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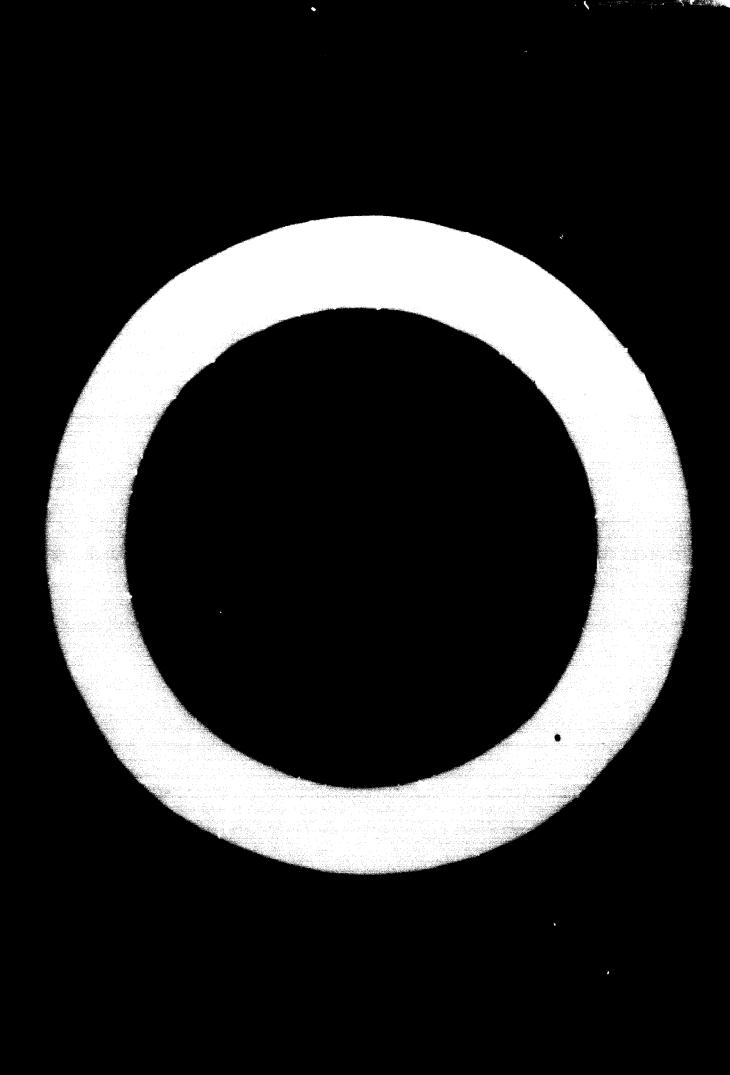
Meeting on Transfer of Technology to Developing Countries through Subcontracting and Licensing Agreements with Special Reference to the Automotive Industry

Paris, France, 27 November - 1 December 1972

RECORD

Document prepared by the Secretariat of UNIDO

We regret that some of the pages in the microfiche copy of this report may not be up to the proper legibility standards, even though the best possible copy was used for preparing the master fichs.



PREFACE

At the last plenary meeting, the participants approved the conclusions reproduced in Annex 1.

The record itself, prepared by the Secretariat of UNIDO, recapitulates these conclusions point by point. In connexion with each point, it presents a summary of the discussions that took place at the plenary and group meetings.

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- I. Conclusions
 - II. Pinal list of participants

I. GENERAL OBSERVATIONS

1.1 A Meeting on Transfer of Technology to Developing Countries through Succentracting and Licensing Agreements with Special Reference to the Automotive Industry was held in Paris from 27 November to 1 December 1972. It was attended by almost 200 participants representing government agencies in the developing countries, the principal enterprises in the sector of the automotive industry and the automobile equipment industry, and specialists on questions of international subcontracting and licensing.

The Meeting was organized by the United Nations Industrial Development Organization (UNIDO), in collaboration with the French Ministry of Industrial and Scientific Development. It was financed partly out of the voluntary contribution granted to UNIDO by the French Government on the 1972 budget.

The opening Meeting was chaired by Mr. J. Charbonnel, the Minister of Industrial and Scientific Development in the French Government.

The participants appointed a steering committee, whose task it was to assist and advise UNIDO on running the Meeting. The following persons constituted that committees

- Guilherme Q. Almeida (National Automobile Trades Union, Brazil)
- Moheddine Bechraoui (Ministry for the National Moonomy, Tunisia)
- Jacques Delorme (Ministry of Industrial and Scientific Development, France)
- Camille Gruau (Régie Renault, France)
- Reinhard Moorkamp (Volkswagen Werke A.G., Prieral Republic of Germany)
- José Policarpio (Chamber of Industries, Philippines)
- Janusz Szotek (Vice-Minister for the Mechanical Industries, Poland)
- Richard Thornton (General Motors Overseas Corporation, United States of America)

The committee elected Mr. Delorme as Chairman.

The participants came from forty-two countries, distributed as follows:

Twenty-six developing countries:

Algeria, Argentina, Brazil, Chile, Cyprus, Egypt, Hong Kong, India, Indonesia, Iran, Ivory Coast, Malaysia, Mexico, Morocco, Nigeria,

Pakistan, Philippines, Senegal, Singapore, Thailand, Togo, Tunisia, Turkey, Venezuela, Yugoslavia, Zaire.

Sixteen industrialized countries:

Austria, Belgium, Czechoslovakia, France, Federal Republic of Germany, Hungary, Italy, Japan, Netherlands, Poland, Romania, Spain, Sweden, Union of Soviet Socialist Republics, United Kingdom, United States of America.

Ten international or intergovernmental organizations were also represented:

- The United Nations Economic Commission for Europe
- The International Labour Office
- The United Nations Educational, Scientific and Cultural Organization
- The International Finance Corporation (World Bank Group)
- The World Intellectual Property Organization
- The Organization of American States
- The Organization for Economic Co-operation and Development (ORCD)
- The OECD Development Centre
- The Commission of the European Communities
- .. The Centre for Industrial Studies for the Maghreb

The opening address was delivered by Mr. J. Charbonnel, Minister of Industrial and Scientific Development (France) and an address was given by Mr. Leprette, Minister Plenipotentiary, Director of the United Nations and International Organizations Department in the Ministry of Foreign Affairs.

A message from Mr. I.H. Abdel-Rahman, Executive Director of UNIDO was read to participants.

Mr. F. Le Guay, Director of the Industrial Policies and Programming Division of UNIDO, introduced the basic document (ID/MG.136/3) prepared by the Secretariat of UNIDO. He defined the objectives and proposed methods for the participants in this meeting.

GENERAL DEBATE

The plenary meetings were devoted to the presentation of the paper which gave rise to many questions and much discussion between their authors and participar's. The following papers were presented in this order:

Examples of international co-operation in the fiel. of the automotive industry

- Role of UNIDO in the field of automotive industries (ID/WG.136/9) presented by Mr. C. Gonzalez-Hernandez, Industrial Technology Division, UNIDO.
- Development of the automotive industry in developing countries in co-operation with industries in developed countries: case study of Tunisia (ID/WC.136/12), presented by Mr. M. Bechraoui, Director for Industry, Ministry for the National Economy, Tunisla.
- Development of the automotive industry in developing countries in co-operation with industries in the developed countries (ID/WG.136/4), presented by Mr. P. Rakovic, President and Director-General of the Crvena Zastava Works, Yugoslavia.
- Report on dynamic development of automobile industry in developing countries (ID/WC.136/15), presented by Mr. H. Satoh, Director of Research, Nomura Research Institute for Technology and Economies, Japan.
- Automotive co-operation in Hungary International co-operation in the automotive industry (ID/MI.136/8), presented by Mr. F. Horchler of the Committee for International Economic Relations, Hungary.
- Information regarding the Venezuelan automotive industry (ID/WC.136/16), presented by Wr. H. Pisani-Ricci, of the Automotive Industry on the Committee, Venezuela.
- Development of the automobile industry in Romania and collaboration with industry in the developed countries, presented by Mr. V. Anghel, Director of the Automobile Planning Centre, Romania.

During the Neeting, two special papers were presented to the participants, one entitled: "Export of technology to developing countries - experiences in the automobile industry" by Mr. H. Schmidt of Daimler Benz A.G., and the other entitled "General Motors" basic transport vehicle" by Mr. R.L. Thornton of General Motors.

International subcontracting

- UNIDO's action in the field of international subcontracting (ID/MG.136/17), presented by Mr. S. Zampetti of the Industrial Policies and Programming Division, UNIDO.

- Automobile subcontracting with the developing countries (ID/WG.136/11), presented by Mr. E. Bernard, Avocat & la Cour, Paris, France.

- Transfer of technology - the Hong Kong view (ID/WG.136/10), presented by Mr. h. Porter, Head, Industry Division, Commerce and Industry Department, Hong Kong.

The participants also had the opportunity to study the following documents:

- Production contracts and subcontracting in economic co-operation between the USSR and developing countries (ID/WG.136/5), presented by Mr. G. Prokhorov of the Institute of Economies of the World Socialist System of the Academy of Sciences of the USSR.
- Study on the opportunities for subcontracting manufacturing activities of the CSSR industry with industries in developing countries (ID/MC.136/6), presented by Mr. L. Riha, Ministry of Construction and Technology, Czechoslovakia.
- Subcontracting the views of the Deutsche Gesellschaft für wirtschaftliche Zusammenarbeit, Federal Republic of Germany.
- International subcontracting, employment and skill promotion, presented by Mr. S. Watanabé, International Labour Office, Economic Branch.

Transfer of licences from the industrialized to the developing countries

- Vicensing of technology into the developing countries (ID/MG.136/7), presented by Mr. E. Aguilar of the Industrial Services and Institutions Division, UNIDO.
- The role of industrial property in the transfer of technology on a contractual basis (ID/WG.136/13), presented by Mr. J.J. Burst, Director of the Centre d'etudes internationales de la propriété industrielle, France.
- The role of consultants in the technology transfer process (ID/MC.136/14) presented by Mr. R. Goldschader, Industrial Property Right: Group, New York, United States of America.

Various documents referring to the meeting of the Committee of Experts on a Patent Licensing Convention, which was held under the auspices of W'PO at Geneva from 30 October to 3 November 1972, were made available to participants.

