

India's International Trade of Four Specific Commodities in the Recent Past Some Insights

Preface

The study uses trade indicators to analyse merchandise export and import data in a way that should be useful for the purpose of policy. The indicators provide a glimpse of the trade patterns of the world and the performance of India in comparison to various other countries. They have been used in the case of India's exports of **Aluminium Foils & Shawls, Scarves, Mufflers** etc. and imports of **Ketones & Quinones and Machine-Tools for Grinding, Boring and Milling** etc..to indicate the possible directions policy may take.

The data used in this study has been sourced from the Export Import Data Bank of the DGCI&S, Department of Commerce, and Government of India and from the United Nations Comtrade Database. Introduction notes of each commodities has been sourced from the various sights –viz Wikipedia, Britannica, The Economic Times etc.

Computations are based on data at ITC-HS four-digit level (ITC-HS Code-7607 & 6214for export and 2914 & 8459 for import) and the latest finalized data available on the UN Comtrade Database up to year 2020 and on the DGCI&S Database up to May'2022. So, trends from 2017 to 2020 have been shown when we extract the data from UN Comtrade and from 2018 to 2021 have been shown when we extract the data from DGCIS Data base.

In this report, we will see various analysis and aspects of India's Precious as well as International export trade of Aluminium Foils & Shawls, Scarves, Mufflers etc. and imports of Ketones & Quinones and Machine-Tools for Grinding, Boring and Milling etc.. We will use both the 4 digit Commodity codes.

Trends in India's as well as International Trade i.e. Exports and Imports of above four Commodities are given below in different tables :

- **Table 1 : India's top 10 Export destination of Aluminium Foils with their shares in percentage.**
- **Table 2 : World's top 10 Exporters of Aluminium Foils with their shares in percentage.**
- **Table 3 : World's top 10 Importers of Aluminium Foils with their shares in percentage.**
- **Annex- I : Top 3 sources of Aluminium Foils of World's top 3 Importers.**
- **Table 4 : India's top 10 destination of Shawls, Scarves, Mufflers etc. with their shares in percentage.**
- **Table 5 : World's top 10 Exporters of Shawls, Scarves, Mufflers etc. with their shares in percentage.**
- **Table 6 : World's top 10 Importers of Shawls, Scarves, Mufflers etc. with their shares in percentage.**
- **Annex-II : Top 3 sources of Shawls, Scarves, Mufflers etc. of World's top 3 Importers.**
- **Table 7 : India's top10 Sources of Ketones and Quinones with their shares in percentage.**
- **Table 8 : World's top 10 Importers of Ketones and Quinones with their shares in percentage.**
- **Table 9 : India's top 10 Sources of Machine-Tools for Grinding, Boring and Milling etc.. with their shares in percentage.**
- **Table 10 : World's top 10 Importers of Machine-Tools for Grinding, Boring and Milling etc.. with their shares in percentage.**

EXPORT

Aluminium Foils

Aluminium foil is aluminium prepared in thin metal leaves with a thickness less than 0.2 mm (7.9 mils); thinner gauges down to 6 micrometres (0.24 mils) are also commonly used. In the United States, foils are commonly measured in thousandths of an inch or mils. Standard household foil is typically 0.016 mm (0.63 mils) thick, and heavy duty household foil is typically 0.024 mm (0.94 mils). The foil is pliable, and can be readily bent or wrapped around objects. Thin foils are fragile and are sometimes laminated with other materials such as plastics or paper to make them stronger and more useful.

Annual production of aluminium foil was approximately 800,000 tonnes (880,000 tons) in Europe and 600,000 tonnes (660,000 tons) in the U.S. in 2003. Approximately 75% of aluminium foil is used for packaging of foods, cosmetics, and chemical products, and 25% is used for industrial applications (e.g., thermal insulation, electrical cables, and electronics). It can be easily recycled.

Aluminium foil supplanted tin foil in the mid-20th century. In the United Kingdom and United States it is often informally called "tin foil", just as steel cans are often still called "tin cans". Metallised films are sometimes mistaken for aluminium foil, but are actually polymer films coated with a thin layer of aluminium. In Australia, aluminium foil is widely called alfoil.

Foil made from a thin leaf of tin was commercially available before its aluminium counterpart. Tin foil was marketed commercially from the late nineteenth into the early twentieth century. The term "tin foil" survives in the English language as a term for the newer aluminium foil. Tin foil is less malleable than aluminium foil and tends to give a slight tin taste to food wrapped in it. Tin foil has been supplanted by aluminium and other materials for wrapping food.

The continuous casting method is much less energy intensive and has become the preferred process. For thicknesses below 0.025 mm, two layers are usually put together for the final pass and afterwards separated which produces foil with one bright side and one matte side. The two sides in contact with each other are matte and the exterior sides become bright; this is done to reduce tearing, increase production rates, control thickness, and get around the need for a smaller diameter roller.

Aluminium foil has a shiny side and a matte side. The shiny side is produced when the aluminium is rolled during the final pass. It is difficult to produce rollers with a gap fine enough to cope with the foil gauge, therefore, for the final pass, two sheets are rolled at the same time, doubling the thickness of the gauge at entry to the rollers. When the sheets are later separated, the inside surface is dull, and the outside surface is shiny. This difference in the finish has led to the perception that favouring a side has an effect when cooking. While many believe (wrongly) that the different properties keep heat out when wrapped with the shiny finish facing out, and keep heat in with the shiny finish facing inwards, the actual difference is imperceptible without instrumentation. Increased reflectivity decreases both absorption and emission of radiation. Foil may have a non-stick coating on only one side. The reflectivity of bright aluminium foil is 88% while dull embossed foil is about 80%.

Aluminium foil is widely sold into the consumer market, often in rolls of 500 mm (20 in) width and several metres in length. Although aluminium is non-magnetic, it is a good conductor, so even a thin sheet reflects almost all of an incident electric wave. At frequencies more than 100 MHz, the *transmitted* electric field is attenuated by more than 80 decibels (dB) (less than $10^{-8} = 0.00000001$ of the power gets through). Thin sheets of aluminium are not very effective at attenuating low-frequency magnetic fields. The shielding effectiveness is dependent upon the skin depth. A field travelling through one skin depth will lose about 63 per cent of its energy (it is attenuated to $1/e = 1/2.718...$ of its original energy). Thin shields also have internal reflections that reduce the shielding effectiveness. Aluminium foil is also used for barbecuing delicate foods. Some aluminium foil products can be recycled at around 5% of the original energy cost.

These are broadly classified under H.S. Code-7607.

