

Personal information

Giordano Torri.

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Employment history

- ❑ 2019, May – Consultant in Power Electronics and Power Systems design.
Special focus on **Photovoltaic + energy storage systems**.

- ❑ 2016 – April, 2019
Fincantieri SI, Milano
Chief Technology Officer. Coordination of the development of new technology for the electric system for on board application. Focus on: Hybrid propulsion, full electric propulsion, onboard power distribution in AC and DC, integration of battery system into the on board electric grid and shore-to-ship power supply. Starting a new development in the field of the “Solid State Transformers”.
Photovoltaic: integration of photovoltaic generators for shore-to-ship power supply (See the presentation “Alimentazione da terra di navi in porto” – Seminario AEIT – Il Sistema Nave).

- ❑ 2013 – 2016
Nidec-ASI.
VP Technology and Product Innovation - Technical Director (SOA qualification).
Coordination of the R&D activities and of the New Product Development (plans and budget) for Power Electronics, Rotating Machines and Automation Systems.
Support to the commercial dept. for the technical solutions, the cost evaluations and the approach.
Special focus on: renewable energies, energy storage (e.g., Terna projects), energy efficiency and smart grids.
Photovoltaic: Design of a new series of high power and modular PV converter with the capability of 1500 Vdc and 1 to 5MW. The design is for “Central Inverter” in an outdoor cabinet for UE and US markets (UL approved).

- ❑ 2006 – 2013.
Ansaldo Sistemi Industriali, Milano.
Quality, Environment, Lean Manufacturing and Information Technology Director.
Special mandate for the development of new technologies for the renewable energies, energy storage and for the smart grids. Main projects:
 - SAP implementation in the Motor & Generator factory in Monfalcone.
 - Introduction of a new QMS at a Company level.
 - **Energy storage projects:** developed the solution for large scale energy storage systems (MWh range). Applications: frequency regulation, time shifting, load leveling, peak shaving.
 - **Photovoltaic projects:** technical assessment and supervision of large MW scale PV projects developed inside the company. Special focus for the projects where PV and

batteries were requested to work together for “Time shifting” or for “Constant power delivery” applications.

- **Photovoltaic integration:** Implementation of an R&D project for an innovative approach to the smart micro grids fed by different power sources (ICE, **PV**, wind and assisted by energy storage). The microgrid project was financed inside the “Ricerca di Sistema Elettrico”. The target of the project was the electrification of remote areas not served by traditional distribution grids.

❑ 2003 – 2005.

Ansaldo Sistemi Industriali, Milano.

Product Development Director. Main projects:

- Extended the power range of the low voltage converters for marine and energy applications (up to 5 MW @ 690V).
- Extended the power range of the Medium Voltage drives with a new series @ 3,3 and 6,6 kV with the “Multilevel” technology.
 - **Photovoltaic:** release of the first series of “Central Inverters” in the MW range.

❑ 2000 – 2002.

Ansaldo, Unità Operativa ELCO, Brendola (VI).

Plant Director. The mission of the “Unità Operativa ELCO” was the production and sales of the low voltage drives. Main projects:

- introduction of a new LV drive series (GT3000) with a power range up to 1MW and working voltage up to 690V. The product was also certified UL for the US market.
 - **Photovoltaic:** project and production of a compact PV+battery unit with a 3kWp panel to be installed in remote areas, for single houses.

❑ 1990 – 1999.

Ansaldo. Unità Operativa ELP, Milano.

Manager of the engineering and of the R&D dept. for the application of variable speed drives of new design. Main projects:

- development of the first applications in Italy of the “current source converters-medium voltage” produced in USA by the subsidiary Ross-Hill. (Voltage range up to 7,2 kV and power up to 12 MW)
- development of the technology of the high power converters based on the igt technology.
- Introduced four new product lines:
 - LV inverters @ 400-690Vac and power range up to 2MW (SV-TL),
 - MV multilevel inverters @ 4,16 kVac and up to 12 MW (SVTH)
 - MV-NPC inverters @ 2,4kVac and up to 12 MW (SV-TN).
 - Development of the “Active Front End” technology for industrial, energy and marine applications.

❑ 1986 – 1989.

Ansaldo, Milan factory.

Manager of the engineering dept. of the high power “current source converters for synchronous motors (LCI)” applications.

Main projects:

- Developed new applications for: gas turbine starters, variable speed drives for wind turbines, for pumps, for compressors in the oil&gas and in the energy sectors.
- Design of a 400MW conversion system for the RFX experiment in Padova, CNR institute.

□ 1978 – 1985.

Ansaldo, Milan factory.

R&D engineer in the Electric Traction dept. Main projects:

- Development of drive systems of 150 – 350 kW @ 750 Vdc for suburban railways with “Chopper and DC motor”.
- Development of battery chargers for train applications.

Education

1977: Graduate in Electronic Engineering and Telecom, Pavia University, 1977, 110/110 e Lode.

1972: Maturità Scientifica, Liceo “E. Fermi” in Arona.

Foreign languages

Good knowledge of spoken and written English and French.

Associations

- Consigliere CEI for the period 2013 – 2019.
- Past member of working groups of the IEC/MSB.
- Past member of the CT114 (CEI Marine Energy).
- Past member of the ANIE working group for the Energy Storage systems.
- Past member of ANIMP Automation committee.

Patents

Filed two patents. One for the control of the multilevel drives and another one for the power distribution of the energy produced by the renewable energies.

Papers.

Authors of more than 90 papers. See the attached annex.

Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali".

Novara, April, 15th 2019

Sincerely, Giordano Torri