Extracts from the final report of the Specialized Conference on the Application of Science and Technology to Latin American Development (CACTAL) were presented by the Organization of American States.

GROUP DISCUSSIONS

In three discussion groups more thorough exchanges of views were held about the three principal subjects of the Meeting.

The subjects discussed were:

The automotive industry (group 1)

- The search for mutual benefits that might lead to inter-enterprise agreements in the automotive industry -
 - Types of products or operations;
 - Relative costs in different economic situations;
 - Conditions of accessibility to different markets, etc.
- Obstacles and incentives relative to international industrial co-operation (guarantees, legal, financial and administrative problems, technical training, etc.)
- The collection and dissemination of information favourable to inter-enterprise agreements
- The role of governments, professional organizations and interenterprise agreements
- The role of international organizations
- Models for the development of automotive industries
- Quality and price control
- Appropriate transport facilities
- Appropriate technology.

Subcontracting (group 2)

- Economic factors favouring the search for subcontracting agreements
- Legal and administrative aspects of international subcontracting
- International communication of information on sectors, techniques and enterprises
- The role of governments and professional organizations in the operation of subcontracting in the developing and the industrialized countries
- The role of international organizations.

Licences (group 3)

- Economic factors favouring the search for licence contracts
- Legal and administrative aspects of international licensing
- International communication of information on sectors, techniques and enterprises
- The role of governments and professional organizations in the operation of licences in the developing and the industrialized countries
- The role of international organizations.

1.. The general opinion of participants was that this Meeting provided an opportunity for a great number of useful contacts. The positive character of biliteral discussions programmed in advance was emphasized, as was the importance to each of the participants of better knowledge of the points of view of potential partners as expressed in the general debate and the group discussions

In response to previous requests from the participants from the developing countries and enterprises in the industrial countries, the UNIDO Secretariat had planned confidential bilateral meetings in advance. About 250 conversations of this type took place during the meeting under this programme. Numerous other contacts not prepared in advance were made, in particular during the various receptions that were given on the occasion of the Meeting.

The participants expressed their satisfaction and considered that these confidential business contacts were an essential element of such meetings. Inter alia they enabled them to appreciate better the possibilities for agreements founded on a convergence of interests.

by the Secretariat of UNIDO dealt with the problems of international industrial co-operation. Some of them emphasized that the stress laid in this document on inter-enterprise agreements as instruments for the transfer of technology did not imply that the role of the governments in the developing countries was a secondary one; they had an important part to play because the transfer of technology must find a place in the framework of the industrialization strategy and policies of each of the countries and take into account the choices that they had made with regard to their long-term technical development policies.

Without going into the matter in detail, the document referred to the role of multinational companies in the transfer of technology and development. The meeting recognized the importance of this problem, which has various aspects, both positive and negative. It did not discuss it thoroughly, noting that the United Nations Economic and Social Council had set up a special committee to study it.

The basic document (ID/MG.136/3) made a number of proposals for the consideration of participants. <u>Inter alia</u>, it proposed:

"...That, without neglecting other aspects, participants should examine the problem of the transfer of technology essentially at the level of industrial enterprises themselves and moreover that particular attention should first be devoted to two specific types of relationship by means of which enterprises can establish contact with one another, develop ties and collaborate, namely licensing agreements and international subcontracting operations. Then other forms of inter-enterprise co-operation at the international level could be discussed." (page 2 of the basic document).

- The document also recalled the conclusions of the Seminar organized by UNIDO at Karlovy Vary in 1969, where the essential question raised was: "Did the developing countries need to establish automotive industries?" (page 3 of the basic document).

- The document suggested that emphasis be based on the new factors that had arisen since 1969 and in particular to various recent cases which had the following characteristics in common:
 - (a) They were enterprise-to-enterprise agreements;
 - (b) They were not confined to the supply of equipment or to share participation but increasingly involved two-way exchanges of goods;
 - (c) They concerned not only the transfer of technology but the transfer of production and markets;
 - (d) They involved medium and long-term commitments leading in several cases to a dynamic process of deepening and developing co-operation arrangements;
 - (e) They took very different forms depending on the economic situations and social systems prevailing in the countries concerned; in several cases, participating enterprises retained their legal autonomy and their own right to decision (pages 3 and 4 of the basic document).

Consideration still being confined to the automotive industry, the question arose whether the characteristics quoted above were "... isolated cases without general significance or long-term relevance or, on the contrary, the first signs of a lasting trend :.. (page 4 of the basic document). That was the question asked of participants.

The basic document also emphasized the following points:

- "In some sectors, the industry of the advanced countries is encountering problems which appear to be more than passing difficulties, for which it is difficult to envisage a long-term solution in a strictly domestic framework, or even in the framework of association among developed countries." (page 4 of the basic document).
- their industrial leeway can be made up only if they turn to foreign resources and experience with regard to techniques, know-how, organization, training facilities and finance to supplement their own efforts, which are indispensable. It is true that they are concerned that the industry which they wish to set up should meet the country's own needs and produce a linkage effect and modernization in the entire comestic economy, but they realize that strategies based solely on import substitution quickly run out of steam, all the more so because the countries' domestic or even regional markets are small." (page 5 of the basic document).

- It asked the questions:
 - "... May not these concerns among those on both sides be a sign of possible convergence of interest?" and "is it not possible ... to progress towards co-operation firmly founded on the search for specific mutual advantages?" (page 5 of the basic document).
- With regard to "objective conditions for the establishment of genuine complementarity" (page 5 of the basic document) the question arose what paths led to profitable specialization; in this context:
 - (a) "... It is doubtful whether automatic operation of the laws of the market can provide a solution" (page 5 of the basic document).
 - (b) "Many research studies have stressed the role played by multinational companies in the dissemination of technology and in specialization of production among countries" (page 6 of the basic document).
 - (c) "... International division of labour in the world context and, consequently, an allocation of industries among countries at various levels of development, determining the comparative advantages regarding labour and capital in each of the major industrial sectors ..." would suppose "... a world governed by reason, in which political decisions would bow to the calculations of technicians ..." (page 6 of the basic document).
 - (d) "Governments have an essential role to play in the establishment of a true process of co-operation" (page 7 of the basic document).
 - (e) "... Specialization and complementarity will above all be the result of a process undertaken at the level of industrial enterprises themselves. The transfer of technology and know-how will be more effective, profitable and durable if these agreements also include the transfer of production and markets." (page 8 of the basic document).

The basic document proposed considering "... first of all subcontracting and licensing agreements and then other forms of inter-enterprise industrial co-operation which exist or which might come into being ...", dealing as far as subcontracting was concerned with definitions and legal aspects (pages 8 and 9), economic and social aspects (page 9) and limitations (page 10), taking into arount "the more elaborate form of industrial relationship", namely, the licensing agreement, which was "... less of a one-way relationship than the subcontracting agreement but was more restrictive from the legal point of view (owing to the inclusion of industrial property) ..." (page 10), and in particular its advantages (page 11), operating conditions and limitations (pages 11 and 12). Participants were invited to "... envisage other forms of inter-enterprise

industrial co-operation that are more apprepriate in view of the case that the partners are at different stages of development are tellenged different politico-economic systems", by which it would be possible to associate "transfers of production and markets with transfers of knowledged and know-how." (page 12 of the basic document).

Finally, the basic document proposed that participants should consider the means to be adopted to encourage inter-enterprise agreements, submitting some reflections on:

- Information systems (page 13)
- Information on existing inter-enterprise agreements (pages 13 and 14)
- Methodology for the determination of mutual advantages (page 14)
- Ways and means of making contacts (page 14)
- A co-operative programme of international industrial development that would tend to ensure better liaison and an association of effort among existing agencies, whether professional, governmental or international (pages 15 and 16).
- 1.4 Participants agreed that satisfactory and durable industrial co-operation could not be based on general principles, macro-economic calculations or a priori legal regulations but on a search for such mutual advantages as might be brought to light in each specific case.

The presentation of the case studies, the statements and discussions showed some of the basic interests that countries and enterprises have in seeking satisfactory and durable industrial co-operation.

The discussions showed that, as far as the developing countries were concerned, the advantages sought were mainly:

- (a) The creation of jobs, often calling for a transfer of production and leading either to the establishment of enterprises or to the improvement of existing production capacity.
- (b) A contribution by industry to the equilibrium of the balance of payments:
 - Either by a reduction in imports, made possible by the use of locally manufactured parts or sub-assemblies;
 - Or preferably by access to the export market.
- (c) The strengthening of an industrial base, by means of which it would be possible to rise to a higher technical level, absorb the transfer of technical knowledge and know-how and develop technical training and research.

On the other hand, not so much precise information was given on the interest on the part of enterprises in the industrialized countries in seeking industrial co-operation with the developin; countries. The following points can be noted:

- (1) Their desire to retain external markets that have already been acquired or to acquire new markets.
- (2) Their search for cheaper manpower and lower transport costs.
- (3) Pressure due to competition among the large manufacturers.
- (4) The solution of some problems raised by growth (diversification of sources of supply for parts or assemble, situations created by technical unemployment, action taken to counteract sudden fluctuations in the economic situation, medium-term and long-term programming of development plans in favour of a different location of capital investment, etc.).
- (5) The pressure of the "technology market" which makes export of an innovation necessary as the result of a surplus of knowledge, in particular as far as licensers are concerned.

However, the discussions showed that it is difficult to elicit general rules concerning the trend of international industrial co-operation. In fact:

- The economic and political contexts in the various enterprises and countries concerned differ;
- Macro-economic calculations do not apply to the breakdown of the industrial product into its elements or components, and such a breakdown is a preliminary to any industrial co-operation between enterprises;
- Standards with regard to technology, regulations and legal provisions vary from one country to another or from one group of countries to another.

In each specific case there must be a systematic search for mutual advantages, without thereby losing sight of the overall economic and social development strategies of each of the partners.

1.5 Many participants pointed out that, whatever form the agreement envisaged might take, the developing country was in a position of relative weakness, and the legal and administrative formulations for contracts between partners of virtually equal strength should therefore be reconsidered. Every effort should be made to close the initial gap. For that purpose, enterprises in the developing countries should be supported by appropriate government measures. In addition, the machinery for the establishment of industrial co-operation should be designed to afford the developing countries greater possibilities for initiative, better access to information and appropriate assistance. Steps should be taken to increase the possibilities for choice through better empetitive conditions between potential partners.

