



Date: 03rd December, 2024

To

Axis Capital Limited
1st floor, Axis House,
C-2 Wadia International Centre,
P.B. Marg, Worli, Mumbai- 400025
Maharashtra, India

Kotak Mahindra Capital Company Limited
1st Floor, 27 BKC, Plot No. C – 27
"G" Block, Bandra Kurla Complex
Bandra (East), Mumbai 400 051
Maharashtra, India

Morgan Stanley India Company Private Limited
Division 18F, Tower 2,
One World Center, Senapati Bapat Marg,
Lower Parel, Mumbai, 400013
Maharashtra, India

SBI Capital Markets Limited
Unit No. 1501, 15th floor, A & B Wing,
Parinee Crescenzo Building,
G Block, Bandra Kurla Complex,
Bandra (East), Mumbai- 400 051,
Maharashtra, India

(Axis Capital Limited, Kotak Mahindra Capital Company Limited, Morgan Stanley India Company Private Limited, SBI Capital Markets Limited are collectively referred to as the "Book Running Lead Managers" or the "BRLMs")

Re: Proposed initial public offering of equity shares of face value ₹ [2] each (the "Equity Shares") and such offering (the "Offer") of International Gemological Institute (India) Limited (the "Company")

We understand from you that the Company is proposing to undertake the Offer, subject to market conditions and receipt of relevant approvals. In this connection, we further understand that you intend to use information from our report titled report titled "Loose stones and studded jewelry Certification Market" dated 03rd December, 2024 and enclosed herewith as **Annexure A (the "Report")** in the draft red herring prospectus intended to be filed by the Company with the Securities and Exchange Board of India ("SEBI") and the stock exchange(s) where the Equity Shares are proposed to be listed ("**Stock Exchanges**"), the red herring prospectus and the prospectus intended to be filed by the Company with the Registrar of Companies, Maharashtra at Mumbai, SEBI and the Stock Exchanges (including any addenda, corrigenda or international supplement(s) of the foregoing, preliminary international wrap and/or final international wrap for distribution to investors outside India) (collectively, "**Offer Documents**"), and in roadshow/ investor presentations, research reports and any other marketing and/or publicity material, in each case relating to the Offer and in accordance with applicable law (collectively, together with the Offer Documents, the "Offer Materials") in accordance with applicable laws, and have requested us to provide our no-objection/ consent for such use of information forming part of the Report.

With reference to the captioned matter, we, Redseer Strategy Consultants Private Limited ("**We/ RedSeer**"), hereby accord our no-objection and our consent to: (i) use of and references to our names to the extent of the information provided by us in our Report (ii) our Report including its contents or any extract thereof and (iii) date of our engagement letter, being included in the Offer Materials and prepared by the Company or the BRLMs in connection with the Offer. Further, we also provide our consent to

the Report to be made available on the Company's website, and link thereto being included in the RHP and Prospectus.

We also give our consent to include this letter of consent (including the annexures hereto), engagement letter dated 06th May, 2024 (with commercial details redacted) and the Report as material documents which will be available to the public for inspection, in accordance with applicable law.

We also confirm that we are independent consultants with respect to the Company, its associates, its promoter, its directors, its key managerial personnel, its senior management and the BRLMs as listed out in Annexure B. We further confirm that we do not have any relationship with the BRLMs. We further confirm that we have, where required, obtained requisite consents that may be required from any governmental authority or other person in relation to any information used by us in the Report.

We confirm that we do not have any relation with the Company, its Promoter, its directors or its key managerial personnel, as listed out in Annexure B, except for preparation of the Report.

We confirm that we will immediately communicate any changes in writing in the above information to the Company and BRLMs until the date when the Equity Shares that are allotted and/ or transferred in the Offer, commence trading on the Stock Exchanges. In the absence of any such communication from us, BRLMs and the legal counsels, each to the Company and the BRLMs, can assume that there is no change to the above information until the Equity Shares commence trading on the Stock Exchanges pursuant to the Offer.

For the sake of clarity, this consent letter does not provide the right to the Company to name us as an expert on the Offer Documents.

We confirm that all information contained in the Report has been obtained by us from sources believed by us to be true and reliable and after exercise of due care and diligence by us, its accuracy, completeness, and underlying assumptions are subject to limitations like interpretations of market scenarios across sources, and data availability, amongst others. The Report is not a recommendation to invest/disinvest in any entity covered in the Report and the Report should not be construed as investment advice within the meaning of any law or regulation.

Further, the Company should ensure that wherever information from the Report is used in the Offer Materials, (i) proper reference of the Report as the source of such information is cited along with; and (ii) that the information is presented in the same context as that in the Report and should not be selectively extracted and used in a manner that distorts the views expressed by us in the Report.

The "Industry Overview" section included in and as shall be included in RHP and the Prospectus to the best of our knowledge, shall represent a fair and true view basis available information; We have taken reasonable care to ensure that the same is and shall be neither exaggerated nor have any underlying assumptions been wilfully omitted.

In relation to SEBI Observation, We confirm that the disclaimers have been removed.

The "Industry Overview" section has been updated with recent information, as applicable. We confirm that all statements that are not verifiable and substantiated with figures are deleted.

We also give our consent to include this letter and the Report as part of the section titled "Material Contracts and Documents for Inspection" of the Offer Documents, which will be available to the public for inspection in relation to the Offer and will also be uploaded on the website of the Company. We further authorize you to make the Report available for inspection in accordance with applicable law.

This consent letter can be relied on by the Company, the BRLMs and the legal advisors to each of the Company and the BRLMs. We hereby consent to the submission and disclosure of this consent letter and the Report as may be necessary to the SEBI, the Stock Exchanges, and any other legal, governmental, regulatory or judicial authorities and/or for any other litigation as may be required.

We confirm that the above information in relation to us is true, fair and correct, and there is no untrue statement or omission which would render the contents of this letter misleading in its form or context.



We further consent to this letter being included for the records to be maintained by the BRLMs in connection with the Offer and in accordance with applicable law.

We agree to keep the information regarding the Offer strictly confidential.

This consent letter, including any annexures hereto, is for information and for inclusion (in part or full) in the Offer Documents or any other Offer Materials, and may be relied upon by the Company, BRLMs and the legal counsel to each of the Company and the BRLMs in relation to the Offer.

All capitalized terms used herein and not specifically defined shall have the same meaning as ascribed to them in the Offer Documents, as the case may be.

Yours faithfully,

For Redseer Strategy Consultants Pvt Ltd

A handwritten signature in black ink that reads "Rohan".

