

## Feedback from attendees and pictures of IEC 61850/61400-25 Seminars and Workshops

NettedAutomation GmbH  
(respective Dipl.-Ing. Karlheinz Schwarz, SCC)

Version 2009-09-01

### Summary of courses (seminars and training courses)

	<i>Event</i>	<i>Att.</i>			
1.	Shanghai (China) 2002-10	13	34.	Siemens Berlin (Germany) 2006-05	22
2.	Xian (China) 2002-10	17	35.	Calgary (Canada)	17
3.	Rødskærsbro (Denmark) 2003-03	8	36.	London (UK) 2006-07	15
4.	Barcelona (Spain) 2003-04	14	37.	EdP Lisboa (Portugal), 2006-07	8
5.	Madrid (Spain) 2004-03	22	38.	Paris (France) 2006-08	7
6.	Frankfurt (Germany) 2004-05	40	39.	Bachmann Klaus (Austria) 2006-08	7
7.	Paris (France) 2004-08	25	40.	ABB Allentown (USA) 2006-11	10
8.	Chicago (USA) 2004-10	12	41.	Ecotecnia Barcelona (Spain) 2006-11	8
9.	Beijing (China) 2004-11	32	42.	Frankfurt (Germany) 2006-12	6
10.	Johannesburg (South Africa) 2004-11	23	43.	Cheboksary (Russia) 2007-04	16
11.	Kuala Lumpur (Malaysia) 2004-11	27	44.	Schneider Electric Grenoble (France) 2007-04	70
12.	Frankfurt (Germany) 2004-12	18	45.	BTC Oldenburg (Germany) 2007-04	14
13.	Daejeon (South Korea) 2005-02	30	46.	Phoenix Contact Blomberg (Germany) 2007-05	10
14.	Torréon (Mexico) 2005-04	22	47.	Itaipu (Brazil) 2007-05	15
15.	Copenhagen (Denmark) 2005-05	18	48.	Doha (Qatar) 2007-05	15
16.	Berlin (Germany) 2006-06	15	49.	Frankfurt (Germany) 2007-07	5
17.	Frankfurt (Germany) 2006-06	15	50.	EdP Lissabon (Portugal) 2007-07	10
18.	Toronto (Canada) 2005-09	16	51.	PSI Aschaffenburg (Germany) 2007-08	10
19.	Ottawa (Canada) 2005-09	15	52.	Triangle MW Raleigh (NC, USA) 2007-08	5
20.	Baden (Switzerland) 2005-09	21	53.	Frankfurt (Germany) 2007-09	5
21.	Berlin (Germany) 2005-10	20	54.	Alstom Power Paris (France) 2007-09	18
22.	Cape Town (South Africa) 2005-10	35	55.	SASK Power Regina (Canada) 2007-10	6
23.	Zurich (Switzerland) 2005-10	22	56.	AnyGate Corp Seoul (Rep. Korea) 2007-10	9
24.	Melbourne (Australia) 2005-11	22	57.	Melbourne (Australia) 2007-11	15
25.	Brisbane (Australia) 2005-11	43	58.	Sydney (Australia) 2007-11	9
26.	Haifa (Israel) 2005-12	31	59.	Transpower Wellington (New Zealand) 2007-11	20
27.	ABB (Italien) 2006-01	16	60.	Elster Dortmund (Germany) 2008-01	11
28.	RWE Dortmund (Germany) 2006-02	15	61.	Frankfurt (Germany) 2008-01	11
29.	Hirschmann Neckart. (Germany) 2006-02	10	62.	SMA Niestetal (Germany) 2008-02	29
30.	Suzlon Rostock (Germany) 2006-03	6	63.	BTC Oldenburg (Germany) 2008-03	10
31.	Frankfurt (Germany) 2006-03	7	64.	Iskra Ljubljana (Slovenia) 2008-03	28
32.	Madrid (Spain) 2006-03	11	65.	Frankfurt (Germany) 2008-04	15
33.	Bangalore (India) 2006-04	350			

