



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org



06235



Distr.
LIMITED
ID/WG.206/1
14 April 1975
ORIGINAL: ENGLISH

United Nations Industrial Development Organization

Regional Workshop on Technology Acquisition
through Licensing Agreements by Exchange of
Experience between Selected Developing
Countries in Asia and the Far East

Kuala Lumpur, Malaysia

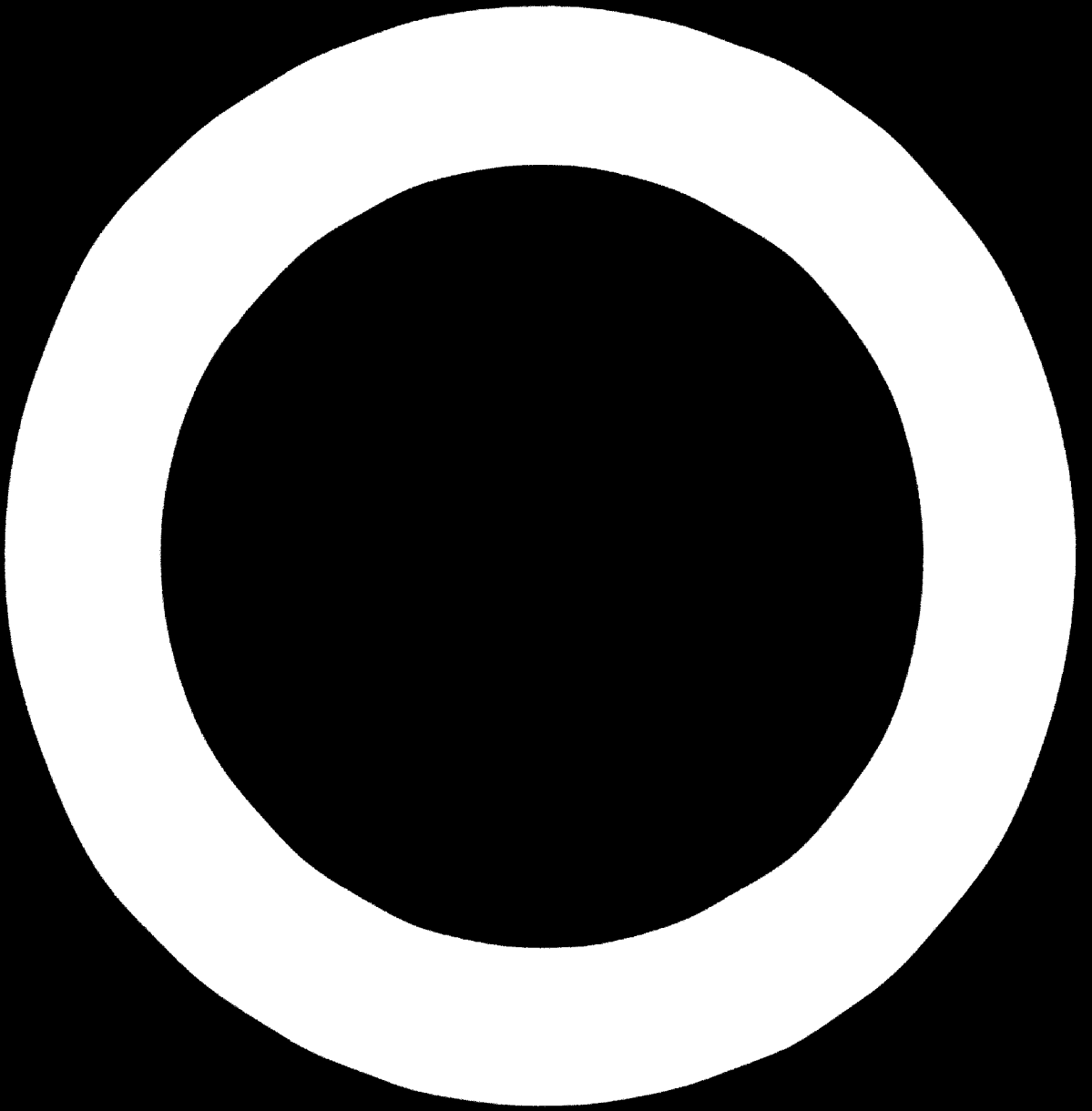
ESSENTIAL PREPARATIONS FOR INTERNATIONAL LICENSING ^{1/}

A Review of Selected Aspects of License Negotiation .