The Meeting stressed the existence of administrative and legal formulations which were unsuitable in view of the relatively weak position of the developing countries. In other words, the regulation texts governing industrial agreements having been designed by and for partners in developed countries, they did not always take into account factors relating specifically to the industrial development of the developing countries.

In that connexion, it needed to be pointed out that existing capacities and their quality were largely unknown, that the technical levels which had been reached were disproportionate and that purchasing power varied greatly. In addition to those disparities, there were the compelling political and social factors existing in each country.

The types of agreements envisaged between enterprises must take into account those differences by introducing new criteria concerning the content and means of implementation of agreements, in particular where integration of industrial production was concerned.

Appropriate governmental measures in the developing countries and the developed countries could help enterprises to achieve a more adequate organisation of their relations. Some participants mentioned provisions such as the obligation for the parties to shift a certain percentage of the manufacture of parts or sub-assemblies to the local party each year. Others stressed the obligation to invest and re-invest profits, the fixing of a minimum number of jobs or participation in work relating to training and the mastery of techniques.

In order to promote industrial co-operation and reduce existing inequality, it was recommended that the machinery established should afford the developing countries increased possibilities for making their demands carry more weight, rather than finding themselves in a situation where all the weight was carried by the offers made to them. In that connexion, it was advisable to encourage initiative, promote access to information at all levels and define appropriate assistance. One of the means for achieving this was through widespread use of competition (calls for bids, competitions, comparative studies of advantages and of proposals) and making selective, well-adapted and speedy inquiry services available to the developing countries.

The representatives of the developing countries drew attention to the importance which they attached to increasing their exports of manufactured pends. The Meeting stressed the role which inter-enterprise agreements could it. In that connexion, provided the products to be exported were carefully reported, taking into account the economic and technical conditions in both partners countries.

The presentation of the cases and the discussions following them gave the representatives of the developing countries the opportunity to call attention to the importance which they attached to increasing their exports of manufactured goods. The economic and regulatory provisions laid down by some countries to promote exports were stressed. Some of those provisions were in the process of being drawn up or had recently entered into force. That was the case, for example, in Venezuela and Mexico. Consideration of the various types of inter-enterprise agreements showed that those agreements were tending to evolve towards more frequent inclusion of compensation or counterpart clauses encouraging increases in exports. Such increases could be achieved either by exporting to regional markets or by expanding exports to international or inter-

In some of the cases presented, complete vehicles (buses, lorries) were being exported. In most cases, inter-enterprise agreements providing for the re-export of parts, sub-assemblies or assemblies which had been carefully selected both technically and economically were involved:

- Since July 1970, up to 50 tonnes a month of unmachined steel castings of 15 types had been send to the French market by a Tunisian enterprise as part of the compensation provided for by collaboration agreements with a French manufacturer (see ID/WG.136/12, pages 34-42).
- In 1968 and 1969, the extensions of contracts signed since 1954 between an Italian automobile manufacturer and a Yugoslav enterprise had provided for the supply of counterpart parts and assemblies, covering stamped parts, electrical installations, shock absorbers, batteries, forgings, seats, etc. Since 1971, rear axles, front axles, complete chassis, batteries, wheels, etc., for lorries had been added.
- Between 1966 and 1971, similar agreements had been reached between the Yugoslav manufacturer and the Polish, Soviet and Hungarian manufacturers. The exports involved currently accounted for 10 per cent of production and there was a definite upward trend (see ID/WG.136/4, pages 17-30).

- Approximately 50 per cent c. the buses manufactured in Hagary was exported (1971 production = 6,360 huses). In 1970, more than hast the rear axies and more than two-thirds of the electrical equipment produced had been exported.
- Co-operation agreements concerning mutual supply had been concluded between 1900 and 1970 between Hungarian enterprises and Seviet, German, Swedish, Austrian and French manufacturers.
- Under those agreements, in addition to the above-mentioned items, the Hungarian enterprises exported engine parts, windscreen wipers, ignition distributors, shock absorbers and headlight bulbs (see ID/WG.136/8, pages 6-12).
- A programme of exchanges between the Venezuelan subsidiary of a manufacturer in the United States of America and the firm's other subsidiaries in Argentina and Chile had been worked out in 1968 and 1969. That programme now enabled the Venezuelan subsidiary to export automobile chassis to Chile and Argentina. It was also worth pointing out that the same subsidiary exported the following:

Bumpers, springs, window glasses, etc., to Mexico; Brake drums, wheels, etc., to Chile.

Other subsidiaries of foreign firms in Venezuela had exported the following between 1969 and 1971:

Exhaust systems, petrol tanks and window glasses to Colombia; Shock alsorber supports, window glasses, etc., to Mexico; Petrol tanks to the United States of America; Window glasses to the United Kingdom.

- Romania had been exporting jeep-type vehicles since 1965. In 1967, under a licence and technical collaboration contract concluded between a Romanian manufacturer and a French manufacturer, subcontracting and export of gear boxes for one type of vehicle had started. In 1970, the export of front and rear axles for the same vehicle had been added.

In 1971, the first vehicles had been exported under the agreements described above. The total exports of vehicles accounted for approximately 8 per cent of production in 1971.

- The Brasilian subsidiary of a German manufacturer had exported more than 1,200 vehicles to neighbouring South American countries in 1971. Since 1969, that subsidiary, and another one located in Argentina, had been supplying to the German parent factory engine parts for mass production and, as necessary, also spare parts.

Under a co-operation agreement between an Indian enterprise and the same German manufacturer, Indian vehicles were also being exported.

A co-operation agreement between the German manufacturer and a Yugoslav manufacturer provided for counterpart supplies.

Other examples were given during the discussions, in particular concerning Brazil, Egypt, Mexico and Foland.

Special at ention was given to the countries whose domestic markets were limited.

Some of them, such as Hong Kong and Singapore, reported the results which they had achieved in exporting manufactured products by applying a policy which did not provide for tariff protection and intervention of public authorities in industry. This policy was of a kind which encouraged international subcontracting and competitive exports while making it possible to achieve a relatively high wage level. On the other hand, most enterprises were in that case heavily dependent on their customers for research, design and markets (see ID/WG.136/10).

In other countries such as Tunizia, domestic industrial enterprises (private or public) which engaged in subcontracting within the country were seeking means of extending that subcontracting to neighbouring countries under a regional policy. At the same time, in order to achieve economic independence, they wished to promote multinational and multiregional trade in the framework of economic planning (see ID/MG.136/12).

- 1.7 The participants, who were unanimously convinced that international industrial co-operation could be beneficial, noted during their discussions a certain number of difficulties involved in implementing that type of co-operation:
- (1) The mutual advantages were realized only over a rather long period of time; an attempt by one of the partners to make too quick a profit could only lead to failure;
- (2) The establishment of a common technical language was decisive for the success of an agreement, and that required patience and an effort at mutual understarding;
- (3) The lack of technical and economic information was sorely felt in most of the developing countries.

International industrial co-operation appeared to represent a necessary and desirable relationship. The task of putting it into effect presented difficulties which were brought out in the papers and discussions.

(1) The mutual advantages were realized only over fairly long periods of time.

- (a) In the case of Tunisia, the inter-enterprise collaboration agreement signed in 1967 covered the assembly of vehicles. Only in 1970, after a difficult phase of integration and approval, had it been possible to export the first parts manufactured in Tunisia to the French market.
- (b) In the case of the Yugoslav enterprise mentioned above, in order to achieve the present stage of expansion of co-operation in the mutual interest, a contract for the purchase of a licence and technical co-operation had had to be concluded in 1954; a new factory had had to be built (1960-1962); a new contract had had to be signed in 1964 for the establishment of a design and study centre (for testing and approval); and in 1967 the Government had had to lay down provisions concerning foreign investment. Finally, in 1968, a contract on technical co-operation, production and financial participation had been signed.
- (c) In the case of the Hungarian enterprises, which had a technological tradition, the first industrial co-operation contacts with foreign enterprises had been made in the 1960s.
- (d) In the case of Venezuela, the first Government programme for the shift to local manufacture of parts dated back to 1962, and it appeared that the conditions for expanding the regulations to cover an export programme would not be satisfied until 1973.
- (e) The Romanian enterprise mentioned above had signed its first licence and technical co-operation contract with the French . nterprise in 1966, and transfers of production had resulted in 1967 and 1970.

It emerged clearly that an attempt by one of the partners to make excessive and excessively rapid profits could only lead to failure or delay in the conclusion of co-operation agreements. Some of the participants stressed the need to envisage procedures in short, medium and long-range terms.

(2) The establishment of a common technical language was of decisive importance. The industrialized countries themselves were far from having achieved unification of technical language, and the existing disparities were a handicap to the industrialization of the developing countries. An example of that was the disparity among technical standards, which obliged enterprises to have several stocks (of raw materials and parts) meeting different specifications imposed by different manufacturers.

Furthermore, difficulties could arise among enterprises in countries at different levels of development in understanding designs and the terminology used in connexion with them and interpreting specifications.

Those difficulties could gradually be overcome by progress made in complying with delivery deadlines and improving product quality and also by better information concerning the technical environment of each country and each enterprise. It was through the practice of co-operation that, in time, the difficulties could be overcome.

Some participants pointed out that agreement among enterprises would be facilitated by the intervention of technically competent persons who could serve as impartial intermediaries. Their role would consist in the first place in making an inventory of technical possibilities and assisting partners in their search for a common technical language.

(3) The lack of technical and economic information made a dialogue between potential partners difficult. Information was either poorly suited to needs or inadequately disseminated.

Technical and economic information was a single entity which related not only to techniques, technological development and market trends, but also to sources of manufacturing and equipment.

The efficiency of an agreement depended on the communication of information at all levels of the enterprise and the economy. As long as that communication was inadequate, industrial relations were bound to be marked by distrust and lack of understanding, as the result of the partners, not being convinced that the point of maximum mutual advantage had really been reached.

