

'Change must have upgrading the quality of life at its center.'

— Pasquale Pistorio

# Champion for digital era's disenfranchised

By Peter Clarke

**A**fter 25 years at the helm, Pasquale Pistorio handed over the roles of president and chief executive officer of STMicroelectronics NV to Carlo Bozotti at the company's annual general meeting on March 18. He now holds the title of honorary chairman. Pistorio helped revitalize a small Italian chip maker, SGS, led its merger with French semiconductor champion Thomson in 1987 and turned the resulting company, ST, into an international contender. Along the way, he has been an advocate of green manufacturing and corporate social responsibility, with a special interest in the "digital divide"—the imbalance between those with access to information technology and those without. Pistorio is a member of the United Nations Information and Communications Task Force, dedicated to bridging that divide. An interview with Pistorio begins on page 20.

## The interview

### ST's Pistorio reflects

FROM PAGE 1

**EE Times:** What are the most significant developments you have seen during your career?

**Pasquale Pistorio:** We are living in the fastest-changing era in the history of humanity—the birth and emergence of the knowledge-based society. There's been the Stone Age, the Bronze Age, the Iron Age, the Industrial Revolution—and now the knowledge society has been born during my lifetime, and semiconductors are the most significant enabling factor.

Microelectronics is doing for the brain what the steam engine and electric motor did for our muscles. In both the steam engine and in generating electricity, carbon-based fuel is harnessed to amplify the muscle power of people. Now microelectronics is amplifying the ability to think and to communicate. It is a technologically led revolution.

Politically, apart from the death of communism and the ending of the Cold War, the most important trend is globalization. The technology of the Internet is global; it does not recognize national boundaries, and it makes everything happen much more immediately. You must organize yourself so you can react much faster, and everything becomes consumer-oriented.

**EET:** Some might argue that the frenzied pace is not a good thing.

**Pistorio:** There are problems created by this revolution. Some people and some countries are at risk of being left behind—the so-called digital divide. Overall I think globalization is a positive event, but what's really important

#### Pasquale Pistorio

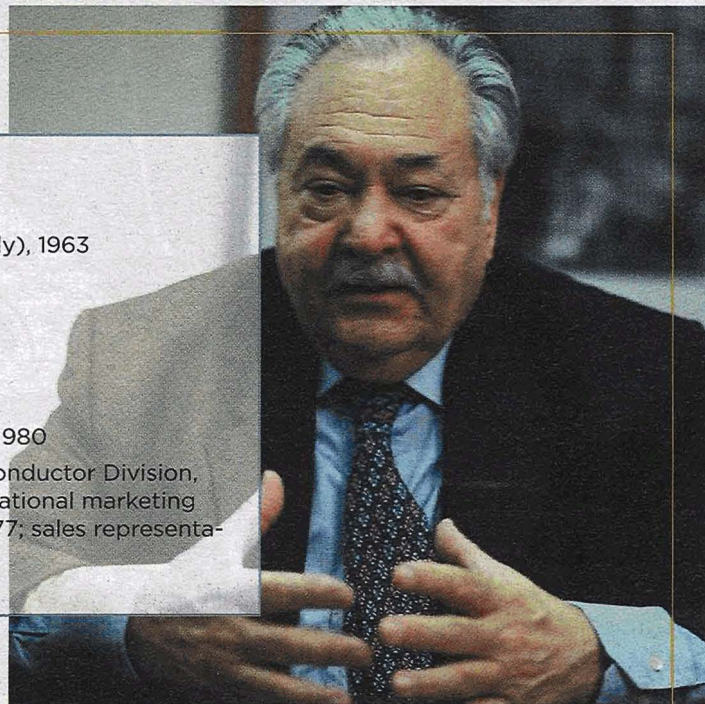
**Born:** Enna, Sicily, 1936

**Education:** EE, Polytechnic of Turin (Italy), 1963

**Current position:** Honorary chairman, STMicroelectronics NV

**Experience:**

- President and chief executive officer, STMicroelectronics, 1987-2005
- President and CEO, SGS Group, from 1980
- General manager, International Semiconductor Division, Motorola, from 1978; director of international marketing and corporate vice president, from 1977; sales representative, from 1967



is the quality of life. Change must have human beings and upgrading their quality of life at the center. I think my generation has done a fantastic job in bringing about this globalization, but there are still several factors we must address.

Indeed, there are three enormous problems. First is the excessive gap in the distribution of wealth between rich and poor countries and between the rich and poor people within countries. Let me say, I believe that “equality” is not only absurd; it is also unjust. But you cannot

have 2 billion people living on less than \$2 a day and the wealth concentrated in the hands of, in reality, a few thousand people.

The second problem is pollution. Global warming is a dangerous reality. It is more challenging and more dif-

**CONTINUED ON PAGE 22**

## Pistorio reflects

FROM PAGE 20

difficult to combat than terrorism. Extreme weather phenomena cause hundreds of billions of dollars of damages and dislocate and destroy millions of people's lives.