prepared by
the Secretariat of UNIDO

^{1/} This document has been reproduced without formal editing.

id.75-3428



1. Introduction

International licensing agreements and so-called transfer of technology agreements are steadily gaining importance in international trade, particularly for those with the industrial base of a country and for the continuous improvement of their local development of native manufacturers. This overall trade in technology is a reflection of trade relations between developed and industrialized countries with licensing playing a dominant role in the realization of industrialization of these countries.^{1/}

Licensing is a complex interaction between two or more parties, a transaction that can include contracts and obligations ranging from simple trade deals to complicated investment/joint venture and know-how agreements. Bearing this in mind, the present paper concentrates on the analysis of the following aspects of international licensing:

- 1) Relations between licensors and licensees,
- 2) Motivations of licensors and licensees
- 3) Government intervention in licensing,
- 4) Structure of licensing,
- 5) Costs of licensing and other considerations.

The paper intentionally excludes detailed mention of other relevant aspects of licensing such as the financial, commercial or technical considerations, industrial property rights and general legal matters. Moreover, a considerable amount of literature dealing with the technicalities of licensing already exists. While these aspects are extremely relevant at the practical, operational level, there is no need to consider and analyze them here.

1/ See "The Role of UNIDO Assistance in Technology Transfer and especially Licensing to Developing Countries", UNIDO, ID/IG.194/3.

II. Relations between Licesee and Licensor

"A licesee arrangement is like a marriage" states Siech^{1/}. To a certain degree this is true, as there are few other transactions that bind two parties so closely together for such a long time. Therefore, the mutual relationship between licesee and licensor should, and usually does reflect the element of time and the degree of co-operation necessary for success. Most often, it is the licesee who is looking for the licensor to supply him with the needed technology or product. More and more transactions are being concluded, however, at the licensor's initiative. A description of motivation for the licesee's or licensor's willingness to enter into licensing agreements will be described in the next part of the paper. But first of all, it should be emphasized that the mutual relationship between licesee and licensor is generally based on:

- 1) The technical level of the subject of agreement;
- 2) The good will and mutual trust of the partners;
- 3) The flexibility of approach and the agreement itself,
- 4) As detailed and thorough negotiations as possible.

The first point relates to the technical level of the subject of the agreement. By its character it determines to some degree the duration of the agreement, this being the time element of the mutual relations. The higher the technical level of the agreement, the longer the contract tends to last. Moreover, the confidence of both parties in producing and marketing a unique or a highly competitive product or process, at least for a given period of time, seems to form a solid foundation for good relations between licensor and licensee. In this connexion, the need for a very thorough technical analysis of the products or processes offered, with the maximum possible amount of information on the actual state of art and competition in a given field, should be stressed. Naturally, the latter requirement, particularly in developing countries, could cause a number of problems. But that is no longer the case for India and some of the Latin American countries, due to their advanced research and development facilities and available human resources. In this respect, it is advisable to warn potential

^{1/} W. Siech: "Lizenzfertigung im Ausland", 1961, p. 35

licensors and licensees about one of the most common causes of unsuccessful licensing ventures, namely the problem that can develop when the gap between the level of the presently used technology of the licensor and of the licensed technology exceeds the adaptation capabilities of the licensee enterprise. This so-called adaptation capability is the generally developed technological aptitude of a given community, society or enterprise, and the technical skill of those who have to absorb the new, higher level technology. There are cases in which new plants are located where no industry existed previously and operate at a capacity of only 2-40%, and produce a low quality product for the initial 3-10 years when compared to the same kind of plant in a region where industry has a long technical experience. Summing up this particular point, it is of extreme importance for the lasting effectiveness of the co-operation that the technology to be transferred by licensing agreement is relatively easy to adapt and to absorb by the licensee. It should be stressed that such technology does not necessarily mean antiquated technology. At the same time, unfortunately, the drive to acquire the most modern and updated technology has created a very painful experience and caused heavy financial losses, due to the licensee's inability to utilize properly the required technology.

The other points, namely the precondition of a maximum of good will, or mutual trust and flexibility in approach within the agreement are often overlooked. Their long-lasting importance must be emphasized because situations often arise during the life of licensing agreements which can only be solved by this kind of trust and good will.