66.	Manitoba Hydro Winnipeg (Canada)	25
67.	Atlanta (USA) 2008-07	12
68.	Paris (France) 2008-08	10
69.	InControl Kuala Lumpur (Malaysia) 2008-09	16
70.	Seoul (Rep. Korea) 2008-10	20
71.	ABB Minden (Germany) 2008-10	5
72.	ConEd New York City (USA) 2008-10	55
73.	Energex Brisbane (Australia) 2008-10	23
74.	Transpower Auckland (New Zealand) 2008-11	15
75.	Transpower Hamilton (New Zealand) 2008-11	10
76.	Electronet Christchurch (New Zealand) 2008-11	30

77.	STRI Ludvika (Sweden) 2008-11	35
78.	Yunicos, Berlin (Germany) 2008-12	7
79.	Weidmueller, Detmold (Germany) 2008-12	12
80.	Mexico City (Mexico) 2009-01	21
81.	Frankfurt (Germany) 2009-03	23
82.	Moscow (Russia) 2009-03	22
83.	Terna (TSO Italy) 2009-03/05/07 11 days	12
84.	Gai NetConsult, Berlin (Germany) 2009-04	7
85.	Kuala Lumpur (Malaysia) 2009-05	22
86.	Ifak, Magdeburg (Germany) 2009-06	6
87.	Moscow (Russia) 2009-09	10
88.		
	<b>Total (by 2009-09)</b>	<b>1845</b>

Experts from 49 countries have attended (2009-09-01):

1. Argentina	19. Japan	34. Saudi Arabia
2. Australia	20. Kingdom of Bahrain	35. Schweiz
3. Belgium	21. Korea	36. Schwitterland
4. Canada	22. Kosova	37. South Africa
5. China	23. Lithuania	38. South Korea
6. Chile	24. Malaysia	39. Spain
7. Colombia	25. Mexico	40. Sweden
8. Croatia	26. Netherlands	41. Switzerland
9. Denmark	27. New Zealand	42. Taiwan
10. Deutschland	28. Norway	43. The Netherlands
11. Finland	29. Österreich	44. Turkey
12. France	30. Poland	45. UK
13. Ghana	31. Portugal	46. United Arab Emirates
14. Germany	32. Qatar	47. United Kingdom
15. Hungary	33. Russia	48. USA
16. Indonesia		49. Venezuela
17. Israel		
18. Italy		

Companies that have sent people to the seminars (2006-04-01):

