



Cover Page



DOI: <http://ijmer.in.doi./2022/11.02.08>

## A STUDY OF ELECTRONIC INSTRUMENTS, MEDICAL & OFFICE EQUIPMENT EXPORTS IN INDIA

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### ABSTRACT

The Electronic Instruments, Medical & Office Equipments exports have been widely studied. It also examined the trends in Electronic Instruments, Medical & Office Equipments production, Changes in the direction of Electronic Instruments, Medical & Office Equipments Exports and also studies the export of top items, major companies Exporting Electronic Instruments, Medical & Office Equipments. European countries remain the top destination of Electronic Instruments, Medical & Office Equipments during the year 2016-17. Automatic Electricity Regulators or Controllers has emerged to be the top item during the year 2016-17. It has been observed that the Electronic Instruments, Medical & Office Equipments sector not only contributes significantly to export earnings and GDP but also emerges as a major source of employment generation in the country. Though the Electronic Instruments, Medical & Office Equipments sector in India is small at present, there are several advantages which India can effectively leverage to achieve higher growth.

**Keywords:** Electronic Instruments, Medical & Office Equipments, Exports, Production, Destination, Items, Companies.

### INTRODUCTION

The Information Technology (IT) industry has shaped up as a major success story in India's economy. The liberalized policy initiatives of the Government of India in the last decade have propelled the Indian IT industry on to a path of development and prosperity. IT has divided in to the Electronics Hardware and Computer Software/ Services industry. These two industries a comparatively new entrant in India's export horizon, has emerged as a fore-runner among all industries and has been consistently trading on a high growth path in recent years. Over the years, the Electronics Hardware Industry has evolved to offer several innovative products for the convenience of the mankind. Electronics devices have become integral part of human life and are playing a major role in their everyday routine activities. Electronic hardware industry has consisted of consumer electronics, telecom equipments, electronic components, computer hardware, electronic instruments and office medical equipments etc.

Electronic Instruments, Medical & Office Equipments sector of the Indian industry continues to play a very important role towards the economic growth. State of art industrial electronic equipment and systems, automation technologies, networking systems and various other stand-alone instrumentations are increasingly applied in manufacturing industries like steel, Textiles, Cement, Power, Chemical and Refineries, etc. Transportation industries, particularly the Indian Railways are increasingly adopting latest power electronics equipment for their mainline electric or diesel locomotives and suburban train systems.

The market for medical electronic devices and equipment in India is ever increasing and as the demand is steady from the public and private sectors. Medical electronic equipment market holds great potential for investors in the healthcare and pharmaceuticals sectors most importantly from sectors of high quality and specialised medical and self-care equipment. According to Puri, "The key areas of investment opportunity are medical infrastructure, telemedicine, medical equipment, components for medical devices, etc. With larger investments, demand for medical electronic devices and equipment will swell. Indian manufacturers can make profits in this situation."

This growth is mainly attributed to the rising per capita income, improved lifestyle, construction of new state of the art hospitals in urban areas, and the need to provide better healthcare services to semi-urban and rural areas through telemedicine, etc. These factors have encouraged the healthcare sector in India to undergo major changes and fuelled the demand for healthcare equipment and devices across various segments to rise significantly. Although the government has identified healthcare as a priority sector and has taken measures to promote the medical device market, heavy import is acting as a deterrent for local manufacturing.

### OBJECTIVES

1. To evaluate the trends in Electronic Instruments, Medical & Office Equipments production and Exports of India.
2. To examine the changes in the direction of India's Electronic Instruments, Medical & Office Equipments Exports.
3. To analyse the top Exporters and items of Electronic Instruments, Medical & Office Equipments in India.



Cover Page



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DATA SOURCES AND METHODOLOGY

A multi-dimensional approach has been adopted for the study on Electronic Instruments, Medical & Office Equipments Exports of India. The present study based on secondary sources. The data collected from Electronics and Computer Software Export Promotion Council of India (ESC). Simple Statistical tools like percentages, annual growth rates have been used wherever necessary.

ELECTRONIC INSTRUMENTS, MEDICAL & OFFICE EQUIPMENT INDUSTRY IN INDIA

The Indian healthcare sector is experiencing rapid change and has become one of India’s largest sectors, both in terms of revenue and employment. This change has become significantly more visible over the last decade, with a renewed focus from the government and a growing market demand for healthcare services and products. In the last few years, the number of clinics and hospitals has increased by almost four times in the country. This has also resulted in increased demand for medical equipment, which has made the medical device sector one of the most promising markets in India.