Lastly, the point not discussed yet, which is time itself and changing conditions, must also be considered. License agreements normally last from 5-10 years on average, and during that time all basic assumptions underlying a particular decision might change completely. In such circumstances, flexibility, good will and mutual trust play an extremely important role in a successful and profitable operation. The flexibility must be based on mutual good will which, again, is the result of an initial, thorough negotiation. The experience of a number of licensing executives shows that the majority of troubles occur with agreements where negotiations went very smoothly and the licensee

accepted most or all of the proposals of the licensor. Detailed negotiations are particularly important for enterprises of developing countries where rapid industrialization is the only way out of their difficult economic position. Such thorough negotiations enable the partners to become better acquainted with each other, but also helps to avoid misunderstandings and mistakes and to induce the necessary elements of flexibility and trust. All these considerations should be included in the preparation of a licence - in addition to those points normally recognized as necessary, such as market analysis, market forecast, cost-benefit analysis and technical evaluation.

III. Motivation of Licensor and Licensee

Before identifying the detailed motivations for licensing it should be stressed that the primary one is the desire to increase profits. In all instances, including the public or governmental sector as well as centrally planned enterprises, profit is the key and basic motivation behind any licensing undertaking.

At first appearance it seems that the motivations of the licensor are opposite to those of the licensee. But after careful analysis of both sides they are found to be similar. Let us start with the identification of the licensor's motivations, which are relatively easy to define, and can be put in the following order :

- 1) Desire to increase profits;
- 2) Difficulty or impossibility of direct sales in a particular area;
- 3) Difficulty in setting up a fully-owned subsidiary;
- 4) Desire to speed up return of research and development costs connected with the licensed technology;
- 5) Market extension;
- 6) Possibility of profit increase by supplying raw materials, spare parts and components to the licensee;
- 7) Building up the overall reputation of the licensor;
- 8) Possibility to establish technical co-operation, such as cross licensing agreements, leading to the setting up of joint ventures.

As can be seen clearly, the whole reasoning behind the licensor's decision is based on the desire to ultimately increase profits. In this light, attention should be called to the fact that in many instances licensing is considered as an alternative to direct product sales or

investment. Licensing is always a less risky operation than investment, particularly when developments in a given country indicate the possibility of rationalization, or the legislation of a country does not allow any direct foreign investment. A licensor, as part of his marketing strategy very often divides the markets into those where direct sales will be effected by parent or subsidiary operations, and those where the licensor's products will be distributed through licensees. In this way, the licensor is able to cover a far larger market (particularly those with heavy import taxes and duties), with relatively limited manufacturing capabilities. An interesting element in marketing is that licensing is often used as a marketing tool for other products of the licensor, particularly when trademarks are involved. These considerations relate to points 5, 6 and 7 above.

It is quite common practice at the early stage of production that large deliveries of spare-parts, raw materials, etc. are supplied by the licensor. As an example, the Fiat license should be mentioned. The Fiat agreements usually foresee the supply of parts and components at the early stage. Later on, local components manufactured by the licensee replace the imported ones in production. The advantage of such an approach, apart from the additional profit realized by the licensor, is to better acquaint the licensee with the manufacturing process and know-how. One of the important elements in licensing considerations is the development cost of new technology or products. Naturally, the cost of research and development is included in the final price of the product, and therefore the licensee partially shares these costs. It is noteworthy that the recovery of development costs by the licensee is often over-emphasized by licensees, stressing the point that the licensee should not share the research and development cost of the licensor. The fact is that only a small portion of the license fee is based on research and development expenditure recovery.

Another, rather important, point is that licensees are usually granted for a product which could have been marketed or manufactured otherwise, because the licensor has already developed the product and is marketing it. This tendency is particularly common where the licensor is engaged in direct sales. Through such a procedure additional profits are realized. It is rare that very modern, recent technology or processes are offered for licensing. One of these is the famous Wankel engine which was recently licensed in Japan and the USA for very large sums.

Now looking at the licensee, it was mentioned earlier that his decision is also based on the profit motive. In countries with a strong government sector or direct governmental control, however, profits became less important than, for instance, political or overall economical reasons. The following motivations seem to prevail when the licensee reaches its decision:

- 1) desire to increase the profit;
- 2) avoiding the high costs of research and development;
- 3) lack of research and development facilities;
- 4) desire to enter foreign markets;
- 5) desire to increase the quality of its products;
- 6) countering strong competition at the local market;
- 7) desire to decrease unemployment.

