

Commercialization of PCSIR's R&D results

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Introduction

The main objectives of the Pakistan Council of Scientific and Industrial Research (PCSIR) are the successful transfer and commercialization of technology in Pakistan. This process covers a wide range of tasks, from mere information dissemination to coordination of pilot and demonstration R&D programmes. PCSIR contributes facilities, capabilities, technologies and training. It also transfers technologies developed in its laboratories to the industrial sector. It is a major source of information and services to small and large companies, in the public and private sectors. PCSIR also plays an active role in National Development programmes.

The many success stories that reflect the integrated efforts of several research groups of PCSIR scientists, technicians and pilot plant workers involved in projects cover basic as well as applied research projects. Some of the preparations and processes are of commercial as well as socio-cultural importance.

Major technology successes have invariably emerged from R&D efforts that focussed on economic problems, thus acting as a significant stimulus to local economic growth. PCSIR is now seeking partnerships and collaborations with private sector organizations to develop more technologies for industrial and consumer applications. A scientific liaison programme has been initiated.

There has been considerable market interest in commercializing PCSIR products, which are often cheaper than available local and imported products. A list of these innovative products is given below.

Selected PCSIR technologies and products - status of commercialization

01: pH meter

Production: a high input impedance amplifier with a semiconductor base; produced in small batches on demand.

Benefits: low cost; cheaper than most available brands. Produced from locally available components.

Commercialization status: technology not leased out to any party; however, it has been supplied to institutions, such as Atomic Energy Agriculture Research Centre, Tando Jam., Hydrocarbon Development Institute of Pakistan, Baqai Institute of Pharmaceutical Sciences, Karachi and Zafa Pharmaceutical Laboratories, Karachi.

Potential commercial uses: a general-purpose instrument used in most laboratories for determining the acidity or basicity of a chemical product.

02: Conductivity meter

Production: instrument uses semiconductor components. Prototype measures conductivity from 1 μ S to 200mS.

Benefits: low cost; produced from locally available components. Easy to use due to simplified calibration procedure.

Technology commercialization status: technology neither leased out nor sold.

Potential commercial uses: simple-to-use instrument measures conductivity of a solution, and hence quantity of total dissolved salts. Used for soil testing, water testing, etc.

03: Anticarburing paste

Production: with simple, indigenous technology.

Benefits: cost-effective as compared to imported composition.

Technology commercialization status: M/s. Pakistan Machines Tool Factory.

Potential commercial uses: Used where hardening of carbon steel parts (by carburizing) is not required. Has wide applications in industrial machine components, such as gears, shafts, bearings and rotary rock drill bits.