

The Innovation Process in the Semiconductor Industry: the Example of ST Microelectronics

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Abstract

This presentation describes the strong need of the semiconductor industry to continuously innovate. Starting from the analysis of the semiconductor market dynamics and considering the new emerging applications, the new geography of the market and the convergence requirements, the technology and product evolution needs are described.

Taking the example of the history of ST Microelectronics the need of a new approach to innovation analyzing all the aspects of the process is described. The analysis starts with the considerations of the key prerequisites of the semiconductor industry to lead the innovation process: the basic silicon technology, the geographical global presence and the manufacturing machine. Then the presentation considers the need of a new approach to the market, analyzing the vital role of the strategic alliances as a winning business model. At the end, considering different examples and different applications, it is analyzed how a modern semiconductor industry must change its business model: from customer centric to application centric. The different challenges of this cultural change are considered and the possible answers to the new market requirements are addressed drawing how the semiconductor industry must move in the future to successfully innovate.

Curriculum Vitae



Born in Genova, Italy in 1940, Aldo Romano graduated magna cum laude in Electronic Engineering at the University of Padova, Italy in 1963. In 1965, following some scientific work at the University, he joined SGS as a designer of linear integrated circuits. After five years he became head of its linear IC design laboratory, then in 1976 he was named head of Product Marketing and Applications, a function he covered until 1980 when he became Director of the Bipolar IC Division.

Following the 1987 fusion of SGS Microelettronica with the French-owned THOMSON Semiconducteurs and the successive acquisition of the activities of the Video Products Division, the organization managed by Aldo Romano was denominated Dedicated Products Group, bringing together all of the dedicated integrated circuit activities of the company.

In December 1998 following a further re-organization, the Dedicated Products Group evolved into the Telecommunication and Peripherals/Automotive Groups (TPA Groups), headquartered in Agrate Brianza (Milan, Italy) and Grenoble (France). In June 2002 with the acquisition of Alcatel Microelectronics the group reinforced its activities in telecommunications adding an important new center at Zaventem in Belgium.

In May 1991 Romano was appointed CEO of SGS-THOMSON Microelectronics srl (the Italian subsidiary of the Group, which changed its name in STMicroelectronics Group in May 1998) in addition to his role as General Manager of the Telecommunication and Peripherals/Automotive Groups. Since January 2005 Romano, who retired from TPA Groups, is STMicroelectronics srl

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