Some of the above reasons are quite obvious, particularly points 5 and 6. Therefore, we will concentrate our observations on a dilemma which must often be solved by the licensee, namely, whether to develop a certain product or purchase it "ready-made" through licensing of the technology. This is a very complicated issue and no standard solution is available. In certain circumstances, in India for example, with relatively rich research and development facilities, the answer might be that local development of technology is preferable, while in the case of other developing countries the solution would be to select a suitable licensor and enter into a license agreement. This gives access not only to the results of the licensor's research and development capabilities, but also enables the licensee, through appropriate arrangements, to acquire the necessary know-how, thus making available training possibilities and giving access to further improvements of a given product or process.

A number of problems of developing countries are connected to difficult balance of payment situations and to the possibility to gain hard currency through export of products outside their country. Government provisions, in the form of subsidizing, tax exemptions, etc. might encourage local entrepreneurs to enter into licensing agreements with foreign companies.

The issue of unemployment and development of labour intensive industries is another important consideration to go the licensing route, particularly from the point of view of governments. In this case, however, the choice of technologies is especially difficult because modern technologies in general

are developed in highly industrialized countries and are geared to the elimination of manual labour. But here lies an interesting possibility for future technical co-operation between licensee and licensor to adapt technologies for local conditions.

IV. Government Intervention in Licensing

It is generally acknowledged that the unrestricted inflow of technology tends to perpetuate a country's dependence on outside technologies in general, including a wide range of related technological services. Licensees in the developing countries in particular tend to be much more dependent on their licensors for various services which they could develop themselves with relatively little effort. While there is an essential need for technology inflow to the developing countries, there is increased awareness of the problems resulting from such unrestricted importation of foreign technology through licensing and through the terms and conditions of such agreements. This is the reason for the emergence of screening and selecting in many developing countries, accomplished to a varying degree through the use of regulatory control or intervention, in the inflow of technology ^{3/}. A short review of principal trends in countries such as the USA, Japan and USSR, Argentina and Mexico are discussed below in order to relate such trends to the existing problems and experiences of the developing countries.

In the USA, the intervention of the Federal Government in licensing agreements is based on the Sherman and Clayton Act, which is a general and broad ranging, major anti-trust legislation. A number of case decisions of recent years are directed strongly against particular licensing provisions, which could cause a reduction in competition. Court decisions were generally in favour of the licensee, The obligations imposed on the licensee and a number of provisions which were considered standard parts of licensing agreements in the past, have been held to constitute restraints on competition or to result in unfair competition, therefore violating the anti-trust legislations. Marcus B. Finnegan,

^{3/} K.F.N. SINGH: "The changing role of governments in the regulation and promotion of licensing arrangements", ID/WG.178/3

in one of his publications ^{4/} has specified certain restrictive clauses in patent and know-how license agreements which could be considered illegal in the USA:

- 1) tie-in clauses forcing the licensee to purchase material and components from the licensor;
- 2) limitations and restrictions on the licensee's operation as to other products and services, or to obtain competitive technology;
- 3) restricted or limited use of patented materials which would create a monopolistic situation;
- 4) package licenses including patents not required by the licensee;
- 5) price fixing;
- 6) territorial restrictions within the USA;
- 7) certain types of cross licensing provisions.

The decision of the US courts has lead in a number of cases to forced transfer of know-how by the licensor whenever a misuse of the patent rights was found.

Japan is a different case. The most commonly cited, successful user of licensing, within the regulatory role of the government, is Japan. As it is well known, all technology agreements, including their extensions and amendments, are subject to approval by the Japanese Government. Such approval is granted almost automatically by the Bank of Japan for payments not exceeding \$50.000. All other cases are referred to the Ministry of International Trade and Industry (MITI), which is required to consult all other agencies concerned and to give its approval within 30 days. All submissions related to seven specified sectors required a case-by-case analysis up to July 1973, but since then such a procedure is mandatory for licensing agreements of computer technology only. About 14.000 import license agreements between 1950 and 1970 were concluded in Japan 60% of which were with US firms. Japan is now also exporting technology in various fields, but technology import is still much higher and amounted to \$433 million in 1970 against export of ca. \$60 million ^{5/}. The tremendous success

^{4/} M.B. FINNEGAN: "Anti-trust problems in the USA and EEC - Panel discussion", LES Conference, Tokyo, 1972.

^{5/} K.D.N. SINOH: "The changing role of governments in the regulation and promotion of licensing arrangements", ID/W3.178/3.

of Japan's licensing policy can be attributed to the fact that Japan already had a strong technological and industrial base and a highly developed general technological aptitude. Close co-operation between the Government and industry ensured that this regulating policy has functioned in the best interest of industry and the country's overall economy. An interesting aspect of licensing in Japan should be mentioned: licensing agreements must also be reported to the Fair Trade Commission (FTC), which was set up under an anti-monopoly legislation, and which has issued guidelines prohibiting certain restrictions on exports, acquisitions, competitive technology, tie-in clauses etc.

