine into the network via boxing.
The closed system is safe and does not require a virus scanner.

Various tools are provided to the **operator** in order, for example, to simply retool the machine or to correct efficiently a malfunction.

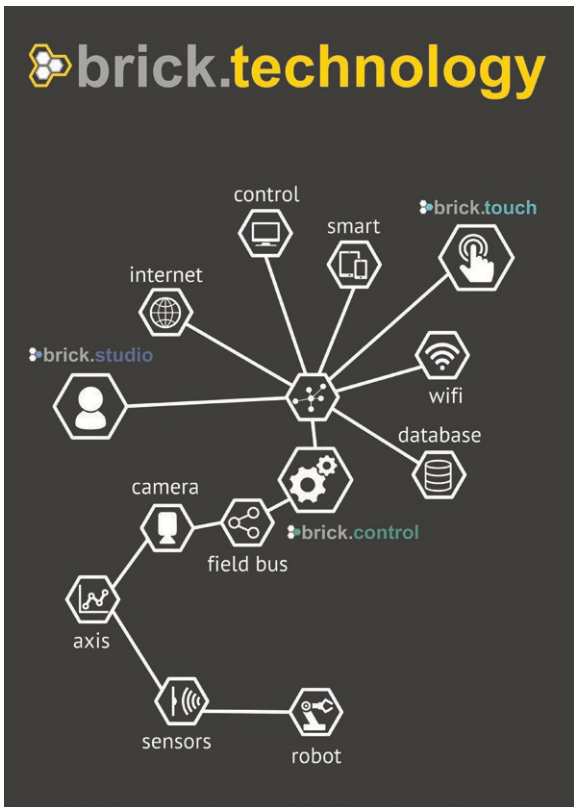


An intuitive interface is offered to the **user**, which he can operate via well-known devices, such as, PCs, tablets or smartphones.

The **service** has a complete overview of all states and data of the machine, on site or via remote access.

The clear structure of **brick.technology** shows the simple connections, which a machine requires. If several machines (**brick.control**) are connected in a network, they can all be operated via **brick.studio**, **brick.touch** or **brick.mobile**.

Configurations, programming and sequences are implemented in the **brick.control**, which controls the machine. The control elements are connected in a network via TCP/IP so that the machine can be operated from several stations (studio, touch, mobile).
The internal control of axes, robots, vision systems or IO´s runs via field bus systems.



BRICK.CONTROL

THE CORE OF THE MACHINE CONTROL

The center of the machine control is **brick.control**, in which the whole control is executed. The machine data are centrally managed in a database via **brick.control** and all other **Brick** components can access this data.

brick.control manages the following elements:
+ Machine processes
+ Machine parameters
+ Machine condition
+ Error messages
+ Allocation of authorizations
+ Multilingualism