II. THE AUTOMOTTIVE INDUSTRY

The Meeting reached the following conclusions:

The conclusions of the Seminar organized by UNIDO at Karlovy Vary in lab) were reaffirmed, in particular the conclusion that the developing countries should concentrate mainly on the manufacture of commercial vehicles and bases. Developments in recent years showed, in addition, that some developing countries could reach the stage of exporting certain parts and sub-assemblies. Those countries desired that the agreements they concluded should take account of that fact. They could include clauses providing for compensation through exchanges of parts with the country of origin.

The Seminar at Karlovy Vary, Czechoslovakia, which took place from 24 February to 14 March 1969, was organized by UNIDO in co-operation with the Government of Czechoslovakia. Its main objectives were to consider the current situation and future trends in the automotive industry in the developing countries, to analyse means of promoting that industry, particularly through regional co-operation and integration and, lastly, to adapt existing techniques or new techniques to meet the needs of the developing countries. In other words, the question to be answered was: "Did the developing countries need to establish automotive industries? Unanimity was by no means reached on this point. For those who replied in the affirmative, subsequent questions concerned conditions for the establishment of an assembly line, percentage of integration and the selection of models. But all participants were basically concerned with the prospects afforded by local markets in the developing countries or, at best the organisation of markets and production between neighbouring countries."

How does the situation stand in 1972?

- (a) The question is no longer so much whether or not the developing countries should establish automotive industries, but rather how and by what means.
- (b) The CKD assembly of automobiles cannot be an end in itself, as was affirmed by several participants, including those from the developed countries.
- (c) The careful search for appropriate points of attack, in other words specific points where market and production conditions make the comparative advantages more obvious, can facilitate the development

of the automotive industry and ancillary industries in countries in the process of industrialization. The participants referred in particular to the advantage for the least industrially advanced countries of manufacturing commercial vehicles, buses, sub-assemblies or complete units, parts, safety units, etc.

Participants also stressed the fact that preference should be given under certain conditions to the manufacture of vehicles suited to the specific environmental conditions in the developing countries rather than imposing types of vehicles designed to meet the requirements of the industrialized countries.

- (d) The requirements of the automotive industry imposed by the small size of markets, investment costs, indirect costs and the need to economize on foreign exchange on the one hand and the growing pressure of technology and labour markets on the other obliged the industrializing countries, just like the industrialized countries, to move beyond an import-substitution industry alone. Therefore, without minimizing the importance of percentages of integration (or use of locally produced parts), most of the participants stressed the possibilities afforded by a wider interpretation of compensation covering, for example, parts or assemblies belonging to other types of vehicles.
- (e) The trend towards regulation by the industrialising countries of the percentage of integration was growing stronger, and some of those countries stated that such regulation was being or would be supplemented by regulations governing the proportions of compensation and export.
- (f) There was uncertainty concerning thresholds for the percentage of locally manufactured parts in the automotive industry, and also concerning the optimum market for motor vehicles making possible the establishment of a motor vehicle assembly and manufacturing industry. It appeared that solutions would have to be found on a case-by-case basis.
- 2.2 It could not, however, be stated that every developing country should develop its own motor vehicle production, since market conditions and industrial, financial and administrative infrastructure differed greatly from country to country.

The Neeting provided an opportunity to consider the various strategies which have been adopted or are soon to be adopted by some countries for developing their automotive industries. It showed that there is no single model for this development. It was recognized that domestic production of motor vehicles called for thorough knowledge of market possibilities, existing and future industrial infrastructure, financial structures and the economic and social development objectives and policies of each country.

The paper on automobile subcontracting (ID/WG.136/11) described the difficulties created by the differences among the legal and administrative systems in different countries. These difficulties were also referred to in the consideration of integration efforts undertaken under regional groupings.

The models for the development of the automobile industry analysed during the Meeting share the objective of going beyond the traditional idea of simple import-substitution. In order to achieve this, integration of local programmes and compensatory exchanges with parent enterprises can be used instead in various ways, depending on the specific conditions in each country.

The Meeting was able to outline three basic types of models of development.

The model applied in Mexico provided for the use of a great deal of compensation. It was inspired by the type of agreements which existed between the United States and Canada. It supposed the existence of an industrial infrastructure and adequate regulatory and financial provisions. In addition, a certain domestic sales potential was necessary. For that reason, application of the model should take place by gradual stages.

The second model was based on bilateral or sub-regional agreements between developing countries. It had been tried between Chile and Argentina and was currently being discussed in the Andear group. Under it, trade took place on the basis of parent enterprise prices ex-factory expressed in dollars.

Lastly, subcontracting applied to labour-intensive or highly specialized products was a third model, which was applied, for example, in Hong Kong and also to a certain degree in Hungary.

2.3 The participants emphasised the important role which sub-regional groups could play in the industrialisation of countries belonging to those groups. The existence of such groups should promote bilateral or multilateral agreements between developing countries able to provide the infrastructure necessary for the development of complementary products which could be profitably exchanged under a multinational programme.

Frequent reference was made by many participants to the existence of formation of sub-regional groups. It was recognized that in the automotive industry such arrangements would afford increased opportunities for making products competitive and also for coming to grips with international competition. Some participants stressed that such groups should concentrate not merely on expanding domestic markets but on developing a variety of complementary products which could profitably be exchanged under a multinational programme. To this end, it was recommended that assemblies or sub-assemblies should be divided up according to parts or operations in order to increase ranges, distribute added value more evenly and facilitate access to the international market.

Broadly speaking, these regional groupings should be supported by government policies, but they may also be assisted by agreements between independent enterprises (private or public), between subsidiaries of multinational enterprises and between licensees or sub-licensees.

Several programmes were brought to participants attention. They included:

- The study programme of the Centre for Industrial Studies for the Maghreb concerning the division of operations among enterprises in countries of the Maghreb (Algeria, Morocco, Tunisia);
- The VAZ programme in the USSR for the manufacture of products under licence from an outside manufacturer, with which several COMECON countries are associated;
- The LAFTA (Latin American Free Trade Association) Programme;
- The Andean Group Programme (Bolivia, Chile, Colombia, Ecuador, Peru);
- Programme of complementarity between the countries of ASEAN (Association of South-East Asian Nations).
- 2.4 It was noted that constraints related to brands and models should in some cases lead to regional or interregional specialisation.

The papers and the ensuing discussions brought out the following facts (by way of example):

- A passenger car is an assembly of approximately 5,000 kinds of components and parts consisting of about 20,000 pieces (see ID/WG.136/15, page 1);

- It is estimated that in Tunisia there are 1,000 models of parameter cars in use (all makes), and that the number of models of commercial vehicles imported from all countries over the last 35 years totalled at least 1,250 in 1970; it is reckoned that there are 250 models of coaches and buses covering 25 makes (see ID/WG.136/12, page 14);
- In Yugoslavia, 48.4 per cent of the vehicle population in 1970 consisted of nationally produced vehicles and 51.6 per cent of foreign makes (44.7 per cent of this figure being divided among 13 makes) (see ID/WG.136/4, page 11);
- In Venezuela, 15 different firms are manufacturing a total of 190 models (see ID/WG.136/16, pages 7-18);
- In Romania, 9 makes representing 16 models accounted for 96.2 per cent of all passenger vehicles in 1970 (see ID/WG.136/19, page 3).

At present, the world automotive industry is conditioned by restraints related to the large number of parts which make up a vehicle and its equipment and the wide range of makes and models. This situation is particularly unfavourable to the development of centralized production and distribution systems. It tends to favour a geographical and sectoral distribution of production, both for the manufacture of parts or sub-assemblies of series and for ranges of separate parts. Some participants even expressed the view that the new conditions regarding the international division of labour would stimulate a transfer of automobile production to the developing countries.

Such a re-distribution resulting from the diversification of ranges and makes should lead to improved regional and interregional distribution of the means of production and marketing.

Rapid developments and the short life of models in the industrialized countries favour a concentration of the manufacture of spare parts and parts for discontinued models in a developing country.

In Latin America, this is being done by two subsidiary companies, one for LAFTA, and the other for some Latin American countries and Spain.

2.5 The problem of costs was a complex one and both local conditions and foreign exchange costs should be taken into account. It was noted, however, that differences in manufacturing costs for the same item resulting from the particular conditions pertaining in the countries of the two partners were not decisive for the conclusion of a longer-term agreement.

All participants in the Meeting drew attention to the problems of costs in the developing countries. Some saw labour costs as a determining factor while others attached greater importance to investment costs. Frequent reference was made to indirect costs, whether transport costs, fiscal and customs charges or marketing costs.

It was pointed out that cost comparison was particularly complex, since both the overall cost of the assembled vehicle and basic costs had to be taken into account. Moreover, the comparative advantage shown by a calculation of relative costs made at a given moment could vary fairly quickly; for example, in the event of rapid increases in salaries and productivity in one or both of the enterprises covered by an international agreement.

In general, production costs in the automotive industry are appreciably higher in most developing countries as far as vehicle assembly is concerned (transport costs, CKD customs charges, local taxes, higher assembly costs in the developing countries).

Nevertheless, it can be stated that total costs for the manufacture of parts or sub-assemblies vary from one product to another while being generally higher than for items produced in the industrialised countries. It was observed that the gap tends to narrow as productivity improves with time.

While these higher costs are still a handicap to exports in many cases, they may also be considered by some countries as the price to be paid temporarily for the establishment of a national industry, which is a means of providing training and creating employment.

The fact is that these differences do not play a decisive role in the conclusion of an international co-operation agreement between enterprises, for the reasons given in paragraph 1.7 above. Several of the examples given during the Neeting support this view.

2.6 Some developing countries stressed the importance, at their present stage of industrialization, of having a competitive automotive industry as an incentive for the development of other industrial branches and as a means of accelerating technical training.

With regard to the role of the automotive industry as a focal point for the transfer of technology, the Meeting brought to light, the widely divergent conditions pertaining in different developing countries which prompt varying approaches to industrial development. Three points of view were expressed with regard to the automotive industry:

The first was held by countries which have a very limited domestic market but occupy an advantageous commercial position. These countries are reluctant to establish an assembly industry but are quite willing to act as subcontractors for parts or sub-assemblies for large competitive series. This is the case of enterprises in Singapore, Hong Kong and Hungary (see ID/WG.136/10 and ID/WG.136/8).

The second was put forward by countries whose industrialization policy is deliberately geared towards the integration of nationally or regionally manufactured products. The assembly industry is gradually accompanied by the incorporation of locally manufactured parts which are partly substituted for imported products. The manufacture of these products stimulates the development of other branches of industry. The cases listed of Tunisia, Yugoslavia, Venezuela and Romania are significant in this respect.

