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PENGELOLAAN PENELITIAN DAN PENGEMBANGAN
[R&D MANAGEMENT]

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**WARTA PENGELOLAAN PENELITIAN DAN PENGEMBANGAN
(R & D MANAGEMENT)**

1. Merupakan wadah komunikasi bagi masyarakat ilmuwan, para pengelola penelitian dan pengembangan pada umumnya, dan antar-alumni Widyakarya-Penataran Pengelolaan Penelitian dan Pengembangan pada khususnya.
2. Memuat karangan dan berita mengenai perkembangan pengelolaan penelitian dan pengembangan.
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Tulisan dalam "Warta" dapat dikutip dengan menyebutkan sumbernya.

KATA PENGANTAR DEWAN REDAKSI

Warta Volume 4 No. 1B mengemukakan dua tulisan mengenai perlu dikembangkan dan ditingkatkannya hubungan kerjasama yang erat antara lembaga litbang dengan industri. Tulisan pertama mengemukakan tentang perlunya tenaga penghubung atau *liaison-officers* di lembaga litbang, yang secara khusus melakukan hubungan dengan industri. Tenaga khusus ini telah dikembangkan di lingkungan Lembaga Instrumentasi Nasional (LIN) LIPI.

Tulisan kedua mengemukakan pemikiran bagaimana hubungan erat antara lembaga litbang dengan industri itu dapat lebih berhasilguna. Pemikiran pertama ialah adanya badan atau institusi khusus yang dapat membantu industri dengan pengembangan dan penggunaan hasil penelitian dalam produksi dan industri. Pemikiran kedua ialah dengan cara *spin-off*, yaitu dengan membentuk suatu industri dalam bentuk kecil yang secara khusus melakukan pengembangan dan penggunaan hasil penelitian tertentu dalam produksi.

Tulisan dalam rubrik Yang Perlu Diketahui mengemukakan tentang pengelolaan penelitian dan pengembangan di KAIST. Pengetahuan mengenai bagaimana lembaga-lembaga litbang di negara lain melaksanakan pengelolaan-nya akan bermanfaat bagi usaha kita mengembangkan sistem pengelolaan penelitian dan pengembangan yang berdayaguna dan berhasilguna. □

THE NEED OF INDUSTRIAL LIAISON OFFICERS FOR RESEARCH INSTITUTES *)

By :
B.H. Hadiwardjo **)

SARI KARANGAN

Banyak masalah dihadapi dalam meningkatkan kerjasama antara lembaga litbang dengan industri. Untuk mengatasi masalah ini maka lembaga litbang perlu mengambil inisiatif untuk memulai kerjasama dengan industri, sehingga industri tertarik dan berminat untuk mengembangkan atau melaksanakan program atau proyek bersama yang bermanfaat bagi kedua belah pihak. Cara kerjasama itu ialah dengan mengembangkan tenaga penghubung atau *liaison-officers* di lembaga litbang. Lembaga yang telah mempunyai tenaga penghubung itu ialah LIN-LIPI.

INTRODUCTION

Most developing countries face the problem of shortage of expertise, the problem of managing the utilization of such limited resources in the most efficient way to meet the demand of industrial development. To support industrial development there must be close cooperation between R&D institutes and the various industrial sectors.

THE PROBLEM OF COOPERATION

Several reports indicated the various advantages which could be realised from cooperation between research institutes and industries, although the cooperation between the two has been carried out only on a very superficial basis. This may be attributed to the values and attitudes which each has developed towards the other, leading to either real or potential problems. The industry's objectives of increasing profitability and productivity differ from research institutes' objectives of developing appropriate scientific and technological support. However, each complement the other since increased productivity depends on the technology utilized. The industry's reluctance to see the potential of the scientists to assist in the realisation of its goals is a drag to sustained productivity and profitability. On the other hand, failure of the research institutes to look into the needs of industry, generally results in ineffective research programmes and underutilized products.

The fear of external influence, unprofitable drain on resources and the secrecy syndrome are the potential problems bearing on industry. The fear of venturing into new areas due to lack of expertise or research experience,

*) Revised paper presented at the Annual Meeting KIM '82 "From Academic Research to Industry", Bandung 16 June 1982 (published with permission).

**) National Institute for Instrumentation, Indonesian Institute of Sciences (LIN-LIPI).

the cost of research, and the problem of interacting with local small scale industries applying low technology are the real problems which have to be faced. Some factors which may hinder the research institutes-industry cooperation are:

- o the limited industrial experience of the scientists
- o the preoccupation of industry with its own internal concerns such as production and maintenance
- o the lack of appreciation by industry on the available resources, particularly manpower and facilities of the research institutes
- o the preoccupation of the scientists on research activities
- o the problem of who manages industry
- o the problem of who manages the research institutes
- o the problem of confidence on the ability of the staff, both in research institutes and industry.

INITIATIVE FOR COOPERATION

To overcome the above mentioned problems, some positive actions should be undertaken by developing good communication which would lead to mutual trust and confidence between the two parties. It is necessary that communication be open so that both sides could air their needs and how these needs could be accomplished. For this purpose the research institutes must take the initiative in cooperative ventures; they must take the first move in developing communication with industry, so that the industry will be aware of its programmes and resources, and willingness to cooperate with industry on programmes which can be of mutual benefits. Thus it is necessary for research institutes to have industrial liaison officers in their organization. One of the research institutes in Indonesia which has these industrial liaison officers is the National Institute for Instrumentation, LIN-LIPI, the organization of which is shown in the appendix of this article.

