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Strategic positioning study of the “Foundry and Machining” branch

FOREWORD

Foundry and mechanical machining are two activities which belong to the Mechanical and Metallurgical Industries (IMM). The study has focused on foundry products in the first place; as for machining, it is addressed as an activity upstream of foundry.

NATIONAL SITUATION

In 2002, the foundry branch comprised 26 enterprises and employed 1 400 people. As regards the machining branch, it comprised 79 enterprises and employed 1 800 people.

The production of foundries reported 17 000 tons in 2002, with an average annual growth rate of 7% over the period 1998 – 2002. Annual growth by type of metal, over the same period, was as follows: 6.3% for cast iron, 9% for cast steel and 18% for non ferrous products.

The value of the production reported 30 million Tunisian dinars (MTND) in 2002, with an average annual growth rate of 7% over the period 1998 – 2002.

Mechanical machining generated, in 2002, a turnover estimated as 33 MTND, with an average annual growth rate of 10% over the same period.

Means of production are, on the whole, in good condition in machining firms, while those in foundries are often outdated and of obsolete technology.

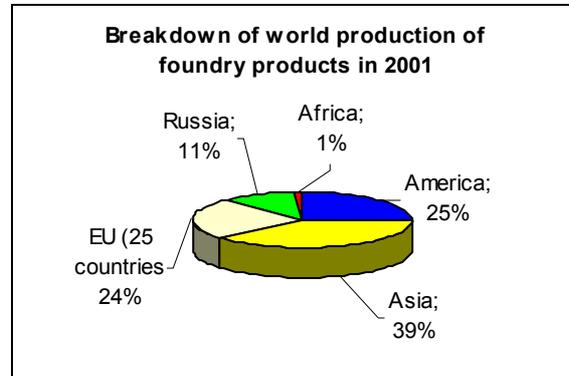
The exports of the foundry branch are irregular, with an average annual value of 13 MTND over the period 1999 – 2002., while imports reported an average annual value of 78 MTND over the same period, that is a cover rate of 17%.

Apparent consumption was of 95 MTND per year for the same period. The contribution of national production was on average of 31% in value and 57% in quantity.

INTERNATIONAL SITUATION

In 2001, world production of foundry products reached 67 million tons.

This production is distributed as follows:



Europe presents a slack increase in production (1.2% per year over the period 1998 – 2002); the production of the USA, Japan, Taiwan and South Korea is on the decrease, while the East European countries having joined the EU report a growth rate of 2.8% over the same period.

For countries in modernisation and liberalisation process, a few have improved their position considerably, such as China (+ 9.2%) and Mexico (+ 6%), while others have seen their production decrease, such as India.

Africa represents a very low share in world production, while consumption is likely to increase, at least in countries in modernisation process, particularly North African countries.

The overriding strategic trends revolve around the following three major axes:

- enhancing outputs and productivity by maximising the automation of the means of production;
- grouping (mergers and buy-outs) of enterprises, thus generating not only economies of scale but also new investment options;
- developing the “research & development” function as required by enhanced performance products (shapes, functionality, materials & alloys, etc).

INTERNATIONAL COMPARISON

The analysis of the benchmarking table developed by reference to 4 countries, namely France, Germany, Spain and Belgium, reveals:

For foundry products

- the outputs in Tunisia are low, by comparison with the reference countries, especially for non ferrous products;
- the means of production used in Tunisia are aged, while those in the reference countries are continuously modernised;
- the branch support centres in Tunisia are less involved with respect to those of the reference countries;
- labour costs in Tunisia are 6 times lower than those of the reference countries;
- the purchase price of scrap iron (raw material) is low in Tunisia, by comparison with the reference countries;
- the average sale price of the foundry products of Tunisian enterprises is comparable to that of Spanish enterprises and lower than that of French, German and Belgian enterprises;
- the sale price of steel-made products is comparable to that of France and Belgium, lower than that of Germany and 30% higher than that of Spain;
- the average sale price of non ferrous products is lower by 50% than that of France, by between 23 and 25% than that of Germany and Belgium and higher by 21% than that of Spain.

For machining products

- the growth rate of the branch in Tunisia (10% per year) is comparable to that of Germany, lower than that of France and Spain (13%) and higher than that of Belgium (6%);
- the value added in percentage of the sale price in Tunisia is better than that of the reference countries;
- the means of production in Tunisia are in good condition.

OBJECTIVES 2008

- increase national production to reach a domestic consumption cover rate of 50%;
- reach an import capacity of exports (cover rate) of 30% (from 17% currently).

NICHES AND FLOURISHING MARKETS

The niches are:

- car parts,
- household and sanitary items (tube fixtures, radiators, tap fixtures, etc);

- industrial tap fixtures, water conveyance and supply parts, hydraulic circuit connections;
- buildings and public works (BTP) equipment parts and industrial machines or machine parts.

ACTIONS TO UNDERTAKE

> 1. Actions within the enterprises

- technical assistance for minimising costs and enhancing productivity;
 - training in quality management;
 - training in materials changes;
- setting up a group for the collection, sorting and supply of scrap iron.

> 2. institutional Measures

- revising the regulations governing the exportation of scrap iron;
- providing for the training of trainers in foundry technologies (materials and processes changes) at the Sectorial Centre for Training in Smelting Arts (CSFAF) in Nabeul;
- promote local procurement by public consumers (National Water Distribution Utility (SONEDE), National Sanitation Utility (ONAS), etc)

> 3. Promotional actions

- setting up a professional foundry association, provided mainly with a promotion and marketing observation unit, and which will be entrusted with the dissemination of information;
- setting up foundry applied research units in the techno-poles located in the vicinity of the zones of concentration of the branch enterprises;
- giving impetus to sub-contracting between the two foundry and machining branches in order to facilitate synergy between them and enhance exchanges;
- stepping up the equipment of the Sectorial Centre for Training in Smelting Arts (CSFAF) in Nabeul;
- developing analyses and tests in the foundry field.

> 4. Project files

The study allowed the identification of two project files to be promoted for the existing foundries:

- one plant for the manufacture of spheroid cast graphite products of a minimum capacity of 900 t/year;
- one flexible plant for the manufacture of non ferrous products at low fusion point of a capacity of 100 t/year.