

NEW

You'll get first-hand & neutral knowledge, experience, and guidance.
Vendor-Independent!
More than GOOSE ...

Comprehensive Training on Power Systems – IEC Standards are the base for Automation, Protection, SCADA, ...

Brand New: extended content

IEC 61850, IEC 61400-25, ...



UTINNOVATION

... the most successful Team

Implementations and applications based on IEC Standards like IEC 61850 (Substations and Power generation), IEC 61400-25 (Wind), IEC 61970 (CIM), ... grow faster than expected in many new application domains like medium voltage power distribution all over! To handle the exploding demands for IEC standard based products we offer many additional courses for the best possible and most efficient start in the development of IEC standard conformant products for substations, wind power plants, condition monitoring, decentralized energy resources, substation to control center links and other applications.



The standard series IEC 61850 (*Communication networks and systems in substations*) is the basis for substation automation and many other application domains in the electric power delivery system, e. g., wind power plants, DER (decentralized energy resources), hydro power plants, power quality monitoring, condition monitoring of any power system equipment etc. Hundreds of IEC 61850 compliant substations with several thousand IEDs have already been sold and will be in operation by end of 2006. Many products have already been field proven. Utilities and other industries like oil and gas companies all over trust the new technology "IEC 61850 inside" for substations and many other applications. IEC has published further standards for in the utility and non-utility application domain.

Many vendors all over have been challenged by the utility industry to offer IEC standard interfaces for their devices and applications in the near future. You may seek for efficient help on the application or implementation. Here it is:

3 days comprehensive public seminar on advanced management and automation of power systems

We provide all the necessary training. Some thousand people have attended our excellent general courses on IEC 61850. The training courses will be hold by people who know about the needs for the application and implementation of the standards: IEC 61850, IEC 61400-25, IEC 61970, ISO 9506 (MMS), ISO 8824/25 (ASN.1), Web services, ...



Christoph Brunner, Zug/Switzerland

Convenor of IEC TC 57 WG 10 (Power system IED communication and associated data models) – the IEC 61850 committee.

Editor of IEC 61850

Member of IEC TC 57 WG 17 (DER), and WG 18 (Hydro power plants)

Member of IEC SC 17C WG 11 and IEEE-PSRC



Karlheinz Schwarz, Karlsruhe/Germany

Editor of IEC 61850 and IEC 61400-25 (Communications for wind power plants)

Member of IEC TC 57 WG 10, WG 17 (DER), and WG 18 (Hydro power plants),

Member of IEC TC 88 PT 25 (IEC 61400-25)

Convenor of IEC TC 88 PT 25-6 (Information models for Condition Monitoring Systems)

... the experts that know what users, vendors, system integrators, consultants, ... really need!

Karlheinz Schwarz

Phone +49-721-684844

Fax +49-721-679387

Email seminars@nettedautomation.com

Christoph Brunner

Phone +41-41-7121984

Fax +41-41-7121983

Email info@utinovation.com

For updates and many other topics visit: www.nettedautomation.com/seminars/ua

2007-04-18

Public standard training for advanced management and automation of power systems

3 day comprehensive training on concepts and application domains



UTINNOVATION

The following crucial modules will be presented and discussed among other topics:

