Curriculum Vitae

Personal Details

Name:	Mikael Kjellsson
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E-mail:	mikael.kjellsson@hydrocon.se
Date of birth:	1964-10-24
Nationality:	Swedish citizen.
Civil status:	Living together with Rosita, one daughter born 1999.

Education

800901-830610:	Technical Grammar School, School of Polhem in Lund, average grade 5.0.
870901-911115:	Electrical Engineering (MSc EE), Lund University - Lund Institute of Technology, average grade 3.8.
910901-920615:	Master Business Administration (MBA), Chalmers University of Technology, average grade 4.6.

Employments

920901-940531: ABB Support (Trainee program).

- Trainee engineer at ABB Corporate Research (920901-921130). FEM field calculations on electrical engines, analysis and optimization of rotor designs.

- Trainee engineer at ABB Automation (921201-930131). Development of a computer controlled positioning system.

- Trainee engineer at ABB HV Switchgear (930201-930430). Design of high voltage switchyards. Development of calculation algorithms for electrical fields around high voltage conductors and indoor grounding of plants.

- Trainee engineer at ABB Generation (930501-931130). Design of computer-based control equipment for hydro power plants (turbine governors). Development of a new programmable HMI interface.

- Trainee engineer at ABB Generation overseas (931201-940531). Commissioning of computer based control and supervision systems in Tasajera and Niquia hydro power plants in Colombia.

Training

- Economy, marketing, strategic planning, inter-cultural relations, negotiations, communication and presentation, German and Spanish (920901-940531).

- ABB MasterPiece 90, Configuration and maintenance (930611).

- ABB MasterPiece 200, Configuration and maintenance (930827).

- ABB MasterView 800, Configuration and maintenance (930903).

- Electrical safety in test environments (931103).

- Spanish, 4 weeks intensive course at Eurocentres in Madrid (931023).

940601-010412: ABB Generation (later ALSTOM Power).

- Design engineer (940601-960530).
  Hydro power control and supervision systems, excitation systems, turbine governors.

- Product manager (960601-961231).
  Vibration measurement system for hydro generators.

- Project manager (970101-970530).
  Hydro power control and supervision systems, excitation systems, turbine governors.

- Development engineer (970601-980831).
  Measurement system for Kaplan turbine runner blade angle.

- Appointed Technical Specialist (980901).
  Control and supervision systems.

- Development project manager (980901-001231).
  Responsible for the development of a new turbine governor.

- Technical internal support (010101-010412).
  Internal consultant and technical support as senior engineer.

- Commissioning engineer (940601-010412).
  Visited more than 40 power plants in over 25 different countries.

Training

- Kvaerner Turbine technology (950126).

- Spanish, 4 weeks intensive course at Eurocentres in Salamanca (961028).

- ABB PC driving licence - Windows NT, Word, Excel, Power Point and Lotus Notes (970627).

- C-programming (5p), Mälardalens Högskola (980325).

- ABB Relay protection – Reg 100, Reg 316 and Combiflex (990910).

010413: HydroCon Consulting.

- Establishing my own company which offers consultant services within the field ”Hydro Power Control Systems” with main focus on turbine governors, excitation systems and control systems.

- Kalayaan, Philippines (2001)
  Fault-finding in static excitation system (ABB HPC840).

- Lasele, Sweden (2001)
  Fault finding in PLC configuration tool (ABB AdvaBuild).

- Rengård, Sweden (2001)
  Commissioning of turbine governor (ABB HPC650).

- Development, (2001)
  Serial Modbus communication between ABB Advant Controller and Alstom MiCom protection.

- Tuas, Singapore (2001)
  Fault-finding in brushless excitation system (ABB HPC840).

- Porsi, Sweden (2001)
  Customer training, turbine governors and excitation systems (ABB/Alstom HPC650 and HPC840).

- Höljebro, Sweden (2001)
  Commissioning turbine governor (ABB/Alstom HPC650).

- Hissmofors, Sweden (2001)
  Computer simulation of isolated grid operation.

- Granboforsen, Sweden (2001)
  Commissioning turbine governor (ABB HPC Compact).

- Kainji, Nigeria (2001)
  Customer training ABB AC110, AdvaBuild, turbine governor (ABB HPC640) and excitation systems (ABB FMVR/HPC840).