Pollution creates victims. It has been estimated that 500,000 people die in Asia each year as a direct result of the pollution from cars.

The third problem is the population explosion. The planet cannot support the population explosion. It must be checked.

**EET: How would you set about solving these problems?**

**Pistorio:** These three big challenges are interlinked, and the hardest to address is the first: redistributing wealth. And that is because the "world laws" tend to be made by the rich people.

Wherever economic development takes

place, birth rates drop. If we could redistribute the wealth to bring the poorest up in wealth and quality of life, that would result in lower birth rates, less pollution and the possibility of a sustainable future.

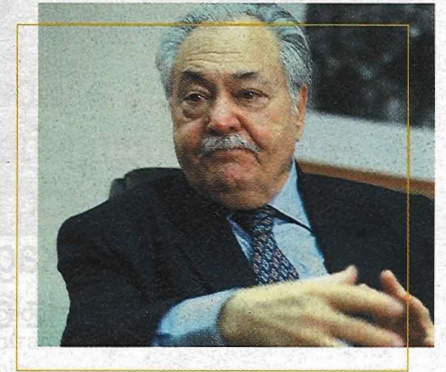
When I travel to the poorer countries of the world, it makes me feel uncomfortable. Am I guilty of making the poverty that is around me? No. Am I responsible for the poverty? Yes. We are all responsible.

**EET: Why did you choose a career in electronics?**

**Pistorio:** As a young student in high school I liked science and technological subjects—maths, physics and so on, and their practical application. At 18 I went to Turin, to the best Polytechnic for engineering [in Italy] at the time. When I went there, electronics hardly existed as a separate subject. I graduated in electrical engineering, specializing in weak currents.

**EET: What was your first job?**

**Pistorio:** When I was at university, I wanted to end up doing R&D at a major company. But 1963 was the time of the



'We live in the fastest-changing era in the history of humanity.'

"Italian miracle." If you graduated during that time, especially in technical subjects, you were getting offers before you left the university. Demand exceeded supply. Olivetti was the big company, 30 kilometers from Turin, so I thought I would go there to work as a designer.

But by chance I knew a guy who was the representative for Motorola in Turin, Julio Colombo. He said I was an outgoing fellow and I would do well in sales, but I said I wanted to be an engineer, and I had an offer at 120,000 lire per month, which is about 60 euros today [about \$80]. So Colombo offered me 150,000 lire per month. For various reasons, I felt pressure to get a good job, and his offer persuaded me. I didn't have a driving license when I first joined, so I was calling on customers on a bicycle or on the tram.

In 1964, after one year at Colombo's Mesar company, I moved to Milan to work for the national Motorola distributor. In October 1966 Motorola opened up its own office in Milan, and I joined Motorola.

**EET: In 1980 you joined SGS, which became SGS-Thomson and is now ST-Microelectronics.**

**Pistorio:** You could say the heavy part of my career began when I joined SGS. The merger with Thomson was the right thing to do. It was the only way to break out of the national dimension.

CONTINUED ON PAGE 24

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# The interview

## Pistorio reflects

FROM PAGE 22

In 1980, SGS had \$100 million in annual sales and had been losing money consistently for 10 years at levels of 20 percent to 50 percent of sales. ST is on the order of a \$10 billion company with no debts, and has been systematically profitable for 10 years. It's one of the top five semiconductor companies in the world and the number one in Europe.

**EET:** You are widely credited with helping to save the semiconductor and electronics industries in Europe.

**Pistorio:** I believe we at SGS made a significant contribution. In 1983, the top four chip companies in Europe were Philips of the Netherlands, Siemens of Germany, Thomson of France and SGS of Italy. All were losing money, but SGS was the first to make a profit.

**EET:** What was the problem?

**Pistorio:** The culture of the national champion, at a time when companies already needed to compete on a world market. . . . But the emergence of the Common Market and the European Union helped. The national point of view was becoming a European perspective and stimulating cooperation at the European level. This gave rise to the Joint European Submicron Silicon Initiative collaborative research program in the late 1980s, which was followed by Medea and Medea plus.

**EET:** What is the commercial climate like for ST going forward?

**Pistorio:** Back in 1999 we published our vision for 2007, where we said we wanted to have 5 percent of the world market for semiconductors. We will be greater than 5 percent by 2007.

In the second quarter of 2002 we launched three initiatives. One: We started to rebalance our cost base to reduce our dependence on the euro. That means moving manufacturing to Asia—not completely, but changing the balance from 70:30 to 30:70. Two: We upped our level of R&D so that we're running at 17.5 percent of sales. We are accelerating the pace of work at [fabs in] Crolles and Agrate, and achieving faster product introduction. Three: We moved to expand our customer base from our 50 top OEM customers and 12 strategic partners.

'Global warming is more difficult to combat than terrorism.'

**EET:** Had ST become overly dependent on those 12 strategic partners?

**Pistorio:** The 12 have been, are and will be the backbone of our strategy. They are the ones driving our technology. But when you back customers and they become market leaders, you can hit a limit of growth. And you need a larger pool from which to spot the next generation of potential leaders and strategic partners.

