



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



D000 128



Distr.
LIMITED

ID/WG.36/3
28 April 1969

United Nations Industrial Development Organization

ORIGINAL: ENGLISH

Expert Working Group Meeting on the
International Association of Industrial
Research Organizations

Vienna 27 - 29 May 1969

Discussion paper
on the
Feasibility, Objectives, Organization
and other Details of a Proposed
International Association of Industrial
Research Organizations

This paper has been prepared with the assistance of Mr. W. Klappacher, Director, Forschungsförderungsfonds der Gewerblichen Wirtschaft, Vienna, Austria. This paper has been reproduced without formal editing

id.69-2109

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 fiche.

TABLE OF CONTENTS

	Page
I Introduction	3
II Aims and Objectives	4
III Membership	9
IV Financial Aspects	11
V Organizational Aspects	13
VI Future Action for the Establishment of the Association	15

--*-*

I INTRODUCTION

1. A workshop for the Managers of Industrial Research Institutes in developing countries, was held in Athens in July 1967 under the sponsorship of UNIDO. At the conclusion of the meeting, a recommendation was unanimously adopted "inviting UNIDO to take steps towards the establishment of an International Association of Industrial Research Institutes". The International Symposium for Industrial Development, held in Athens in December 1967 and attended by delegations from 79 countries, endorsed the recommendation of the workshop and "invited UNIDO to consider the question of establishment of an International Association of Industrial Research Institutes, with the objective of facilitating co-operation in the exchange of experiences, know-how and professional expertise". It further recommended that "UNIDO promote international collaboration between research institutes and organizations in developed and developing countries, as well as regional and inter-regional co-operation and co-ordination of activities between developing countries".

2. During its first session in December 1967, the Advisory Council for Industrial Research, established by the Asian Industrial Development Council under the auspices of the Economic Commission for Asia and the Far East (ECAFE), also stressed the necessity for consultation and co-operation between the countries of the region, with a view to improving the operation of national research organizations and the co-ordination of their efforts.

3. While the industrially advanced and less advanced countries have both defined their scientific and industrial research policies with varying degrees of comprehensiveness and have reached various levels in implementing them, there seems to be universal agreement that an important practical measure would be the establishment of one or more industrial research organizations which would be the focal point of research, and would serve as a local basis for indigenous innovation and technological improvement.

4. In this context, industrial research institutes can be defined as technical organizations, established for the purpose of practical utilization of research findings in industrial establishments and enterprises, thereby making direct contributions to industrial development. This definition distinguishes their mission from that of those scientific organizations and research institutions which conduct investigations to create new knowledge without direct responsibility in the practical application of this knowledge. Industrial research institutes may encompass a whole range of sectors of industry and could provide a variety of services, depending upon the stage of the development of the country and of the industry, the availability of human and industrial resources, and the national industrial development plans of the government. Such institutes, particularly in developing countries, may have some or all of the following activities: analysis and testing, techno-economic feasibility studies, raw materials surveys and valorization, production engineering services, equipment valuation and troubleshooting. But their main purpose is to undertake applied research for the evaluation of existing knowledge, originally evolved through fundamental research and its follow-up through all stages of commercialization. This involves the development of new or improved products and processes and adjustment of existing processes to special local conditions or to the particular characteristics of available raw materials.

II AIMS AND OBJECTIVES

5. Considerable assistance has been provided under international, multi-national, bilateral and private institutional auspices, to lesser industrialized countries for the fostering of industrial research and establishment or strengthening of industrial research institutes. While such efforts have resulted in a reasonable but varied degree of success and have received proper acknowledgment, there appears to exist a need for additional effort, geared to a

"self-aid" or "internally generated" procedure. The proposed Association may exercise through "exposure" and "comparison", a catalytic action at an international level, for better definition of national aims and improvement of industrial research as an element of industrial development. It may also review industrial research capabilities and contribute to the identification of research projects of regional or inter-regional interest, and subsequent collaboration at all levels. Transfer of experience and know-how could also be fostered by establishing a more sustained programme of exchange of research findings and researchers. The aims and objectives may therefore include:

6. Increasing research consciousness by serving as an instrument for a sustained international action at a responsible national level, and at the executive echelon of industry and promoting the utilization of results of industrial research in industry, particularly in developing countries.

