PC-based Control 2.0
New freedoms for automation with DACHS\textit{view}!

Via mouse click: \textit{unlimited use of all PC-resources in real time}
\textit{LUA} and \textit{C++ applications}, such as \textit{Qt}, are processed in DACHS\textit{view} by calling special DACHS\textit{view} function blocks.
**DACHSview++** for x86 and ARMv7 Targets

**THE INNOVATIVE PROGRAMMING IDE WITH ITS REMOTE SOFT-PLC TARGET SYSTEM IS COMBINING THE 2 WORLDS OF FUNCTION BLOCK- & C/C++ - PROGRAMMING**

An **embedded JIT C/C++ compiler** allows the usage of C/C++ code of Qt, Matlab/Simulink, mathematical and scientific libraries etc. as executable code of function blocks. DACHSview++ comes with a function block oriented **uniform programming environment** which supports access to shared-memory, I/O ports, interrupts, graphics, and fast message-passing for interprocess communication.

**further Features:**  [www.dachs.info/DACHSview++_E.pdf](http://www.dachs.info/DACHSview++_E.pdf) | [www.dachs.info/Dview++.htm](http://www.dachs.info/Dview++.htm)

Demo applications with real-time-Targets under PREEMPT_RT Linux or QNX 6.x
DACHSview++ is based on a graphical function block language for event oriented processing on remote target systems in real-time, and is covering all aspects of today’s industrial automation. It’s the answer on increasing complexity and rising development costs for real-time applications in industrial automation.

DACHSview++ comes with Function Block Libraries for:

**OS SERVICES**
- Message passing, semaphores, shared memory, interrupts, buffer handling and other basic functions

**GRAPHICS**
- 2D graphics: calls of the libraries SDL and SDL-Gfx, TinySDLG, SDL_ttf, and FLTK as pre-defined function blocks (FBs) incl. higher level FBs for easy handling of complex visualization tasks
- 3D graphics: OpenGL (SDGL)
- FLTK for standard GUI elements: GUI buttons, control- and input-elements, etc.
- International fonts: TTF support

**PROGRAMMING LANGUAGES**
- Embedded C- and C/C++ - JIT-Compilers for integrating Qt, Matlab/Simulink Code, mathematical and scientific libraries, etc.
- Support of scripting language LUA
- Support of dynamic link libraries

**DATA BASE**
- SQL, historical data base: SQLite for processing mass data or for SCADA requirements

**FIELDBUS SYSTEMS**
- Fieldbuses - for processing I/O-data with PROFINET, Ethernet POWERLINK, EtherCAT, CAN, CANopen, Modbus, PROFIBUS-DP, INTERBUS, VARAN, IEC 61850/ 61400-25, etc.

**ADDITIONAL INTERFACES**
- OPC and TCP/IP-based middleware (ZeroMQ e.g.)

**USER-DEFINED and CUSTOMIZED FUNCTION BLOCKS**
- Users can build also own function blocks
- C-APIs from customers can be converted in Function Block Libraries for DACHSview on request

**SECURITY:** drivers and targets are resistant against viruses by CRC checksum protection!

Support of scripting language LUA

LUA [www.lua.org](http://www.lua.org) is an object oriented, lean, and fast scripting language and is well suited for embedded systems. LUA scripts can be called in DACHSview applications. A lot of interesting third party applications and libraries are offered for LUA at [www.luaforge.org](http://www.luaforge.org).

**ANSI C-Code and C/C++ compile “on the fly” in a DACHSview++ application!**

An enhancement of DACHSview by an embedded C-compiler allows compiling ANSI C-Code “on the fly”.

Further is integrated an embedded C/C++ Compiler which allows JIT compiling (just-in-time) of C++ Code. It offers the usage of Qt-based applications, integrating mathematical and scientific libraries, Matlab/Simulink Code, etc. within DACHSview++!

The resulting binary codes of the embedded C- or C/C++ Compilers are called up within user-defined function blocks as its function block code.

Compiling on the fly with an embedded ANSI C- or C++ Compiler

Support of Dynamic Link Libraries is also added. It provides e.g. access to code of scientific libraries in a very flexible way without integrating a function block API, or modifying the Target.

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DACHSview
... and complex systems get simple, means rapid time to market!

PC-based Control 2.0 in Real Time

Dynamically extendable: DLL-Support
Embedded C- and C/C++-Compilers

Fieldbuses (Master/Slave)

Graphic Applications · SQL-DB

High-Speed SCADA Vsystem®

Multicore · PC-Hardware · Multitarget

MACHINE CONTROL | ROBOTICS | MATERIAL FLOW | TRAFFIC CONTROL | TEST STANDS
MEDICAL ENGINEERING | MANUFACTURING | POWER SYSTEMS | PROCESS CONTROL

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