A different situation again exists in the socialist countries of Eastern Europe and the USSR where governments exercise direct control over importation of technology through their State Monopoly of Foreign Trade. Specialized trading agencies are charged with the duties to acquire the necessary technology in order to match the country's needs and its planned goals. Such a procedure requires very close co-operation between central planning bodies and trading agencies. This system helps to develop considerable knowledge in licensing and enables it to deal at a high level with foreign companies, in particular with multi-nationals.

The most developed countries in Latin America regarding control of licensing and transfer of technology are Argentina, Mexico and the countries of the Andean Group. Two laws were enacted in Argentina in 1971: Law No. 19135 prohibiting the imposition of certain restrictive conditions on the automotive industry, and Law No. 19231 which prescribes the regulation of agreements for foreign technology and patents and establishes a national registry for all such agreements. This law provides that contracts will not be approved if they contain clauses which, among others, force the purchase of equipment, raw material or components from certain sources, restrict export, include unreasonable grant-back provisions, provide trademark licensing without know-how, impose jurisdiction of foreign courts or require unreasonably high payments. A new law was passed in 1974 which is based on the results of earlier ones, but with certain additional provisions. A similar legislation was introduced in Mexico and a National Registry for Technology Transfer was established in 1973. Both the Argentinian and Mexican laws provide that all existing agreements are to be registered

within a specified period of time. An important provision of the Mexican legislation is that it provides a service of a consultative nature by the Registry available to all entrepreneurs. This is aimed towards enabling agreements to comply with licensing provisions before submitting them officially for registration.

As may be seen from this short review, a number of countries do exercise governmental control or intervention on international licensing, both in the industrialised and developing countries. Such a regulatory control is aimed towards steering the inflow of technology to preferential sectors of industry and to avoid or minimise restrictive licensor's provisions. Moreover, enterprises, particularly in developing countries when supported by a national legislation or by the government, prove to be in a far better negotiating position when dealing with major foreign companies or multi-nationals.

V. Structure of Licensing

There is a variety of types of licensing agreements, depending upon the specific point of view. Two basic types may be distinguished at the first instance: "know-how agreements" where no patents are involved and "patent licensing agreements". The latter one, of course - if it has to serve its purpose - includes the supply of know-how as well, which is essential and is the basis of most licensing arrangements,

Usually it is also possible to classify licensing agreements as "exclusive" ones, that is, when only one license in a specified territory is granted the right to use licensed technology, and "non-exclusive" ones where two or more licensees are authorised to operate within the same sphere.

It is also worthwhile to mention the "package type" of license agreement in which the licensee receives a right to use a combination of patents related to a particular technology. The observation here is that in many instances not all patents supplied are used because of their inferior or marginal nature.

Finally, one may distinguish patent license agreements as being the "voluntary" or "ordinary" ones concluded by mutual agreement or as compulsory licenses that are ordered by courts. Compulsory licensing of patents is of particular interest to developing countries. First of all, compulsory or patent

license should only be considered when ordinary (voluntary) patent license is refused. Secondly, what is really needed by developing countries in particular is not a "paper" license but genuine technology which cannot be supplied by a mere court order. The reason why there is so much talk about compulsory licensing is that, although most patents are available for license (at what price is a different matter), some are not, such as many pharmaceutical patents.

In addition to the various forms of licensing agreements, franchising agreements and licensing agreements with equity participation and so-called management contracts should also be mentioned. While franchising agreements of the Coca Cola or Hilton type are relatively simple, equity participation in licensing agreements, particularly when connected with joint venture, is an entirely different matter. Instead of royalties or cash payments for the technology, the licensor - for various reasons - often requests equity participation in the licensee's operations, either in the form of direct participation in profits or by acquiring a certain percentage of shares. It is also possible that if a new company is being established, the licensor will require the share in a joint capital which is represented by the value of technology, know-how and services supplied.

Trademark licensing agreements should also be mentioned. Here the right to use certain trade names, coupled with relevant know-how, is the object of the licensee. These trademark agreements usually bring into the particular country or enterprise a considerable quality improvement of a given product or group of products. In this connection, one should mention that trademark agreements in particular have been subject to very strong criticism by developing countries, as these often do not correspond to the economic needs of these countries. This, however, is not so in all cases of trademark agreements. For example, a number of products can only be exported under a well-known trademark when manufactured by an unknown company, as is the case in the majority of developing countries.