7. Serving as a link between research establishments and stimulating and intensifying activities of member institutes and organizations by providing a common platform for the exchange of information and experience, comparison of results achieved in specific fields of investigation and identification of the research that still remains to be undertaken. To this end, the Association might also publish a newsletter on a regular basis giving and up-dating information about member institutes, abstracts of their new and current activities and research projects, and the preparation of short promotional material, to be included in the regular technical publications of member institutes.

8. Identifying fields of research where regional co-operation and possibly external assistance is needed for projects which have been neglected because of lack of know-how or financial backing. The Association could act as an intermediary in establishing contact with institutes from outside the region, possibly in advanced

countries, who could -- if they find the project interesting -- co-operate in its realization. International assistance may also be secured when the project is of national or regional significance.

9. Fostering and promoting co-ordination and co-operation between member institutes and organizations in the undertaking of specific industrial investigations and applied research programmes. Co-ordination would mainly take place at the sub-regional and regional level, particularly between institutes of countries or groups of countries with a comparable level of achievement. Countries with similar natural resources or industrial needs would also co-operate, thereby avoiding duplication and ensuring better utilization of financial and human resources. Thus the projects to be jointly undertaken would require identification, and the responsibility for each stage would be given to the appropriate partner. Such an arrangement would obviously take into account the facilities available at each participating organization and its capabilities. One important and practical aspect of the co-operation which could take place through the Association is assistance to indigenous industrial research on a contractual basis, whereby an industrial research institute is assured of the backstopping of another -- more specialized or more experienced industrial research organization. In order to proceed in an organized manner, it is essential to identify the problems hampering industrial research, and to prepare a register of organizations capable of carrying certain industrial research assignments, their research workers and the means at their disposal.

10. Establishing a centralized information clearing house. A prerequisite for fruitful co-operation is the exchange, in a sustained and systematic way, of information regarding the expertise of research staff employed, patents involved, fields already investigated and results achieved. Such an exchange already exists to some extent on a bi-lateral basis, but depends mainly on interest, initiative and contacts between various industrial research institutes. More effective results could be achieved by establishing

a centralized clearing house where information supplied by active member institutes would be made available. Such an activity is not to replace national and regional efforts of co-operation but complement them, as it would allow member institutes to have international relationships in fields of common interest.

11. Promoting exchange of experience in research management. An important and promising field which has not been fully investigated is the exchange of experience in the management of industrial research institutes, with a view to improving their over-all efficiency. Trained industrial researchers and financial resources allocated being generally in short supply in the industrially less advanced countries, such an exchange would result inter alia in the application of the modern techniques of selection and valuation of industrial research projects and critical assessment of the effectiveness of industrial research institutes. The study in situ of organizational arrangements under which industrial research institutes were established, their relations to industry, their mode of operation and their contribution to industrialization, may be one of the objectives of the Association. This can be achieved through working groups, intensive study missions and professional meetings of researchers and managers of industrial research organizations at the regional and inter-regional level. Additional benefits could be accrued from seminars on specific industrial research projects. Exchange of experience in the development of processes, and design of prototypes for particular conditions in a region also deserves particular mention. Such programmes could be realized in collaboration with the appropriate international organizations.

12. Fostering the exchange of visiting researchers and identifying training opportunities. The exchange of experts and specialists between industrial research organizations does not appear to have been sufficiently organized. Such an exchange of research personnel would not only acquaint the researcher with the programmes, activities, methods of operation and organizational and administrative procedures

of the industrial research establishment he is visiting, but also allow him to explain to his colleagues, the results of his work and the possibilities of other approaches which he has been using to handle the same problem, thereby giving it new dimensions. An experienced researcher visiting a less developed research institute, can be instrumental in effecting great improvement at that institute, but he would also come across problems worth investigating which he had not suspected before. The advantages of associating managers of industrial research organizations of developed countries with the work of similar institutions in industrialized countries are obvious, and provide excellent opportunities for the improvement of their managerial skills. This has the particular advantage of allowing them to observe directly and closely the inter-relationship between industry and research institutes, the former giving research assignments to the latter, the latter finding a solution to the problems and both working closely to bridge the gap between research results and their application by industry. Such experience is invaluable, particularly for industrial sectors which are of interest to developing countries, such as food processing, building, pharmaceuticals, metal, electrical and mechanical industries, to mention a few. Within the framework of the Association, advanced joint training courses, study tours and proper visiting programmes could also be organized.