Authorised Signatory

Name: Rohan Agarwal

Designation: Partner

Domestic Legal Counsel to the Book Running Lead Managers

Shardul Amarchand Mangaldas & Co

24th Floor, Express Towers
Nariman Point, Mumbai 400 021
Maharashtra, India

Domestic Legal Counsel to the Company

Cyril Amarchand Mangaldas

3rd floor, Prestige Falcon Towers,
19, Brunton Road,
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Karnataka, India

International Legal Counsel to the Offer

White & Case LLP

88 Market Street #41-01
CapitaSpring, Singapore 048948

Annexure A



Industry Report

Loose Stones and Studded Jewellery Certification Market

| | Project Kohinoor | |

Client: International Gemmological Institute (IGI)

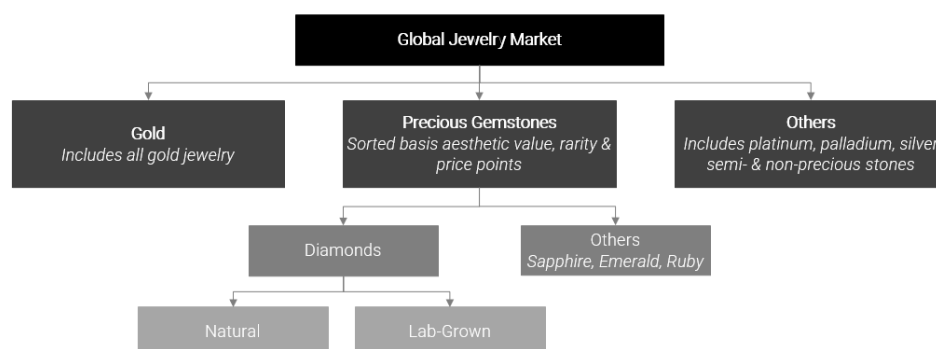
03rd December, 2024

Industry Overview

The total global jewelry market is worth ~INR 26,600 billion (~USD 320 billion)¹ in CY 2023; China, India, and the USA are the leading consumer markets

The global jewelry market is influenced by various economic trends, cultural traditions, and ever-evolving consumer preferences. It includes spending by consumers on fine jewelry, which is composed of the following segments:

Figure 1: Global Jewelry Market Structure



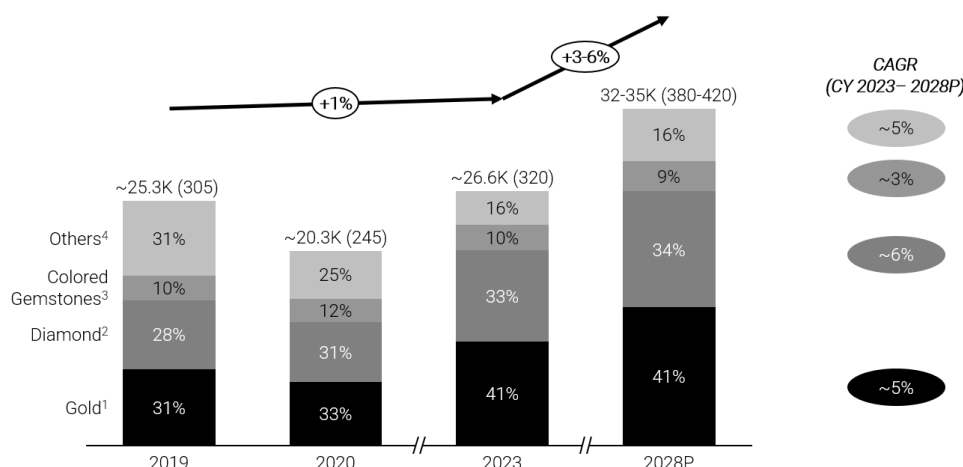
Note(s): This does not include costume jewelry

Source(s): Redseer research and analysis

The global jewelry market stood at ~INR 26,600 billion (~USD 320 billion) in CY 2023. Since CY 2020, the market has rebounded, achieving a Compound Annual Growth Rate (“CAGR”) of ~9%. Over the longer term, from CY 2019 onwards, it has experienced a CAGR of 1%. Post-COVID-19, gold and diamond-studded jewelry markets grew at CAGR of 18% and 12%, respectively, from CY 2020 till CY 2023; they are currently the two largest contributors, constituting a 74% market share. The global jewelry market is expected to grow at a CAGR of 3-6% in value terms from CY 2023 till CY 2028, with the gold and diamond-studded jewelry market expected to grow at a CAGR of 5% and 6%, in value terms, respectively, over the same period.

¹ Exchange rate is taken to be 1 USD = 83 INR, consistent in this section.

Figure 2: Global Jewelry Market Size
In INR Billion (USD Billion), CY 2019 – CY 2020, CY 2023, CY 2028P



Note(s): 1. Includes gold jewelry market 2. Includes both natural diamonds and lab-grown diamonds studded in jewelry; 3. Includes colored gemstones studded jewelry, i.e., sapphires, emeralds, rubies, jade, etc. excluding diamonds. 4. Includes platinum, palladium, silver, and semi-precious stones studded jewelry market 5. Conversion rate: 1 USD = 83 INR. P is Projected

Source(s): World Gold Council, Kimberley Process, Redseer research and analysis

Multiple trends and drivers will contribute to this growth-

Demand-side drivers of the global jewelry market:

- **Emergence of daily wear jewelry:** Consumer preferences are shifting towards daily-use jewelry, seen more as fashion accessories than status symbols. According to the Gem & Jewellery Export Promotion Council (“GJEPC”) trends, wearing daily-wear jewelry is on a steep rise. This surge is also attributed to the increasing availability of affordable options such as demi-fine jewelry and lab-grown diamonds.
- **Emerging trends in jewelry preferences:** Preference for jewelry form and aesthetics is changing – new adornments such as bracelets, nose-pieces, and anklets made with materials other than gold, such as studded diamonds, colored stones, etc., are gaining consumer interest. They are now becoming fashion staples for daily wear, gifting, and various celebrations, enhancing market growth.
- **Importance of high-end branded jewelry:** High-end branded jewelry plays a crucial role in driving the demand for diamond-studded jewelry by emphasizing quality, design, marketing, and the overall luxury experience. This trend is evident in recent ventures by global luxury brands like Prada (CY 2023), Gucci (CY 2019), Saint Laurent (CY 2023) and Balmain (CY 2022) into the fine jewelry market.
- **Acceptance for various colored stones:** Colored stones such as tanzanite, rubellite, tourmalines, garnets, pearls, etc., which were not as popular, are gaining more acceptance among consumers compared to 5 years ago.

