SOCIAL ACTION, INNOVATION, REFLECTION AND EXCHANGE LABORATORY

12TH LASAIRE BIENNIAL

"Anticipation and Participatory Change Management in Companies during a Period of Crisis and Technological Change"

STMICROELECTRONICS

(by Robert Mounier-Véhier - January 2017)

THE COMPANY

This company specialises in the design, manufacture and marketing of computer chips (semiconductors).

STMicroelectronics, originally a Franco-Italian company, has become an international company incorporated under Dutch law, having its executive and operating headquarters at Plan Les Ouates, near Geneva, Switzerland.

This group has some 48,000 employees throughout the world, of whom 11,000 in France and as many in Italy. Employment remains stable in Europe (22 000 jobs) in spite of restructuring operations and voluntary departure plans.

Its main R&D and manufacturing sites in Europe are situated in Grenoble, Crolles, Rousset in France, and Agrate, Brianza and Catania in Italy. The company also ha production and/or assembling companies in Asia, India, Malta and Morocco.

27% of the capital is held equally by the French and Italian governments. The rest is held by shareholders whose stake does not exceed 5%. STMicroelectronics is a company listed on the stock exchange since 1994.

TURNOVER IN 2015: $6.9 BILLION

BACKGROUND HISTORY

The company was created in 1987 from the merger of the French company Thomson and the Italian SGS M Micro Electronica. SGS Thomson would become ST Microelectronics in 1987 when Thomson withdrew from the capital.

For its French part, the company is the fruit of public research. It is in a laboratory of the Atomic Energy Commission of Grenoble, LETI, that the first start up, EFCIS, saw the light of day, to specialise in the production of electronic components. In 1982, this start up was acquired by Thomson semi-conductors, which at this time was a nationalised company.

The Italian part at the outset stemmed from a cooperation effort by Olivetti and Teletra with the American company Fairchild (semi-conductors). This cooperation ceased in 1968. The company was acquired by the IRI-STET group. SGS Microelettronica would emerge from this acquisition in 1972.

When SGS Thomson was created, it ranked 14th in the world.

PRODUCTION AND INDUSTRIAL MODEL

PRODUCTION

The production of STMicroelectronics is based on (analogue and digital) printed circuits on silicon wafers. It focuses on a range of products such as :

- Processors for telecom gateways and decoders,
- Printed circuits to measure,
- Photonic components for specific detection and imaging applications,
- Circuits for IT peripherals, mobile telephones,
- Products relating to automobiles,
- Microcontrollers,
- Analogue and power circuits,
- Non-volatile memories.

THE INDUSTRIAL MODEL

“fablite”. In this model, only products with a competitive advantage are made in house. Standard products are outsourced. It focuses concurrently on technological research and industrial production. This model has the advantage of flexibility for greater adaptation to the market, allows for lean industrial investment and optimal use of the internal production tool, whilst affording protection from the competition.

It is an alternative to the **“integrated”** model where everything is made in house which requires high financial capacities, or the “**fabless”** model where there is technological research on the one hand and production on the other which are subcontracted to casters.

Research and development in products are highly capital intensive. The choice of industrial model is not neutral, including in terms of employment. The semiconductor market is certainly promising but constantly changing in terms of needs and products.

STRATEGIC DEVELOPMENTS AT STMICROELECTRONICS

1987-2005 AN ATTACKING AND AGGRESSIVE COMPANY ON THE MARKET

As soon as the company was created, it developed quite an aggressive policy on the market. It acquired a certain number of Canadian and North American competitors.

In 2002, a partnership was put in place with NXP (Philips) and Freescale (Motorola).
This partnership will lead to the construction of a new production plant (10000m^2 clean room) "Crolles 2 Alliance" in France.

In 2005 STMicroelectronics ranks 5th in the world with a turnover of $8.9 billion, behind Intel, Samsung, Texas Instruments, Toshiba.

2005-2016 DIFFICULTIES AND A HARDER TO READ INDUSTRIAL STRATEGY

In 2005, change of management. This change of management corresponds to the appearance of the company's first difficulties – deficit of the "memory" part. The group's profitability is at the lowest level according to certain experts.

2007 NXP and Freescale leave the Alliance Crolles 2.

That same year, STMicroelectronics enters the ISDA alliance with IBM Samsung in particular.

2009 Creation of a joint venture with Ericsson (STE) for the manufacturing of chips for the mobile telephone market, with Nokia being the main customer.

20011/2012 crisis in Nokia telephony with serious repercussions on STMicroelectronics.

In 2013 STMicroelectronics and Ericsson part ways whilst on the verge of putting a new FD-SOI product on the market. This product is very promising because it reduces energy consumption and heat emissions from printed circuits contained in the connected products.

During this period, in spite of the "NANO12 Convention" on support from the State and the French local authorities (€650 million), investments are not forthcoming.

In 2015, the company announced financial losses due certainly to a drop in sales, but also to the costs of the separation from Ericsson.