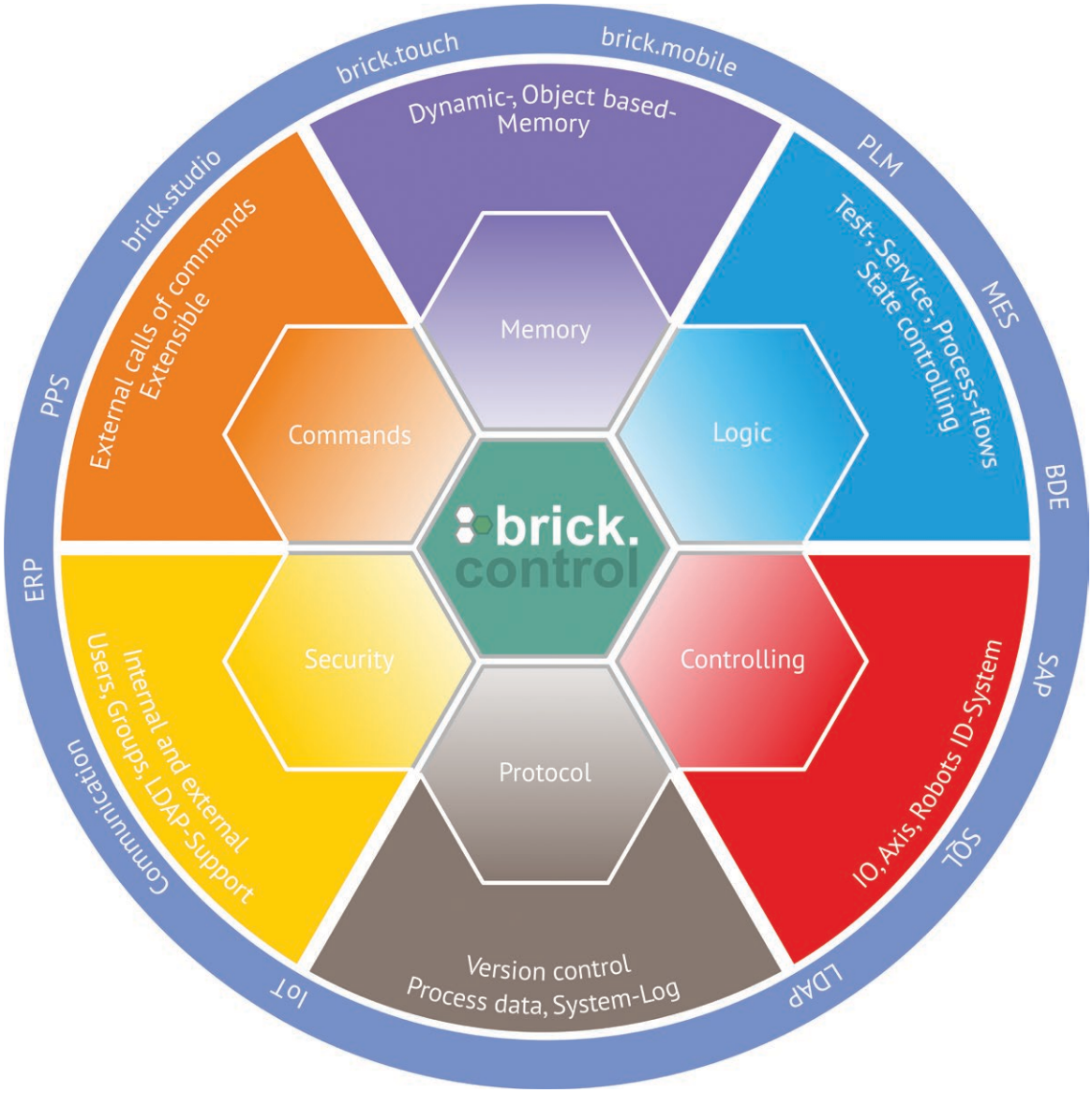
Thanks to the combination of these elements in **brick.control**, complex systems can be implemented with little programming effort.

A deeply anchored anti-crash function provides a high degree of protection against mis-manipulation when commissioning axes as well as in continuous operation.

Thanks to the multilingual nature of **brick.control**, all error messages can be displayed in the desired language by switching the user language.

External systems such as a MES or ERP system can be easily integrated into the software and this enable efficient data management. If the machine receives data from pre-processes, e.g. defective parts are excluded from further processing.

As the main control center, **brick.control** communicates with all other **Brick** components. If a parameter value is changed in the database, this is also displayed correctly by the other components.



BRICK.STUDIO

THE WORK EQUIPMENT OF THE DEVELOPER

brick.studio is a Windows application that can be used to configure all parameters required by **brick.control**. From this application, all machine parameters and conditions are monitored and analyzed.