Supply-side drivers of the global jewelry market:

- **Innovation in jewelry design:** Evolving customer tastes and growing awareness of the availability of different jewelry designs and styles are driving the purchase of modern jewelry. Manufacturers are responding with innovative designs that are unique to changing consumer perception, such as different colored stones and metals and adding personal engravings. For instance, in February 2023, a leading gold and diamond retail chain in India, unveiled the ‘Gemstone Jewelry Festival’ to showcase its collection of pure gold jewelry adorned with colored stones and uncut diamonds. Such new and innovative jewelry designs are expected to drive demand for the market.
- **Emergence of “demi-fine” jewelry:** Demi-fine jewelry utilizes a blend of materials to achieve affordability, durability, and high quality (E.g.: gold-plated silver). Bridging the gap between fast fashion/costume jewelry and high-end pieces, demi-fine jewelry offers quality craftsmanship at more affordable prices, catering to diverse tastes and styles, thereby broadening market appeal.
- **Online retail growth:** Technological advancements are enhancing the accessibility of jewelry, with online platforms making it easier for consumers to browse and purchase. The global online revenue share of fine

jewelry increased from 10% in CY 2019 to 15% in CY 2023. The fine jewelry industry is expected to generate ~25% of its revenue online in CY 2028, which is projected to grow at a CAGR of 15-18% from CY 2023, three times faster than the global jewelry market.

- **Focus on authenticity and quality:** Rising consumer awareness about the authenticity of metals and stones is prompting manufacturers to adhere to quality standards and educate the consumers, fostering trust and driving market growth.

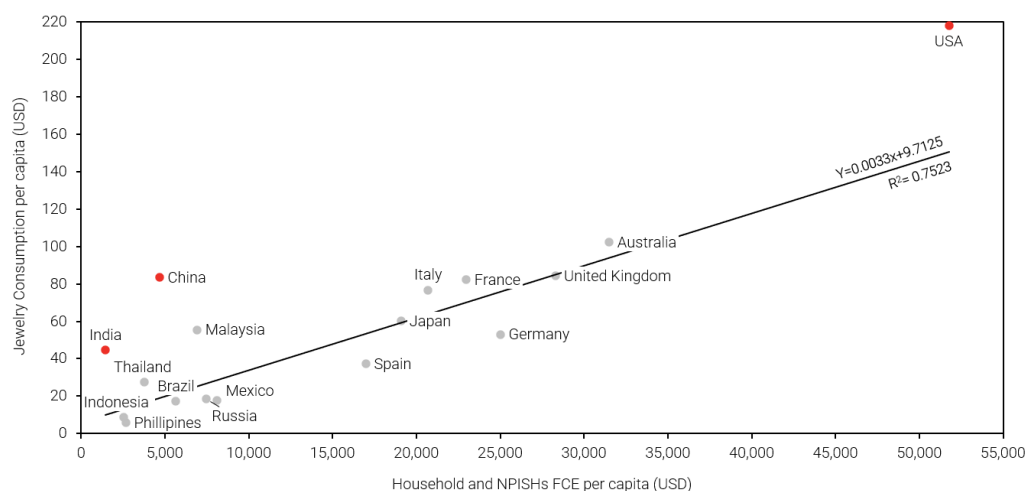
Emerging trends in the global jewelry market:

- **Rising men's jewelry market:** Adoption and usage of jewelry by men are driving demand for products like cufflinks, plain gold chains, and unique pieces like cartography necklaces and signet rings, fuelling market expansion. Men's jewelry contributes to ~10% of the global jewelry market in CY 2023 at ~INR 2.9K billion (USD 35 billion). The men's jewelry market is expected to outpace the overall jewelry market, which is projected to grow at ~8% CAGR till CY 2028 to reach ~INR 4.1K billion (~USD 50 billion).
- **Innovation and technology advancements across the value chain of jewelry:** The utilization of technology is driving product optimization across the value chain of the jewelry industry. Software such as Computer-Aided Design (CAD) facilitates intricate designs, while lasers are employed for precise engraving. Additionally, 3D printing enables the production of complex designs. Tech-enabled methods for detecting and mapping small diamonds enhance transparency and efficiency within the value chain. Finally, the integration of augmented reality enhances the online retail experience, providing consumers with seamless virtual try-ons.

China, India, and the USA observe high spending on jewelry as a proportion of total spending compared to other economies.

The Households and NPISHs FCE (Non-Profit Institutions Serving Household Final Consumption Expenditure, formerly private consumption) observe a high correlation with jewelry consumption. China, India, and the USA's spending on jewelry as a proportion of their overall spending is higher than the average of other countries.

Figure 3: Households and NPISHs FCE (current USD) per capita vs Jewelry Consumption per capita
In USD, CY 2022

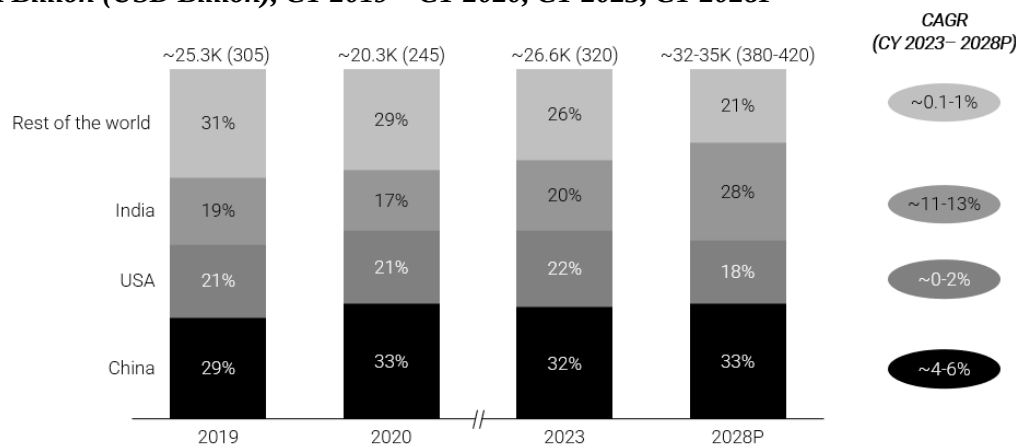


Source(s): World Bank, Redseer research and analysis

China, India, and the USA also emerge as the leading consumption markets in the global jewelry landscape, collectively contributing to a 74% market share in CY 2023 in terms of value. The expected combined contribution of these top three countries is expected to rise to ~79% by CY 2028.

This growth is expected to be primarily fuelled by India, which is projected to grow at a CAGR of ~12% until CY 2028, 2.5x of the global jewelry growth rate.