Table 1 represents the Growth in production of Electronic instruments, Medical and Office equipment in India. It is clear from the table that the value of Electronic instruments, Medical and Office equipment produce increased from Rs. 17610 crores in 2007-08 to Rs. 80000 crores in 2016-17. The percentage change over the previous year in the production of Electronic instruments, Medical and Office equipment registered positive growth during the study period. However, there are fluctuations in the annual growth during the 2015-16. In the year 2013-14 there is a momentum in the production. It is also clear from the table 1 the percentage of Electronic instruments, Medical and Office equipment production in the India’s total IT production is continuously increasing during the study period. In the same way the percentage share of Electronic instruments, Medical and Office equipment production increases in the India’s Electronic Hardware Production. It creates very positive growth in Indian Economy.

TABLE-1: GROWTH IN PRODUCTION OF ELECTRONIC INSTRUMENTS, MEDICAL & OFFICE EQUIPMENT IN INDIA

(Rs. Crores)

Year	IT Production	Electronic Hardware Production	Electronic Instruments, Medical & Office Equipment Production	% Change over previous year
1	2	3	4	5
2007-08	306420 (5.75)	84410 (20.86)	17610	---
2008-09	379754 (5.16)	94690 (20.68)	19580	11.19
2009-10	418090 (4.93)	109940 (18.75)	20610	5.26
2010-11	466990 (5.54)	125790 (20.57)	25870	25.52
2011-12	561565 (4.84)	143300 (18.98)	27200	5.14
2012-13	687200 (4.44)	177500 (17.18)	30500	12.13
2013-14	818326 (5.36)	196103 (22.37)	43860	43.80
2014-15	924003 (5.96)	199294 (27.63)	55074	25.57
2015-16	1073276 (5.24)	229100 (24.53)	56200	2.04
2016-17	1173549 (6.82)	268240 (29.82)	80000	42.35

Source: Electronics and Software Export Promotion Council, Statistical Year book, various issues.

Note:

1. Figures in brackets for 1 column is indicates the percentage of Electronic Instruments, Medical & Office Equipment production in the Total India’s IT Production.
2. Figures in brackets for 2 column is indicates the percentage of Electronic Instruments, Medical & Office Equipment production in the Total India’s Electronic Hardware Production.



