METHODOLOGICAL GUIDE:

Restructuring, upgrading and industrial competitiveness

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

economy environment employment

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UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
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PREFACE

In the last few years the international economic environment has undergone profound, rapid and complex changes that have affected the methods of organizing and managing industry, production systems, distribution networks and commercial practices at the national and international level.

For the majority of developing countries and countries with economies in transition, the liberalization and opening up of the economy has been reflected first and foremost in their accession to the World Trade Organization (WTO) and the signing of a number of preferential arrangements and/or free-trade zone agreements.[1] This new context, which is marked by growing integration of the global economy, offers the industries of developing countries and economies in transition a great opportunity to gain a foothold in the economies of developed countries, which represent the world's largest market, but it also makes it imperative for them to restructure and upgrade their industries.

In response to the numerous requests from developing countries and countries with economies in transition, the United Nations Industrial Development Organization (UNIDO) has in the past few years introduced a comprehensive and multidisciplinary global approach to industrial restructuring and upgrading. This integrated approach forms part of a new "Trade Facilitation" initiative, a programme developed by UNIDO to keep up the pace of continued improvement in the productivity, competitiveness and integration of industry and of increased employment and exports. This approach integrates the enterprise into its immediate environment. It has been developed, tested and tried out during the past few years and takes account of the experience gained by UNIDO in the implementation of a number of projects and successful experiments (Portugal, Republic of Korea, Tunisia, etc.).

This guide has been written following the publication in 1997 of an initial paper on the concept of upgrading and a manual on company restructuring and also following the charting and implementation by UNIDO of several restructuring and upgrading projects and programmes. The first part of the guide describes UNIDO methodology in the field of strategic diagnosis, restructuring and industrial upgrading of enterprises and their environment. The second part presents a number of successful experiments and programmes drafted and implemented by UNIDO in close collaboration with the authorities of a number of countries.

This publication is a methodological tool designed for the heads of industry in developing countries and economies in transition and also for consultants offering specialist advice in restructuring and industrial upgrading.

Carlos Alfredo Magariños
Director-General, UNIDO

[1]Examples of free-trade zones include: NAFTA—North American Free Trade Agreement (North America), MERCOSUR—Common Market of the Southern Cone (South America), European Union (western and central Europe), ASEAN—Association of South-East Asian Nations (South-East Asia), Arab countries (North Africa and the Gulf countries), SADC—Southern African Development Community (southern Africa) and WAEMU—West African Economic and Monetary Union (West Africa).

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Introduction

The adoption of the Uruguay Round agreements and the setting up of the World Trade Organization (WTO) at the international level and the conclusion of various association and free-trade zone agreements[1] at the regional and subregional level are regarded as marking the start of a new era in international economic and industrial relations.

Many developing countries and economies in transition view with concern the dawn of a new economic era characterized by the globalization of trade. While some countries react, prepare themselves and seek to take up the challenge, others fail to react and, at the risk of further impoverishment, surrender themselves to the dominant forces of history. In this new atmosphere of continual change and at the request of a number of countries, the United Nations Industrial Development Organization (UNIDO) has developed a technical assistance, restructuring and upgrading programme to prepare and adapt industries and their environments to the new context of globalization, which is marked by tough competition.

The programme is part of the "Quality and Productivity" service module developed over the last few years by UNIDO to strengthen national capacities and maintain the dynamic process of integration of exports, employment and industrial growth in the context of globalization. It is also part of the new initiative launched by the Director-General relating to trade facilitation.

The programme, which can be adapted by selecting modules to suit the specific needs of each country and each industry, was developed on the basis of studies carried out by UNIDO during the last few years and also of the analysis of and experiments in upgrading in developed countries (Republic of Korea, Portugal) and emerging and developing countries (Tunisia). The studies carried out by UNIDO in developing countries clearly highlight two sets of handicaps: one set is connected with the immediate industrial environment, and the other with the management systems and methods within enterprises.

In spite of the many various reforms introduced as part of the structural adjustment programmes carried out by the World Bank and International Monetary Fund, the industrial environment still contains a number of obstacles to plans for upgrading and improving the competitiveness of enterprises. The upgrading of industry therefore entails both a reform of the business environment and ongoing improvements in management systems to improve quality, productivity and competitiveness and boost employment and exports. For this reason, the proposed assistance programmes take a two-step approach:

- The first step is designed to promote the modernization of the immediate environment by developing national restructuring and upgrading programmes and to establish a legal framework and management structure (in the form of upgrading offices), strengthening of the capacities of support and consultancy structures, improvement of quality infrastructure (quality assurance, certification, accreditation, metrology), and creation of a fund for upgrading and modernizing industry;

- The second step is designed to promote the development of competitive industries by helping enterprises, on a pilot basis, to position themselves most advantageously in an open economy and to formulate a strategy adapted to the new competition situation.

Figure I provides an overview of the process of upgrading enterprises and their environment.

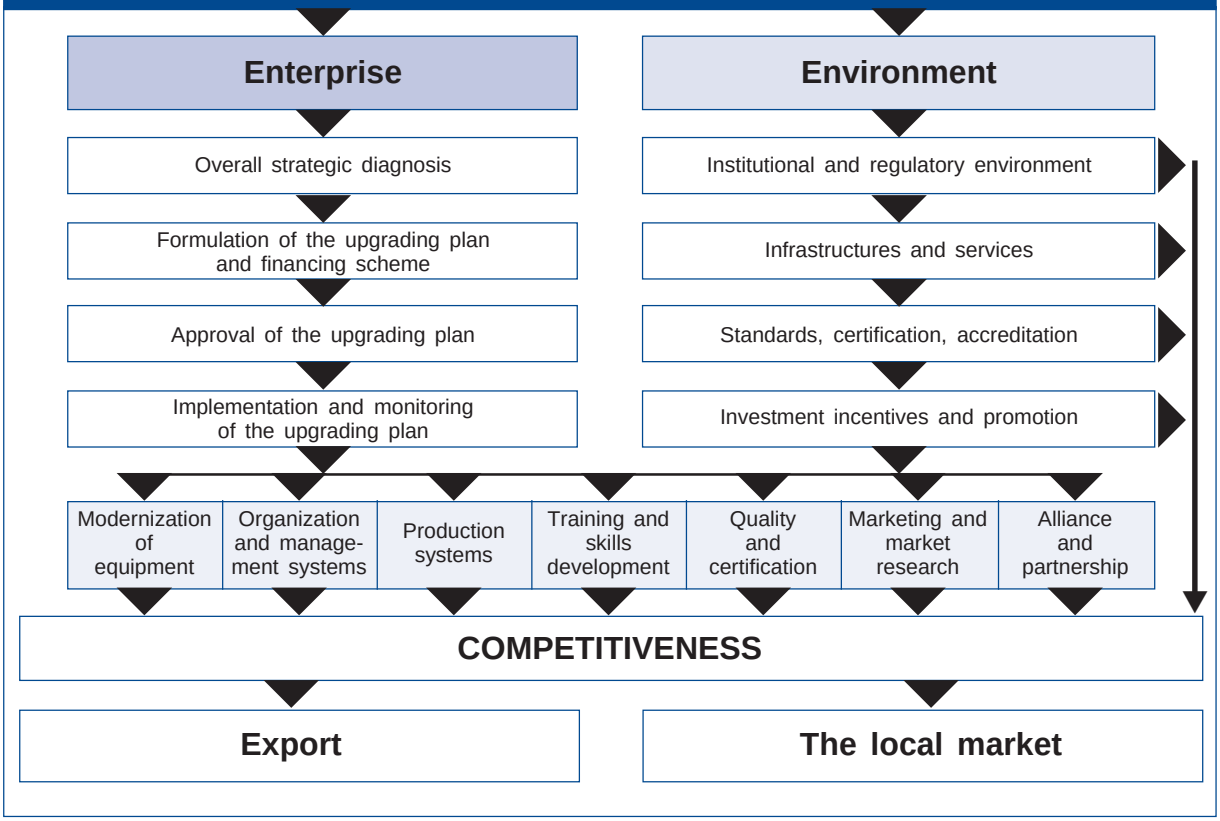
UNIDO has developed methods and tools adapted to the specific needs of developing countries to help them implement this programme.

The first part of this guide provides a framework for the restructuring and upgrading of industry and succinctly describes methods and practical tools for considering the different aspects of the strategic process of upgrading and modernizing industry. The second part, by way of example, describes experiences in a number of countries in formulating, implementing and financing upgrading and modernization programmes:

- The case of Portugal, where two programmes have been developed (1988-

[1]For example, the European Union free-trade zone agreement with south Mediterranean countries and the Common Market for Eastern and Southern Africa (COMESA).

Figure I. The upgrading process



1999) to prepare and upgrade industry to enable it to grasp the chance of gaining a firm foothold in the European economic area and deal with the threats posed by the opening of its market;

- Experiences in Algeria, Egypt, Morocco and Tunisia which, with UNIDO's assistance, have developed and implemented programmes for upgrading and modernizing their industries.

The guide[2] is designed principally for the heads of industry and enterprises in developing countries, specialists and managers in government service and banks, and consultants wishing to obtain information on and enhance their knowledge of approaches to upgrading and the methods involved.

[2]It may be recalled that in 1997 UNIDO published:
— A manual on diagnostic and industrial restructuring relating mainly to enterprises.
— A paper on the concept of restructuring and upgrading.

Part One

Restructuring and upgrading approaches and methods

I. Globalization: the challenge of industrial governance in developing countries

The new context of liberalization of the economy and globalization is characterized by rapid, profound and complex changes. It presents developing countries with opportunities and challenges. Within this new context, each country needs to prepare itself and implement a comprehensive restructuring and upgrading programme to take advantage of the positive effects of liberalization and to strengthen production, sales and export capacities.

A. Liberalization and globalization

Many countries view with concern the dawn of a new economic era characterized by the globalization of trade. Some are hardly reacting and, at the risk of further impoverishment, surrender themselves to the dominant forces of history. Others, however, seek to take up the challenge and are preparing for it.

Throughout the last decade, the international economic environment has been marked by profound, rapid and complex changes that have affected the modes of production, distribution and trade and organization in all industries. The liberalization and opening up of the economy have been reflected, for most developing countries and countries with economies in transition, by their accession to the World Trade Organization (WTO) and the signing of a number of regional and/or intraregional preferential agreements (see table 1).

This new context, which offers the industries of developing countries a major opportunity to obtain a foothold in the economies of developed countries in particular, which represent the world's largest market, nevertheless makes it imperative for them to upgrade their economic, financial, regulatory and social environment, their production systems and their industrial base so as to facilitate access to the international market and improve the prospects for export of their products. In the large industrialized countries, as Crespy[1] (1988) points out, there are now practically no conditions deriving from that environment that create decisive advantages or handicaps for enterprises, but the same is not true of the economic environment in most of the developing countries. In these countries, such structures, established under an excessively protectionist regime and exposed in some cases to only a small degree of competition, seem fragile, uncompetitive and ill prepared to face the challenge of powerful rivals.

[1]Guy Crespy (1988), "*Stratégies et compétitivité dans l'industrie mondiale*", *L'observatoire des stratégies industrielles,* Economica, Paris, p. 3.

Table 1. Some preferential arrangements between developed and developing countries

Arrangement	*Number of member countries*	*Member countries or countries/territories in the process of joining*
Agreement on free trade between the European Union (EU) and the southern Mediterranean countries[a]	EU 15 + 12	EU + Algeria, Cyprus, Egypt, Israel, Jordan, Lebanon, Libyan Arab Jamahiriya, Morocco, Palestine, Syrian Arab Republic, Tunisia, Turkey
Free-trade arrangements between EU and Eastern Europe	EU 15 + 6	EU + Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovakia
North American Free Trade Agreement	3	Canada, Mexico, United States of America
Arab Free Trade Agreement	19	Algeria, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libyan Arab Jamahiriya, Mauritania, Morocco, Palestine, Qatar, Somalia, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates, Yemen
Common Market for Eastern and Southern Africa (COMESA)	19	Angola, Burundi, Comoros, Congo, Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Namibia, Rwanda, Seychelles, Sudan, Swaziland, Uganda, Zimbabwe
West African Economic and Monetary Union (WAEMU)	8	Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, Togo

[a]One of the main elements of these agreements is the gradual establishment of a free-trade area in accordance with WTO provisions. These agreements replace the former cooperation agreements between these countries and the European Union based on systems involving preferences, quotas, safeguard measures and reference prices.

The interventionist approach followed by most developing countries, taking the form primarily of the establishment of trade barriers and financial and commercial aid for exports (subsidies, devaluation of the national currency, etc.), is no longer in accordance with the Uruguay Round Final Act, which established a liberal and open trade system designed to enable the enterprises of member countries to trade under equitable competitive conditions, free of distortion.

The types of protectionist policies and strategies adopted up to 1995 in most developing countries will need to be replaced by very different policies and strategies, following a new approach of integration with the developed countries characterized by *more competition, less interventionism and more competitiveness*.

B. The challenge of globalization

The new circumstances of the regional and international environment call for transformation and upgrading of support structures and industrial enterprises in developing countries. Studies conducted by UNIDO and other international organizations show that the structures, institutional infrastructure and industrial base created under the influence of excessive protection appear fragile and insufficiently competitive to cope with the very strong competition of industrial enterprises operating in the developed countries. Moreover, the liberalization of trade obliges developing countries to raise the level of quality of their products while complying with a growing number of international standards and also with the Uruguay Round agreements concerning technical barriers to trade, which are being increasingly applied on the international market. The fragilities and distortions noted have to be eliminated in order to strengthen production and export capacities and to upgrade industrial branches and enterprises to the level of their international competitors.

The globalization of competition, the diversity of markets and the rapid process of innovation in products and technological processes have changed the factors determining industrial competitiveness at the international level. In the new pattern of competition that is now apparent at the international level, the sources of competitive advantage are linked not only to the cost of factor inputs and to the availability of raw materials, but also increasingly to the quality of the industrial support infrastructure, the effectiveness of sources of innovation, the degree of competitive pressure and the organizational and technical capacities of enterprises in acquiring and assimilating new technologies and responding rapidly to demand requirements and changes in demand.

In this new and permanently evolving environment, the various industries—irrespective, moreover, of their contribution to economic growth—have never had so great a need for strategic diagnosis and industrial analysis focusing on:

- Analysis of the general economic environment in which the industry operates;
- Analysis of the historical development of the industry;
- Study of the key actors in the industry (domestic and international competitors, suppliers, clients, etc.);
- Evaluation of the key performance indicators for the industry;
- Identification of the key success factors and decisive competitiveness elements for each industry;
- Detailed knowledge of products, technologies and technical regulations and standards;
- The conception of integrated upgrading and development programmes for industries with prospects for survival and growth.

In addition, while the path to success in this new liberal economic context is generally a very narrow one, diagnosis and reappraisal have served to guide choices concerning profitability and positioning and provide opportunities for the Government, ministry, industrial officials and heads of enterprises to make the changes necessary at all levels to upgrade their industries and industrial enterprises and to improve their competitiveness in a lasting manner.

C. The new pattern of industrial competitiveness

As M. E. Porter[2] points out, the new globalization context will see the emergence of enterprises and countries that have succeeded in preparing and adjusting themselves and in applying the following basic principles:

- Enterprises compete within industries, not within countries;
- A competitive advantage is constructed upon a difference, and not upon a similarity;
- An advantage is often geographically concentrated;
- An advantage is developed over a long period.

Although the Uruguay Round agreements and the preferential arrangements signed pro-

[2]M. E. Porter (1993), *L'avantage concurrentiel des nations*, Paris, Inter Éditions.

vide safeguard clauses to limit the negative effect of liberalization for developing countries during a transitional period, these countries need to reorient their industrial strategies in order to take the new globalization context fully into account. The reforms to be introduced and implemented must permit industries and enterprises in these countries to prepare themselves, adapt and establish a foothold in the world economy in order for them to benefit from the anticipated positive effects that international trade brings.

For developing countries and countries with economies in transition, the main challenge of globalization at the start of the twenty-first century is to determine how to take adequate advantage of the positive effects of liberalization and how to strengthen competitive advantages in order to increase the production of products and services in accordance with international standards, facilitate access to the international market, increase exports and have a significant impact on the sustained growth and competitiveness of industry.

Figure II. The new pattern of industrial competitiveness

Former pattern	New pattern
At governance level:	
From interventionism	To laissez-faire
From the State as actor	To the State as facilitating partner
From the State as operator	To the State as helper
From the State as owner	To the private owner
At market level:	
From protection	To liberalization
From natural standards	To international standardization
From subcontracting based on capacity	To subcontracting based on skills
From the geographically centred market	To the area market
At enterprise level:	
From economies of scale	To economies of flexibility
From production of tangibles	To production of intangibles
From integration	To fragmentation

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NEW FACTORS OF COMPETITIVENESS

Former pattern	New pattern
From production skills	To managerial skills
From labour costs	To acquisition of technologies and compliance with international standards
From transactional strategies	To partnership strategies

II. The UNIDO programme of assistance in restructuring and upgrading

In response to numerous requests from member States, UNIDO has during the last few years developed and implemented an integrated restructuring and upgrading programme for enterprises and their environment. It is designed to maintain the competitiveness, integration and growth of industries and to facilitate access to the international market.

The programme can be adapted by selecting modules to suit the specific needs of each country, each industry and each enterprise.

A. Context and justification

In the framework of the liberalization, adjustment and revival of the economy, the restructuring and upgrading of industry have for most developing countries and economies in transition become priority programmes designed to promote and develop a competitive industrial sector endowed with institutional and human capacities and skills.

To meet the numerous requests from such countries, UNIDO has in recent years developed a comprehensive and multidisciplinary overall approach encompassing industrial enterprises and their environment.

The approach adopted takes into consideration the experience acquired by UNIDO in executing several industrial restructuring projects during recent years and also the various successful adjustments and industrial restructuring experiments (Chile, Republic of Korea, Mexico, Portugal, Turkey).[1] The lessons derived from these experiments are principally related to the importance of protective and back-up measures decided upon in close coordination with the operators directly concerned and carried out before and during implementation of the adjustment and industrial restructuring programme. The strategic choice of liberalization, which was made deliberately and implemented in these countries, was not that of "haphazard" but of progressive and measured liberalization accompanied during a transitional period by a programme of aid and support for the main industries. Periods of transition are necessary in order to give enterprises more time to adapt to the total opening up of the market. The same should apply to industrial enterprises operating in developing countries that have enjoyed a high level of protection and, if they are not to disappear, need to adapt, integrate and face international competition under the best possible conditions. By way of illustration, we can refer to the agreement on a free-trade area between the southern Mediterranean countries (Algeria, Egypt, Jordan, Lebanon, Morocco, Tunisia) and the European Union, which provides for the gradual and progressive dismantling of customs dues on inputs and industrial products with a view to attaining de facto free trade by the year 2010.

In order to ensure that the liberalization process does not produce undesirable effects now or in the future, or even de-industrialization, as was the case in some countries, particularly in Africa, which were not able to implement the necessary protective and back-up measures in time, it is a very urgent and essential requirement that in each country *(a)* the State should discuss and decide upon appropriate back-up and assistance measures jointly with the operators concerned and implement such measures during a transitional period, and *(b)* that every industrial enterprise generating real value-added should agree to make essential adaptation efforts and to embark on an upgrading and ongoing improvement programme in order to achieve and maintain the minimum degree of competitiveness required at the international level.

Back-up measures must be limited in time and should not seek to guarantee enterprises any particular profit margin or market share, because subsidies generally retard adjustments and innovation rather than promote them.

On the basis of an evaluation of the studies carried out by UNIDO and some other international organizations and after an analysis of the main lessons drawn from a number of adjustment and industrial restructuring experiments, both successful and unsuccessful, we propose that an overall integrated industrial restructuring programme be set up complementing the structural adjustment programme. This measure must precede or, failing that, run parallel to the establishment of the free-trade area or preferential arrangement. The programme developed can be adapted by selecting modules suited to the special characteristics of the countries and the specific features of the industries.

[1] World Bank (1991), *Restructuring economies in distress*, Washington, D.C.

B. Upgrading concept

Upgrading is a new concept developed by UNIDO during the last few years. It involves putting into effect the concepts and results of the major changes in the global environment. It is a continuous process designed to prepare and adapt enterprises and their environment to the requirements of free trade.

For industries and enterprises it involves two goals:

- Competitiveness in terms of price, quality and innovation;
- Ability to follow and assimilate the development of technologies and markets.

C. Objectives of the integrated programme

The aim of the integrated restructuring and upgrading programme is to support the process of restructuring, competitiveness, integration and growth of industries and employment and to facilitate access to the international market in the context of economic and trade liberalization.

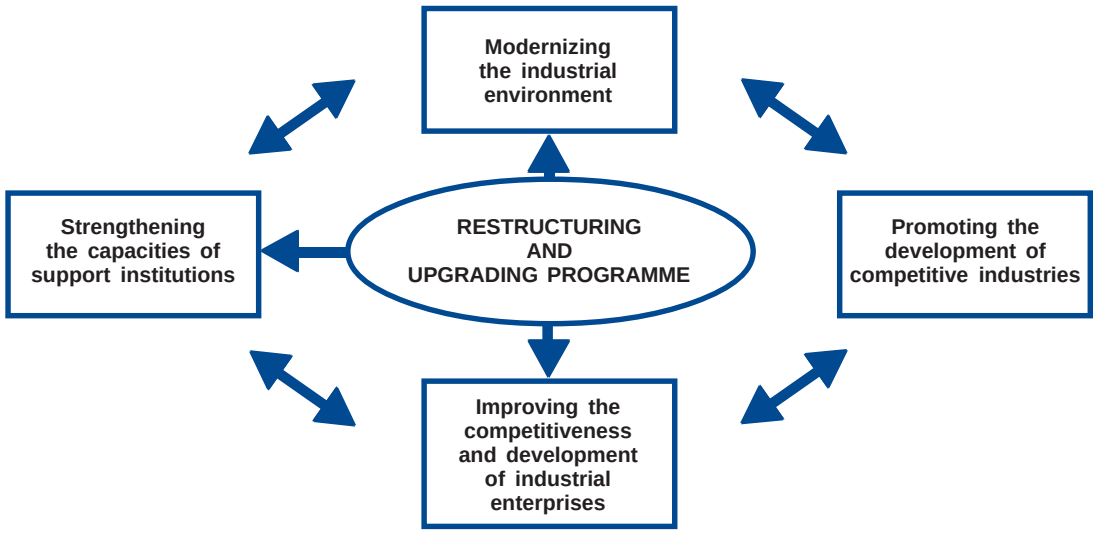
Figure III summarizes the objectives of the integrated programme and the interaction between the main components.

Modernizing the institutional and physical industrial environment. The domestic industrial environment is a support and even a necessity and it plays a stimulating role. A good physical and institutional environment will enable industrial enterprises, particularly those that are ailing, to confront international competition on the domestic and international markets on equal terms and without any handicap. In developing countries, it is imperative to place enterprises in an environment of a level that is at least comparable with that of foreign competitors. "Success in international competition comes from the happy blend of the domestic environment and sources of competitive advantage favourable to particular industries."[2] The design and implementation of an integrated restructuring and upgrading programme for industry and a fund to cover direct financial aid to support institutions for industry and enterprises are part of the structure that needs to be set up to modernize the industrial environment.

Strengthening the capacity of support institutions. Most developing countries have support institutions that are not developed or not sufficiently developed to be able to assist industrial enterprises in their adaptation and upgrading efforts. It is necessary to review these institutions, redefine their roles and activities and strengthen

[2]M. E. Porter (1993), *L'avantage concurrentiel des nations*, ERPI, Quebec, p. 602.

Figure III. Objectives of the integrated and restructuring programme



their capacities with a view to providing efficient technical assistance and support to meet the needs of enterprises in the new context of international competition. The programme is therefore designed to strengthen industrial support institutions such as national standardization, metrology, certification and accreditation agencies, and to promote the international recognition (through mutual recognition agreements) of product, system, measurement and test certification. It is also designed to establish or strengthen the capacities of technology centres at a sectoral (agro-food, textile, etc.) and/or horizontal (packaging, engineering, etc.) level so as to provide industrial enterprises with the required technical assistance.

Promoting the development of industries that are competitive on national and international markets. Most developing countries export commonplace mass-produced goods where low wage levels constitute a decisive competitiveness factor. That is the case with the agro-food, textile and leather, mechanical and electrical engineering industries. Nevertheless, this type of advantage is not an enduring one and can be easily trumped. Each developing country must constantly consolidate its "specific inalienable advantages that set it apart from other competitors"[3] by acting on several different fronts: strengthening human resources, improving quality, reducing costs, continuously improving productivity and encouraging partnership. In the context of a very vulnerable and uncertain environment characterized by the globalization of competition and rapid innovation in technology and products, strategic studies and analyses need to be carried out in order to determine the industries in which the country possesses genuine and substantial advantages and to identify the industries that will flourish in the immediate future and/or in the long term, taking into account the competitive advantages already existing and/or to be created and using relevant national and international technical, commercial and financial data as the basis. In order to carry out such strategic studies it is useful to conduct comparisons between industries and countries on the basis of performance and competitiveness indicators and benchmarking.

Improving the competitiveness and development of industrial enterprises based on a process of upgrading, modernizing of production tools and industrial subsystems, strengthening managerial capacities, developing quality and adopting international standards (ISO 9000 and ISO 14000). This ongoing improvement process must be undertaken in coordination with the shareholders and must be supported technically and financially by the banking system and authorities. The programme should be voluntary for enterprises.

[3]Ch. Leclerq and X. Leclerq (1993), *Gestion stratégique de la concurrence en temps de crise*, Maxima, Paris, p. 34.

D. The principal components of the integrated restructuring and upgrading programme

The integrated programme, based on a flexible modular system and on close coordination between the main actors (the State, support and assistance institutions and private operators) comprises three main components organized according to the respective beneficiaries: the Ministry of Industry, support agencies, and industries and enterprises. These programme components entail short- and medium-term activities. They are summarized in table 2 below.

E. UNIDO's experience in restructuring and upgrading

The restructuring and upgrading approach was conceived and initiated by UNIDO in 1995 in response to various requests made, in particular, by a number of southern Mediterranean, Eastern European and Asian countries. This assistance is one of the main services offered by the Quality and Productivity Service Module, which provides a set of flexible services to help create and develop national capacities as a basis for stimulating and improving productivity, competitiveness and growth.

Technical assistance to those countries consists of a series of activities aimed at improving the competitiveness and increasing the export capacities of the industrial base. It is provided within the framework of the integrated programmes developed in the last few years by UNIDO in several countries.

By way of illustration, we can cite the technical assistance provided to Tunisia at the time of the launch and execution of its national upgrading programme. UNIDO gave direct assistance to the Upgrading Bureau and took part in the pilot programme by carrying out the upgrading diagnosis and formulating an upgrading plan for around 40 enterprises in the agro-industrial sector. A second project, known as MITAQ, aimed at improving competitiveness through the quality-based approach was also implemented with more than 40 enterprises benefiting from it.

UNIDO also assisted the Ministry of Industry and Restructuring in Algeria in the formulation of a national restructuring and upgrading programme and in restructuring and upgrading some 30 enterprises. It is also assisting Egypt, Madagascar, Morocco, Palestine, Rwanda and eight WAEMU countries in formulating and implementing restructuring and upgrading programmes for their industries.

As part of its technical assistance programmes, in the last few years UNIDO has also helped several countries in Eastern Europe (e.g.,

Table 2. Integrated restructuring and upgrading programme

First component	*Assistance in the design, implementation and follow-up of a national industrial restructuring and upgrading programme (beneficiary: Ministry of Industry)*	*Short term*	*Medium term*
Result I	**Formulating and assisting in the implementation of a restructuring and upgrading programme**		
Activity 1	Formulation and assistance in the implementation of an upgrading programme	x	
Activity 2	Designation of the steering committee and agency to be responsible for implementing the programme; identification of the other interface agencies and organizations	x	x
Activity 3	Establishment of an information and awareness-raising programme	x	x
Activity 4	Training of a body of specialists to be responsible for implementing the restructuring and upgrading programme	x	x
Result II	**Design and formalization of procedure and regulatory framework**		
Activity 1	Formalization of the procedures for implementing the upgrading programme	x	
Activity 2	Updating of the legislation or regulations directly concerned with enterprise recovery	x	
Result III	**Study for setting up a restructuring/upgrading fund**		
Activity 1	Analysis of the current situation regarding the financing of investment tangibles and intangibles	x	
Activity 2	Study of the possibilities and feasibility of setting up a restructuring/upgrading fund	x	
Activity 3	Assistance in setting up the fund and drafting the mode of operation		x
Result IV	**Study for setting up an upgrading performance measurement function**		
Activity 1	Identification of needs by means of a survey of actors involved	x	
Activity 2	Definition of a mechanism for inputting, processing and retrieving information; identification of the technical, financial and regulatory conditions for its operation	x	
Activity 3	Approval of the project by the steering committee and implementation	x	

Second component	*Strengthening the capacities of enterprise support systems (beneficiary: support institutions)*	*Short term*	*Medium term*
Result I	**Strengthening the capacities of consultancy firms and banks**		
Activity 1	Organization of a training session on strategic diagnosis and the upgrading plan	x	
Result II	**Strengthening the capacities of standardization, certification and accreditation agencies**		
Activity 1	Evaluation of the current quality infrastructure with regard to material and human resources	x	
Activity 2	Formulation of a programme for upgrading and strengthening the capacities of standardization, certification, metrology and accreditation bodies	x	
Activity 3	Assistance to standardization, certification, metrology and accreditation bodies in obtaining international recognition		x
Result III	**Strengthening the capacities of technical centres**		
Activity 1	Evaluation of the needs for and availability of technical assistance	x	
Activity 2	Organization of training sessions for technical centre staff	x	x
Activity 3	Assistance in setting up technical and commercial databases		x
Result IV	**Strengthening the foreign trade support mechanism**		
Activity 1	Evaluation of the current status of the support mechanism for stimulating exports and access to the international market	x	
Activity 2	Formulation of a trade facilitation programme	x	
Activity 3	Assistance in implementation of the programme	x	x

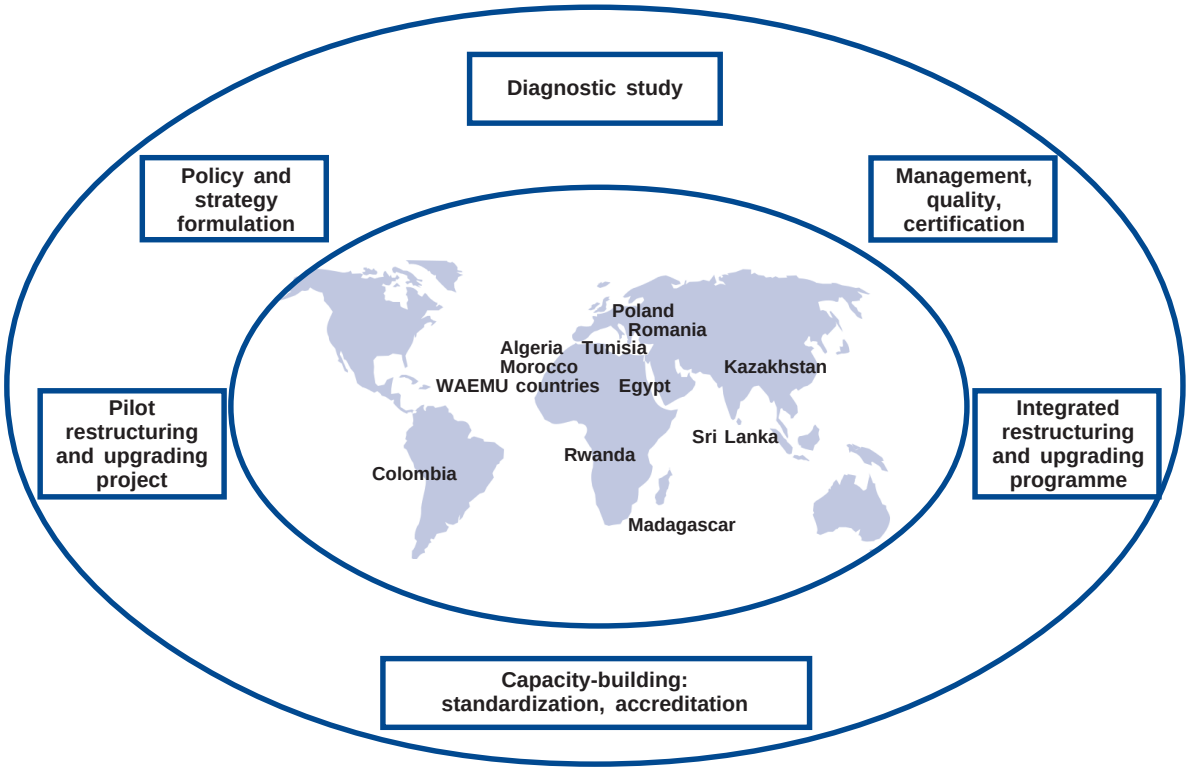
Third component	*Support programme for the restructuring and upgrading of pilot enterprises chosen from among the priority sectors (beneficiary: enterprises)*	*Short term*	*Medium term*
Result I	**Upgrading diagnostic report for each pilot enterprise selected**		
Activity 1	Diagnosis of products, markets and strategic positioning	x	
Activity 2	Financial diagnosis	x	
Activity 3	Diagnosis of managerial skills	x	
Activity 4	Diagnosis of technical capacities and quality diagnosis	x	
Activity 5	Drafting of a diagnostic report	x	
Result II	**Choice of upgrading strategy for each enterprise**		
Activity 1	Study of possible strategies	x	
Activity 2	Choice of an upgrading strategy for each enterprise selected	x	
Result III	**Upgrading plan**		
Activity 1	Formulation of an upgrading plan	x	
Result IV	**Direct assistance in upgrading**		
Activity 1	Training activities	x	x
Activity 2	Assistance in the implementation and monitoring of intangible investments including ISO certification, introduction of hazard analysis and critical control points (HACCP), identification of partners	x	

Belarus, Bosnia and Herzegovina, Poland, Romania, Slovakia) and Latin America (Colombia, Ecuador, Peru) to design and set up programmes for restructuring and modernizing industry.