Figure 4: Consumption of Jewelry by Top Countries
In INR Billion (USD Billion), CY 2019 – CY 2020, CY 2023, CY 2028P



Note(s): Conversion rate: 1 USD = 83 INR, P is Projected

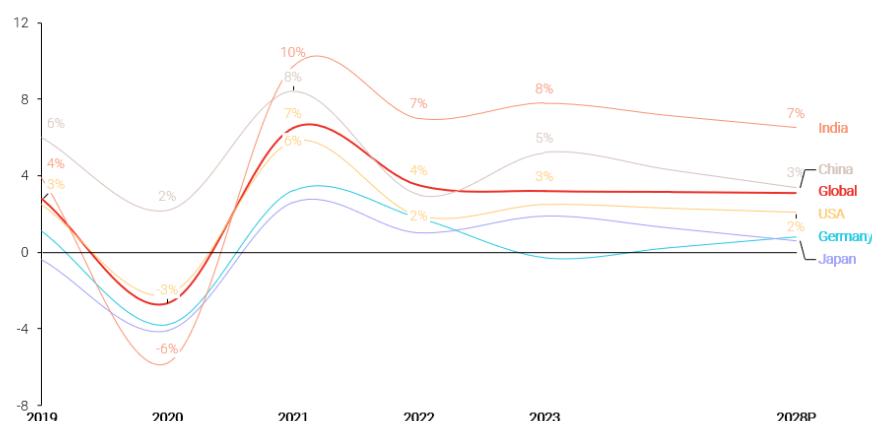
Source(s): Redseer research and analysis

Macroeconomic tailwinds for the USA, China and India

The outlook for the global economy is optimistic, with projections indicating continued positive expansion till CY 2028. As per the International Monetary Fund (“IMF”), it is expected that the global economy will witness a growth of 5% in GDP at current prices from CY 2023 to CY 2028.

Among the top 5 economies in terms of GDP, the USA has grown at the global average in CY 2023 at 3% and is expected to grow at 2% till CY 2028. China is the second fastest-growing economy at 5% in CY 2023 and is expected to grow at the global average of 3% till CY 2028. However, India has been the fastest growing from CY 2020 to CY 2023 and is expected to grow at a 7% year-on-year (Y-o-Y) growth rate till CY 2028.

Figure 5: Real GDP Growth – Global, Top 5 Economies as of CY 2023
In Y-o-Y % change, CY 2019 – CY 2023, CY 2028P

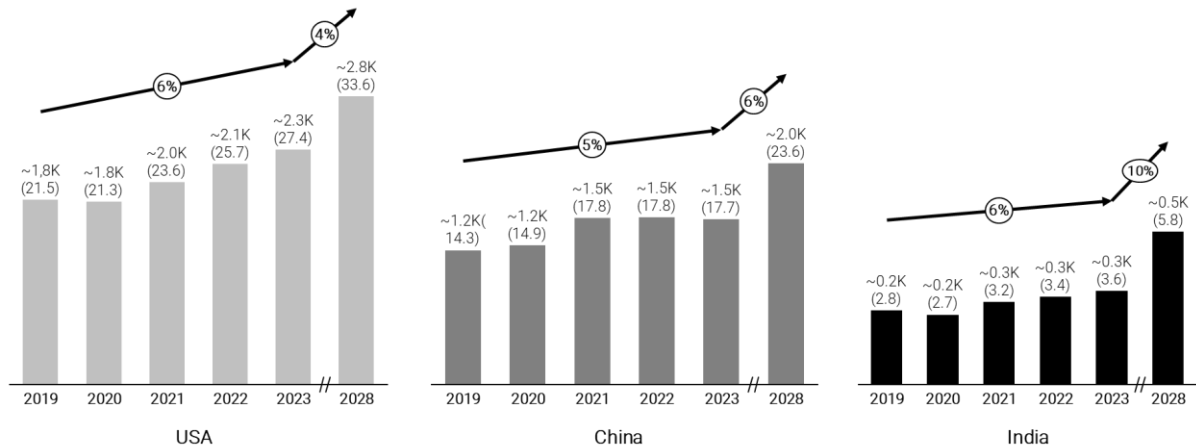


Source(s): International Monetary Fund

The USA is the largest economy in the world, contributing to ~26% of the global GDP (at current prices) at INR 2.3K trillion (USD 27.4 trillion) in CY 2023, followed by China, contributing ~17%

with INR 1.4K trillion (USD 17.7 trillion) in the same year. India is the 5th largest and fastest growing economy, contributing to ~3% of the global GDP with INR 0.3K trillion (USD 3.6 trillion) in CY 2023.

Figure 6: GDP at Current Prices – the USA, China, and India
In INR Trillion (USD Trillion), CY 2019 – CY 2023, CY 2028P

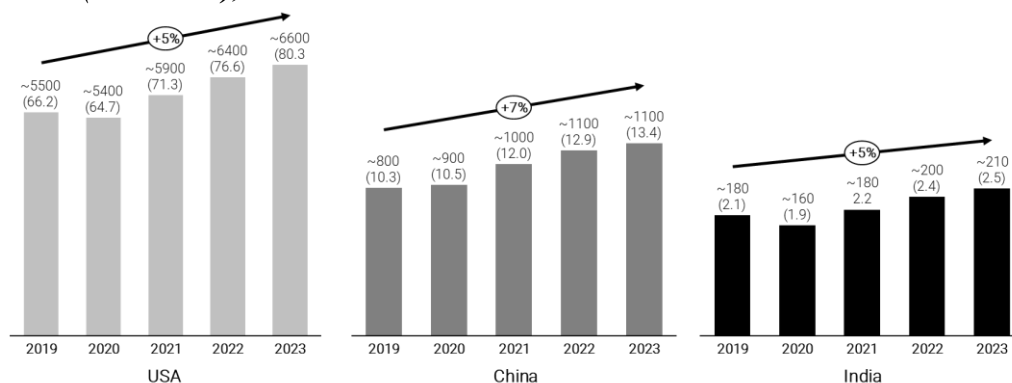


Source(s): World Bank

One of the key drivers for positive global economic growth is the rising per capita income amongst the global population. As per the World Bank, Gross National Income (“GNI”) per capita has rebounded from COVID-19-induced lows of ~INR 918K (USD 11,061) globally in CY 2020 to ~INR 1,096K (USD 13,212) in CY 2023 at ~3% CAGR. This is higher than pre-COVID levels of ~INR 956K (USD 11,518) in CY 2019.

India’s per capita income has steadily increased in the past ten years. While the per capita income saw a sharp decline due to the COVID-19 pandemic, falling to about ~INR 160K (USD 1.9K) in CY 2020, the same quickly recovered to ~INR 180K (USD 2.2K) in CY 2021 and ~INR 210K (USD 2.5K) in CY 2023. India’s per capita income has increased annually by ~5% from CY 2019 to CY 2023. The growth rates of the per capita incomes of the USA and China were ~5% and ~7%, respectively from CY2019 to CY 2023.