Cover Page



DOI: http://ijmer.in.doi./2022/11.02.08

**Figure 1**  
**Production of Electronic Instruments, Medical & Office Equipments**  
**(in Rs. Crores)**

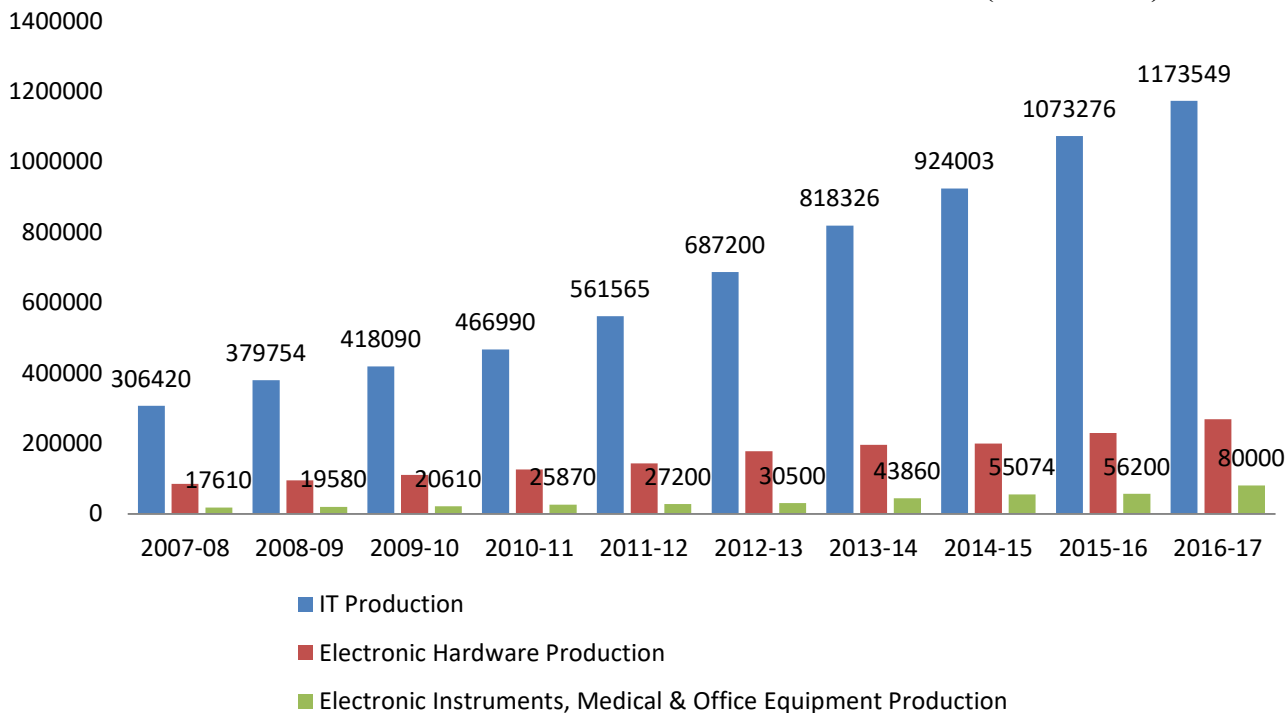


Table 2 represents the Growth in Exports of Electronic instruments, Medical and Office equipment in India. It is clear from the table that the value of Electronic instruments, Medical and Office equipment Exports increased from Rs. 3885 crores in 2007-08 to Rs. 13524 crores in 2016-17. The percentage change over the previous year in the Export of Electronic instruments, Medical and Office equipment registered positive and negative growth in during the study period. However there are fluctuations in the annual growth during the 2009-10. In the year 2013-14 there is a momentum in the Exports. It is also clear from the table 1 the percentage of Electronic instruments, Medical and Office equipment Exports in the India's total IT Exports has registered fluctuations in during the study period. But the percentage share of Electronic instruments, Medical and Office equipment Exports increases in the India's Electronic Hardware Exports. It is very helpful to get more foreign exchange from other countries.

**TABLE-2: GROWTH IN EXPORTS OF ELECTRONIC INSTRUMENTS, MEDICAL & OFFICE EQUIPMENT IN INDIA**  
**(Rs. Crores)**

Year	IT Exports	Electronic Hardware Exports	Electronic Instruments, Medical & Office Equipment Exports	% Change over previous year
1	2	3	4	5
2007-08	188200 (2.06)	13200 (29.43)	3885	---
2008-09	259060 (1.62)	31226 (13.45)	4200	8.10
2009-10	267850 (1.31)	25900 (13.51)	3500	-16.7
2010-11	302900 (1.49)	40400 (11.14)	4500	28.57
2011-12	369127	42627	5600	24.44