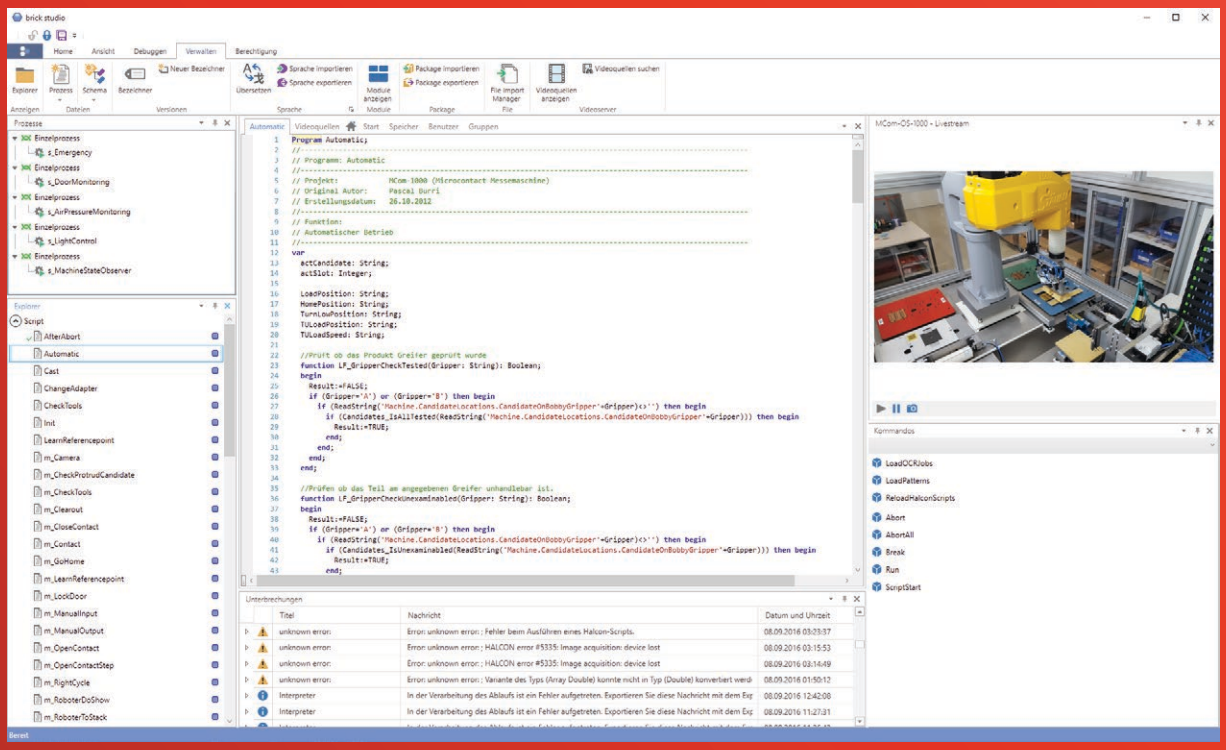
Machine sequences are also written in **brick.studio** and can be easily edited or replaced during commissioning. Time sequences can be started separately, thus enabling step-by-step commissioning. Process-oriented scripts allow easy creation of dynamic processes.

By controlling robots separately, the configuring and testing of the axes or I/O's are supported appropriately.

Occurred errors are collected and can be sorted according to frequency or time of occurrence.

With the Log-File, you will also receive – if needed - a complete overview of the system over almost any desired time. This will easily, cost-effectively, and quickly support the service operations and troubleshooting via remote access.

The Log File Analyzer supports the error search by evaluating the data as well as system conditions and visualizing the process sequences and their parallelism.


