

# ENGINEERING INSTITUTE

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## INTRODUCTION

Since its inception, the Faculty of Engineering of The University of the West Indies (UWI) has had good relationships with the industrial sector, public service, the profession and the development institutions. In general, however, these have been developed in an ad hoc manner, or on an individual basis rather than on an institutional basis. External communication has not been such that the extensive work of the Faculty and its achievements have been disseminated efficiently to project the image of the Faculty, or to maximize the use of the work in society. In addition, industry inputs to the work of the Faculty have not been such as to guarantee relevance, or to prioritize the work of the Faculty in a meaningful manner. It is clear that there is a dire need to provide focus to the Faculty's interface with the Industrial Sector.

Notwithstanding the above background to the relationship between the Faculty and the Industrial and Engineering Services Sector, and the need to project a positive image in the Society at large, the development of The University of the West Indies has reached the state where the University must move towards identifying means of income generation to support its teaching and research activities. Since the Faculty of Engineering possesses the greatest depth of Engineering and Land Surveying expertise in the English-speaking Caribbean, with a broad range of laboratories containing some sophisticated testing and basic research equipment with personnel support, the resources of the Faculty could and should be harnessed towards income generation.

The two major areas where the Faculty can work with the industrial sector to mutual benefit are as follows:

**Continuing Education for Practicing Professionals and Para-Professionals**

**Technological Services**

In concept, Continuing Education refers not only to short courses where certificates of participation are given, but also to longer programmes with the award of a formal qualification.

The provision of Technological Services refers to a wide

range of activities such as testing, software engineering, process and product development, design services, contract research and general consulting.

If the Faculty is to offer these services in an efficient and coordinated manner in order to ensure acceptance of the Faculty as a provider of high quality professional services, it is essential that an appropriate organizational structure must be developed to that end.

Background to some of the initial considerations in formalizing the University/Industry interfaces within the Faculty of Engineering, UWI were provided by Boopsingh [1] in a previous issue. The situation has however moved forward to the stage that a formal entity called the 'Engineering Institute' has now been formed, backed by relevant approvals from the University system.

This paper outlines the conceptual framework for the structure and operation of the Institute in its formative stages. A more detailed description has been presented elsewhere [2].

## ROLE OF THE INSTITUTE

Having regard to the general background relating to the formation of the Institute enumerated above, its basic role may be described as follows:

- i. Provide a formal linkage between the Faculty and the Industrial and Engineering Services Sector.
- ii. Provide a range of Continuing Education Services towards fulfillment of such needs in the development of this sector throughout the Caribbean.
- iii. Provide a broad range of Technological Services as appropriate to the expertise and facilities available in the Faculty.
- iv. Coordinate and develop the income generation capability of the Faculty.
- v. Project and publicize the work of the Faculty throughout the Caribbean.
- vi. Work with the Industrial Community, Governments, relevant Institutes, International Agencies, The University of the West Indies and relevant Faculties in other

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### Faculty of Engineering, The University of the West Indies