Cover Page



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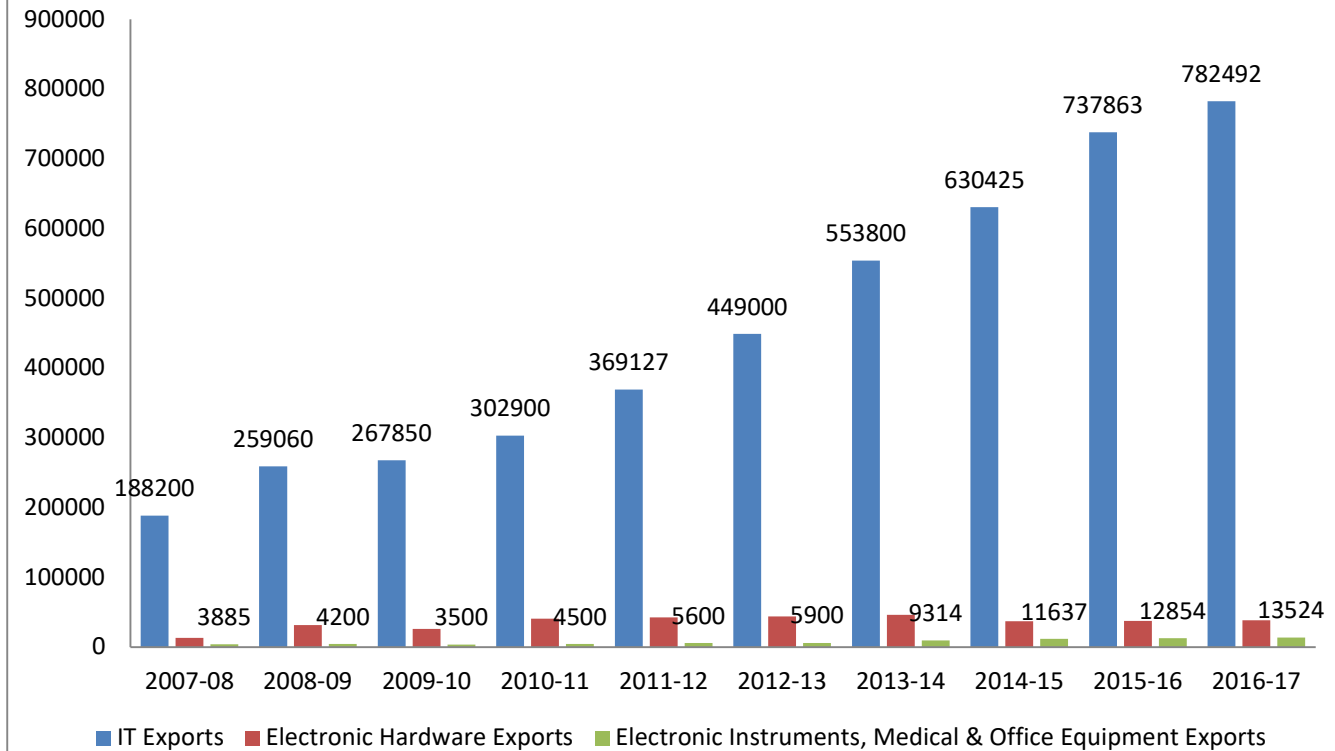
	(1.52)	(13.14)		
2012-13	449000 (1.31)	44000 (13.41)	5900	5.35
2013-14	553800 (1.68)	46300 (20.12)	9314	57.86
2014-15	630425 (1.85)	36756 (31.66)	11637	24.94
2015-16	737863 (1.74)	37328 (34.44)	12854	10.46
2016-17	782492 (1.73)	38127 (35.47)	13524	5.21

Source: Electronics and Software Export Promotion Council, Statistical Year book, various issues

Note: Figures in brackets for 1 column is indicates the percentage of Electronic Instruments, Medical & Office Equipment Exports in the Total India's IT Exports.

Figures in brackets for 2 column is indicates the percentage of Electronic Instruments, Medical & Office Equipment Exports in the Total India 'Electronic Hardware Exports.

Figure-2  
Exports of Electronic Instruments, Medical & Office Equipments  
in Rs. Crores



DESTINATIONS OF ELECTRONIC INSTRUMENTS, MEDICAL & OFFICE EQUIPMENT EXPORTS IN INDIA

The government starts encouraging domestic manufacturing in these electronic instruments, Medical and Office equipment sector. It can encourage foreign collaborations, and special economic zones can be provided for medical device manufacturers. It also needs to bring stringent quality standards for the industry so that Indian medical devices can compete globally. Current Scenario less than two per cent of the entire medical electronic industry has been given the license/ registration since the past 20 years. There is no



Cover Page



DOI: http://ijmer.in.doi./2022/11.02.08

administrative ministry to look after the interest of this industry. There is no single export promotion council for the industry. Medical devices of Europe and USA pass through stringent quality parameters with prestigious CE certification but Government of India offers no such qualifying parameters for medical devices industry.

TABLE-3: DIRECTION OF ELECTRONIC INSTRUMENTS, MEDICAL & OFFICE EQUIPMENT EXPORTS IN INDIA (Rs. Crores)