Management software (BEST Business Environment Strategy Tool and FIT Financial Improvement Tool) has been used by UNIDO, in particular to manage and monitor restructuring programmes and to facilitate decision-making and strategic enterprise management. A manual on diagnosis and industrial restructuring has also been developed by UNIDO.

Figure IV shows examples of technical assistance provided by UNIDO in several developing countries and countries with economies in transition.

Figure IV. Geographical and thematic cover



III. Overall strategic diagnosis and upgrading

In this new context of liberalization, reflected for most developing countries and economies in transition mainly by their accession to the World Trade Organization (WTO) and the signing of free-trade zone association agreements, industrial enterprises of all sizes have a greater need than ever to formulate and implement restructuring and upgrading diagnosis strategies and programmes.

Although there are a number of works dealing with diagnosis, few of them look at overall strategic diagnosis. This method, developed in the last few years by UNIDO, offers an all-embracing approach to strategic diagnosis. The methods and techniques, adapted to the context and the particular situation of enterprises in developing countries, are selected and inserted into a coherent overall plan based on quality considerations and designed to ensure continuous improvement in performance. They provide scope for intuition, innovation and flexibility.

A. Basic principles of diagnosis

The idea of diagnosis, as extended to management, has been written about extensively since the 1970s and the start of the international economic crisis. In medicine, the definition, aim, forms, methods, field of application and author of a diagnosis are generally clear, but the same cannot be said for management.

What does enterprise diagnosis actually mean? To what areas can it be applied? What is overall strategic diagnosis in connection with upgrading an enterprise? What procedures are involved?

Diagnosis, analysis and audit: dependence and complementarity

The word "diagnosis" comes from Greek and means "recognition". It is essentially a medical term, defined in the Concise Oxford Dictionary as "the identification of the nature of an illness or other problem by examination of the symptoms", and also as the assessment of a situation or state of affairs. Its aim is to identify the weaknesses and strengths of the enterprise in order to rectify the former and exploit the latter. It is also defined as a critical examination of the existing status with a view to describing the situation of the enterprise in terms of its different internal and external aspects.

Aims of diagnosis

Diagnosis is an analytical tool and decision-making aid that can be used by an enterprise irrespective of whether its situation is good or bad. In general, the aim of diagnosis is to assess and make an overall judgement with a view to highlighting the potential and the weaknesses of an enterprise and to identify its competitive leverage.

Types of diagnosis: overall, functional, strategic

The type of diagnosis depends on the nature of the objectives, their urgency, and the means and resources available. Authors writing about enterprise diagnosis are not unanimous about its form.

A number of forms have been described, the three most common of which are:

(a) Overall (in-depth) diagnosis. This is the basic model for analysing an enterprise as a whole by reference to its functions and organization. It results in suggestions for improvement;

(b) Express diagnosis. This diagnosis is designed to identify the reasons for difficulties and, above all, to devise rapid rescue measures and to structure the activities to be undertaken in order of urgency and importance;

(c) Functional diagnosis. This is a fragmentary diagnosis of a particular function.

B. Designing an overall strategic diagnosis

Aims and objectives

Each diagnostic method, be it descriptive, matrix or strategic, has a particular aim and inherent advantages and drawbacks. The choice depends on the objectives, and the means and information available. Descriptive methods are based on an analytical study of the different variables within the enterprise. They are fairly static and take account of the components of the enterprise considered individually. Matrix methods are based on analysis and evaluation of the strategic positioning of the enterprise's activities in a predetermined competitive framework. These methods cannot, however, be used for restructuring and upgrading diagnosis in developing countries because they fail to take account of technical, human and organizational variables.

We suggest that the overall strategic method be used to diagnose the upgrading potential of enterprises in developing countries. This choice is justified by the fact that enterprises will operate in future in a competitive, turbulent and complex environment, which will call for the fulfilment of certain managerial requirements.

The scope of strategic diagnosis makes it possible to study the link between the industry and its environment with a view to identifying the appropriate strategic choices.

Moreover, this method makes it possible to identify the changes that a small or medium-sized industry needs to introduce in order to confront the new situations (competition, market, technology, etc.) that it will be exposed to in the new economic context.

Method

Overall strategic diagnosis consists of identifying the real problems and of devising realistic solutions to them. It is *(a)* a systematic analysis of the environment in which the enterprise operates, its market and competitive position, and *(b)* an in-depth and overall analysis of the different internal functions including an objective evaluation of the capabilities and performance of the enterprise.

The forms of investigation are diverse but the conclusions are specific to each case, and for this reason strategic diagnosis calls for a methodology that is rigorous but sufficiently flexible to adapt to the differences in terms of size and activities. Stress is placed on the key tasks and functions, which need to be identified from the outset so as to maintain a focus on the essential.

Overall strategic diagnosis is the first step in the strategic upgrading process (SUP). It is followed by three phases: the selection of strategies; the formulation of an upgrading plan; and, finally, the implementation and monitoring of this plan. Any error of judgement, poor choice of criteria, reference or business model is likely to mobilize resources to solve subordinate problems instead of the priority concerns. Figure V summarizes the strategic upgrading process.

Overall strategic diagnosis for the purpose of upgrading an enterprise calls for a precise all-embracing approach on the basis of five categories of diagnosis, which form the diagnostic structure.

These diagnoses must be interconnected and take account of the strategies and objectives of the enterprise. They must be linked in a logical and coherent fashion. The quality of strategic diagnosis thus depends on a harmonious symbiosis of these five components.

C. Analysis of external sources of competitiveness

The economic environment in which an enterprise operates can have a positive or negative impact on its performance. Factors that have a direct influence on the performance of an enterprise, such as monetary, fiscal or labour legislation, the availability of a physical and institutional infrastructure, the quality of the standardization, certification and metrology institutions, technology transfer and the accumulation of know-how, development of partnerships and cooperation among enterprises, and the subcontracting market, have not been adequately dealt with in works on diagnosis and recovery because they are not an obstacle to upgrading and growth of enterprises in developed countries.

Studies conducted by UNIDO have shown that, in spite of the measures that have been undertaken, the environment in developing countries is still characterized by a number of structural constraints and organizational shortcomings.

Figure V. Strategic upgrading process

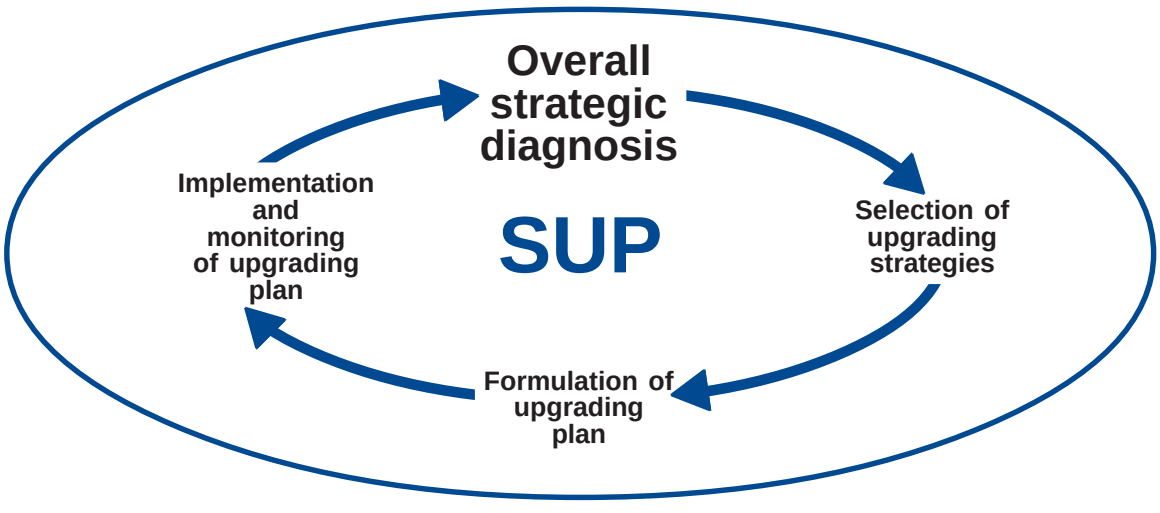
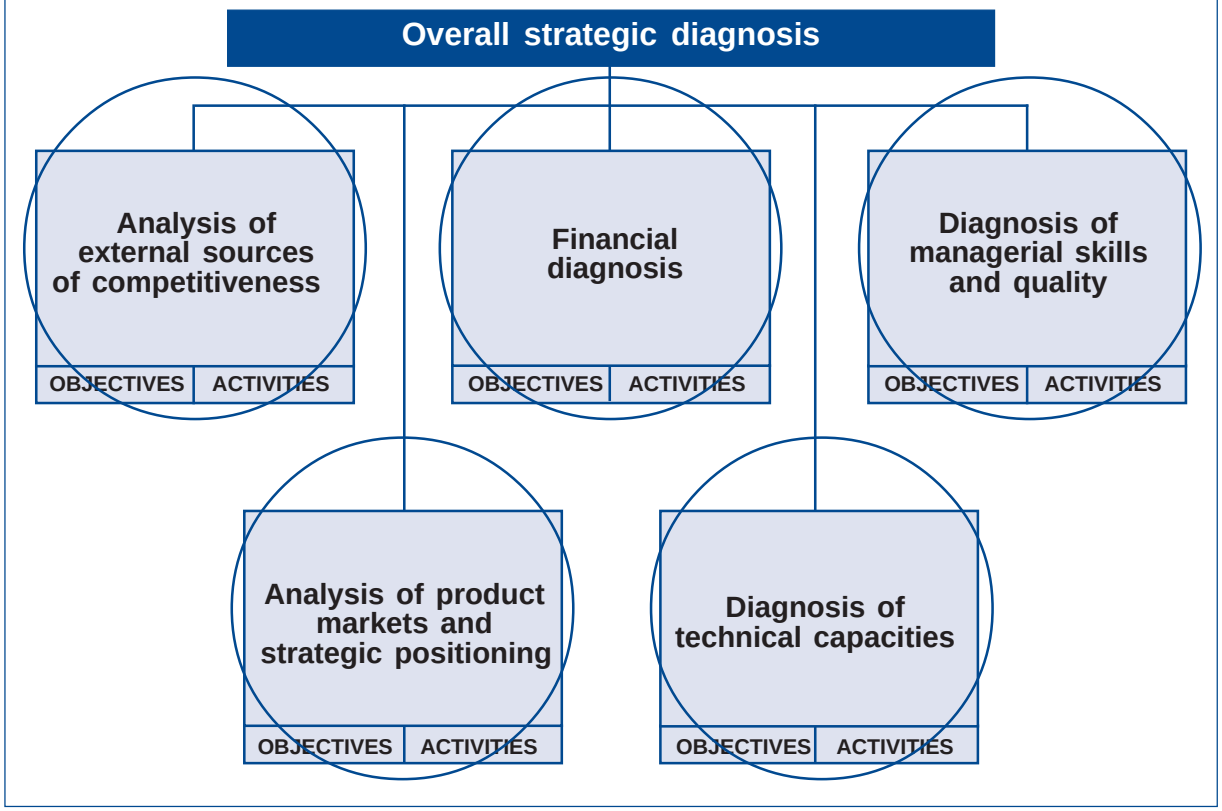


Figure VI. Overall strategic diagnosis procedure



It is therefore necessary to include a diagnosis of the environment in the strategic diagnosis. The aim of this diagnosis is to analyse the different and principal components of the environment, identifying the constraints and opportunities that they represent, and to study their direct or indirect impact on the upgrading and development of the industrial enterprise. This diagnosis is summarized in figure VII.

Economic and social environment diagnosis

Analysis of this environment, which has been evolving continuously since the opening up of the economy and the adoption of structural adjustment programmes, provides a significant pointer to the origins of constraints and opportunities for upgrading enterprises. It could include:

- Trends in the basic economic data of a country, such as:

  Average per capita income, gross national product, consumption, investments, economic growth rate, exchange rate;

  Exports and/or imports by the country, sector and industry and of products manufactured by the enterprise under consideration;

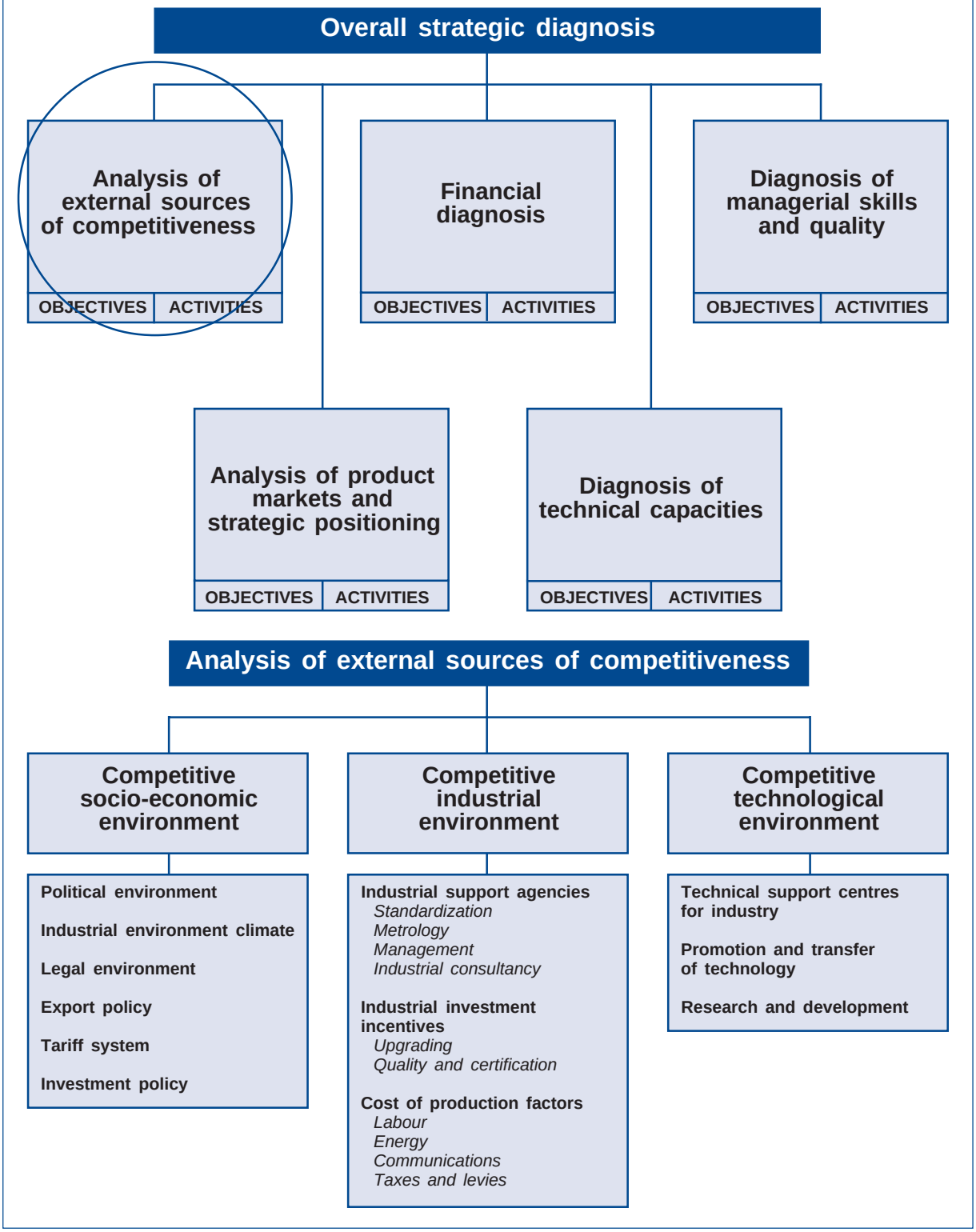
  Economic policy: development aims, economic orientation, programmes and strategies of the country, sector and industry;

- The principal economic measures adopted by the State to promote and finance industry and the associated services, support for restructuring and upgrading of enterprises;
- The impact on the performance of industry of various economic and political variables, such as devaluation of the currency, increase in the cost of particular factor inputs, average cost of capital, labour and severance.

Diagnosis of the industrial environment

The industrial environment of an enterprise is made up of all the actors (individuals, enterprises and organizations) and factors (economic and technical) that exert an influence on its own results and also on those of its direct competitors. The diagnosis of this environment consists therefore of an analysis of the various institutional and support agencies (standardization, certification, accreditation, metrology, financing, management, maintenance and consultancy services, etc.) so as to identify the constraints and opportunities for upgrading and developing the enterprise in an open and competitive market.

Figure VII. Structure and architecture of the economic and industrial environment



Diagnosis of the technological environment

This diagnosis analyses the technical support systems that enable the enterprise to use and access technical and technological information, to select and acquire technologies, equipment and manufacturing procedures, to adapt and control technology transfer and, finally, to capitalize and develop technological know-how.

D. Diagnosis of product markets and strategic positioning

Diagnosis of the product markets and strategic positioning of an enterprise is designed to measure the commercial performance of the enterprise and of each of its areas of strategic activity and to assess the commercial policy and strategies im-

plemented to achieve the commercial objectives set by the enterprise. It is not a detailed market study but a means of identifying the key factors and principal recommendations that condition the success of the enterprise's activities within its industry. Figure VIII summarizes this diagnostic procedure.

Analysis of commercial performance of the enterprise

This analysis consists of breaking down the activities of the enterprise into strategic fields of activity, and then evaluating the performance of each field and of the competitive position of the enterprise within its industry and in relation to its principal competitors.

Several indicators can be calculated in order to analyse the commercial performance of the enterprise's product markets, such as sales development, an analysis of sales by product market pairs, and direct costing analysis on the basis, for example, of trade margin and product market contribution margin.

(a) Breakdown of the enterprise's activities. When an enterprise manufactures several different products and sells them on one or several markets, it is useful to break down the business into strategic fields of activity, in other words taking account of the essential differences between the products and the markets. A strategic diagnosis will therefore include an in-depth analysis of each field so as to develop a specific strategy;

(b) Analysis of commercial performance in a strategic field of activity. The analysis of commercial performance in a strategic field of activity starts with the plotting of a product market matrix with the different products entered horizontally and the possible markets vertically. Then the demand, rate of growth of this demand and its elasticity in relation to prices are analysed, the characteristics and frequency of sales are defined and the conditions for successfully satisfying the market demand are determined. The supply then needs to be analysed so as to identify the principal competitors and suppliers, barriers to entrance, types of technology available and the degree of integration of competitors and to obtain a general overview of the main opportunities and constraints and the main conditions for successfully supplying the market. Finally, changes in the position of the products on the market or markets in relation to the competition need to be analysed so as to determine which products are competitive and which present problems. This analysis is not always easy to carry out for certain industries in developing countries because of the lack of commercial and technical information on competitors;

(c) Evaluation of the competitive position of the enterprise. This evaluation analyses the performance of the enterprise and of the different strategic field(s) of activity, and the complementarity, synergies and, if applicable, imbalances between the fields. Several key success factors can be used to evaluate this competitive position. According to Porter,[1] the strategic positioning of an enterprise depends in principle on a combination of the following dimensions:

Degree of specialization
Importance of brand image
Choice of distribution channels
Quality level
Technology level
Choice of vertical integration
Choice of cost strategies
Service level
Price policy
Relations with other companies
Relations with States

Analysis of commercial policy and marketing mix

The next stage is to examine the commercial policy and marketing mix of the enterprise. This examination will, for instance, consider the development over the three previous years of product, price, distribution, promotion and publicity, communications, and customer relations policies. The analyses are both quantitative (product margins, growth rates, relation between enterprise's unit selling price and sales terms and those of competitors, etc.) and qualitative (life cycle analysis, customer coverage by distribution networks, sales force remuneration policy, types of sales personnel, etc.).

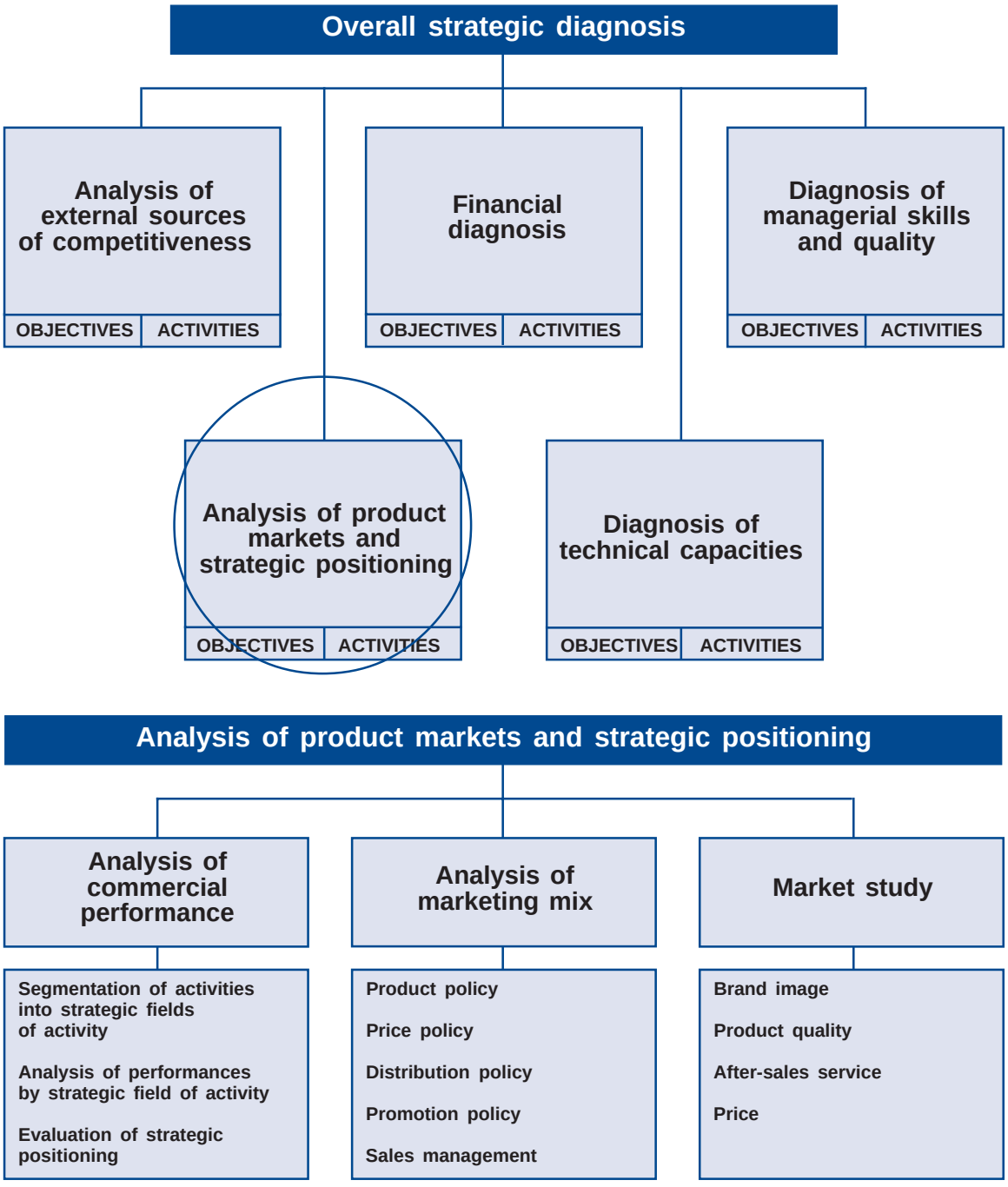
Market study

To supplement the analysis of the strategic positioning of the enterprise within its market, the diagnosis may also include a market study conducted in the field among the principal customers and competitors of the enterprise so as to confirm or disprove the data and findings gathered.

On the basis of the information received in discussions with the enterprise management, the results of the diagnosis and the survey, if one is made, the analyst should be able, first of all, to identify and classify the principal external and internal strategic difficulties connected with the product markets and to deduce the main opportunities and constraints, and then to evaluate the market for the enterprise's principal products at the national and international level based on a retrospective analysis of the market and the projected development of macroeconomic indicators influencing the consumption of these products.

[1] M. E. Porter (1982), *Choix stratégique et concurrence*, Economica.

Figure VIII. Structure and architecture of product and markets



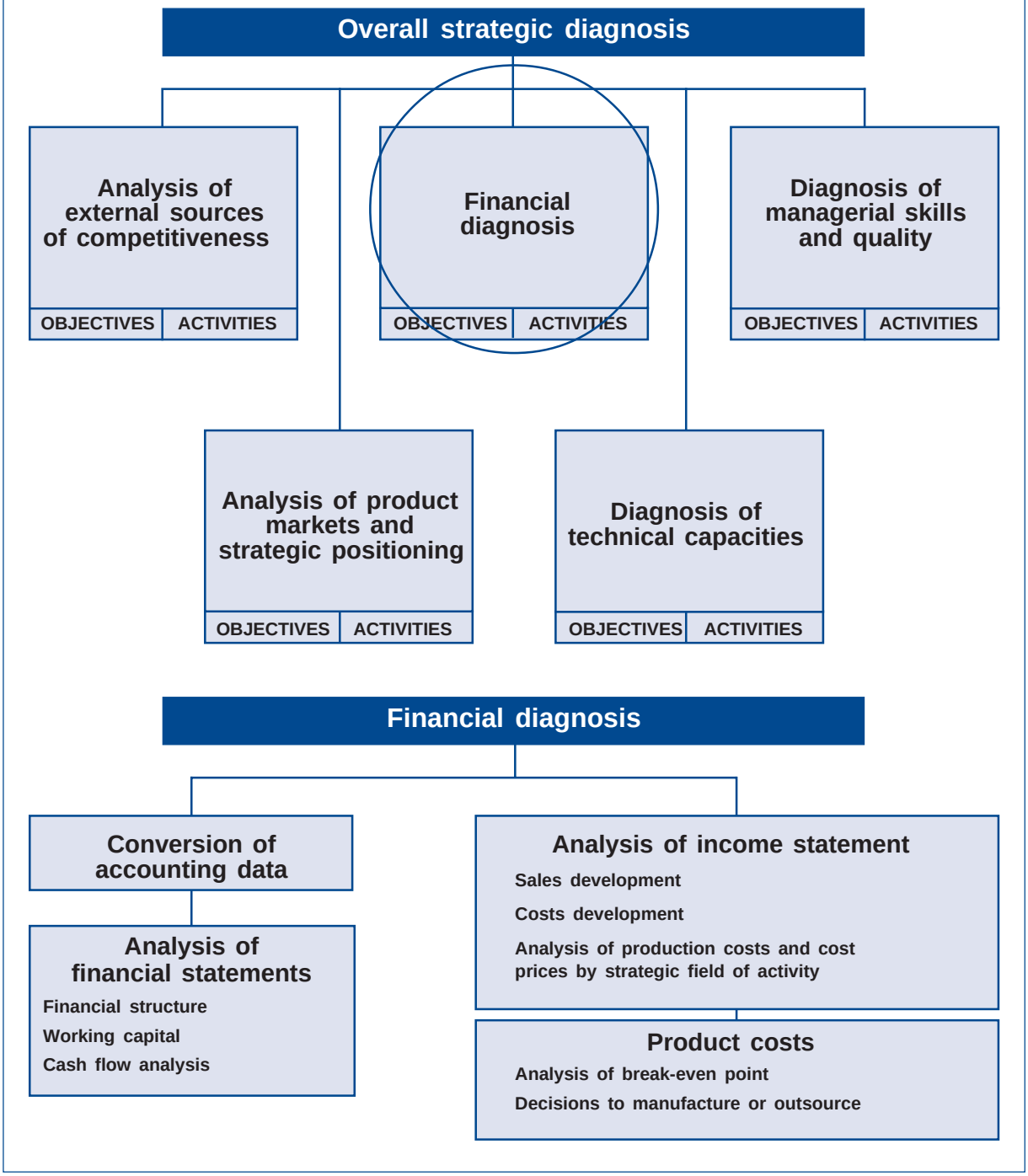
E. Financial diagnosis

The enterprise's accounting and financial data are an essential and useful source of information for evaluating and assessing the economic and financial situation of the enterprise. Any strategic diagnosis should therefore include an in-depth financial analysis, which, based on analysis of the development of the financial statements, the cash flow statement, cost prices and production costs and the various items in the income statement, measures the profitability of the enterprise and analyses its financial equilibrium.

This analysis has the advantage of providing a rapid overview of the enterprise's situation and behaviour. The financial analysis can be conducted as shown in figure IX. Various problems may be encountered in the financial analysis, particularly in small and medium-sized enterprises, regarding the reliability, availability, regularity and homogeneity of the accounting data and the conversion of the latter into economic data.

The first stage in the financial analysis consists of addressing these problems by adjusting these accounting and financial data so as to arrive

Figure IX. Structure and architecture of the financial diagnosis



at a better understanding of the real financial position of the enterprise. Adjustment of the balance sheet might include the following main items:

(a) Preliminary expenses

These are as yet unabsorbed costs incurred through establishment, development and capital reconstruction. They are entered in the balance sheet under this item as non-values spread over several financial years and offset under "profit and loss".

(b) Fixed assets

(i) Land and buildings: These items are booked at their historical value. They are normally valued on the basis of market indicators;

(ii) Investments: An analysis of the various investments should be carried out to determine their total net depreciation or appreciation.

(c) Inventories

Analysis of this item makes it possible to identify slow-selling inventories that have not moved for

several financial years and cannot be sold, as well as the actual amount of the reserve calculated on the basis of the depreciation of specific inventories.

(d) Customers

Receivables that are difficult to collect should be analysed. Provisions should be made for non-recoverable debts.

(e) Receivables and debts in foreign currencies

According to the nominalism principle, receivables and debts in foreign currencies should be booked at their historical value at the rate on the date of invoicing. The differences arising from exchange rate fluctuations between this value and the amount receivable or payable should be determined and provisions made accordingly.

Balance sheet analysis

This analysis is carried out on the basis of the three most recent balance sheets of the enterprise, the last of which is adjusted. The financial equilibrium is assessed on the basis of a study of the development over time of the cash flow statement, the working capital statement, and working capital and cash requirements.

The cash flow statement is one of the most useful economic and financial analysis instruments. According to Colasse (1993), it can be used for dynamic analysis of the financial functioning of an enterprise. In particular, it permits a description of the financing of capital expenditures and the fluctuations in the working capital, as well as the cash resources and the use to which they are put. There is no fixed model for the cash flow statement.

The financial analysis involves the establishment of a multi-year financial forecast (see table 3), a model invented by Geoffroy de Murard. It shows the real behaviour of the enterprise according to different aspects of its operation, including product and cost transaction flows; movements of assets and liabilities; cash flow (receipts and outlays); and the differences resulting from variations in inventories, receivables and debts.

Table 3. Multi-year financial forecast models

	Year (n-1)	*Year (n)*	*% value added*
Production sold + production in stock + production tied up **1 = PRODUCTION IN FINANCIAL YEAR**			
Consumption of material + outsourcing and external services **2 = EXTERNAL COSTS**			
3 = VALUE ADDED (balance 1-2)			
Taxes and levies Personnel costs **4 = GROSS OPERATING SURPLUS** (GOS)			
Investment in operating inventories Net disinvestment in receivables and debts from current operations **5 = VARIATION IN WORKING CAPITAL REQUIREMENTS** (WCR)			
6 = OPERATING CASH SURPLUS (balance 4-5)			
Investments in operating ASSETS Variation in WCR linked to investments **7 = AVAILABLE AFTER INTERNAL FINANCING OF GROWTH**			
Exceptional or non-operating surplus or deficit Variation in WCR linked to exceptional operations **8 = EXCEPTIONAL CASH FLOW**			
3.5.3 Current investment income 3.5.4 Financial expenses (excluding amortization) 3.5.5 Variation in WCR linked to financial operations **9 = CASH RESOURCES CONSUMED BY CURRENT FINANCIAL OPERATIONS**			
3.5.6 Tax on profits 3.5.7 Dividends **10 = VARIATION IN WCR LINKED TO PROFIT DISTRIBUTION OPERATIONS**			
Increase in nominal capital Variation in long-term debts Variation in long-term financial assets **11 = CASH RESOURCES LINKED TO CAPITAL OPERATIONS**			
12 = VARIATION IN CASH RESOURCES (balance 7-8-9-10)			

Although static, traditional analysis on the basis of ratios generally allows an accurate assessment. The analyst will be looking to assess the financial structure, cash balances and operating activities. A comparison of the enterprise's ratios with those of the sector or of the main competitors permits a better assessment of the profitability of the enterprise, an evaluation of its financial equilibrium and its position within the sector in which it operates. In the absence of a central balance sheet office in most developing countries, the analyst must determine key company performance indicators within the sector and from supervisory bodies. Table 4 shows a selection of significant ratios frequently used in analyses of financial position.

Analysis of income statement

Income statements are generally presented in two specific accounts. For the purposes of examination, it is useful to consolidate them in a single document (see table 5), which we call the Management Results Analysis Table (MRAT). The table makes it possible to isolate highly significant results and intermediate balances for all profitability calculations.