Lastly, countries which, while their industrialization is geared towards local manufacture, view the automotive industry as a technical training ground, feel that this branch of industry can provide a sufficiently broad industrial base to be geared down successfully in a specific context, while at the same time creating a relatively large number of jobs.

It was generally agreed that the automotive industry should aim to become competitive even if production costs and limited output made this impossible on a short-term basis.

2.7 Some participants felt that trade unions in the industrialized countries should be consulted in order to ensure that an increase in the number of parts imported from developing countries would be acceptable to workers.

Some participants felt that consideration should be given to workers in enterprises and branches affected by current changes in the system for the international division of labour. This should be done in

co-operation with trade union organizations which could keep workers informed and adapt their trade union and social policy accordingly.

For example, emphasis should be placed on the opportunities for complementarity which an increase in the number of parts imported from the developing countries would afford the industrialized nations. These same participants therefore advocated a policy of joint planning with trade unions in order to avoid misunderstandings and confusion which would be detrimental to harmonious industrial development and true international industrial co-operation.

In any event, several participants emphasized that it was in general more desirable socially that workers from the developing countries should find productive employment in their own countries rather than be forced to go abroad.

2.8 Quality control of manufactured parts was essential. Appropriate technical assistance could help the developing countries to improve it.

The quality of parts or sub-assemblies and assemblies was noted as a major factor in the exchange arrangements governed by inter-enterprise agreements. The automotive industry is particularly affected by this problem, for example, so far as dimensional tolerances and the quality of the metals and treatments used are concerned.

Thus, quality control is essential for both manufacture and assembly. At present, enterprises in the advanced countries having to deal with partners whom they do not know at first tend as a precaution to set standards which are higher than those normally required. This undesirable situation could be rectified if well drafted provisions concerning procedures for the acceptance of exchanged parts and sub-assemblies were included in agreements.

The developing countries are particularly sensitive to this problem. They rightly feel that quality control should be carried out on the spot, if necessary with appropriate and specific technical assistance. The Control Centre in Chile, established with technical assistance from UNIDO, was cited as an example. At the same time, the installation of quality control instruments and the technical training required to operate them provide creative, innovative and engineering opportunities for the developing countries.

III. SUBCONTRACTING

3.1 At certain stages in the industrial development of the developing countries, an appropriate subcontracting arrangement could be a means of improving their industrial infrastructure and helping them to gain access to the international market.

The developing countries may benefit from an appropriate subcontracting arrangement at three stages of their industrial development. The first stage is when plants for the assembly of sub-assemblies or assemblies are established. The second is the local manufacture of parts or sub-assemblies which might lead to the production of large series initially for local or regional markets and later for the international market. Finally, at a more advanced stage of industrial development, subcontracting offers an inherent advantage for a number of products, due to costs or the existence of surplus means of production The paper on automobile subcontracting (ID/WG.136/11), which refers to Mr. Watanabê's work, defines three types of subcontracting; subcontracting across national borders, commercial contracting and "domestic" or full subcontracting.

Subcontracting agreements which include exchange arrangements may in these different cases bring about improvements in industrial infrastructure and permit access to the international market. At the first stage, capacity subcontracting has a definite role to play in certain branches, such as ready-to-wear clothing and furnishing. This type of inter-interprise arrangement can best develop by evolving towards specialised subcontracting.

From the point of view of employment, subcontracting allows for the use of a relatively large labour force but this is generally at a level of specialisation limited to specific operations.

- 3.2 It was, however, recognised that subcontracting could not constitute an end in itself since there was a danger that it would keep enterprises in the developing countries in a state of dependence. In order to avoid such a situation, developing countries should endeavour first and foremost to conclude subcontracting agreements in the following three cases:
- (a) Existence of unutilised manufacturing capac ty in countries;

- (b) Existence of domestic market (or at least a potential one) which would enable possible fluctuations in demand to be absorbed;
- (c) Existence of shortages on the international market.

The majority of participants recognized that in addition to its positive aspects, subcontracting had drawbacks which should also be taken into consideration when determining its role in an industrial development policy. In particular, the risks of dependence were numerous for enterprises and countries which practised subcontracting on a large scale. A number of these risks were cited:

- The lack of diversification of products and outlets;
- Over-specialization of labour in certain techniques and skills:
- Vulnerability of markets, including export markets;
- Uncertainty resulting from economic fluctuations;
- The tendency of the subcontracting enterprise to rely on the prime manufacturer for all processes of adaptation and innovation, thereby hindering the establishment and promotion of research and development activities in the enterprise.

In order to avoid such dependence (or subordination), enterprises in developing countries wishing to conclude subcontracting agreements should themselves study the technical and economic factors which would enable them to limit such risks. For example, they could reduce their investment costs by systematically using untapped or under-utilized manufacturing capacities. They should also take into account in their choice the existence of a national or regional market (or at least a potential one) which would enable them, if necessary, to cope with the consequences of sudden political or economic changes affecting their partners.

Lastly, it should be noted that both the local manufacture of parts and exports are means of partly avoiding over-dependence and promoting the development of subcontracting agreements into true international industrial co-operation agreements. This is the case, for example, of the sales carried out by subcontractors using the prime manufacturer's brand name, and bypassing the latter's international marketing channel.

5.3 To enable the developing countries to become stronger in production and trade, efforts needed to be made at two levels:

At the level of the developing countries:

- To ensure quality and respect for delivery dates, in order to create the necessary climate of confidence;
- To improve methods of management and price studies, as well as competitiveness.

At the level of the developed countries:

- To mansfer as much technology as possible, leaving the partner free to use the know-how acquired, subject to certain conditions;
- To assist with management and training;
- To ensure that contracts are of sufficient duration;
- To supply the necessary tooling, equipment, stocks and finance; a variable proportion of these items could be reimbursed by deliveries of goods produced under the subcontracting arrangements or of other national products under set-off (compensation) agreements.

The establishment of industrial relations between enterprises in different countries and different political and economic environments means that the inequalities between partners should progressively decrease and that the part played by the enterprise in the developing country in production and marketing, should reflect this.

It is therefore necessary that the technical capacities of each of the partners should be used to advantage in a number of complementary ways.

- The enterprise in the developing country should ensure quality and homogeneity in the manufacture of the products exported. Likewise, delivery dates must be respected, the greatest attention being paid to the time taken in production and in transportation. These are the primary conditions for the establishment of a relationship of confidence and trust.

The level of competitiveness, which depends on quality and respect for delivery dates, will rise as management methods and price studies are improved. Both must be suited to the specific case and allow for internal circumstances and the international market.

- The enterprise in the developed country should participate in the technical strengthening of the partner's capacity and thereby make the agreement more profitable in the medium and long term:

By transferring technologies in the form of knowledge and know-how so as to enable the partner to select those which are most suitable for him and, eventually, to adapt them to his own conditions.

By assisting with management, particularly in functions which are connected with the international relationship. Special attention must be paid to technical training in the posts within the enterprise. This assistance can be rendered through an exchange of enterprise personnel for short periods.

By supplying the tooling, equipment, raw materials and finance, at least in the early stage. Payment can be made by a set-off on the first deliveries of subcontracted parts or by deliveries of other national products.

For the reasons given above, it is essential that contracts should be guaranteed to be of sufficient duration, in the same way as the specifications, delivery dates and prices are guaranteed in the respective clauses. Non-observance of the duration clauses should give rise to adequate financial compensation.

3.4 Participants recommended that the search for a partner should be organized in such a way as to give the potential subcontractor the maximum initiative and choice.

In order to reduce the state of dependency to which subcontracting agreements may give rise, it is essential that subcontracting enterprises in the developing countries should be afforded the maximum initiative and choice. To ensure this, it is desirable that the circulation of information and the procedure adopted for drawing up contracts should be such that subcontractors requirements can be taken into consideration from the very outset of the talks. In this way there will be more chance of arriving at a contract which makes greater allowance for the technical and economic conditions of the enterprise and of the country concerned, thereby improving future relations between subcontractor and prime manufacturer during the execution of the contract.

This approach, based on the possibilities of the enterprise in the developing country, can lead to a more rational use of the production capacities of each enterprise. Improved industrial co-operation will be achieved, in so far as the subcontracted operation will not be isolated or accidental but will be better integrated into the production programmes of both partners.

The number of international subcontracting agreements made in a is insufficient to allow of a detailed analysis of the conditions of which this kind of co-operation could be extended. Some participate took the view that the size of the enterprises consistent which that in a number of preponderant role. They emphasized the fact that in a number of branches industrial co-operation may be of particular interest to medium-sized enterprises in the industrialized countries.

Some participants expressed concern over the danger that a generalization of subcontracting might lead to higher unemployment in the developed countries.

Others replied that a rise in the standard of living of the developing countries was absolutely essential. It can constitute a factor making for international economic prosperity if efforts are made to establish new forms of the international division of labour and to take the necessary adjustment measures in the industrialized countries.

3.5 It was suggested that, in both the industrialized and the developing countries, contact centres should be established to assist enterprises willing to engage in subcontracting agreements in getting into contact with one another.

The way in which subcontracting develops, the fluctuation in the factors affecting it, and the multiplicity of the economic agents involved bring out the need for organisational arrangements to promote the circulation of information and the establishment of contacts between partners. There were both group and plenary discussions on the usefulness of contact centres capable of fulfilling these functions. Participants took a number of different positions in regard to this matter.

In some industrialised and in some developing countries, these contact centres have taken the form of subcontracting exchanges or information and promotion centres.

Some participants pointed out that these contact centres could not be identical in form because of the diversity of products and enterprises. They must be adapted to the national or regional context, and must make maximum use of the possibilities offered by existing institutions (professional associations, technical centres, specialized press organs, etc.).

Others insisted on the need to improve communications and the exchange of information between the different centres, whether sectoral or national. Participants from some industrialized countries, particularly in Europe, gave an account of the various efforts made to accumulate information on enterprises interested in international subcontracting and to rationalize the relevant exchanges.

Some participants from developing countries explained the steps taken to establish contact centres capable of determining excess capacities and the potential of enterprises and of providing prospective partners with information on the facilities which the country concerned was in a position to offer.