- |   |   |   |
|---|---|---|
| 1. A. Zilinskio ir ko UAB                         | 41. BFH TI Burgdorf                     | 80. Elektro Primorska, d.d.               |
| 2. ABB AG   | 42. Breton, Beanville & Associates      | 81. Elektro Slovenija, d.o.o.             |
| 3. ABB Australia Ply Limited                      | 43. C.F.E.                              | 82. Elster GmbH                           |
| 4. ABB Automation GmbH                            | 44. C.F.E. CENACE                       | 83. Eltra amba                            |
| 5. ABB Automation Ltd.                            | 45. C.F.E. CPTT                         | 84. Empower                               |
| 6. ABB Corporate Research                         | 46. C.F.E. GRN                          | 85. Empresas Públicas de Medellín         |
| 7. ABB Elk. San. A.S.                             | 47. C.F.E. GRTOR                        | 86. ENDESA                                |
| 8. ABB Forschungszentrum                          | 48. Camille Bauer AG                    | 87. Eneco netbeheer B.V.                  |
| 9. ABB High Voltage Products                      | 49. Cape Town City Council              | 88. ENERGEX                               |
| 10. ABB HVDC                                      | 50. Cape Town Electricity               | 89. Energex Pty Ltd                       |
| 11. ABB Malaysia Sdn Bhd                          | 51. Chilectra S.A.                      | 90. Energi E2                             |
| 12. ABB Power Technologies                        | 52. City of Cape Town                   | 91. Energy & Control Services Pty Ltd     |
| 13. ABB Substation Automation                     | 53. City of Capetown                    | 92. EnergyAustralia                       |
| 14. ABB Taiwan                                    | 54. CKW                                 | 93. E-ON                                  |
| 15. Abu Dhabi Water & Electricity Authority-ADWEA | 55. Connected Energy Corp.              | 94. EON Solutions                         |
| 16. AEW   | 56. CROC Incorporated, JSC              | 95. ESCOM                                 |
| 17. Agency for Technology and Standards           | 57. Current Group                       | 96. Eskom                                 |
| 18. Alcatel-Lucent                                | 58. Cybectec Inc.                       | 97. ESKOM - Warmbad                       |
| 19. Alcom Matomo                                  | 59. Doble Engineering Co.               | 98. Eskom Distribution                    |
| 20. Alstom Power Paris                            | 60. Doble Engineering Company           | 99. Eskom Holdings Ltd                    |
| 21. Alstom Power Sweden AB                        | 61. Dong Energy                         | 100. Essent Network                       |
| 22. Alstom Transport                              | 62. DongDaZHongdianke                   | 101. ethekwin electricity                 |
| 23. AMA-SYSTEMS GmbH                              | 63. Dravske elektrarne Maribor, d.o.o.  | 102. ETRANS Ltd                           |
| 24. AnyGate Corp.                                 | 64. E.ON Finland Oyj                    | 103. EURISCO Aps                          |
| 25. AREVA Energietechnik GmbH                     | 65. EDF                                 | 104. Fingrid                              |
| 26. Areva T&D                                     | 66. EDF Cite                            | 105. Fingrid Oyj                          |
| 27. AREVA T&D Canada Inc                          | 67. EDF R & D                           | 106. Fortum Service Oy                    |
| 28. Areva T&D Malaysia SDN BHD                    | 68. EDF R&D                             | 107. GE Energy Services                   |
| 29. AREVA T&D P&C                                 | 69. EDF Research and Development        | 108. General Electric Canada Inc.         |
| 30. AREVA-TD                                      | 70. EKS                                 | 109. GuoDian Nari Technology Co.          |
| 31. Atien Industries Sdn. Bhd                     | 71. EKT                                 | 110. Helinks                              |
| 32. ATS   | 72. EKZ                                 | 111. Hirschmann Electronics GmbH & Co. KG |
| 33. Avacon AG                                     | 73. El & Industriteknik Svenska AB      | 112. Hitachi Power Systems                |
| 34. B.R. Sp.Pracy M.S.A.Mikronika                 | 74. Electranet                          | 113. HSE, d.o.o.                          |
| 35. Beca  | 75. Electric Power Development Co., Ltd | 114. HV Power                             |
| 36. Behagian Penghantaran                         | 76. Electrificación del Caroní, C.A     | 115. Hydro One Networks                   |
| 37. BeiJing Sifang Automation                     | 77. Elektro Celje, d.d.                 | 116. Hydro-Quebec                         |
| 38. BEL Engineering                               | 78. Elektro Gorenjska, d.d.             | 117. Hydro-Québec                         |
| 39. BEL Engineering S.A.                          | 79. Elektro Ljubljana, d.d.             | 118. Hydro-Québec TransÉnergie            |
| 40. Bernecker + Rainer Industrie-Elektronik GmbH  |   | 119. Hyosung                              |