13. Arranging joint co-operation research schemes. The possibility of a flexible joint co-operative research system could be investigated and established, whereby researchers from member research institutes could take their laboratory results to more advanced member organizations which are better equipped for further work, with the assistance and/or under the guidance of more experienced research personnel. The experience of T.N.O. (The Hague, Netherlands) in this connexion is a useful example.

14. Collaborating with international associations and world organizations such as the World Federation of Engineering Organizations (London), the International Union of International Laboratories (London), the International Council of Scientific Unions (Geneva), the International Confederation of Associations of Experts and Consultants (Milan) and others on matters of common interest, and establishing working relationships with United Nations Organizations and specialized Agencies such as UNESCO, UNIDO, EAC.

15. Representing the interest of the industrial research community as needed, acting as their spokesman and working towards the betterment of both the social and material conditions of researchers and staff members of industrial research institutes and organizations.

III

MEMBERSHIP

Eligibility

16. The Association's major aim is to act as a link between industrial research establishments and promote their voluntary co-operation on a bilateral, multilateral, regional and international basis. For this reason eligibility to membership is, in principle, open to all industrial research institutes, research associations and organizations for co-operative research undertaking the functions that have been described in paragraph 4.

Conditions

17. Industrial research organizations may be established under any of the following organizational set-ups: autonomous, semi-autonomous linked to a university or to a government agency; part of a state body; private non-profit institution; technical arm of an industrial association or industrial development corporation. Independently of the arrangement under which they have been established or in the

framework of which they operate, or whether they have been established as multi-purpose or specialized institutes, they may become ordinary members.

Research departments of industrial companies

18. The research departments of going commercial concerns constitute a special case. Much research oriented to product and process development is conducted in research and development departments and laboratories of these companies and its results are quickly and effectively translated in industrial production and commercial distribution. But such results and their application are the property of the company in the research department of which they originate. It is rare for a company to admit non-authorized personnel from their own firms to their research departments, let alone those from other research organizations. Company policies are also stringent on the publications of their research workers and on their communications in professional meetings. As the co-operation between members is on a voluntary basis, it would, in the final analysis, be more beneficial for the Association to include the research departments of industrial companies among its members. Whatever they might choose to share with other members from their wealth of knowledge and experience would prove worthwhile.

Types of Membership (ordinary and sponsoring)

19. Industrial research organizations would participate in the Association as ordinary members. A second category of members consists of those organizations which, while not undertaking directly any industrial research work, are very active in its encouragement, promotion and financing either on a national or international level. These may be ministries of research or industry, research councils, national and private funds for encouragement of research, chambers of industry and commerce, federations of industrialists and the like. Sponsoring membership is open to these bodies as they can assist in shaping industrial research policies and are a valuable source of funds, thereby providing the financial means for the attainment of the objectives of the Association.

IV FINANCIAL ASPECTS

20. For proper operation, the Association should have adequate financial backing commensurate with its general activities. At this time, any approach and estimate is necessarily speculative. The finances shall be derived from: membership fees from ordinary members, regular contributions from sponsoring members and grants and donations.

Fees from ordinary and contributions from sponsoring members

21. There is a variety of combinations for establishing membership fees. Some take into account the size and the financial capabilities of potential members, particularly in developing countries. Others stipulate the same financial obligations for every member. Some of these scales are:

- a fixed membership fee (say \$200 per annum);
- a percentage (such as 1/10,000) of the annual operating budget;
- a combination of both the above, i.e. a fixed membership fee of say \$50 per annum plus a percentage of the annual operating budget (say 1/20,000);
- members (with equal voting rights) would agree to accept on a voluntary basis 1, 2, 5, 10 or 20 shares at a cost of say \$100 per share, commensurate with their respective economic position;
- a fixed fee of say \$5 or \$10 per professional employed in the member institute or a fixed fee of \$100 per each 10 professional staff member.