Table - 1
India's Top 10 destination of Aluminium Foils (H.S Code-7607)

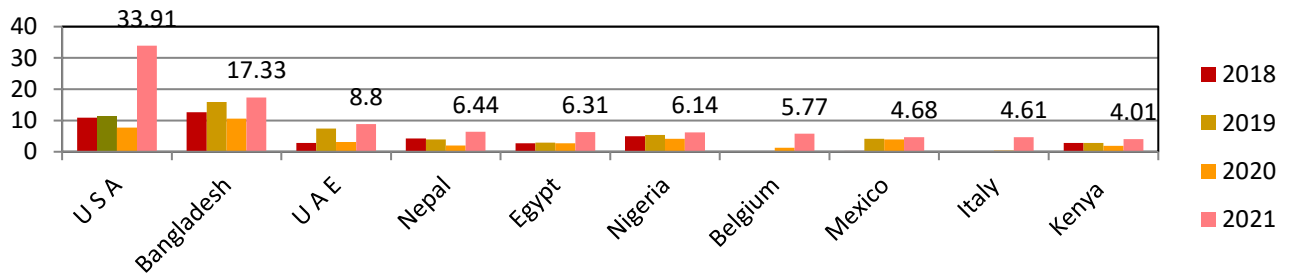
Rank	Countries	2018		2019		2020		2021	
		Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	U S A	10.90	12.34	11.43	10.40	7.67	10.69	33.91	21.60
2.	Bangladesh	12.64	14.31	15.95	14.51	10.59	14.76	17.33	11.04
3.	U A E	2.82	3.19	7.42	6.75	3.10	4.33	8.80	5.61
4.	Nepal	4.26	4.82	3.92	3.57	1.96	2.73	6.44	4.10
5.	Egypt	2.67	3.02	2.90	2.64	2.72	3.79	6.31	4.02
6.	Nigeria	4.93	5.58	5.34	4.86	4.10	5.72	6.14	3.91
7.	Belgium	0.02	0.02	0.01	0.01	1.27	1.77	5.77	3.68
8.	Mexico	0.29	0.33	4.15	3.78	3.96	5.52	4.68	2.98
9.	Italy	0.12	0.13	0.15	0.14	0.36	0.50	4.61	2.94
10.	Kenya	2.79	3.16	2.78	2.53	1.92	2.68	4.01	2.56
	Others	46.86	53.07	55.87	50.83	34.09	47.52	58.96	37.56
	Total	88.30	100	109.91	100	71.74	100	156.97	100

Source: DGCI&S.

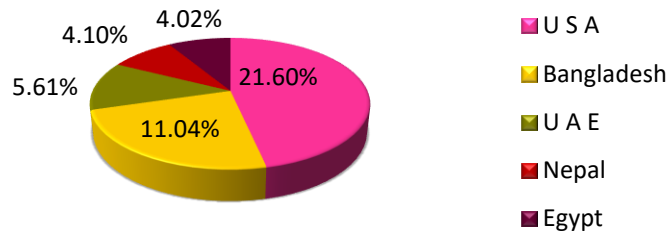
Note : India's Export including re-export

Leading importers of Aluminium Foils from India from 2018-2021(Values in million USD)

Data label given on the basis of 2021



India's top 5 destinations of Aluminium Foils by percentage India in 2021:



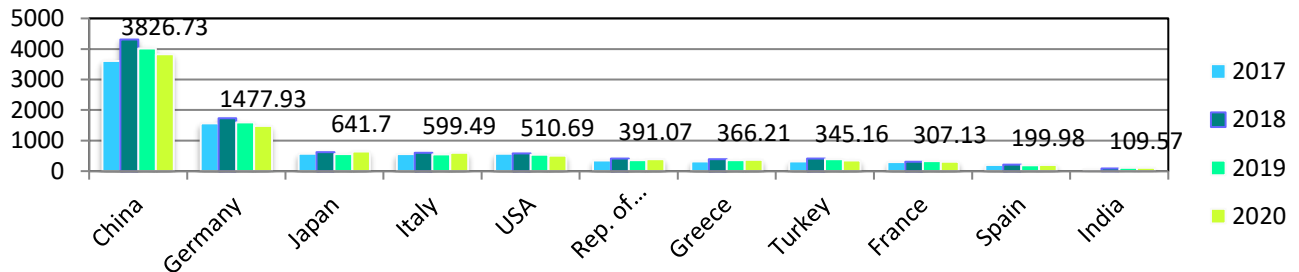
In the year 2021, India has exported Aluminium Foil worth of US \$ 157 Million which was all time hit for highest in that year. USA is the largest exporter of Aluminium Foil from India in 2021, imported US\$ 33.91Million, and accounted 21.60% share of India's total export value of Aluminium Foils in 2021. Followed by Bangladesh and UAE with the value being US \$ 17.33 Million and US \$ 8.80 Million respectively. The top 10 countries in total shared the share of 62.44% of the Aluminium Foil export value from India in 2021. The data table shows that except 2021 Bangladesh was the leading destination country of Aluminium foils from India from 2018 to 2020.

Table-2
World's Top 10 exporter of Aluminium Foils(H.S Code-7607)

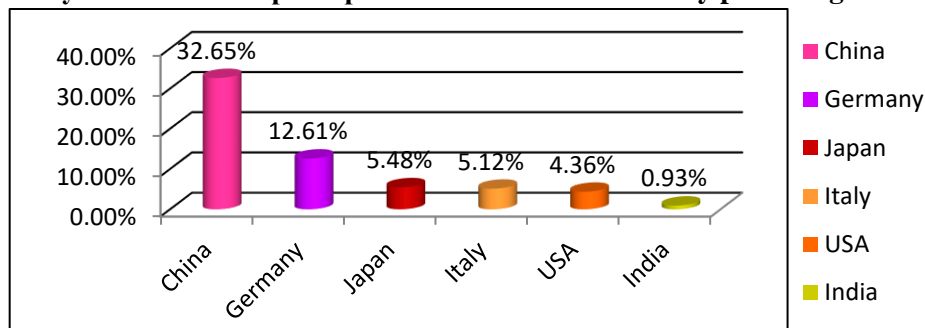
Rank	Countries	2017		2018		2019		2020	
		Value (million \$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	China	3602.87	30.46	4309.23	33.28	4017.07	33.37	3826.73	32.65
2.	Germany	1568.24	13.26	1733.75	13.39	1595.21	13.25	1477.93	12.61
3.	Japan	571.13	4.83	622.02	4.80	561.99	4.67	641.70	5.48
4.	Italy	555.11	4.69	596.35	4.61	550.94	4.58	599.49	5.11
5.	USA	574.51	4.86	581.08	4.49	536.66	4.46	510.69	4.36
6.	Rep. of Korea	353.11	2.98	414.85	3.20	365.06	3.03	391.07	3.34
7.	Greece	315.51	2.67	387.18	2.99	361.37	3.00	366.21	3.12
8.	Turkey	315.84	2.67	410.85	3.17	391.73	3.25	345.16	2.94
9.	France	295.99	2.50	306.25	2.37	326.11	2.71	307.13	2.62
10.	Spain	200.75	1.70	214.05	1.65	193.08	1.60	199.98	1.71
20.	India	70.25	0.59	88.62	0.68	109.95	0.91	109.57	0.93
	Others	3406.20	28.79	3284.91	25.37	3028.92	25.16	2944.60	25.12
	Total	11829.51	100	12949.12	100	12038.09	100	11720.27	100