- Hissmofors, Sweden (2002)
  Pre-study of turbine governor refurbishment.

- Kainji, Nigeria (2002)
  Commissioning of turbine governor (ABB HPC640), unit control (ABB AC410) and operator stations (ABB OS500).

- Bayano, Panama (2002-2004)
  Commissioning of turbine governor (ABB HPC640), generator protection (Alstom MiCom), transformer protection (Alstom MiCom), HV switchyard, LV switchgear, control system (ABB Freelance), operator stations (ABB Freelance), dispatch communication, information management system (ABB Conductor).

- La Miel, Colombia (2002)
  Commissioning of turbine governor (ABB HPC640).

- Está, Panama (2003)
  Commissioning of control system (ABB Freelance).

- Melkefoss, Norway (2004)
  Fault finding turbine governor (ASEA FRVA) and service on hydraulic actuator (Kvaerner E40).

- Hallstahammar, Sweden (2005)
  Computer simulation of isolated grid operation.

- Está, Panama (2005)
  Fixing of pending points on generator protection.

- Plavinas, Latvia (2005 - 2006)
  Commissioning manager. Refurbishing of two hydro power units (105 MVA). Commissioning of generator protection (Alstom MiCom), control system (ABB AC410), operator stations (ABB OS500), information management system (ABB IMS), vibration monitoring system (SKF MassCon 16).

- La Estrella and Los Valles, Panamá (2006)
  Supervising of electrical erection. Commissioning of two turbine governors (ABB HPC640). Adaption of old control system. Adaption of excitation system for serial connection to control system.

- Plavinas, Latvia (2006 - 2007)
  Commissioning manager. Refurbishing of three hydro power units (105 MVA). Commissioning of generator protection (Alstom MiCom), control system (ABB AC410), operator stations (ABB OS500), information management system (ABB IMS), vibration monitoring system (SKF MassCon 16).

- La Estrella and Los Valles, Panamá (2007)
  Supervising of electrical erection. Commissioning of two turbine governors (ABB HPC640). Adaption of old control system.

- Plavinas, Sweden (2007)
  Programming of station computer. Participating in FAT.

- Melkefoss, Norway (2007)
  Fault finding turbine governor (ASEA FRVA).

- Plavinas, Latvia (2007-2008)
  Commissioning of generator protection (Alstom MiCom) and information management system (GE Proficy Historian).

- Ruacana, Namibia (2008)
  Fault finding excitation system (ABB HPC840).

- Avestaforsen, Sweden (2008)
  Commissioning of spillway gates and emergency opening system (KAS).

- Kaunas, Lithuania (2008)
  Commissioning excitation system (Hymatek MagnoStat 12S) and vibration monitoring system (SKF MassCon 16).

- Jiguey, Dominican Republic (2008)
  Commissioning of control system (ABB 800xA).

- Slattefors, Sweden (2009)
  Fixing pending points on control system (ABB 800xA).

- Jiguey, Dominican Republic (2009)
  Commissioning of control system (ABB 800xA).

- Emsfors, Sweden (2009)
  Commissioning manager.

- Nairobi, Kenya (2009)
  Design manager. SCADA/EMS upgrade in substations (ABB RTU 560).

- Nairobi, Kenya (2010)
  Design manager and handing over to new design manager.

- IETV, Sweden (2010)
  Training course for IETV personal concerning turbine governors and excitation systems for hydro power plants.

- Plavinas, Latvia (2010)
  Commissioning of generator protection (Alstom MiCom), vibration monitoring system (SKF MassCon 16) and information management system (GE Proficy Historian).

- Kaunas, Lithuania (2010)
  Commissioning of vibration monitoring system (SKF MassCon 16) and balancing.

- Genastorp, Sweden (2010)
  Inspection of old ASEA excitation system.

- Manwan, China (2010)
  Commissioning support to Dongfang on a newly developed turbine governor from ABB Switzerland (HTG600).

- Vattenfall, Sweden (2010)
  Information meeting with Vattenfall personal concerning water level control and computer simulations of water level control.

- Kaunas, Lithuania (2010)
  Replacement of MiCom transformer protection (P127) and fault finding in the excitation system (Hymatek MagnoStat 12S).