120. Hyundai  
 121. IDS GmbH  
 122. IEC  
 123. IKERLAN  
 124. INDAP S.A.  
 125. Infokom GmbH  
 126. INFOTEAM SA  
 127. Institut de Recherche d'Hydro-Québec  
 128. Institute of Power Engineering  
 129. IPCOMM GmbH  
 130. Iskra Sistemi, d.d.  
 131. Kayser Threde GmbH  
 132. KDN  
 133. KEPCO  
 134. KEPRI  
 135. KERI  
 136. Kinkei System Corporation  
 137. Končar - Electrical engineering institute  
 138. KONCAR - Power Plant and Electric Traction Engineering Inc.  
 139. Kraftwerke Hinterrhein AG  
 140. Labein  
 141. Latihan & Pembangunan  
 142. LEM BE  
 143. LG Industrial Systems  
 144. LG Industrial Systems Co., Ltd.  
 145. logicaCMG  
 146. MAESSA - Sistemas de Telecontrol  
 147. Mälarenergi  
 148. Manitoba Hydro  
 149. Maschinenfabrik Reinhausen GmbH  
 150. Maunsell  
 151. Microsol  
 152. Ministry of Electricity & Water department  
 153. Myonggi University  
 154. NanJing Relay Electrical Co.  
 155. National Power Line Company (OVIT)  
 156. NOK  
 157. Norconsult AS  
 158. North China Power Electric University

159. Northwest Territories Power Corp  
 160. Nulec Africa  
 161. NU-LEC industries  
 162. Nuon  
 163. Oersted-DTU (University)  
 164. OFFIS  
 165. Pacific Hydro  
 166. PB Power South Africa  
 167. Pengurus  
 168. Pestech SDN BHD  
 169. Phoenix Contact GmbH & Co. KG  
 170. Power & Industrial Division"  
 171. Power Corporation of Kosova  
 172. Power Systems Consultants  
 173. PowerCorp  
 174. Powerlink  
 175. Prolan Co.  
 176. PSC  
 177. Pulsar Technologies, INC.  
 178. Quanta Technology  
 179. Remsdaq Limited  
 180. Rittmeyer  
 181. Royal Haskoning  
 182. Royal Haskoning  
 183. RTDS Technologies Inc.  
 184. RTE  
 185. RuggedCom Inc. (Europe)  
 186. RWE  
 187. RYTU SKIRSTOMIEJI TINKLAI AB  
 188. SAE IT-systems GmbH & Co. KG  
 189. SAK  
 190. Sanion  
 191. Saudi Electricity Co.  
 192. Schneider Electric  
 193. Schneider Electric - E.P.S Ltd. (Saudi Arabia)  
 194. Schweitzer Engineering Laboratories  
 195. Schweitzer Engineering Laboratories b.v.  
 196. Schweitzer Engineering Laboratories PTY Ltd.  
 197. Schweitzer Engineering Laboratories, Inc.  
 198. SEL

199. SENSEA  
 200. Services Ind.  
 201. SGS  
 202. Siemens A/S  
 203. Siemens AG  
 204. Siemens AG  
 205. Siemens AG PTD  
 206. Siemens Energy Management & Information Systems  
 207. Siemens Ltd, South Africa.  
 208. Siemens Ltd.  
 209. SMA Technologie AG  
 210. Smart Digital Optics  
 211. SNC-Lavalin Inc.  
 212. Solvay R&T  
 213. Soške elektrarne Nova Gorica, d.o.o.  
 214. Soške elektrarne Nova Gorica, d.o.o.  
 215. Souzlon  
 216. SPARQ Solutions  
 217. SPI PowerNet Pty Ltd  
 218. SPPower systems  
 219. SSC  
 220. St. Gallisch-Appenzellische Kraftwerke AG  
 221. St. Gallisch-Appenzellische Kraftwerke AG  
 222. Statnett  
 223. Sumbor Manusia & Pentadbiran  
 224. Svenska Kraftnät  
 225. SystemCorp Pty Ltd  
 226. TEAM S.A.  
 227. TEAM, S.A  
 228. Teletrol  
 229. Telvent Energía y Medio Ambiente  
 230. Tenaga Nasional Berhad  
 231. Tenix Alliance  
 232. Teshmont Consultants LP  
 233. Tesla  
 234. TE-TOL, d.o.o.  
 235. TGE  
 236. Thronson Internacional de Venezuela (Tivenca)  
 237. Transba S.A.  
 238. Transgrid  
 239. Transpower