Source: UN Comtrade

World's Leading Exporters of Aluminium Foils from 2017 to 2020 (Values in million USD)
Data label given on the basis of 2020



Country wise world's top 5 exporter of Aluminium Foils by percentage in 2020 :



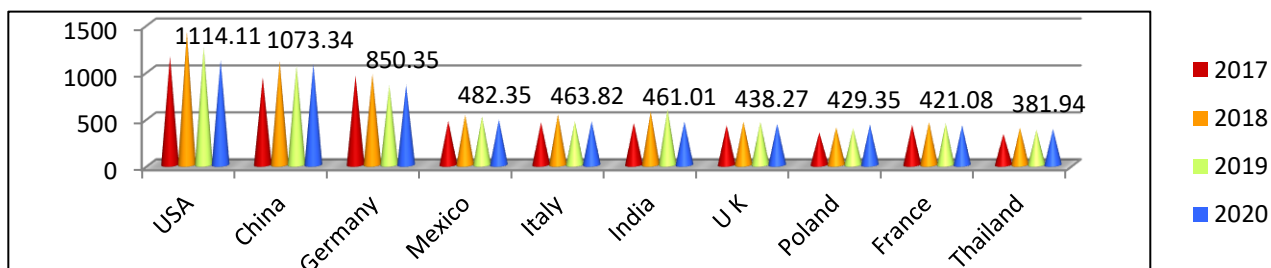
In 2020, global export of **Aluminium Foil** were worth value of US \$ 11.72 Billion. Between 2019 and 2020 the exports of **Aluminium Foil** decreased by -2.64%, from US \$ 12.03 Billion in 2019 to US \$ 11.72 Billion. In 2020 China was the top exporter of Aluminium Foils in the world with worth value of US \$ 3.82 Billion or 32.65% share of world export, followed by Germany and Japan, exported 12.61% and 5.48% share of world export in 2021. In the same year India exported Aluminium Foils with worth value of US\$109.57 Million and stood at 20th position in ranking in world export aluminium foils.

Table-3
World's top 10 Importers of Aluminium Foils(H.S Code-7607)

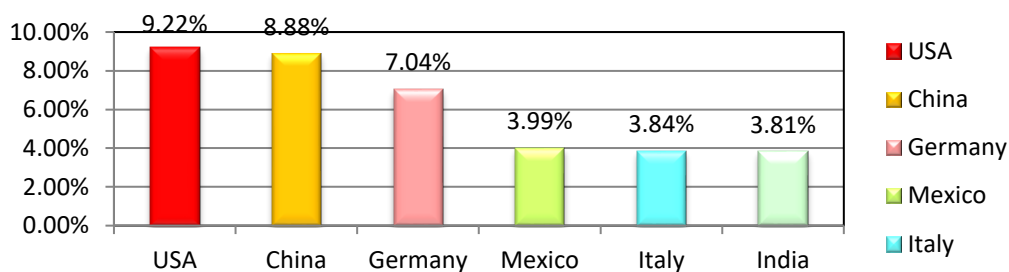
Rank	Countries	2017		2018		2019		2020	
		Value (million \$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	USA	1157.25	9.61	1421.02	10.49	1254.23	9.98	1114.11	9.22
2.	China	934.59	7.76	1107.21	8.17	1054.59	8.39	1073.34	8.88
3.	Germany	949.69	7.88	969.20	7.15	848.68	6.75	850.35	7.04
4.	Mexico	467.06	3.88	532.44	3.93	516.96	4.11	482.35	3.99
5.	Italy	451.99	3.75	538.86	3.98	465.57	3.70	463.82	3.84
6.	India	447.59	3.72	568.60	4.20	593.00	4.72	461.01	3.81
7.	U K	422.57	3.51	460.66	3.40	459.12	3.65	438.27	3.63
8.	Poland	346.25	2.87	399.80	2.95	393.77	3.13	429.35	3.55
9.	France	426.11	3.54	457.66	3.38	444.14	3.53	421.08	3.48
10.	Thailand	330.07	2.74	398.16	2.94	373.37	2.97	381.94	3.16
	Others	6113.61	50.75	6696.61	49.42	6169.88	49.07	5970.79	49.40
	Total	12046.76	100	13550.22	100	12573.31	100	12086.40	100

Source : UN Comtrade

Leading Aluminium Foils importers of world from 2017 to 2020 (Values in million USD)
Data label given on the basis of 2020



Country wise world's leading importers of Aluminium Foils by percentage in 2020

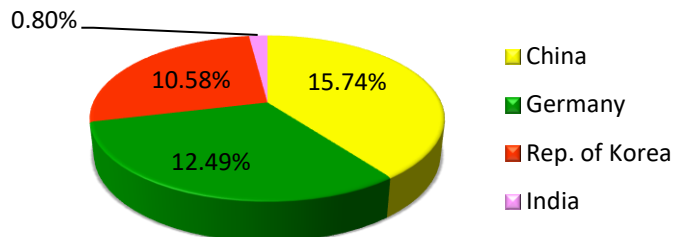


The value of global imports of Aluminium foil totalled US \$ 12.08 Billion in 2020. Which was decreased by 4% in value terms compared to 2019. Global aluminium foil import peaked of US \$ 13.55 Billion in 2018, however, from 2019 to 2020, it failed to regain its strength. USA represented the major importer of aluminium foil in the world, recording US \$ 1.11 Billion, which was 9.22% of total global imports in 2020. China and Germany stood at 2nd and 3rd position with 8.88% and 7.04% share of world import. **India** occupied a 3.81% share of global aluminium foil imports, which put it in 6th place in the world in 2020.

Annexure-1

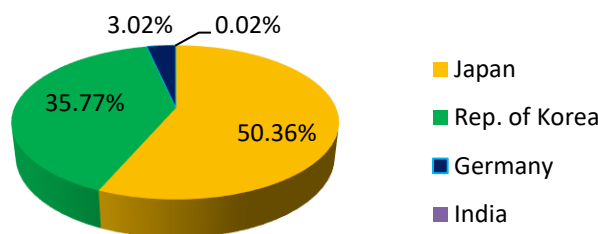
Sources of world's top 3 importers of Aluminium Foils(H.S Code-7607)

i) Top 3 Sources of Aluminium Foils etc...to USA in 2020 by percentage:



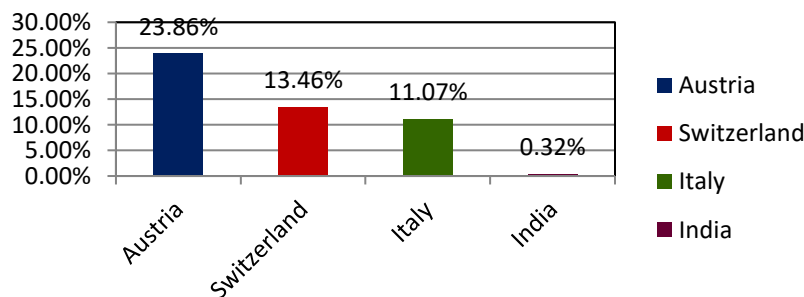
USA imports [Aluminium Foil](#) primarily from [China](#) (15.74%) [Germany](#) (12.49%), [Rep. of Korea](#) (10.58%), in 2020. In the same year USA imported the same from India only 0.80% share of its total import. **Source : UN Comtrade)**

ii) **Top 3 Sources of Aluminium Foils etc...to China in 2020 by percentage:**



50.36% of [Aluminium Foil](#) Imports of China comes from Japan in 2020, which was distantly followed by Rep. of Korea (35.77 %) and Germany (3.02%). In the same year India exported only 0.02% share of [Aluminium Foil](#) to China. **Source : UN Comtrade)**

iii) **Top 3 Sources of Aluminium Foils etc...to Germany in 2020 by percentage:**



Germany's 3 major source countries of Aluminium Foils in 2020 were Austria (23.86%), Switzerland (13.46%) and Italy (11.07%). India was a very little source of Aluminium Foils to Germany, exports with 0.32% share of Germany's total import of the commodity in 2020. **(Source: UN Comtrade).**

Shawls, Scarves, Mufflers, Mantillas, Veils & the like

A **shawl** is an Indian simple item of clothing, loosely worn over the shoulders, upper body and arms, and sometimes also over the head. It is usually a rectangular or square piece of cloth, which is often folded to make a triangle, but can also be triangular in shape. Other shapes include oblong shawls.

The words "shawl" and "pashmina" come from Kashmir, the northern region of the Indian subcontinent. Sources report cashmere crafts were introduced by Sayeed Ali Hamadani who was an Iranian scholar when he came to Kashmir in the 14th century. He found that the Ladakhi Kashmiri goats produced soft wool. He took some of this goat wool and made socks which he gave as a gift to the king of Kashmir, Sultan Qutbuddin. Afterwards, Hamadani suggested to the king that they start a shawl weaving industry in Kashmir using this wool. That is how pashmina shawls began. The United Nations agency UNESCO reported in 2014 that Ali Hamadani was one of the principal historical figures who shaped the culture of Kashmir, both architecturally and through the flourishing of arts and crafts, and hence economy, in Kashmir. The skills and knowledge that he brought to Kashmir gave rise to an entire industry.

Shawls were also part of the traditional male costume in Kashmir. They were woven in extremely fine woollen twill, some such as the Orenburg shawl, were even said to be as fine as the Shatoosh. They could be in one colour only, woven in different colours, ornately woven or embroidered.

Kashmiri shawls were high-fashion garments in Western Europe in the early- to mid-19th century. Paisley shawls, imitation Kashmiri shawls woven in Paisley, Renfrewshire, are the origin of the name of the traditional paisley pattern. Shawls were also manufactured in the city of Norwich, Norfolk from the late 18th century (and some two decades before Paisley) until about the 1870s.

Silk shawls with fringes, made in China, were available by the first decade of the 19th century. Ones with embroidery and fringes were available in Europe and the Americas by 1820. These were called China crêpe shawls or China shawls, and in Spain *mantones de Manila* because they were shipped to Spain from China via the port of Manila. The importance of these shawls in fashionable women's wardrobes declined between 1865 and 1870 in Western culture. However, they became part of folk dress in a number of places including Germany, the Near East, various parts of Latin America, and Spain where they became a part of Romani dress especially in Andalusia and Madrid. These embroidered items were revived in the 1920s under the name of Spanish shawls. Their use as part of the costume of the lead in the opera *Carmen* contributed to the association of the shawls with Spain rather than China.

Some cultures incorporate shawls of various types into their national folk dress, mainly because the relatively unstructured shawls were much more commonly used in earlier times.

Shawls are used in order to keep warm, to complement a costume, and for symbolic reasons. One famous type of shawl is the tallit, worn by Jewish men during prayers and ceremonies. In Christianity, women have used shawls as a head covering. In addition to these aforementioned religious uses of shawls, they are worn for added warmth (and fashion) at outdoor or indoor evening affairs, where the temperature is warm enough for men in suits, but not for women in dresses and where a jacket might be inappropriate.

A scarf, otherwise called a muffler, or neck-wrap is a bit of fabric worn around the neck, or close to the head or around the waist for warmth, cleanliness, style or for religious reasons. They can arrive in an assortment of diverse hues. Old Rome is one of the first sources of the mufflers, where it was utilized to keep clean instead of warm.

In India, pure wool mufflers with Bandhani work are turning out to be exceptionally well known. Bandhani or Bandhej is the name of the tie and colour strategy utilized ordinarily as a part of Bhuj and Mandvi of the Kutch District of Gujarat State.

These are broadly classified under H.S. Code-6214.

Table – 4
India's Top 10 destination of Shawls, Scarves, Mufflers etc(H.S Code-6214)

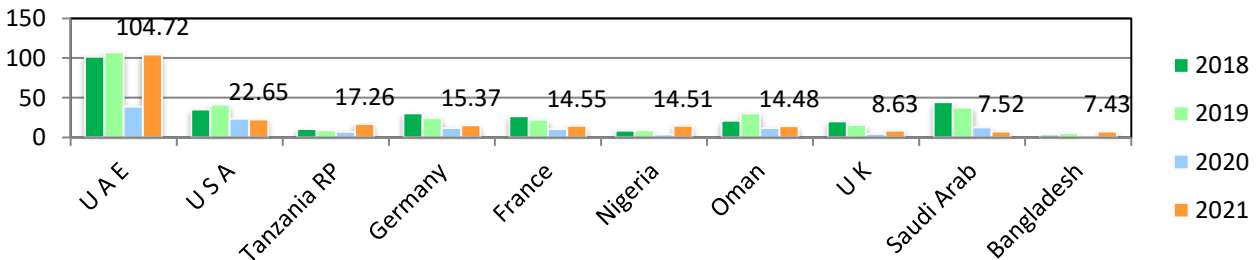
Rank	Countries	2018		2019		2020		2021	
		Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	U A E	101.99	21.64	107.33	23.25	38.70	21.67	104.72	33.82
2.	U S A	35.26	7.48	41.34	8.95	23.38	13.09	22.65	7.32
3.	Tanzania RP	10.74	2.28	9.23	2.00	7.21	4.04	17.26	5.57
4.	Germany	30.53	6.48	24.45	5.30	11.93	6.68	15.37	4.96
5.	France	26.90	5.71	22.53	4.88	10.58	5.93	14.55	4.70
6.	Nigeria	8.82	1.87	9.12	1.98	3.96	2.22	14.51	4.69
7.	Oman	21.03	4.46	30.33	6.57	11.84	6.63	14.48	4.68
8.	U K	20.47	4.34	15.43	3.34	4.53	2.54	8.63	2.79
9.	Saudi Arab	44.34	9.41	37.55	8.13	12.49	6.99	7.52	2.43
10.	Bangladesh	3.26	0.69	5.28	1.14	0.75	0.42	7.43	2.40
	Others	168.03	35.65	159.09	34.46	53.25	29.81	82.50	26.65
	Total	471.36	100	461.68	100	178.62	100	309.60	100

