Empowering Engineering Exports: Strategic Analysis and Measures for Export Credit Insurance coverage to drive Global Market Expansion

A comprehensive analysis of the engineering sector and its constituents, its evolution, export-import dynamics, government initiatives, and ECGC coverage with a special focus on foreign importers' analysis

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1. Engineering Sector – A Brief Introduction

India's engineering sector stands as a beacon of innovation and technical prowess, contributing significantly to the country's economic growth. The Indian engineering sector is India's largest industrial sector, accounting for more than 3% of the GDP. It is one of the most critical sectors for the Indian economy as well as for India's exports. In 2022-23, the total exports of Engineering goods from India were US$ 130 billion constituting 29% of India's total exports and more than 40% of India's total manufacturing goods export.

The country's engineering sector spans multiple sub-segments including steel and iron, industrial machinery, automobiles, auto components, aircraft and spacecraft, non-ferrous alloys and other engineering products. The major exports under the industrial machinery category are internal combustion engines and parts, industrial machinery for dairy, food processing, textiles, industrial machineries like nuclear reactors and boilers, parts, machinery for injecting moulding, valves, and ATMs. Known for its adaptability and resilience, the sector thrives on technological advancements and a skilled workforce, making it a key driver of industrialization in the country.

2. Engineering Sector – The evolution in India

The engineering sector in India has traversed a remarkable journey moving from a modest background of pre-independent India to becoming the powerhouse of technological expertise. During the pre-independent era, the focus was more on the necessities of the population which included textiles, iron and steel and food industries. Post-independence, the governments created the policies on which the country embarked on a journey of economic independence led by the flourishing of the industrial sector.

The establishment of the IITs in the 1950s and 60s paved the way for the engineering sector to shape the industrial outlook and the government's focus gradually shifted towards encouraging private enterprise, foreign direct investment, and technology-driven industries during the 70s and 80s.

During the 1990s, the emergence of software and information technology contributed significantly to the engineering sector making India the global IT hub. The liberalization of

1991 was a turning point not only for the Indian Economy but also for the Engineering sector of India.

In addition to the fact that engineering exports have climbed dramatically—from a meagre Rs 5.16 crore in 1956–1957 to an all-time high of Rs 73,800.9 crore in 2004–05—their percentage of overall all-India exports has also increased—from 0.5% in 1956–1957 to a remarkable 20.4% in 2004–05. While the share of Asia and Africa which accounted for almost 97 per cent of Indian engineering exports in 1956-57 has declined to 34.2 per cent in 2004-05, the share of Europe and America with a negligible share in 1956-57 now accounts for 39 per cent of Indian engineering exports. (Illiyan, 2006).

The sector observed a momentous shift towards globalization and diversification in the 21st century. India's engineering prowess expanded beyond traditional industries into areas such as automotive, aerospace, biotechnology, and renewable energy. The country became a key player in the global engineering and manufacturing supply chains.

3. The Export and Import of Engineering Goods: A focus on last five-year performance

The engineering goods export from India stood at around US$ 130 billion with a share of 28.86% out of the total exports during the financial year 2022-23. For reference, the corresponding figures of engineering goods export stood at around US$ 98 billion in FY 2018-19 indicating a healthy CAGR of 7.3% over the period (Refer Figure 1).

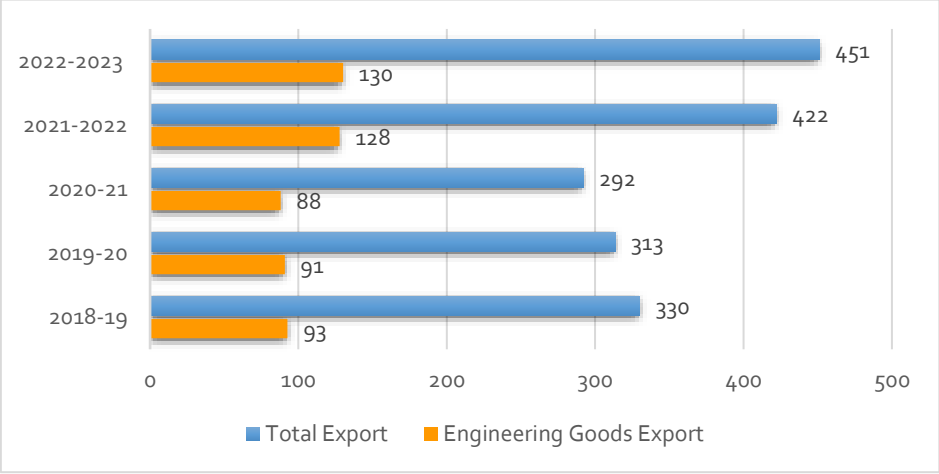

Figure 1 - India's engineering goods export and its comparison with total exports (2018 – 2023, in US$ billion)

It is observed that the share of India's engineering exports in the total exports from India in the last five years has been around 29-30%. Given its prominent weightage in the export basket, it has been a major driver of the boost in increase in India's total exports.

