

PERSONAL INFORMATION

Roberto Aresi



Sex M | Date of birth | Nationality Italian

WORK EXPERIENCE

From 2004

Technical ManagerELETEC 2000 S.r.l. (Italy) (www.eletec2000.it) (company's shareholder)**Business or sector** Electric Power Generation and Distribution Systems

- Technical management of electrical engineering and commissioning projects;
- Technical management of R&D projects (Renewables and microgrids);
- Electric power systems design;
- Static and dynamic analysis (loadflow and voltage/transient stability);
- Short circuit analysis, protection system coordination studies and setting tables;
- Protection relays configuration and commissioning (ABB, Siemens, GE, SEL, Schneider)
- Design of electric systems in hazardous environment
- Lightning risk assessment;
- Technical specifications preparation, at basic and detailed level (request for quotation and procurement)
- Electric power systems maintenance programs definition
- Training on electric power systems, off-shore and on-shore
- Lighting systems design

From 1995 to 2004

Professional in electric power systems design and commissioning (as a Master graduate)**Business or sector** Electric Power Generation and Distribution Systems

- Electric power systems design;
- Static and dynamic analysis (load-flow and voltage/transient stability);
- Short circuit analysis, protection system coordination studies and setting tables;
- Protection relays configuration and commissioning (ABB, Siemens, GE, Schneider)
- Training on electric power systems, off-shore and on-shore
- Lighting systems design

From 1989 to 1995

Professional in electric power systems design and commissioning (as a Bachelor graduate)**Business or sector** Electric Power Domestic and Industrial Power Systems

- Electric power systems design;
- Short circuit analysis;
- Lighting systems design
- Technical drawing

From 1995

Training support in academic courses

Università degli Studi di Genova (Italy) – Electrical Engineering Department

Business or sector Training

- Training support, as external lecturer

EDUCATION AND TRAINING

- From 1996 to 1999
EQF Level 8

Ph.D. in electric power systems analysis
 Electric Engineering Department – University of Genova (Italy)

 - Power generation and transmission systems: voltage and transient stability
- From 1989 to 1994
EQF Level 7

Master’s degree in electric power systems analysis
 Electric Engineering Department – University of Genova (Italy)

 - Power generation and transmission systems: voltage and transient stability
 - Electric power systems design
- From 1984 to 1989
EQF Level 6

Bachelor’s degree in Electrotechnology
 Istituto Tecnico Industriale “G. Natta” – Sestri Levante (GE)

 - Basics of electric equipment
 - Technical drawing: layout, schemes, single line diagrams

PERSONAL SKILLS

Mother tongue(s) Italian

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	C1	B2	B2	B2
French	A1	A2	A1	A1	A1

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
 Common European Framework of Reference for Languages

- Communication skills**

 - good communication skills on theoretical aspects gained through my experience as lecturer;
 - good communication skills on practical aspects gained through my experience during commissioning activities;
- Organisational / managerial skills**

 - leadership and project management (currently responsible for a team of 8 people)
- Job-related skills**

 - good knowledge of quality based processes (currently responsible of the engineering process in a ISO 9001:2015 compliant quality system)
- Computer skills**

 - Microsoft Office™ tools
 - Autocad™ tools;
 - Electric power systems analysis tools (Neplan, Powerfactory/DIGSILENT)
- Other skills**

Good skills as electrician, gained when I was 15 to 20 years old, working as electrician during the summer seasons;
- Driving licence**

Driving licence category: B
- Sports**

Rowing, Swimming

ADDITIONAL INFORMATION

Publications	Co-author of several IEE/IEEE publications (complete list available on request)
Presentations	Co-author of several IEE/IEEE presentations (complete list available on request)
Memberships	From 2001 to 2005 member of CEI TC 64 (Italian Electrotechnical Committee) on behalf of RINA S.p.A. From 1996 to 2001 member of AIDI (Italian Lighting Association) and secretary of local committee
Cooperations	From 1994 to 1995 Strathclyde University – Glasgow (UK) Centre For Electrical Power Engineering (Prof. J.R McDonald) Cooperation in research activities on electric power systems protection

ANNEXES

- Annex A – Main references (engineering, R&D, commissioning)

MOST SIGNIFICANT ACTIVITIES IN THE FIELD OF
POWER TRANSMISSION / DISTRIBUTION - POWER GENERATION

POWER GENERATION AND TRANSMISSION/DISTRIBUTION: RESEARCH AND DEVELOPMENT

Some of the following activities are presently under NDA's:

- ABB Power Systems – PV power plant controller development: main international standards review (basically Europe, America and Africa), functional control diagrams, control loop grid code compliance verification by simulation and field testing;
- ABB Power Systems – Wind power plant controller development: main international standards review (basically Europe, America and Africa), functional control diagrams, grid code control loop verification by simulation;
- ABB Power Systems – Microgrid power plant controller development: functional control diagrams, control loop verification by simulation;
- ABB Power Systems – Off-grid microgrids: possible power system protection approaches. Guidelines and improvements.
- ABB Power Systems – Renewable Automated Plant Controller: Italy grid code CEI 0-16 verification by simulation
- University of Genova (Italy) and ENEL S.p.A. (Italy) – Smart Poligeneration Microgrid: off-grid modes of operation. Investigations on protection system selectivity and new approaches to storage management;

POWER TRANSMISSION & DISTRIBUTION: basic and/or detailed engineering

Following activities have been supplied to final customer or its subcontractor:

- VOLTRI Terminal Europa S.p.A. – High voltage (132kV) substation preliminary engineering, system analysis (activities are currently on-going)
- VOLTRI Terminal Europa S.p.A. – Medium voltage distribution system extension: detailed engineering, cost estimation, load flow and short circuit analysis;
- ENI S.p.A. Genova Pegli (Italy): High voltage (132kV) substation revamping: preliminary and detailed engineering, cost estimation, system analysis (activities are currently on-going: contract includes assistance to FAT of supplied equipment and assistance during commissioning, expected in 2019);
- ANSALDO ENERGIA S.p.A. – Main factory (Genova Campi): medium voltage distribution system revamping. Fault analysis and protection system coordination;
- ABB Power Systems S.p.A. – MOSE Project (Venice): medium voltage distribution system management. Functional logic description and functional control diagrams, medium voltage switchboard technical review
- SIRAM S.p.A. – S. Martino hospital (Genova): medium voltage distribution system. Protection coordination
- S.MED.E. – 10kV distribution system on Pantelleria Island: protection coordination analysis;
- S.MED.E. – 10kV distribution system on Lampedusa Island: protection coordination analysis;
- COLGATE PALMOLIVE S.p.A. (Civitavecchia) – Medium voltage distribution system and CHP power plant: protection system analysis;
- PAUL WURTH S.p.A. – TOSYALI steel making plant (Algeria): loadflow, fault current analysis, motor starting analysis (dynamic);
- ARINOX S.p.A. (Sestri Levante – GE) – New CHP's power plant feasibility study: integration into existing HV/MV distribution system. Preliminary design and cost estimation;
- Università degli Studi di Genova "Smart polygeneration microgrid": electrical system basic and detailed design;

- MTR srl c/o Eni Congo - Kouakouala: medium voltage and low voltage distribution systems: system engineering (load-flow, short circuit analysis, selectivity analysis, cable sizing, single line diagrams, functional diagrams, equipment technical specification);
- ENI CHP power plant Bolgiano (MI): High voltage and medium voltage substation - selectivity analysis;
- FINCANTIERI S.p.A./ORIZZONTE SISTEMI NAVALI S.p.A. – Military ships: FREMM project – System engineering (system analysis, single line diagrams, technical specification for procurement, assistance to FAT) of 6.6kV generation and distribution system and electric propulsion systems;
- Marina Militare Italiana – Nave “A.Vespucci” : revamping of generation, distribution and propulsion systems. Basic engineering and technical specification
- SONELGAZ - Mers-El-Hadjadj: medium voltage distribution system: detailed interconnection engineering, preliminary short circuit and selectivity analysis;
- ANSALDO SISTEMI INDUSTRIALI S.p.A. - Hormozgan (IRAN): 230kV substation - Protection system basic engineering;
- ANSALDO SISTEMI INDUSTRIALI S.p.A. - “Bielorussia”: loadflow, fault current analysis, selectivity analysis;
- TEKSID S.p.A.– Crescentino (VC): High voltage and medium voltage distribution system – selectivity analysis;
- RFI S.P.A. - Nuovo nodo ferroviario di Bologna. 132 kV/10kV distribution system: technical specification for system re-configuration.
- ANSALDO SISTEMI INDUSTRIALI S.p.A. c/o ILVA - Taranto: new oxygen compressors – Selectivity analysis

POWER GENERATION: basic and/or detailed engineering

Following activities have been supplied to final customer or its subcontractors:

- SEAWIND Ocean Technology B.V. – Off-shore wind turbine (7MW): electrical system. Preliminary and detailed design, system analysis, functional and single-line diagrams, technical specification of main equipment, assistance to FAT and SAT. Activities currently on-going;
- KAFUE Gorge (Zambia) River Hydro power plant revamping: high voltage and medium voltage single line diagram and protection system design, automation and protection interconnection list;
- HWANGE (Zimbabwe) thermal power plant revamping: high voltage and medium voltage single line diagram and protection system design, protection cabinet functional diagrams, protection configuration and FAT;
- HWANGE (Zimbabwe) thermal power plant revamping: commissioning of protection systems (currently on-going);
- ANSALDO NUCLEARE S.p.A. – Embalse (Argentina) nuclear power plant: emergency diesel generator protection system. Protection and synchronization cabinets functional diagrams and FAT;
- ANSALDO NUCELARE S.p.A. – Embalse (Argentina) nuclear power plant: emergency diesel generator protection system. Commissioning (currently on-going);
- ENEL Green Power – Hydro power plant “Gandellino”: system engineering (loadflow, short circuit analysis, main equipment specification, single line diagrams, protection coordination);
- ENEL Green Power – Hydro power plant “Bonate”: system engineering (loadflow, short circuit analysis, main equipment specification, single line diagrams, protection coordination);
- Tirreno Power S.p.A. – Hydro power plants “Asta del Penna” (GE): system engineering (short circuit analysis, main equipment specification, single line diagrams) and protection system detailed engineering;
- Tirreno Power S.p.A. – Hydro power plants “Airole” and “Bevera” (IM): system engineering (short circuit analysis, main equipment specification, single line diagrams, functional control diagrams) and protection system detailed engineering;
- Hydro power plant “INGA I” group 12 (Congo) : system engineering (short circuit analysis, main equipment specification, single line diagrams, functional control diagrams) and protection system detailed engineering;
- Combined cycle thermal power plant “Hassi R’Mel” (Algeria) – system engineering (load-flow, short circuit analysis, selectivity analysis, cable sizing, single line diagrams, functional diagrams)
- S.T.E. Energy S.p.A. – Hydro power plant Porco III (Colombia): protection system – Detailed engineering, protection configuration and factory acceptance tests;
- S.T.E. Energy S.p.A. – Hydro power plant Quitarcasa (Perù): protection system – Detailed engineering, protection configuration and factory acceptance tests;
- Neckartal (Namibia) hydro power plant: protection system design, protection configuration and FAT (on going);
- Imequadri c/o Paul Wurth – Bihilai steel plant (India) Blast furnace complex #8 – PKG 10 – TRT Generator: protection system - selectivity analysis
- KenGen – Hydro power plant “Turkwel” (Kenya): system engineering (load-flow, short circuit analysis, selectivity analysis, single line diagrams), factory acceptance tests and training courses;
- Tirreno Power S.p.A. – Hydro power plants “Pescia”, “Strinabecco”, “Tigliolo” (GE): protection system – Selectivity analysis;
- ENEL S.p.A. – Hydro power plant “Taloro”: protection system – Detailed engineering, factory acceptance tests and assistance to commissioning;
- Hydro power plant “INGA II” group 23 (Congo) : protection system - Selectivity analysis, factory acceptance test;
- ENDESA – Hydro pumping station Savuto (CS): protection system – Selectivity analysis;
- MairaEnergia – Hydro power station Villa di Chiavenna (SO): protection system – Selectivity analysis;
- IRIDE Energia S.p.A. – Hydro power plant Rosone: protection system – System engineering, short circuit analysis, current transformers evaluation, selectivity analysis;

- SORGENIA – Hydro power plant Pontey (AO): protection system – Selectivity analysis;
 - E-On – Hydro power plant Preci: protection system – Basic engineering
 - E-On – Hydro power plant Narni: protection system – Basic engineering
 - E-On – Hydro power plant Sigillo: protection system – Selectivity analysis;
 - AGPower S.p.A. – Combined heat and power generation power plant Riva del Garda: loadflow analysis and fault current estimation;
 - SKY SAVER S.r.l. – Offshore wind park Tricase (150MW) – Basic engineering;
 - ENDESA – Thermal power plant Monfalcone: auxiliary systems - Loadflow, fault current analysis, selectivity analysis
 - CVA S.p.A. – Hydro Power Plants “Champagne II”, “Gressoney”, “Torrent”, “Nus”: protection system - selectivity analysis, factory acceptance tests, commissioning tests;
 - ABB Marine c/o CV “ARTANIA”: refitting of synchronizing devices - Detailed engineering, commissioning tests
 - ABB Marine c/o MEGA YACHT OCTOPUS: refitting of MV protection relay and synchronizing devices - Detailed engineering, commissioning procedure definition, commissioning tests.
 - Enel Green Power – Hydro power plant Alpignano: protection system – Selectivity analysis, factory acceptance tests, commissioning tests
 - Enel Green Power – Hydro power plant Traponzo: protection system – Selectivity analysis, factory acceptance tests, commissioning tests
 - Enel Green Power – Hydro power plant Bardi: protection system – Selectivity analysis, factory acceptance tests, commissioning tests;
 - Enel Green Power – Hydro power plant Pieve di Cadore”: system engineering (short circuit analysis, main equipment specification, single line diagrams, functional control diagrams) and protection system detailed engineering;
 - ENEL Green Power – Hydro power plant “Arson”: system engineering (loadflow, short circuit analysis, main equipment specification, single line diagrams, protection coordination)
- ENEL Green Power – Hydro power plant “Coscile”: system engineering (loadflow, short circuit analysis, main equipment specification, single line diagrams, protection coordination)

