

Emilio Ciardiello graduated in 1975 in Electronic Engineering at the University of Naples. His experience spans over nearly three hundred projects, performed over about thirty years for industries and research institutes through Central and Southern Italy.

In the early seventies, still student, he designed and built the following equipment:

- *Hyper-critical stepper-motor speed control for 'Cattedra di Controlli Automatici', prof. Carlo Vicinanza.*
- *Interface unit between HP 2100 digital computer and Hitachi 505 analog computer, for the new 'Centro Studi Calcolatori Ibridi', Prof. Giorgio Savastano.*
- *Precision water level monitoring system through pulse reflection by the discontinuity on a submersible transmission line, for 'Facoltà di Agraria', Portici.*
- *Modem interface for connecting the Bendix-CDC G20 computer mainframe of 'Centro di Calcolo del Politecnico di Napoli' to the IBM of Bologna University, Prof. Bruno Fadini.*
- *Several regulated DC power supplies for 'Cattedra di Elettronica' e 'Centro di Calcolo', University of Naples, and for Alfa Sud, Pomigliano.*

Then he acted as field engineer for top semiconductor and passive component manufacturers. Here are some of the most significant projects he performed over about twenty years:

- *First design-center on SC/MP microprocessor LCDS in 1975. Soon later the late Prof. Angelo Luciano started his course on microprocessor design, based on SC/MP.*
- *SC/MP microprocessor based cluster control system of welding lines at Alfa Sud, Pomigliano. In 1976 this was the first microprocessor based design in a Southern industrial environment.*
- *Control systems for dosing plants of concrete and bituminous conglomerates.*
- *Microprocessor-based high-performance sphygmomanometers and electroencephalographs for customers in the area.*
- *Design of an emergency switch matrix for PTT RTTY exchanges. Supply of over than 5400 matrix boards to TIDATA, Casoria.*

In 1990, he founded Edelpro, the only independent ASIC Design Center in Italy, equipped with CAD and libraries for European Silicon Structures, ES2, and Raytheon. Here he designed 23 custom specific ICs, both digital and mixed. Some of the developed ASICs were:

- *For Selenia ITC, today Galileo, design, layout and simulation, up to the delivery of some 6400 units, of a mixed ASIC, analog plus digital I/O interface, for telephonic exchanges.*
- *Team leader for design, layout and simulation, up to the delivery of some 2400 kits, of a four-chip-set of ASICs for radar displays; customer Selenia Giugliano, today Galileo.*
- *Turn key design of SARA, single board access control terminal, with the development of two ASICs, for Selenia ITC. Over than 1200 chip sets supplied.*
- *Design of the [Teleaudio system](#), capable of transmitting a descriptive digitized audio comment in the teletext stream of a television signal, intended as support for blind people. The Teleaudio included an ASIC in the decoder unit, funded by the EU Community, and was successfully tested in RAI. The system was introduced in 1998 at RAI in Rome at the seminar 'Le Tecnologie Digitali per i Nuovi Servizi Multimediali per Disabili'.*
- *Design of a line of hands-free amplifiers and battery chargers for mobile phones for Itel, S. Nicola La Strada (CE) and for Elettronica Sud. For Itel he also designed an analog ASIC containing all the low-power circuitries for a family of smart battery chargers.*
- *The ASIC Design Center worked together with Tecnopolis CSATA, Bari, and with ENEA, Bologna, as 'Excellence Center' in promoting ASIC technologies for PMIs under some IT branches of the European ESPRIT program.*

More recently he attended at Giesecke & Devrient in Germany to courses on EMV (European Master-Card and Visa) logical and physical security. Soon later he designed the full security system, including the procedure manual, up to the VISA, MC and ABI certifications, for Metalplex, an Italian firm operating in the production and customization of banking cards. He also took care of the supply contracts and of the acceptance of the card production lines. His experience in fact also covers the writing of offers and of supply contracts in English.

In 2013, together with Prof. Giulio Fabbriatore, then president of CIBEC, and other people he promoted the 'Associazione per la Storia dell'Elettronica', ASE, a virtual museum accessible on page <http://www.ase-museoedelpro.org/>. As President of ASE he spends most of his time taking care of offering detailed descriptions and historical notes on the huge collection of old books, electronic sets and vacuum tubes, including many thousands special types. The tube collection is mainly focused on the British development of radar from the mid thirties to the late fifties. It includes very rare prototypes, among which the very first laboratory prototype of the eight-cavity magnetron developed at GEC and a couple of the Sutton's reflex klystrons, plus unique samples of German cavity magnetrons.

[http://www.ase-museoedelpro.org/Museo\\_Edelpro/Catalogo/Overview/Articles/The%20Sutton%20tube.pdf](http://www.ase-museoedelpro.org/Museo_Edelpro/Catalogo/Overview/Articles/The%20Sutton%20tube.pdf)

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Member and vacuum tube administrator for Radiomuseum, Luzern CH. Member of the 'Tube Collector Association'. For ASE he currently writes articles on the history of old equipment and of vacuum tubes. Some of his technical articles are even hosted on the sites of Collins Collector Association, of Hirtel Visual Museum and of Philbrick Archive, among the others. He was awarded the plaque 'Stokes' from the American 'Tube Collectors Association' for his articles on the history of electron tubes.

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The very early [GEC laboratory prototype of the British cavity magnetron](#), July 1940.