

# Importing Technology in Denmark

*Insight into how DTO encourages Danish companies to develop competitive products, acquire licenses from abroad*

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Surveys from many of the European countries on how to improve industrial innovation have pointed at technology import as one of the possibilities of contributing to the developing of more competitive products. In the following I am going to describe the methods which we have developed in DTO for assisting Danish companies in acquiring licenses abroad. DTO, the Danish Technical Information Service, is an independent, nonprofit institution authorized by the Danish Ministry of Industry.

## SEARCH FOR LICENSING OPPORTUNITIES

The objective of the DTO program is to be able, on behalf of a Danish company, to identify the licensors with a technology needed by the Danish company to meet its long-term objectives. From a number of relatively few potential licensors an agreement should be concluded with one licensor.

In order to meet these objectives, we have defined a program in six steps with the following phases:

1. Definition
2. Search
3. Contact to potential licensors
4. Negotiations
5. Contract
6. Transfer of know-how.

### Definition

There are many licensing opportunities available around the world. However, for a specific company, we have to find only one licensor who has the appropriate technology and know-how. For the company it is very important that the product technology which is identified and made available can be marketed. It must have the financial resources and the personal skills required to make the program a success. Therefore, the objective of the first phase is to define a technology which is compatible with the company's long-range plans, resources and skills.

In this phase DTO and the company jointly prepare a report which describes the company's present situation. This includes a description of the company with regard to strong and weak sides, threats and oppor-

tunities. It discusses present products, markets, production facilities, financial status, management skills, etc.

Some companies seeking licenses have prepared formal strategic plans. However, many small and medium companies in Denmark do not have a formal strategic plan, but have thoughts and considerations of how their future should be. The report should include a summary of the top management's plans or considerations for the future. In this section, special emphasis should be put on a description of the technology which is required by the company to fulfill its long-term objectives, a technology which it does not already possess.

## SEARCH PROFILE

1. Licensor should be of a size from BETA INC. up to 25 M \$.
2. Licensor should be highly profitable, at a high technological level.
3. Product should be for a range of components for electronics.
4. Product could contain other technological disciplines than ceramics, but preferably at least 30% value added should be in ceramic technology.
5. The technology should contribute to increasing the technological level of BETA INC.
6. It is desirable if existing production equipment can be used to a certain extent.
7. The products should be for series production that could be automated.
8. Maximum capital investment to be in the order of 1 M \$.
9. Sales after three years should be in the order of 2 M \$, i.e. the annual sale should be twice the investment.
10. 30% market share in Europe to be obtainable.
11. The sales should preferably be to a maximum of 100 direct customers.
12. The products should be at a relatively early part of the life cycle, but preferably test marketed in the U.S.
13. BETA INC. could start selling licensor's products in Europe.
14. Components for office automation could be attractive, since this market is growing at 20% per annum.
15. BETA INC.'s knowledge and experience in using computer control for mixing could be of interest.

## Exhibit 1

The report is concluded by preparing a search profile. An example of such a profile is shown in Exhibit 1. This search profile is prepared in joint cooperation with the top management of the company seeking a license. It specifies among other things the qualifications of the licensor, how much cash flow is required, expectations relative to return on investments, expected market share, customers, etc. The effect of the careful preparation of the search profile should be that if DTO succeeds in identifying a licensor which meets its criteria, the Danish company will decide to initiate a license cooperation.

\*DTO, Copenhagen, Denmark; paper presented at LES Scandinavia Annual Meeting, September 1982.

## Search

The search profile is the reference for the future work.

First step in the search is to find the companies which actually exist within the business area specified in the profile. This can be done by looking into buyers' guides which are available in most business areas. The problem, however, is that there will be too many companies which fulfill the points of the search profile.

If the product or process we are looking for is technologically advanced, it might be that the potential licensors have issued patents. Therefore, it could be relevant to search for companies issuing patents within this area. This could be done by using on-line search in one of the international data bases. In addition, it is relevant to search for companies which occasionally prepare technical papers within the technological area in question. This could also be done by means of the international data bases.

This information is collected in DTO. It is sorted down to relatively few opportunities which comply with the criteria of the search profile.

In addition to the desk research, we employ partners and consultants abroad, who contact local organizations and institutions. If we search for an electronic technology, for instance, in California, we request a local partner to contact editors of technical magazines, who by experience know which companies are active and aggressive in developing technology in the area in question. The foreign partner also contacts local patent lawyers, research institutions, government agencies, etc. to obtain information about who would be the most qualified licensors for the Danish company.