Source: DGCI&S

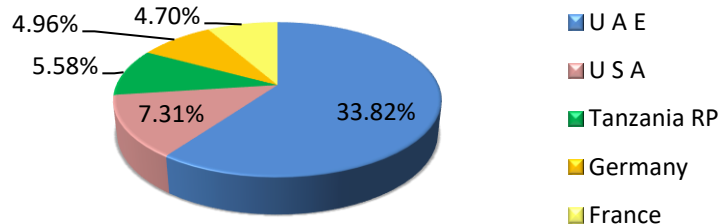
Note : India's Export including re-export

India's major destination Shawls, Scarves, Mufflers etc. from 2018-2021(Values in million USD)

Data label given on the basis of 2021



India's top 5 destinations of Shawls, Scarves, Mufflers etc .by percentage in 2021:



In 2021, India's export of Shawls, Scarves, Mufflers etc. amounted to US \$ 309.60 Million, going up by 73% against the previous year figure. Over the period under review, Shawls, Scarves, Mufflers etc. export from India reached its maximum volume in 2018. UAE represented the major importer of Shawls, Scarves, Mufflers etc. from India in 2020, recording US \$ 104.72 Million which was 33.82% of total export of India, followed by USA and Tanzania RP with 7.32% and 5.57% share of India's total export value of Shawls, Scarves, Mufflers etc. 2021.

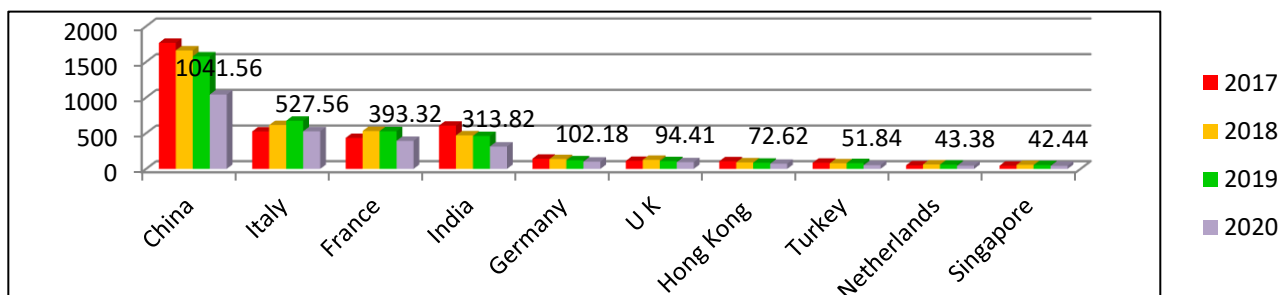
Table - 5
World's Top 10 exporter of Shawls, Scarves, Mufflers etc(H.S Code-6214)

Rank	Countries	2017		2018		2019		2020	
		Value (million \$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	China	1767.24	40.20	1661.52	38.56	1576.79	37.64	1041.56	34.43
2.	Italy	525.45	11.95	615.30	14.28	674.82	16.11	527.56	17.44
3.	France	434.15	9.88	531.71	12.34	528.45	12.61	393.32	13.00
4.	India	606.89	13.81	470.65	10.92	461.54	11.02	313.82	10.37
5.	Germany	143.16	3.26	138.52	3.21	121.24	2.89	102.18	3.38
6.	U K	112.72	2.56	127.64	2.96	109.39	2.61	94.41	3.12
7.	Hong Kong	107.65	2.45	92.16	2.14	86.68	2.07	72.62	2.40
8.	Turkey	86.40	1.97	79.32	1.84	81.34	1.94	51.84	1.71
9.	Netherlands	49.32	1.12	63.20	1.47	60.24	1.44	43.38	1.43
10.	Singapore	44.93	1.02	57.44	1.33	53.73	1.28	42.44	1.40
	Others	517.69	11.78	471.28	10.94	435.46	10.39	342.22	11.31
	Total	4395.62	100	4308.73	100	4189.68	100	3025.34	100

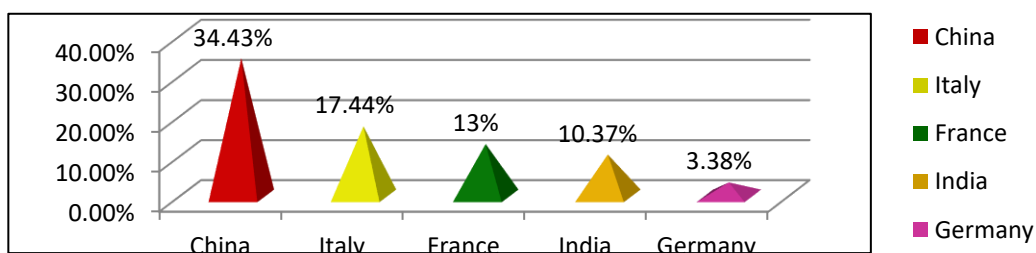
Source: UN Comtrade

Top world exporters of Shawls, Scarves, Mufflers etc. from 2017 to 2020 (Values in million USD)

Data label given on the basis of 2020



Export trends in world's leading Shawls, Scarves, Mufflers etc. exporters by percentage in 2020:



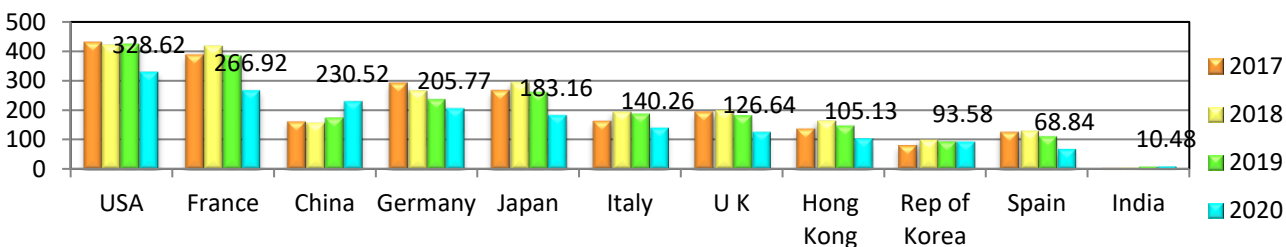
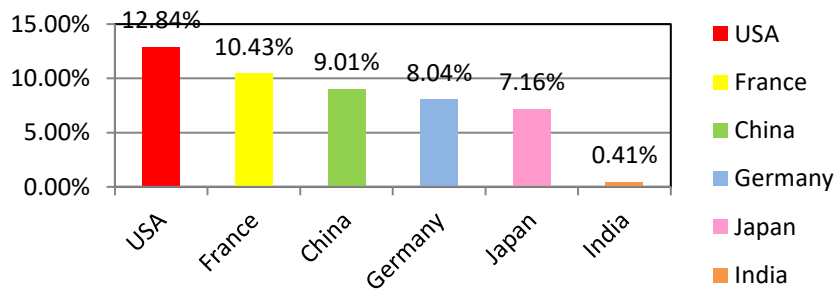
Shawls, Scarves, Mufflers etc. exports totalled US \$ 3.02 Billion in 2020. In that year the total export value decreased at a rate of -28% from 2019. The trend pattern indicated some almost constant over the period under review except 2020. China represented the major exporter of Shawls, Scarves, Mufflers etc.in the world, exported 34.43% share of world export. Followed by Italy and France, exported 17.44% and 13% of Shawls, Scarves, and Mufflers etc. respectively in 2020. In the same year **India occupied** a 10.37% share of world export, which put it in 4th place in the world.