Modules	Topics	Title / description	
0. General	S-0000	Welcome and opening	Welcome, opening, roll call, and IEC 61850 in brief
	S-0001	Summary and next steps	
1. Management and automation of the power system (basics)	S-0100	Power system automation basics	Basics of power system information integration and automation covering control centers, substations, power generation, ...
	S-0101	Standardization	IEC activities related to power system standardization, IEC TC 57 and TC 88 activities, IEEE
	S-0102	System design and specification	Introduction to specification, availability considerations
	S-0106	Testing devices and systems	Test coverage and steps towards system testing and simulation (from devices to systems)
2. IEC 61850 (and IEC 61400-25) basics	S-0200	IEC 61850 series – overview	Communication networks and systems in substations: general introduction on whole series
	S-0201	IEC 61850 Application modeling principles	Modeling protection, substation automation, other applications (Logical nodes, data and data attributes, function modeling, extension of the models, monitoring)
	S-0202	IEC 61850-6 engineering process	Engineering process using the configuration language
	S-0203	Communication	Information exchange, ACSE, mappings
	S-0204	Implementation of IEC 61850 conformant devices and tools	Device models, design of advanced IEDs, software and hardware architectures, OEM software
	S-0205	Device conformance testing	Conformance testing of devices according to IEC 61850-10
	S-0206	Extension rules IEC 61850	The extension rules for Logical Nodes, Data, and Common Data Classes
	S-0207	Substation configuration language (SCL)	System configuration language: basics and details; Engineering process and SCL, SCL object model, SCL syntax (IEC 61850-6 (SCL))
3. Substation automation and protection	S-0300	IEC 61850 modeling details	Modeling of protection, switchgear, metering and power quality equipment and other substation automation applications
	S-0302	Product specifications for substation equipment	Implementation guideline IEC 61850-9-2 "LE", Product standard for switchgear with integrated IEC 61850 interface (IEC 62271-003)
	S-0303	Substation automation system architecture	Communication architecture and topology, device architecture, impact of new technologies
...
5. Communication between field devices and system level and at system level	S-0500	Telecontrol protocols I	Fundamentals of Telecontrol equipment and systems – Part IEC 60870-5-101 and Part IEC 60870-5-104: Transmission protocols – Network access for IEC 60870-5-101 using standard profiles
6. System level applications	S-0601	IEC 61970-301 CIM	Energy management system application program interface (EMS-API); focus on Part 301: Common Information Model (CIM) and harmonization with IEC 61850
7. Communication and SCADA aspects and protocol implementations	S-0700	Extracting data from devices	General SCADA services – configuration of logs, reports, ... (IEC 61850-7-2)
	S-0702	Communication technologies	Fundamentals of Industrial Ethernet used for substations and beyond
	S-0703	Information presentation and encoding	Fundamentals of UML, XML, ASN.1, ...
	S-0706	Demonstration of compliant software	Demonstration of IEC 61850 compliant client and server software
8. Products and projects	S-0803	Current and future standardization	Introduction of current and future application domains using and extending IEC 61850; Update on ongoing and planned standardization activities

Who should attend?

- Substation automation and protection experts and decision makers
- System and device implementers
- Automation, IT and communication experts from utilities, Power system planners
- System integrators, Engineering personal, SCADA experts
- Experts from operators, aggregators, power plants (hydro, wind, DER, ...), virtual power plants
- Asset manager, Maintenance personal, Field application engineers
- Consultants and technical advisors, ...

Dates See back page

Fee 1.750 EURO

... best price - best advice

Registration form can be found under: www.nettedautomation.com/seminars/uca or on the back side.

Many other topics for more flexible training courses can be found under (you may compose your own event):

<http://www.nettedautomation.com/seminars/uca/rfq/index.html>

Registration Form

(fill out form interactively or print it out first)

I would like to register for the following event:

- 3 days public standard training for advanced management and automation of the power systems**
- 16.- 18. July 2007, Frankfurt (Germany)**
- 03.- 05. September 2007, Frankfurt (Germany)**
- Other date and other location?

Which date?

Which location?

Fees:

3 day Seminar € 1.750.-

All prices are in EURO (**excluding** costs for transportation and accommodation and **excluding** Value Added Tax (if applicable)). Course fee includes lunch. Participants will be notified of the training location for the training location in due time.

Registration Information:

First & Family Name Mr. Mrs. Ms. _____

Company _____

Department _____

Address _____

City, Zip Code, Country _____

Email Address _____

Telephone _____ Fax _____

1. Charge my Credit Card:

VISA

MasterCard

Card Number: _____

Expiration date: _____

Name of card holder: _____

Cancellation Policy:

Cancellations received **up to 10** business days prior to the start of the event will be fully refunded. Cancellations **within 9** business days to the start of the workshop are subject to the entire event fee. If you don't cancel and don't attend, you are still responsible for payment. Substitutions can be made at any time.

OR

2. Regular bank account transfer

We would like to pay by regular bank account transfer

Signature:

Date:



UTINNOVATION

Please fax the signed form OR your company's purchase order to:

NettedAutomation GmbH
Im Eichbaeumle 108
76139 Karlsruhe/Germany

Fax: +49-721-67-93-87

Email: seminars@nettedautomation.com

2007-04-18