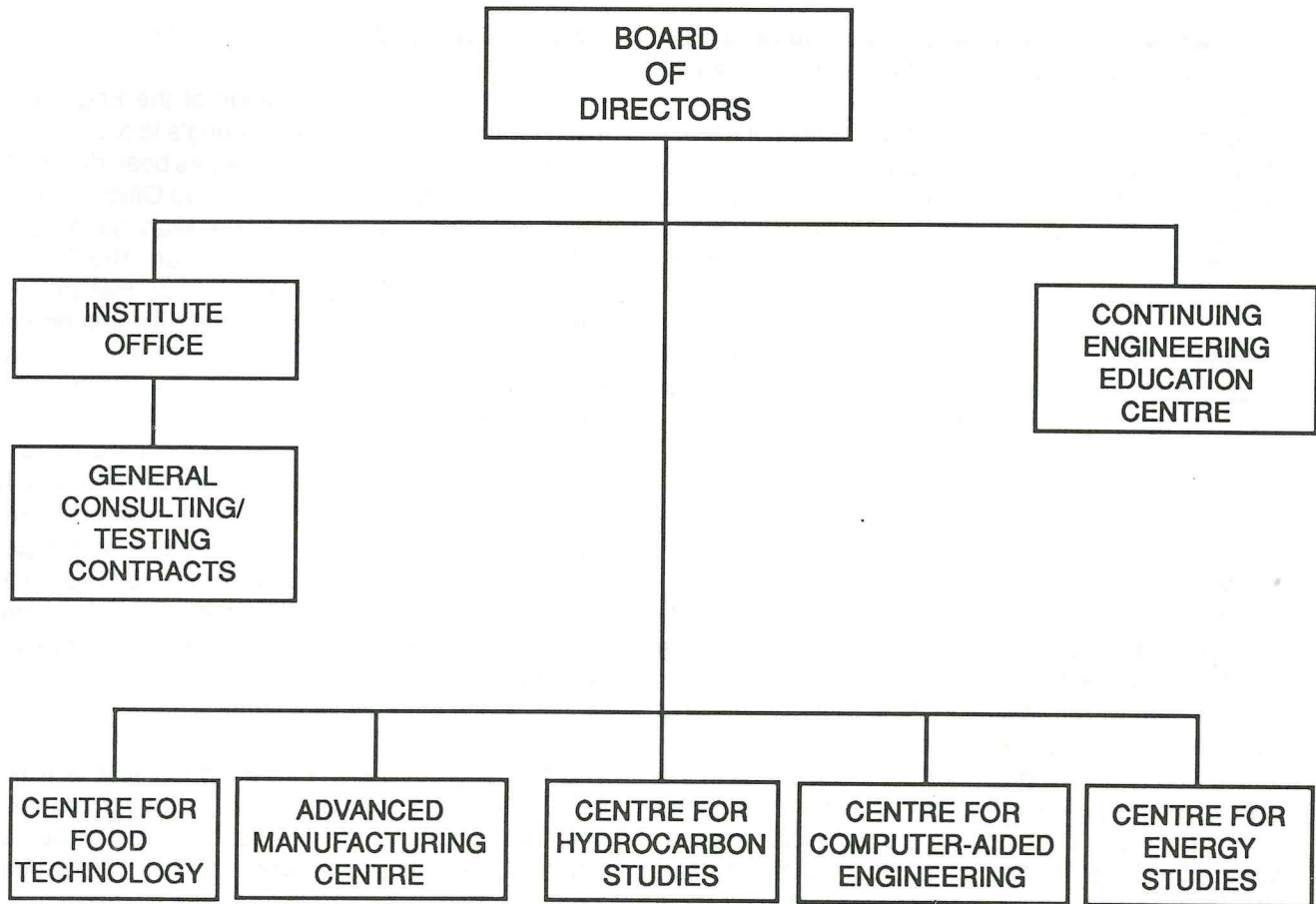


Figure 1. Organizational Structure

Universities towards the upliftment of the Faculty and its work.

- vii. Provide a mechanism for substantially increasing Academic Staff interaction with the industrial community.

#### ORGANIZATIONAL STRUCTURE OF THE INSTITUTE

The above being the established role of the Institute, it is appropriate next to identify an appropriate organizational structure. One of the problems of the Faculty is that being the sole Faculty of Engineering in the English-speaking Caribbean, the professional interests of the Faculty are extremely broad. Notwithstanding

this, it is appropriate to highlight specific areas of particular importance to regional development, and where the Faculty can and should make an impact.

This is being effected in the Institute through the formation of a number of Centres which will provide the focus for work carried out in selected specialized areas, whether it be Continuing Education, Consulting, Testing or Research. Initially, the Institute has identified a limited number of Centres, these being associated with areas which are already in various stages of development, where appropriate equipment is close to an operational state of readiness or where there has been extensive internal discussion. Thus, the Centres identified initially are:



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- Continuing Engineering Education Centre
- Computer-Aided Engineering and Design Centre
- Centre for Food Technology
- Advanced Manufacturing and Engineering Centre
- Centre for Hydrocarbon Studies
- Centre for Energy Studies

The operation of each of the Centres is to be coordinated either by an Academic Staff member or a full-time Professional and would be served by a number of Academic Staff members and/or Professionals according to their background and interests. In order to ensure relevance of its work, each Centre may have an Advisory Body comprising the staff working in the Centre together with appropriate personnel from industry.

It is anticipated that new Centres will evolve with time. Of particular importance in helping to catalyze new industrial development will be the:-

Engineering Centre for Entrepreneurship and Innovation

The work of the Centres however needs to be coordinated. This is being effected through the Institute Office, which provides the focus for the formal interface with the Industrial sector.

The function of the Institute Office in its relationship with the Centres is strictly towards providing administrative and accounting support for the Centres in the execution of their work. This will allow for those in the Centres to focus on executing the technical tasks associated with completing contractual obligations satisfactorily and in a timely manner. The Institute Office, therefore, is essentially to act as a facilitator. The Office will also however handle research/consulting and testing service requests for the Faculty which do not fall into the ambit of any of the Centres.

The formulation of the policy of the Institute and the assessment of its performance is vested in the Board of Directors. In order to ensure relevance and to forge appropriate strategic alliances, the Board of Directors has been structured with a larger representation from the Industrial sector than from within the University. Furthermore, the Institute has been fortunate to attract

Chief Executive Officers from the Manufacturing and Engineering Services sectors to guide it in its formative period.

The organizational structure of the Institute initially may therefore be summarized in block diagram format as shown in Figure 1.

## CURRENT STATUS

The background to the formation of the Engineering Institute, the Faculty of Engineering's focus for its interaction with the Industrial sector has been described. The current status is that the Institute Office is operational, with the appointment of the Manager together with secretarial and accounting support. The Board of Directors has been appointed and has met to begin guiding the Institute. The Continuing Engineering Education Centre is already fully operational. Appropriate actions are being taken to bring the other Centres identified into operation in as short a time span as possible. The initial intention is to concentrate more on developing appropriate services for Trinidad and Tobago initially, except in Continuing Engineering Education, but as the momentum develops and experience is broadened, services will be offered to all of the territories which the Faculty serves. It is also envisaged that membership of the Board of Directors would be expanded to include Engineers from the other territories which the Faculty serves.

The formation of the Engineering Institute is a bold venture which, if successful, as it should be, could contribute significantly to the development of the Faculty, the University and the whole of the English-speaking Caribbean.

## REFERENCE

1. Boopsingh, T. "University/Industry Interaction". West Indian Journal of Engineering 16(1) 47-48. 1993.
2. McGaw, D.R., Imbert, C.A.C., Kochhar, G. and Boopsingh, T. "University/Industry Liasion in the Commonwealth Caribbean". Presented at the Fourth International Conference on Management of Technology, Miami, USA. Feb. 28-Mar. 4, 1994.