Table - 6

World's top 10 Importers of Shawls, Scarves, Mufflers etc.. (H.S Code-6214)

Rank	Countries	2017		2018		2019		2020	
		Value (million \$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	USA	429.56	12.53	421.98	11.67	422.26	12.65	328.62	12.84
2.	France	386.89	11.28	418.15	11.56	383.43	11.49	266.92	10.43
3.	China	161.31	4.70	158.41	4.38	174.37	5.23	230.52	9.01
4.	Germany	291.99	8.52	266.96	7.38	236.58	7.09	205.77	8.04
5.	Japan	266.87	7.78	295.49	8.17	260.28	7.80	183.16	7.16
6.	Italy	163.47	4.77	195.28	5.40	187.38	5.62	140.26	5.48
7.	U K	195.31	5.70	200.29	5.54	182.02	5.46	126.64	4.95
8.	Hong Kong	137.92	4.02	164.22	4.54	147.56	4.42	105.13	4.11
9.	Rep of Korea	81.72	2.38	100.83	2.79	93.52	2.80	93.58	3.66
10.	Spain	126.71	3.70	130.68	3.61	111.88	3.35	68.84	2.69
33.	India	4.96	0.14	6.20	0.17	8.65	0.26	10.48	0.41
	Others	1187.21	34.62	1264.83	34.97	1137.46	34.09	810.30	31.66
	Total	3428.96	100	3617.12	100	3336.74	100	2559.74	100

Source :UNComtrade

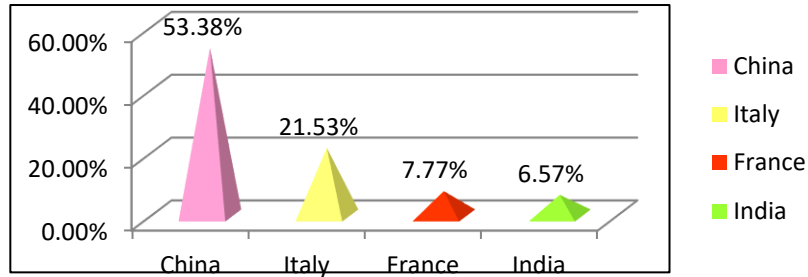
Top world importers of Shawls, Scarves, Mufflers etc. from 2017 to 2020 (Values in million USD)**Data label given on the basis of 2020****Country wise leading global Importer of Shawls, Scarves, Mufflers etc by percentage in 2020**

The USA imported around US \$ 328.62million worth of Shawls, Scarves, Mufflers etc.in 2020, making it the leading importer of Shawls, Scarves, and Mufflers etc. worldwide that year. France followed in second place, importing around US \$ 266.92 million worth of the commodity. It was followed by China, imported US \$ 230.52 million of Shawls, Scarves, Mufflers etc. in the same year. India's share was only 0.41% share of world import. The top 10 importing countries imported 68.34% share of world import of Shawls, Scarves, Mufflers etc. in that year.

Annexure-II

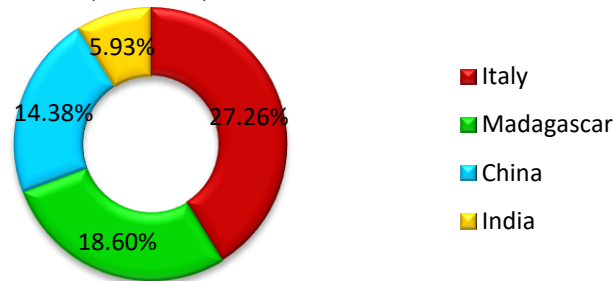
Sources of world's top three importers of Shawls, Scarves, Mufflers etc. (H.S Code-6214)

i) Top 3 Sources of Shawls, Scarves, Mufflers etc.. to USA in 2020 by percentage:



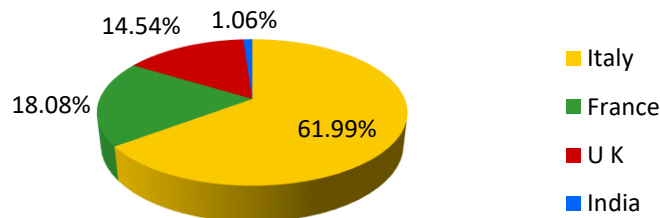
USA, being the largest importer of Shawls, Scarves, Mufflers etc., imports from China, More than 53.38% of total Shawls, Scarves, Mufflers etc.. imports of USA, followed by Italy (21.53%) and France (7.77%). **India** has exported 6.57% of Shawls, Scarves, Mufflers etc.. to USA in 2020. (Source: UN Comtrade)

ii) Top 3 Sources of Shawls, Scarves, Mufflers etc. To France in 2020 by percentage:



Italy is the number one source of Shawls, Scarves, Mufflers etc.. to France, France imports 27.26% Shawls, Scarves, Mufflers etc.. from Italy, 18.60% from Madagascar and 14.38% from China in 2020. In the same year 5.93% of Shawls, Scarves, Mufflers etc.. imported by France from **India**. (Source: UN Comtrade)

iii) Top 3 Sources of Shawls, Scarves, Mufflers etc.. to China in 2020 by percentage:



61.99% share of China's total import of Shawls, Scarves, Mufflers etc.. from Italy in 2020. 18.08% from France and 14.54% Shawls, Scarves, Mufflers etc.. came from U. K.. In that year **India**'s share was only 1.06% share of China's total import in 2020. (Source : UN Comtrade)

IMPORT

Ketones and Quinones

A **ketone** is a functional group with the structure $R_2C=O$, where R can be a variety of carbon-containing substituents. Ketones contain a carbonyl group (a carbon-oxygen double bond). The simplest ketone is acetone ($R = R' = \text{methyl}$), with the formula $CH_3C(O)CH_3$. Many ketones are of great importance in biology and in industry. Examples include many sugars (ketoses), many steroids (e.g., testosterone), and the solvent acetone.

Ketones are a class of organic compounds that are characterised by the presence of the carbonyl group wherein the carbon atom forms a double bond with the oxygen atom. They do not share their bond with the hydrogen atoms in the carbonyl group. Ketones are widely used as solvents for textiles and paints, and are commonly used as chemical intermediaries.