The discussion showed that the means employed to arrive at the establishment of these communication networks are numerous and can take various forms. It is essential to identify those among them which are best adapted to demand and which can call forth the corresponding supply in the quickest and most convenient way.

IV. LICENCES

4.1 The possibilities of applying current licensing practices in the developing countries were discussed. Many participants expressed their interest in the terms on which they could acquire foreign technological know-how. Reference was made to prices, length of contract, limits on exports, the purchase of raw materials, and intermediaries. It was agreed that licensing contracts with the developing countries should not include clauses which were generally considered to be restrictive in the advanced countries themselves or which ran counter to legislation in the developing countries concerned.

The discussion on licensing agreements started from the idea that in this case the term "transfer of technology" is inappropriate. Technology is a commodity bought and sold on a market. The very special conditions obtaining in this market, the incorporeal nature of the commodity and current procedures for arranging transactions pose many problems which were taken up during the meeting.

Industrial property in the form of inventors patents and manufacturing licences is only an indirect means of communicating

scientific and technological information. Nevertheless, it represents specific legal protection in the transfer of knowledge.

Some of the conditions inherent in this "technology market" were mentioned. The incorporeal goods in which it deals must be used over a relatively long period of time. Their exploitation presupposes that know-how and "show-how" will be furnished in parallel. Moreover, the licensee often lacks the information and technical capacity to enable him to assess, with full knowledge of the facts, the subject-matter of the transaction. He is obliged to purchase "in the dark", and therefore to act on trust in circumstances which increase in difficulty in proportion to his own technological inequality (see ID/WG.136/13).

The discussions covered the conditions required in order that the technology market could evolve in a way more in keeping with the industrial development needs of the developing countries. Participants stressed the difficulties encountered by licensees and expressed the hope that it would be possible to find solutions to the following problems:

- Some patents are of doubtful validity because of the excessive length of the examination procedures.
- The technical information contained in patents is often unadapted to the transmission of know-how and knowledge.
- Territorial limitations are excessive, particularly where the export of products manufactured under licence is concerned.
- The length of agreements (which may vary from one country to another) and the statutory protection which they provide in the framework of industrial property legislation are not consistent with the real lifetime of the technologies concerned.
- The licensing contract should include, in more specific terms, the purchaser's right to benefit automatically from improvements subsequently made in the patents covered by the initial contract.
- From one case to another there are considerable differences between the royalties charged in agreements covering technologies bringing virtually identical benefits. Similar differences are found in the terms of payment and in the fiscal provisions.
- Restrictive clauses, particularly those relating to compulsory supplies and exclusive rights, are very often contrary to the anti-trust laws of the licenser countries.

- Trade mark rights and their renewal may perpetuate a state of dependency.

It clearly emerged that the disparity in regulations should not operate in favour of restrictive practices which would be contrary to the regulations obtaining in the licenser or licensee countries. In particular, the representatives of the developing countries informed participants of the legislation which they are expecting to bring into force in order to exercise closer control over the transfer of technology through licensing agreements and to protect their national enterprises. Information was also given on the programmes currently being undertaken by the Organization of American States in regard to transfers of technology.

In addition, participants expressed the hope that national or international organizations would be able to exercise wider control to prevent illegal restrictions and practices in the matter of licensing agreements.

4.2 During the discussion on the importance of the legal aspects of licences, participants agreed that major importance should be attached to the differences in technical, economic and social conditions between the two partners.

A single type of contract could not be applied to the different situations to be found in the developing countries. However, the need for check lists and guidelines which could help local enterprises to assess the net remuneration and to negotiate the forms of the contract was emphasized.

The differences in the technical, economic and social levels of the partners in licensing agreements presupposes that special consideration should be given to the specific conditions governing the implementation of contracts and to new evaluation criteria.

Partners cannot implement absolutely standard contracts at the international level, but they must show imagination in order to find new formulations for the specific situations encountered in the developing countries. Check lists and guidelines drawn up by competent international bodies can help enterprises to assess results in the light of other criteria.

Wider circulation of the information on the results obtained under existing contracts would be a valuable aid to negotiators of new agreements, especially in cases where existing regulations are inadequate.

4.3 As the developing countries were rarely able to check technical and commercial parameters in advance, in some circumstances they would like guarantees regarding the results obtainable from a license or from know-how acquired from their licenser.

As the developing countries are, as yet, seldom masters of technological, commercial and management forecasting, it is particularly difficult for them to assess results.

However, just as guarantees are required by the developed countries for the industrial risks involved (non-payment, breach of contract, etc.), the developing countries would like guarantees to be furnished to them in respect of the results to be expected from know-how acquired through licensing agreements, and they would like clauses to this effect to be included in the contracts.

4.4 It was observed that competition between potential licensers due to the fact that technology is normally available from several different sources might make it possible for the developing countries to improve their access to new technology and the resulting advantages.

There are so many patents, both exploited and unexploited, that it would be an illusion to think that the possession of a complete catalogue is sufficient in itself for making the right choices.

In many cases, however, there are several different processes for manufacturing the same product. Knowledge of them can be improved by systematically calling for tenders. The developing countries should increasingly resort to this practice in order to obtain licences and technological know-how.

More competition between licensers would lead to an improvement in the "technology market", which is at present functioning in a particularly defective and unbalanced way.

Several participants stressed that it was important that the developing countries should acquire the means needed for making comparative studies, since the latter increased their capacity to select and adapt technology. The need for industrial information centres and consultancy services was emphasised.

4.5 The role of the governments of the developing countries was emphasized, especially:

- In the formulation and adoption of appropriate policies for controlling and regulating the process of selecting and acquiring foreign technological know-how;
- In the framing of laws and administrative procedures concerning licences and industrial property legislation, having regard for international harmonization in this field.

The governments of the developing countries have a fundamental role to play in ensuring that agreements on licences and patents are of maximum benefit to their country's industrial development. Regulating and controlling the selection and acquisition of foreign technology may depend on the provisions which they lay down.

In the absence of a real code of relations between the technologically advanced countries supplying licences and the developing countries applying for technology - a situation which was deplored by several participants - it is up to the developing countries, acting either individually or in regional groupings, to draw up the legislative provisions and administrative procedures best suited to their own circumstances and level of development. When such texts are prepared, the most careful attention must be paid to the conditions governing the implementation of contracts and to the criteria used for evaluating the results.

There should be more concerted action by governments of both the developing and the developed countries to ensure that the international conventions which are to serve as a basis for the harmonization of licensing agreements are better adapted to the needs of industrial development.

Some progress has recently been made as a result of the work done by the specialized intergovernmental organisations. Their role can be strengthened, both as an instrument in the adaptation of the conventions and as a framework for settling disjutes and overcoming any contradictions between the essential requirements of industrial property and the needs of industrial development.

V. ROLE OF UNIDO

would be given to enterprised in developing countries in order to reduce as far as possible the inequality between potential partners to an agreement. It was stressed that it was also in the long-term interests of the more developed partner to have a better-informed opposite number to deal with, one who could enter into mutually profitable agreements with a full awareness of what was involved.

All participants were of the opinion that international and intergovernmental organizations had a role to play in order to assist international industrial co-operation between enterprises in countries at different levels of development. Many examples were mentioned during the discussions.

It was stressed that the negotiation and conclusion of agreements remained the responsibility of the enterprises themselves, within the framework of the industrialization policies and the legislation and regulations adopted by governments.

But within those limits a broad field of activity was open to international organizations in order to stimulate industrial co-operation. Their essential aim in that field should be to give suitable assistance to the less well-equipped partner, to strengthen its position as regards information and negotiation. They could also help to circulate the information available on existing agreements, provide a framework for exchanges of experience and encourage governments to take appropriate measures.

It was stressed by several participants that to reduce the inequality between partners by strengthening the capacity of the less developed one was also in the long-term interests of the more developed partner, properly inderstood. Such a lessening of the original inequality was, in the participants' view, a guarantee of stability for agreements in which the parties' mutual interests would be better safeguarded.

In particular, suggestions were put forward on the role which UNIDO, being responsible for assisting the industrialization of the

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developing countries and co-ordinating international action in that field, could play in liaison with the other organizations concerned. The suggestions covered four main fields:

- Technical assistance to developing countries;
- Establishment of an adequate information and research system;
- Promotion activities in the field of subcontracting and licensing agreements;
- Action to influence governments.

Those points were developed in the following four paragraphs of the conclusions.

- 5.2 UNIDO was asked to pursue, in liaison with other competent organizations, its technical assistance activities in the different fic is discussed during the meeting. In particular, the following forms of action were mentioned:
- (1) In the automotive industry: services to governments and enterprises, standardization, preparation of technical and economic studies, studies on technology at present unused, quality control;
- (2) In subcontracting and licensing agreements: assistance in the establishment and operation of appropriate institutions, training of specialized advisers on the transfer of technology, selection of foreign technology suited to the country's needs, etc.

The technical assistance activities discussed and recommended included in particular the following:

(1) In the automotive industry

- Assistance to government departments and enterprises in the developing countries in order to facilitate the introduction of arrangements for the production of parts by domestic industry and to establish the volume of exports of parts, sub-assemblies and assemblies that the domestic and international markets could bear;
- Assistance in standardizing the technical conditions of manufacture and the various functions of the enterprise (supplies, maintenance, storage, etc.) with a view to better harmonization of standards with those of potential partners;
- Technical and economic studies to arrive at a better definition of the criteria that can be used to guide the development of the motor and motor equipment industry; in particular, studies aiming at a methodological breakdown of the manufacturing process by parts and elementary operations;

- Study of new technology likely to be better suited to the economic conditions existing in the developing countries; reference was made in particular to reinforced fibreglass coachwork (for passenger vehicles and commercial vehicles);
- Assistance to developing countries for research into the production of means of transport specially adapted to their needs, such as low-cost cars, three-wheeled vehicles, scooters, etc.;
- Assistance in the establishment of independent or semi-public bodies to advise governments on technical matters, to provide quality control and guarantee services and to advise the assembly and equipment industries:
- Organization of exchanges of experience among motor industry executives in different developing countries through circulation of information, visits, meetings, etc.

