

Concept Paper



Federal Institute of Materials & Homologation (FIMH)

Technology Upgradation and Skill Development Company

Ministry of Industries & Production

State Cement Corporation Building, Township, Kot Lakhpat, Lahore

Tel: +92-42-111-000-143, 5111965 Fax: 5121658

Website: www.tusdec.org.pk Email: info@tusdec.org.pk

(A company setup under Section 42 of Companies Ordinance 1984 having capital share)

Background:

The Gujranwala region including Gujrat, Sialkot and Wazirabad is one of Pakistan's important industrial clusters with more than 22,000 cottage-size, small, medium and large industrial units. It is also the fastest growing among other industrial regions in Pakistan. The manufactured or assembled product mix ranges from cutlery to motors, pumps to turbines, melamine to moulded plastic products, fans to surgical instruments, home appliances to kitchenware, garments to sports goods and more. Many of these products are or were exported worldwide. However, in recent years, export dynamics have been challenged by international pressures on the local producers to conform to global standards, quality assurance and certification such as CE, UL, IEC and others.



CE, UL and FCC marks are just some of today's "entry tickets" to most western markets

These requirements are often considered as the new 'non'-tariff barriers which can only be overcome through training, high productivity, enhanced quality and necessary certification. Compliance to these quality assurance standards and the granting of approval by an official authority – **homologation**, requires greater monitoring and control of process activities. However, the practical process of quality certification is costly and time-consuming. Management structure and system changes demanded by attempting homologation or certification and onformance to these standards make it difficult to adopt for small and medium enterprises (SMEs).

In 1994, surgical instruments industry was faced with an overnight crisis when regulators in its leading market, the United States, required all medical instrument imports to be certified as conforming to good manufacturing practices (GMP) standards on quality assurance. The impact of this action on the cluster was severe. Local producers exporting to USA saw orders being cancelled, and their consignments left stranded. Similarly to the FDA Laws, the EC directive (Directive 93/42/EEC) stipulated that all surgical instruments sold in the European Community had to comply with international quality assurance norms by 1998. This implied compliance with either ISO 9000 quality assurance standards, or EN46000 standards (a more specialised European standard for quality assurance in the manufacture of medical devices), and the display of CE marking (the European safety marking).

Failure to comply with these and similar certifications like UL, FCC, TuV etc is recognized as being potentially destructive for Pakistan's export competitiveness and reputation. The major cause of non-adherence or lack of certification/homologation is unawareness about these standards, low preference to manufacturing system, best practices, materials quality, product quality and high cost to implement and maintain these standards. The few exporters who have tried to qualify or have qualified their products have done so at high costs seeking help from overseas bodies and certification organisations.

Vision:

In order to improve quality and reliability of exportable products, first the applicable quality and conformance standards need to be checked for materials that are used in their production so as to make these products more market acceptable and to avoid any monetary loss which incurs due to low quality or use of inappropriate materials. Many conformance standards require that materials meet strict traceability specifications to ensure reliability of sourcing. Once these materials are made to comply with international standards, global reorganisation and acceptance of these products will increase, leading to business growth. Secondly, there is also a requirement for finished product qualification and compliance to international standards and associated certifications. Thirdly, companies in this region should be made well aware of all the current and

new standards and certification requirements for their products well in time so that they can ready their production systems for homologation.

The solution to this problem is an institute dedicated solely for industrial materials testing, product testing and homologation of finished products for their conformance to the applicable international standards and norms. After a complete material analysis, followed by examination of finished product testing results the industries will be able to produce quality products and ensure conformance of their products to various international standards and capture markets in EU and US. This institute will quantify the quality of products made by the industry and only then will this industry be able to improve its productivity and quality. After enhancing quality and obtaining product homologation/certification, products from the Gujranwala region will be able to capture markets, generate more revenues, create employment opportunities and help reduce poverty.

Outputs:

Federal Institute of Materials and Homologation (FIMH) has therefore been envisaged with the aforementioned vision. Some of the salient features of the proposed institute will include:

1. Material testing facilities including analysis and advice on changes needed to qualify.
2. Product Testing facilities and Technical Services (testing facilities) to ensure product quality and safety complies with international standards (UL, CE, IEC, Energy Star etc) for their global acceptance.
3. Training courses in the areas of product and system quality improvement to enhance productivity and quality to conform with international standards.
4. Technical & financial assistance to companies seeking international product and system compliance to ensure long term total quality management.

The qualification process may require several iterations and changes in material, design, production techniques etc before successfully grant of a certificate from the certifyin authority.

Benefits:

Primary function of FIMH will be to provide testing facilities that ensure local products are being tested in Pakistan to the same standards and at much reduced costs before presenting for export certification like CE, UL, FCC etc. The testing, advice and any necessary iterations will improve the success ratio for homologation.

Existing Institutes in Gujranwala region are not able to provide testing, consultancy services and training in this perspective. FIMH will cope with these demands.



Advanced testing machines for determining material properties

The materials facility envisaged in FIMH will allow testing and ensure conformance and quality assurance of the materials used in the majority of products. However, initially the certification facility will concentrate on the two major product sectors namely, surgical instruments and fans. Thereafter, it will expand and offer certification facility for other significant products such as home appliances, electrical equipment, utensils, plastic and leather products etc. Training will be

provided in managerial and trade areas while consultancy services will be provided for product design and quality improvement.



Scanning Electron Microscope plays a very important role in modern material and product testing procedures. FIMH is envisioned to house such facilities.

The core objective of FIMH is to provide products and material testing facilities as per known standards. The institute will also provide trained personnel and financial assistance to companies seeking international quality standards. FIMH will be equipped with advanced analytical facilities for product and material testing. The product test laboratories will include safety, environmental, RF Emission and related equipment.

The centre will operate with close liaison with [Pakistan National Accreditation Council](#) (PNAC), [Pakistan Council of Scientific and Industrial Research](#) (PCSIR) and other related bodies in Pakistan and the homologation/certification bodies abroad. The eventual goal is for FIMH to be recognised by these overseas homologation/certification bodies.

The project also matches the “Engineering Vision” adopted by the Government of Pakistan. Furthermore, the centre will contribute towards poverty reduction as it will produce a skilled workforce and provide good value employment.

Location:

FIMH is planned to be located on a plot of land already available to TUSDEC adjacent to the [Gujranwala Tools, Dies and Moulds Centre](#) (GTDMC).

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