Figure 7: GNI per Capita (Current Prices)
In INR 000’s (USD 000’s), CY 2019 – CY 2022

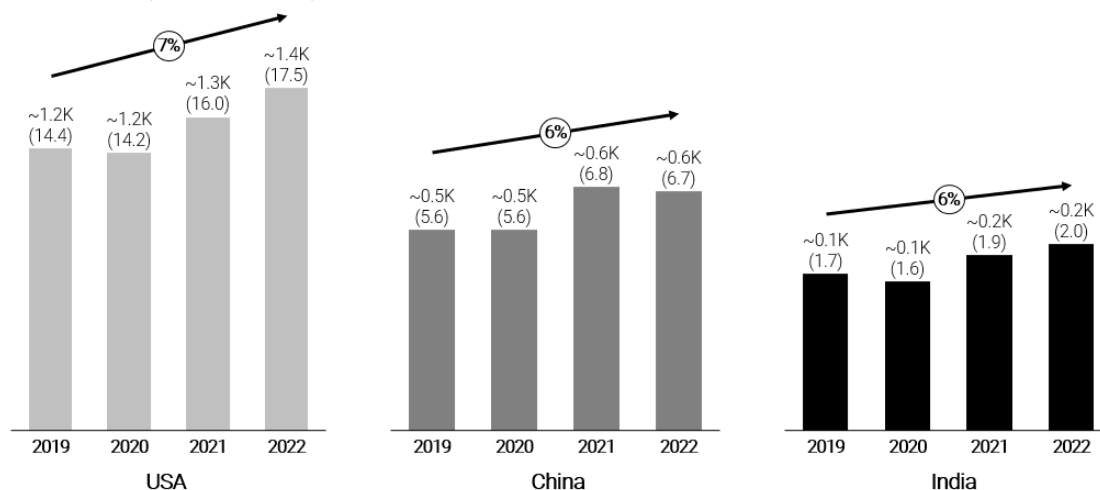


Source(s): World Bank

The increased per capita income has fuelled consumption growth globally, with the global GNI per capita observing a growth of ~3% from CY 2019 to CY 2023. On the other hand, the global Households and NPISH final consumption expenditure (FCE) observed a ~9% growth from CY 2019 to CY 2022. It rebounded from ~INR 3,901 trillion (USD 47 trillion) in CY 2020 to INR 4,648 trillion (USD 56 trillion) in CY 2022.

China, India, and the USA's Household and NPISH FCE, grew at 6%, 6%, and 7%, from CY 2019 to 2022, respectively.

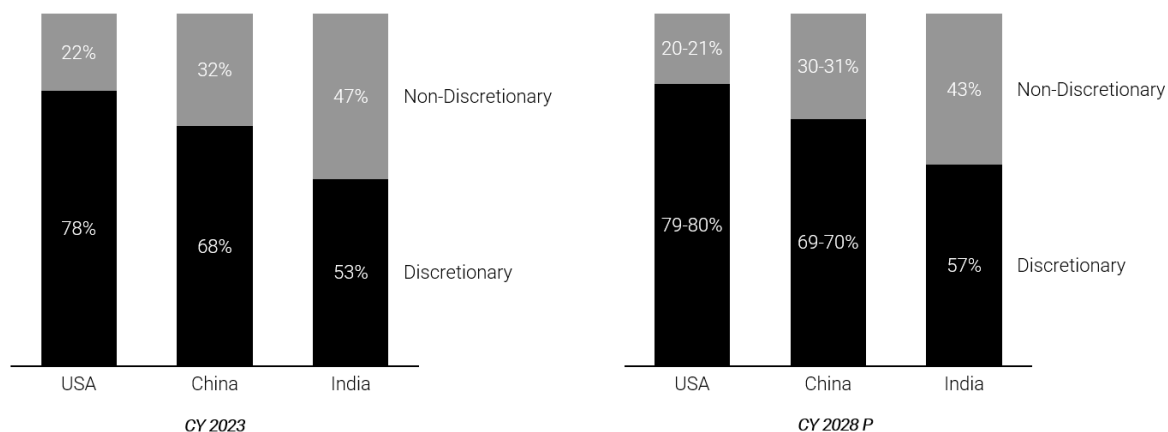
Figure 8: Household and NPISH FCE at Current Prices – the USA, China, and India
In INR Trillion (USD Trillion), CY 2019 – CY 2022



Source(s): World Bank

This rising consumption growth will be led by increased spending on discretionary categories. In CY 2023, the USA, China, and India had ~78%, ~68%, and ~53% of their retail spending towards discretionary categories, respectively. The discretionary retail market in China and the United States is expected to increase to 69-70% and 79-80% respectively by CY 2028.

Figure 9: Retail Market by Discretionary and Non-Discretionary Expenditures – the USA, China and India
In %, CY 2023, CY 2028P



Note(s): Discretionary expenditures include spending on categories such as FMCG (excl. staples), apparel, consumer electronics, consumer appliances, general merchandise, and beauty & personal care (BPC), among others. These tend to have cyclical demand, fluctuating with

economic conditions. Non-discretionary expenditures encompass spending on essential categories such as pharmaceuticals, staples, and fresh food, among others which are less sensitive to economic changes.

Source(s): Redseer research and analysis

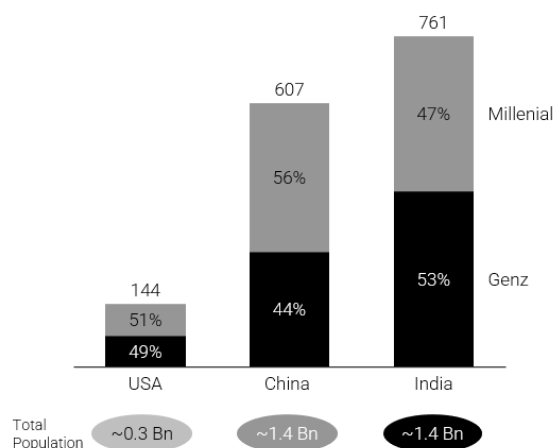
These macroeconomic tailwinds are underpinned by several key demographic factors that are driving consumer behavior and shaping the retail landscape in these countries.

Demographic trends of China, India, and the USA

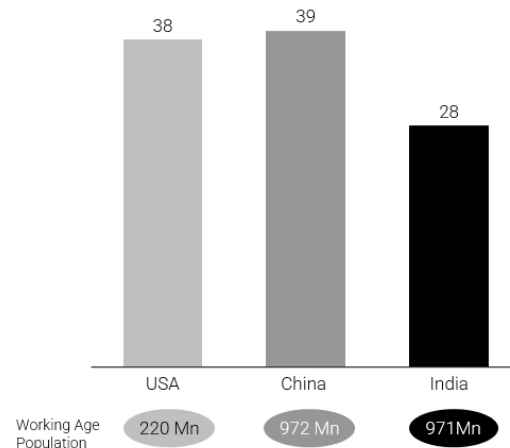
- **Large young working population:** As per estimates by the United Nations, India's median age in CY 2023 is ~28 years. Similarly, that of the USA and China measure 38 and 39 years, respectively. With the largest population in the world in CY 2023, over 40% of Indians are under the age of 25. At 761 million, or ~54% of the nation's total population, India is home to the greatest populations of Gen Z (those in the age group of 11-26 years) and Millennials (those in the age group of 27-42 years) as of CY 2023.