Table 4. Balance sheet analysis ratios

Ratio	*Definition*
Financial structure ratios	
Structural financing	Long-term capital : net fixed assets
Coverage for invested capital	Long-term capital : invested capital
Indebtedness ratio	Medium- and long-term debts : equity capital
Intrinsic share value	Equity capital ± profits : number of shares
Cash ratios	
Solvency	Current assets : short-term debts
General liquidity	Realizable assets + available assets : short-term debts
Immediate liquidity	Available assets : short-term debts
Inventory, receivable and operating debt ratios	
Stock rotation time in days	Approved inventories x 360 : purchases excluding tax
Customer credit delay in days	Current working inventories + receivables : sales without tax
Supplier credit delay in days	Trade debts : purchases including tax

Table 5. Management results analysis table (MRAT)

Designation	*Year (n-2)* 1 2	*Year (n-1)* 1 2	*Year (n)* 1 2
1. Sales excluding VAT			
2. Variation in finished product inventories			
3. Production by-products			
4. Production value (1+2+3)			
5. Purchase of incorporated material and supplies			
6. Variation in material inventories			
7. External work, supplies and services			
8. Financial costs			
9. Production costs (5+6+7+8)			
10. Value added (4-9)			
11. Miscellaneous operating products			
12. Operating subsidy			
13. Personnel costs			
14. Taxes and levies			
15. Gross operating profit (10+11+12-13-14)			
16. Interest and dividends received			
17. Financing costs			
18. Amortization transfer			
19. Operating reserve			
20. Operating profit (15+16-17-18-19)			
21. Non-operating products and profits			
22. Non-operating costs and losses			
23. Non-operating profit (21-22)			
24. Taxes on profits			
25. Net profit			
Net cash flow (±25 + 18)			

The profitability assessment itself is carried out on the basis of an analysis in time and space, if possible, of the growth in sales and value added, financial profitability and productivity. The ratios customarily used in this type of analysis are shown in table 6.

Analysis of production costs and cost prices

Where an analytical accounting system is available, the overall analysis of an enterprise's activities on the basis of the MRAT can be supplemented by an in-depth analytical study of the development of products and operating costs by product and strategic field of activity. This analysis has numerous aims, the most important of which are to provide a more accurate estimation of the production costs and cost prices by product and by cost centre (factory, workshop, management) and more detailed knowledge of the contribution of each product to the enterprise's profit.

The Analytic Analysis by Product Table (AAPT) (see table 7 below) can be used as a basis for this cost analysis.

Table 6. Profitability analysis ratios

Ratio	*Definition*
Sales growth	CAHT* (n) – CAHT (n-1) : CAHT (n-1) (%)
Value added growth	Value added : production value
Financial profitability	Net profit : own resources
Financial cost portion in production value	Financial costs : production value
Ageing of capital assets	Accumulated amortization : gross capital assets
Personnel costs	Personnel costs : production value
Personnel productivity	Value added : number of staff

*Sales without tax

Table 7. Analytic Analysis by Product Table (AAPT)

Designation	*Unit*	*Year (n-4)*	*Year (n-3)*	*Year (n-2)*	*Year (n-1)*	*Year (n)*
1. Production capacity	tonnes					
2. Actual production	tonnes					
3. Value of production sold		Costs (%)	Costs (%)	Costs (%)	Costs (%)	Costs (%)
4. Raw materials consumed at cost price (RM)						
RM1						
RM2						
RM3						
5. Consumable materials at cost price (CM)						
CM1						
CM2						
CM3						
6. Rent						
7. External work and services						
8. Other production costs						
9. Personnel costs						
10. Technical assistance						
11. Manufacturing cost (4+5+6+7+8+9+10)						
12. Packaging						
13. Distribution costs						
14. Cost of distribution (12+13)						
15. Production cost before amortization and financing costs (11+14)						
16. Amortization in financial year						
17. Financing costs						
18. Production cost before general costs (15+16+17)						
19. General costs						
20. Total production cost (18+19)						
21. Pre-tax profit (3-20)						

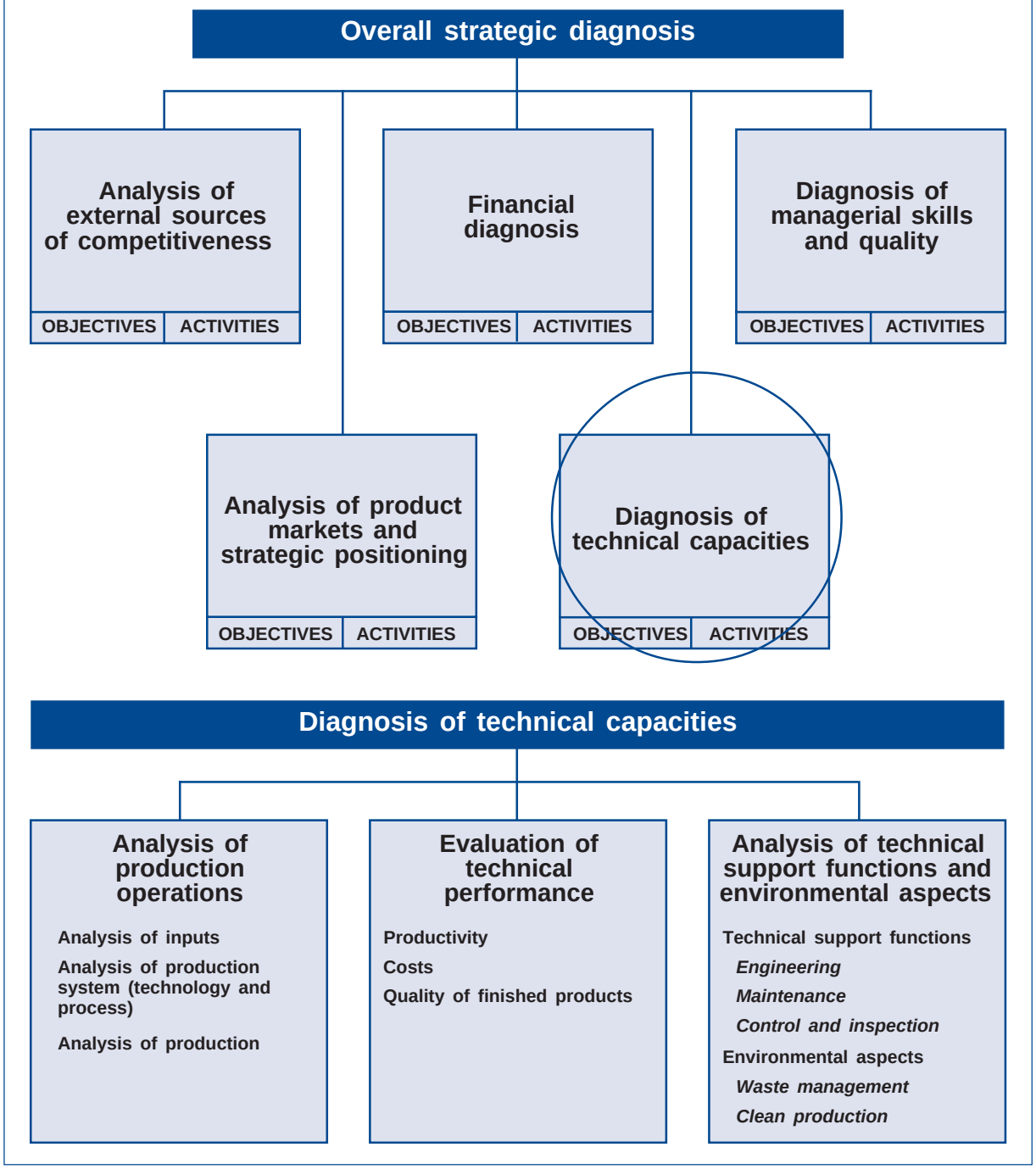
On completion of these analyses, the analyst will be in a position to determine:

- The amount of permanent capital (capital input and/or medium- and long-term debts) to restore a healthy financial situation in the enterprise and finance tangible and intangible investments required for upgrading and development of the enterprise;
- The working capital requirements and source of their financing;
- The profitability threshold of the enterprise.

F. Diagnosis of technical capacities

In an economic environment characterized by intense competition and increasingly rapid technological changes, the diagnosis of technical capacities (see figure X) is used to analyse the enterprise's production system and tools, to evaluate technical performance and to determine the principal technical actions that need to be carried out to upgrade the enterprise and develop its competitiveness.

Figure X. Structure and architecture of diagnosis of technical capacities



Diagnosis of production system

The diagnosis examines the three aspects of the production system, namely input, process and production, and focuses on the following aspects:

(a) Analysis over time and space of inputs and their characteristics (material and supplies, labour and energy, production material and equipment, etc.). The analyst will be looking for the optimum use of materials and technical personnel, and will pay particular attention to loss of materials and excessive consumption (energy, electricity, water). The analysis of inputs consists of observing their status and functioning, examining the way materials are consumed (compared with standards and predicted use), the capacity utilization rate, frequency of breakdowns and costs of maintenance and servicing, and paying due attention to materials, supplies and energy. Thus, the characteristics of the purchased materials and their compliance with the technical specifications, patterns of consumption by unit manufactured, losses and waste are all analysed. Finally, the analysis looks at the human resources and can be supplemented by interviews with personnel to assess the working environment, skills and technical capacities, including professional qualifications, staff training and occupational safety;

(b) Analysis of the production system (technology and process) and comparison with systems used in the sector and by the main competitors. The analyst must first assess the technology chosen by the enterprise in terms of the available factor inputs (raw materials, labour, etc.), and the flexibility of the means of production, i.e. their capacity to produce a wide range of products and to adapt to fluctuations in volume, and the capacity of the staff to assimilate the technology and to innovate. An analysis of the process makes it possible to assess the capacity of the enterprise to provide finished products meeting the needs of customers in terms of quality, delivery time and cost. It also assesses production management methods, particularly research and methods, planning and scheduling, maintenance management, and quality control and assurance;

(c) Finally, this diagnosis evaluates the products manufactured by the enterprise by analysing their technical and managerial characteristics (nature, quality, price, delivery times, distribution, after-sales service) in relation to those of the competition and those demanded by customers. This analysis also verifies compliance of the enterprise's products with the relevant international standards.

Evaluation of technical performance

This evaluation looks at productivity, output and costs.

Productivity and output are measured by analysing the development of production indicators (in volume) by workshop and plant, consumption by workshop and product unit, production capacity utilization and production times. A comparison of the productivity of the main machines with that indicated by the designer and that achieved by the main competitors can be made. This productivity and output analysis can provide information about bottlenecks that might be due to inefficient utilization of machines or technical personnel.

Measurement of performance in terms of costs is based on an analysis of the pattern of raw material, energy, maintenance, subcontracting, general and personnel costs and of the cost of tying up of stocks.

On completion of this diagnosis, the technical consultant will be in a position to identify, structure and classify fundamental problems and bottlenecks hindering proper technical functioning of the enterprise and, in particular, to recommend a detailed plan of action to improve production performance.

G. Diagnosis of managerial skills and quality

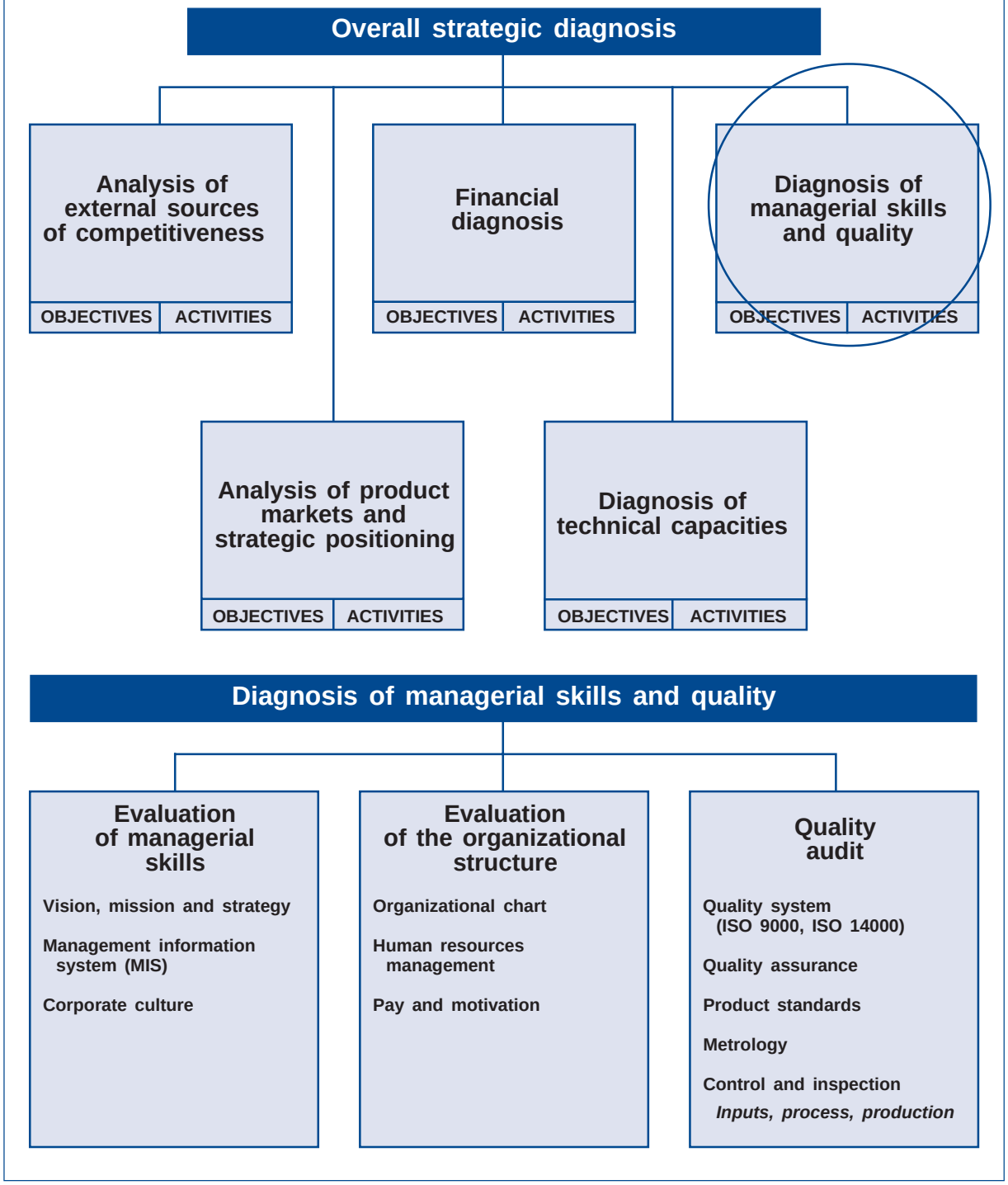
Most investigations to determine the exact source of difficulties in enterprises reveal that management and organization problems are among the main causes of failure. As part of an overall strategic diagnosis it is therefore important to diagnose these managerial skills (see figure XI). The diagnosis is designed to evaluate managerial skills and performance, study the enterprise's organizational structure and socio-cultural aspects, and identify actions to be taken to improve these skills.

Evaluation of managerial skills

It is vital at the outset to have the head of the enterprise explain and define the corporate vision and objectives, their hierarchical structure, the main policy thrusts of management and its strategic orientations and any constraints and pressures limiting its power. Then, the managerial skills of the management should be assessed and evaluated, i.e. the management methods and approaches conceived by the head of the enterprise and senior management staff to accomplish the object and meet the targets set. To this end, it is essential to evaluate managerial, technical and entrepreneurial skills and aptitudes, as well as the management style of the head of the enterprise.

To do this, the method used by senior management to perform the following five essential management functions needs to be assessed:

Figure XI. Structure and architecture of diagnosis of managerial skills



- Analysis: Identify tools, areas and frequency of analysis and test the quality of these analysis tools;
- Planning: Evaluate the planning process in the enterprise, i.e. the procedures for drafting, following up and reviewing plans;
- Control: Evaluate the control process in the enterprise by identifying the actors, areas and tools used, and the performance criteria and the penalties and incentives system and by verifying the controls in practice;
- Coordination: Identify and analyse in practice the procedures for coordination between the different functions within the enterprise;
- Motivation: Evaluate the motivation process, which consists of maintaining and developing internal cohesion and establishing a favourable social climate.

Evaluation of organizational structure

This structure defines and formalizes the functions, competences and relations between the different units that make up the enterprise. It is evaluated in terms of the efficiency of its organization and the compliance by personnel with the organizational rules, the degree of flexibility of the procedures and attributes, the degree of stability and adaptation to changes in the environment and to developments in the enterprise's activities, and finally the quality of communications, reliability of information networks and the degree of synergy between the different units.

This evaluation also permits measurement of social performance and an assessment of the social climate and the main features of the corporate culture. Several aspects and qualitative and quantitative criteria can be used to evaluate the socio-cultural aspects of the enterprise.

The following documents can be examined: current labour legislation, i.e. the labour code, the collective agreement for the sector in which the enterprise operates, the personnel statutes and/or internal regulations, the salary scale, a model employment contract and details about the staff (surname, first name, age, training, experience, seniority, assignment).

The "diagnostician" can also analyse the main social elements within the enterprise, e.g. development of human resources by occupational category and by type, social costs, training, absenteeism and rotation rate, and ratio of senior and permanent staff.

Quality audit

This audit can be carried out by a qualified ISO 9000 auditor and should reveal whether the enterprise is applying and respecting quality management principles as defined in ISO 9000 version 2000 "Quality management systems". The quality system is then evaluated on the basis of an analysis of trends in quality indicators such as product returns, customer complaints, number or value of rejected articles (production defects) and the cost of non-quality (waste, rejects, returns). The different defects must be analysed to determine where they originated, e.g. raw materials, machines, labour. This analysis of causes enables the analyst to determine priority actions that need to be undertaken and the means of control to be set up to improve quality management systems that are required to comply with the provisions of ISO 9000 version 2000.

On the basis of the analyses and inquiries, the analyst can first of all clearly identify the key problems regarding managerial skills, structure and social performance, investigate their causes and deduce the direct and indirect effects on the economic performance of the enterprise, and then point out possible solutions and finally determine the actions and measures required to better utilize the enterprise's human resources.

Conclusion

In a complex competitive environment, overall strategic diagnosis appears to be the most appropriate method for upgrading and developing an enterprise. It is based on methods described in existing documentation. It is modular and flexible and involves five categories of interlinked diagnoses, covering the environment, product markets, finance, technological competence and managerial skills.

Summarizing the overall strategic diagnosis is the most difficult task because of the amount of information, observations and recommendations that need to be taken into account. The consultants involved in the diagnosis must then correlate their conclusions with the strategies and aims of the enterprise, set them in context and produce a general summary encompassing the enterprise as a whole and its environment. Their capacity to summarize depends first on their ability to identify, analyse and reformulate the most important management problems and threats to the environment, and then to classify them by importance and urgency, to identify the specific competencies within the enterprise and the opportunities offered by the environment and then to deduce the competitive advantage that the enterprise can exploit, develop and defend in the long term. It also depends on their ability to identify and promote possible and realistic solutions and actions, drawing a distinction between ones necessary for immediate survival, short-term ones designed to increase profitability, and medium-term ones to consolidate profitability and safeguard the enterprise's future.

Finally, the credibility of overall strategic diagnosis depends above all on the ability, i.e. experience and know-how, of the consultants to carry out a synthesis in keeping with the scale of the enterprise and its environment and to make proposals to stimulate change in the new context.

H. Checklist for overall strategic diagnosis and the drafting of an upgrading plan for an agro-food enterprise

Overall strategic diagnosis

The diagnosis should cover the following aspects:

Analysis of the legal and regulatory environment in which the enterprise operates. This analysis focuses on the policies, incentives, available export promotion tools, financing of tangible and

intangible capital outlays, training, employment, quality promotion, certification, standardization, competition, research and development, and partnerships.

Strategic positioning of the company in relation to competitors in a five- to ten-year time frame:

- Identification of the current dimensions of the national, regional and interregional markets in terms of supply and demand of the agro-food products being studied and a specific analysis of the market growth rate, key product characteristics (diversity, price, quality, delivery time), substitution products, development of production capacity, product life cycle, barriers to entrance by new manufacturers;
- Analysis of the dynamics of these markets (in particular the demand) in recent years and prediction of medium-term growth;
- Evaluation of strengths and weaknesses of main competitors on the national and international scale;
- Verification of changes in consumer tastes;
- Estimation of the competitive position of the enterprise in a five- to ten-year time frame with the progressive opening of the national market;
- Formulation of recommendations on price, quantities and product quality (distribution methods, etc.) and estimation of prospects and risks as regards future demand development (are there any significant market niches justifying an upgrade?).

Technological and sanitary diagnosis

Technological diagnosis comprises:

- Manufactured products;
- Raw material supply conditions;
- Production equipment and installations (specific and general): evaluation of age and in particular technical suitability of installations in relation to standards to be achieved; determination of the production capacity and current and target exploitation;
- Technological solutions used in the production process and proposed modifications to head off future competition envisaged in the "strategic positioning" section;
- Mastery of technical processes with recommendations on technical measures designed to rectify any weaknesses identified;
- Production organization: modalities, servicing schedules, incoming materials reception, warehousing, packaging, dispatch and relations with other departments, with particular attention to the quality management system;
- Production factors and conditions: terms and costs, including drops in production;
- Product transport and distribution.

Sanitary diagnosis comprises:

- Manufacturing installations:
  - Overall design of the production premises
  - Production premises (floors, walls, ceilings, doors, ventilation, lighting, cleaning and disinfecting: hands, installations, tools and materials)
  - Cold rooms (floors, walls, ceilings, doors, lighting, refrigerating power, thermometers, thermostats, etc.)
  - Pest control (insects, birds, rodents, cats, dogs, etc.)
  - Tools and equipment (tables, receptacles/containers, conveyor belts, cutters, etc.)
  - Reject and waste disposal
  - Water supply (quantity and quality)
  - Waste water and effluents
  - Staff installations (cloakrooms, toilets, washrooms, etc.)
  - Product transport systems
  - Storage of raw materials, finished products, packaging and miscellaneous ingredients
- General hygiene conditions:
  - Premises and materials (condition and maintenance)
  - Staff (clothing, medical examinations and check-ups, etc.)
  - Manufacture (product handling)
  - Interim storage of fresh, processed and frozen products, etc.
- Internal control conditions:
  - HACCP audit
  - Laboratory analyses
  - Records and traceability

Financial diagnosis

- Analysis of asset and liability situation for the three previous years; preparation of detailed breakdowns to identify structural indicators and close analysis of capitalization and indebtedness terms (short- and long-term, rates and periods), in relation to the situation and size of the enterprise;

- Evaluation of financial stability in relation to the possible need to increase working capital and/or to changes in operating activities;
- Analysis of general accounting system; evaluation of its efficiency and information technology (IT) needs;
- Analysis of economic management in the previous three years on the basis of trading accounts (profits from sales and supply by quantity and unit value, identification of cost factors in as much detail as possible);
- Evaluation of profitability conditions (return on investment and capital); comparison with average values for the sector or subsector;
- Analysis of industrial accounting system; evaluation of its efficiency and IT needs.

These analyses are carried out in cooperation with the head of the enterprise and the senior management.

Organization/management diagnosis

- Organization and administration, with a description of the ownership structure and the way in which ownership rights and prerogatives are exercised; composition of the board of directors, if applicable, and its functioning; division of tasks and functions, description of the professional experience of the key personnel and their working habits, evaluation of their performance; description and evaluation of recruitment criteria and procedures;
- Human resources, with the complete staff structure broken down by functions; evaluation of the staff training status at the different levels; description and evaluation of in-house training procedures;
- ISO 9000 quality audit.

In particular, the study should include the following features:

- Organizational chart, staff, qualifications, absenteeism, turnover, matrix of competencies;
- Corporate policy to foster career progression as an additional motivation;
- Management staff (international comparison of management ratios);
- Workshop organization (configuration);
- Production process analysis and evaluation; software, management charts, etc.;
- Management ratio tables: activity, output, time and cost analysis;
- Benchmarking and national and international comparisons: highlight principal competitiveness ratios and compare them with standard and international ratios.

Drafting of upgrading plan

The upgrading plan can be drafted only if the conclusions of the strategic diagnosis are positive.

The upgrading plan defines the short-term target (one year) and medium-term target (three to five years) and the strategy to be implemented to achieve them.

The plan of action comprises:

- Actions relating to tangible investment, intangible investment (technical assistance, personnel training, including management personnel, etc.) and financial restructuring;
- Actions in detail: aim, description, cost, financing, duration;
- Planning of actions defined for the three subsequent years, year by year, distinguishing between short- and medium-term actions;
- Measurable impact of each action (inclusion of a means of quantification to measure the situation before, during and at the end of the action);
- Programme of action summarized in a single table recapitulating the cost and financing for each action and the programme as a whole.

The upgrading plan as a whole should be drafted in the form of a dossier suitable for presentation to a bank including, in particular, a profitability study for planned investments, and should be drawn up in cooperation with one of the banks financing the enterprise.

IV. Industrial enterprise upgrading strategies

In order to prepare itself, adapt and gain a foothold in this new economy characterized by globalization, the industrial enterprise must formulate and implement an upgrading programme. One of the basic features of this programme is the choice and construction of a strategy adapted to the new competitive conditions in this new free-trade economy. What are the most significant strategies proposed in this new competitive environment? How is an upgrading strategy to be formulated and how is access to the international market to be facilitated? What possible strategies can be used to upgrade industrial enterprises?

A. Globalization and possible upgrading strategies

In this new context with its numerous uncertainties, complexity and globalization, it is essential to ask how globalization and the establishment of a free-trade area will disrupt existing strategies and which upgrading strategies an industrial enterprise needs to adopt.

The identification and selection of upgrading strategies are part of the second stage of the strategic upgrading process (SUP) of industrial enterprises (figure XII).

It is evident that one of the keys to the success or failure of an enterprise is the nature of the strategy it selects to confront its competitors. In a competitive market, like that of the European Union, industrial enterprises, if they are to succeed, must adopt competitive strategies that give them a long-term competitive advantage over all the competitors in their sector.

M. E. Porter, an American industrial economist, distinguishes two types of basic winning strategy that give an enterprise a comparative advantage: a strategy of cost leadership and a strategy of differentiation.

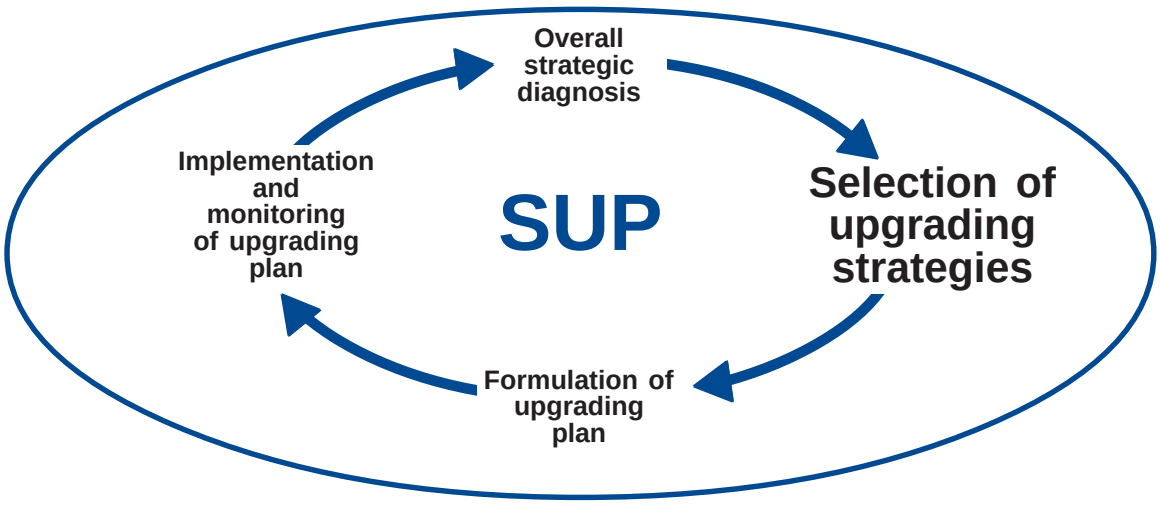
To succeed and maintain its position under conditions of unrelenting competition, an enterprise must continually define the type of advantages it is looking for and the field within which these competitive advantages can be achieved.

The acquiring of competitive advantage is contingent on the way in which the enterprise manages, conducts and organizes all of its activities. Each of its activities creates value for customers and the enterprise.

We can distinguish between primary activities, such as production, marketing, finance and human resources, and support activities, such as logistics, supply and after-sales service. To obtain a competitive advantage over its rivals, an enterprise must either offer value to its customers that is comparable or superior to that of the competition (cost leadership strategy) or devise unique activities that justify higher sales prices (differentiation strategy).

There is no universal strategy applicable to every industry or enterprise. Each industry and enterprise is an individual case. However, in many industries different winning strategies coexist. It is up to the enterprise to make strategic choices concerning the type of advantage or competitive field. The table below shows examples of strategic choices made by certain industries.

Figure XII. Strategic upgrading process



Country	Industries	Segment	Strategic choices
Italy	Shoe	Top	Differentiation
Taiwan (Chinese province)	Shoe	Bottom	Cost strategy
Germany	Automobile	Top	Differentiation
Republic of Korea	Shipbuilding	Middle	Cost strategy
Japan	Automobile	Middle	Cost strategy
	Shipbuilding	Top	Differentiation
France	Agro-food	Top	Differentiation
Tunisia	Agro-food	Middle	Cost strategy

The summary of the overall strategic diagnosis will provide suggestions regarding the strategy to be adopted and the plan of action to be implemented.

To judge by the results of an analysis carried out by UNIDO on a selection of industrial enterprises and a study of strategies adopted by European enterprises in anticipation of the single European market, several strategic actions and adjustments must be introduced to give enterprises competitive advantages. It is impossible to provide an exhaustive list of these actions. The main ones proposed by us for consideration by heads of enterprises are non-material actions with a high potential impact on costs and the differentiation of products and services.

These actions relate to improving methods, management practices and competencies (know-how, quality, technology, creativity) in both primary and support activities. Their impact on the main functions in the enterprise is shown in table 8 below.

Table 8. Impact of price and differentiation strategies on functions in the enterprise

Functions	Strategies	Impact
Production	Product cost advantage	Standardization of production, automation, subcontracting
Marketing		Positioning in price-sensitive markets
Finance		Importance of management control
Human resources		Emphasis on productivity
Production	Service cost differentiation	Coordination of production, research and technical/commercial service with purchasing, marketing and sales
Marketing		Investment in communications
Finance		Advantageous financing terms
Human resources		Investment in technical/commercial and after-sales services
Production	Product differentiation	Investment in flexible production
Marketing		Focus on the value added produced by product differentiation
Finance		Anticipate fluctuations in revenue
Human resources		Ongoing training to ensure that staff are qualified
Production	Service differentiation	Ensure maximum flexibility of production process
Marketing		Develop image of competence and be open to client comments
Finance		Invest in financial innovation
Human resources		Invest in personnel
Production	Innovation differentiation	Importance of research and development in processes and products
Marketing		Develop image of competence and be open to client comments
Finance		Invest in financial innovation
Human resources		Emphasize creativity
Production	Marketing differentiation	Standardized basic production with possibility of flexibility in finishing
Marketing		Positioning as unique product
Finance		Invest in communications
Human resources		Train for creativity, especially commercial

B. Strategic consideration and upgrading

On the basis of the elements collected and the recommendations made in the strategic diagnosis, which is the first stage in the upgrading process, a particular choice generally crystallizes as to the actions to be taken to restore the viability and competitiveness of the enterprise. For several reasons, this choice calls for strategic consideration of the enterprise's future prospects.

First of all, the new decade is a complex and uncertain one. It is unusual for the analysis of the environment in which the enterprise operates to result in a single possible scenario regarding the evolution of the market, behaviour of competitors, development of new technologies or the attitude of the authorities. Moreover, studies and inquiries have shown that most enterprises in developing countries use technologies that are sometimes unsophisticated. They often work as subcontractors for clients and/or manufacturers of low-end to medium-range products and operate on competitive markets where the threat of new entrants is great. Finally, the enterprise's resources are by definition limited and thus have to be used to the maximum efficiency.

In this context, where the intensification and internationalization of competition are continuously modifying the factors on which the success of an enterprise is based, not to mention its specialization, it is vital for the enterprise to carry out methodical and continuous strategic reflection in order to identify in time the likely evolution of the markets and success factors, the strengths and weaknesses of the enterprise in the face of its competitors and the possible orientations and strategies to be implemented. It is thus essential to allow for several possible scenarios so as to optimize the chances of upgrading and developing the competitiveness of the enterprise.

With no claims to exhaustiveness, we present in the following sections some of the most important strategies of the last decade that have been proposed to help enterprises to recover. These strategies could be used equally to upgrade enterprises. The main strategies are growth, refocusing on the basic specialization, differentiation and partnership.

C. Formulation of the strategy

Definition of a strategy, which is the second stage in the upgrading process, involves determining the objectives to be attained, the means to be used and the organizational model. For an enterprise operating in a competitive market, the basic aim is obviously to improve performance (in terms of productivity and growth) and competitiveness and to consolidate the results achieved in order to safeguard the future.

Based on the results of the diagnosis, a feasibility study has to be carried out for each possible and realistic strategic choice, with account taken of the above-mentioned aim, the current situation of the enterprise and its possible development, the resources capable of being mobilized, the willingness of partners to act, the legal, financial, commercial, technical and human constraints, and the likely evolution of the environment in which the enterprise operates. It is difficult to make an exhaustive list of possible upgrading strategies, since each enterprise is a unique case and there is no single strategy that can be used in all cases to improve the performance of an industrial enterprise. Moreover, it is possible to conceive an upgrading strategy by specific field of activity and as a function of the phase in the life cycle of each activity.