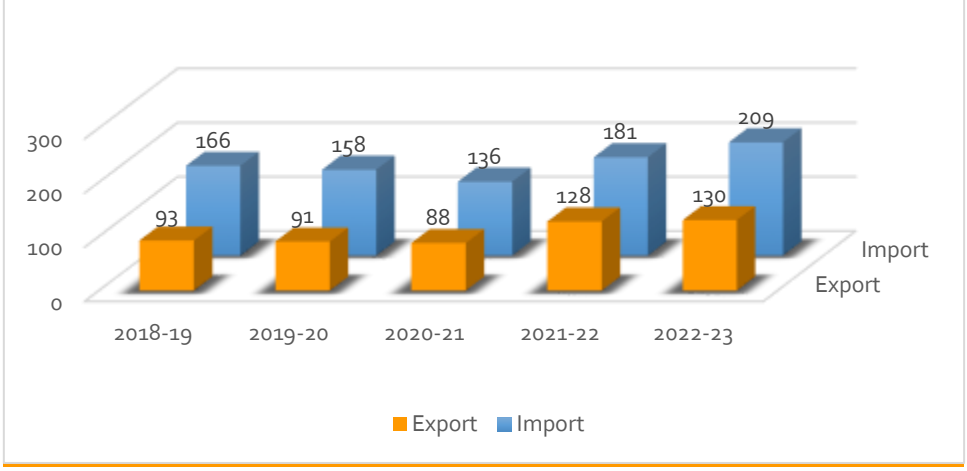

Figure 2 - Export and Import of Engineering goods (2018 – 2023, fig in US$ billion)

While the exports of engineering goods have been increasing gradually with a remarkable presence in India's total exports, it decreased by about 5.38% from 2018-19 to 2020-21 but jumped significantly by about 47.73% from 2020-21 to 2022-23. On the import side, the values show an increase of about 26.51% from 2018-19 to 2022-23.

The import-export ratio has generally decreased from 2018-19 to 2021-22, indicating a reduction in the trade deficit. In 2022-23, the ratio increased slightly, suggesting a potential increase in the trade deficit, but it is still lower than the ratios for 2018-19 and 2019-20.

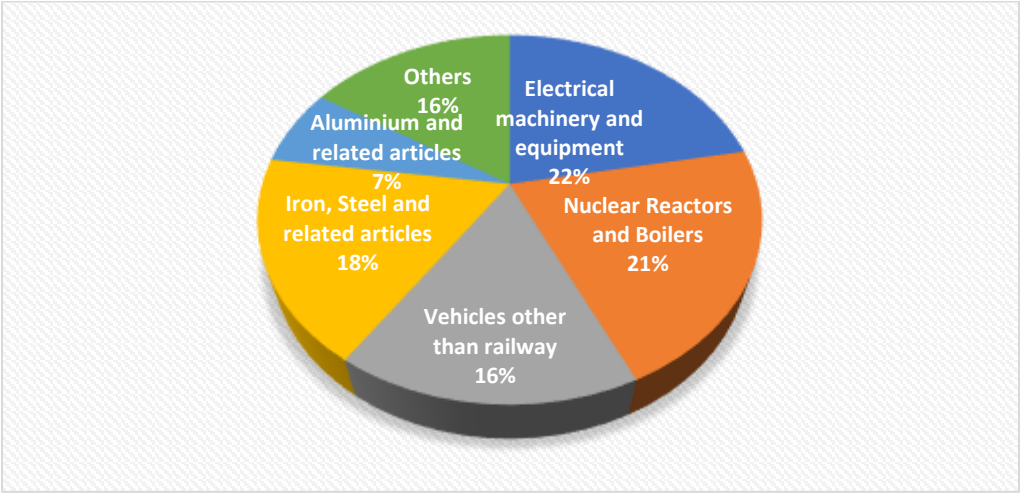

Figure 3 - Top five sub-components of Engineering Goods exports in 2022-23 (% share)

The share of the constituents of the engineering goods exports have been changing and they have a different trend over the years. The overall top five sub-sectors in the engineering goods sector in the last five years constitute more than 80% of the total engineering goods export and these are as follows:

- Electrical Machinery and Equipment and parts
- Nuclear reactors and boilers and related parts
- Vehicles other than railway or tramway rolling stock
- Iron and Steel and related articles
- Aluminium and Articles thereof

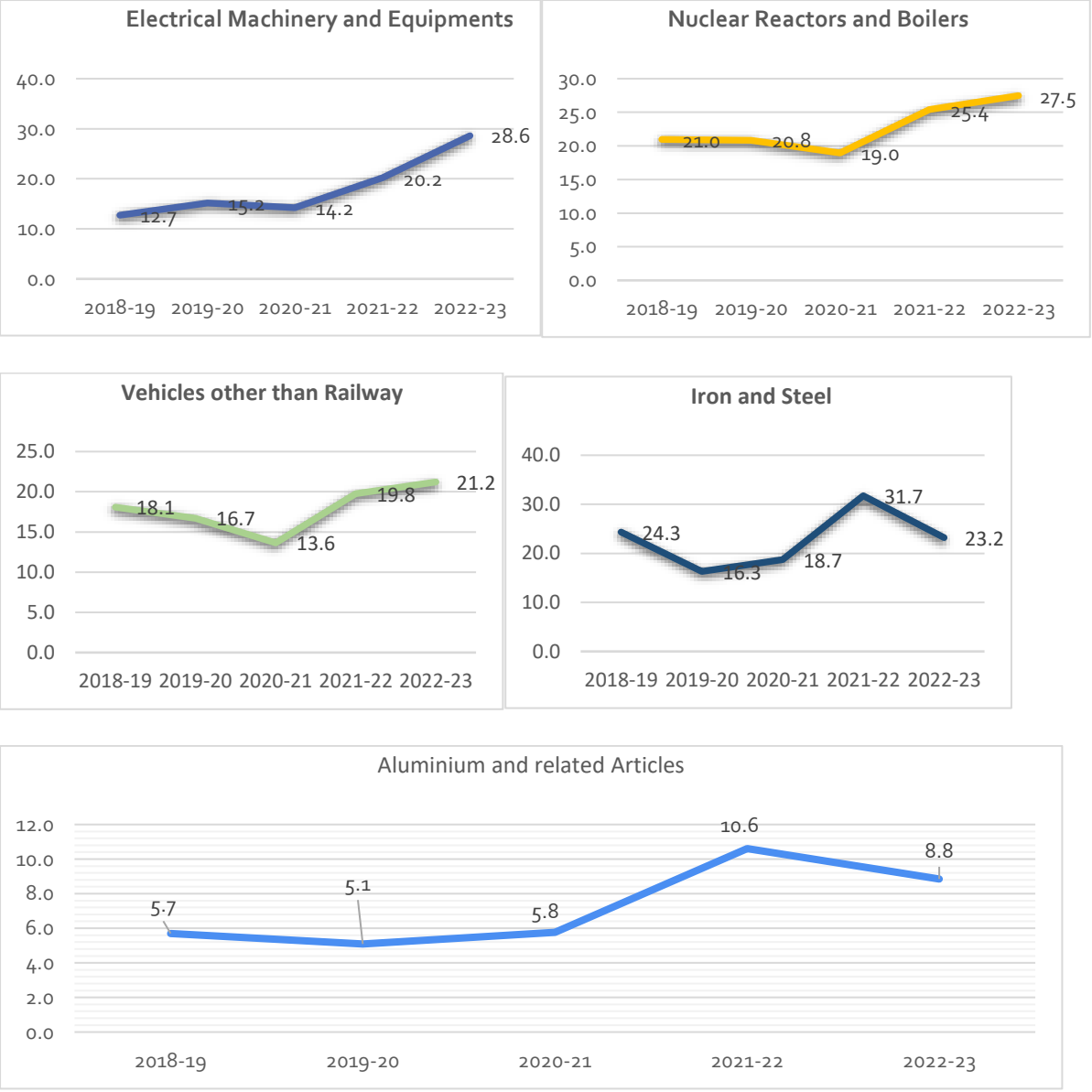

Figure 4 - Trend in the exports of the top five sub-components of engineering goods in the last five years (USD billion)

4. Major destinations for India' Engineering exports

i. The export landscape of India's engineering goods is diverse, spanning various regions across the globe. In the financial year 2022-23, the top importing countries for Indian engineering products showcased a range of traditional and emerging markets. The United States emerged as the primary destination, constituting a substantial share of 17.44%. The UAE, Germany, Italy, and Singapore followed closely, with shares of 4.61%, 3.68%, 3.67%, and 3.42%, respectively.