As mentioned before, the main groups of licensing agreements are patent licensing and know-how licensing agreements. The latter group prevailed during the last decade and it seems that there is a growing trend among industrialised countries to supply or exchange more and more unpatented know-how, particularly

in such fields as chemicals, petrochemicals, building industry, steel and metallurgical and the automotive industry. The demands of developing countries, on the other hand, tend to concentrate mainly on patents and therefore on patent licensing agreements. What is really needed is the know-how and technology that enables a complete possession of the knowledge necessary for the production of a given product or for the full utilization of a given process. Specific consideration and attention should therefore be given by both, the licensee and the government, to ensure that the know-how supplied by the licensor either under patent or know-how or trademark licensing agreements supplies this technology.

Licensing agreements, irrespective of their nature, consist of the following four parts :

- 1) Preamble (i.e. "whereas" or basic intentions of parties);
- 2) Legal considerations;
- 3) Commercial and financial obligations;
- 4) Technical responsibilities.

Technical obligations of both parties are the essential part of any agreement as this is the part which determines the physical transfer of know-how, knowledge and technology. Even if the commercial and financial conditions are inadequate, complete understanding and accurate provisions should be specified in relation to the technical part of the agreement. In summary, what is wanted first is the right technology, while the conditions on which this technology is being acquired should be only a secondary consideration. What is meant here is that from the licensee point of view acquisition of complete technology and its adaptation, absorption and full utilization is of a primary importance. The conditions of acquisition of technology in terms of financial and commercial considerations are reflecting the scope of technology acquired and the bargaining positions of parties involved therefore might be considered secondary. This of course does not mean that the licensee should acquire the technology at any price, at first stage complete assurance of purchase of complete technology has to be secured and then only financial and commercial terms should be considered and negotiated.

VI. Cost of Licensing and other Considerations

The two main issues to be considered and discussed are : licensing costs (for the licensee) and licensing fee (for the licensor). At the

beginning it should be stated that in licensing 2 x 2 does not always mean 4. This kind of paradox is particularly true when considering the licensing costs borne by the licensee. It must be recognized that the purchase of a license does not represent all costs involved. First of all, the amount stipulated in licensing agreements represents only a part of the overall costs of investment, in most cases even a minor one. For instance, in the case of introducing an entirely new kind of production technology, the cost of the additional investment (e.g. the acquisition of land, cost of building, cost of equipment, rate of amortisation, labour costs, credit interest), should be added to the license fee and the overall investment cost must include costs of consulting, costs for designing the plant and other investment activities as well. For example, if a technology is to replace one used until that time, we should add to the direct costs of license purchase such costs as the adaptation or purchase of equipment, transmission period costs, costs of training of a crew and supervisors, etc.. Another type of costs which must be taken into consideration, are royalty payments. All in all, evaluating the cost of licensed technology is a very complex exercise. It may be of different significance to the licensee, the licensor or the government.

The government will tend to judge the cost of technology or license as to its value through adding potential employment, or improving the balance of payment, etc.. To the licensee it is a cost-profit criterion, complicated by the fact that the cost can be a direct cost in form of running royalties or of paid-up fees. Therefore, the most convenient way of looking at royalties is to consider them as the licensor's share of the licensee's profit. Royalties on sales or production can be looked upon as an expression of the profit criterion, and sales royalties may be formulated as such :

$$\text{sales roy.} = \frac{\text{licensor's profit}}{\text{licensee's sales value}} = \frac{\text{licensor's profit}}{\text{licensee's profit}} \times \frac{\text{licensee's profit}}{\text{unit product}}$$

Thus, if the licensor will require a 15% share of the licensee's profit, and the latter one is estimated by the licensor at 40% of the sales, the royalty rate expectation would be 6%.

$$\text{roy. on product} = \frac{\text{licensor's profit}}{\text{licensee's profit}} \times \frac{\text{licensee's profit}}{\text{unit product}}$$

The licensor's estimation of royalties must relate to the length of time involved, i.e. the duration of the agreement. Sales based on royalties such as the 6% above, may only hold for a period of time, say 10 years, assuming operation at 100% capacity.