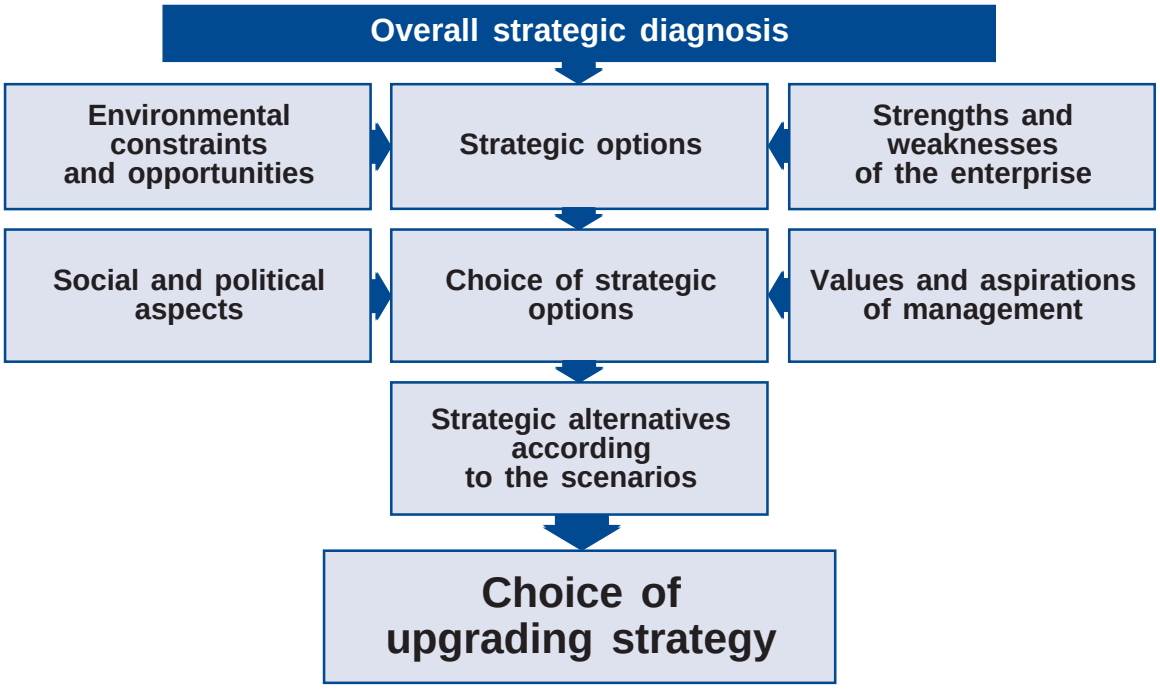
The choice of upgrading strategy can then be made on the basis of a study of each of the possible strategies in consultation with the actors involved: shareholders, senior management, bankers, suppliers, customers and staff. The study of each strategy will have made it possible to define the objectives to be pursued, to clarify the ways and means for implementation and to determine "who does what, how and when". In that way, the role and commitment of each actor is clearly defined. The best strategy is the one that enables the objective to be achieved in a way that is acceptable to all actors concerned while using the fewest resources possible.

Figure XIII sums up the stages to be followed in the selection of a strategy or strategies. It has the advantage of including consideration of likely constraints and opportunities when the enterprise upgrading strategy is being formulated.

D. Industrial enterprises and possible upgrading strategies

For industrial enterprises, particularly those with globalized export activities (such as the textile and agro-food industries, which are regarded as mature and highly competitive industries), the possible strategic upgrading options proposed by us are compatible and can be combined. There are basically three options: re-centring, partnership and flexibility. Our contribution takes into account the main characteristics of industrial enterprises in developing countries. They are frequently small, with limited financial resources, underused production capacities and inadequate management methods for basic marketing, quality and design, and insufficient sources of commercial and technical information. The three strategies are described hereafter.

Figure XIII. Formulation of enterprise upgrading strategy



Re-centring strategy

Re-centring of activities and resizing around the "basic specialization" are vital if the enterprise is to successfully penetrate free-trade areas. It can specialize in products and markets in which it has or could have specific expertise that sets it apart. This would enable it to create a personalized image vis-à-vis customers and competitors. The BSN group (France), for example, abandoned certain areas and focused on the mineral water sector, increasing its geographical coverage in the sector and becoming the market leader in France, Italy and Spain.

The hasty and sometimes misplaced diversification carried out by some enterprises during the years of growth and/or market protectionism have to be reconsidered with the opening and globalization of the same market. Misguided choices made by some enterprises in the initial planning of investments and/or their extension (taking place even in periods of stagnation) and implemented in many cases without feasibility studies result in oversized and over-ambitious projects, as can be seen by the fact that the capacity utilization rate in developing countries is of the order of 50 per cent only.

The re-centring strategy, developed in France in the 1980s and after, consists of focusing on the most remunerative activities where the enterprise has real competitive advantages. A fruit tree cannot bear fruit to the full unless the dead wood and surplus branches are pruned; the same is true of an enterprise.

This strategy involves withdrawal from activities that are judged to be peripheral, strengthening the main focus and diversifying into related or complementary activities. It is justified in the case of many threatened enterprises operating in declining markets with high production costs and financial problems. This type of strategy has been developed particularly by public and large private enterprises operating in developing countries (Algeria, Ethiopia, Egypt, Sudan, Syrian Arab Republic, etc.) and in countries with economies in transition (Albania, Hungary, Poland, Russian Federation, etc.). The financial constraints call for the selective allocation of funds.

This strategic choice necessarily requires wide geographical coverage, increased by the free-trade area agreement, but also a reduction in the range of products to enable the enterprise to specialize where it has greatest mastery in terms of quality, technology and market. It also involves

a reduction in product diversity within a particular range to permit specialization in top products over which the enterprise has optimum cost, quality and price control.

This specialization can give the enterprise a potential economic advantage through the combination of experience and the effects of economies of scale. It requires tough measures, including withdrawal and strengthening the competitiveness of basic activities. Withdrawal means giving up certain assets (equipment, buildings, activities, etc.) connected with marginal or unfavourable activities, the abandoning of some units unnecessary for the functioning of the enterprise, or the possible closure of unprofitable subsidiary branches, workshops or production units. It involves vertical and/or horizontal fragmentation, outsourcing of some subsidiary activities and the abandoning of some "dead-weight" products, and can also entail the mobilization of resources to finance the development of certain activities or priority upgrading actions.

Strengthening the competitiveness of basic activities is an ongoing operation. It calls for greater concentration of the enterprise's resources on a limited number of "star" products generating significant cash flow in a rapidly growing market, with a view to increasing the performance and the competitiveness of activities in which the enterprise specializes. It results in reduced costs and improved productivity (effects of the experience curve, technological expertise and stock reduction), rationalized production, improved product quality, better understanding of customer needs and increased sales with fewer products.

Partnership strategy

Partnerships, alliances and mergers are types of cooperation developed by European and Asian enterprises to deal with the challenges of the single market. These forms of cooperation involve combinations of qualifications and resources and make it possible to:

- Share some of the high fixed costs incurred through development;
- Provide financing on favourable terms;
- Create synergistic effects and/or complementarity through the combination of marketing, research and technology information.

Efforts must be made by the authorities in developing countries to encourage and stimulate partnership between local and foreign enterprises, in part by removing legal and regulatory barriers and differences in company law and tax regulations. Enterprises must take the initiative to contact partners and to discuss and enter into partnership agreements.

Given the fact that the internationalization of the economy has resulted in an increase in the scope for relations between enterprises, large, small and medium-sized enterprises in both developed and developing countries must seek to exploit opportunities made possible through globalization and free-trade areas.

In a context of stiffer competition, the partnership and alliance strategy is one of the main possible strategic responses for enterprise development. Agreements with external partners and alliances among competitors are rather special forms of behaviour that depart from conventional competition analysis, but they have an evident strategic dimension in today's world that needs to be analysed. Partnership between enterprises in developing countries and enterprises in developed countries appears to us to be an ideal strategy for upgrading and development of industrial enterprises. In a tight and highly competitive national market, industrial enterprises would have a lot to gain from associating themselves with national or foreign enterprises with a view to pooling knowledge and expertise so as to create technological, commercial and financial synergies.

The canned tomato and chilli industry in Tunisia illustrates the utility of this strategy. Forty-six enterprises produce a double concentrate of tomatoes and harissa required for a local market in stagnation. Only a small amount is exported, around 10 per cent of production. The seeking and entering into partnerships with Spanish, French, Italian or Turkish enterprises could solve the output, diversification and export problems that several enterprises in this industry are experiencing. These partnerships would make it possible to introduce *(a)* new growing techniques (in Tunisia, output is 27 tonnes/hectare (t/ha) compared with 38 t/ha in Turkey and 54 t/ha in France; *(b)* better diversification for making all the products in the range (peeled tomatoes, tomato juice, ketchup, tomato sauce, spicy tomatoes, hot sauces, etc.); and *(c)* new forms of attractive aseptic packaging in compliance with modern marketing quality standards (glass jars, tubes, etc., instead of the welded metal cans that have been used for the last 30 years). These proposals would have the advantage of upgrading this industry and stimulating exports to Europe, the Middle East and Africa. The same strategy could also be applied to the clothing industry in Africa. Partnership with local or foreign enterprises could help to resolve several management, marketing and distribution problems as well as problems of scale, quality and others.

The success of this strategy depends principally on the choice of partner. The profile of the potential partner must be carefully studied because the partnership should be one of equality where the enterprise has the role not of a subcontractor so much as a fully-fledged partner. A partnership is also and above all an exchange of in-

formation and experience aimed at enhancing the interaction between the partners and providing the customer with better value for money.

This strategy helps to overcome some of the handicaps and problems experienced by most industrial enterprises in developing countries. The partnership agreement is usually concluded for a limited period. It does not threaten the independence of the enterprise, which retains its identity and culture. Moreover, it is flexible, discrete and reversible. In many cases it represents far less of a commitment than a take-over or merger. Because of its flexibility and reversibility, a contractual relationship is thus preferable to capital consolidation.

Through the cooperation that it entails, the relationship between the partners is an important way of improving the quality of products and packaging and of upgrading the products. A partnership agreement can also increase production capacity, enhance the product range, offer rapid access to new technologies and/or new markets, give access to relevant technical and/or commercial information and generate synergies.

Furthermore, it is not expensive to set up and results in greater competitiveness because of the reduction in the costs incurred by the enterprise for purchasing and sales, marketing, publicity or storage. The partnership agreement can also be financed by one of the credit lines agreed with developed countries.

Efforts have been undertaken in Egypt, Morocco, Tunisia and other countries to identify enterprises and put them in contact with foreign partners through investment promotion agencies and the organization of business hubs or forums.

Enterprises wishing to implement this strategy may, however, encounter difficulties in finding partners offering a balanced input and may also come up against legal and regulatory barriers and differences in company law and tax regulations.

In developing cooperation on the national and international level, there still remains the task in most developing countries of removing legal and tax obstacles so as to encourage and stimulate the grouping of enterprises through the introduction of new legal forms, such as the economic interest group, through the revision of company law, in particular the law on partnerships.

Flexibility strategy

Flexibility of human and material resources is another recent strategic choice adapted by most enterprises in industrialized countries. It can play a major role in the upgrading of training and skills development of personnel and renewing and modernizing equipment. To meet an increasingly varied and personalized demand and to establish the capacity to respond promptly, an enterprise must possess and mobilize flexible human and material resources.

In a competitive market characterized by the rapid and progressive evolution from a homogeneous demand to a varied and personalized demand and by technological development (machines with programmable digital command, computer-assisted design (CAD) in industry, modular design) making it possible to manufacture heterogeneous products more quickly and in small batches without significant additional costs, striving for flexibility can become a strategy and means of upgrading an enterprise in the new context of globalization and free-trade zones. Flexibility is the ability to react continuously and promptly to variations in the environment as they occur, without recourse to significant surplus production capacities or to supplementary labour. The strategy uses the new flexible technologies to reduce the diversity of intermediate products from the bottom up, to manufacture heterogeneous products without needing to readjust the production process each time, to increase the functions performed by a given product and, finally, to reduce the reaction time (i.e. the time from design to production of a high-quality product at the time required by the customer without faults) to a change in the environment.

If it is not possible to mobilize large investments and to have rapid access to completely flexible workshops, a number of progressive measures and actions can be taken, for example:

- Reduce the heterogeneity of products manufactured through standardization, modular components, interchangeability and outsourcing;
- Enhance the flexibility of personnel to increase multi-functionality and mobility through training, motivation and profit-sharing. In a clothing enterprise, the grouping of tasks in a single workstation and "multi-workstation" training of staff can be intensified in order to be able to respond to multiple demands in a short time;
- Reorganize and redesign production in batches to reduce intermediate storage, checks and waste;
- Give more responsibility to management and non-management personnel through quality circles, multidisciplinary brainstorming, etc.
- Strengthen the information, communications and coordination mechanisms between functions and between personnel so as to move towards a more integrated enterprise structure.

Table 9 shows the impact of these strategies on the resources and product mix and the inherent limits to their implementation.

Table 9. Impact of upgrading strategies on resources and product mix

Strategies	*Impact on resources*	*Impact on product mix*	*Constraints/limits*
Re-centring	Transfer of assets Mobilization of financial resources Reduction in certain costs (storage, non-quality) Some staff redundancies Restructuring of operating margins on top products	Specialization in top products Pruning of non-competitive products Vertical and/or horizontal fragmentation Large geographical coverage Improved product quality	Difficulty in finding takers for assets to be transferred Psychological and human constraints on implementing draconian measures
Partnership and alliance	Minimal financial requirements Reduction in certain costs (storage, non-quality, sales and purchasing, publicity) Rapid know-how transfer	Encourages vertical and horizontal integration Possibility of increasing production capacity through opening of new markets Improved access to technical and commercial information	Legal barriers
Flexibility	Financial requirements for renewal or addition of some equipment, training, etc. Increase in production capacity Multi-functionality and greater mobility of personnel Reduction in certain costs Profit-sharing and motivation of personnel (quality circles)	Reduction in reaction time to changes in environment Reduction in diversity of intermediate products Improved product quality	Relatively long implementation time in periods of financial tension

Conclusion

In the new context of globalization, the choice of strategy depends not only on the strengths and weaknesses of the enterprise but also and above all on the opportunities and constraints of its environment.

Based on the results of the diagnosis of enterprises and their environment in developing countries, we have been able to identify three strategies, namely re-centring, partnership and flexibility, that can be used for upgrading by most industrial enterprises. We have suggested strategic actions that might serve as guidelines for the managers of these enterprises rather than a strategic logic based on choice of products, markets or technologies.

Finally, it should be pointed out that every enterprise is a unique case whose strategic logic must be conceived and constructed with account taken of its real and potential competitive advantages and the existing and likely opportunities and constraints of its environment.

V. Formulation of upgrading plan

The upgrading plan, also known as a "business plan", is the logical follow-on from the diagnosis and choice of strategies. The summary of the overall strategic diagnosis highlights the conflicts between the enterprise's objectives, its potential and its performance and makes it possible to propose practical and realistic solutions for upgrading and improving the competitiveness of the enterprise.

The summary of strategic choices can be used as a basis for developing an overall plan combining the objectives determined by the enterprise and the ways and means necessary to achieve them. The chosen strategy defines in particular the type of commitment required by the enterprise for the upgrading. This strategy is based on the determination of a number of economic, financial and legal choices with account taken of the technical, social and legal constraints and the recommendations of the actors involved. The choices are developed and formalized in the industrial enterprise upgrading plan.

The upgrading plan is the basic element for all negotiations. It clearly formalizes the contributions requested and the conditions to be fulfilled for the plan to succeed. Finally, it consists of a retrospective analysis of the enterprise's situation and a projection of its activities for at least three years ahead.

What are the formal and substantive conditions for an upgrading plan? What are the conditions for success? How is it to be implemented and followed up?

A. Formulation of the upgrading plan

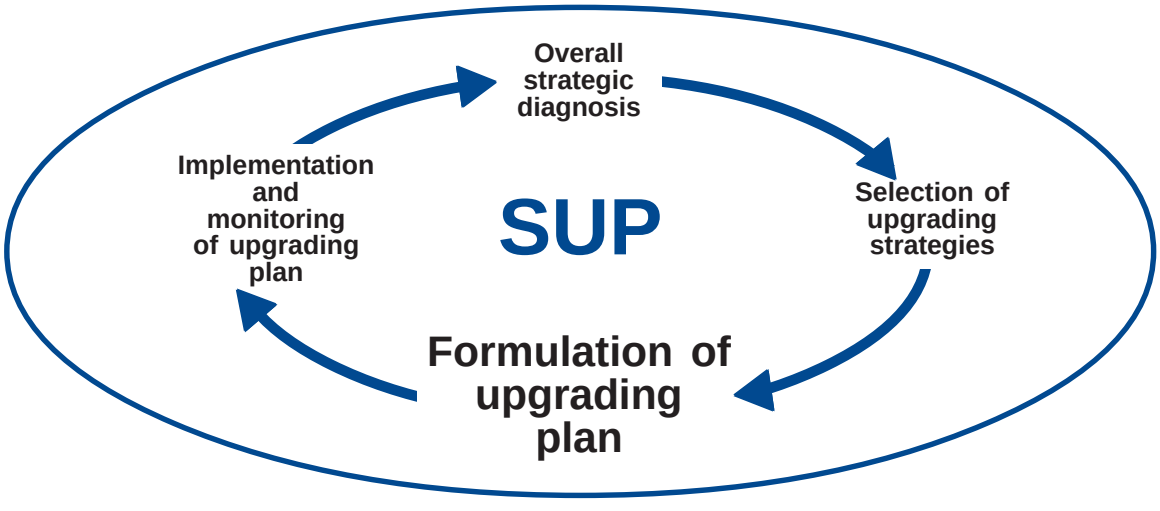
The formulation of the upgrading plan is the third stage in the strategic upgrading process (SUP) (see figure XIV).

The upgrading plan, like the recovery plan, formalizes the commitment of the partners interested in rescuing the enterprise, because the success of the recovery plan depends on the achievement of consensus among the different partners, which is probably one of the most difficult aspects to manage.

In order for the negotiations with partners to succeed, the following procedure should be adopted by the manager responsible for the negotiation and for drafting the upgrading plan:

- It is essential to be thoroughly familiar with the strengths and weaknesses of the enterprise, the results of the diagnosis, the strategy to be adopted and the financial and economic choices selected for the upgrading plan;
- The manager must know the basic position of each partner and evaluate the economic and financial consequences of each position;
- The negotiation meetings must be well prepared (date, venue, agenda, objectives, scenarios, constraints, etc.);
- To increase efficiency, negotiations should be conducted separately with

Figure XIV. Strategic upgrading process



each partner. Agreements or minutes should be signed;

- Particular attention should be paid to important partners, especially associates, banks and staff representatives. They should be kept informed of the progress in the discussions and negotiations and may also be involved in making some of the important decisions that significantly influence the upgrading plan.

The formal and substantive conditions for the upgrading are presented below.

B. Formal conditions for the upgrading plan

Extreme rigour is required when drafting the upgrading plan and its forecasts and it should cover all aspects of the enterprise with account taken of its internal and external environment. The acceptance of the plan by the actors involved depends not only on the reliability of the information, and the credibility of the solutions and the proposed measures, but also on the form and quality of the plan itself. The actors will judge the plan mainly by its form and content. Given its importance, the dossier should therefore be complete, precise and unambiguous. In Tunisia, for example, the Upgrading Bureau suggests that enterprises interested in the programme should include an application, project file, copy of the diagnosis and upgrading plan in the upgrading dossier.

Bearing in mind the information needs of the partners and the possibility of access to available internal and external information, the upgrading dossier should contain the following information:

- A presentation of the enterprise;
- An overview of its current situation;
- The upgrading actions;
- The upgrading conditions and assumptions;
- The financial projections with and without upgrading.

As soon as the upgrading plan has been adopted by the partners and the financial plan has been finalized, the enterprise can present its dossier to the Upgrading Bureau for examination, evaluation and approval.

C. Contents of the upgrading plan

Presentation of the enterprise

This section should include:

- Date of establishment of the enterprise;
- Object of the enterprise;
- Capital structure, list of members of the management board or the associates, name of the statutory auditor and auditor;
- Registered office and locations of plants and sales outlets;
- Development of capital since the establishment of the enterprise;
- Names of enterprise's banks;
- Products made by the enterprise;
- Principal markets of the enterprise;
- Tax benefits granted to the enterprise (where applicable);
- Total staff by category (senior management, engineers, middle management, workers), by status (permanent, casual) and by seniority;
- Organizational chart;
- Manufacturing processes and theoretical and actual production capacities;
- List of principal capital expenditures.

Summary of strategic diagnosis

This summary should include:

- The activities in the previous three years (production, sales, staff, manufacturing costs, production costs and profits);
- Strengths and assets in commercial, financial, technical, organizational and social terms;
- Current difficulties and weaknesses in commercial, financial, technical organization and social terms;
- Financial position (summary of financial diagnosis): audited balance sheet, permanent fund deficit, accumulated losses, amount of equity capital in net assets, indebtedness in relation to equity capital, permanent fund requirements, salaries and financial costs in relation to sales, etc.);
- Proposed upgrading solutions.

Upgrading strategies and actions

This section should include:

- Presentation of chosen upgrading strategies;
- Urgent measures and actions in the upgrading plan, highlighting the chosen actions, contributions requested and expected results in financial and commercial terms and with regard to production, employment and staff reorganization;

- Timetable: immediate, short-term and medium-term actions;
- Investment programme with presentation of a data sheet for each investment with:
  Description of the project;
  Implementation period;
  Investment amount;
  Technical impact (gains in terms of productivity, maintenance, energy savings);
  Method of financing chosen;
- Financing programme.

This programme should show the financial implications of the plan: equity capital, subsidies and loans. For each source of financing, the amount, type of repayment, timetable for utilization of the loan, duration and period of grace, interest rate, commissions and insurance premiums, if applicable, collateral demanded and its cost be shown.

Particular importance should be attached to this programme. A delay in or refusal to finance all or part of the programme could jeopardize the success of the upgrading plan. It is therefore advisable to include in this programme only those sources of financing for which agreements in principle have been signed.

Upgrading conditions and estimates

(a) Conditions for success of the plan. All the conditions that need to be fulfilled for the upgrading plan to succeed should be enumerated: the requested contributions, the commitments undertaken, the tax and social benefits obtained, and the agreements concluded and commitments undertaken by shareholders, financial institutions, trade unions and public agencies and authorities. A detailed timetable with amounts and timing should be drawn up;

(b) Risks incurred. A list should be made of all the major potential risks that could significantly delay or prevent achievement of the objectives or practical implementation of the results of the plan, for example an appreciable delay in the mobilization of contributions or implementation of commitments undertaken;

(c) Estimates and databases. The estimates relating to the sales and production programmes and the development of costs and products should be determined with account taken of:

- The targets fixed for the coming years;
- The trends in the company's figures over previous years;
- The impact on the production and cost plans of the technical actions provided for in the upgrading plan;
- Commercial and technical studies carried out.

Particular care should be taken when determining these estimates in that they are used principally for making financial projections. Estimates that are too optimistic or too pessimistic could have a considerable impact on the forecast results and could thus mislead partners.

These estimates relate to the following elements:

- Sales programme: estimate of the volume and value of annual sales for the next few years by product and market;
- Production programme: estimate of annual production for the next few years by volume, product and plant; also for subproducts;
- Raw material and consumables purchasing programme: forecast of the annual purchasing programme for the next few years by volume, value, material and currency. The typical consumption rates by product unit of the materials used should be determined and are useful for calculating sensitivity or other factors where required;
- Production and operating costs: determination of additional costs required for production, in particular:
  Outsourced work, supplies and services;
  Miscellaneous management costs;
  Financial costs;
  Amortization;
  Levies and taxes.

Financial projections

After the upgrading and modernization conditions and estimates have been defined and determined, financial projections have to be made. They should include:

- Trading accounts, balance sheet forecasts, and staffing and resources tables;
- Multi-year cash flow chart;
- Cash flow forecast;
- Economic profitability indicators and certain financial ratios.

The upgrading plan should thus contain the principal financial forecasts described above. Taken together, these forecasts represent the plan in figures, presenting the results and providing a summary of the plan. They also serve as a basis for all negotiations and follow-up.

SUMMARY OF A STRATEGIC DIAGNOSIS REPORT AND UPGRADING PLAN

Summary

2. UPGRADING PLAN

2.1 Upgrading objectives
2.1.1 General objectives
2.1.2 Expected results

2.2 Major upgrading items
2.2.1 Corporate concept
2.2.2 Markets
2.2.3 Products and services
2.2.4 Resources

2.3 Upgrading strategy

2.4 Recommended actions
2.4.1 Immaterial actions
2.4.2 Tangible investments

2.5 Budget forecast

2.6 Financing

2.7 Expected impact of the implementation of the upgrading plan

2.8 Implementation planning

VI. Implementation and monitoring of the upgrading plan

The implementation of the upgrading plan that has been adopted and accepted by the principal partners of the enterprise is generally a long-term process requiring the commitment of all involved parties. For an upgrading plan to succeed, the enterprise should attain all the objectives set in the plan. The implementation of the plan involves obtaining and putting into practice on schedule the requested contributions, commitments and agreements made with partners. This normally entails the immediate implementation of short-term survival strategies to increase profitability, as well as medium-term strategies to consolidate profitability and ensure the long-term competitiveness of the enterprise.

The implementation and monitoring of the upgrading plan is the fourth phase in the strategic upgrading plan (SUP) (see figure XV).

A. Prior conditions

With no claim to exhaustiveness, some of the many conditions for the success of the upgrading plan are described below.

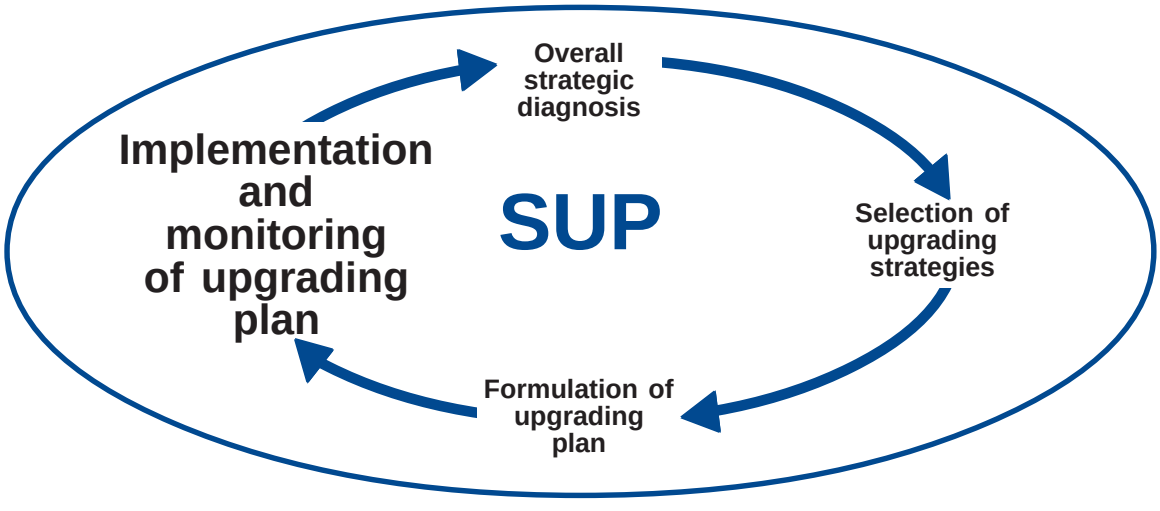
(a) Judicious choice of the person responsible for implementing the upgrading plan. Personality, competence, availability, willingness and interest are the most essential criteria. The implementation of an upgrading plan calls for the head of the enterprise to have a sense of organization, an ability to delegate and an aptitude in choosing the people around him or her. The person responsible for implementation plays a fundamental role in putting together the upgrading team, drawing up an organizational chart, delegating the necessary powers and defining responsibilities of the different positions, and in actual implementation of the upgrading plan, particularly the decision-making processes, negotiation, mobilization of material and human resources, coordination and performance measurement. This person may be the head of the enterprise in a small or medium-sized enterprise or a senior manager (engineer or manager of a large enterprise).

(b) Drafting of a detailed programme and timetable for implementation of the upgrading plan with indication of the objectives to be achieved, the expected results in figures and the planned activities by sphere of activity, division and department in each sphere with a list of the activities and the timetable for their accomplishment (planned date of commencement and duration).

(c) Rapid implementation of the plan. As soon as the plan has been approved, it should be implemented without delay. Any delay in implementation, particularly in the mobilization of means or the setting up of measures, could jeopardize the achievement of objectives and expected results.

(d) Establishment of a good social climate based on motivation and profit-sharing by person-

Figure XV. Strategic upgrading process



nel. This involves informing personnel on the situation of the enterprise and the objectives of the upgrading programme. The works committee, or staff representatives where there is no committee, should be involved and informed of all decisions relating to personnel. According to an inquiry designed by Cégos and carried out by Brilman (1986), the establishment of a social policy is one of the common features of all successful recovery programmes. This policy, says Brilman, should be based on:

- "The courage to implement a policy of truthfulness;
- The courage to establish intensive and direct communication with personnel so as to avoid rumours;
- The courage to confront the trade unions;
- Renewed motivation of personnel."

(e) Establishment of a simple follow-up and monitoring system for staff, resources, means, and the achievement of the expected results and objectives.

Once the various management systems and monitoring tools and the different measures described above have been set up, the person responsible for upgrading will need to carry out the different financial, organizational, technical and strategic activities and actions provided for in the upgrading plan. The implementation planning should be respected and, where necessary, revised as the programme is being carried out.

B. Implementation of the upgrading plan

From successful experiments in other countries it would appear that the difficulty is not in the formulation of the upgrading plan but, above all, in its practical implementation by the enterprise. At this stage, the plan has been accepted by all or the most important partners. The management systems and tools and mechanisms for monitoring the upgrading plan have been devised and put in place. The implementation phase covers the period from the decision to implement the plan until the enterprise has achieved the objectives set.

The implementing activities vary from one enterprise to another. Each enterprise is an individual case with its own particular logic. Below we present some of the difficulties and problems encountered by most industrial enterprises that have implemented upgrading plans in Tunisia.

(a) Improving management systems. With account taken of the weaknesses identified in the strategic diagnosis, the following actions could be envisaged. First, the reorganization of the enterprise's structure with a view to reducing costs and improving productivity; second, reorganization and stimulation of sales and marketing activities; then, introduction of a quality management system and computerized systems for better management of personnel, accounting, cash flow, invoicing, etc.; and finally, at the technical level, the improvement and progressive introduction of flexible production systems and means so as to permit an efficient adaptation and rapid reactions by the enterprise to the uncertainties and risks of the environment and the market, the introduction of a quality management system, etc.

(b) Personnel training. To carry out the activities cited above, it is often necessary to conduct training and skills development programmes for the head of the enterprise and the personnel so as to ensure greater staff flexibility and mobility. This aspect deserves particular attention in view of its impact on productivity and on the enterprise's performance.

(c) Financial restructuring. While waiting for the first financial resources to be mobilized and in the case of enterprises in a precarious financial state, immediate measures can be taken to improve cash flow by speeding up incoming payments (more rapid delivery and invoicing, award of rebates for cash payment and large discounts for products in stock), slowing down outgoing payments (negotiate longer payment terms with suppliers, reduce purchases, negotiate bank terms and loans) and suspending current investments.

Financial restructuring is contingent on the prompt provision and mobilization of internal and external financial resources to enable the upgrading plan to be executed. The various internal resources to be mobilized are contained in the financial plan, with indication of the due dates and amounts required. Among those that can be mobilized, there are resources from the transfer of part of the operating assets (particularly when resizing the enterprise, i.e. transfer of independent sectors of activity) or non-operating assets (transfer of land, buildings, shareholdings, etc.); resources derived from a reduction in the working capital requirements with ensuing cash surplus (e.g. by reducing stocks or customer credit, using supplier's credit, etc.), and resources made available through self-financing and derived, for example, from reduced costs, productivity gains or increased sales.

The various external resources to be mobilized are listed in the financial plan with indication of the due dates and amounts involved. They include:

- Equity capital to be provided by shareholders in connection with an increase in the enterprise's contributed capital. These funds are the most advantageous since

they cost nothing to the enterprise, being paid back on profits;

- Subsidies and premiums granted by the State as part of the upgrading programme;
- Medium- and long-term bank loans to finance investments and to reconstitute the working capital;
- Possible consolidation of short-term loans and certain medium- and long-term debts.

C. Monitoring of the upgrading plan

As has been pointed out, no enterprise is immune to failure because even a healthy enterprise can have symptoms of decline which need to be diagnosed early on. In a permanently changing economic environment, constant vigilance is called for. Vigilance is a state of mind. For this reason, every enterprise, if it is to survive, needs to put in place a "watchdog function", monitoring mechanisms or a rigorous and regular system for monitoring the functioning of the enterprise and its position within its environment.

The most serious error committed by most managers, who almost always try to conceal their difficult situation, is to wait too long before reacting and in this way compromise their chances of upgrading or recovery. In our opinion, there are several reasons for delayed reaction by heads of industrial enterprises:

- Absence of a model for preventing difficulties and methods for monitoring the environment that are specifically geared to industrial enterprises;
- Absence of an early warning system or list of indicators of difficult situations in developing countries;
- Ignorance and/or scant interest by most heads of enterprises in the financial, fiscal or social assistance available to enterprises for recovery or upgrading;
- Delays in drawing up financial statements;
- Absence of forward management planning and operating reports in most industrial enterprises;
- Confusion between a structural crisis and economic slowdown;
- Cash facilities granted by certain banks.