brick studio
Home
Ansicht
Debuggen
Verwalten
Berechtigung
Prozesse
Einzelprozess
s_Emergency
s_DoorMonitoring
s_AirPressureMonitoring
s_LightControl
s_MachineStateObserver
Explorer
Script
AfterAbort
Automatic
Cast
ChangeAdapter
CheckTools
Init
LearnReferencepoint
m_Camera
m_CheckProtrudCandidate
m_CheckTools
m_Clearout
m_CloseContact
m_Contact
m_GoHome
m_LearnReferencepoint
m_LockDoor
m_ManualInput
m_ManualOutput
m_OpenContact
m_OpenContactStep
m_RightCycle
m_RoboterDoShow
m_RoboterToStack
Program Automatic;
// Program: Automatic
// Projekt: MCom-1000 (Microcontact Messemaschine)
// Original Autor: Pascal Durri
// Erstellungsdatum: 26.10.2012
// Funktion:
// Automatischer Betrieb
var
actCandidate: String;
actSlot: Integer;
LoadPosition: String;
HomePosition: String;
TurnLowPosition: String;
TULoadPosition: String;
TULoadSpeed: String;
//Prüft ob das Produkt Greifer geprüft wurde
function LF_GripperCheckTested(Gripper: String): Boolean;
begin
Result:=FALSE;
if (Gripper='A') or (Gripper='B') then begin
if (ReadString('Machine.CandidateLocations.CandidateOnBobbyGripper'+Gripper)<>'') then begin
if (Candidates_IsAllTested(ReadString('Machine.CandidateLocations.CandidateOnBobbyGripper'+Gripper))) then begin
Result:=TRUE;
end;
end;
end;
end;
//Prüfen ob das Teil am angegebenen Greifer unhandelbar ist.
function LF_GripperCheckUnexaminded(Gripper: String): Boolean;
begin
Result:=FALSE;
if (Gripper='A') or (Gripper='B') then begin
if (ReadString('Machine.CandidateLocations.CandidateOnBobbyGripper'+Gripper)<>'') then begin
if (Candidates_IsUnexaminded(ReadString('Machine.CandidateLocations.CandidateOnBobbyGripper'+Gripper))) then begin
Result:=TRUE;
end;
Unterbrechungen
Titel
Nachricht
Datum und Uhrzeit
unknown error:
Error: unknown error: ; Fehler beim Ausführen eines Halcon-Scripts.
08.09.2016 03:03:37
Error: unknown error: ; HALCON error #5335: Image acquisition: device lost
08.09.2016 03:15:53
08.09.2016 03:14:49
Error: unknown error: ; Variante des Typs (Array Double) konnte nicht in Typ (Double) konvertiert werd
08.09.2016 01:50:12
Interpreter
In der Verarbeitung des Ablaufs ist ein Fehler aufgetreten. Exportieren Sie diese Nachricht mit dem Exp
08.09.2016 12:42:08
08.09.2016 11:27:31
MCom-05-1000 - Livestream
Kommandos
LoadOCRJobs
LoadPatterns
ReloadHalconScripts
Abort
AbortAll
Break
Run
ScriptStart
Bereit

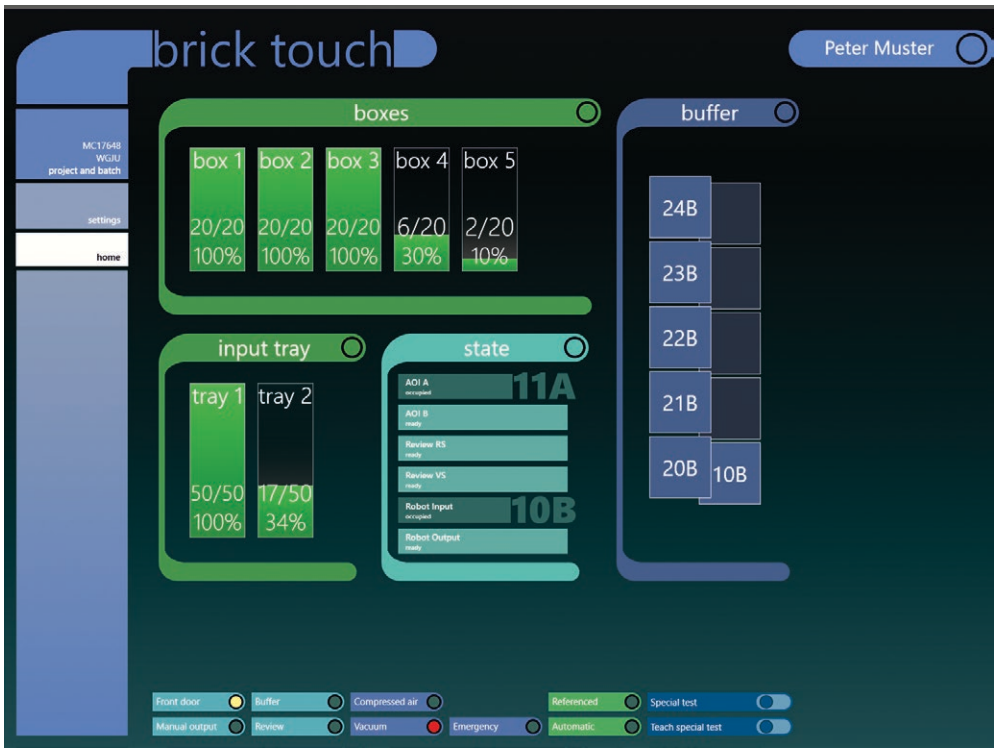
BRICK.TOUCH

THE INTUITIVE USER INTERFACE

The **brick.touch** surface has been designed to be clear and easy to understand. It also provides instantly a precise overview of the machine condition and it can be operated locally or remotely. Logical arrangement of commands and information as well as intuitive operation make it possible for complex machines to be serviced by new personnel in a very short time.

brick.touch is built with Microsoft Blend or WPF. For multilingualism, the translations are stored and the language can be changed at short notice. The several terminals also allow simultaneous display of different languages.