POWER GENERATION from PV systems: electric engineering and commissioning

Following activities have been supplied to final customer or its subcontractor:

- PV power plant Phoneix Renewables S.p.A. (24MWp) in Canino (VT): medium voltage distribution system design, grounding system design, lightning risk analysis;
- PV power plant Denittis (FG) (34MWp): medium voltage distribution system design, grounding system design, lightning risk analysis;
- PV power plant Volteo Energia S.p.A. (10MWp), in Aprilia (LT): medium voltage distribution system design, grounding system design, lightning risk analysis;
- PV power plant Furcas (CA) (5MWp): medium voltage distribution system design, grounding system design, lightning risk analysis;
- PV power plant Pinna (CA) (5MWp): medium voltage distribution system design, grounding system design, lightning risk analysis;
- PV power plant Brindisi (BR) (4MWp): medium voltage distribution system design, grounding system design, lightning risk analysis;
- PV power plant Mesagne (BR) (4MWp): medium voltage distribution system design, grounding system design, lightning risk analysis;
- PV power plant Schinosa (1MWp), in Trani: medium voltage distribution system design, grounding system design, lightning risk analysis;
- PV power plant Macchiarotonda 1 (3.3MWp), in Foggia: medium voltage distribution system design, grounding system design, lightning risk analysis;
- PV power plant Macchiarotonda 2 (3.3MWp), in Foggia: medium voltage distribution system design, grounding system design, lightning risk analysis;

- PV power plant Inicorbaf (3MWp), in Foggia: medium voltage distribution system design, grounding system design, lightning risk analysis;
- PV power plant Iacovangelo (3.5MWp), in Foggia medium voltage distribution system design, grounding system design, lightning risk analysis;
- PV power planti Armiento (2MWp), in Foggia: medium voltage distribution system design, grounding system design, lightning risk analysis;
- PV power plant Spinasanta (5MWp), in Catania: medium voltage distribution system design, grounding system design, lightning risk analysis;
- PV power plant Sugherotorto (3MWp), in Catania: medium voltage distribution system design, grounding system design, lightning risk analysis;
- PV power plant Cardonita (3MWp), in Catania: medium voltage distribution system design, grounding system design, lightning risk analysis;
- PV power plant Ghardaia (Algeria): system engineering (load-flow, short circuit analysis, selectivity analysis, cable sizing, single line diagrams, functional diagrams)

For all the above mentioned PV power plants commissioning activities of medium voltage, low voltage (a.c. side) and low voltage (d.c. side) have been carried out as well.

POWER QUALITY: analysis and measurements

Following activities have been supplied to final customer or its subcontractor:

- PV power plant Volteo Energia S.p.A. (10MWp), in Aprilia (LT): low voltage and medium voltage distribution systems – harmonic distortion measurements;
- RIVA Acciai S.p.A Stabilimento di Genova Cornigliano: medium voltage distribution system – harmonic distortion measurements on new production line;
- Marina Militare Italiana – Nave “A. Vespucci”: new propulsion system – Harmonic distortion estimation (using harmonic loadflow techniques)

PROTECTION SYSTEMS COMMISSIONING

All above mentioned activities involving selectivity analysis have been finalized with commissioning activities as well.

Moreover, additional power plants for which selectivity analysis was supplied by customer have been commissioned: for sake of synthesis they are not reported here but the complete list is available on request. Commissioning activities are carried out using secondary and/or primary injection test sets and, as for rotating machines, they include the synchronizing system and real tests at no load and at full load.

POWER DISTRIBUTION SYSTEMS: DESIGN REVIEW

- RINA S.p.A. – Katarina Oil Platform: electrical system design review;
- RINA S.p.A. – Osimo (AN): Hospital power distribution system design review;
- RINA S.p.A. – Gas Pipeline connection to Salerno main gas substation: power distribution system design review;
- RINA S.p.A. – AWA Paloukou oil platform: electrical distribution system design review;
- RINA S.p.A. – Ikalou oil platform: electrical distribution system design review;
- RINA S.p.A. – Liquefied Natural Gas station Livorno : electrical distribution system design review;