As pointed out in *Le score de l'entreprise* by M. Holder, J. Loeb and G. Portier, if difficulties are realized at an early stage by the heads of enterprises, less effort is required for recovery and upgrading during continued operation. In this context and in order to provide rigorous preventive monitoring, on the basis of the French law of 1 March 1984 on the prevention of difficulties in enterprises, and chapter 11 of the Bankruptcy Code (1987) of the United States of America relating to business reorganization, we propose inexpensive operational monitoring instruments that can be used immediately and are particularly useful for industrial enterprises operating in turbulent or threatening environments:

- Diagnosis on a regular basis and/or each time shareholders, banks or the auditor requests it; this diagnosis gives an insight into the development of the enterprise and enables it to react while the difficulties are reversible;
- Establishment on a regular and timely basis (at the end of each half year) of accounting and financial documents (balance sheet, income statement, cash forecast, budget) and their submission to shareholders, banks and the company auditor;
- Drawing up of a streamlined operating report for interested observers, particularly in small and medium-sized companies. This report includes indicators linked to results and makes it possible to measure and evaluate actual performance in comparison with forecasts. This system calls for an explicit definition of the objectives to be attained by the enterprise and its operational units, the inclusion of the staff concerned in the determination of these objectives, and finally the drawing up, based on the upgrading plan, of annual and half-yearly financial forecasts, monthly investment and financing budgets and monthly operating and cash budgets.

The forecasts and results of these budgets should be in conformity with those of the upgrading plan. As the plan is implemented, the achievements should be compared regularly with the forecasts contained in the plan. The discrepancies should be analysed and corrective actions undertaken in implementing the upgrading plan.

Conclusion

For industrial enterprises operating in developing countries to take successful advantage of the new market system, which is much less protected than hitherto and much more exposed to international competition, they must be upgraded and their systems, management modes and attitudes remoulded. This upgrading must be designed to strengthen the competitive position of the enterprise and improve its access to international trade.

Table 10. Non-material upgrading actions: UNIDO assistance provided to a dairy in Rwanda

Action/recommendation	*Actual/expected impact*
Setting up of milk collection centres Organization of transport of milk to the dairy Training of milk producers in villages	Restructuring of the network at a national level in Rwanda Increase in purchasing power in farming communities Creation of jobs by increasing the quantity and quality of milk
Pending an increase in the local production of raw milk, manufacture of dairy products using reconstituted milk	Increase in the utilization of existing installation from 20 per cent to 50 per cent in 2002 and 100 per cent in 2003 Reduction in import of finished products Use of reconstituted milk to permit regular flow of fermented milk
Production of new products such as ultra-high temperature (UHT), fermented extended shelf life (ESL) milk and ESL yoghurts with an extended range of flavours	Development of new market Increased sales volume Reduced import of finished products Increased possibility for exporting finished products
Ensuring that the raw milk does not contain antibiotics through the widespread training of farmers	Improved quality of fermented milk and savings on imported ferments
Refrigeration of raw milk at 4°C from receipt to reception at plant, storage and then heat treatment	Increased productivity and quality through improved work organization
Pasteurization of fermented milk at 95°C before processing	Reduced risk of deterioration of product during transport and distribution and increase in life of fresh product
Homogenization of milk, recovery of cream with 40 per cent fat and transformation into pasteurized processed cream and butter	Reduced losses, sale of new products and increased profitability
Provisions for automatic regulation of temperature and concentration of cleaning solutions Provision of a vat to recover water in cleaning-in-place (CIP) system and introduction of automatic sorting Provision of 20 m^3 daily storage vat with epoxy resin or stainless steel inner lining	Efficient cleaning of plant, improved quality, reduced losses Estimated 5 m^3 water saving per day Clean process and CIP water available Reduction in production stoppages as a result of water shortages
Provision of plastic crates to store and distribute products	Reduced risk of product loss during handling and transport
Introduction and monitoring of operating modes and quality plans in accordance with Good Manufacturing Practices (GMP) and HACCP	Consistent and reliable quality of dairy products
Assistance in the setting up of a marketing system	Loyal clientele, increased sales, increased market share, committed staff Creation of private integrated agricultural initiative (IAI)
Introduction of the proposed maintenance, hygiene and safety plan	Starting up of butter packing machine Regular supply to yoghurt and fermented milk packing machines to control production times
Reduction in volume of water used and processing of waste water Reduction in packaging waste	Better environmental protection
Establishment of several sales kiosks for dairy products on franchise basis	Increased sales Additional jobs created

Successful recovery and upgrading experiments have shown that the strategic procedure, increased collaboration, mobilization and firm commitment by all actors concerned are the prerequisites for the success of the upgrading operation. With account taken of the financial, technical and social constraints of industrial enterprises in developing countries, we have identified and conceived a number of proposals relating to:

- Overall strategic diagnosis methodology;
- Choice of upgrading strategy;
- Priority upgrading actions such as intangible investments in response to the difficulties and problems encountered by the majority of small and medium-sized enterprises. These actions relate to improving the management system, training, financial restructuring, quality improvement, etc.;
- Simple implementation and monitoring of the upgrading plan adapted to small and medium-sized enterprises, in particular the setting up of a streamlined operating chart and regular diagnosis.

Part Two

International experience of restructuring and upgrading

I. Programme for modernizing and upgrading industry in Portugal[1]

Portugal joined the European Community in 1986. At that time the situation of Portuguese industry was as follows:

- Insufficient specialization based for the most part on a few low-capacity wealth-creating activities;
- Unbalanced structure, strongly dependent on other countries for raw materials, capital goods and energy resources;
- Enterprise development strategies focused on direct production, little interest in investment in innovative fields, training, information, modern management and organization techniques;
- Unbalanced industrial structure, composed mainly of small enterprises with few associations and little regular cooperation;
- Relations to international enterprises limited to export networks, without long-term commitment, and insufficient representation in international organizations playing a major role in decisions on the future of industry and commerce;
- Few research resources, concentrated in universities and cut off from industrial reality;
- Technological infrastructure not geared to training, information, technical assistance and research;
- Poorly qualified human resources at executive, management and labour levels; low quality and productivity levels, in some cases as little as one quarter of that of other members of the Community, thereby compromising long-term competitiveness;
- Small economic margin and mediocre performance of factor inputs;
- Inability to develop the industrial situation because of the imbalance in investment in terms of the number of transactions and the amounts concerned in each of them, and low degree of integration, the accent being placed on traditional techniques at the expense of working capital.

In this situation, it had become vital for the Government authorities to include in their industrial policy an integrated programme aimed at remedying the above-mentioned weaknesses. The following objectives were determined at the time:

- Improvement in the functioning of the markets and creation of conditions conducive to effective internationalization of industrial enterprises in Portugal;
- Reduction in dependence on imports, notably by diversifying energy sources (by reducing reliance on oil) and stimulating the capital and intermediate goods sectors;
- Strengthening competitiveness by diversifying investments, which would no longer be aimed solely at direct production but also at techniques and technologies;
- Adaptation of techniques to demand to improve technological potential and products that could be manufactured.

Once these objectives had been set, the Portuguese Government negotiated a programme with the European Commission in 1988 to achieve them and to close the economic gap that separated Portugal from the highly developed countries of the European Community.

In June 1988, the Council of Ministers of the European Community approved a budget package of 1 billion ecus in subsidies and 1 billion ecus in loans from the European Investment Bank (EIB) to launch a special Portuguese industry development programme called PEDIP, to which Portugal also allocated 500 million ecus from its national budget.

Since that time, Portuguese industry has benefited from funding from the European Union. PEDIP I (from 1988 to 1993), PEDIP II (from 1994 to 1999) and POE (from 2000 to 2006) have become major elements (but not the only ones) in the upgrading of Portuguese industry.

This document briefly describes the first two programmes.

[1] Alberto José Santana, Director of PEDIP I and PEDIP II Modernization and Upgrading Programmes from 1988 to 1996, September 2001.

A. PEDIP I (1988-1993): modernization and upgrading programme

This programme, originally planned to run from 1988 to 1992, was extended until 1993. It had a budget of 1.5 billion ecus in subsidies and 1 billion ecus in loans and was based on four priority focuses agreed by the European Community and the Portuguese Government:

- Focus 1: speeding up the modernization of the support infrastructure for the industrial sector;
- Focus 2: strengthening the basis for vocational and continuous technical training;
- Focus 3: directing financing towards productive investments in enterprises, particularly small and medium-sized enterprises;
- Focus 4: improving productivity of small and medium-sized enterprises and quality in industry.

The various elements associated with these four focuses were co-financed by the European Community through a number of funds: a credit line specially opened for PEDIP, the European Regional Development Fund (ERDF) and the European Social Fund (ESF).

The programme was structured around the specific features of these three funds and had the following characteristics:

- *Temporary*, for five years;
- *Integrated*, in that they were to cover a broad range of measures to stimulate the upgrading of the industrial sector;
- *Horizontal*, in that they were applied to the entire territory of Portugal;
- *Adjustable* at any time of their implementation.

They covered seven operational programmes (see table 11), six of which related to the focuses mentioned above, the seventh being devoted to support activities (spreading of information, implementation and monitoring of the programme as a whole).

Table 11. Operational programmes

Priority focuses	*Operational programmes*	*Strategic sectoral programmes*	
Focus 1	Basic and technology infrastructures	PITIE	PRODIB
Focus 2	Vocational training		
Focus 3	Promotion of production investment		
	Financial engineering		
Focus 4	Improving productivity		
	Industrial quality and design		
	Spreading of information, implementation and monitoring		

As part of its industrial policy, Portugal then defined two complementary strategic programmes:

- Integrated programme for information technology and electronics (PITIE);
- Capital goods industry development programme (PRODIB).

In order to achieve the above-mentioned objectives, the PEDIP programme provided direct support to industrial enterprises implementing projects aimed at:

- Innovation, modernization and upgrading of the production structure;
- Acquisition and development of new technologies;
- Creation of new industrial units in sectors with growth potential;
- Strengthening of human resource management and technical capacities in industry;
- Promotion of quality, industrial design and marketing by means of dynamic commercial strategies;
- Improvement in the productivity of production factors.

B. Implementation structure: PEDIP Management Office

The implementation structure was established with account taken of the programme's temporary and variegated nature and of the operational structure of the Ministry of Industry.

In view of the temporary nature of the programme and the need for flexibility, it was decided not to create too heavy a structure.

Given the fact that PEDIP was integrated, since it covered several strategic and horizontal programmes, and that it needed to be managed by an organization capable of coordinating all measures implemented by the above-mentioned sectors, a PEDIP management office was specially set up and provided with the flexibility required for achievement of the objectives set.

C. Description of programmes

Programme 1: Basic and technological infrastructures

Subprogramme 1.1: Basic infrastructures

The following strategic measures were targeted:

- Strengthening of the road network serving industrial centres;
- Promoting the development of a railway infrastructure and the equipment necessary to serve the main freight routes for industry;
- Support in the development of a port infrastructure and corresponding installations in industrial zones;
- Promoting the construction of a support infrastructure for activities and business associations (exhibition halls, multi-purpose buildings for training and general assistance for commercial activities, etc.);
- Support in the improvement of other essential infrastructure for industrial activity, particularly in disadvantaged regions;
- Promoting the development of energy infrastructures, in particular networks for the transport and distribution of electricity and combustible gases.

Subprogramme 2:
Technological infrastructure

The following priorities were defined:

- Assistance to small metrology laboratories in improving the quality of their products;
- Development of technology centres providing support to enterprises in the industrial sector;
- Encouragement to institutes specializing in new technologies to establish constructive relations between research and production, especially in strategic innovation sectors;
- Creation of centres of excellence to strengthen the interaction between research and industry in interdisciplinary high-technology fields in strategic sectors;
- Establishment of transfer centres to promote general utilization of technology in multisectoral enterprises, particularly in strategic innovation sectors;
- Creation of demonstration units to increase technical knowledge in specific fields so as to enable the potential of new products and new technologies to be taken advantage of without delay;
- Fostering the creation of business incubators devoted in particular to technological innovation;
- Encouragement of the setting up of technological parks and nodes.

Programme 2: Vocational training

Various measures were introduced on the basis of what were considered to be the priority objectives. They were chosen to supplement the support measures and other programmes, including the Regional Development Plan (RDP), and to meet the training needs of the industrial sector. The following priorities were determined:

- Medium- and long-term training of middle and higher management in specific management and technology fields;
- General training to implement the measures financed by PEDIP;
- Setting up of training establishments in sectors considered important for industrial development, where the traditional system was proving to be deficient;
- Training of researchers to make good the shortcomings discovered in staff profiles and to help with the upgrading and modernization of enterprises;
- Improvement in the quality of training through the setting up of establishments to train trainers and teachers and to subsidize the writing and publication of educational material for projects financed by PEDIP.

Programme 3:
Promotion of production investment

The structural imbalance in the national production system made the Portuguese economy extremely vulnerable. It was therefore necessary, in a relatively short time, to adapt and upgrade the industrial sector to enable it to take advantage of an open economy. Programme 3 was designed specially to directly encourage enterprises to modify their structures, to modernize them and to help them reorganize so as to ensure their long-term competitiveness and independence.

It thus aimed essentially at stimulating investment in industrial enterprises in the process of modernizing (upgrading) their structures and interested in developing technology, innovating, improving the quality of their products, recycling energy and protecting the environment.

Programme 4: Financial engineering

To speed up industrial development, the conditions for financing enterprises needed to be improved.

Programme 4 was established with this in mind with a view to creating the necessary financial conditions for general modernization of industrial enterprises, to adapting credit mechanisms to the upgrading plans and providing a long-term and balanced financing framework for enterprises.

The programme was designed in the form of measures to supplement and strengthen incentive plans established primarily for small and medium-sized enterprises in cooperation and collaboration with credit institutions. The majority of the resources available under this programme were devoted to the creation of two risk capital enterprises (50 per cent of whose capital was financed by PEDIP).

Programme 5: Increasing productivity

Programme 5 aimed at improving the productivity of enterprises through demonstrations and information campaigns with a view to increasing the efficiency of factor inputs, or through assistance in organizing operations that had the same objective but did not fit into any other PEDIP operational programme because of their extreme specialization.

The planned activities covered two areas:

- Support for new techniques and technologies; demonstrations, the spread of information and promotion within enterprises to boost productivity;
- Assistance in implementing projects relating to factor inputs that were not sufficiently developed in other PEDIP programmes, particularly with regard to organization and management of production, supply and distribution, energy, and quality and industrial design.

Programme 6: Quality and industrial design

Given the strategy of turning Portuguese industry into an open market in preparation for the single European market, the competitiveness aspect was increasingly subordinated to factors connected with management capability; at the same time, there were also problems of quality and industrial design.

A series of measures was therefore required within this programme to define quality criteria and to integrate them into a coherent and comprehensive structure so that the basic objectives of PEDIP regarding quality and industrial design could be achieved.

The structure defined for this purpose took account of the general concern about quality, which was one of the main priorities of PEDIP, and the expected impact of the other programmes, and also of the specific objectives of this programme, namely:

- Strengthen the structures of the National Quality Management System (NQMS) to guarantee and improve quality and create the basis for satisfying Community criteria;
- Promote respect for standards or technical specifications and the introduction of quality management policies in enterprises;
- Promote consumer rights and good customer/supplier relations;
- Make industrial design an essential element of the production process;
- Support mechanisms that fostered the conclusion of bilateral agreements to ensure that national standards were accepted in other countries of the Community.

Programme 7: Distribution of information, implementation and monitoring

The scope of PEDIP, its objectives and the related human and material resources made it necessary to devote particular attention to its implementation and to ensure that it was carefully monitored so as to guarantee the proper use of Community funds.

Moreover, since PEDIP's main objective was the modernization and upgrading of Portuguese industry, it had also to consider the enterprises themselves, particularly small and medium-sized enterprises, which were geographically dispersed and had difficulty in accessing information. The success of the programme was therefore crucially reliant on an information mechanism that would foster the development of projects in line with PEDIP's main objectives and capable of being integrated in the PEDIP programme.

PEDIP did not directly finance industrial development; its aim was rather to provide the industrial sector not only with clear and precise information on the available assistance but also to coordinate the means and conditions necessary for this assistance to bear fruit.

Integrated programme for information technology and electronics (PITIE)

The primary objective of PITIE was to foster the development of Portuguese industry in the information and electronics sector by establishing a strategy to promote its modernization and expansion.

It was designed not only to create and develop enterprises that were making efforts to modernize the Portuguese economic structure but also to contribute to the restructuring of the industrial sector.

Capital goods industry development programme (PRODIB)

In view of the strategic importance of capital goods industries in strengthening the manufacturing structure in Portugal and making good the deficit in the commercial structure, a sectoral programme was launched for the horizontal and integrated development of those industries within

the framework of the assistance provided by PEDIP, which was adapted as a result.

The programme was designed to increase the weight of capital goods industries in the domestic industrial product during the PEDIP programme and, at the same time, to improve quality through the use of more sophisticated equipment adapted to the growing needs of the user sectors.

The instruments used were generally the same as those for the PEDIP operational programmes (1, 2, 3, 5 and 6) to which the capital goods industry had preferential access. They included maximum or joint incentives, guarantee incentives up to a defined ceiling and the possibility of presenting a single application for different types of proposed assistance.

Relative importance of PEDIP programmes

The allocation of the total budget package to the different programmes is presented in the table opposite. Programme 3 for modernization and upgrading of the manufacturing system had the largest allocation.

It should not be concluded, however, that programmes 5 and 7 were minor ones. They were designed to support less costly projects requiring intangible investments that nevertheless helped considerably to improve the competitiveness of enterprises.

Operational programme	*Percentage of budget*
Programme 1	34
Programme 2	10
Programme 3	41
Programme 4	7
Programme 5	4
Programme 6	3
Programme 7	1

D. PEDIP II (1994-1999): modernization and upgrading programme

PEDIP II, designed and managed by the team that had formulated and implemented PEDIP I, followed the same direction as the previous programme while indisputably taking advantage of the experience that had been gained on the way.

The situation in 1994 had, however, changed considerably in comparison with 1988: *(a)* the business environment had undergone profound changes as a result of the industrial policy implemented during PEDIP I; *(b)* the government authorities had already acquired some experience in the implementation of this type of programme; and *(c)* the rules governing structural funds had evolved. The design and structure of PEDIP II had therefore to be adapted to this new environment. The differences between PEDIP I and PEDIP II can be summed up as follows:

- The aid was redirected towards integrated projects;
- A strategic analysis was demanded for projects having a great impact on the structural environment;
- Diagnostic assistance was systematically provided through the use of the enterprise's own resources or external consultancy;
- Apart from the advantages of the project itself, the selection criteria took account of its effects on the enterprise after implementation;
- Loans were set up for industrial investments;
- Financial engineering mechanisms to reduce financing costs for small and medium-sized enterprises were strengthened;
- Anticipatory measures were taken to remedy natural weaknesses of the market;
- Greater external participation in management was planned, particularly with regard to the financial system;
- The social partners were involved more officially and to a greater extent in the programme monitoring;
- A suitable evaluation system was created.

PEDIP II programme

PEDIP II benefited from the experience of PEDIP I.

In the design of PEDIP II, industrial policy was coordinated with a large number of associated policies. This avoided the dissipation of effort and wastage of funds in the areas where programmes connected with other policies (transport, communications, education, land planning, research and development, etc.) were better able to offer incentive measures. Other programmes were created for this purpose as part of the Regional Development Programme (RDP).

The main aims of PEDIP II were to foster a sustained improvement in the competitiveness of Portuguese industrial enterprises, to strengthen their capacity to adapt to the rapid evolution of technologies and markets, to encourage modernization, upgrading and diversification and to promote the internationalization of industrial structures.

Areas of activity and beneficiaries

To achieve these objectives, the programme operated on three different levels:

- Structure and organization of enterprises;
- Business environment;
- Behaviour of enterprises.

Regarding the structure of enterprises, the most tangible support consisted in the co-financing of various development project elements. But the programme provided equally important indirect aid by improving infrastructures and financing as requested by the enterprises.

In budgetary terms, industrial enterprises were the principal beneficiaries of the programme (accounting for around 57 per cent of the budget) and were able to exploit the planned benefits through a specific incentive system—SINDEPEDIP—which combined all forms of aid necessary for modernization and upgrading.

Note:

PEDIP II was divided into five operational subprogrammes, the sixth being devoted to management, monitoring and evaluation of the programme as a whole. Each of these subprogrammes contained several measures for a particular type of activity.
Nevertheless, in order to simplify access by beneficiaries to the programme, all measures aimed at the same type of beneficiary (technology and quality infrastructures, enterprises, professional associations, technology institutions and financial system) were grouped together in incentive systems.

The question of the business environment was dealt with in close coordination with other operational programmes in the Community support framework so as to concentrate resources on areas of particular interest to the Ministry of Industry and Energy.

Activities to create a favourable business environment targeted different types of beneficiary: technical, technological and training support infrastructures, professional associations and organizations belonging to the financial system.

Support was provided through the following incentive systems: SINFRAPEDIP (strengthening of technology and quality infrastructures), SINETPEDIP (strengthening of technical institutions), SINFEPEDIP (financial engineering aid to enterprises) and SINAIPEDIP (professional associations).

To influence the behaviour of enterprises, PEDIP II relied on a series of voluntary measures. Altogether, these measures affected factors that were not directly productive but contributed to improving and enhancing the competitiveness of enterprises, such as management, quality, industrial design, innovation, cooperation and training, acting as a catalyst for the incentives provided for in the different systems. Assistance was also offered to make known successful examples of innovative management techniques, forms and processes so as to encourage similar investments in other enterprises by means of the most appropriate incentive system.

— *Enterprise incentive system*

The incentive system relating to strategies for industrial enterprises—SINDEPEDIP—included a group of measures that could be applied in all enterprises fulfilling certain predefined conditions.
The system included the following detailed groups of measures:

- Aid in the evaluation of the enterprise: aimed at encouraging enterprises wishing to carry out, with the assistance of external bodies, diagnoses, studies and audits to help them to take strategic measures to develop their activities;
- Aid in implementing integrated commercial strategies: applicable to all projects involving a fixed capital investment of more than 100 million escudos (500,000 euros);
- Aid to small enterprises: aimed at helping small enterprises to modernize by allowing them to carry out the small investment projects they required to develop. For larger projects, these enterprises could take advantage of the assistance described in the previous point;
- Aid in productivity and demonstration of industrial expertise: aimed at helping enterprises to improve their productivity through a range of measures, principally by encouraging them to carry out demonstrations and publishing the results so that other enterprises operating in the same sector could follow their example;
- Support in inter-enterprise cooperation: aimed at promoting cooperation between small and medium-sized enterprises to enable them to achieve economies of scale and attain the desired level of competitiveness which otherwise would have been out of their reach;
- Aid in research and development: aimed at encouraging enterprises to invest in innovation by devising new products and procedures;

- Aid in industrial quality: aimed at encouraging the certification of quality assurance systems and products and the calibration of instruments. Through this specific aid, the programme sought to promote the certification and installation of integral quality management systems in enterprises;
- Support in the utilization of the industrial property regime: aimed at encouraging enterprises and individuals to register patents;
- Assistance in the use of the capital market: aimed at enabling small and medium-sized enterprises to gain access to the unlisted securities market.

Types of incentives provided for by SINDEPEDIP

PEDIP II provided both direct financial support and indirect mechanisms to encourage the financial system to offer favourable products and conditions more in line with the needs of small and medium-sized enterprises.

The direct assistance provided through the various types of aid described above was available in the form of:

Subsidies: for investments that were not directly productive;
Interest-free loans: for investments that were directly productive.

The amount of aid depended on the overall analysis of the nature of the project and the type of incentive (loan or subsidy). It could thus vary from 30 to 70 per cent in the case of subsidies and from 40 to 80 per cent in the case of loans.

— Incentives to foster an environment more favourable to enterprises

In this area, one of the principal objectives of the PEDIP II programme was to strengthen the infrastructures created or strengthened during the previous programme. The idea was to provide these infrastructures with the conditions necessary for their operation, either by granting aid to strengthen their human, administrative or managerial capacities, or by increasing their market share among industrial enterprises.
The programme helped to strengthen the following structures: technology and quality infrastructures, associations, particularly business associations, industrial support services and technology institutes.

As mentioned earlier, the support to these structures was organized through the specific incentive systems (SINFRAPEDIP, SINAIPEDIP, SINETPEDIP and SINFEPEDIP).
While recognizing the importance of the above-mentioned structures, the PEDIP II programme devoted particular attention to strengthening technological infrastructures, since these support structures, which were of cardinal importance with regard to innovation, were judged to be indispensable to the growth of long-term competitiveness of small and medium-sized enterprises.
The PEDIP II programme endeavoured to strengthen this type of infrastructure, which was not well developed at the time, in several ways:

- Assumption of a large proportion of certain types of operational expenses required for the creation and upgrading of technical and managerial competencies;
- On the demand side, granting of considerable aid to enterprises using the services provided by these support structures (maximum aid of 80 per cent being granted to enterprises having recourse to them);
- Assumption of a large proportion of the expenses connected with high-risk projects concerning innovative products or processes of interest to several enterprises;
- Encouragement of innovative projects contributing to the development of enterprises, proposed by consortiums of enterprises and support structures.

The financing mechanisms to which small and medium-sized enterprises had access was a further important method of stimulating the economy.
In 1994, in spite of the development of financial products, small and medium-sized enterprises in Portugal were still disadvantaged compared with their competitors in more developed countries. The PEDIP II programme thus made an important contribution in this area thanks to the SINFRAPEDIP incentive system. The following measures were proposed:

- Continued promotion of venture capital;
- Increased financing by encouraging investments (some with fixed, others with variable returns);
- Aid in setting up a system of mutual guarantees in Portugal;
- Aid for fixed-capital management funds.

— *Forward-looking measures*

Given the imperfections of the market and the need to speed up the pace of change in order to safeguard the competitiveness of Portuguese industry, it was felt that this programme should offer more forward-looking measures than PEDIP I so as to encourage activities deemed essential for the development of enterprises in precisely those areas where market forces were insufficient to enable these activities to emerge spontaneously and rapidly. These measures could not, however, be simply defined at the whim of the government authorities; they needed to be the product of sound cooperation between the authorities and the business community through the intermediary of the associations that represented it. The following areas were envisaged:

- Quality and industrial design;
- Inter-enterprise cooperation and upgrading of enterprises;
- Internationalization of industrial strategies;
- Innovation and technology transfer;
- Increased environmental awareness;
- Productivity objectives and demonstration projects;
- Promotion of technological infrastructures in industry;
- Tasks connected with energy output.

Vocational training

PEDIP II was designed in such a way that there was no provision for training independent of the investment projects. For this reason, due account had to be given to human resources in the diagnosis carried out to justify the investments. To satisfy this requirement without harming the programme design, an independent subprogramme was created consisting of four operational measures:

The first two measures were designed simply to integrate training expenses in the investment projects for both the organizations offering support services to industry and the industrial enterprises.

The third measure was designed to make up the shortcomings in training and, in cooperation with the various business organizations, to modify or stimulate the demand by enterprises for training.

The fourth measure was aimed at financing a technical support structure for voluntary actions such as studies and awareness-raising campaigns.

Programme management

The structure of PEDIP I was retained, i.e. a management office with a small staff supported by various general departments and services of the Ministry of Industry to implement the various incentive systems and anticipatory measures.

Based on the experience of PEDIP I, PEDIP II also had a management, monitoring and evaluation subprogramme.

Although this subprogramme was subsidiary in budgetary terms, it was nevertheless vital to the successful implementation of PEDIP II. It planned the financing of activities essential to the programme, namely communicating, monitoring and strengthening the forward-looking measures and evaluating their impact.

The communication of information about the programme to all potential users was fundamental to the achievement of the programme's aims.

The monitoring activities made it possible to ensure that public funds were properly used.

The evaluation proved very useful in the elaboration of future industrial development programmes.

Programme budget

The public financing for PEDIP II (European Union and national budget) amounted to 2.3 billion ecus.

Around 57 per cent of this budget was allocated to the SINDEPEDIP system (assistance in upgrading enterprises).

E. Results of PEDIP I and II

Results of PEDIP I

The deadline for presentation of projects for PEDIP I was set at 31 December 1993.

Table 12 shows the projects received and approved for implementation within the programme framework.

An independent organization evaluated the programme and published a report, which clearly showed that PEDIP I had made a considerable contribution to the modernization and development of Portuguese industry.

Results of PEDIP II

The deadline for presentation of projects for PEDIP II was set at 31 December 1999 and the programme ended officially at the end of 2001. An independent advisory board has been entrusted with the ex post evaluation.

Table 13 gives a summary of the projects received and approved and the aid granted.

Table 12. PEDIP I summary
(In millions of escudos)

	Projects received		Projects approved		
Programmes	*Number*	*Investment*	*Number*	*Investment*	*Aid*
Basic and technological infrastructure	637	238,339	359	130,906	90,424
Vocational training	1,005	71,885	2,082	30,436	21,328
Promotion of production investment	6,074	848,354	2,632	445,622	96,105
Increasing productivity	2,229	92,415	1,009	37,124	15,674
Quality and industrial design	995	24,351	461	12,354	9,069
Total	**10,940**	**1,275,344**	**6,543**	**656,442**	**232,600**
Financial engineering[a]					7,590

[a]Participation in venture capital enterprises and investments.

Table 13. PEDIP II summary
(In millions of escudos)

		Projects received		Projects approved		
Incentive system		*Number*	*Investment*	*Number*	*Investment*	*Aid*
SINFRAPEDIP	Aid in strengthening technology and quality infrastructures	242	36,711	220	35,162	14,876
SINAIPEDIP	Aid to industrial support services	281	34,019	227	30,962	15,467
SINDEPEDIP	Aid to industrial enterprises in formulating strategies	7,060	1,957,059	5,597	14,443,345	337,296
SINFEPEDIP	Aid to industrial enterprises using financial engineering mechanisms	20	48,933	18	44,933	22,905
SINETPEDIP	Aid in strengthening technology institutes	13	16,431	13	16,431	11,319
Subtotal		**7,616**	**2,093,153**	**6,075**	**14,570,833**	**401,863**
Anticipatory measures		246	93,329	241	91,994	57,814
Total		**7,862**	**2,186,482**	**6,316**	**14,662,827**	**459,677**

Note: 1 euro = 200,428 escudos.

II. The Tunisian national upgrading programme

For Tunisia, 1995 was marked by the launching of the post-adjustment stage and the signing of the free-trade area agreement with the European Union. To meet the demands of this new situation, the Tunisian Government designed and implemented a national programme for upgrading the economy and the industrial base (PMN).

The strategic choice of creating this free-trade area, a deliberate decision by the Tunisian authorities, was not to opt for a haphazard opening up to Europe, as had been the case in some countries of Eastern Europe, but to bring about a gradual liberalization (progressive dismantling of import duties) in close consultation with business operators, so as to be able to introduce in good time the necessary adjustments and adaptations in the production facilities and their environment.

The PMN is the first large-scale industrial enterprise upgrading programme in Africa. What are the objectives of this programme? What are its contents? What are the conditions for eligibility? What advantages does it offer for enterprises? What results has it achieved? This chapter will attempt to answer these questions.

A. Perceived need for upgrading

Over the last three decades, Tunisia's industry has enjoyed considerable protection (restrictions on and administration of imports and agreements, controlled prices, etc.). However, although it has contributed significantly to economic development, it still suffers from numerous structural weaknesses and organizational deficiencies (inadequate institutional infrastructure, industrial base dominated by small and medium-sized enterprises, scant inter-industry links, low levels of integration and institutional support, heavy technical dependence, old or obsolete equipment, etc.). These weaknesses constitute a major obstacle to the emergence and development of internationally competitive industries.

As a result of the new provisions of the free-trade agreement with the European Union based on the dismantling of tariffs on locally manufactured products, the situation of some enterprises, which were no longer able to benefit from the protective measures, has deteriorated, while other enterprises might well suffer the same fate unless back-up and upgrading measures are taken immediately. Transitional support and back-up measures as well as technical and financial assistance in upgrading are needed to prepare and adapt industrial enterprises and their environment to confront the new situation.

In this connection, it should be pointed out that most developed countries and the newly industrialized countries have, at some time in their evolution, formulated and implemented strategies and programmes to restructure, adjust and develop their industries aimed at meeting the demands of liberalization and the opening up of their frontiers. We may cite, by way of example, the case of Portugal, which since 1987 has introduced specific industrial development programmes (PEDIP I launched in 1988 and PEDIP II launched in 1994), financed by the state budget and European funds to prepare and adapt Portuguese industries to face European competition.

B. Legislative and regulatory framework

It should be emphasized that the concept of upgrading is a recent one, which started to be used in Tunisia just before the signing of the free-trade area agreement with Europe. This concept has not been clearly defined in any legislative text. Only the steerage and management mechanisms and the resources to fund the activities under this programme have been regulated by legislation. The fact that this programme is concerned with the upgrading of enterprises and their environment is apparent from documents and information notes distributed by the Ministry of Industry and from official speeches. Enterprises in difficulty, which are covered by Law No. 95-34 of 17 April 1995, are, however, not eligible for this programme until they have achieved a healthier financial situation.

C. Steering and management mechanism

(a) The State Secretariat under the Minister of Industry responsible for monitoring the programme

(b) Steering committee

Decree No. 95/2495 of 18 December 1995 laying down rules for the organization, operation and intervention of the Fund for the Development of Industrial Competitiveness, set up under article 37 of the Finance Act (Law No. 94-127 of 26 December 1994), provided for the establishment of a steering committee (COPIL) for the upgrading programme.