240. Transpower Limited - New Zealand  
241. Transpower New Zealand Limited  
242. Trench Austria GmbH  
243. TruData  
244. UNION FENOSA distribución  
245. University Alverca  
246. University of Ulsan  
247. VA TECH SAT  
248. VA TECH SAT GmbH  
249. VA TECH SAT GmbH & Co  
250. VA TECH SAT SDN BHD  
251. Vamp

252. VATECH Reyrolle ACP Ltd  
253. Vattenfall Distribution Norden  
254. Vattenfall Eldistribution  
255. Vattenfall Europe  
256. Vattenfall Research & Development  
257. Vattenfall Service  
258. Vector  
259. Vector Networks Ltd  
260. Vestas Wind Systems A/S  
261. Voith AG  
262. WAGO Kontakttechnik GmbH

263. Warsaw University of Technology  
264. Weidmüller Interface GmbH & Co. KG  
265. Woodward-Seg  
266. Xelpower  
267. XuJi Software Technology Co.  
268. Yantai Dongfang Electronics  
269.

not complete

## Some personal responses:

1. Again thank you for all wise words and information.  
My knowledge of 61850 is extremely improved. It is always nice to see how experts show their knowledge. Also the location (Frankfurt) was excellent
2. I would like to thank you very much for the CD you gave me in Paris at the Cigré exhibition.  
It is very interesting for us to be informed like this about all the improvements done for the IEC 61850 and to realise how much work you had for all the presentations you made during the workshop in Paris. Congratulations !  
I was very pleased to see you once more and I hope it will not last too long since we meet again.
3. Excellent course ....thought provoking. I think it will be a matter of seeing if demand from the user community is high enough to encourage vendors to adopt 61850. Or visa versa. Another chicken before the egg scenario. I intend to pursue corporate membership in the UCA User's group.
4. Hi Karlheinz,  
You and Mr. Brunner speak very good today. Thank you very much.
5. You've done very well. Thanks for your hard work!
6. Thanks for your evaluation and your help. I would admire your hard working greatly. I would like to cooperate with you in the future.
7. Friends,  
We had an IEC61850 seminar in Kuala Lumpur last week for 3 days. Needless to say, it was a rewarding experience to listen to Karlheinz Schwarz (Nettedautomation, Germany) and Christoph Brunner (ABB, Switzerland). I was informed by Karlheinz that there is an intent to have a IEC61850 seminar in India early next year.  
The standard is in the early stages of pilot implementations (in Europe). All leading players like ABB, Siemens, VATECH SAT, Areva etc besides the utilities in Europe are supporting this standard strongly.  
I am sure this seminar will go a long way in your understanding of the new standard. Please make the best use of the opportunity.
8. One of my colleagues (Gary T.) has attended Netted Automation courses in the past and his feedback has been very positive.
9. The seminar on the implementation of IEC 61850 based solutions is some kind of unique. As far as I know, there have not been such events in Russian Federation before. The lecturer is highly qualified professional who is involved in the development of IEC 61850 series and other standards. The program of the seminar included as well as the overview of all parts of the standard as the questions of its practical application. That is why the seminar gave a chance to capture a great portion of information and to learn the experience of foreign companies who are already implementing the standard in their systems.  
It was very useful to talk to other participants of the seminar – those professionals who work on its implementation, those who work in the area of SAS development, development of microprocessor based relays, testing equipment and in the utilities.  
The only drawback of the seminar is the limits of time that we had – three days is not enough for such an event – there is a will to get into the aspects of the standard more deeply.
10. "The seminar has delivered all the goods that I expected and brought even more. It was once more confirmed that IEC 61850 standard is the main track for the development of automation systems in power engineering and other related areas. One of the most useful aspects of the seminar was revealing of the aspects of the second edition of the standard.

ized seminars for programmers, engineers and top-managers of organizations.”

11. “It was a very useful seminar. Karlheinz Schwarz is highly qualified professional in the field. I must say that we got the information from first hands and he was able to answer every question almost at once and if not - knew where to look for the answer. It is great that we had such an opportunity to attend such a seminar.