The foreign partner's work will be based on the report and the search profile prepared at the early stage of the program. This means that the desk research and the analysis in the foreign country enables us to select 15 to 30 companies meeting the criteria of the search profile. Brochures and leaflets are collected from these companies.

This collection is presented to and discussed with the Danish company in order to evaluate and find the 5-10 most qualified licensors. For these selected companies we collect financial statements and management reports. On the basis of this information we select about five which are the most likely licensors.

## Contact

We have in the previous phase collected quite an extensive amount of information about the companies to be contacted. This is done without their knowledge.

Our foreign partner makes telephone contacts to the five potential licensors and informs them that a Danish company is interested in hearing about their technology and in meeting them. Usually, he mails literature about Denmark and the company seeking license.

The purpose of the contact is to arrange a visit between the Danish company and the potential licensors. In most cases visits to 4-6 potential licensors during a trip of 1-2 weeks are arranged.

The purpose of the arrangement is to identify the most qualified licensor with whom the Danish company believes it can have a fruitful cooperation of

many years.

## Negotiations and Contract

After the first round of visits to the potential licensors the Danish company selects one or two favorites. Contract negotiations are initiated.

This phase is one of the most important ones. However, it is difficult to give general guidelines and recommendations, because it involves establishing working relations between people from different countries with quite different backgrounds and habits. Misunderstandings and misinterpretations can very easily destroy the possibilities of future cooperation.

We have found that it is valuable to include both our local partner and DTO in the negotiations. However, it is important not to involve lawyers too early in the negotiations, before a working understanding is established. We feel that it is advisable to engage a legal counsellor from the country of the licensor as well as a Danish lawyer. Normally, a Danish lawyer does not suffice because legal language common in Denmark often scares a foreign licensor. This is because the foreign partner is chosen on the basis of his technical qualifications and not on his experience in operating internationally.

## Transfer of Know-how

The purpose of obtaining a license contract is to transfer technology successfully to the Danish company. Whether it becomes success or failure will depend on:

1. The License Agreement — During the negotiations it is important that the licensee evaluates the licensor and finds if the licensor has the competence and qualifications as specified in the agreement, as well as the resources required for transfer of know-how to Denmark. It is essential that the agreement specifies that the licensor makes the necessary resources available for transfer of the know-how.

2. The Licensee's Commitment — Furthermore, the receiver of technology must have the resources which are required to receive and implement the technology. It occurs that licensees expect the license contract to be sufficient for starting production of a new product. This is not the case. Resources must be made available to implement the new technology in the Danish company. Also, it is necessary to have a competent project management with the adequate technical and human qualifications and also the determination to conclude the project with success.

3. Marketing — The company must allocate sufficient marketing resources in order to be able to sell the new product.

## EXPERIENCE

The DTO program was initiated just over two years ago. During this time we have recorded the following experience:

- 13 projects initiated.
- 2 license agreements signed.
- 1 cooperation with a Japanese company. Future license optional.
- 5 projects concluded with no agreement.

5 search programs still active.

One of the companies which concluded the search with no agreement had in the meantime considerable success with other technology. It appeared that the technology the company was looking for did not exist anywhere in the world. However, patent searches and literature searches gave inspiration to the company. It realized that an idea it had three years before searching a license really was a good idea. On this basis its management continued its own development. This is now concluded, and a new product is on the market. The company expects that 40% of the export sales within a period of four years will be based on this work.

Other reasons for companies discontinuing their search for licenses have been:

- Insufficient market potential.
- Financial requirements too extensive.
- Technology identified in another Danish company.
- One multinational company dominated technology and market for the product in question. The Danish company could not obtain a license from this company, and therefore decided not to challenge the market

leader.

The products, know-how and technology we have been searching for during the last two years range from nutritional products to farming equipment, high-power inverters, plastics to advanced composite material, and laser technology.

After two years' experience we can conclude that it is possible to identify licensing opportunities for Danish companies and to conclude licensing agreements. The technology a Danish company is looking for is not always available. However, when going through the search process secondary effects are noticed. Inspiration to product developments is an example. Another company realized that its relative, technological position worldwide was better than it expected.

During discussions with Danish firms we have experienced that many do not accept technology import as an alternative to product development. Many Danish firms feel that they must develop the technology themselves, and would rather work with vendors and their own resources.