(2) In the field of subcontracting and licensing agreements

- Assistance in the establishment and operation of local institutions to serve as contact centres and help national enterprises wishing to enter into international industrial co-operation agreements;
- Training of transfer-of-technology advisers to help national enterprises and institutions to seek out and negotiate advantegeous agreements:
- Assistance in the establishment of national consultancy facilities to help governments, institutions and enterprises in the choice of imported techniques:
- Assistance in the preparation of specifications as a basis for competing offers from different sources;
- Assistance in the preparation and improvement of legislation and regulations concerning inter-onterprise agreements;
- Butablishment of new evaluation criteria for appraising results (particularly with regard to the local production of components and the international exchange of parts);
- Research into technology at present unused or underused (technology which is new or has not yet found commercial application) which might be usefully applied in developing countries.
- 5.3 The part cipants also spoke of the need for an adequate system of information and research on existing enterprises and technology which could guide enterprises in developing countries in their search for partners. It

was recommended that special attention should be given to case studies of subcontracting, whether successful or not.

The participants recognized the need for an information system better suited to the needs of enterprises in developing countries. For those enterprises to have a greater possibility of choosing their partners and conducting fruitful negotiations with them, they should have access to diverisfied and specific industrial information which they could get hold of fairly quickly. Noting the absence of suitable systems in many developing countries, the participants asked UNIDO to continue and expand the activities of its Industrial Information Service.

The following needs were mentioned in particular:

- Information on technical processes, their relative costs, their technical and economic characteristics, etc.;
- Information on the industrial and technical development strategies and policies of the different countries, both developed and developing, the content of their industrial development plans, their promotion and protection systems, etc.

In addition to this current information, which could be furnished on request, it was suggested that UNIDO should undertake studies of industrial sectors to determine the existence of excess capacity in developing countries and excessive pressures in the industrialized countries. The studies should also seek to find the precise points at which complementarities could be identified, as a basis for mutually profitable inter-enterprise agreements.

Finally, the participants recommended that an analysis should be made of subcontracting agreements, whether successful or not, so that a better knowledge could be obtained of the conditions favouring better international industrial co-operation between enterprises. These case studies should be made in liaison with the international organizations concerned and with regional groupings of countries. They could indicate recommendations for government policy for different sectors of industry.

5.4 UNIDO was invited to review, in harmony with the rest of its programme, its promotion activities in the field of subcontracting and licensing agreements, in order to encourage contacts between potential partners and to co-ordinate its activities with those of national and international bodies.

During the Meeting, the representatives of the UNIDO Secretariat described the promotion activities the Organization had undertaken in addition to its technical assistance activities to help developing countries make contact under the best possible conditions with potential partners who might collaborate with them in industrial projects.

The participants stressed the importance of those activities, not only for obtaining foreign finance but also for other inputs indispensable for the implementation of viable projects (technology, know-how, vocational and technical training, access to export markets).

The programmes in question, in particular those concerned with international subcontracting and licensing agreements, were considered in detail. The participants thought that they could be an effective means of encouraging inter-enterprise agreements and thus the acquisition of new technology by developing countries.

Discussions were held on the programmes. Some conclusions on the activities relating to licensing agreements are dealt with in paragraph 5.6 below.

As far as the subcontracting promotion programme was concerned,
UNIDO was requested to continue it, co-ordinating its activities as
much as possible with those of the national contact centres mentioned
above and promoting exchanges of experience between the various national,
international and professional organizations. Some participants stressed
the role that UNIDO should also play as a central point of contact to
bring supply and demand in the field of subcontracting together and to
promote the circulation of information on the intentions of enterprises
in different countries.

5.5 In addition, the participants, particularly those from developing countries, expressed the wish that UNIDO would use all means at its disposal to persuade the governments of developed countries to give greater encouragement to inter-enterprise industrial co-operation.

The participants, particularly those from developing countries, stressed that without interfering with the free interplay between enterprises, the governments of developed countries had an important role to play in encouraging international industrial co-operation. They

wanted UNIDO to take steps to persuade those governments to make allowance for such co-operation when preparing their own industrial development policies.

The following possibilities were mentioned:

- Measures to facilitate the reconversion of enterprises or regions that might be affected by the transfer of production to developing countries:
- Financial guarantees and fiscal measures for enterprises entering into cc-operation agreements with enterprises in developing countries;
- Financing of studies made available to enterprises;
- Conclusion of industrial, scientific and technical co-operation agreements at the governmental level between advanced countries and developing countries similar to those already quite common between advanced countries (such agreements could serve as a framework for the conclusion of inter-enterprise agreements).

5.6 The participants considered that close co-operation tetween UNIDO, governments and the various national and international organizations concerned with the field of international licensing would be beneficial to the developing countries and deserved to be encouraged and stimulated.

The participants hoped that concerted action would be taken by UNIDO, the other international and inter-governmental organizations concerned, governments and the various professional associations in order to regularize the "technology market".

The aim of such action should be to detect and prevent abusive practices working to the detriment of the developing countries and to gradually establish an industrial relations code applicable to enterprises at different levels of development.

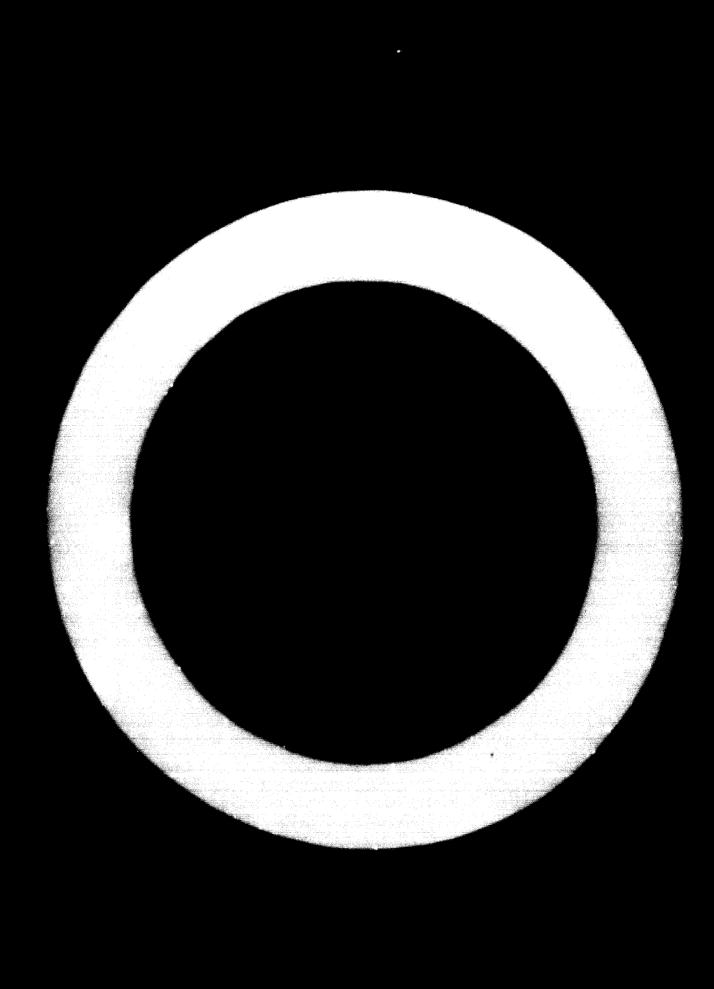
Some participants wanted a study to be made of the feasibility of a system of guarantees, and perhaps mediation, under which interenterprise agreements would be analysed and evaluated by some outside body upon whose services (the partners could call.

5.7 The participants wished to see further action to develop contacts along the lines of the present Meeting.

The possibility of various follow-up activities was mentioned, both

at the level of individual countries as at the internation of inductive resting the organization of similar meetings on other dectors of inductive resting themselves to the various forms of interestional co-peration was suggested by cortain participants. A general terms was expressed for more individual effort and for dissemination and comparison of the results by appropriate means.

Closing the Meeting on behalf of the organizers, Mr. Delorme, Director of Technology in the Prench Ministry of Industrial and Scientific Development, and Mr. Le Guay, Director of the Industrial Folicies and Programming Division, UNIDO, roted the general satisfaction expressed by participants as to the value of the contacts made during the Meeting. They concluded that the Meeting had opened up certain prospects of practical action for the development of international industrial co-operation through inter-enterprise agreements and had provided those concerned - enterprises, governments and international organizations - with valuable food for thought in the further pursuit of their activities.



ANNEX 1

CONCLUSIONS

1. General observations

- 1.1 A Meeting on Transfer of Technology to Developing Countries through Subcontracting and Licensing Agreements with Special Reference to the Automotive Industry was held in Paris from 27 November to 1 December 1972. It was attended by almost 200 participants representing government agencies in the developing countries, the principal enterprises in the sector of the automotive industry and the automobile equipment industry, and specialists on questions of international subcontracting and licensing.
- 1.2 The general opinion of participants was that this Meeting provided an opportunity for a great number of useful contacts. The positive character of bilateral discussions programmed in advance was emphasized, as was the importance to each of the participants of better knowledge of the points of view of potential partners as expressed in the general debate and the group discussions.
- by the Secretariat of UNIDO dealt with the problems of international industrial co-operation. Some of them emphasized that the stress laid in this document on inter-emterprise agreements as instruments for the transfer of technology did not imply that the role of the governments in the developing countries was a secondary one; they had an important part to play because the transfer of technology must find a place in the framework of the industrialization strategy and policies of each of the countries and take into account the choices that they had made with regard to their long-term technical development policies.

Without going into the matter in detail, the document referred to the role of multinational companies in the transfer of technology and development. The Neeting recognized the importance of this problem, which has various aspects, both positive and negative. It did not discuss it thoroughly, noting that the United Nations Economic and Social Council had set up a special committee to study it.

1.4 Participants agreed that satisfactory and durable industrial co-operation could not be based on general principles, macro-economic calculations or a priori legal regulations but on a search for such mutual advantages as might be brought to light in each specific case.