Ketones are classified on the basis of their substituents. One broad classification subdivides ketones into symmetrical and unsymmetrical derivatives, depending on the equivalency of the two organic substituents attached to the carbonyl centre. Acetone and benzophenone ($C_6H_5C(O)C_6H_5$) are symmetrical ketones. Acetophenone ($C_6H_5C(O)CH_3$) is an unsymmetrical ketone.

Ketones are pervasive in nature. The formation of organic compounds in photosynthesis occurs via the ketone ribulose-1,5-bisphosphate. Many sugars are ketones, known collectively as ketoses. The best known ketose is fructose; it mostly exists as a cyclic hemiketal, which masks the ketone functional group. Fatty acid synthesis proceeds via ketones. Acetoacetate is an intermediate in the Krebs cycle which releases energy from sugars and carbohydrates.

In medicine, acetone, acetoacetate, and beta-hydroxybutyrate are collectively called ketone bodies, generated from carbohydrates, fatty acids, and amino acids in most vertebrates, including humans. Ketone bodies are elevated in the blood (ketosis) after fasting, including a night of sleep; in both blood and urine in starvation; in hypoglycaemia, due to causes other than hyperinsulinism; in various inborn errors of metabolism, and intentionally induced via a ketogenic diet, and in ketoacidosis. Although ketoacidosis is characteristic of decompensated or untreated type 1 diabetes, ketosis or even ketoacidosis can occur in type 2 diabetes in some circumstances as well.

Ketones are produced on massive scales in industry as solvents, polymer precursors, and pharmaceuticals. In terms of scale, the most important ketones are acetone, methyl ethyl ketone, and cyclohexanone. They are also common in biochemistry, but less so than in organic chemistry in general. The combustion of hydrocarbons is an uncontrolled oxidation process that gives ketones as well as many other types of compounds.

The **quinones** are a class of organic compounds that are formally "derived from aromatic compounds by conversion of an even number of $-CH=$ groups into $-C(=O)-$ groups with any necessary rearrangement of double bonds, resulting in "a fully conjugated cyclic dione structure". The archetypical member of the class is 1,4-benzoquinone or cyclohexadienedione, often called simply "quinone". Other important examples are 1,2-benzoquinone, 1,4-naphthoquinone and 9,10-anthraquinone.

Several quinones are of pharmacological interest. They form a major class of cytotoxins, used in the fight against cancers. One example is daunorubicin, which is ant leukemic. Some of them show anti-tumoral activity. They embody some claims in herbal medicine. These applications include purgative (sennosides), antimicrobial and antiparasitic, anti-tumor, inhibition of PGE2 biosynthesis and anti-cardiovascular disease (tanshinone). Another quinone-containing drug is Mecarbinat, made by the reaction of ethyl N-methyl- β -aminocrotonate with para-benzoquinone. Others include Amendol, Oxyphemedol, Phemedol all in FR5142 (M) — 1967-06-05. These are all indoles made via the Nenitzescu indole synthesis. The antineoplastic Apaziquone.

These are broadly classified under H. S. Code 2914.

Table - 7

India's Top 10 Sources of Ketones and Quinones (HS Code : 2914)

Rank	Countries	2018		2019		2020		2021	
		Value (million \$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	China	294.71	45.78	261.63	54.09	177.86	53.11	328.09	47.79
2.	Korea RP	51.59	8.01	23.58	4.88	17.55	5.24	103.32	15.05
3.	Taiwan	42.13	6.54	29.54	6.11	6.38	1.91	42.53	6.20
4.	Thailand	31.55	4.90	17.21	3.56	18.70	5.58	32.77	4.77
5.	U S A	22.91	3.56	11.61	2.40	17.04	5.09	30.26	4.41
6.	Netherland	32.03	4.98	19.47	4.03	11.24	3.36	21.84	3.18
7.	Germany	16.23	2.52	25.15	5.20	12.85	3.84	20.34	2.96
8.	Japan	38.26	5.94	27.45	5.68	21.55	6.44	20.03	2.92
9.	South Africa	14.68	2.28	9.37	1.94	7.96	2.38	15.27	2.22
10.	Belgium	22.46	3.49	9.94	2.06	10.33	3.08	11.93	1.74
	Others	77.20	11.99	48.72	10.07	33.42	9.98	60.07	8.75
	Total	643.75	100	483.67	100	334.87	100	686.45	100

Source: DGCI&S

Note : India's Import including re-import

India's import of Ketones and Quinones in 2021 stood at US \$ 686.45 Million and US \$ 334.87 Million in 2020, which shows a positive growth of. more than 100% from the 2020. Over the period under review, Ketones and Quinones import to India reached its maximum volume in 2021. Major three source countries of the commodity group to India in 2021 are China (US \$ 328 Million), Korea RP. (US \$ 103.32 Million) and Taiwan (US \$ 42.53 Million). These 3 countries in total sold US \$ 473.94 Million value of Ketones and Quinones to India which rounds up to 69% of total India's import of Ketones and Quinones in 2021.

Table - 8

World Top 10 Importer of Ketones and Quinones (HS Code : 2914)

Rank	Countries	2017		2018		2019		2020	
		Value (million \$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	USA	804.10	12.66	980.87	13.63	784.78	13.07	760.77	12.49
2.	China	626.37	9.86	763.96	10.61	559.76	9.32	747.35	12.27
3.	India	516.67	8.14	641.20	8.91	483.51	8.05	510.70	8.38
4.	Germany	533.85	8.41	599.76	8.33	494.75	8.24	467.08	7.67
5.	Switzerland	311.92	4.91	348.50	4.84	305.25	5.08	306.14	5.03
6.	Netherlands	283.04	4.46	303.73	4.22	234.72	3.91	262.11	4.30
7.	U K	286.57	4.51	282.04	3.92	279.46	4.65	238.33	3.91
8.	Belgium	303.69	4.78	350.14	4.86	284.00	4.73	217.98	3.58
9.	France	184.33	2.90	208.89	2.90	214.25	3.57	206.07	3.38
10.	Rep of Korea	234.98	3.70	258.86	3.60	200.84	3.34	204.83	3.36
	Others	2263.93	35.66	2460.53	34.18	2164.66	36.04	2169.51	35.62
	Total	6349.46	100	7198.47	100	6005.98	100	6090.87	100

Source: UNComtrade

Global Imports of Ketones and Quinones, the top five importers of Ketones and Quinones in 2020 were USA (US \$ 760.77 M), China (US \$ 747.35 M), **India** (US \$ 510.70 M), Germany (US \$ 467.08 M) and Switzerland (US \$ 306.14 M), accounted for 12.49%, 12.27%, 8.38%, 7.67% and 5.03% respectively of world import value of Ketones and Quinones. The global import value of Ketones and Quinones has increased up to US \$ 6.09 Billion in 2020 from US \$ 6 Billion in 2019.

Machine-Tools for Drilling, Boring, Milling etc.

Hundreds of varieties of metal machine tools, ranging in size from small machines mounted on workbenches to huge production machines weighing several hundred tons, are used in modern industry. They retain the basic characteristics of their 19th- and early 20th-century ancestors and are still classed as one of the following: Drilling, Boring, Milling machines, grinding machines etc..