- Nairobi, Kenya (2010)
  Commissioning manager. Training of a local commissioning team. Commissioning of the substations Babadogo, Cianda, Matasia, NSSF and Kiboko (ABB RTU560).

- Emsfors, Sweden (2010)
  Commissioning manager.

- Njura, Sweden (2010)
  Support to E.ON. Vattenkraft writing the technical specification (Balance of plant) for the refurbishment work in Njura hydro power station.

- IETV, Sweden (2010)
  A theoretical pre-study done on behalf of IETV investigating possible efficiency improvements on hydro turbines using variable speed.

- Nairobi, Kenya (2011)
  Commissioning manager. Commissioning of the three regional control centres Rabai, Kiganjo and Lessos. RTU 560 (ABB), LVAC-distribution (ABB), diesel generator (Svenska Kraftprodukter) and UPS (Benning).

- Knobesholm, Sweden (2011)
  Tutor for two students from Chalmers doing a bachelor thesis on variable speed of hydro turbines. Field measurements done at Knobesholm hydro power station.

- Planta Nicaragua, Nicaragua (2011)
  Modification of excitation systems (ABB HPC840) in a thermal (oil) power station.

- Bayano, Panama (2011)
  Modification of SW for turbine governors (ABB HPC640) to ensure better function in AGC mode.

- Njura, Sweden (2011)
  Commissioning manager for unit #1 after complete refurbishment. Consultant for E.ON. Vattenkraft, responsible for checking the sub-contractor of the balance of plant during the whole project and doing a guarantee inspection of the refurbished unit #1 limited to the electrical parts.

- Ronneby, Sweden (2011)
  Commissioning manager for the unit after complete refurbishment. Consultant for E.ON. Vattenkraft, responsible for checking the sub-contractor of the balance of plant during the whole project and doing a guarantee inspection of the refurbished unit limited to the electrical parts.

- Hissmofors, Kattstrupeforsen and Näsaforsen, Sweden (2011)
  Speed droop measurements according to requirements from Swedish National Grid (Svenska Kraftnät were carried out in Jämtkraft's hydro power stations Hissmoforsen, Kattstrupeforsen and Näsaforsen.

- Yngeredsfors, Sweden (2011)
  Guarantee inspection of spillway gates after refurbishment.

- Jiguey, Dominican Republic (2012)
  Commissioning of control system (ABB 800xA) and testing of signal interface between 800xA and ABB protections (e.g., REG670) via IEC61850.

- Trångfors, Sweden (2012)
  Fixing pending points in 800xA system.

- Flåsjö, Sweden (2012)
  Fixing pending points in 800xA system.

- Planta Nicaragua, Nicaragua (2012)
  Modification of excitation systems (ABB HPC840) in a thermal (oil) power station.

- Rekvatnet, Norway (2012)
  Fixing pending points in 800xA system.

- Kainji, Nigeria (2012)
  Investigation after a major break down of a Kaplan turbine. Causes of the problem was concluded and actions needed to be taken suggested.

- Njura, Sweden (2012)
  Commissioning manager for unit #2 after complete refurbishment. Consultant for E.ON. Vattenkraft, responsible for checking the sub-contractor of the balance of plant during the whole project and doing a guarantee inspection of the refurbished unit #2 limited to the electrical parts.

- Kattstrupeforsen, Sweden (2013)
  Modification and testing of a turbine governor. The frequency control is adapted to new demands from Swedish National Grid (Svenska Kraftnät). FCR (Frequency control) is divided into FCR-N (Frequency Containment Reserves for Normal situation) and FCR-D (Frequency Containment Reserves for Disturbances).

- Brista, Sweden (2013)
  Commissioning manager responsible for the medium voltage switchgears (ABB Unigear) in Brista 2, a waste fuelled CHP plant (Combined Heat Power).

- Degerforsen, Sweden (2013)
  Pre-commissioning of new control system (800xA) delivered by ABB Power generation.

- Knislinge, Sweden (2013)
  Commissioning manager for a new power station. Consultant for E.ON. Vattenkraft, responsible for checking the sub-contractor of the balance of plant during the whole project and doing a guarantee inspection of the power station limited to the electrical parts.