- I.) Many participants pointed out that, whatever form the agreement envisaged might take, the developing country was in a position of relative weakness, and the legal and administrative formulations for contracts between partners of virtually equal strength should therefore be reconsidered. Every effort should be made to close the initial gap. For that purpose, enterprises in the developing countries should be supported by appropriate government measures. In addition, the machinery for the establishment of industrial co-operation should be designed to afford the developing countries greater possibilities for initiative, better access to information and appropriate assistance. Steps should be taken to increase the possibilities for choice through better competitive conditions between potential partners.
- 1.6 The representatives of the developing countries drew attention to the importance which they attached to increasing their exports of manufactured goods. The Meeting stressed the role which inter-enterprise agreements could play in that connexion, provided the products to be exported were carefully selected, taking into account the economic and technical conditions in both partner*s countries.
- 1.7 The participants, who were unanimously convinced that international industrial co-operation could be beneficial, noted during their discussions a certain number of difficulties involved in implementing that type of co-operation:
 - (1) The mutual advantages were realized only over a rather long period of time; an attempt by one of the partners to make too quick a profit could only lead to failure:
 - (?) The ertablishment of a common technical language was decisive for the success of an agreement, and that required patience and an effort at mutual understanding;
 - (3) The lack of technical and economic information was sorely felt in most of the developing countries.

?. The automotive industry

The Meeting reached the following conclusions:

The conclusions of the Seminar organized by UNIDO at Karlovy Vary in 1969 were reaffirmed, in particular the conclusion that the developing countries whouls concentrate mainly on the manufacture of commercial vehicles and bures. Becalements in recent years showed, in addition, that some developing countries was to the stage of exporting contain parts and sub-assemblies. Those

countries desired that the agreements they concluded should take account of that fact. They could include clauses providing for compensation through exchanges of parts with the country of origin.

- 2.2 It could not, however, be stated that every developing country should develop its own motor vehicle production, since market conditions and industrial, financial and administrative infrastructure differed greatly from country to country.
- 2.3 The participants emphasized the important role which sub-regional groups could play in the industrialization of countries belonging to those groups. The existence of such groups should promote bilateral or multilateral agreements between developing countries able to provide the infrastructure necessary for the development of complementary products which could be profitably exchanged under a multinational programme.
- 2.4 It was noted that constraints related to brands and models should in some cases lead to regional or interregional specialization.
- 2.5 The problem of costs was a complex one and both local conditions and foreign exchange costs should be taken into account. It was noted, however, that differences in manufacturing costs for the same item resulting from the particular conditions pertaining in the countries of the two partners were not decisive for the conclusion of a longer-term agreement.
- 2.6 Some developing countries stressed the importance, at their present stage of industrialization, of having a competitive automotive industry as an incentive for the development of other industrial branches and as a means of accelerating technical training.
- 2.7 Some participants felt that trade unions in the industrialized countries should be consulted in order to ensure that an increase in the number of parts imported from developing countries would be acceptable to workers.
- 2.8 Quality control of manufactured parts was essential. Appropriate technical assistance could help the developing countries to improve it.

3. Subcontracting

3.1 At certain stages in the industrial development of the developing countries, an appropriate subcontracting arrangement could be a means of improving their industrial infrastructure and helping them to gain access to the international market.

- 3.2 It was, however, recognized that subcontracting could not constitute an end in itself since there was a danger that it would keep enterprises in the developing countries in a state of dependence. In order to avoid such a situation, developing countries should endeavour first and foremost to conclude subcontracting agreements in the following three cases:
 - (a) Existence of unutilized manufacturing capacity in countries;
 - (b) Existence of a domestic market (or at least a potential one) which would enable possible fluctuations in demand to be absorbed;
 - (c) Existence of shortages on the international market.
- 3.3 To enable the developing countries to become stronger partners in production and trade, efforts needed to be made at two levels:

At the level of the developing countries!

- To ensure quality and respect for delivery dates, in order to create the necessary climate of confidence;
- To improve methods of management and price studies, as well as competitiveness.

At the level of the developed countries:

- To transfer as much technology as possible, leaving the partner free to use the know-how acquired, subject to certain conditions;
- To assist with management and training;
- To ensure that contracts are of sufficient duration;
- To supply the necessary tooling, equipment, stocks and finance; a variable proportion of these items sould be reimbursed by deliveries of goods produced under the subcontracting arrangements or of other national products under set-oif (compensation) agreements.
- 3.4 Participants recommended that the search for a partner should be organized in such a way as to give the potential subcontractor the maximum initiative and choice.
- 3.5 It was suggested that, in both the industrialized and the developing countries, contact centres should be established to assist enterprises willing to engage in subcontracting agreements in getting into contact with one another.

4. Licenens

4.1 The possibilities of applying current licensing practices in the developing

countries were discussed. Many participants expressed their interest in the terms on which they could acquire foreign technological know-how. Reference was made to prices, length of contract, limits on exports, the purchase of raw materials, and intermediaries. It was agreed that licensing contracts with the developing countries should not include clauses which were generally considered to be restrictive in the advanced countries themselves or which ran counter to legislation in the developing countries concerned.

4.2 During the discussion on the importance of the legal aspects of licenses, participants agreed that major importance should be attached to the differences in technical, economic and social conditions between the two partners.

A single type of contract could not be applied to the different situations to be found in the developing countries. However, the need for checklists and guidelines which could help local enterprises to assess the net remuneration and to negotiate the forms of the contract was emphasized.

- 4.3 As the developing countries were rarely able to check technical and commercial parameters in advance, in some circumstances they would like guarantees regarding the results obtainable from a licence or from know-how acquired from their licensor.
- 4.4 It was observed that competition between potential licensers due to the fact that technology is normally available from several different sources might make it possible for the developing countries to improve their access to new technology and the resulting advantages.
- 4.5 The role of the governments of the developing countries was emphasized, especially:
 - In the formulation and adoption of appropriate policies for controlling and regulating the process of selecting and acquiring foreign technological know-how;
 - In the framing of laws and administrative procedures concerning licences and industrial property legislation, having regard for international harmonization in this field.

5. Role of UNIDO

5.1 The participants expressed the unanimous hope that appropriate assistance would be given to enterprises in developing countries in order to reduce as far as possible the inequality between potential partners to an agreement.

It was stressed that it was also in the long-term interests of the more developed partner to have a better-informed opposite number to deal with, one who could enter into mutually profitable agreements with a full awareness of what was involved.

- 5.2 UNIDO was asked to pursue, in liaison with other competent organizations, its technical assistance activities in the different fields discussed during the meeting. In particular, the following forms of action were mentioned:
 - (a) In the automotive industry: services to governments and enterprises, standardization, preparation of technical and economic studies, studies on technology at present unused, quality control;
 - (b) In subcontracting and licensing agreements: assistance in the establishment and operation of appropriate institutions, training of specialized advisers on the transfer of technology, selection of foreign technology suited to the country's needs, etc.
- 5.3 The participants also spoke of the need for an adequate system of information and research on existing enterprises and technology which could guide enterprises in developing countries in their search for partners. It was recommended that special attention should be given to case studies of subcontracting, whether successful or not.
- 5.4 UNIDO was invited to review, in harmony with the rest of its programme, its promotion activities in the field of subcontracting and licensing agreements, in order to encourage contacts between potential partners and to co-ordinate its activities with those of national and international bodies.
- 5.5 In addition, the participants, particularly those from developing countries, expressed the wish that UNIDO would use all means at its disposal to persuade the governments of developed countries to give greater encouragement to interenterprise industrial co-operation.
- 5.6 The participants considered that close co-operation between UNIDO, governments and the various national and international organizations concerned with the field of international licensing would be beneficial to the developing countries and deserved to be encouraged and stimulated.
- 5.7 The participants wished to see further action to develop contacts along the lines of the present Meeting.

ANNEXE II

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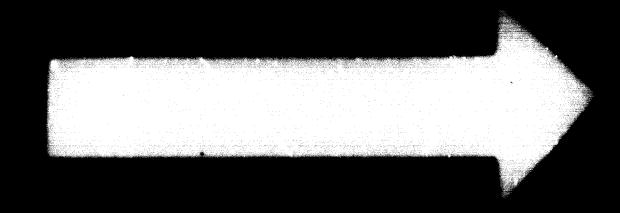
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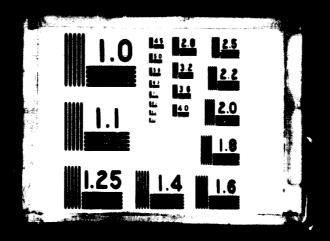
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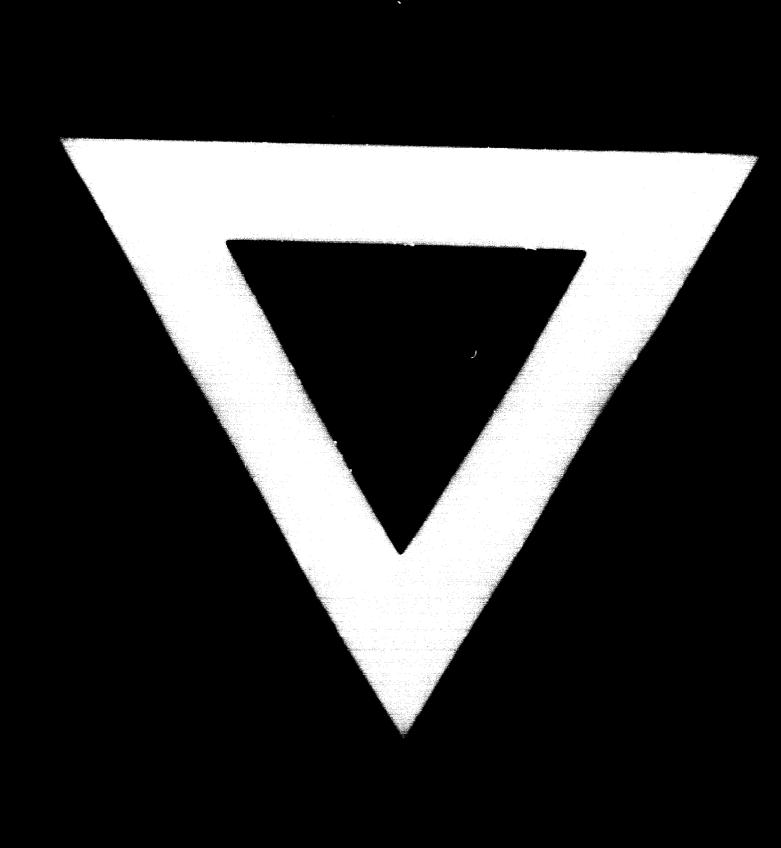
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