ii. Notably, these top 25 importing nations collectively accounted for a substantial 75.9% of India's total engineering exports in the mentioned period. This underscores the significance of traditional markets in driving India's engineering exports. Italy, the UAE, and the USA emerged as the top importers of Indian Iron and Steel, while the USA, Germany, and the UAE led the import charts for 'Products of Iron and Steel.'

iii. The USA played a pivotal role across various segments, standing out as the highest importer of Indian industrial machinery in FY 2022-23. Germany and Thailand closely followed in this category. In the automobile sector, South Africa, Mexico, and Saudi Arabia took the lead as the top importers of Indian automobiles during the fiscal year 2022-23.

iv. Diversifying into non-ferrous metals and products, the USA, Korea, and Malaysia secured the top three spots in imports from India. Simultaneously, in the electrical machinery and components category, the USA, France, and Germany emerged as the primary importers during the same period.

This comprehensive distribution across diverse regions and sectors highlights the resilience and adaptability of India's engineering goods sector in catering to the demands of global markets. While traditional partners remain crucial, the sector's ability to tap into emerging markets and adapt to evolving trends is indicative of its continued global prominence in the years to come. The strategic positioning in key segments reflects the competitiveness of Indian engineering products on the international stage.

5. Government of India schemes for the promotion of Engineering exports from India

The Government of India has strategically implemented various export promotion schemes to bolster the growth of the country's engineering goods sector in international markets. Some of the important schemes are listed as follows:

5.1 General Schemes to boost overall exports including the engineering sector:

- The Zero Duty Export Promotion Capital Goods (EPCG) scheme, Towns of Export Excellence (TEE), and Market Access Initiative (MAI) are noteworthy, aiming to incentivize exporters and foster revenue growth from global markets.
- The government has also introduced schemes such as duty exemption, advance authorization, duty-free import, and service tax rebates to streamline the import of raw materials, thereby supporting the manufacturing processes of engineering goods. Complementing these initiatives, the Government of India has launched comprehensive programs to enhance the competitiveness of domestic engineering firms.

5.2 Specific Scheme to boost engineering goods exports

- The "Make in India" initiative, along with sector-specific schemes such as the Production Linked Incentive (PLI) scheme for Automobile and Auto components, PLI scheme for National Programme on Advanced Chemistry Cell (ACC) Battery Storage, FAME INDIA II scheme, Capital goods scheme, and Industry 4.0, underscores the government's commitment to fostering innovation, technology adoption, and sustainable manufacturing practices within the engineering sector.
- The Indian central government has announced the initiation of the 'Modified Semicon India Programme,' accepting applications from June 1 to December 2024. With a budget of INR 76,000 crore, the program is dedicated to fostering the semiconductor and display manufacturing ecosystem in India. The government is committed to stimulating growth in the electronics manufacturing and innovation sector. In response to aggressive incentives from countries with established semiconductor ecosystems, the program has been revised to provide financial support to companies investing in semiconductors, display manufacturing, and design, aiming to enhance India's global presence in the electronics value chains.

6. ECGC coverage of Engineering exports during the last five years

ECGC has been at the forefront of supporting engineering goods exporters by helping them with suitable and customized export credit insurance covers over the years. By protecting against political risks in the destination countries, ECGC not only boosts exporters' confidence but also helps them navigate through riskier markets by providing information on foreign buyers through an in-house Buyer Underwriting Department.

Particulars	2018-19	2019-20	2020-21	2021-22	2022-23
Engineering Goods RV	5.3	6.2	7.0	11.0	11.9
Engineering Goods Export	92.6	90.7	87.9	127.7	130.2
Total Export	330.1	313.4	291.8	422.0	451.1
Share of RV in Engg Exports	5.7%	6.9%	8.0%	8.6%	9.1%
Share of Engg Exports in Total Exports	28%	29%	30%	30%	29%

Table 1 - Comparison of ECGC coverage of engineering goods and India's engineering export in the last five years (US$ billion)

The data in the above table indicates the values of the risk value covered by ECGC under its export credit insurance coverage to the exporters operating in the engineering goods sector along with the corresponding export value and the total value of exports from the country during the given years.

Out of the above, a positive trend emerges indicating a substantial increase in both the Risk Value covered by ECGC and the actual exports of engineering goods. The share of engineering goods RV in engineering exports has been consistently growing, highlighting the increasing importance of engineering goods within the category.

On a macro level, despite a temporary dip in engineering goods exports, the sector has rebounded strongly, contributing significantly to total exports.

Further, the country risk information provided by ECGC is also a significant help to exporters in the complex global markets. ECGC's country risk information on almost 239 countries acts as a strategic tool for Indian exporters, helping them make informed decisions, mitigate risks, and navigate the complexities of international trade. By leveraging this valuable information, exporters can enhance their competitiveness,

minimize uncertainties, and foster successful and sustainable business relationships in foreign markets.