Payment scheduling is another important part of licensing agreements, and it is usually tied to performance by the licensor. The best form of payment indexing appears to be the so-called "event indexing", which may look as follows :

- 1) 10% on execution of the agreement.
- 2) 10% on disclosures of know-how;
- 3) 15% on receipt of substantial portion of documentation;
- 4) 15% on successful performance tests;
- 5) balance within fixed period after event of point 4.

The above-mentioned indexing not only helps in the programming of work between the licensor and the licensee, but also secures proper delivery of technology by the licensor.

There are also costs borne by the licensor which relate to his research and development activities connected with the development of the particular technology. The costs of "producing knowledge" are extremely difficult to determine for advanced estimation. One could mention, as an example, the case of the Concorde development and simply compare the first estimation of cost with those of the present. Unfortunately, so far the cost of research and development could not be fixed a priori and the final figures are only known after the technology has been developed and successfully put into practice. The following example shows how to estimate the relations between research and development costs for developing certain technology and the cost of licensing and the cost of license within the period of ten years.

This is an actual case which deals with certain forging technology developed during the period 1960-1964, and introduced in one of the plants of a licensor in 1965. In the period of 1966-1970, the technology has been successfully licensed to five different licensees all over Europe.

A. Cost of Technology Development and Marketing

1) Cost of technology development (material, manpower, laboratory tests, cost of building, equipment, etc.)	30 mill. units
2) Cost of the first industrial installation	30 " "
3) Cost of marketing and sales campaign	5 " "

TOTAL COSTS: 65 mill. units

B. Profit received during six years of operation of the First Plant and Profits from the Licensees

1) Profit from direct sales (output of licensor's plant)	27 million units
2) Total royalties paid from all five licensees	18 million units
	<hr/>
	TOTAL: 45 million units
	=====

From this example of technology development it can be seen that within a period of ten years, out of which four have been spent on R + D, only 64% of the overall R + D costs were returned. Similar calculations could be provided for other cases to show that, particularly in sophisticated fields, the cost of technology development is enormous and is not necessarily directly relateable to the direct cost of the license.

An extra cost borne by the licensor is usually the one connected with the sale and/or physical transfer of technology. Here one can distinguish between the cost of marketing and the cost of preparation of manuals which are supplied to the licensees. This type of cost is usually included in licensing agreements either in the form of separately stipulated payments or included in a lump sum.

Finally, a few words should be said about the existing, possible alternatives to licensing. Licensing itself, aside from the licensor's point of view, is often described as an alternative to investment or sales. As a result, the licensee can and should choose whether to develop himself the technology which is needed or acquire a license. This is an extremely important issue, as it was already mentioned, and each case should be analyzed separately. In the case of developing countries, particularly when small or medium sized enterprises are involved, the best solution still is the acquisition of a license because of lack of their development capabilities. Major companies, particularly in countries with rich R + D facilities, may however try to develop certain technologies by themselves instead of licensing. In such cases a number of questions should be considered like comparison of costs, currency situation in a given country, creation of new jobs, and, most importantly, the time necessary to develop the technology when choosing self development. An extremely important condition might be met, namely, a close co-operation between industry and R + D institutions. R + D facilities should work first of all according to the needs of industry of a given country. Basic research is fully appreciated, but

what is really needed by industry of the developing countries is applied research and development. In a number of countries an attitude prevails in industry that R + D facilities work only on basic research, or that the results of R + D work are of a low quality. It is, however, the responsibility of industry to encourage R + D institutions to gear their R + D work towards assisting industrial development. At a certain stage of development, it is industry which has to direct the activities of a R + D sector.

Some considerations should also be given to alternative sources of the desired technology as an important element of negotiating strategy in licensing. It is rare in any field of industrial technology that there is only one source for technology supply, which then would be on a monopolistic position to dictate terms and conditions for acceptance. Experience of a number of countries and enterprises shows that thorough researching of the particular field will always come up with a choice of several potential licensors from Europe, the USA, Japan, etc. which are willing to sell a technology of equal quality and which, from the tactical point of view, may play an extremely useful role in the negotiations. Therefore, such complex negotiations require the right information, whereby timing is extremely important.

VII. Conclusion and Summary

A number of issues have been described in detail in the present paper and certain points have been purposely left out or just indicated. There are also controversial opinions and statements, and it is expected that a discussion will contribute to the detailed analysis of key problems related to licensing, in particular from the point of view of governments and investors from developing countries.