With an expanding young population, the working population is also at the cornerstone of its economic dynamism and growth trajectory. As per the World Bank – the USA, China, and India's working-age population age group (15-64 years) percentages stand at ~69%, ~65%, and ~68%, respectively, in CY 2023.

Figure 10: Millennials and Gen Z Population Split
In Millions, CY 2023



Median Age Benchmark
Actual Age, CY 2023

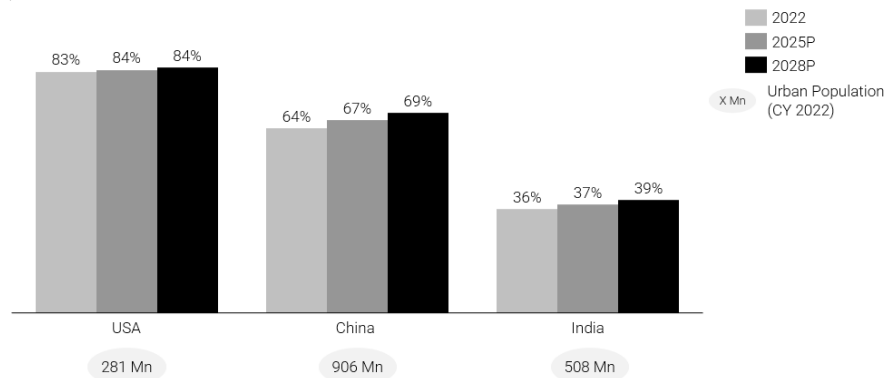


Note(s): Gen Z are those in the age category of 11-26 years, and Millennials are those in the age group of 27-42 years; the working age population is 15-64 years.

Source(s): World Bank, World Population Prospects

- **Rapid urbanization:** Urbanization is the cornerstone for economic growth because it enhances productivity through the agglomeration of industries, fosters innovation by bringing diverse talents together, improves infrastructure and access to services, and creates larger markets for goods and services. The urban population in India, China, and the USA stands at 36%, 64%, and 83%, respectively in CY 2022, and it is projected to grow to 39%, 69%, and 84% by CY 2028.

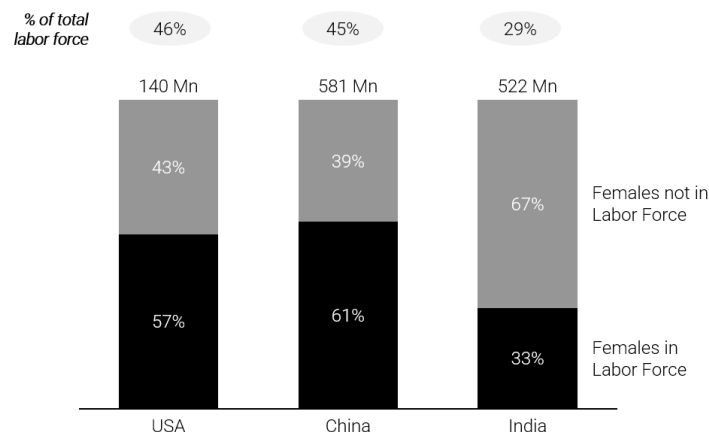
Figure 11: Urbanization Benchmarks – the USA, China and India
Population (%), CY 2022, 2025P, 2028P



Source(s): World Urbanization Prospects, United Nations

- Large and increasing participation of women in the workforce is boosting economic productivity and reshaping purchasing patterns as they make more autonomous consumption choices. The USA and China have a strong female Labor Force Participation Rate (LFPR) with ~57% and ~61% of females between ages 15-64 in the workforce in CY 2023, respectively, while India's female LFPR stands at ~33% in the same year.

Figure 12: Total Female Population (15-64 years) by Workforce Participation – the USA, China and India
In Millions, CY 2023



Source(s): International Labor Organization (ILO), United Nations Population Division (UNPD)

India is among the fastest-growing economies and is transitioning into a consumption-driven economy, making it a key market.

India is progressively transitioning into a consumption-driven economy, as evidenced by the increase in Private Final Consumption Expenditure (PFCE) as a proportion of GDP. According to the Ministry of Statistics and Programme Implementation, PFCE rose from 59% of GDP in FY 2019 to 60% of GDP in FY 2024, growing at ~10% compared to GDP growth of ~9% during the same period. In contrast, this ratio was 69% in the USA in CY 2022, suggesting significant room for growth in India.

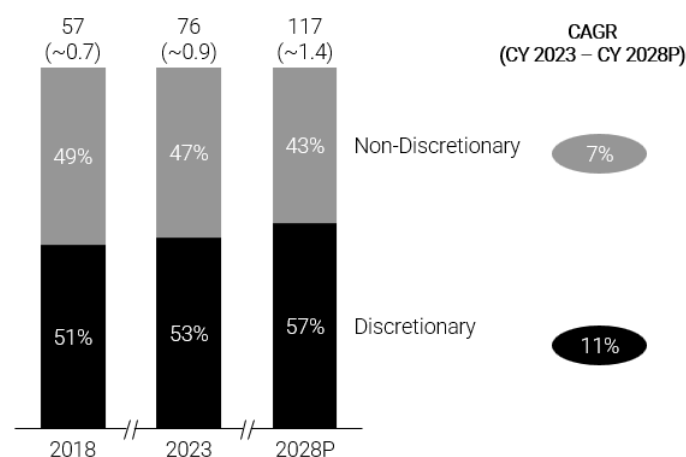
The GDP per capita mark of INR 166K (USD 2,000) is widely recognized as an inflection point for economic growth in many large economies, characterized by increased discretionary spending and heightened consumer confidence in categories such as apparel, packaged food and beverage, and

personal care. This confidence boost typically stems from improved financial stability, which allows individuals to invest in quality-of-life enhancements beyond necessities.

For instance, when China exceeded the INR 166K (USD 2,000) GDP per capita threshold in CY 2006, it experienced significant year-on-year growth in its Private Final Consumption Expenditure (PFCE) over the following years. Similarly, India surpassed the INR 166K (USD 2,000) mark in CY 2019 and then again in CY 2021, following a temporary decline in CY 2020 due to COVID-19. Given these precedents, we believe India is poised for a similar trend in PFCE growth in the near term, reflecting its increasing economic maturity.

As disposable incomes rise and lifestyles evolve, the share of discretionary spending in categories like jewelry, fashion, electronics, or experiences is projected to increase to ~57% by CY 2028.

Figure 13: India Retail Market by Discretionary and Non-Discretionary Expenditures
In INR Trillion (USD Trillion), CY 2018, CY 2023, CY 2028P



Note(s): Discretionary expenditures include spending on categories such as FMCG (excl. staples), apparel, consumer electronics, consumer appliances, general merchandise, and beauty & personal care (BPC), among others. These tend to have cyclical demand, fluctuating with economic conditions. Non-discretionary expenditures encompass spending on essential categories such as pharmaceuticals, staples, and fresh food, among others which are less sensitive to economic changes; Conversion rate: 1 USD = 83 INR; P is Projected.