Destination	2007-08	2008-09	2009-10	2010-11	2015-16	2016-17
North America	1452 (37.37)	1371.97 (32.67)	949 (27.11)	1260 (28)	1994 (15.51)	2312 (17.10)
Singapore, Hongkong & other South Asian Countries	830 (21.36)	772.66 (18.40)	625 (17.86)	1300 (28.89)	2459 (19.13)	2402 (17.76)
Middle East countries	230 (5.92)	314.31 (7.48)	400 (11.43)	240 (5.33)	2063 (16.05)	1936 (14.32)
Europe (EU countries)	1000 (25.74)	998.17 (23.77)	855 (24.43)	955 (21.22)	2643 (20.56)	2935 (21.70)
African countries	185 (4.76)	168.21 (4)	139 (3.97)	130 (2.89)	1187 (9.23)	921 (6.81)
Japan Korea other Far East Countries	100 (2.57)	387.55 (9.23)	416 (11.89)	440 (9.78)	1851 (14.40)	2396 (17.72)
Latin America	50 (1.29)	127.45 (3.03)	66 (1.89)	110 (2.44)	373 (2.90)	427 (3.16)
Russia and C.I.S countries	11 (0.28)	9.84 (0.23)	7 (0.20)	8 (0.18)	132 (1.03)	56 (0.41)
Europe (Non-EU Countries)	7 (0.18)	25.95 (5.64)	15 (0.43)	27 (0.60)	69 (0.54)	43 (0.32)
Australia & Other Ocean Countries	20 (0.51)	23.91 (0.57)	28 (0.80)	30 (0.67)	83 (0.65)	96 (0.71)
Total	3885	4200	3500	4500	12854	13524

Source: Electronics and Software Export Promotion Council (ESC), Statistical Year book, various issues.

Note: Figures in brackets show the percentage of Sectoral Total.

Table 3 indicates that the direction of trade of Electronic instruments, Medical and Office equipment from India. It is clear from the table that the exports of India to Singapore, Hongkong & other South Asian Countries ranged between 21.36 per cent in 2007-08 and 17.76 per cent in 2016-17, to EU countries ranged between 25.74 per cent in 2007-08 and 20.76 per cent in 2015-16, to North America range between 37.37 per cent in 2007-08 and 15.51 per cent in 2015-16. The exports of India to Japan Korea other Far East Countries ranged between 2.57 per cent in 2007-08 and 17.72 per cent in 2016-17. EU countries have the highest share of exports from India. It implies that the share of Singapore, Hongkong & other South Asian Countries is highest followed by African countries, European Union and Middle East countries to the percentage of 6.81, 21.70 and 14.32 respectively. The share of exports to other countries is considerably low.

TOP EXPORTERS OF ELECTRONIC INSTRUMENTS, MEDICAL & OFFICE EQUIPMENT EXPORTERS IN INDIA

Table 4 give the top 10 exporters of Electronic instruments, Medical and Office equipment are selected years along with the value of exports. It is observed from the table that there is much diversion in the production of Electronic instruments, Medical and Office equipment among the companies. For instance, in 2008-09 the American Power Conversion (I) Pvt. Ltd exported the highest value of Electronic instruments, Medical and Office equipment and in 2016-17 the Schneider Electric IT Business India Pvt. Ltd. exported the highest amount. The value of exports by American Power Conversion (I) Pvt. Ltd is Rs. 159455.75 lakhs in 2008-09 and by Schneider Electric IT Business India Pvt. Ltd is Rs. 131986 crores in 2016-17.