Sponsoring members would pay a yearly voluntary contribution which could not be under \$500 per annum.

Grants and Donations

22. This cannot be foreseen at present but will be irregular in nature.

Tentative and Preliminary Draft Budget

23. The funds would serve to cover the expenses of the Directorate and Secretariat of the Association, as well as the general and administrative expenses of the general meetings which the Association holds for its members. Travel and accommodation of members shall be at their own expense. The preliminary figures of the following tentative draft budget are based on international experience in running meetings of a similar nature and assume the following:

- that the General Assembly meets every two years;
- that the Directorate comprises eight persons and meets annually, but that alternate meetings are held at the time and place of the biennial General Assembly and that business will otherwise be conducted by correspondence;
- that all papers and documents will be presented in English or French and translated into the other language.

Special tasks undertaken, e.g. special committees, conferences, studies, or other activities, will be funded separately from grants and donations as well as contributions from sponsoring and active members who wish to support them.

24. Directorate and Secretariat for two years (1971-1973)?

	US\$
Travelling expenses	15,000
Office expenses	3,000
Postal and telephone charges	4,000
Printing and stationery	4,000
Contingencies	5,000
	<hr/>
	36,000
<u>General Assembly (one)</u>	
Meeting Hall	4,500
Interpretation and public address	8,000
Translation and provision of papers and documents	8,000
Contingencies	3,500
	<hr/>
	24,000
	<hr/>
	60,000

Average annual costs US\$30,000.

25. The above also assumes that:

- all preliminary contacts with interested institutes have been established;
- a first general conference has been called by UNIDO on behalf of a group of founding members to whom the budget and constitution had been submitted;
- the secretariat will be handled by one of the member institutes;
- UNIDO has acted as temporary secretariat and has undertaken all preliminary work for convening the first general conference.

V ORGANIZATIONAL ASPECTS

Name of the Association

26. Following are some suggested names:

- International Association of Industrial Research Institutes;
- International Association of Industrial and Technological Research Organizations;
- World Association of Technological and Industrial Research Organizations;
- World Union of Organizations for Industrial Research.

27. In order to carry out its work, fulfill the purposes for which it has been created and satisfy legal obligations, the Association would have the following main organs: The General Assembly, the Directorate (or Board) and the Secretariat.

The General Assembly

28. It will consist of the member institutes who send representatives. These may take part in the deliberations. The main functions of the General Assembly would be to:

- Elect the members of the Directorate;
- Review and approve the work programme and the global budget presented by the Directorate;
- Review and approve the report on the activities of the Association since the previous General Assembly;
- Decide initially on the number and structure of the Directorate and, later, introduce any changes it deems necessary;
- Adopt the rules and procedures for the conduct of business of the meeting;
- Decide on alteration of the Constitution by two thirds of the members present and voting at a plenary meeting of the General Assembly.

The Directorate

29. The Directorate, which shall be elected by the General Assembly at its biennial meeting, may consist of eight members. A minimum of six members of the Directorate shall be representatives of ordinary members and a maximum of two members of the sponsoring members. The Directorate will meet at least once a year but otherwise conduct its business by correspondence. Its main functions will be:

- Elect its chairman;
- Prepare an annual plan of activities and submit it to members for comment and amendment;
- Initiate and implement any activities to be undertaken on behalf of the General Assembly;
- Prepare annual reports of activities for circulation to the members of the Association;
- Draft and maintain, subject to confirmation by the General Assembly, regulations covering the detailed planning and conduct of activities;

- Appoint or recall the Secretary General;
- Review and adopt annual budgets;
- Approve a yearly statement of accounts as presented by accountants designated by it for this purpose.