Nevertheless, these losses do not compromise the situation and the financial capacities of STMicroelectronics.

In 2015 STMicroelectronics was ranked 10th in the world, with a turnover of $6.9 billion.

Some points of comparison over 10 years :

- The turnover has dropped by more than 20%,
- Investments have declined from $1441 million to $467 million, i.e. down by 75%,
- The dividends paid to the shareholders in 2005 amounted to $107 million compared with $350 million in 2015, i.e. up 252%,
- The CEO's salary has gone from EUR 834,000 to EUR 2,989,000 over the same period.

SOCIAL POLICY

The personnel representation bodies of each country, which are provided for under the respective legislation, are in place. There is a European Works Council at group level.

In practice, the social dialogue in personnel representation bodies is quite difficult, complicated, more often formal than decision-making.

COMPANY'S ECONOMIC SITUATION A SOURCE OF SOCIAL TENSIONS

In the absence of strategic visibility on the part of the company, the social climate has deteriorated. Management is at issue. There is a strong demotivation emerging among employees who no longer adhere to the company's objectives and moreover blame the managers for not listening to them any longer. A certain number of social conflicts arises as a result.

In 2015, faced with this deteriorating situation, in particular the announcement of financial losses, and the lack of response from STMicroelectronics, the Central Works Council, for the French part of the company, would turn to the alert procedure with the appointment of an independent expert to analyse the situation of STMicroelectronics. The expert was to submit his report in October 2015.

The staff representatives who had already alerted the shareholding governments will avail themselves of the conclusions of this report to question them again. They will underscore again their serious concerns about employment, denounce errors in the strategic choices and challenge management in particular for a lack of transversality between the French and Italian activities. These alert messages will be relayed by government officials who will ask for a change of governance, a new management and a clear definition of the industrial strategy.

Beginning of 2016 STMicroelectronics announces new strategic choices :

- The discontinuation of consumer components (no telephony, tablet, electronic games and television) and the refocus on the automobile sector and related objects,
- A 40% drop in dividends,
- The loss of 1400 jobs, 800 of which in Europe.

The reactions of the staff representatives to these announcements were critical to say the least, ranging from inappropriate decisions to situations that can in the very least be said to be precipitous.

They all called for a strong resumption in investments as the latter were not to be found in the announcements made.

Negotiations have nonetheless been initiated, particularly in France, to implement voluntary departure and internal mobility, which should affect 430 people.

In November 2016, the CEO of STMicroelectronics issued a press release in which he considered the new strategic choices were bearing fruit and that the company had resumed positive results.[1]

STMICROELECTRONICS OPERATES IN A STRATEGIC SECTOR EXPERIENCING DIFFICULTIES AT EUROPEAN LEVEL

For the European trade unions of the semiconductor industry which convened under the aegis of the IndustriAll European Trade Union in Brussels on 20 November 2015, the semiconductor sector in Europe, in which STMicroelectronics operates, finds itself in a strategic stalemate.

Its recent as well as upcoming decline is reflected in a few figures. The European Union still accounts for 15% of the world expenditure in research and development in the sector (often from public funds), but for only 12% of the application markets, 8% of production and 5% of investments. Public expenditure is in Europe but jobs, and above all the jobs of the future, are elsewhere (China, Taiwan, USA, South Korea).

These officials underscored the strategic challenge of this sector as regards Europe's independence in this field and the development of a European industrial policy. They called for the implementation of an integrated strategy.

This appeal found resonance in a declaration the President of ARCSIEL[2] who has since 2014 reacted to the announcement of European Commissioner Neelie Kroes, who declared that she wanted to double the production of computer chips in Europe by 2020 without specifying the means and resources to reach that goal. He underscored that whereas aids for research and development existed in Europe, that was not the case concerning production. Whereas the rules of free and non-distorting intra-EU competition are justified, their application outside the EU poses problems and creates difficulties for us with regard to our competitors.

When a non-European caster (production subcontractor who does not jeopardise the balance of intra-EU competition) wishes to open a plant in different countries that can host it, it vies for aids for investment, which is not possible for a country of the European Union, because of the supervisory rules governing public subsidies. Such a presence of a production plant would however be a great boost for the European micro-electronics industry.

The electronic components are today at the heart of sustainable and ecological development. They are present in all areas, from industry, to services, work and daily life of consumers. It is a strategic sector for independence and development.

[1] EE Times Europe interviewed Bozotti at a bustling Electronica in Munich. 18 11 2016
[2] Association of French electronics professionals

Points highlighted in the study include:

- The rights of staff representatives at European level must be addressed concerning :

  - The possibility to call on independent experts,
  - Sharing and exchanges concerning corporate strategies.

- Coordination and structuration of a microelectronics sector at European level to :

  - Ensure the independence of Europe in a strategic sector,
  - Enable sustainable and ecological industrial development,
  - Develop employment and consumer protection.

- Initiate a discussion on the rules of free and non-distorting competition for intra-EU trade applied to extra-EU trade