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Turning Innovative Ideas Into Commercial Equipment: The Approach at Petrobras

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Abstract

This work presents the approach used at PETROBRAS to develop new suppliers in the local and international market as to provide innovative equipments to the deep water exploration and production activities. The task of pushing up the industry limits to foster the manufacturing of new prototype pieces of equipment at a commercial scale has been addressed by PETROBRAS for more than 15 years in a join effort between the Exploration and Production area and the Procurement Department. Significant results have been achieved especially in the development of new local suppliers. The paper presents a general overview of the PETROBRAS Technology Management Model and how the process of developing a prototype equipment is inserted into it. The main challenges of such developments and the solutions used to figure them out are discussed. The conceptual basis of the criteria and objective approach used to select a particular manufacturer to a specific project named the Innovation Potential Evaluation Index is presented also. At the end of the paper the results achieved so far in the increase of the registered new suppliers and a portfolio of the equipment developed are presented as well as the perspectives for the increase of local content due to future initiatives.

Introduction

PETROBRAS is a state owned company, normally referred as a government company, with shares traded in stock markets in Brazil, Europe and United States. As a government-owned company, controlled by the Brazilian federal government, it is subordinated to the laws and governmental controls that impose certain particularities to its performance in the free market system.

The supply solutions, to be applied in a company of acknowledged leadership in deep waters, require innovative actions of equipment development, articulated in cooperation with its main suppliers in order to guarantee the availability of engineering solutions required to its complexity growing demands in a highly competitive market.

Inside the PETROBRAS Procurement Department organizational structure, there is the EMAT, Materials Engineering Management and, subordinated to it, the Sectorial Management of Materials Development (DMT) which is responsible for the Technical Cooperation Agreement (TCA) established with equipment manufacturers or research entities, aiming to developing equipment or technologies that will be applied in the Company's operational units.

DMT's institutional mission is:

"TO LOOK FOR PETROBRAS' OPERATIONAL COST REDUCTION THROUGH THE REDUCTION OF THE COST OF MATERIALS' LIFE CYCLE AND THE REDUCTION OF THE ENVIRONMENTAL RISKS BY MEANS OF THE TECHNOLOGICAL DEVELOPMENT OF MATERIALS AND NEW SUPPLIERS.

Fed by the demands of the business areas, as Exploration and Production, Refining, Gas & Energy, Research Center (Cenpes), Transpetro[1] (maritime and pipeline transportation) and BR Distributor[2] , DMT basically acts into two fronts: the development of new technologies (mainly the ones related to equipment) and the development of new suppliers.

Usually the technological development process begins in one of the internal customers, with the identification of the need to develop a new material. Reflection of the result of PETROBRAS operational pioneering in the deep waters exploration, it is common that equipment for oil exploration and exploitation for the new borders are not on the shelves and, normally, not even designed. The instrument of the technological development through cooperation agreements with manufacturers has been largely applied in such circumstances. In similar cases, TCAs are established with one or more manufacturers interested and deemed qualified to develop the project engineering and to manufacture the desired equipment.

On the other hand, a program for the development of new suppliers normally starts within Procurement area itself, when

[1] **Transpetro:** PETROBRAS subsidiary responsible for the pipelines operation and maritime transportation of products and crude oil;

[2] **BR Distribuidora:** PETROBRAS subsidiary responsible for trading and distributing by-products.