If to compare this seminar with those provided by vendors I must state that vendors have a different approach – the approach that states that IEC 61850 standard is going to solve all the existing problems. And it is not like that at the moment. What is true here is that we need to have skills and a higher level of competence in the field – either way the standard is not going to bring benefits. It was mentioned by Karlheinz Schwarz during the seminar and it is right. It was very good to know about the existing problems. Nobody before mentioned about those things we should take care of to use the possibilities of IEC 61850 with the highest efficiency. And we can understand why the vendors do not talk about such things – because every need to acquire new knowledge and get the higher level of competence would require more investments from the utilities. It is important for the utilities to know about that.”

Need any information? – contact:

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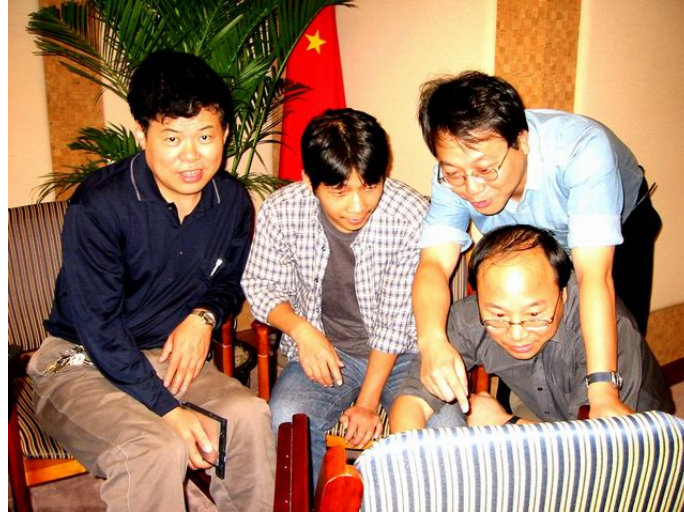
Email <mailto:karlheinz.schwarz@nettedautomation.com>

or visit: [www.nettedautomation.com/seminars/uca](http://www.nettedautomation.com/seminars/uca)

## Shanghai (China), 2002-10







**Xian (China), 2002-10**



**Frankfurt, 2004-05**





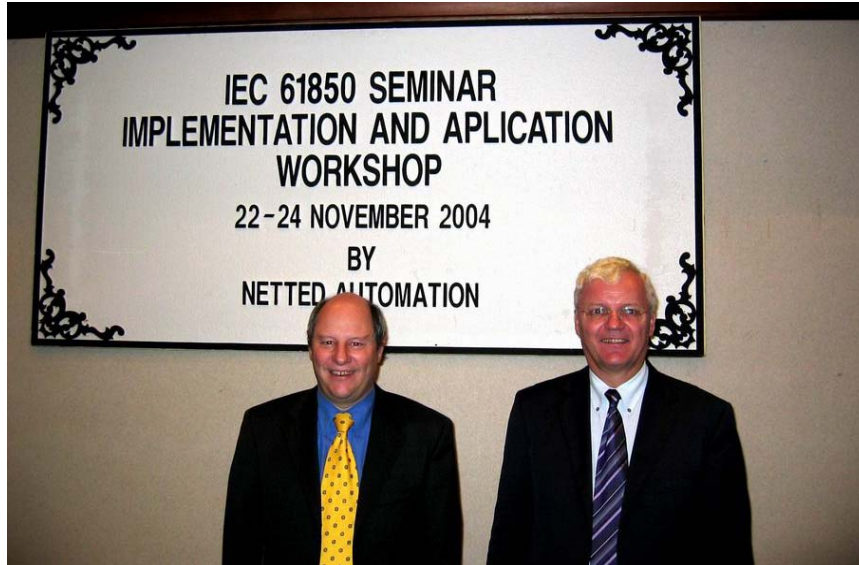
## Beijing, 2004-11







**Kuala Lumpur, 2004-11**



## Daejeon (South Korea), 2005-02



**Torréon (Mexico), 2005-04**



**Bangalore (India), 2006-04**





**Terna, Turin (Italy), 2009-07**