Source(s): Redseer research and analysis

Multiple drivers are leading to this growth:

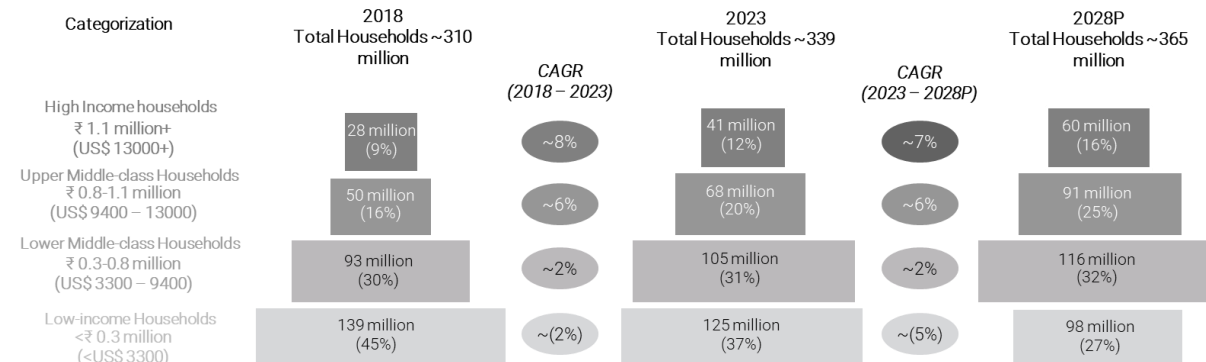
Rising income per capita leading to a burgeoning middle-class

India's per capita income has steadily increased in the past ten years. While the per capita income sharply declined due to the COVID-19 pandemic, falling to about INR 156K (USD ~1.9K) in CY 2020, the same quickly recovered to INR 180K (USD ~2.1K) in CY 2021 and INR 196K (USD ~2.4K) in CY 2022. India's per capita income has increased annually by ~5% from CY 2019 to CY 2022.

India's growing middle class is at the helm of this growth. The number of middle-class households (upper- and lower-middle class households included) increased from ~143 million in CY 2018 to ~173 million in CY 2023, driven by a structural shift from an agrarian-based economy towards manufacturing and services, growing formalization of employment, and rapid economic development. Driven by these tailwinds, in CY 2023, this cohort represented ~51% of Indian households. Further, as another ~30 million households graduate into this income bracket, ~57% of all Indian households are projected to fall into the middle-income segment by CY 2028 (~207 million).

The increasing affluence of India's higher income segments is set to disproportionately drive growth in status/influence-oriented consumption categories. Heightened demand for premium products and enhanced purchasing experiences with seamless access are resulting in accelerated growth in discretionary categories, resulting in heightened demand for businesses catering to this segment.

Figure 14: Households by Annual Income Groups – India
In Millions, CY 2018, CY 2023, CY 2028P



Note(s): Annual household income range: High-income (INR 11 Lakh+), Upper-middle class (INR 8 to 11 Lakh), Lower-middle class (INR 3 to 8 Lakh), and Low-income (less than INR 3 Lakh)

Source(s): Redseer research and analysis

Urbanization is leading to increasing demand for consumer goods and services

In India, the middle class, driven by the pursuit of enhanced opportunities and living standards, is progressively relocating to urban areas. This shift has increased the number of urban households from 110-120 million in CY 2018 to 120-130 million in CY 2023. In that same year, approximately 511 million people, or 36% of India's total population, resided in urban areas — this figure surpasses the total population of the United States, which is around 330 million. According to the Ministry of Urban Affairs, over 50% of the population is predicted to live in cities by CY 2050, and urban regions will account for 80% of the country's GDP. Increasing urbanization leads to higher living standards and lifestyle changes. Also, urban dwellers have greater access to a variety of retail options, entertainment, and dining, increasing demand for consumer goods and services.

Expanding young working population reshaping consumption patterns

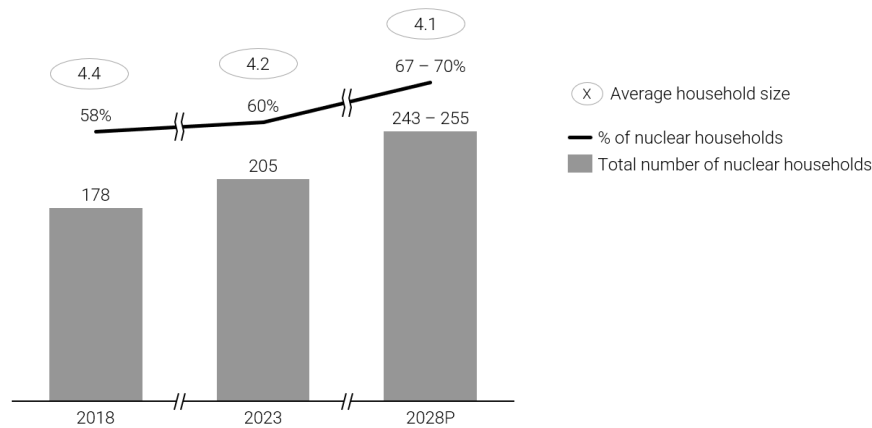
India is currently experiencing a demographic dividend due to the country's increasing proportion of people in the working age group (15-64 years old), which is projected to make up ~69% of the country's population by CY 2030, according to the World Bank. This young population often has higher disposable income and a greater inclination towards spending on experiences and lifestyle, leading to increased discretionary spending. Younger generations are more likely to adopt new trends and technologies.

Increasing nuclearization paving way for increasing and streamlined consumption patterns

The younger population of India is migrating from joint families across the country to form nuclear families in major cities. Consequently, the average household size in India has decreased from 4.4 in 2018 to 4.2 in CY 2023, leading to an increase in the number of nuclear households of more than 30 million between CY 2018 and CY 2023. This number is projected to increase by approximately 40-50 million by CY 2028. This directly benefits consumer-driven businesses as they have higher numbers of households to reach and serve. This trend of increasing nuclearization results in higher

consumption across retail categories as the young, aspirational population exercises freedom in decision-making, resulting in growing individualistic requirements and choices and higher openness for purchasing services that ease household needs and enhance the need for convenience.

