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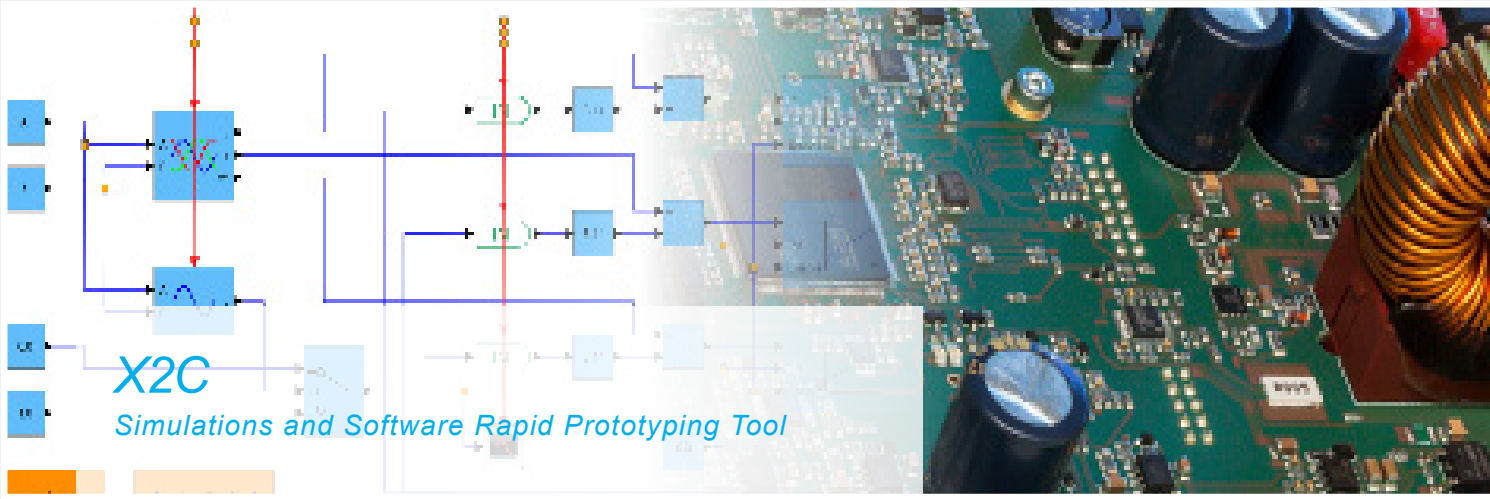


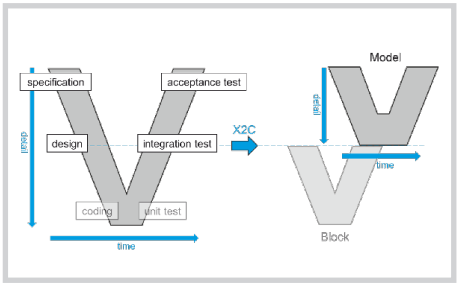
X2C

Simulations and Software Rapid Prototyping Tool

The Linz Center of Mechatronics GmbH offers a software tool for model-based development and code generation of real-time control systems running on microprocessors.

With X2C it is possible to create control schemes for a digital signal processor quickly and easily. A model-based draft of the control algorithm is generated in Matlab/Simulink, or alternatively in the open source development environment Scilab/Xcos. Predesigned X2C blocks are thereby graphically connected together to a control scheme.

MODEL BASED DESIGN:



In model-based design the control algorithm is carried out at a high abstraction level. Even extensive control schemes can be set up quickly and clearly with X2C without specific programming knowledge. The graphical „programming“ with predesigned blocks offers many advantages. Thus, e.g. the control structure can be quickly and easily created and modified. Required and recurring functions can be easily realized. Blocks of the same charakter can be inserted multiple times in the model. In addition, the function of the predesigned blocks is already tested, which significantly reduces the probability of errors in the entire model.

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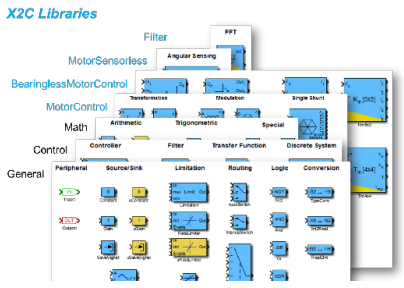
Technical data:

Platforms:	from Windows 7 (32Bit & 64Bit)
	from Linux Ubuntu 14.10 (32Bit & 64Bit)
Development environment:	Scilab/Xcos | Matlab/Simulink
Supported processor families:	Texas Instruments C28X
	Microchip dsPIC and PIC32
	ARMv6 and ARMv7
	Renesas
	Freescale
	Further processor famlies are easily to integrate

BENEFITS:

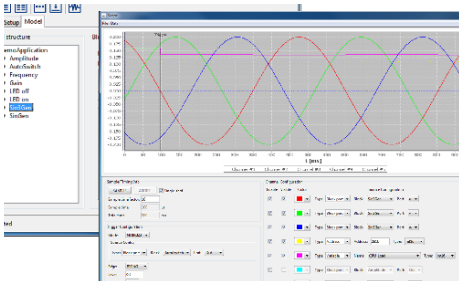
- X2C also runs under the free development environment Scilab / Xcos
- X2C is independent of processor and programming environment
- The user of X2C needs no programming knowledge because the control scheme is created graphically
- Error in the control structure can be avoided or easily found through a clear graphical representation
- The use of tested blocks reduces errors significantly
- Parameter configuration and tuning can be done online in real time
- The model can be simulated and the algorithm validated, without the risk of damage or destruction of hardware
- The use of predesigned blocks, and the easy use of the debugging tools shorten the development time significantly

EXTENSIVE LIBRARIES:



In X2C extensive libraries with a large number of predesigned blocks are available. In addition to standard libraries for general purpose also special motor control libraries exist. However, if a desired functionality is not available, a new block can be created quick by a block generator.

CONFIGURATION & DEBUGGING



The integrated communicator is the link between the development PC and the target hardware. Therefore, the control parameters can be set and adjusted online. With the integrated scope all waveforms occurring at the target processor can be recorded and visualized in real time.

These two in X2C integrated applications provide developers powerful tuning, analysis and debugging tools.

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