Cover Page



DOI: http://ijmer.in.doi./2022/11.02.08

Table: 4: TOP ELECTRONIC INSTRUMENTS, MEDICAL & OFFICE EQUIPMENT EXPORTERS IN INDIA

2008-09		2010-11		2009-10		2016-17	
Company	Total Export Rs. Lakh	Company	Total Export Rs. Lakh	Company	Total Export Rs. Lakh	Company	Total Export Rs. Crore
1.AMERICA N POWER CONVERSION (I) PVT LTD	159455.75	1.AMERICA N POWER CONVERSION (I) PVT. LTD.	134768	1.AMERICAN POWER CONVERSION (I) PVT LTD	126016.81	1. SCHNEIDER ELECTRIC IT BUSINESS INDIA PVT. LTD.	131,986
2. TATA BP SOLAR INDIA LTD	93050.88	2. TATA BP SOLAR INDIA LTD.	56911	2. TATA BP SOLAR INDIA LTD	115329.04	2. SECURE METERS LTD.	94,845
3.TELEDATA INFORMATICS LTD	31044.32	3. GE BE PVT. LTD.	37330	3. WIPRO GE HEALTHCARE SYSTEMS LTD.	21405.00	3. GE BE PVT. LTD.	61,478
4.ELECTROTHERM INDIA LTD	18816.45	4. SECURE METERS LTD.	28710	4. SECURE METERS LTD.	17103.64	4. WIPRO GE HEALTHCARE PVT. LTD.	32,456
5. WIPRO GE HEALTHCARE SYSTEMS LTD.	9448.61	5. SU-KAM POWER SYSTEMS LTD.	9300	5. GE BE PVT.LTD.	14005.54	5. BHARAT ELECTRONICS LTD.	25,779
6. SECURE METERS LTD.	8373.33	6. TITAN ENERGY SYSTEMS LTD	8671	6. TITAN ENERGY SYSTEMS LTD.	5836.15	6. EOS POWER INDIA PVT. LTD.	23,946
7. SU-KAM POWER SYSTEMS LTD	6703.01	7. CENTUM RAKON INDIA PVT. LTD.	7015	7. SCHNEIDER ELECTRIC IT BUSINESS INDIA PVT. LTD.	4523.38	7. CENTUM ELECTRONICS (FORMALY SOLECTRON C-MAC CENTUM ELECTRONICS LTD.)	23,098
8. VXL INSTRUMENTS LTD	5048.37	8.LUMINIOUS POWER TECHNOLOGIES PVT. LTD.	6183	8. SHYAM TELECOM LTD.	2903	8. NCR CORPORATION INDIA PVT. LTD.	16,242
9. ORBIS (INDIA) PVT.LTD.	3768.50	9.ELECTROTHERM INDIA LTD.	4880	9. SYRMA TECHNOLOGY PVT. LTD.	2529.57	9. CYIENT DLM PVT. LTD.	13,297
10. TVS ELECTRONICS LTD	3473.66	10. TVS ELECTRONICS LTD.	4422	10. HICAL TECHNOLOGIES PVT. LTD	2198.42	10. TATA POWER SOLAR SYSTEMS LTD.	7,486

Source: Electronics and Software Export Promotion Council (ESC), Statistical Year book, various issues.



Cover Page



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**Table 5: MAJOR ITEMS OF ELECTRONIC INSTRUMENTS, MEDICAL & OFFICE EQUIPMENT EXPORT IN INDIA**

2007-08		2008-09		2009-10		2010-11		2015-16		2016-17	
Items	Total Export Rs. Lakh	Items	Total Export Rs. Lakh	Items	Total Export Rs. Lakh	Items	Total Export Rs. Lakh	Items	Total Export Rs. Crore	Items	Total Export Rs. Crore
1.Rectifiers	98631.27	1 Rectifiers	126641.80	1.Medic al Instrume nt	110433.00	1. X Ray Equipment and Parts	125770.00	1.Automati c Electricity Regulators or Controllers	1392.00	1.Automati c Electricity Regulators or Controllers	1753.00
2. X Ray Equipment and Parts	72932.85	2. X Ray Equipme nt and Parts	85746.45	2. Rectifier s	99113.00	2. Rectifiers	116060.00	2. Voltage Stabilizers	1419.00	2. Voltage Stabilizers	1635.00
3.Invertor	46465.86	3.Inverto r	36505.08	3. Inverter	31928.00	3. Invertor	56254.00	3. Rectifier	884.00	3. Rectifier	1269.00
4.Medical Instrument	33179.62	4.Medica l Instrume nt	28761.36	4. Surveyi ng andNavi gation Equipm ent	24771.00	4. Medical Instrument	55495.00	4. Audio Video Machines/ Mixers	815.00	4. Audio Video Machines/ Mixers	954.00
5.Other Surveying Compass	3972.19	5.Other Surveyin g Compass	13962.13	5. Automat ic Control Equipm ents	17486.00	5. Automatic Electricity Regulators or Controllers	37845.00	5. Medical Equipments	891.00	5. Medical Equipments	855.00
6.Other(Autom ating, Regulating or Controlling Instrument and Apparatus	10267.12	6.Other( Automati ng, Regulatin g or Controlli ng Instrume nt and Apparatu s	13127.83	6. Voltage Regulat or& Stabilize rs	9410.00	6. Surveying Instruments	5865.00	6 Radiation Equipments	596.00	6 Radiation Equipments	660.00
7.Voltage Regulator & Stablizers	7630.74	7.Voltage Regulator & Stablizers	10228.30	7. Meters and Multime ter	7568.00	7. Meters	5864.00	7. Invertor	1085.00	7. Invertor	643.00
8.Other(Oscillo scopes, spectrum analysers and other instruments	1361.07	8.Other (Oscillo scopes, spectrum analysers and other instrume nts	9368.66	8. Pattern Generat ors	4538.00	8. Electrical Quantity Measuring Equipments	4870.00	8. Loudspeake rs	456.00	8. Loudspeake rs	552.00
9.Geophysical instruments	3546.88	9.Geophys ical instrume nts	5460.16	9. Oscillos copes	3886.00	9. Physical or Chemical analysis Equipment	4452.00	9. Other Measuring Instruments	282.00	9. Other Measuring Instruments	349.00
10.Battery Chargers	630.59	10.Batter y Chargers	5262.16	10. LED Panels	3716.00	10. Electro Plating and Similar (1.5%) Machines	3952.00	10. X-ray	500.00	10. X-ray	337.00