The role of this Committee is to examine applications from industrial enterprises wishing to benefit from the upgrading programme and to award restructuring grants. The Committee is chaired by the Minister of Industry or his representative and is made up of representatives from the Ministries of Industry, Finance, International Cooperation and Foreign Investment, Economic Development, Employment, and Vocational Training and Commerce, as well as representatives of the employers' organization (UTICA), trade union (UGTT) and financial institutions.

The Committee meets periodically when convened by its chairman. The agenda is drawn up in advance and communicated to the Committee members at least one week before the date fixed for the meeting. The Committee may delegate some of its powers to a select committee, in particular for the examination of applications for limited investments (1.4 million US dollars). The Upgrading Bureau serves as the Committee's secretariat.

(c) Upgrading Bureau

Article 15 of Decree No. 95-927 of 22 May 1995 on the organization of the Ministry of Industry provided for the establishment of this secretariat. Its functions are summarized in the chart in figure XVI prepared by the Upgrading Bureau.

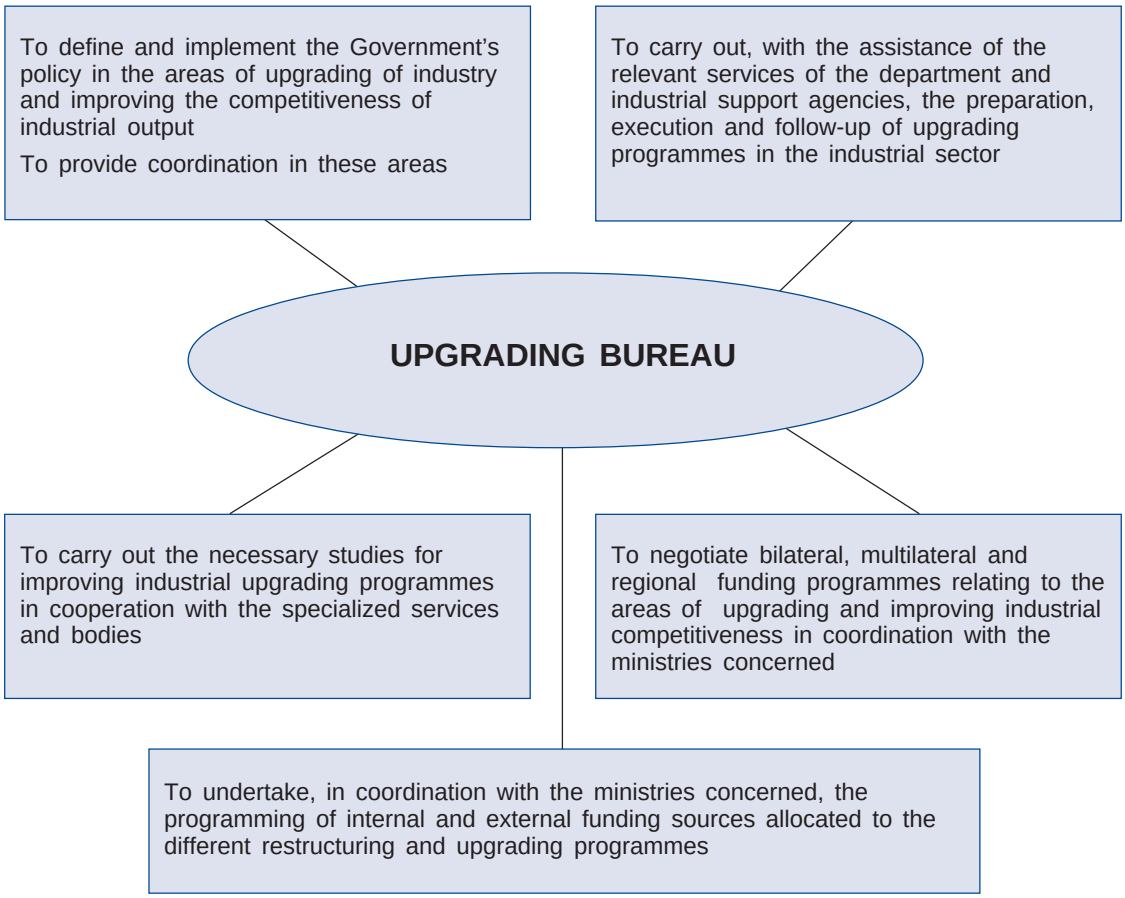
D. Components of the upgrading programme

The upgrading programme concerns the upgrading of enterprises and their environment in the broad sense. Initial estimates put the budgeted cost of the programme at around 2.5 billion Tunisian dinars (1 dinar = 1.4 US dollars). It accordingly has two components:

(a) Environment upgrading

The reforms already undertaken by the Tunisian authorities as part of the structural adjustment

Figure XVI. Functions of the Upgrading Bureau



programme are necessary but insufficient. To create a more favourable economic, financial, regulatory and social environment that is more attractive to local and foreign industrialists, the programme provides for the following measures in particular:

- Redefining and reshaping the role of the administration and of the regulatory, monitoring, promotion, quality, analysis and support institutions;
- Strengthening support agencies, especially technology centres, the Central Laboratory, the Institute for Standardization and Quality, and the Industrial Development Agency (API);
- Strengthening vocational training facilities and establishments;
- Renovating existing industrial zones and developing free zones;
- Stimulating the economic, trade and technological information market.

About 40 per cent of the overall budget has been set aside for upgrading and strengthening the enterprise environment.

(b) Enterprise upgrading

This programme concerns the upgrading of all industrial enterprises (which are not in economic difficulties) in order to facilitate and ensure their successful integration into the European economy. According to various studies and surveys conducted in Tunisia on the situation of industrial enterprises and the statements made by the Tunisian authorities, some 2,000 industrial enterprises are involved in the programme.

The enterprise upgrading programme gives priority to measures conducive to:

- Improving competitiveness through skills development and quality management;
- The acquisition of new technologies;
- Strengthening enterprises' financial structure.

About 60 per cent of the overall budget has been earmarked for enterprise upgrading.

E. Operating and financial procedures of the programme

(a) Operating procedures

Figure XVII, prepared by the Upgrading Bureau, shows the operating procedures for enterprise upgrading.

An analysis of these procedures shows that:

- Five main actors are involved in the upgrading process: the enterprise, the bank, the Upgrading Bureau, the Steering Committee and the specialist research structures (consultancy firms, technology centres and API);
- The bank is involved in the upgrading process from the diagnosis stage until the upgrading of the enterprise is completed (approval of financing plan). In our view the bank's involvement is a precondition for the success of that process. To carry out the diagnostic analysis and formulating the upgrading plan, the enterprise has to enlist the services of the technology centre, a consultancy firm and/or individual consultants. It is thus at liberty to choose its consulting partners. The quality and credibility of the diagnosis and of the upgrading plan depend on the experience, competence and expertise of the consultants chosen. The diagnostic analysis report and upgrading plan are evaluated by the Upgrading Bureau. The report and the plan may be rejected or undergo further development;
- The grants to finance the activity plan are awarded only after signature by the head of the enterprise and the Minister of Industry of an agreement committing the enterprise to implement its upgrading plan;
- The grant is released in stages as the upgrading programme is executed; monitoring is carried out by technical centres.

(b) Financing of the programme

The Fund for the Development of Industrial Competitiveness (FODEC) has been set up to help finance the programme.

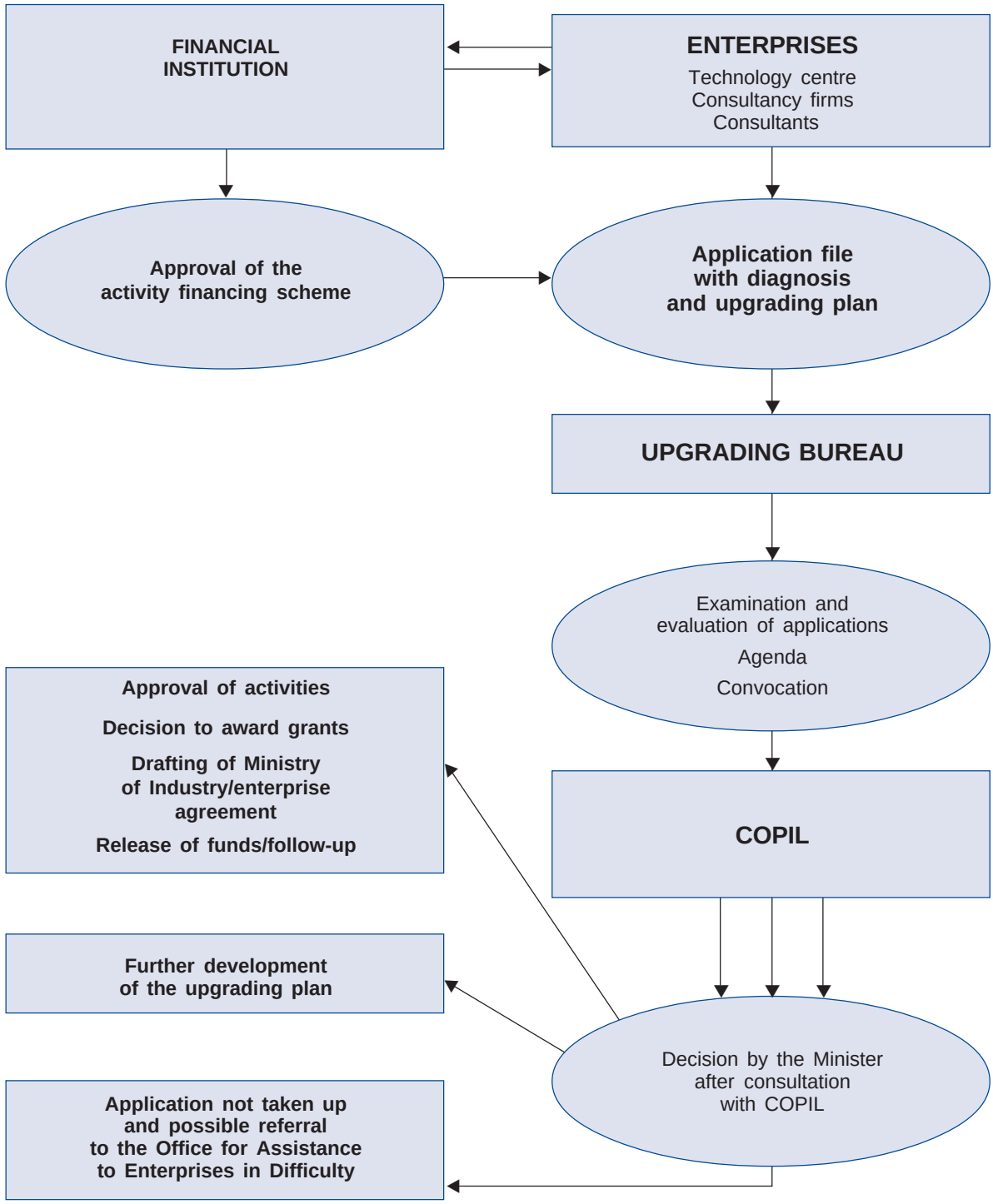
Articles 33 to 46 of the Finance Act (Law No. 94-127 of 26 December 1994) established the Fund for the Development of Industrial Competitiveness (FODEC), which is based on 1 per cent of the sales of local enterprises and the value of finished product imports (excluding equipment and machinery).

The purpose of the Fund is to:

- Contribute to the financing of quality improvement measures;
- Contribute to the financing of restructuring operations;
- Finance sectoral studies;
- Grant subsidies to industrial technology centres;
- Undertake any other activities aimed at developing industrial competitiveness.

In 1999 and 2000, the Fund was enlarged to include the following measures:

Figure XVII. Operating procedures for enterprise upgrading



- Contribute to the financing of priority ITP[1] technology investments: laboratory and analysis equipment, introduction of the HACCP quality assurance system, CAD/CAP/CAPM[2] and associated technical assistance;

- Contribute to the organization of management recruitment by small and medium-sized enterprises for strategic, research, innovation, quality and method functions.

The legislator was thus concerned essentially with improving competitiveness, in the broad sense of the term, and restructuring industrial enterprises and technology centres responsi-

[1]Investment and Technology Promotion Branch.

[2]Computer-aided design/computer-aided programming/computer-aided production management.

ble for providing assistance and technical support to them. The upgrading of services related to enterprises was thus included in the upgrading programme.

The grants that may be awarded by FODEC are as follows:

For the upgrading programme:

- 70 per cent of the cost of diagnostic and upgrading studies (maximum 21,000 US dollars);
- 20 per cent of the self-financed share of the restructuring investment (no ceiling);
- 10 per cent of the remaining portion of the restructuring investment financed by other resources (no ceiling).

Foreign enterprises in Tunisia are also eligible for the upgrading programme.

For ITP priority technology investments:

- Award of grants amounting to 50 per cent of the cost of equipment (maximum 100,000 dinars) and 70 per cent of the cost of intangible investments (maximum 70,000 dinars).

To encourage the recruitment of managers for small and medium-sized enterprises:

- Award of a maximum grant of 7,000 dinars per year for two years for each recruitment (minimum three recruitments).

(c) Procedures for processing applications

Enterprises wishing to benefit from the upgrading programme are required to submit to the Upgrading Bureau an upgrading application file containing a request, the duly completed project data sheet, the overall strategic diagnosis report and the upgrading plan.

The Upgrading Bureau checks the application and conducts an evaluation, drawing on external financial and technical expertise where necessary. Following acceptance of the upgrading plan, the Upgrading Bureau places the application on the agenda and submits it to the Steering Committee for its examination and opinion.

The Steering Committee may:

- Approve the plan, or
- Request further development of the upgrading plan with a view to its re-examination, or
- Reject the application and refer the enterprise to the Office for Assistance to Enterprises in Difficulty.

In all cases, 70 per cent of the cost of the diagnostic analysis will be financed following acceptance of the diagnosis report by the Steering Committee. The Upgrading Bureau will notify the enterprise of the response to its application.

(d) Procedures for releasing funds

The procedures determined by COPIL are as follows:

Cost of the diagnostic analysis and preparation of the upgrading plan. The grant for 70 per cent of the amount approved by the Steering Committee is released in a single instalment following approval of the diagnostic analysis report and the upgrading plan.

Activities under the upgrading plan. The following grants may be awarded:

- 20 per cent of the self-financed share of the upgrading investment;
- 10 per cent of the remaining portion of the restructuring investment financed by other resources.

The grants awarded are released in four instalments at most:

- The first instalment (30 per cent of the grants) is released after 30 per cent of the investments have been made;
- The remaining part of the grants is released:

  Either in a single instalment, or

  In three instalments for the remainder of the activities as they progress.

To be eligible for grants, enterprises must fulfil the following two conditions, as demonstrated by the audited financial statements:

- Positive working capital;
- $\frac{\text{equity}}{\text{total assets}} > 30\ \%$

For ITPs, grants are released as the activities are carried out.

Note:

- ITP grants are awarded without submission of a diagnosis on the basis of a special form (information about the enterprise and its activities);
- The programme measures have evolved: intangible grants have increased from 50 to 70 per cent and the ceiling for diagnosis upgrading programme grants has been raised from 14,000 to 21,000 dollars, etc.;
- Programme investments have represented 30 per cent of all industrial investments.

F. Upgrading programme status (end of December 2001)[3]

Upgrading of enterprises

Number of applications being processed	894	
Number of participants	2,005	
Applications examined by COPIL		
Number of applications approved	1,103	
Number of applications rejected	8	
Total approved upgrading investments	2,078,920,000	dinars
of which intangible investments	266,200,000	dinars
and investments for diagnosis	18,200,000	dinars

Grants awarded:

Diagnosis	*Intangible*	*Tangible*	***Total***
11,500,000	92,600,000	186,500,000	***290,500,000***

Approvals

	1996	*1997*	*1998*	*1999*	*2000*	*2001*
Number of enterprises	61	128	167	240	265	242
Investments (in dinars)	189,083,614	262,160,046	387,786,239	300,240,418	449,929,328	489,719,917
Grants (in dinars)	23,104,215	37,218,581	51,414,910	47,106,779	67,227,962	64,442,042

Upgrading of services

Number of applications approved	36	
Total approved upgrading investments	17,200,000	dinars
Grants awarded	5,680,000	dinars
Number of applications being processed	83	
Number of participants	119	

ITP applications

Number of applications approved	400	
Investments	23,200,000	dinars
Grants	11,000,000	dinars

Upgrading applications by sector

Amounts in millions of dinars	*Agro-food industries*	*Leather and shoe industries*	*Chemical industries*	*Miscellaneous industries*	*Building material, ceramic and glass industries*	*Mechanical and electrical engineering industries*	*Textile and clothing industries*	***Total***
Approved applications	166	91	63	173	76	134	400	**1,103**
Investments	522	80	158	257	454	270	338	**2,079**
Investment share by sector	*25%*	*4%*	*8%*	*12%*	*22%*	*13%*	*16%*	***100%***
Intangible investments (including diagnosis)	53	19	20	34	34	52	63	**274.4**
Intangible ratio	*10%*	*24%*	*12%*	*13%*	*7%*	*19%*	*19%*	***13%***
Grants awarded	69	12	19	40	49	39	62	**290.5**
Applications being examined	145	83	46	155	82	137	246	**894**
Applications refused	3		1			4		
Total participation	314	174	110	328	158	275	646	**2,005**
Target	140	202	63	156	127	211	1,101	**2,000**
Rate of participation	*224%*	*86%*	*175%*	*210%*	*124%*	*130%*	*59%*	*100%*

[3] *Source*: Upgrading Bureau, Ministry of Industry, Tunisia.

G. Initial evaluation of upgrading programme[4]

Impact of upgrading programme on enterprises—general situation

Five years after the programme was launched, the Upgrading Bureau carried out a study to evaluate the upgrading programme with a view to highlighting the deficiencies and selecting the priorities to be retained in the tenth economic and social development plan. The overall evaluation comprised three areas:

- A large-scale quantitative survey of 590 enterprises whose upgrading applications were approved between 1996 and 1999;
- An in-depth qualitative survey of a representative sample of 80 enterprises benefiting from FODEC;
- An evaluation of the other institutions involved in the upgrading programme including financial institutes, the relevant departments of the Ministry of Industry, the professional associations, support institutions, consultancy firms, etc.

The evaluation was carried out by neutral bodies such as universities and international experts.

Initial findings of quantitative survey: successes and performances

The programme has always been monitored on an annual basis. The last quantitative survey was launched in October 2000 and involved 590 enterprises whose upgrading applications had been approved between 1996 (start of the programme) and 1999. The results of the survey, based on 300 replies (out of 350 received) are presented below.

The overall implementation rate[5] was 68% [59%][6] (72% [62%] equipment and 37% [29%] intangible) and the mean implementation rate was 68% [64%] (75% [70%] for equipment and 46% [31%] for intangible investments). Only 5% [10%] of the enterprises had an implementation rate of less than 10 per cent, while 11% [6%] had completed or exceeded the planned investments.

Implementation rate by sector:

	Agro-food industries	*Leather and shoe industries*	*Chemical industries*	*Miscellaneous industries*	*Building material, ceramic and glass industries*	*Mechanical and electrical engineering industries*	*Textile and clothing industries*	***Total***
Sales (1997-2000)[a]	44%	-	68%	61%	63%	54%	60%	**65%**
Sales (1997-2000)[b]	27%	-	58%	32%	69%	37%	33%	**35%**
Sales (1997-2000)[c]	112%	-	49%	69%	83%	83%	47%	**63%**

[a]Mean variation.
[b]Overall variation.
[c]Insufficient sample for this sectoral analysis.

The implementation rate by type of investment varied: civil engineering and computer equipment investments generally had priority, followed by production and other equipment.

Type of investment	*Implementation rate %*
Production	72
Computers	75
Laboratory	57
Civil engineering	65
Other equipment	54
Total equipment	**71**
Quality assurance system	16
Training	10
Production-linked technical assistance	3
Other technical assistance	72
Research	5
Software	10
Other intangible investments	30
Total	**11**

[4]*Source*: Upgrading Bureau, Ministry of Industry, Tunisia.

Development of activities before and after programme

Upgrading programme stimulates activity and invigorates employment

The mean variation in sales between 1997 and 2000 was 65 per cent (or 18 per cent per year) and the overall increase in sales during that period was 35 per cent (annual average of 11 per cent).

Export sales increased 65 per cent overall during the three years (18 per cent per year) and 11 per cent of the enterprises that exported in 2000 had not done so in 1997.

Of the enterprises surveyed, 43 per cent had achieved a mean export sales growth rate of 300 per cent between 1997 and 2000.

[5]The implementation rate is the ratio of the amounts invested to the approved investments. The mean implementation rate is calculated for each enterprise.

[6]The figures in square brackets refer to the third survey in 1999.

Employment and management

The mean increase in employment between 1997 and 2000 was 31 per cent (or 9 per cent per year). The overall increase for that period was 16 per cent (or 5 per cent per year) with a considerable improvement in the number of managerial jobs, which increased by 62 per cent (or 17 per cent per year).

	Agro-food industries	*Leather and shoe industries*	*Chemical industries*	*Miscellaneous industries*	*Building material, ceramic and glass industries*	*Mechanical and electrical engineering industries*	*Textile and clothing industries*	***Total***
Employment (1997-2000)	19%	14%	30%	10%	16%	4%	19%	**16%**
Managers (1997-2000)	90%	158%	100%	48%	30%	30%	65%	**62%**

The upgrading programme improved the level of managerial staff in enterprises, particularly in marketing, research and development, and quality and method management positions.

Position	*Before upgrading programme (%)*	*After upgrading programme (%)*
Managing director	15	14
Marketing/commercial	11	13
Human resources management	6	5
Production	55	50
Supply	4	5
Research/development	1	2
Method	3	4
Quality	5	7
Total	**100**	**100**
Overall management rate	**6**	**4**

III. Industrial upgrading programme in Algeria[1]

Economic reforms aimed at establishing a market economy have been introduced at a rapid pace over the last ten years and have made it possible for the country to gradually decentralize and relax the structures and mechanisms that were set up after independence.

The structural adjustment programme supported by an Extended Structural Adjustment Fund Facility (1996-1998) signed with the International Monetary Fund (IMF), the rescheduling of the foreign debt and enterprise reforms have produced encouraging macroeconomic results in Algeria since 1995 which are nevertheless inadequate on their own given the negative social repercussions and threats that international competition poses for the economy.

For the liberalization of the economy to proceed at a steady pace and efficiently, an industrial upgrading programme is therefore required to enable enterprises and their environment to adjust effectively.

The opening up of foreign trade has already started to have an impact on industrial enterprises. The private and public industrial sectors cannot compete with foreign products on the domestic market, nor can they make inroads into foreign markets.

This difficulty is exacerbated by the extensive protectionism, which was one of the characteristics of Algeria's economy until the start of this decade. Added to this are high production costs, inadequate or even non-existent international competitiveness and a predominant if not exclusive focus on the domestic market. Developing in a climate of centralized management, protectionism and weak market pressure, industrial enterprises have not had to be concerned with the dictates of performance and efficiency (in terms of technology, human resources, management, commercial aspects and costs). This has naturally weakened the competitiveness of Algerian products on international markets.

A. Problem: context and justification

Context

The transition from protectionism to a liberalized, open and competitive market cannot take place without assistance to enterprises and its support structures. Competitiveness depends, in fact, as much on the performance of the enterprise as its environment. By exerting an influence on the constraints inherent and external to the enterprise, it is possible to help it adapt to the new market conditions, to improve competitiveness, to enhance export capability and integrate activities, and to develop a capacity for consolidation and growth.

Algeria's membership of the European Union's free-trade area (FTA/EU) and the World Trade Organization (WTO) confirms the country's desire to become part of the world economy. These steps represent a considerable challenge, and it is vital to conduct programmes to prepare the economy for it.

It should be noted that the European Union negotiates agreements with Mediterranean countries on a bilateral basis with account taken of the characteristics of each country.

- The European Union has already signed agreements with Tunisia (March 1998), Morocco (March 2000) and Jordan. An interim agreement has been signed with the Palestine Liberation Organization (PLO) for the benefit of the Palestinian Authority (July 1997);
- The agreement with Israel entered into force on 1 June 2000;
- Negotiations with Egypt have been concluded, but the agreement has not yet been signed. Negotiations are under way with Algeria, Lebanon and the Syrian Arab Republic;
- Association agreements had been signed prior to the Barcelona Declaration with Cyprus, Malta and Turkey.

The countries that have signed agreements have undertaken industrial upgrading programmes. Although intraregional commerce represents less than 5 per cent of total trade between the countries of the Mediterranean, these agreements should logically create the conditions for its development. Cyprus, Malta and Turkey, for example, are in the process of establishing a customs union.

Upgrading programme

How can an enterprise face up to international competition if it does not upgrade its products, information, management and production systems, and its business environment? Suppression and tariff protection cannot protect national production; at most they can postpone the inevitable.

[1] *Source*: Ministry of Industry and Restructuring, Algeria, December 2001.

With the globalization of trade and interdependence of national industrial policies and the overall development of industries in the world, the main concern is therefore to promote the competitiveness of enterprises and the industrial system.

In view of this situation, the industrial restructuring programme needs to be supplemented by an upgrading programme for enterprises and their environment and the reorganization of the banking and financial sector.

By focusing in their upgrading plans on intangible investments, enterprises can position themselves in a competitive economy and improve their economic and financial performance at the international level.

Seen in this way, the upgrading of enterprises is not only a management objective relating to products, markets, finances and employment, but also a plan that involves all the associated institutional support. Intersectoral collaboration between the actors is a real prerequisite that calls for a new approach to the support offered to enterprises.

B. Objectives of upgrading programme

The programme objectives must be seen in terms of the levels of intervention:

Macro-level: Government and Ministry of Industry and Restructuring (MIR)

Meso-level: Local, sectoral, technical, technological or professional intermediaries

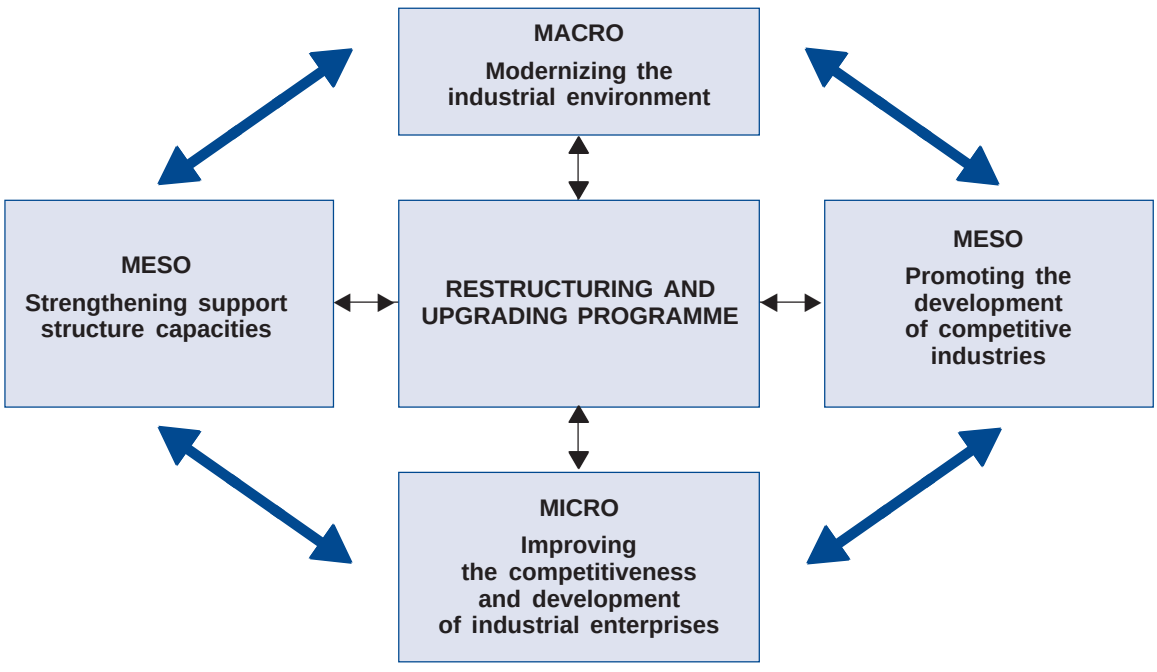
Micro-level: Enterprises wishing to benefit from the upgrading programme

Macro-level objectives

The general policy of the Ministry of Industry and Restructuring with regard to industrial restructuring can be summarized as follows:

- Formulation of industrial policies serving as a basis for support and incentive programmes. These policies will be formulated by consensus with other sectoral departments with account taken of the potential offered by national and international capacities;
- Activation of tools enabling enterprises and governmental institutions to undertake actions at the meso- and micro-level;
- Implementation of an upgrading programme for enterprises and their environment;
- Implementation of an awareness-raising and communication programme so as to inform economic operators of the industrial policy actions being undertaken and to provide clear indication of the actors and means available to enterprises.

Figure XVIII. Upgrading programme objectives



Meso-level objectives

A concerted programme requires a partnership structure. The programme objective is to identify enterprise support institutions, to verify and confirm that these institutions have the wherewithal to provide this support, to assist them in restructuring and to promote them. The institutions concerned include:

- Employer and professional associations in the industrial sector;
- Quasi-public institutions;
- Technological and commercial resource institutes and centres;
- Specialist training bodies;
- Banks and financial institutions;
- Industrial zone management organizations.

Upgrading the business environment by strengthening the support structures is a fundamental aim designed to improve the industrial competitiveness of enterprises. Elements that could contribute to this aim include:

- Training, project evaluation methods;
- Methods of evaluating and monitoring the upgrading plan;
- Assistance in upgrading (decentralization, tasks, organization) for integration of the enterprise in the industrial restructuring process;
- Identification, diagnosis and upgrading of existing situation;
- Proposals and feasibility studies for the new structures;
- Assistance in setting up the new structures.

Micro-level objectives

The upgrading programme is an incentive mechanism for improving the competitiveness of enterprises. It is thus distinct from investment promotion policies or policies designed to assist enterprises in difficulty. For the enterprise, it is a continuous process of improvement (upgrading) aimed at progress, planning for the future and identifying weaknesses.

Above all, it is a programme that the enterprise subscribes to voluntarily. It is not imposed by the Government, the State or its institutions. The State, however, must be ready to respond to applications by enterprises that meet the eligibility requirements.

The implementation of upgrading activities is the responsibility of the enterprise alone. The activities to be carried out are:

- Examination of the diagnosis and upgrading plan;
- Intangible investments, such as:
  - Studies, including research and development;
  - Technical assistance (industrial property);
  - Software;
  - Training;
  - Setting up of quality systems (quality, certification, etc.);
  - Standardization;
  - Setting up of information and management systems (improvement in internal systems to enable managers to react more quickly to changes in the economic situation, but also as a means of gaining entrance into capital markets via the stock exchange, and industrial and commercial information);
  - All other intangible investments that improve industrial competitiveness;
- Tangible investments, such as:
  - Production equipment;
  - Handling and storage equipment;
  - Laboratory and measuring equipment, etc.;
  - Computer hardware;
  - Production utilities (refrigeration, heat, air, water, electricity);
  - Civil engineering installations connected with production;
  - All other tangible investments that improve industrial competitiveness.

C. Upgrading mechanism

Definition of programme

In accordance with the government programme, the Ministry of Industry and Restructuring is conducting a programme financed through a budget allocation. A pilot programme was launched in 1996 with the assistance of the United Nations Development Programme (UNDP) and the United Nations Industrial Development Organization (UNIDO) and a number of donor countries, entitled "Integrated support and assistance programme for industrial restructuring and recovery of industrial enterprises in Algeria" ("Programme intégré d'appui et d'assistance à la restructuration industrielle et au redressement des entreprises industrielles en Algérie").

The Finance Act of 2000 called for the setting up of an earmarked account entitled "Fund for promotion of industrial competitiveness" to provide direct financial aid to industrial enterprises or

industry-related services for upgrading activities to promote industrial competitiveness. It was created by decree and is under the charge of a national committee chaired by the Minister of Industry and Restructuring, who acts as certifying officer for the Fund.

A monitoring and evaluation mechanism for the Fund was set up through a joint decree of the Minister of Finance and the Minister of Industry. Its work is carried out by the National Committee for Industrial Competitiveness. The programme participants are:

- Department for Industrial Restructuring (responsible for managing the upgrading programme);
- National Committee for Industrial Competitiveness;
- Banks;
- Support services, including specialist technology centres, consultancy firms and consultants.

Department for Industrial Restructuring

The Department for Industrial Restructuring (DGRI) of the Ministry of Industry and Restructuring is responsible for creating and coordinating the Fund's legal and financial instruments, and defining the technical, financial and regulatory conditions for the functioning of the upgrading programme.

It also provides the technical secretariat for the National Committee for Industrial Competitiveness, examines applications submitted, deals with them and submits them to the Committee.

It is responsible for identifying other associated structures and organizations, formulating the programme following extended consultation, setting up the communication and awareness-raising programme, promoting training programmes for specialists involved in the upgrading programme, designing and formalizing procedures and the regulatory framework, proposing updates of legislative or regulatory texts directly related to the recovery of enterprises, drafting a planning chart for upgrading, and identifying the information needs of enterprises and user departments.

It also submits to the National Committee for Industrial Competitiveness all suggestions for activities to promote industrial competitiveness.

National Committee for Industrial Competitiveness

Set up by Executive Decree No. 2000-192 of 16 July 2000, which defined the terms for utilization of the earmarked fund No. 302-102, "Fund for promotion of industrial competitiveness", the Committee's tasks are as follows:

- Drafting of procedures for presentation of applications by enterprises and bodies for assistance from the Fund;
- Determining the conditions of eligibility for assistance from the Fund;
- Determining the nature and amounts of assistance to be granted;
- Establishing the instrument linking the beneficiary enterprise to the Ministry of Industry and Restructuring;
- Monitoring and evaluating the performance of enterprises that have received assistance from the Fund.