- Broby, Sweden (2013)
  Commissioning manager for unit #1 after complete refurbishment. Consultant for E.ON. Vattenkraft, responsible for checking the sub-contractor of the balance of plant during the whole project and doing a guarantee inspection of the refurbished unit #1 limited to the electrical parts.

- Tåsjö, Sweden (2013)
  Commissioning of new turbine governor delivered by ABB Power Generation.

- Kainji, Nigeria (2014)
  Re-commissioning of unit #8 after repair of damages on the turbine. Corrections on unit #11 was also done along with some training of personal.

- Bayano, Panama (2014)
  Modification of existing turbine governors. Power control was optimized and power limiter improved on all three units.

- La Estrella/Los Valles, Panama (2014)
  New synchronizing equipment were implemented in existing turbine governors and commissioned.

- Hällby, Sweden (2014)
  Commissioning of new control system (800xA) delivered by ABB Power generation.

- Broby, Sweden (2014)
  Commissioning manager for unit #2 after complete refurbishment. Consultant for E.ON. Vattenkraft, responsible for checking the sub-contractor of the balance of plant during the whole project and doing a guarantee inspection of the refurbished unit #2 limited to the electrical parts.

- STF, Sweden (2014)
  Lecturer together with Anders Bard from SWECO, on a 2 day long STF training course with the title ”The dynamic systems of hydro power plants – Waterways, turbines and turbine governing”.

- Pangani falls, Tanzania (2015)
  Commissioning of static excitation system (Magnostat 10S from Hymatek Controls). Supervision of de-installation of old equipment and installation of new equipment. Training of personal.

- Avesta Storforsen, Sweden (2015)
  Participation in factory acceptance test (FAT) of new control and protection system.

- Plavinas, Latvia (2015)
  Reviewing settings of existing excitation equipment after upgrade of unit #1 and #3 from 97 MVA to 114 MVA..

- Hällby, Sweden (2015)
  Re-build and re-commissioning of turbine remote IO control panel. Fixing pending points in 800xA system.

- Asker, Norway (2015)
  Building a model of the railway system for Oslo with surroundings, and then doing short circuit calculations for one of the major substations; Asker. These results are then used when deciding settings of the new overcurrent and impedance protections in Asker substation.

- Tåsjö, Sweden (2015)
  Commissioning of a new turbine governor (TC800 from ABB Power Generation).

- STF, Sweden (2015)
  Lecturer together with Anders Bard from SWECO, on a 2 day long STF training course with the title ”The dynamic systems of hydro power plants – Waterways, turbines and turbine governing”.

- Dönje, Sweden (2015)
  Updating unit controller software (HPC Compact based on Advant Controller 110) after upgrade of turbine and generator.

- Östanå, Sweden (2016)
  Writing a technical specification for the refurbishment of unit #1&2 limited to the electrical parts.

- Uniper, Sweden (2016)
  Writing a technical specification for the frequency control to be used for all Uniper's hydro power stations in Sweden.

- Högsby, Sweden (2016)
  Commissioning manager for unit #1&2 after complete refurbishment. Responsible for a guarantee inspection of the refurbished units #1&2 limited to the electrical parts.

- Dönje, Sweden (2016)
  Commissioning of control system (AC110), HMI (800xA), static excitation system (AutoMagn), turbine governor and generator including balancing.

- Finsjö Nedre, Sweden (2016)
  Writing a technical specification for the refurbishment of unit #1 limited to the electrical parts.

- Hornsö, Sweden (2016)
  Writing a technical specification for the refurbishment of unit #1 limited to the electrical parts.

- Kilforsen, Sweden (2016)
  Commissioning of brushless excitation system (AutoMagn from Voith Hydro).

- Graninge, Sweden (2017)
  Commissioning manager for unit #1 after complete refurbishment.

- La Estrella, Panama (2017)
  Re-commissioning of turbine governor (AC110) and brushless excitation system (AC110) for unit #1 and #2.

- Stennäs, Sweden (2017)
  Commissioning of a new turbine governor (TC800 from ABB Power Generation).

- Plavinas, Latvia (2017)
  Re-commissioning of excitation system (Magnostat from Hymatek).

- Kegums, Latvia (2017)
  Commissioning of new control system (800xA) delivered by ABB Finland.