FORM OF COOPERATION

Some forms of cooperation between the research institutes and industry, could be identified as follows:

- o industrial process improvement
- o exchange of staff for designated periods
- o provision by industry for in-plant training of scientists
- o provision by research institutes for upgrading of industrial personnel
- o provisions by industry for support of research and development along areas of mutual concerns
- o collaboration in the programming of seminars or workshops on issues of professional interest
- o provisions for the joint use of facilities like libraries and equipment.

BENEFITS FROM COOPERATION

Research institutes will gain some benefits from the research institute-industry cooperation:

- o strengthening the capabilities with industrial practice operations
- o strengthening institute's programmes with expert advice from industry
- o collaborative undertakings on subjects of mutual interest.

Some benefits for industry will be:

- o providing opportunities for their staff to improve their competence
- o enhancing good public image, and
- o improving the knowledge of the staff with new technology.

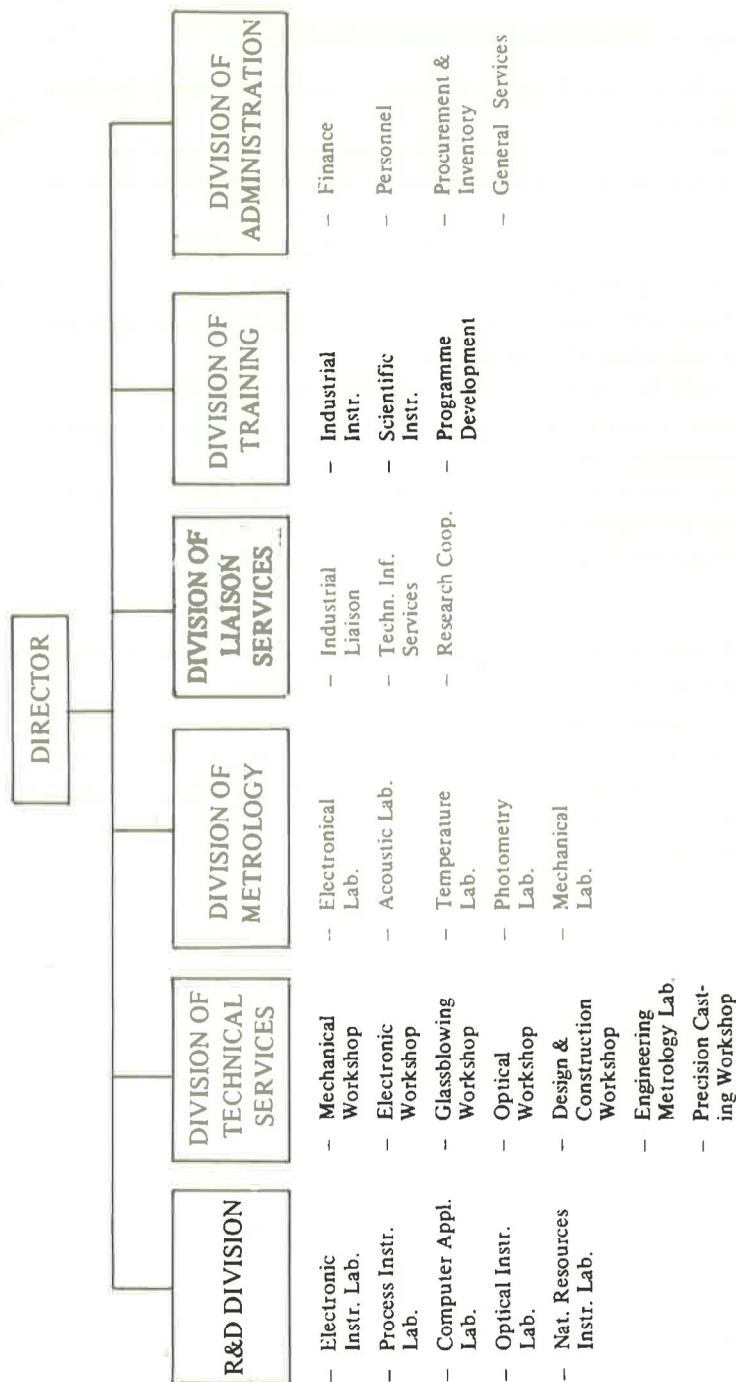
The cooperation between the research institutes and industry will benefit professional associations through:

- o having competent members, exerting stronger influence on governmental and industrial affairs
- o enhancing public image and stature for the profession.

CONCLUSION

Research institute-industry cooperation offers a wide range of opportunities and benefits. Several approaches have been suggested.

For any approach to establish the cooperative effort, the research institute must initiate the first move to overcome the existing reluctance to pursue any cooperative venture with the research institute. Industrial liaison officers within research institutes should be developed to initiate and strengthen the research institutes-industry cooperation. □



ORGANIZATION OF THE NATIONAL INSTITUTE FOR INSTRUMENTATION, LIN-LIPI