The Committee is chaired by the Minister of Industry and Restructuring as certifying officer for the Fund and is composed of:

- The representative of the Minister responsible for finance;
- The representative of the Minister responsible for industry and restructuring;
- The representative of the Minister responsible for participation in and coordination of reforms;
- The representative of the Minister responsible for small and medium-sized enterprises and industry;
- The representative of the Minister responsible for trade;
- The representative of the Minister responsible for foreign affairs;
- The representative of the Minister responsible for higher education and scientific research;
- The representative of the Algerian Chamber of Industry and Commerce.

Other actors, such as representatives of employer associations and banks, are also consulted.

Fund for promotion of industrial competitiveness

The Finance Act of 2000 offers basic financial support for upgrading activities through the establishment of the Fund for promotion of industrial competitiveness. Enterprises are provided with the following types of financial assistance from this Fund:

(a) Financial aid to enterprises

This assistance is designed to cover some of the expenses incurred by enterprises for:

- Overall strategic diagnosis and upgrading plan;
- Intangible investments;
- Tangible investments connected with the promotion of industrial competitiveness.

(b) Financial aid to support structures

This assistance is designed to cover expenses connected with:

- Operations aimed at improving the environment of manufacturing enterprises or industry-related services, such as quality improvement, standardization and metrology, industrial property, training, research and development, industrial and commercial information, decentralization, industrial policies and strategies and the promotion of professional associations in the industrial sector;
- All activities relating to the programmes for rehabilitation of industrial zones and work areas;
- Studies relating to the rehabilitation of industrial zones and work areas;
- Implementation of training programmes for managers of industrial zones and work areas;
- All activities to develop industrial competitiveness.

Organization chart

The flow chart is shown in figure XIX.

Other special funds connected with enterprise

Apart from incentives such as credit policy, a tax policy conducive to investment and a variety of direct technical measures, subsidies, loans and guarantees, the State also intervenes through a regional planning policy to improve population distribution through rational siting of economic facilities, for example by means of industrial zone and development zone policies. The specific development of these zones and the award of grants for industrial development and adaptation enables the State to steer its industrial policy.

Funds of direct relevance to the upgrading programme include:

- Regional planning fund;
- Special fund for development of the southern regions;
- National environment fund;
- Fund for regulation and development of agriculture offering support to public and private enterprises involved in agricultural production, processing, marketing and export of agricultural and agro-food products;
- National fund for energy management, which grants non-remunerated loans to finance investments designed to enhance the efficiency of energy utilization;
- Fund for promoting continuous vocational training;
- Fund for promoting apprentice training;
- National fund for safeguarding employment, which gives access to loans to finance "investments to enhance existing production capacities and/or to create new activities";
- Fund for promotion of exports;
- National fund for scientific research and technological development.

The DGRI is responsible for identifying, together with the fund managers, the means to enable eligible candidates for upgrading to benefit from the funds. If applicable, the National Committee for Industrial Competitiveness will notify enterprises of the possibilities offered.

Diagnosis and formulation of upgrading plan

The diagnostic process and the content of the diagnosis are based on the method devised with the assistance of UNDP and UNIDO during the pilot project carried out by the Ministry of Industry and Restructuring:

- Overall strategic diagnosis of all functions of the enterprise;
- Strategic positioning of the enterprise in relation to domestic and external competition assuming the dismantling of protectionist tariffs (0 per cent import duties and/or export market);
- Test of the financial viability of the enterprise and its financial capacity to mobilize the necessary resources for upgrading.

D. Upgrading procedures

The procedures (see figure XX) for benefiting from incentive grants for implementation of the upgrading programme involve two distinct major steps:

(a) Completion by consultancy firm or external consultants chosen by the enterprise of an "overall strategic diagnosis and upgrading plan". This study accompanies the application for financial assistance from the Fund for promotion of industrial competitiveness and gives an entitlement to grants, provided that the eligibility rules and procedures defined by the National Committee for Industrial Competitiveness are observed;

(b) After agreement and approval by the National Committee for Industrial Competitiveness, the performance of non-material and/or

Figure XIX. Upgrading mechanism

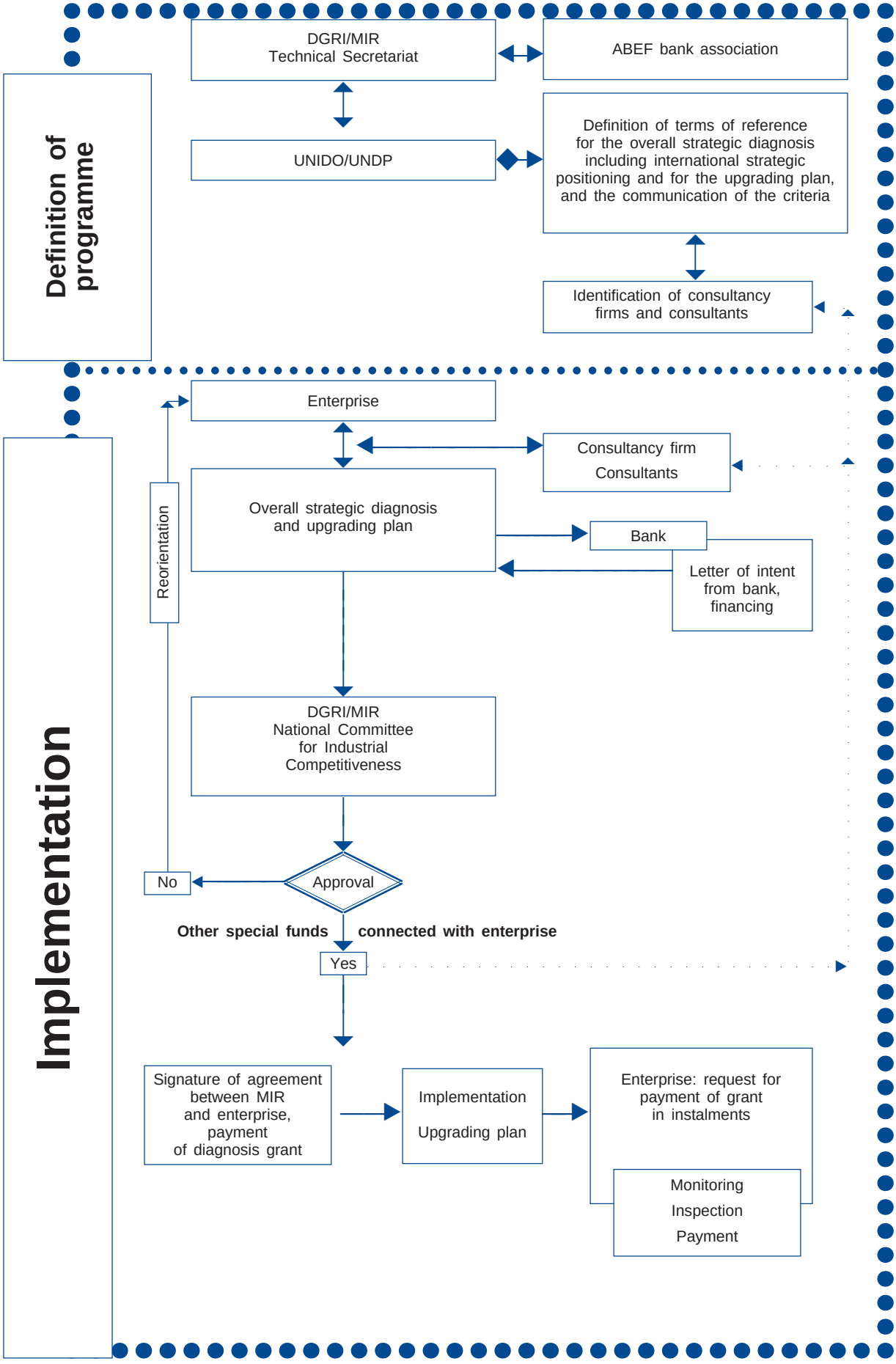
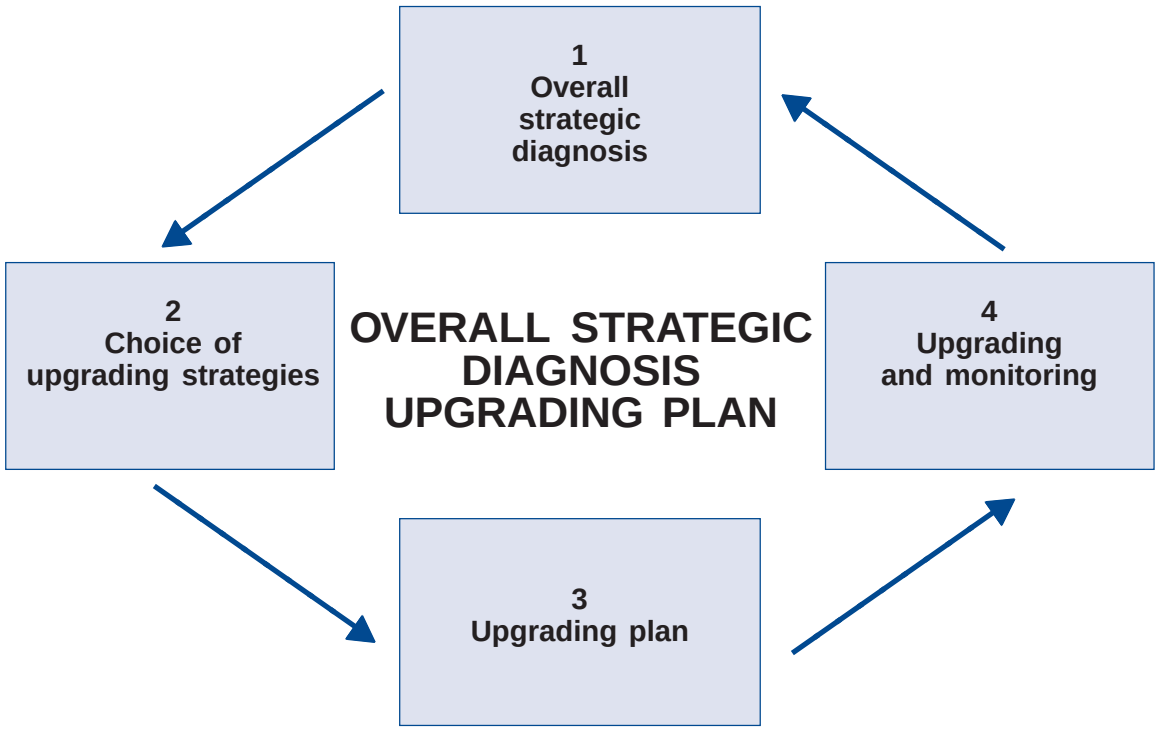


Figure XX. Overall strategic diagnosis and upgrading plan



material activities defined in the upgrading plan gives an entitlement to financial assistance in one of two ways:

- In three instalments, the third coming at the end of the implementation of the action plan, which should occur no later than two years after its notification and approval;
- In a single instalment for implementation within two years.

Exceptionally, the Committee may grant an extension of one year for completing the actions undertaken.

The eligibility rules and detailed procedures approved by the National Committee for Industrial Competitiveness are available from the technical secretariat.

Eligibility

The following types of enterprise are eligible individually for financial aid from the Fund for promotion of industrial competitiveness:

- Enterprises under Algerian law, legally constituted in Algeria and in operation for more than three years (presentation of balance sheets for the previous three years), entered in the register of companies and possessing a tax number;
- Enterprises in the manufacturing or industry-related service sectors;
- Enterprises with performance potential on the basis of their financial results and the markets in which they operate;
- Bankable enteprises: in its financial statements for n-1 the enterprise must have:

  Net positive assets equal to or exceeding capital stock;
  Positive working capital balance;
  Gross operating results relative to equity capital equal to or exceeding the official market rate set by the Bank of Algeria;
- Enterprises employing at least 30 permanent staff;
- Enterprises submitting an application with the overall strategic diagnosis and upgrading plan supported by a financing agreement from their bank.

Advance information

An enterprise wishing to launch an upgrading programme and to benefit from financial aid from the Fund for promotion of industrial competitiveness should first select a consultancy firm, ensuring that it has the capacity and resources necessary to carry out the overall strategic diagnosis

and to elaborate the upgrading plan while respecting the eligibility rules laid down in the documents distributed by the Ministry of Industry and Restructuring.

It should then notify the technical secretariat by mail of its choice, indicating the name of the consultancy firm and/or consultants with whom it has contracted to work and its decision to carry out an upgrading programme. This information will enable the relevant department of the Ministry of Industry and Restructuring to familiarize itself with the enterprises involved in the programme.

The technical secretariat will confirm receipt of the information without this confirmation implying that the enterprise is indeed eligible for the programme.

Overall strategic diagnosis

Role of the enterprise

The decision to upgrade is made voluntarily by the enterprise. The choice of consultancy firm and consultants is therefore left to the enterprise as well.

Role of the consultancy firm and consultants

The consultancy firm and/or consultants offers a professional service that involves them jointly with the enterprise in the upgrading decision and activities. This being the case, it is evident that the choice cannot be made by any entity outside the enterprise itself.

For this reason, the eligibility rules and procedures and approval of the applications by enterprises are circulated widely. It is for the consultancy firms and consultants to ensure that they are familiar with these rules.

The consultancy firm and consultants must ensure that they do not contract to work with enterprises that do not comply with the eligibility rules.

Role of the bank

The application must be accompanied by an assessment from the bank regarding the enterprise's capacity to mobilize the financing (loans and equity) necessary to implement the upgrading plan.

The Ministry of Industry and Restructuring will therefore formulate a programme to increase the awareness of banks and provide them with the necessary instruments.

Submission of the application

The application for direct financial aid from the Fund for promotion of industrial competitiveness accompanied by the overall strategic diagnosis and upgrading plan, signed jointly by the enterprise and the consultancy firm, is submitted by the enterprise to the technical secretariat of the National Committee for Industrial Competitiveness. The method of presentation and the specific procedures, approved by the Committee, are circulated widely by the technical secretariat.

The technical secretariat ensures that:

- The eligibility criteria are met;
- The financing plan has the formal written agreement of a lead bank which has verified that the other contributors (owner's equity, acquisition of shares, etc.) are duly committed.

If particular criteria are not met, the enterprise will be informed immediately of the conditions that it must fulfil in order to qualify for assistance from the Fund.

The approval criteria concern only the quality of the diagnosis presented by the enterprise, and possibly the quality of the experts consulted and the analysis strategy. The main conditions to be verified are:

- Financial viability: positive net assets, positive working capital, etc.;
- Strategic positioning and competitiveness on the national and international market with tariffs dismantled (0% import duties);
- Reliability of the accounting information (certification);
- Joint presentation of the diagnosis by the enterprise and consultancy firm;
- General compliance of the method for overall strategic diagnosis and elaboration of the upgrading plan;
- Positive contribution of the upgrading plan to the competitiveness and increased productivity of the enterprise;
- Compliance with the rules for submitting the grant application;
- Agreement from a bank to support the upgrading plan.

Submission to the Committee

After analysing the application, the technical secretariat submits it to the Committee, together with its recommendations. The Committee considers the application internally, in accordance with its own rules of procedure and then gives its opinion.

To ensure the confidentiality of the information submitted by the enterprise, the technical secretariat submits to the Committee only a summary in a form already indicated to the enterprise and consultancy firm. Its recommendations are

confidential and are divulged only to the enterprise concerned. The members of the Committee are committed to maintaining professional secrecy.

Agreement with the Ministry of Industry and Restructuring

The technical secretariat notifies the enterprise of the Committee's decision and, if the application is approved, sends it an agreement that will be signed with the Ministry of Industry and Restructuring. This agreement defines the rights and obligations of the parties in respect of the financial aid from the Fund.

Implementation and incentives

Provision of direct aid to industrial enterprises

Implementation of the upgrading plan is the exclusive responsibility of the enterprise through its own internal procedures. The financial aid provided by the incentive grants is meant to improve industrial competitiveness and not just to give financial support. These grants must be used for setting up specific business strategies aimed at providing long-term competitiveness in the international economy.

Overall strategic diagnosis and upgrading plan

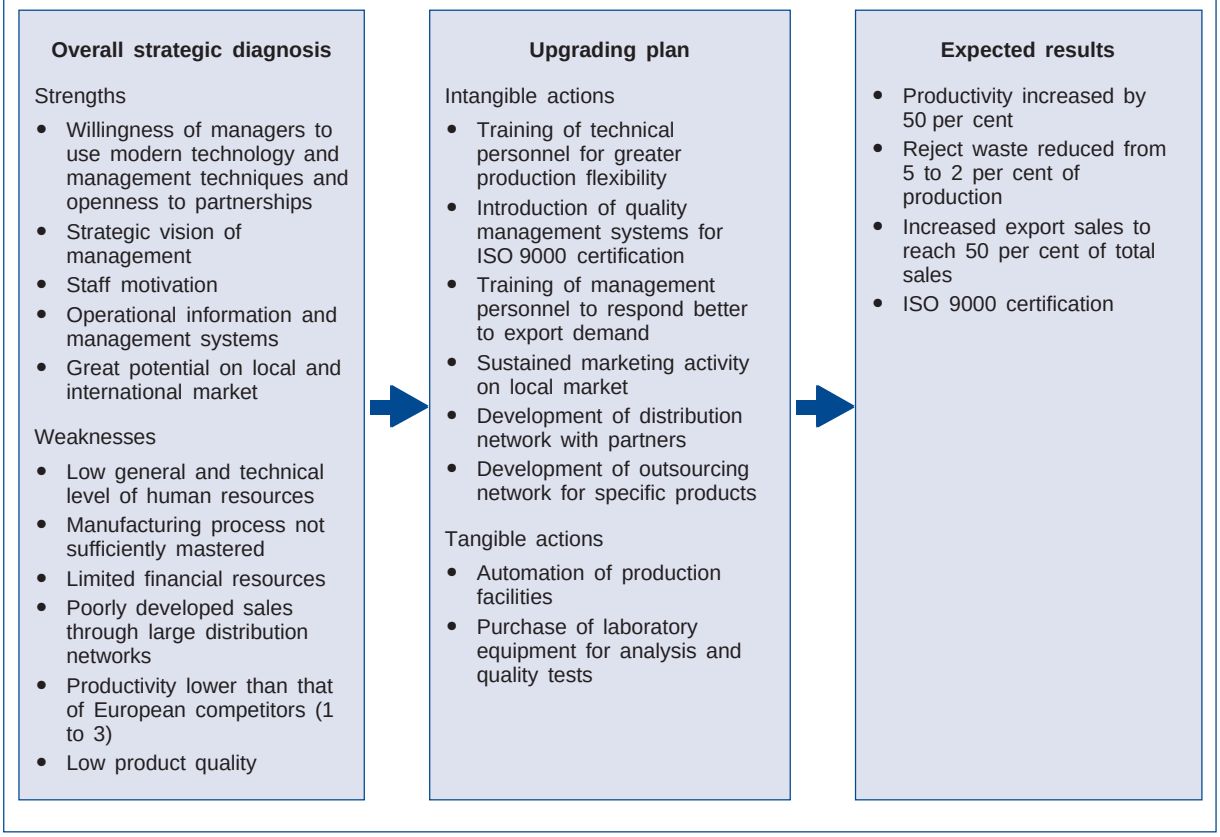
The financial grant for the overall strategic diagnosis and upgrading plan covers 70 per cent of the costs up to a limit of 3 million dinars. The grant is paid independently of the subsequent steps defined in detail in the upgrading plan. The overall strategic diagnosis is nevertheless intended as the basis for implementation of the upgrading plan. The enterprise must therefore start implementing the plan in the year following the award of the grant.

Upgrading plan

The upgrading can be implemented in stages:

- The first stage should involve at least 30 per cent of the tangible investment and/or 30 per cent of the intangible investment;
- The second stage should involve at least 60 per cent of the tangible investment and/or 60 per cent of the intangible investment;
- The enterprise may select to organize the financing in three, two or even one instalment.

Figure XXI. Overall strategic diagnosis and upgrading plan: example of an Algerian industrial enterprise



The grants are:

- 50 per cent of the costs of intangible investments;
- 15 per cent of the tangible investments financed from equity;
- 10 per cent of the tangible investments financed by loans.

Monitoring and modalities for granting financial aid

Following the application by the enterprise in a form approved by the Committee, the technical secretariat designates an external body to verify the substantive content of the application. This verification involves documentary elements (invoices and proofs of payment provided by the bank) and the physical existence of the investments.

Once this monitoring operation has been completed and formalized in a report completed in the form agreed by the Committee, the grant is paid out.

Implementation period

The investments eligible for financial aid must be made within two years of the date of signing of the agreement. At the request of the enterprise, an extension of one year may be granted in exceptional circumstances. The financial aid from the Fund for promotion of industrial competitiveness does not exclude the possibility of other arrangements for assistance to enterprises.

IV. Industrial upgrading programme in Morocco[1]

Morocco has been involved since the early 1980s in an extensive programme of liberalization and structural adjustment of its economy. The programme, which is designed to help the country integrate progressively in the world economy, was reinforced through accession to the GATT agreements (1987) and membership of the World Trade Organization (WTO) in 1994 and, more recently, through signature of an association agreement with the European Union (EU) and a free-trade agreement with the countries of the European Free Trade Association (EFTA).[2]

Morocco is therefore at a new stage in the process of liberalization of its economy, which will put it at the heart of a free-trade zone with these two regional groups after a transition period of 12 years at most from the date on which the agreements came into force.

In view of the dismantling of tariffs provided for in these agreements and in order to enable enterprises to improve their competitiveness, a supporting programme has been initiated in collaboration with private operators. The programme is designed to upgrade enterprises, primarily by improving their competitiveness factors.

[1] *Source*: Ministry of Commerce and Industry, Kingdom of Morocco, February 1999.

[2] EFTA members are Iceland, Liechtenstein, Norway and Switzerland.

A. Dismantling of tariffs

By virtue of the association agreement between Morocco and the European Union and a free-trade agreement between Morocco and EFTA, import duties and equivalent taxes on industrial products imported from these countries will be progressively dismantled as shown in table 14.

It is also planned to eliminate reference prices for products from the European Union and EFTA three years at the latest after these agreements come into force.

For products from Morocco, the European Union has maintained tariff protection for the agricultural elements, while eliminating import duties for the industrial element. The agricultural tariff can be in the form of a fixed amount or an ad valorem tariff.

For agro-industrial products from the European Union, Morocco also singles out the agricultural element for import duty while taking account of the dismantling of tariff protection for the industrial element.

Moreover, the removal of import duty on capital goods from the date of entry into force of the agreement and its progressive elimination for raw materials, spare parts and non-locally manufactured products three years later will result in a reduction in production costs for enterprises, which will improve their competitiveness.

The principle of progressive dismantling will give enterprises time to adapt and complete their upgrading process and hence their integration in the world economy.

Table 14. Dismantling of tariffs

Year of dismantling	*Capital goods (%)*	*Raw materials (%)*	*Spare parts (%)*	*Non-locally manufactured products (%)*	*Locally manufactured products (%)*
0	100	25	25	25	
1		25	25	25	Period of grace
2		25	25	25	
3		25	25	25	10
4					10
5					10
6					10
7					10
8					10
9					10
10					10
11					10
12					10

B. Enterprise upgrading programme

Objective

In anticipation of the dismantling of tariffs resulting in a free-trade zone, support measures have been determined jointly by the Government and private operators. These measures are designed to upgrade enterprises and improve their competitiveness.

Upgrading activities

The support measures are of three types:

- General measures (GM);
- Sectoral measures (SM);
- Enterprise measures (EM).

The above-mentioned programme comprises seven direct activities:

- Improving reception facilities (GM);
- Promoting exports (GM);
- Improving vocational training (GM);
- Strengthening professional associations (SM);
- Developing technological infrastructure (SM-EM);
- Diagnosis—Euro-Maroc Entreprise (EM);
- Financing of upgrading (EM).

Guiding the upgrading programme: National Upgrading Committee (NUC)

Objective

- Define, coordinate and monitor upgrading activities;
- Ensure compatibility with national socio-economic development policy;
- Ensure complementarity of programmes implemented by government authorities and the various parties involved (donors, international organizations, economic operators and social partners, etc.).

Constitution of NUC

- Department of Commerce and Industry (chairman);
- Ministry of Economic Affairs and Finance;
- Federation of Chambers of Commerce, Industry and Services (FCCIS);
- General Confederation of Moroccan Enterprises (CGEM);
- Professional Association of Moroccan Banks (GPBM);
- European Commission (EC);
- European Investment Bank (EIB) [observer].

Working groups

Seven working groups relating to the above-mentioned activities chaired by representatives of the private sector have been created. These multidisciplinary groups are responsible for making practical and specific suggestions for carrying out the activities.

Improving of reception facilities
Vocational training
Promotion of exports
Strengthening of professional associations
Technology infrastructure
Euro-Maroc Entreprise
Financing mechanism

C. Upgrading procedure

Preliminary phase: diagnosis and business plan

An essential step in the upgrading programme is the completion of:

- A preliminary diagnosis and detailed diagnosis to determine the impact of the dismantling of tariffs on the competitiveness of the enterprise and its strengths and weaknesses;
- A development or business plan relating to the various activities to be undertaken by the enterprise to improve its competitiveness, covering technical, financial, commercial, human resources, administrative, organizational and other aspects. This plan should be accompanied by a financing plan and timetable for implementation.

To assist it in completing the diagnosis and business plan, the enterprise may call on the services of Euro-Maroc Entreprise (EME), in which case the cost of diagnosis and upgrading activities will be partially covered by EME (see table 15).

The duration varies depending on the enterprise's speciality and the diversity of its problems.

Recourse to EME is not obligatory. The diagnosis and business plan may also be completed by the enterprise itself or by any other body of its choice, in which case the costs must be covered by the enterprise on its own. The business plan must clearly indicate the following needs:

- Tangible investments connected in particular with the modernization of industrial equipment, the acquisition of new technologies and possible extensions;

Table 15. Diagnosis and business plan

Stage	*Objectives*	*Duration*	*EME contribution (%)*
Preliminary diagnosis	Impact of dismantling Summary of main strengths, weaknesses, risks and opportunities Definition of terms of reference of subsequent intervention for detailed diagnosis	4 days per enterprise	100
Detailed diagnosis and business plan	Analysis of main dysfunctions Evaluation of most important functions for upgrading of enterprise Identification of main sources of productivity Drafting of upgrading action plan, financing programme and timetable for implementation	Several weeks	80
Accompanying activities	Implementation of main activities defined in business plan	Several weeks	70

- Intangible investments in particular for the following:

  Development of human resources and training;
  Improving administrative management;
  Marketing and export development;
  Introduction of new management concepts;
  Establishment of a quality assurance system;
  Identification of technical, commercial and financial partners;
  Environmental protection.

Realization of investments detailed in the business plan

Financing of tangible investments

The financial input required to modernize production equipment cannot always be covered solely by the enterprise's own resources. The mechanism set up to finance upgrading takes account of the need to:

- Facilitate access to bank financing;
- Consolidate under-capitalized equity capital;
- Reduce financing costs.

This mechanism involves three instruments:

- Upgrading Guarantee Fund (FOGAM);
- Venture capital;
- Upgrading loans.

Upgrading Guarantee Fund

(a) Eligibility conditions

Balance sheet total before investment of less than 20 million dirhams[3] and an upgrading programme costing a maximum of 10 million dirhams;

Potential viability of enterprise and submission of diagnosis and business plan.

(b) Financing conditions. Projects meeting the following conditions will benefit from a FOGAM guarantee:

Equity capital and quasi-equity capital: minimum 30 per cent;

Bank loans: maximum 70 per cent.

(c) Guarantee conditions

Guarantee ratio: 60 per cent of the loan as principal, plus six months' interest;

Guarantee commission: 0.25 per cent of outstanding principal amount plus VAT;

Payment of guarantee commission: in a single transfer immediately on granting of the guarantee. It may be included in the cost of the investment.

(d) Procedure for granting guarantee

Submission of application to CCG: by enterprise's bank;

Contents of application:

Summarized report by bank on the basis of the diagnosis and business plan;
Agreement in principle by bank with terms for granting loan;
All documents likely to facilitate evaluation of the application;

[3] 1 US dollar = 11.37 dirhams (January 2002).

Time required for Guarantee Committee to consider application and make its decision: 10 working days at most from the date of receipt of the application.

Venture capital

To contribute to the resources at the disposal of the enterprise wishing to upgrade and to supplement its inadequate self-financing capability, a credit line of 45 million ecus from the European Investment Bank (EIB) has been mobilized under the MEDA programme and reconveyed for management to other contributing banks (Banque populaire, BMCE, Banque commerciale du Maroc [BCM], Banque nationale pour le développement économique [BNDE], WAFABANK and ALMOUSSAHAMA venture capital company).

(a) *Venture capital financing.* Venture capital is provided exclusively in the form of equity participation for 2 to 18 years, during or at the latest at the end of which the participation is retroceded to the enterprise at the net asset value.

(b) *Eligibility conditions.* All enterprises sub mitting a competitive restructuring programme are eligible for this line of financing irrespective of the sector in which they operate or their size. However, companies manufacturing arms or tobacco, involved in real estate dealing or greenhouse cultivation, or conducting polluting activities are ineligible.

(c) *Amount of financing.* The venture capital may finance up to 40 per cent of the equity funding requirements indicated in the development plan and/or decided jointly with the bank. The amount is:

Either co-financed equally by EIB and the participating bank;

Or financed 75 per cent by EIB and 25 per cent by the bank, if the latter already has commitments to the enterprise concerned.

(d) *Submission of applications and procedures.* The application for venture capital financing is submitted by the enterprise to its bank on the basis of a diagnosis and business plan. The bank agrees the provision of suitable financing with the enterprise after consultation with EIB.

Upgrading loans

The Moroccan banking system has undertaken to support enterprises in the process of competitive restructuring by providing them with specific financing for upgrading activities.

(a) *Eligibility conditions*

Balance sheet total before investment of less than 20 million dirhams and an upgrading programme costing a maximum of 10 million dirhams;

Potential viability of enterprise and submission of diagnosis and business plan.

(b) *Amount of financing.* The loan may finance up to 70 per cent of the project.

(c) *Duration of loan.* Five to twelve years with grace period of one to three years.

(d) *Interest rate.* Lowest basic bank rate.

(e) *Release of loan.* Concurrent with and proportionate to equity capital and quasi-equity capital committed.

Intangible investments

Ongoing training

Groupement interprofessionnel d'aide au conseil (GIAC)

GIACs are interprofessional associations governed by the dahir (decree) of 1958 and established on a voluntary basis by professional business organizations and federations. Their general aim is to promote ongoing training of their members, particularly in small and medium-sized enterprises and industries (SME/SMI).

They offer the following services:

- Raising the awareness of enterprises to the importance of vocational training as a competitiveness factor;
- Identifying sources of financing for consultancy services to establish the skills requirements of member enterprises, in particular by drawing up financing dossiers complying with the eligibility and selection criteria of bodies financing ongoing vocational training;
- Provision of technical aid to enterprises in drafting financing applications.

The activities likely to benefit from assistance by GIACs are of three types:

- Determination of training development strategy of enterprise or group of enterprises;
- Determination of operational means required for its implementation;
- Identification of concomitant skills requirements.

(a) *Eligibility criteria*

Enterprises seeking GIAC financing must meet the following criteria:

Legal structure: private enterprise registered with a professional chamber or organization;

Location: industrial, commercial or service units (factories, distribution centres, etc.) in Morocco;

Taxes: enterprises subject to vocational training tax (TPF);

Enterprises belonging to a GIAC.

(b) *Content of application for financing*

The applications for GIAC financing must contain the following information and documents:

Information sheet on the enterprise in accordance with a model provided by the ministry responsible for vocational training (available from GIACs);

Copy of the TPF payment slip to the Social Security Department (CNSS) for the previous calendar year, or similar confirmation provided by the enterprise's bank or the CNSS;

A document containing:

Enterprise development project (export markets, technology investment, standardization, etc.);
Objectives and expected results of desired project engineering;
Proposed contribution (means and duration) by service provider;
Estimated cost of contribution.

(c) *Procedures*

- Evaluation of financing dossiers
  Proposed dossier submitted by enterprise to assistance body;
  Verification of eligibility by assistance body;
  Examination of dossier and admissibility by consultative committee;
  Signature of contract by enterprise and GIAC.
- Consultancy service
  Contribution by service provider;
  Final report by service provider;
  Payment for service.
- Reimbursement of consultancy service
  Preparation of reimbursement dossier by enterprise in accordance with contract terms;
  Verification of dossier by assistance body;
  Reimbursement agreement;
  Reimbursement: GIACs reimburse 70 per cent of consultancy costs to enterprise.

Special vocational training contracts (CSF)

CSFs help enterprises to implement ongoing training programmes by financing the indicated percentage of the activities detailed below:

- Training plan: maximum 70 to 80 per cent of cost of drawing up a training plan;
- Planned training: maximum 70 per cent of the training costs;
- Non-planned training: maximum 40 per cent.

Eligibility criteria

Enterprises that are up to date with their TFP payments are eligible for CSF financing.

Identification of partners

Among the services envisaged by Euro-Maroc Entreprise is the development of a diversified information tool consisting of a documentation centre and database linked to the principal European servers to provide the commercial, technical and financial information required by SME/SMI.

Euro-Maroc Entreprise also offers to seek partners on a personalized basis in response to specific demands expressed by enterprises.

Market repositioning

As part of the services offered in particular by the Association marocaine des exportateurs (ASMEX), the Centre marocain de promotion des exportations (CMPE), chambers of commerce and professional associations, Euro-Maroc Entreprise will also provide assistance in:

- Establishing commercial relations;
- Identifying business opportunities;
- Providing access to European markets;
- Participating in fairs and exhibitions in Europe;
- Formulating and implementing export strategies;
- Training in marketing and international commercial techniques, etc.;
- Support for actions and initiatives by sectoral associations to assist member enterprises in their exports.