- Östanå, Sweden (2017)
  Commissioning manager for unit #2 after complete refurbishment.

- Hornsö, Sweden (2017)
  Commissioning manager for unit #1 after replacement of control system and protections.

- Barcaza, Bayano, Está, La Estrella, Los Valles, Panama (2017)
  Upgrade of engineering stations to Control Builder 1.4.

- Dönje, Sweden (2017)
  Fixing pending points in control system (AC110 and 800xA).

- Uniper, Sweden (2017)
  Technical project manager. Development project, frequency control in all Uniper's governor should be adopted to requirements from National Grid (SVK).

- Midskog, Sweden (2018)
  Dry tests on a new brushless excitation system and a refurbished generator.

- Rundbacken, Sweden (2018)
  Writing a technical specification for the refurbishment of all 3 units limited to the electrical parts.

- Dönje, Sweden (2018)
  Modified software concerning alarm handling for all 3 units (AC110 controllers and 800xA HMI system).

- La Estrella and Los Valles, Panama (2018)
  Installed new backup control panels in excitation systems for local control of field breaker, control modes and setpoint setting.

- Lima, Sweden (2018)
  Commissioning of a refurbished generator.

- Klingerforsen, Sweden (2018)
  Commissioning of a new turbine governor (TC800 from ABB Power Generation).

- Trångfors, Sweden (2018)
  Pilot test of new FCR (Frequency Containment Reserve) function implemented in turbine governor in ABB control system.

- Finsjö Nedre, Sweden (2018)
  Commissioning manager for unit #1 after replacement of control system and protections.

- Uniper, Sweden (2019)
  Writing function descriptions.

- Trångfors, Sweden (2019)
  Re-test of new FCR function implemented in turbine governor.

- Finsjö Nedre, Sweden (2019)
  Guarantee inspection of Balance of plant.

- Ledinge, Sweden (2019)
  Test of new FCR function implemented in turbine governor.

- Östanå, Sweden (2019)
  Commissioning manager for unit #1 after a complete refurbishment.

- Degerforsen, Sweden (2019)
  Test of new FCR function implemented in turbine governor.

- Hemsjö Nedre, Sweden (2019)
  Writing technical specification for the refurbishment, limited to the balance of plant.

- Bursnäs, Sweden (2019)
  Commissioning manager for unit #1 after refurbishment of turbine and generator.

- La Fortuna, Panama (2019)
  Delivery of new vibration monitoring system.

- Edensforsen, Sweden (2020)
  Test of new FCR function implemented in turbine governor.

- Bålforsen, Sweden (2020)
  Test of new FCR function implemented in turbine governor.

- Uniper, Sweden (2020)
  Writing technical specification for FCR/FFR function with battery system supporting hydro power units. Simulations also carried out.

- Uniper, Sweden (2020)
  Writing a report in which transfer functions for servo, turbine and waterways based upon measurements were derived for 8 different units.

- Rätan, Sweden (2020)
  Measurements on Francis turbine.

- Moforsen, Sweden (2020)
  Test of new FCR function implemented in turbine governor implemented in Siemens control system for the first time.

- Está, Panama (2020)
  Implementation and commissioning of new PSS2B.

- La Fortuna, Panama (2020)
  Fault finding new vibration monitoring system.

- Blankaström, Sweden (2020)
  Writing technical specification for the refurbishment, limited to the balance of plant.

- Gulsele, Sweden (2020)
  Test of new FCR function implemented in turbine governor.

- Lövön, Sweden (2020)
  Commissioning and test of new FCR/FFR function with battery system supporting the two hydro power units.

- Storfinnforsen, Sweden (2021)
  Test of new FCR function implemented in turbine governor.

- Edsele, Sweden (2021)
  Commissioning and test of new FCR/FFR function with battery system supporting the two hydro power units.

- Los Valles, Panama (2021)
  Re-commissioning of turbine governor (AC110) and brushless excitation system (AC110) for unit #1 and #2.

- Hjälta, Sweden (2021)
  Test of new FCR function implemented in turbine governor.

- Uniper, Sweden (2021)
  Writing a report with recommendations what measurements that always should be carried out after a turbine refurbishment, and also specified suitable demands. A proposed test program was also written.