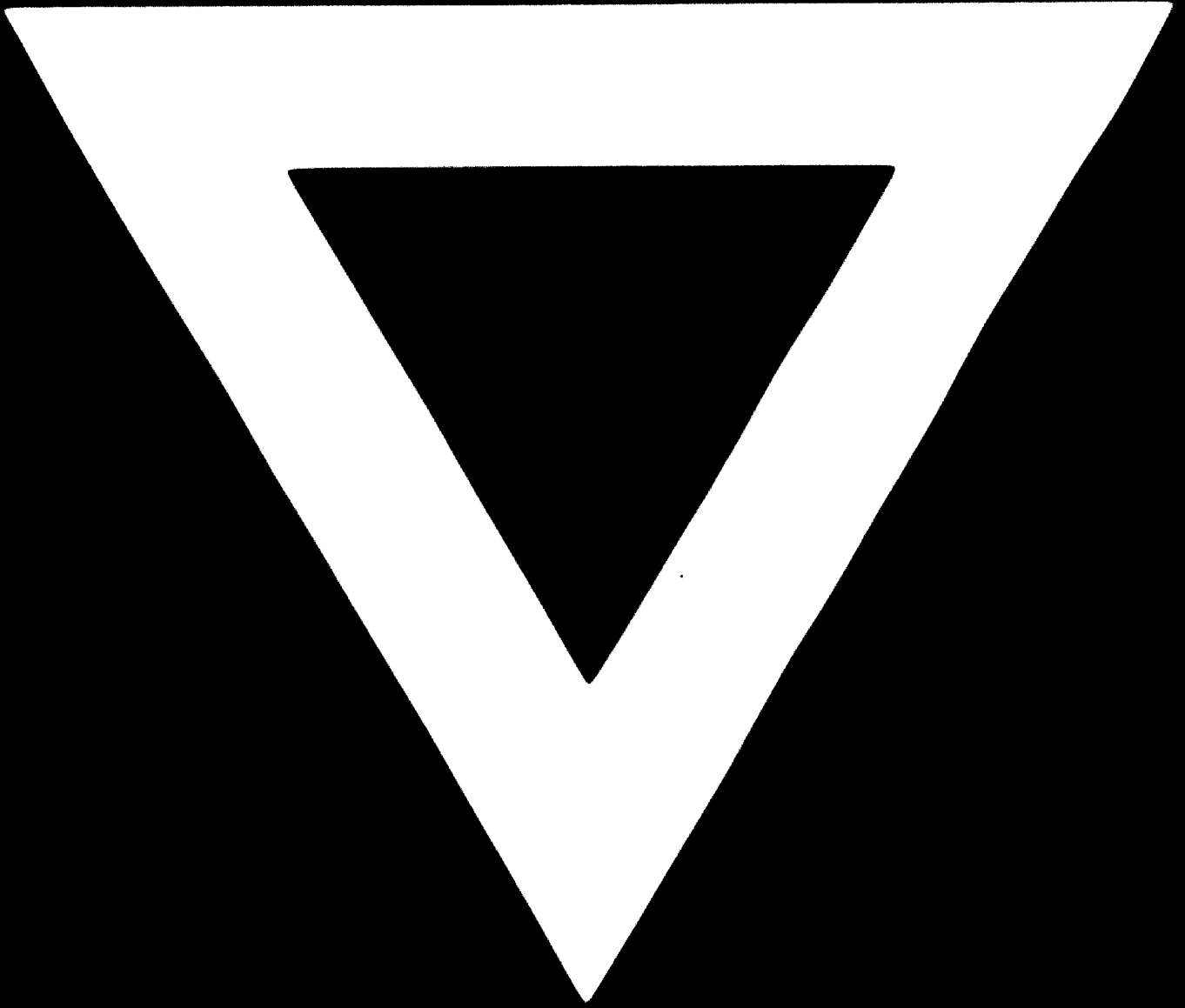
In summary, though, it might be worthwhile to reiterate the logical, sequential steps when seeking a licensing agreement:

- 1) a thorough market analysis should be prepared (i.e. sales possibilities, production output, etc.);
- 2) a detailed economic and investment analysis should be developed prior to any licensing decision (i.e. is it worthwhile going into the business, and can it be afforded?);
- 3) a very clear definition of the technology needed is a must for a successful licensing venture;

- 4) detailed researching of alternate sources of technology is required prior to negotiations;
- 5) if needed, interrelation among overall economic development and, particularly, an enterprise expansion programme should be established (i.e. public sectors).

Only after the above points have been satisfactorily clarified should actual negotiations start.





75.08.11