Quality procedure

In anticipation of the entry into force of the association agreements between Morocco and the European Union and as part of the work of the Department of Commerce and Industry to assist in the upgrading of Moroccan enterprises, an extensive quality-promotion programme has been planned. This programme, aimed essentially at enterprises, is designed to help between 250 and 300 industrial enterprises applying on their own initiative to install a quality assurance system.

A promotion campaign for the heads of enterprises will be conducted consisting of sectoral seminars and training of local consultants, who will help the enterprises in their contacts with international experts. Thereafter, candidate enterprises will receive assistance in two phases:

- The first phase will involve a diagnosis and drafting of a quality development plan and assistance to enterprises in implementing the plan;
- The second phase concerns enterprises that require ISO 9000 certification and will consist of aid in finalizing the quality assurance system and carrying out preliminary audits.

Eligibility conditions

All enterprises are eligible for this programme. They will have to contribute 30 per cent of the costs of the local consultant in the case of SMIs and 50 per cent in the case of industrial enterprises with more than 200 employees.

D. Strategic diagnosis and upgrading plan: example of a canned food enterprise in Morocco

The enterprise is a small family-owned limited liability company (SARL) with share capital of 13.5 million dirhams. Together with a Spanish enterprise, it is the world leader in the production of canned capers. It also cans table olives (a different variety from oil olives), peppers, truffles and tomatoes.

Products in 2000: The enterprise produced 4,845,000 kg of canned table olives and 600,000 kg of canned capers, of which 95 per cent was destined for export (Germany, Belgium, Canada, United States of America, Italy). In 2000, the enterprise had sales of 65 million dirhams.

Resources

- 35 permanent staff (and 100 seasonal workers);
- Modern management (computerized production management being installed, 800,000 dirham investment);
- Semi-automated installations requiring seasonal workers; adequate production equipment with large processing capacity of 19,000 tonnes (276 vats with 10-tonne capacity and 99 vats with 24-tonne capacity).

Main handicaps and constraints

- Insufficient raw materials in Morocco (table olives and capers) due to the drought and the ageing of certain existing varieties of table olives;
- Strong competition from European enterprises and Italian and Spanish markets, whose enterprises benefit from European aid programmes and subsidies;
- Lack of knowledge and inadequate application of international hygiene and food quality standards;
- Lack of middle-management resources (senior technicians and supervisors);
- Inefficient energy use (water, steam, process), non-optimized production costs and no additional monitoring of raw materials or process components (caustic soda, salts, additives, etc.);
- Serious environmental pollution: reject waste and non-treatment of pollutants in waste (waste water, caustic soda, salts);
- Financial difficulties exacerbated by irregular harvests and repeated incidence of poor quality and/or non-conformity of products to importers' specifications and various standards;
- Very high rate of indebtedness and lack of equity capital;
- Manual or semi-automated industry.

Proposed upgrading programmes

- Intangible investments

  The main purpose of these urgent investments is to provide the enterprise with a quality management system and means of increasing its competitiveness and reducing the considerable losses due to non-compliance, poor quality and non-optimization of processes (losses, energy saving):

  Improvement in food hygiene (awareness-raising and training of workers);

Establishment and formalization of working methods (methods and procedures office, traceability, maintenance);
Quality assurance and certification programme (ISO, HACCP, Quality, Standardization and Metrology [QSM]) in conformity with the various specifications of importer countries.

- Tangible investments

  These investments (indispensable minimum) will help to reduce bottlenecks and production costs. They consist of:

Essential work on all sites (to ensure compliance with minimum food hygiene rules imposed by countries importing the enterprise's products): installation of new packaging lines;
Establishment of minimum internal analysis and control laboratories (first level);
Improvement and automation of some process tasks to ensure controlled continuity of product quality;
Improvement in conditions of storage and dispatch of finished products.

V. Industrial upgrading programme in Egypt[1]

As part of its economic policy of liberalization, Egypt signed the Uruguay Round Final Act and the agreement establishing the World Trade Organization (WTO) in 1994 as well as association and free-trade zone agreements with the European Union, Arab countries and the Common Market for Eastern and Southern Africa (COMESA). The new agreement with the European Union will offer industrial enterprises operating in Egypt, particularly small and medium-sized enterprises (SMEs), opportunities to develop and gain access to a more advanced economic zone that reaches more than 350 million people. But it also represents a threat for sectors that are not competitive or have not succeeded in adapting to the new context of international competition. This context will involve certain costs and economic difficulties in the short term. Egypt must open up to global competition and commit itself to the logic of the market, where the role of the public sector is likely to diminish in importance. In order to meet the challenges of liberalization and to facilitate integration of Egyptian industries and SMEs in the world economy, Egyptian enterprises and the Egyptian business world will require technical assistance to confront the immediate, medium- and long-term problems of adjustment. At the same time, the enjoyment of the positive effects of liberalization will depend on structural adjustment policies, the export structure and measures to promote SMEs and, above all, to strengthen the competitiveness of the industrial sector and of SMEs.

A. Recognized upgrading needs

Aware of the importance and urgency of upgrading, the Ministry of Industry and Technology has identified the following sectors as priority areas for upgrading:

- Textile industry
  - Spinning and weaving
  - Dyeing and finishing
  - Printing
  - Synthetic fibres
  - Ready-to-wear garments
- Leather industry
  - Tanning
  - Shoes
  - Leather articles
- Food processing industry
  - Soap, oils, animal feed
  - Dairy products
  - Processed and canned food
- Chemical industry
  - Fertilizers and insecticides
  - Paper and printing
- Electrical engineering industry
  - Capital goods
  - Components
- Mineral industry
  - Mineral resources

Egypt needs considerable support to enhance the role of its industry in the restructuring of the economy. Greater attention also needs to be paid to sectors with high value added, particularly the textile and food processing industries, to accelerate economic growth by means of a dynamic export policy focusing on international markets, particularly those of the European Union and Mediterranean countries.

As part of the Euro-Mediterranean association agreement, Egypt has signed an agreement with the European Union involving a subsidy of 1 million Egyptian pounds to support the industrial modernization programme.

This agreement was approved by Presidential Decree No. 66 of 1999. Another Presidential Decree (No. 477), signed in 2000, defines the organization of the Centre for Industrial Modernization, which is responsible for implementing the industrial modernization programme.

UNIDO has formulated a complementary programme entitled "Egyptian National Programme for Industrial Modernization" designed to help the public authorities to prepare the industrial sector to face the new forms of competition of the twenty-first century. Its aim is to support the process of modernization and strengthening competitiveness and the integration and growth of industries within the framework of the Uruguay Round (GATT) and the Euro-Mediterranean association agreement. Most of the aid under this programme is offered directly to enterprises in the private sector and to institutions providing services in line with the upgrading needs of enterprises. The principal aims of the programme are:

- Strengthening the capacities of the Ministry of Industry to apply and coordinate the Government's upgrading policy;

[1]Extract from a study carried out by UNIDO and approved by the Ministry of Industry and Technology of Egypt on "Egyptian Competitiveness Upgrading Programme", 2001. Study conducted by M. L. Dhaoui, S. Tlatli and H. El Laithy.

- Strengthening the upgrading capacities of institutions;
- Supporting modernization and upgrading pilot enterprises selected from the priority sectors.

Given the importance of the modernization and upgrading programme, UNIDO plans to stimulate the process by:

- Creating and setting up the organizational structure and management mechanisms;
- Elaborating a legislative and regulatory framework;
- Assisting in the establishment of financial resources.

B. Legal structure and mechanisms of upgrading programme

The two programmes (formulated by the European Union and UNIDO) are combined in an integrated industrial modernization programme. The integrated programme structure is shown later.

The integrated programme has three focuses: modernization of enterprises, upgrading of the industrial sector and industrial policy and sectoral support.

(a) *Modernization of enterprises involves the following:*

- Strengthening competitiveness by improving technology, design, planning, maintenance and quality control;
- Training;
- Management and marketing support;
- Foreign direct investment (FDI), collective and targeted promotion (match-making);
- Export development;
- Promotion of financial services (financing of long-term loans, loan guarantee system, venture capital funds);
- Modernization of machines and tools.

(b) *Upgrading of the industrial sector involves the following:*

- Creation of a network linking information centres for enterprises and technology centres;
- Establishment of "EGYnet", a network providing information to enterprises at the national level, consultancy services and international links;
- Strengthening of the capacities of professional associations;
- Creation of groups of industrial enterprises;
- Promotion of the national quality system (national approval system, establishment of certification bodies, promotion of national standards).

(c) *Industrial policy and sectoral support involves the following:*

- Strengthening and modernization of the Ministry of Industry and Technology;
- Modernization of industrial policies;
- Sectoral studies;
- Strengthening of the legal and regulatory framework;
- Improving the finance and banking system.

C. Industrial modernization programme

The industrial modernization programme (IMP) is a forward-looking Egyptian initiative, strongly supported by the European Union, which is designed to strengthen and consolidate the role of the Egyptian industrial and manufacturing sector in the world economy.

Given that this sector will probably be the driving force behind export-based economic growth and increased employment, the IMP is designed to improve the competitiveness of Egyptian industries on the national and international levels by focusing on small and medium-sized enterprises and providing technical assistance at the national and sectoral levels.

It will give priority to industrial subsectors that offer competitive advantages and prospects for growth. The Egyptian Government has instigated support measures to simplify the rules and regulations and to eliminate other obstacles in a general effort to improve the economic environment.

The IMP is part of the political context of the Barcelona Process, a Euro-Mediterranean initiative designed to establish a zone of prosperity throughout the Mediterranean region. The Barcelona Process is based on three fundamental principles: political dialogue, balanced economic and financial relations, and cooperation in numerous social and cultural domains. Its main economic and financial objectives are to progressively establish a free-trade zone for commodities and to liberalize commerce in services, to set up appropriate economic cooperation and to support these initiatives through increased financial aid from the European Union to its Mediterranean partners,

Figure XXII. Structure of the integrated industrial modernization programme

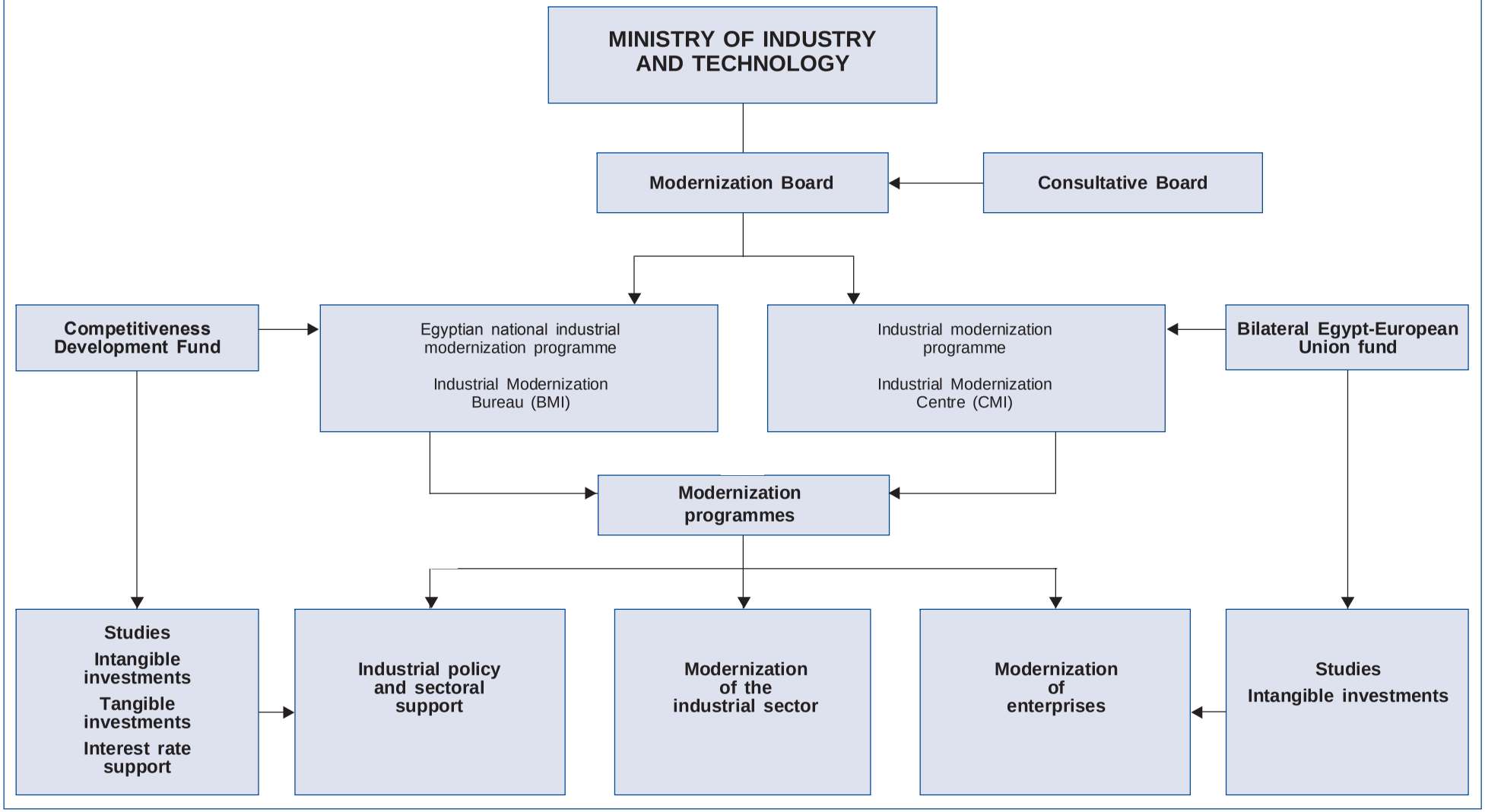
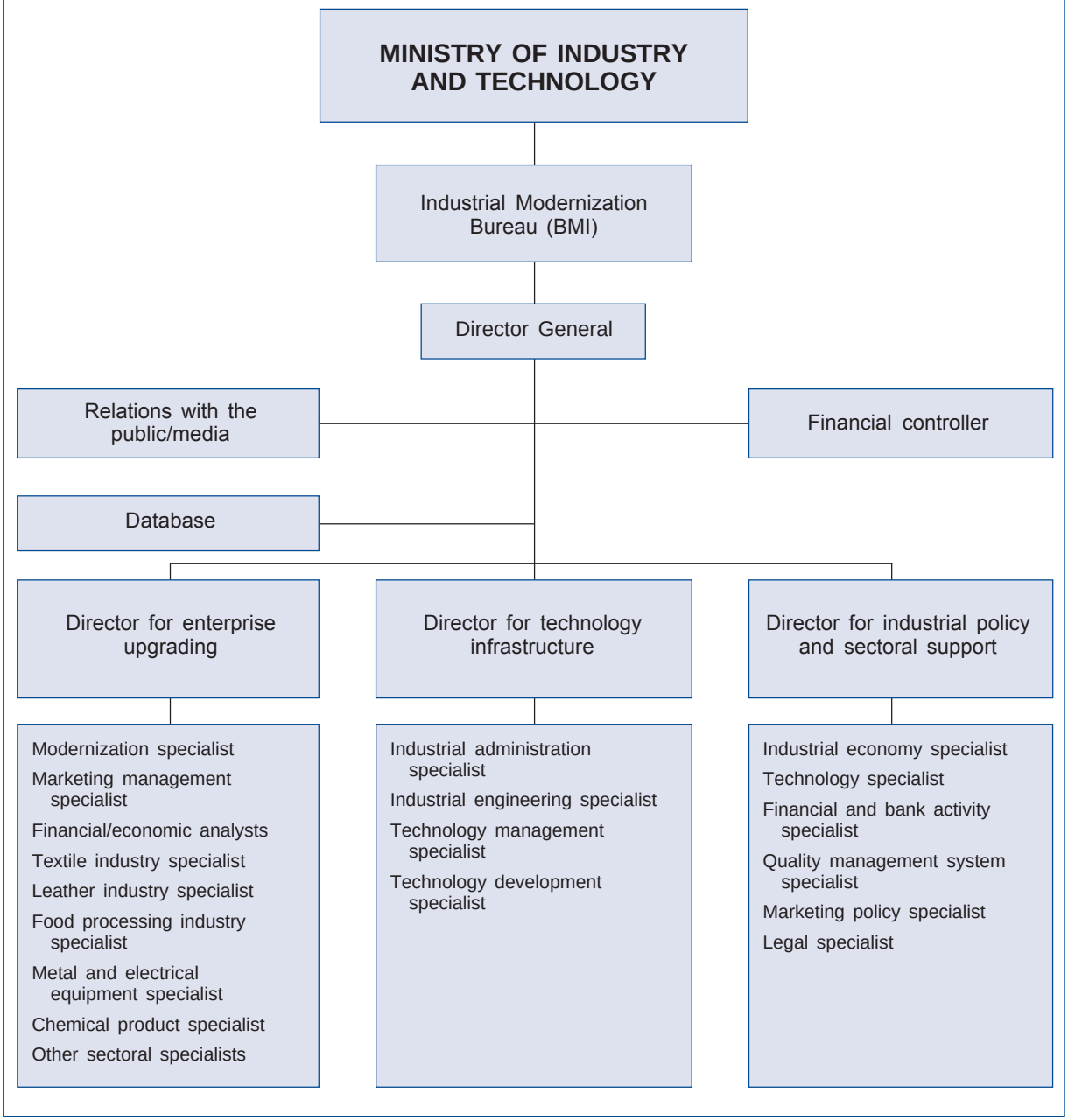


Figure XXIII. Structure of Industrial Modernization Bureau



including Egypt. Since the cornerstone of this economic partnership is the progressive establishment of a Euro-Mediterranean free-trade zone, the two parties see collaboration as the only way of achieving the common objective of long-term economic growth in Egypt. The benefits will be not only economic, since shared prosperity will inevitably lead to an improvement in other areas of life such as collective security and well-being.

The IMP has been designed to provide technical assistance to small and medium-sized enterprises in the following areas:

- Manufacturing techniques;
- Quality;
- International competitiveness;
- Export growth;
- Information about the market;
- Production planning;
- Use of capacities;
- Product design;
- Personnel skills;
- Joint ventures;
- Granting of technology licences;
- Investment possibilities;
- Industrial development and other related activities.

Figure XXIV. Powers of the Industrial Modernization Bureau

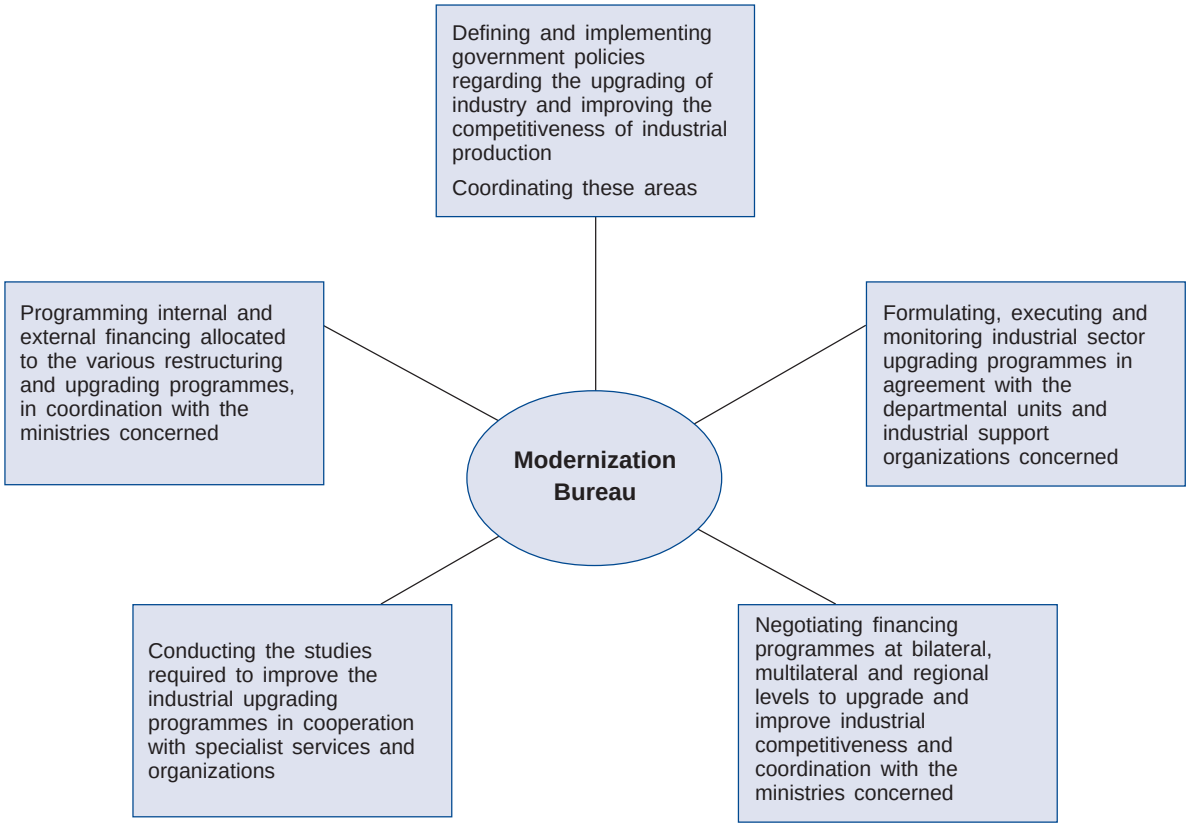


Figure XXV. Powers of the Modernization Board

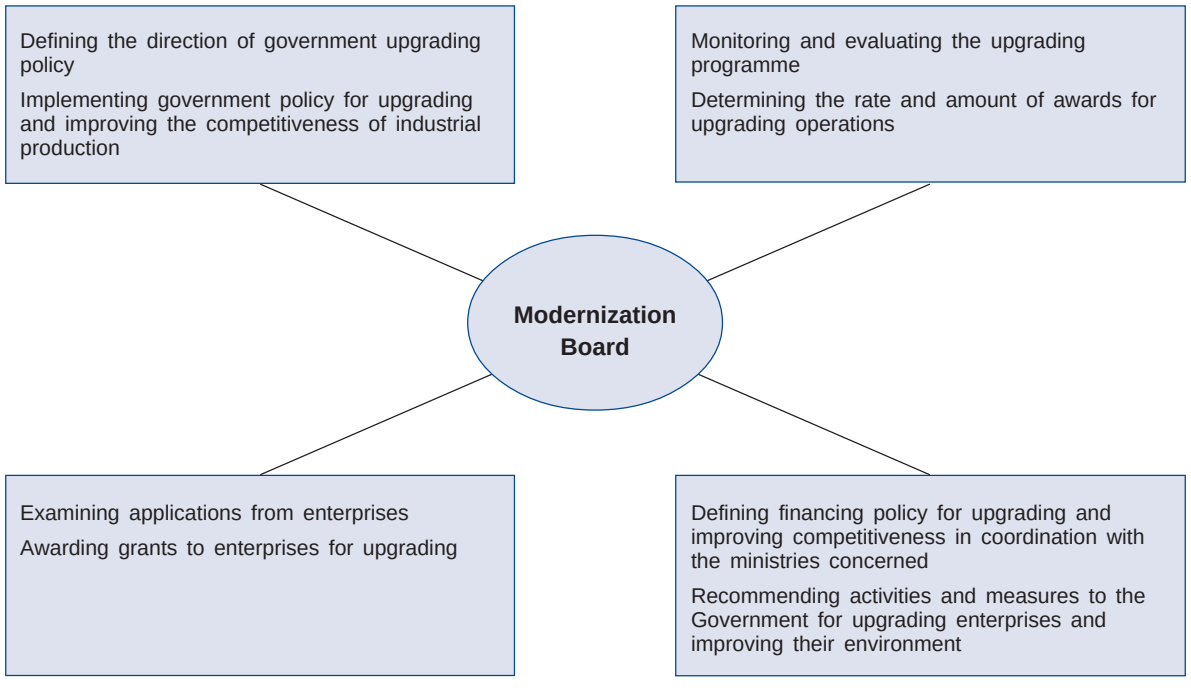
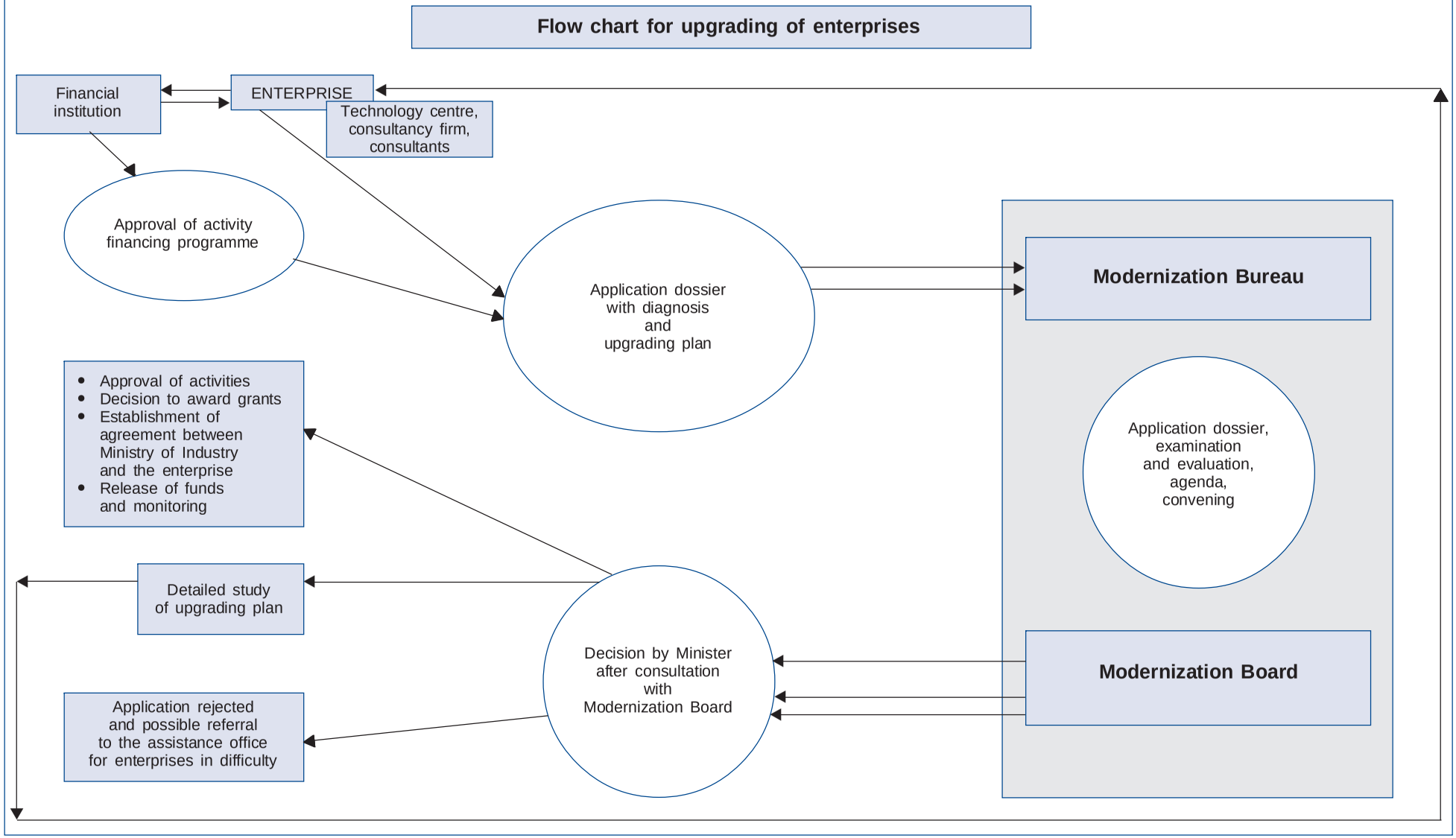


Figure XXVI. Summary of upgrading process



In keeping with the bilateral aspect of the Barcelona Process, association agreements have been concluded between the European Union and its Mediterranean partners, including the Palestinian Authority, Israel, Jordan, Morocco and Tunisia. Egypt has also concluded an agreement of this type, committing it to the long-term objective of creating a Euro-Mediterranean free-trade zone within the next 10 to 15 years.

The Egyptian Government today fully supports the principle of liberalization of trade and export promotion. These objectives, among others, were defined in "Egypt in the 21st century", a document setting out government policy in which Egypt's commitment to trade liberalization was clearly formulated.

(a) For Egypt to achieve the target national annual growth rate of 7.6 per cent by the year 2017, the manufacturing sector will have to grow by 12 per cent per year, achieving results that are 30 to 50 per cent better than at present.

(b) Investment in this sector will have to be more than 30 per cent of the manufacturing gross domestic product compared with 22 per cent at present. In other words, Egypt will require a productive investment of 4 billion US dollars per year until 2017 if it is to achieve its target growth.

(c) Job creation in the economy as a whole will have to improve considerably, if only to accommodate the 600,000 persons who enter the job market each year. Most of them will probably find employment in the industrial sector.

To achieve these objectives, the Egyptian Government has elaborated an upgrading policy focusing on the private sector as the driving force behind growth, with particular attention being paid to small and medium-sized enterprises. The Government is also determined to establish an economic climate conducive to the development of export-oriented industries.

The European Union is helping the Egyptian Government to achieve these objectives by granting a subsidy of 1 billion Egyptian pounds (250 million euros) to support the industrial modernization programme. This sum is supplemented by 106 million euros provided by the Egyptian Government and 74 million euros to be provided by the beneficiaries. This initiative, with a total value of 430 million euros, is one of the largest local and foreign financing assistance programmes ever implemented in the private industrial sector of a partner country on the southern side of the Mediterranean. For the European Union, it is also the largest industrial aid programme that it has ever financed in a developing country.

D. Egyptian national industrial modernization programme

The Egyptian national industrial modernization programme, formulated by the Ministry of Industry and Technology with the assistance of UNIDO, has three main elements: upgrading of enterprises, technology infrastructure and industrial policy and sectoral support.

(a) Upgrading of enterprises

- Formulation, promotion and execution of upgrading measures in industrial enterprises in Egypt so as to improve their competitiveness through vocational training and quality management;
- Upgrading of diagnostic programmes and work plans of enterprises benefiting from the national programme of the Industrial Modernization Board;
- Monitoring of upgrading programme.

(b) Technology infrastructure

- Formulation, promotion and execution of measures to upgrade the technology infrastructure in Egypt;
- Preparation, development and evaluation of studies, diagnoses and programmes relating to technology centres;
- Preparation, development and evaluation of studies and diagnoses relating to technology management and transfer;
- Development of the technology investment capacity of public and private enterprises.

(c) Industrial policy and sectoral support

- Definition and reformulation of the role of the administration and regulatory, control, quality analysis and support bodies;
- Strengthening support bodies, particularly with regard to standardization (central laboratory) and quality certification;
- Stimulation of the economic, commercial and technological information market.

Industrial Modernization Bureau

The Ministry of Industry and Technology decided in April 2001 to endow the Industrial Moderniza-

tion Bureau (IMB) with an independent organizational structure that would be economical on resources and flexible. The management and organization of the IMB is modelled on private sector criteria.

The IMB is chaired by the Minister of Industry and Technology and has its own administrative and financial structure.

It is administered by the Modernization Board, which is chaired by the Minister of Industry and Technology. The management board is made up of prominent representatives of industry, the private sector and the bank system. The total number of representatives sitting on the board is kept at a reasonable level.

The General Director of the IMB is appointed by the Ministry of Industry and Technology. The organizational structure, powers of the management board and of the Upgrading Bureau and the upgrading process chart are shown in figures XXIII, XXIV, XXV and XXVI.

E. Financial resources of the Fund for improving competitiveness

The upgrading programme in general covers enterprises and their environment. The initial five-year programme budget for upgrading and modernization of 4,000 enterprises is around 5 billion Egyptian pounds.

On average, the investment required to upgrade/modernize an enterprise is around 4.17 million pounds, and the Fund for improving competitiveness will provide 0.9 million pounds as an incentive to each enterprise.

An investment of around 1.4 billion pounds is required to modernize the technology infrastructure in the industrial sector.

The Fund's resources will be used to finance:

- The staffing and financing expenses of the Fund; around 15 management staff will be required, together with 10 or so employees, to assist the programme and provide support;
- The contribution of the Fund to the upgrading of enterprises and to services for enterprises.

The financial aid to enterprises will be in the form of grants to be paid as the upgrading process progresses.

The grants provided by the Fund could be shared out as follows:

- 70 per cent of the cost of diagnosis and formulation of an upgrading plan, to a maximum of 100,000 pounds;
- 70 per cent of the cost of improving quality and technology management, to a maximum of 300,000 pounds;
- 20 per cent of the share of the restructuring investment financed by the enterprise itself;
- The first instalment of 30 per cent of the grant will be released on approval of the plan;
- The remaining instalments will be released as follows:

  In one instalment for equipment after acquisition;

  In two instalments for the remaining activities as they progress.

F. Impact of execution

The expected impact of the programme is estimated as follows:

- Growth in the value of production: 8.07 per cent during the first year of application, totalling 34.5 per cent by the end of the five-year period compared with the value of production before implementation of the programme;
- Growth in gross domestic product (GDP) totalling 34 per cent by the end of the five-year period.
- For 1 pound provided by the Fund an output of:

  11 pounds in the value of production

  4 pounds in the GDP
- For 1 pound provided by the Fund, based on subsidized interest rates (7 per cent instead of 15 per cent), an output of:

  8.7 pounds in the value of production

  3.04 pounds in the GDP.

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