Chairman of the Directorate

30. The Chairman will be elected for a period of two years by the Directorate from among its members, and until a new Directorate is appointed by the General Assembly. He will:

- Represent the Association in legal and other matters;
- Convene the General Assembly and the Directorate's meeting;
- Establish, in collaboration with the Secretariat the agenda of the Directorate's meeting;
- Supervise the work of the Secretariat.

The Secretariat

31. The Secretariat will comprise the necessary administrative and technical staff required for the discharge of duties and the carrying out of the work, as approved by the General Assembly and directed by the Directorate within the limits of the authorized budget. The Secretary General will be responsible for its operation and will be authorized to sign documents. Provisional rules of procedure for the General Conference delegations, or dentials, or sid noy of the General Assembly, records of the meeting, languages, quorum, rules of procedure and other required details will be established and made available to the founding members before the General Conference.

VI FUTURE ACTION FOR THE ESTABLISHMENT OF THE ASSOCIATION

A practical difficulty

32. As a response to new needs of less developed countries, industrial research institutes have been established. Their number, size and degree of specialization depends on the particular conditions of the country in which they have been created. Some developing countries have only one national multi-purpose industrial research institute; others have, because of their size and geographical features, several

regional (within one country) multi-purpose organizations along with specialized institutes. But in general, research institutes in industrially less developed countries are not grouped in national associations. The number of industrial research institutes in developing countries is very small compared to that in industrially advanced countries. As an example, thirty or more industrial research institutes from a small but industrially advanced European country may become members of the Association, whereas a large African or Asian country with only one or a few such institutes would obviously have one or a few members. This may bring some geographical disproportion in the membership and may affect the Association and its future activity. Each member institute would have one vote. On the basis of the above example, a small European country would have thirty votes, whereas a larger but less advanced African or Asia country would only have one or a few votes. If the concept of a National Member could be elaborated, it would ensure a more adequate balance in the organization, financing and activity of the Association.

Follow-up action

33. If the establishment of such an Association is found feasible, further action will be required, including circulation of the Report on this meeting and the proposed draft constitution (as amended by this meeting) to potential member institutes and national industrial research bodies and associations with an invitation for comments, particularly on the aims, membership and fees. The same documents would also be circulated to regional and inter-regional organizations dealing with industrial research as well as to the Economic Commission for Africa (ECA), the Economic Commission for Asia and the Far East (ECAFE), the Economic Commission for Latin America (ECLA) and the United Nations Economic and Social Office in Beirut (UNESCO) for comment. Some travel may also be required for discussing and refining a few points. Correspondents may also be nominated for this purpose. National Committees for UNIDO may also help in this connexion.

34. a new draft constitution would be prepared incorporating all comments and suggestions and an invitation for a General Conference with at least one or two potential members from each country would be issued by a founding committee with UNIDO's assistance. The proposed draft constitution, provisional rules of procedures, draft provisional budget and other background papers will be made available in advance to participants. UNIDO would assume the functions of a temporary Secretariat until a Secretariat is appointed by the General Conference. This General Conference would take place late in 1970 or early in 1971 with the assistance of UNIDO, which would provide required support.

Future co-operation between the Association and UNIDO

35. There are possibilities of co-operation between the Association, as an international representative of industrial research organizations, and UNIDO, as the organization of the United Nations for industrial development. The Association's contribution to UNIDO's work could include the following:

- Co-operation in the definition of general and national industrial research policies;
- Identification of areas of research at a national or regional level where help is needed;
- Building up a roster of available experts in management of industrial research, as well as experts in specific research fields for assignments under UNIDO's auspices in its technical assistance programs;
- Availability of training opportunities in industrial research at member institutes for individuals or groups.

UNIDO's assistance to the Association could include:

- Co-operation in the organization of meetings for specific needs of groups of member institutes;

- Providing technical assistance to member institutes as identified by the Association;
- Making available to the Association UNIDO's whole network of contacts and correspondents in the field of industrial development, including the UN organizations and the national committees for UNIDO;
- Providing a forum for the Association's opinions, ideas and achievements in its regular publications, which have a wide distribution.





18. 1. 72