- Rätan, Sweden (2021)
  Commissioning manager for unit #1 after refurbishment of turbine and generator.

- Bålforsen, Sweden (2021)
  Made simulations where I have investigated the implications of a fast and a slow runner blade in relation to FCR performance.

- Storfinnforsen and Degerforsen, Sweden (2021)
  Participated in SVK pilot project. Investigating the possibilities to fulfil the new proposed requirements for FCR-N and FCR-D. Tests were carried out and evaluated on a Francis and a Kaplan turbine. A report with all relevant conclusions was delivered.

- Borgforsen, Sweden (2022)
  Test of new FCR function implemented in turbine governor.

- Los Valles, Panama (2022)
  Installation and commissioning of new excitation systems on both units (brushless, manufactured by Voith Hydro Sweden).

- La Estrella, Panama (2022)
  Installation and commissioning of new excitation systems on both units (brushless, manufactured by Voith Hydro Sweden).

- Rätan, Sweden (2022)
  Test of new FCR function implemented in turbine governor.

- Fjällsjö, Sweden (2022)
  Commissioning and test of new FCR/FFR function with battery system supporting the hydro power unit.

- Bodum, Sweden (2022)
  Commissioning and test of new FCR/FFR function with battery system supporting the hydro power unit.

- Ramsele, Sweden (2022)
  Test of new FCR function implemented in turbine governor implemented in Ovation control system for the first time.

- Está, Panama (2022)
  Visited the plant together with other international experts for an initial inspection after the complete power plant was flooded. I also participated in developing plans for plant recovery. My main responsibilities will be the excitation systems and turbine governors.

- Uniper, Sweden (2022)
  Writing technical specification for implementing LFSM (Limited Frequency Sensitivity Mode) in turbine governors. The function is integrated with existing FCR (Frequency Containment Reserve). It will be implemented in Hjälta as a pilot project.

- Blankaström, Sweden (2022)
  Commissioning manager for unit #1 after refurbishment of turbine and generator.

- Hällby, Sweden (2022)
  Test of new FCR function implemented in turbine governor.

- Borgforsen, Sweden (2022)
  Commissioning manager for unit #1 after refurbishment of turbine and generator.

- Borgforsen, Sweden (2023)
  Test of new FCR function implemented in turbine governor.

- Blankaström, Sweden (2023)
  Commissioning manager for unit #2 after refurbishment of turbine and generator.

- One Nordic, Sweden (2023)
  Technical support regarding implementation of PSS IEEE2b in Siemens Simatic S7-1500.

- Esti, Panama (2023)
  Rehabilitation and re-commissioning of turbine governors (ABB HPC640) of unit #1 and unit #2 after the power station had been totally flooded September 2022. Delivery of spare parts for turbine governors, excitation system and control system.

- Moforsen, Sweden (2023)
  Commissioning manager for unit #3 after refurbishment of turbine. FCR qualification tests om unit #1 and #2 performed.

- Blankaström, Sweden (2024)
  Commissioning manager for unit #1 after refurbishment of turbine and generator and doing a guarantee inspection of the complete delivery limited to balance of plant.

- Storen, Bredhälla and Isbillen, Sweden (2024)
  Technical support to battery supplier Nidec regarding qualification of FCR services. Simulations, evaluations of qualification tests and applications to SVK.

- Esti, Panama (2024)
  Delivery, installation and commissioning of efficiency monitoring system for unit #1 and unit #2.

- Esti, Panama (2024)
  Delivery, installation and commissioning of turbine governors for unit #1 and unit #2.

- La Estrella and Los Valles, Panama (2024)
  Delivery, installation and commissioning of turbine governors for unit #1 in both plants.

- Uniper, Sweden (2024)
  Pre-study of how to best combine a hydro power plant with a battery energy storage system (BESS) to deliver FCR-services as a hybrid plant.

- Dönje, Sweden (2024)
  Frequency control tests on existing governor.

- Blåsjön, Sweden (2024)
  Evaluation of FCR tests performed by Fortum and preparation of test protocols for application to SVK.

- Hjälta and Edensforsen, Sweden (2024)
  Pilot study investigating how a typical Francis and Kaplan unit can fulfil the new FCR Technical Requirements from SVK (Swedish TSO). Included field tests, modelling and simulations.

