

SECTOR BRIEF

By Research and Publications Department, ICMA Pakistan

Surgical Instruments Manufacturing Industry

Sialkot is an important economic and industrial hub and export-oriented city of Pakistan from where 99 percent of products are exported to different countries. The surgical instruments industry is one of the vital industries of Sialkot that produces the finest quality of surgical and medical instruments at economical prices and supplies to around 140 countries across the world, especially the USA and European countries.

Historical Perspective

By the end of the 19th Century, an American Mission hospital in Sialkot for the first time got its scalpels and other instruments repaired from the local artisan community of blacksmiths. These craftsmen successfully replicated these imported instruments being used by the hospital. This was the genesis of the surgical industry.

In the **1930s**, Sialkot started exporting medical instruments to the international market.

In **1941**, the British Government established a Metal Industries Development Centre (MIDC) which helped the industry to shift from the manufacturing of basic metal products to precision surgical instruments.

In **1947**, at independence, Pakistan inherited 17 registered surgical instruments manufacturers in Sialkot.

In **1958**, the Surgical Instruments Manufacturers Association of Pakistan (SIMAP) was established to protect and promote the art of surgical instruments manufacturing and to help resolve the problems of the industry. At present, SIMAP has around 3900 registered member firms, employing over 150,000 workers.

In the **1960s**, the Government announced some fiscal incentives like higher subsidies and credit facilities such as a bonus voucher scheme; which stimulated productivity and technology-led growth in the local surgical Industry.

In the **1970s**, labor law changes resulted in wide layoffs and the development of dealer segment in the industry.

In the **1980s**, exports of surgical instruments witnessed phenomenal growth due to high demand worldwide.

In **1994**, the US Food and Drug Administration (FDA) Authority restricted imports of surgical instruments from Pakistan and made it mandatory to seek necessary certifications like ISO, GMP, etc. to improve the manufacturing and management systems.

Macro-economic contribution

Contribution to GDP	0.42 percent
Contribution to Exports	1.21 percent
Direct Employment	Around 150,000
Indirect Employment	Around 450,000

Current Status of the Industry

The surgical instruments industry comes under the Light Engineering industry category and is mainly clustered in and around the skirts of Sialkot. Around 2300 industrial units are producing surgical and medical instruments in the country; out of which 30 units can be considered large; 150 units are medium-sized and the remaining are small-sized. Over 99 percent of the production is made by the Sialkot-based units. There is also a large segment of vendors and traders who are associated with this industry. The yearly production is estimated at 150 million pieces of surgical items with an estimated value of Rs. 22 billion. Out of the total production, nearly 95 percent is exported.

The surgical industry is one of the key SME export sectors in Pakistan. Some of the major product segments are:

- 1) Surgical Instruments
- 2) Electro Medical Instruments
- 3) Body External Fixation Systems and Implants
- 4) Micro Surgery Instruments
- 5) Cardiovascular Instruments
- 6) Endoscopic and Gynecological Instruments
- 7) ENT Instruments
- 8) Respiratory Aid Instruments
- 9) Orthopedic Instruments
- 10) Holloware
- 11) Anesthesia Products
- 12) Dental Instruments
- 13) Veterinary Instruments
- 14) Scintigraphy apparatus

Sector Brief

'Steel' is the core raw material that is used in the manufacture of surgical instruments and quite fortunately almost 60 percent of steel is manufactured locally and the remaining 40 percent is imported, mostly from Germany. A wide range of industries including steel, chemicals, and machine parts have strong linkages with the surgical industry.

Exports

The Surgical Instruments Industry contributes a significant share in export by supplying goods worth around USD 250 million to 140 countries across the world. The top buying

countries include the US, Germany, the UK, France, Italy, the UAE, Japan, Brazil, Mexico, and Russia. America is the largest market for disposable instruments, while a majority of reusable instruments are exported to the EU. There are four broad categories of surgical exports:

During the year 2018-19, Pakistan exported surgical & medical equipment worth Rs. 52.97 billion as compared to exports of Rs. 41.62 billion in 2017-18. As per Economic Survey 2019-20, the exports of medical and surgical equipment during July -Mar 2019-20 stood at 47.36 billion as against Rs. 37.05 billion during the same period last year.

SWOT Analysis of Surgical Instruments Manufacturing industry



STRENGTHS

- One of the Oldest and well-established industry
- A cluster of industrial units located in Sialkot
- Capital investment in the industry exceeds Rs. 20 billion
- Availability of highly skilled and trained labor force
- Employing almost 150,000 workers
- Strong linkages with steel, chemicals, and other industries
- Finest quality of products manufactured and exported
- Wide range of products manufactured
- Manufacturing over 150 million pieces per year
- Above 60% of raw material is locally manufactured
- Long export history with established distribution channels
- About 95% of manufactured products are exported
- Export price of products most economical in the world

WEAKNESSES



- Lack of R&D for adapting to new methods of production
- Lack of quality checks at the local level
- More focus on low-technology
- Absence of proper training institutions for labors
- Lack of compliance with ISO and Current Good Manufacturing Practices (CGMPs) Certifications for increased market access to EU
- Absence of renowned brand names in the international market
- lack of product diversification
- Lack of proper marketing and distribution network for exports
- Shrinking profit margins due to increased competition
- Lack of linkages with the academia
- Limited direct contact with surgeons (end-user)



OPPORTUNITIES

- Rapidly growing market
- Rising demands in African and Asian markets
- World-renowned companies interested in Joint Ventures
- Setup distribution networks in the European markets
- Explore production from plastics and synthetic material
- Shift from low-tech to High-tech to increase exports share
- Explore electro-medical and diagnostic instruments
- Capture share in estimated USD 30 billion global exports

THREATS



- Impact of COVID-19 on production, exports, and supply chain
- Increasing the input cost of gas and electricity
- Emerging technologies replacing conventional instruments
- Market becoming highly regulated
- Diminishing skilled workforce
- Compliance with labor, quality, social & environmental standards
- Export competition from China, Mexico, and other countries