Source: Electronics and Software Export Promotion Council, Statistical Year book, various issues



Cover Page



DOI: http://ijmer.in.doi./2022/11.02.08

### MAJOR ITEMS OF ELECTRONIC INSTRUMENTS, MEDICAL & OFFICE EQUIPMENT EXPORTS IN INDIA

Table 5 give the top 10 major items of Electronic instruments, Medical and Office equipment exports is selected years along with the value of exports. It is clear from the table that there is more diversion in the export of Electronic instruments, Medical and Office equipment between the major items. However, in 2007-08 Rectifiers is exported the highest volume of Electronic instruments, Medical and Office equipment and in 2017-18. Automatic Electricity Regulators or Controllers exported the highest amount. The volume of Rectifiers exports in 2007-08 is Rs 98631.27lakh, in 2017-18 the volume of Automatic Electricity Regulators or Controllers is Rs. 1753 crores.

### MAJOR FINDINGS OF THE STUDY

A few of the findings emanating from the study are:

- Major challenges facing the Indian Electronic instruments, Medical and Office equipment manufacturing market are an infrastructure that needs to be improved at the earliest possibility, easing of foreign investment procedures, which are underway, and a restructured government tariff that now makes domestically manufactured goods more expensive than imported goods with zero tariffs.
- Lack of World-class infrastructure.
- Lack of clear-cut government policy for the industry.
- Very little expenditure in Research and Development area
- Power of Marketing not harnessed to the maximum.
- Inadequacy of domestic investment, inability to attract foreign investment, mega investments from multinational companies.
- Lack of large-scale manufacturing, and competitive product pricing.
- Lack of initiatives for new product development
- The manufactures of IT hardware and Electronics products are generally dependent on imported raw material. Weak supply chain network and lack of vendor support also affects the quality, productivity and competitiveness of the products.

### MAJOR RECOMMENDATIONS

A few of the Recommendations emanating from the study are:

- Government should ensure hassle free import of raw material and components by streamlining the import policy and systems and through simplification of import procedures.
- The government needs to prepare a ground for easy right-of-way permissions and lower cost of right-of-ways.
- Most of the inputs such as parts, sub-parts and components are allowed for import at zero or minimal duty.
- In view of increasing revenue from Electronic instruments, Medical and Office equipment exports government of India needs to take initiatives for the diversification of Electronic instruments, Medical and Office equipment products by encouraging Research and Development through which innovation of new diversified products is possible.
- Till now India mostly depended on low value goods and services. It is time to move towards high value goods and services by using IT.

### CONCLUSION

From the above analysis, it is clear that the share of Electronic instruments, Medical and Office equipment export in total export as well as its contribution to GDP has steadily increased over the years. India’s huge dependency on medical devices can make the country extremely vulnerable to supply chain shocks, as was seen during the peak of the Covid-19 pandemic. The pandemic has brought back the importance of developing the medical devices market. Today, India is among the top 20 markets for medical devices worldwide. The country’s medical devices market stood at US\$ 11 billion in 2020 and is projected to reach US\$ 65 billion in 2024. The medical devices industry in India is a blend of large multinationals and small and mid-sized companies. The Government has to announce a series of initiatives to ensure that there is no cheap influx of imports, which can harm the domestic industry. Our policies must be in favour of domestic medical device makers to ensure that India is complete ‘Atma Nirbhar’ or self-reliant.



Cover Page



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