- Sollefteåforsen, Sweden (2024)
  Technical support related to FCR services from hydro power plant and battery energy storage system (BESS).

- Downing, Sweden (2024)
  Technical support helping to select suitable power plants from portfolie suitable for supplying FCR-N. Field tests were also carried out together with One Nordic.

- La Estrella and Los Valles, Panama (2025)
  Delivery, installation and commissioning of turbine governors for unit #2 in both plants.

- Karlshamnsverket, Sweden (2025)
  Commissioning and test of new FCR-N/FCR-D/aFRR/mFRR/FFR functions with stand-alone battery system.

- Yllikkälä, Finland (2025)
  Technical support to battery supplier Nidec regarding qualification of FCR services. Evaluations of qualification tests and applications to SVK.

- Bålforsen, Sweden (2025)
  Commissioning and test of new FCR-N/FCR-D/aFRR/mFRR/FFR functions with stand-alone battery system.

- Yngeredsfors, Sweden (2025)
  Commissioning and test of new FCR-N/FCR-D/aFRR/mFRR/FFR functions with battery system supported by two hydro power units.

- Moforsen, Sweden (2025)
  Commissioning and test of new FCR-N/FCR-D/aFRR/mFRR/FFR functions with battery system supported by three hydro power units.

- Linnvasselva, Sweden (2025)
  Evaluation of FCR tests performed by Fortum and preparation of test protocols for application to SVK.

Training

- Freelance (ABB system), Configuration and maintenance (020418).
- ALSPA P320 (Alstom system), CentraLog, ControBlock and ControCad (050211).
- Proficy Historian (GE system), Administrator, Server, Excel Add In and ReportTools (071015).
- Electric Power Systems (6p), Lund University - Lund Institute of Technology (080410).
- System 800xA (ABB System), Engineering (080613).
- Power System Stability and Control (121020).
- Dynamic properties of the Hydro Power Plant (121116).
- Cardio Pulmonary Resuscitation CPR (170424).
- ESA (210827).

Publications

911115:	"Modelling and Simulation of an Electrical Vehicle Battery - Prediction of the Residual Capacity in a Sealed Lead-Acid Battery" (78 pages), Lund Institute of Technology / Sydkraft AB.
920615:	"A Study of the African Market - Medical Equipment for Sterilizing and Disinfecting" (76 pages), Chalmers University of Technology / Getinge AB.
921021:	"Design of a Rotor for a Synchronous Reluctance Motor" (32 pages), ABB Corporate Research.
930405:	"Calculation of the Surface Voltage Gradient on Transmission Line Conductors" (44 pages), ABB Switchgear AB.

Military Training

840604-850602:	Basic training, T4 in Hässleholm, grade 10-9-9.
850603-850829:	Cadet school, US in Skövde, grade 10-9-8.
860324-870329:	UN peacekeeping forces, Cyprus, grade 10-10-9.
880613-880826:	Reserve officer school 1, OHS in Halmstad, grade 10-9-8.
890619-890825:	Reserve officer school 2, OHS in Halmstad, grade 10-9-9.
980411-980506:	Reserve officer school 3, US in Skövde, no grades.

Language Abilities

English:	Fluent communication (9). Can express myself clearly and fluently, exploiting a reliable command of a wide range of language with a high degree of accuracy. Can adapt my expression appropriately to the situation. Can communicate confidently and competently in well-structured language in both personal and professional contexts.
German:	Basic level (5). Can understand extensive simple information encountered in everyday situations and maintain conversation and discussion on topics of interest. Can exploit a wide range of simple language flexibly to express much of what I want to. Can communicate adequately in routine professional contexts.
Spanish:	Basic level (5). Can understand extensive simple information encountered in everyday situations and maintain conversation and discussion on topics of interest. Can exploit a wide range of simple language flexibly to express much of what I want to. Can communicate adequately in routine professional contexts.

Miscellaneous

Driving licence:	ABECDE (motorcycle, car, truck, bus).
Electrical installation certificate:	AB (installation for system voltages <1000 V and >1000 V).
Lecturer:	Former lecturer on STF course with the title ”The dynamic systems of hydro power plants – Waterways, turbines and turbine governing”.