Drilling machines, also called drill presses, cut holes in metal with a twist drill. They also use a variety of other cutting tools to perform the following basic hole-machining operations: (1) reaming, (2) boring, (3) counter boring, (4) countersinking, and (5) tapping internal threads with the use of a tapping attachment.

In general, broaching is classified as a planning or shaping art because the action of a broaching tool resembles the action of planer and shaper tools. Broaching tools of various designs are available. The teeth on broaching tools are equally spaced, with each successive tooth designed to feed deeper into the workpiece, thus completing the broaching operation in a single stroke. Examples of internal broaching applications include cutting keyways in the hubs of gears or pulleys, cutting square or hexagonal holes, and cutting gear teeth. External grooves can be cut in a shaft with an external broaching tool. Some broaching machines pull or push broaching tools through or over the workpiece.

A milling machine cuts metal as the workpiece is fed against a rotating cutting tool called a milling cutter. Cutters of many shapes and sizes are available for a wide variety of milling operations. Milling machines cut flat surfaces, grooves, shoulders, inclined surfaces, dovetails, and T-slots. Various form-tooth cutters are used for cutting concave forms and convex grooves, for rounding corners, and for cutting gear teeth. Milling machines are available in a variety of designs that can be classified as the following: (1) standard knee-and-column machines, including the horizontal and the vertical types; (2) bed-type or manufacturing machines; and (3) machines designed for special milling jobs.

Grinding machines remove small chips from metal parts that are brought into contact with a rotating abrasive wheel called a grinding wheel or an abrasive belt. Grinding is the most accurate of all of the basic machining processes. Modern grinding machines grind hard or soft parts to tolerances of plus or minus 0.0001 inch (0.0025 millimeter).

The common types of grinding machines include the following: (1) plain cylindrical, (2) internal cylindrical, (3) centerless, (4) surface, (5) off-hand, (6) special, and (7) abrasive-belt.

Certain machine tools have been designed to speed up production. Although these tools include features of the basic machine tools and perform the same operations, they incorporate design modifications that permit them to perform complex or repetitive operational sequences more rapidly. Furthermore, after the production machine has been set up by a skilled worker or machinist, a less skilled operator also can produce parts accurately and rapidly.

Since prehistoric times, the technological evolution of machine tools was based on the binomial *herramienta-máquina*. For centuries, tool was the extension of the hand of the man until the emergence of the first rudimentary machines who helped in their use. Although in antiquity did not exist as such machine tools; however, appeared two sketches of machines to perform operations of turning and drilling.

We have a revolution that is moving from an economy based on the principles of mechanics, i.e., in mass production, in the uniform nature of the products, etc. to an economy that is characterized by the flexibility, the rapid response to the evolution of the markets, the adaptability of products, etc. This has been necessary to integrate technologies based on mechanics and electronics - Mechatronics - what has been going into a new industrial culture conditioned by a global and multidisciplinary approach to the problems of production.

These are broadly classified under H. S. Code 8459.

Table - 9**India's Top 10 Source Countries of Machine-Tools Drilling, Boring etc. (HS Code : 8459)**

Rank	Countries	2018		2019		2020		2021	
		Value (million \$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	China	21.72	13.08	24.42	13.61	8.46	11.90	17.58	18.22
2.	Germany	30.97	18.65	26.00	14.49	21.78	30.63	17.06	17.68
3.	Spain	5.42	3.26	8.60	4.79	1.95	2.74	12.73	13.19
4.	Italy	7.63	4.60	12.39	6.91	4.11	5.78	8.70	9.02
5.	Japan	26.29	15.84	41.41	23.08	12.89	18.13	8.49	8.80
6.	Taiwan	12.25	7.38	19.84	11.06	4.16	5.85	7.22	7.48
7.	U K	4.68	2.82	3.29	1.83	1.47	2.07	4.93	5.11
8.	U S A	5.95	3.58	4.67	2.60	3.56	5.01	4.02	4.17
9.	Korea RP	28.45	17.14	14.00	7.80	2.83	3.98	3.00	3.11
10.	Czech REP.	3.69	2.22	2.14	1.19	1.20	1.69	1.80	1.87
	Others	18.97	11.43	22.63	12.61	8.70	12.24	10.95	11.35
	Total	166.02	100	179.40	100	71.10	100	96.48	100

Source: DGCIS&S

Note: India's Import including Re-import

The value of imports of Machine-Tools for Drilling, Boring, and Milling etc. to India totaled US\$ 96.48 million in 2021. Sales of Machine-Tools for Drilling, Boring, Milling etc.. to India increased by nearly 26% in value terms compared to 2020. Major five source countries of Machine-Tools for Drilling, Boring, Milling etc..to India in 2021 were China (US \$ 17.58 Million), Germany (US \$ 17.06 Million), Spain (US \$ 12.73 Million), Italy (US \$ 8.70 Million) and Japan (US \$ 8.49 Million). These 5 countries in total imported Machine-Tools for Drilling, Boring, and Milling etc..to India which rounds up to 66.92% in 2021.

Table - 10
World Top 10 Importer of Machine-Tools Drilling, Boring etc. (HS Code : 8459)

Rank	Countries	2017		2018		2019		2020	
		Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	USA	360.04	11.90	402.64	11.27	367.36	11.34	302.73	12.82
2.	China	368.46	12.18	411.12	11.51	356.44	11.00	243.61	10.32
3.	Germany	217.49	7.19	212.17	5.94	200.87	6.20	149.82	6.34
4.	Viet Nam	134.14	4.43	229.24	6.42	231.05	7.13	115.37	4.89
5.	India	130.54	4.31	168.57	4.72	179.34	5.54	99.71	4.22
6.	Canada	96.14	3.18	90.25	2.53	90.35	2.79	83.54	3.54
7.	Russia	90.78	3.00	128.48	3.60	81.18	2.51	79.75	3.38
8.	U K	110.02	3.64	151.15	4.23	93.19	2.88	75.65	3.20
9.	Italy	122.18	4.04	152.63	4.27	133.64	4.12	73.84	3.13
10.	Mexico	98.64	3.26	108.91	3.05	82.76	2.55	72.38	3.07
	Other	1297.20	42.87	1516.62	42.46	1423.81	43.94	1064.97	45.10
	Total	3025.62	100	3571.79	100	3239.99	100	2361.37	100

Source :UNComtrade

The imports of the three major importers of Machine-Tools for Drilling, Boring, Milling etc, namely USA, China and Germany, represented more than 29.48% of total imports in 2020. In value terms, USA (US \$ 302.73 M), China (US \$ 243.61 M) and Germany (US \$ 149.82 M) constituted the countries with the highest levels of imports in 2020, together accounting for 29.48% share of global imports of Spectacles, Goggles etc.. **India** experienced a valuable importer among the main importing countries and ranked in 5th position in the world with 4.22% share of Global import Machine-Tools for Drilling, Boring, Milling etc in 2020.