Brick supports your knowledge management. Error messages can be completed by the operator with pictures or text. Relevant information for the subsequent work shift is thus automatically documented in the correct location.

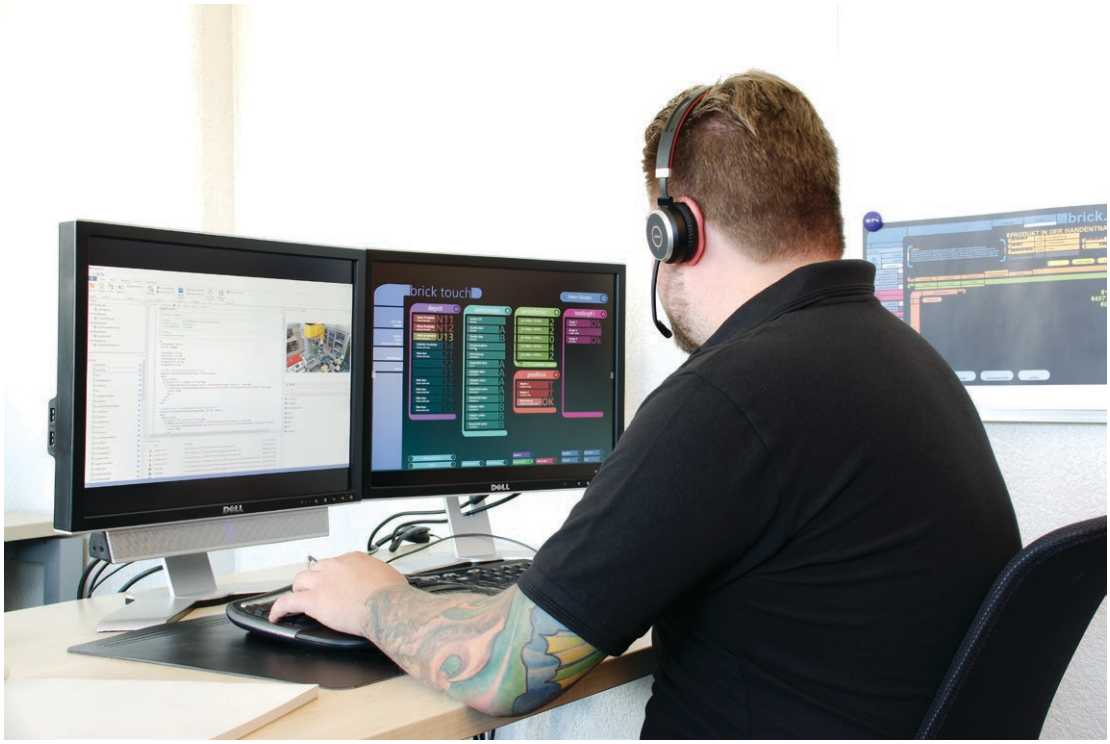


BRICK.MOBILE

THE MOBILE MACHINE ACCESS

Control and monitor your machine via a mobile terminal or office workstation. No matter where you are, you have access to the most important control functions. Start or end a job, or make offset corrections manually. Other functions include, reading the sensor values, correcting axis positions, or changing the brightness of the light to get a good picture on the video stream.

This is, in particular, a facilitation if an unit is used e.g. in a clean room and thus is not directly accessible to a technician.




TS60
STAN
STÄUBLI
FESTO

CONTROLLING ROBOTS

ONE MACHINE – ONE PROGRAMMING LANGUAGE

brick.technology includes its own communication with the robot so that it can be controlled like an axis. Inputs and outputs are also displayed and controlled via the **Brick** interface. These two factors allow a robot to be put in operation more quickly and easily. The operation of the robot via the handset is reduced to a minimum.

When a product is changed, the data is entered only in **Brick** and the robot receives the new positions from the scripting.

The whole machine can be stopped and started by means of a key combination so that, for example, transfer positions can be examined and set more precisely.

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