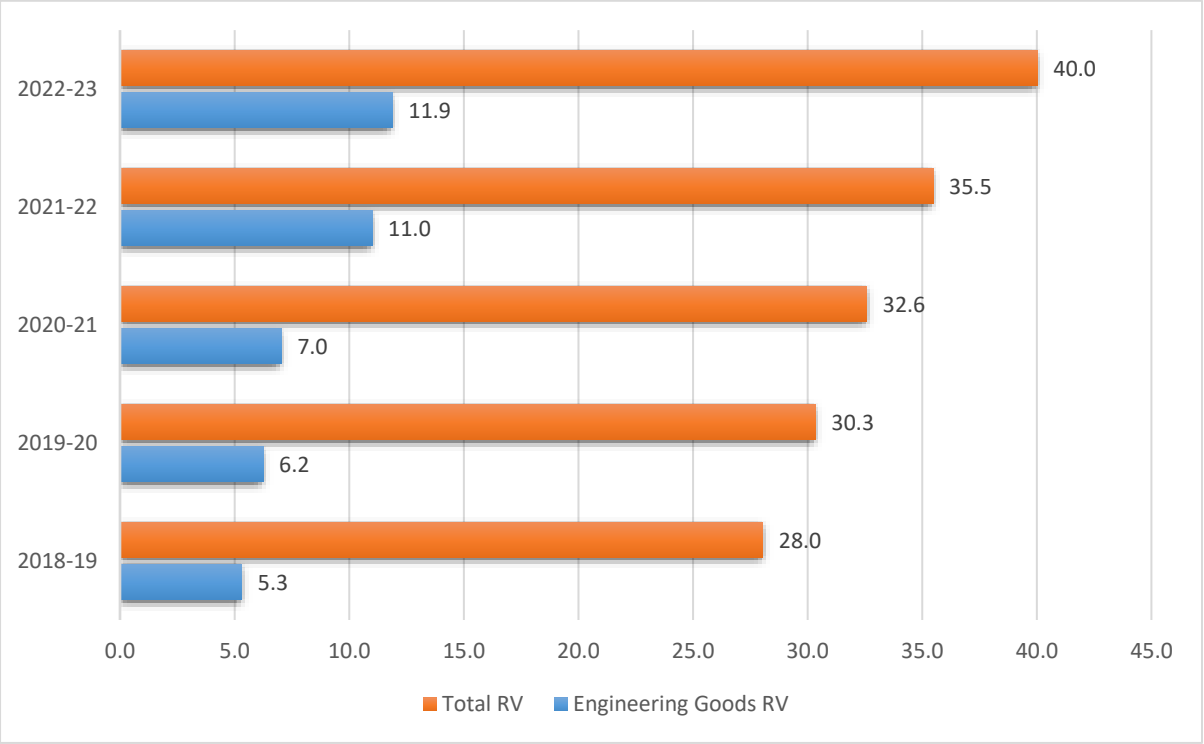

Figure 5 - ECGC Risk Value of engineering goods vs the Total Risk Value covered by ECGC – 5-year Trend (US$ million)

As can be deciphered from the chart above, the share of the risk value of engineering goods has been gradually increasing in the last five years and so is the total risk value of ECGC. In 2021-22, almost 31% of the total risk value of ECGC was from engineering goods.

The top five countries where ECGC covered the export of engineering goods export in 2022-23 were the USA, UAE, Germany, China and the UK. These five countries constituted around 45% of the total risk value covered by ECGC in the engineering goods export. The percentage distribution of the countries in the coverage of engineering goods by ECGC is depicted in the pie chart below:

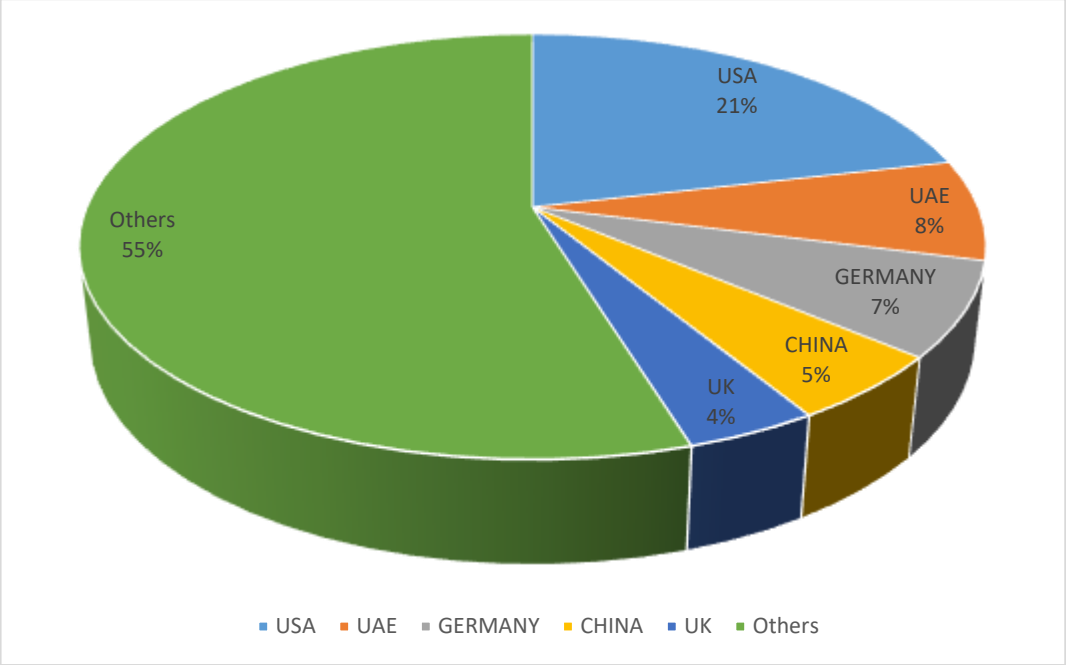

Figure 6 - Comparison of ECGC coverage of engineering goods and India's engineering export in the last five years (US$ billion)

7. Analysis of Buyers of Engineering Goods – ECGC perspective

Buyer analysis is an important component of ECGC's underwriting business. It uses information on foreign buyers to assess their creditworthiness, financial bankability, and past track record of dealing in the international trade market.

In 2022-23, the total number of buyers of engineering goods underwritten by ECGC was more than 97000 which was a ~9% decline over 2021-22 but an increase of 13% over 2020-21. The top ten countries that had the most buyers in the engineering goods sector and their comparison over the last two financial years are as follows:

Country	2020-21	2021-22	YoY Growth %	2022-23	YoY Growth %
United States	21,475	28,091	31%	25,903	-8%
Germany	7,341	9,233	26%	7,503	-19%
UAE	3,668	4,003	9%	5,274	32%
United Kingdom	4,620	5,649	22%	4,874	-14%
Italy	4,019	4,346	8%	4,012	-8%
France	2,112	3,396	61%	2,611	-23%
Singapore	2,070	2,673	29%	2,478	-7%

Country	2020-21	2021-22	YoY Growth %	2022-23	YoY Growth %
Canada	1,628	1,987	22%	1,823	-8%
China	2,084	2,990	43%	1,823	-39%
Hongkong	553	1,047	89%	1,749	67%

Table 2 - Top ten countries with buyers in Engineering goods covered by ECGC

Now, there were certain countries where there was a significant increase in the number of buyers of engineering goods as compared with the last FY. The top twenty countries that showed a significant increase in the number of buyers are as follows:

Country	2021-22	2022-23	YoY Growth %
Belarus	14	61	336%
Nigeria	251	914	264%
Sierra Leone	15	53	253%
Slovakia	144	493	242%
Uzbekistan	14	46	229%
Pakistan	74	226	205%
Bosnia and Herzegovina	3	9	200%
Bhutan	47	133	183%
Senegal	22	49	123%
Democratic Republic of Congo	18	40	122%
Kazakhstan	15	32	113%
Gabon	34	70	106%
Uruguay	57	111	95%
Iraq	36	69	92%
Ethiopia	110	203	85%

Table 3 - Top countries showing maximum growth among buyers in Engineering goods covered by ECGC

Similarly, there were countries where the number of buyers showed a substantial decline over the previous year. The top twenty countries in such category are as follows:

Country	2021-22	2022-23	YoY Growth %
Gambia	14	1	-93%
Liberia	12	1	-92%
Ukraine	86	19	-78%
Afghanistan	51	12	-76%

Country	2021-22	2022-23	YoY Growth %
Luxembourg	36	9	-75%
Barbados	4	1	-75%
Equatorial Guinea	4	1	-75%
Mauritania	15	5	-67%
British Virgin Islands	6	2	-67%
Albania	5	2	-60%
Sri Lanka	1808	752	-58%
El Salvador	33	14	-58%
Rwanda	57	25	-56%
India	360	159	-56%

Table 4 - Top countries showing maximum decline among buyers in Engineering goods covered by ECGC

The above data in the tables gives an overview of the number of buyers active in different countries and their comparison over the previous two financial years. However, we have not yet touched on how the number of buyers fluctuated within the sub-sectors of engineering goods. Moving ahead, we will see the number of buyers active in various sub-sectors and the trend in the previous years.

