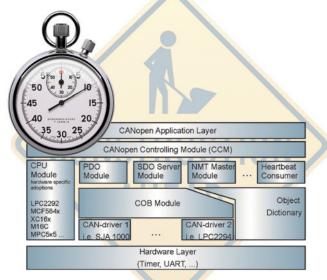
# GRNopen

ADAPTATION WORKSHOP

# **Your Benefits**

This workshop jump-starts your software development by sparing yourself the task of self-study the CANopen Source code and providing useful information on how to integrate CANopen into own applications.





# More Information

Looking for more information about the CANopen Source Code? Please check out our company website, where you'll find lots of useful information.

Order Information
Workshop-01 CANopen Adaptation
Workshop

# CANopen Adaptation Workshop

This CANopen Workshop provides a comprehensive overview on the architecture of our CANopen stack and its interfaces.

# What you need to get started

To make the workshop a success, we ask you to provide the following:

- A development environment including compiler and efficient debugging facilities for your target platform
- Your target hardware is available and reasonably stable
- Your engineers have at least a basic understanding of CANopen
- The application to be interfaced is implemented in C/C++ programming language.

## Your Benefits

Within our custom workshop we give you a comprehensive overview on the architecture of the CANopen stack and its interfaces:

- Get your team updated on latest CANopen specifications
- Compile and run the CANopen stack for your target platform, using your development environment.
- Discuss implications on how to interface the CANopen stack to the CAN controller used, and discuss application-specific details (interrupt routines, memory issues).
- Explain the interface between the CANopen stack and your application.

## Results

The main objective is to have a working prototype at the end. After this workshop you will have a clear understanding of the CANopen source code and of how to integrate it into own application scenarios.

# Supported target platforms:

8-bit

Infineon, NXP, generic 8051

16-bit

Infineon, Renesas, Fujitsu, Atmel

32-bit

NXP LPC24xx/LPC22xx/LPC21xxx, Freescale MPC5x5, ColdFire MCF52xx and MCF54xx, Intel 80x86 based, Infineon TriCore, Atmel Arm7and more

# Why Workshop?

- Get yourself updated on latest CANopen specifications
- Get the most efficient introduction on the CANopen source code
- Get CANopen compiled and running on your target platform

If you can't find your microprocessor or controller on our list, of course we assist you in porting the CANopen stack in any case. But be aware that not all controllers are sufficiently compliant to guarantee an instant implementation.

# Innovation through Outsourcing

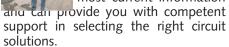
## **Our Services**

- Consultation and Problem Analysis
- Workshops and Training
- Specification up to System Design
- System development including Hardware and Software
- System integration
- Efficient Prototyping up to production-readiness
- Production on-demand
- After-sale services

# Make yourself free for Core Business Expansion

We are involved on a daily basis with developing and implementing technical solutions, with procuring material and ensuring smooth manufacturing

process. Seamlessly coordinated processes between the different divisions are your quality assurance indevelopment and products, even if you are working on a tight schedule. Thanks to our nships with our distributors conductor manufacturers, most current information



# DIN EN ISO 9001:2000 compliant Development and Production

As a system solution provider SYS TEC offers integrated logistics from the first customer contact through development and production right up to serial supply. Our processes are certified pursuant to DIN EN ISO 9001:2000.

# Hardware Development

SYS TEC employees were intimately involved in the development of some customized microcontroller boards. Take advantage of our expertise when designing your electronic modules. So, for example, when creating the circuit diagram consider an EMC-compliant circuit. We also have years of experience in designing EMC-compliant layouts for circuit boards. You have optimum conditions for outsourcing, because from circuit diagram development to prototype production through to volume production you have everything from one provider at one location. All component and device development are subject to EMC testing and CE conformity.

# Software Development

Software requirements take on a complex nature in the development of automation components. Software concepts and implementation must always be tailored to the hardware. With the ever-widening possibilities complex systems, hardware requirements also become demanding. Use of 32-bit hardware is frequently an absolute must. Thus a comprehensive system evolves from initially functional requirements and has to be well-thought out in terms of costs aspects as well. In the context of a large number of customer-specific projects SYS TEC has accumulated expertise right in the middle of the close integration of hardware and software. Give your project the advantage of our experience. SYS TEC has a wide range of software components. Implementing custom-specific project doesn't always have to re-invent complete software at enormous expense. Take the advantage of our advice. We are pleased to demonstrate our software components functionality for the use in your application.

# See where our CANopen is used...

JENOPTIK Laser Optik Systeme GmbH

Porting CANopen to the ADSP 2187 of Analog Devices

JENOPTIK Laser Optik
Systeme GmbH deals
neration, manipulation,
up to acquisition and
flight. The specific know-

how is represented in the three major fields of business: laser technology, optics and sensor systems. The SYS TEC CANopen protocol stack with its generic structure allows easy porting to a widest range of target hardware at the lowest cost. So, on behalf of JENOPTIK, our CANopen protocol stack was ported to the Analog Devices ADSP2187 in shortest time. The special challenge in this project was the DSP memory structure. Because the memory requirement of the entire application is more than a memory page in the DSP, it was necessary to divide up the CANopen protocol stack to different program memory pages. The successful and efficient integration of the DSPspecific memory management in the SYS TEC CANopen protocol stack attests to good and straightforward structuring of the source code.

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