**EET:** What's next for you personally? Will you do anything else in electronics?

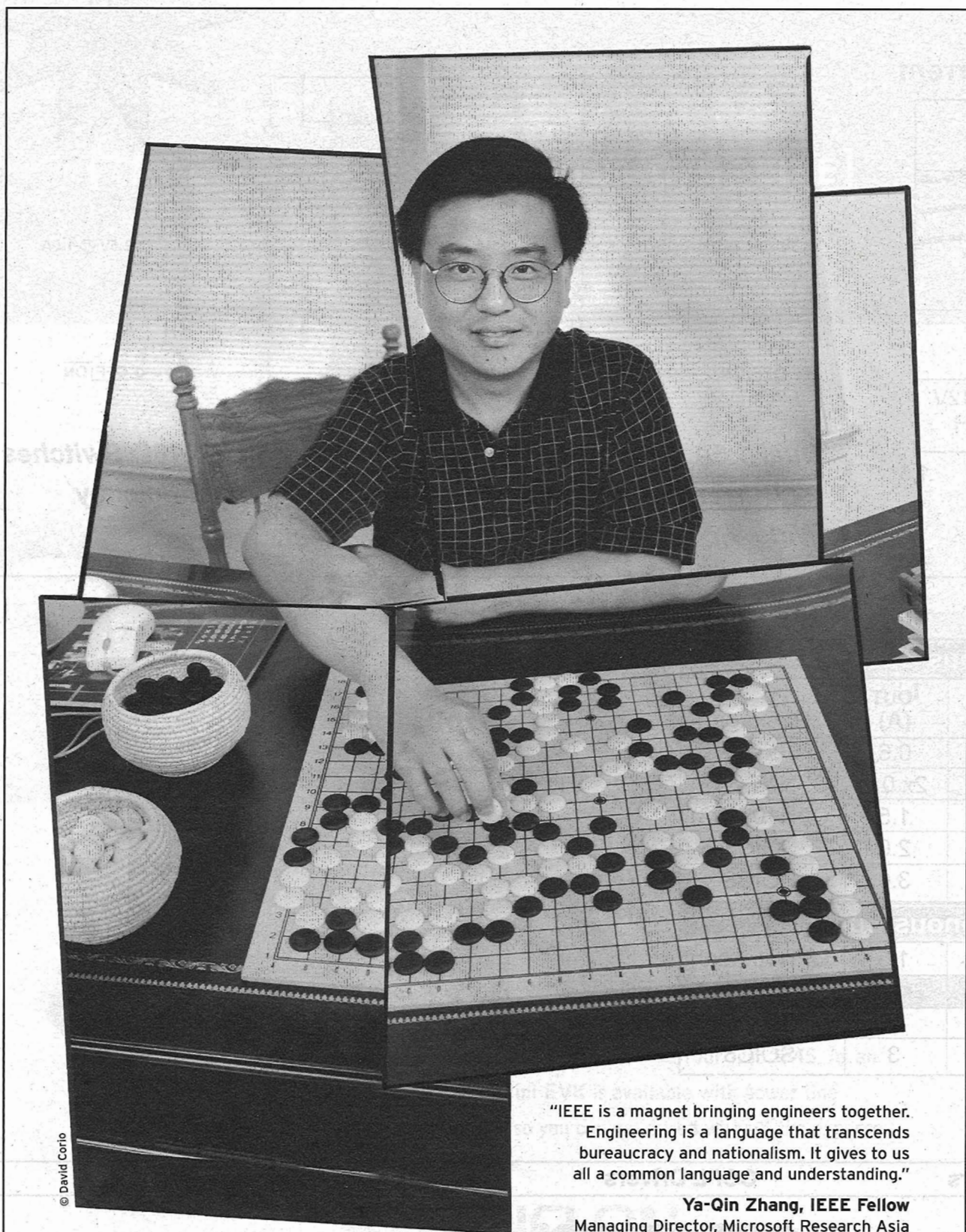
**Pistorio:** Well, I believe you can be active until you are 80 to 85. So there are three things I want to do in the next 10 to 15 years.

First, I want to continue my association with the high-tech industry, although in a nonexecutive, nonoperational way. I am already on the boards of Telecom Italia and Fiat, and four or five other companies have approached me to sit on their boards.

Second, I want to contribute to my social responsibility. This is working on the digital divide and other such things. I have some ideas in this area which I will reveal soon. Third, I want to work for my country. I am already a vice president for innovation and research of the Confindustria and on the executive committee of the World Business Council for Sustainable Development.

**EET:** If you had one piece of advice for somebody starting a technology career today, what would it be?

**Pistorio:** Be determined. Persevere. Try to reconcile your professional position with the social aspects. We cannot dissociate our commercial responsibilities from our social responsibilities.



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Ya-Qin Zhang, IEEE Fellow  
Managing Director, Microsoft Research Asia

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