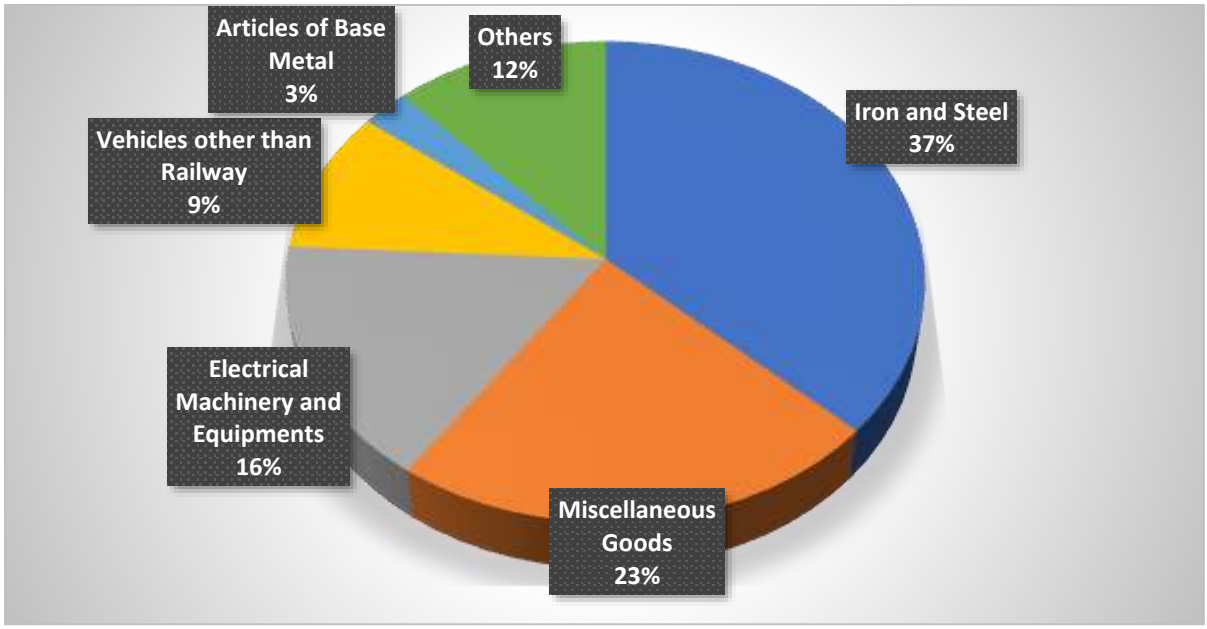

Figure 7 – Distribution of buyers underwritten in the top sub-sectors under the Engineering Goods sector by ECGC

It may be observed that the iron and steel and electrical machinery sub-sectors dominate the engineering goods landscape of buyers underwritten by ECGC.

The maximum increase in the number of buyers in 2022-23 over 2021-22 in the sub-sector of engineering goods in percentage terms is as follows:

Commodities	2021-22	2022-23	YoY Growth %
Project Goods; Some Special Uses	309	1280	314%
Copper And Articles Thereof	388	773	99%
Zinc And Articles Thereof	107	198	85%
Aircraft; Spacecraft; And Parts Thereof	981	1505	53%
Ships, Boats & Floating Structures	200	306	53%

Table 5 - Top five sub-sectors with maximum growth in buyers underwritten by ECGC

The project goods, comprising of input material required for the infrastructure sector, has shown substantial growth in the coverage of commodities underwritten by ECGC during the period FY 22 to FY 23, reflecting a healthy outcome of the synergy of government policies and ECGC's continued support to the export of the project goods.

Similarly, there was a decrease in the number of buyers in certain sub-sectors, the details of the top five categories of which are as follows:

Commodities	2021-22	2022-23	YoY Growth %
Nickel And Articles Thereof	268	74	-72%
Lead And Articles Thereof	1455	787	-46%
Toys, Games & Sports Requisites	1484	904	-39%
Iron And Steel	4895	3685	-34%
Aluminium and articles thereof	1539	1220	-21%

Table 6 - Top five sub-sectors with maximum decline in buyers underwritten by ECGC

8. Major export centers in India

India has several major export centers that are known for the export of engineering goods. These centers play a crucial role in contributing to India's overall export performance in the engineering sector. Some of the prominent export hubs for engineering goods in India include:

1. **Mumbai, Maharashtra:** Mumbai, the financial capital of India, is a significant hub for the export of engineering goods. The city's proximity to major ports and well-developed infrastructure makes it a key player in the export business.
2. **Chennai, Tamil Nadu:** Chennai is a major manufacturing and export center in South India. It has a well-established industrial base and is known for exporting a variety of engineering goods, including machinery and automotive components.
3. **Pune, Maharashtra:** Pune is a major industrial and engineering hub in western India. It is known for manufacturing and exporting various engineering products, including automotive parts, machinery, and precision tools.
4. **Ahmedabad, Gujarat:** Ahmedabad is a prominent industrial city in Gujarat and a key center for engineering exports. The city has a strong presence in sectors like textiles, chemicals, and machinery.
5. **Bangalore, Karnataka:** Bangalore, often referred to as the Silicon Valley of India, is known for its expertise in information technology and software. However, it also plays a role in the export of engineering goods, particularly in the fields of electronics and aerospace.
6. **Coimbatore, Tamil Nadu:** Coimbatore is a major industrial city in Tamil Nadu and is renowned for its manufacturing capabilities. It is a key center for the export of engineering goods, particularly in areas such as textile machinery, pumps, and motors.
7. **Ludhiana, Punjab:** Ludhiana is known as the "Manchester of India" due to its prominence in the textile industry. It is also a significant center for the production and export of engineering goods, especially related to bicycles, auto parts, and industrial machinery.
8. **Noida and Greater Noida, Faridabad and Gurugram: Uttar Pradesh/Haryana:** These cities in the National Capital Region (NCR) have emerged as important industrial hubs, with a focus on engineering and manufacturing. They are known for exporting a range of engineering products, including electronics and automotive components.

These cities and regions contribute significantly to India's exports in the engineering sector, showcasing the country's manufacturing capabilities and global competitiveness. The dynamics of these export hubs may evolve based on economic and industrial developments over time.

9. The Road ahead

The export of engineering goods is poised to play a pivotal role in shaping the Indian economy and enhancing the country's global export profile. As a key contributor to India's manufacturing sector, engineering goods exports hold the potential to drive economic growth, generate employment, and foster technological advancement.

The impetus by the government in the form of various schemes to establish various industries and factories will lead to India being the powerhouse of technical and production expertise.

By meeting international quality standards, adopting cutting-edge technologies, and diversifying export markets, India can strengthen its position in the global trade arena. The success of engineering goods exports is intertwined with advancements in infrastructure, government policies, and the ability to adapt to evolving global economic conditions.

A robust engineering goods export positions the country as a competitive player in the global marketplace, fostering innovation and sustainable economic development.

Enhancing export credit insurance coverage for the engineering goods sector requires a targeted approach by ECGC to enable continued support to the sector in boosting exports. ECGC's business strategy could consider contributing to the increase in overall exports in the engineering goods sector through the following suggested measures:

1. **Risk Assessment and Customized Policies:**
    - Conduct a thorough risk assessment of the engineering goods sector to understand specific challenges and opportunities.

- Develop customized insurance policies that address the unique risks associated with exporting engineering goods, considering factors like market volatility, geopolitical risks, and industry-specific challenges.

2. **Collaboration with Industry Associations:**
    - Partner with engineering goods industry associations to gain insights into sector-specific risks and market trends.
    - Work collaboratively to tailor insurance products that meet the specific needs of engineering exporters.
3. **Market Intelligence and Early Warning Systems:**
    - Invest in market intelligence tools to provide timely information on market conditions, regulatory changes, and economic trends affecting the engineering goods sector.
    - Implement early warning systems to alert exporters to potential risks, allowing them to take proactive measures.
4. **Flexible Coverage Options:**
    - Introduce flexible coverage options that can be tailored to the unique needs of different types of engineering goods.
    - Consider offering coverage for political risks, currency fluctuations, and non-payment risks to provide comprehensive protection.
5. **Streamlined Claims Processing:**
    - Implement a streamlined and efficient claims processing system to ensure quick settlement in case of losses.
    - Transparency in the claims process enhances trust among exporters and encourages them to utilize export credit insurance.
6. **Digitalization and Technology Integration:**

- Embrace digital solutions to enhance the efficiency of insurance processes, including online applications, document submissions, and claims processing.
- Utilize technology to improve underwriting accuracy and risk assessment.

7. **Global Network Expansion:**
    - Expand the insurance firm's global network to cover emerging markets where demand for engineering goods is growing.
    - Establish partnerships with local insurers and financial institutions to facilitate coverage in diverse markets.

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Sources:

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- India Trade Portal