Figure 15: Number of Nuclear Households in India
In Millions, CY 2018, CY 2023, CY 2028P



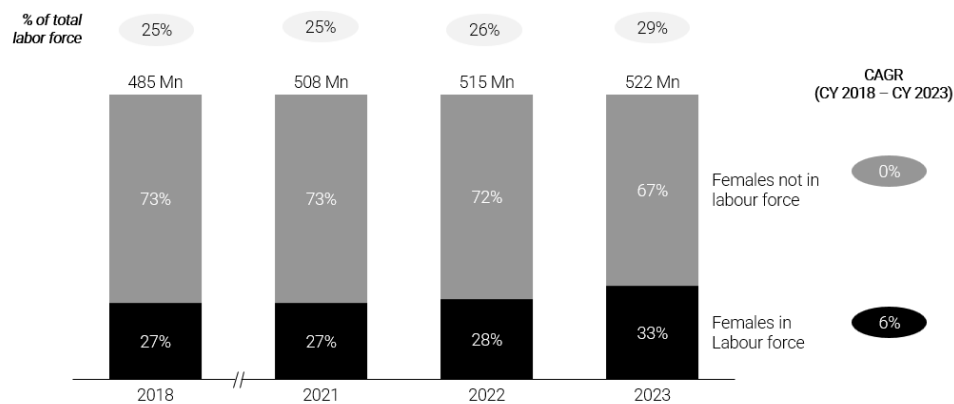
Note(s): Includes “couple only” households, “couple with children” households, and “single parent with children” households. P is Projected

Source(s): Redseer research and analysis

Increasing participation of women in the workforce is boosting economic productivity and reshaping purchasing patterns as they make more autonomous consumption choices

In India, the number of females in active employment increased from ~129 million in CY 2018 to ~170 million in CY 2023, growing at a CAGR of ~6%. This growth has been attributed to reduced barriers for working women, coupled with focused efforts by the government and private sector employers to increase female participation in the workforce. Consequently, this has increased dual-income households, resulting in increased discretionary expenditure and a preference for aspirational products. These households increasingly opt for aspirational products, driven by a combination of elevated lifestyle goals and the pursuit of quality goods at competitive prices.

Figure 16: India’s Total Female Population (15-64 years) by Workforce Participation
In Millions, CY 2018, CY 2021 – CY 2023

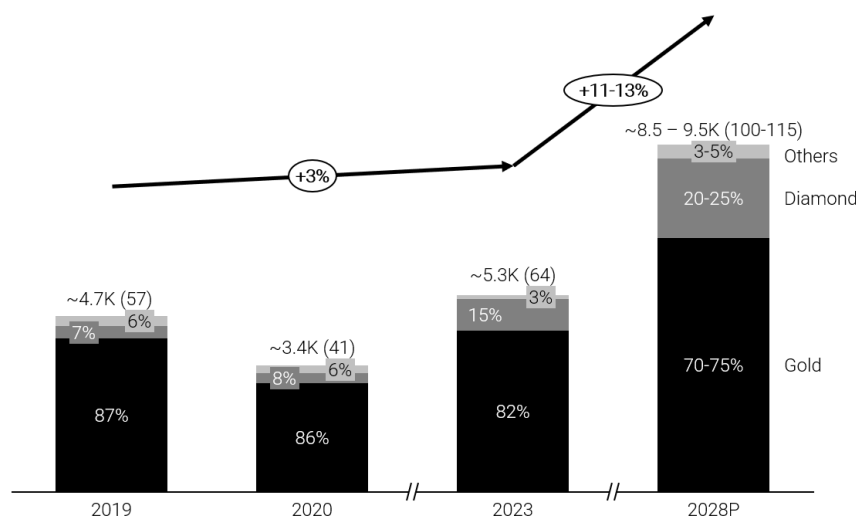


Source(s): International Labor Organization (ILO), United Nations Population Division (UNPD)

India's Jewelry Market Overview

The Indian jewelry market stood at ~INR 5,300 billion (USD 64 billion) in CY 2023. Due to the COVID-19-induced lockdowns, footfall in jewelry stores was reduced; weddings, which generate most of the jewelry demand in the country, were postponed, and weddings took a backseat. This resulted in a dip in jewelry purchases as a gift or celebratory gesture, leading to the market shrinking by ~28% to reach ~INR 3,400 billion (USD 41 billion) in CY 2020. However, the market rebounded after the pandemic, driven by pent-up consumer demand, growing at a CAGR of 16% to reach ~INR 5,300 billion (USD 64 billion) in CY 2023.

Figure 17: Indian Jewelry Market Size – by Value
In INR Billion (USD Billion), CY 2019 – CY 2020, CY 2023, CY 2028P



Note(s): Others include silver, platinum, and precious and semi-precious-colored stones. 1 USD = 83 INR. P is Projected
 Source(s): Redseer research and analysis

In the Indian jewelry market, gold has traditionally held the largest share, representing around 87% in CY 2019. Post-COVID-19, gold jewelry observed a 14% growth from CY 2020 to CY 2023 to reach ~INR 4,300 billion (USD ~52 billion) due to pent-up demand and weddings returning to pre-pandemic scale, but the share of gold jewelry reduced to 82% in CY 2023. Its contribution to the overall market is expected to decline to 70-75% by CY 2028 as other categories become more prominent.

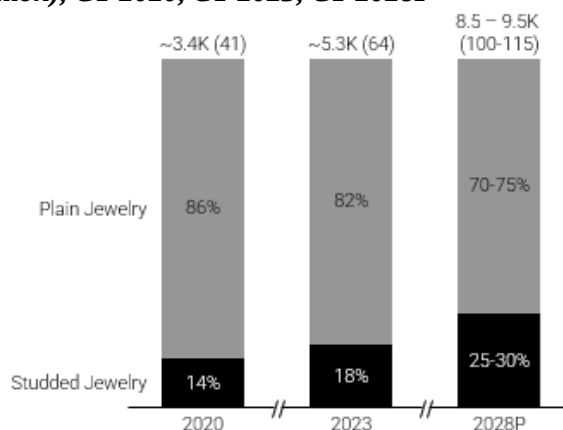
Diamond-studded jewelry, the second-largest segment, accounted for around 7% of the market in CY 2019, growing rapidly to INR ~780 billion (USD ~9 billion) by CY 2023, contributing ~15% to the overall market. The diamond-studded jewelry market is expected to drive India's jewelry market by growing at a projected ~20% CAGR from CY 2023 till CY 2028. The major growth drivers for this fast growth of diamond-studded jewelry are:

- **Rising discretionary incomes leading to an increasing demand:** The increase in discretionary spending among Indians marks a significant transformation in consumer behavior. As disposable incomes rise, especially amongst the middle-class segment, sectors like jewelry particularly benefit, where purchases could be viewed as potential investments as well.
- **A rising young urban population and their changing consumption patterns:** Jewelry purchases are no longer confined to weddings and festivals; these young consumers are keeping pace with global fashion trends and are increasingly acquiring jewelry for daily wear, as well as for gifts and celebratory occasions, contributing to the growing popularity of diamonds
- **Financially independent working women emerging as the new generation of shoppers:** The emergence of financially independent working women is reshaping the jewelry market in India. These women are

increasingly becoming decision-makers in jewelry purchases, driving demand for both everyday wear and special occasion jewelry, including diamonds, as expressions of self-confidence and financial security.

- **Western influence resulting in greater demand for diamond-studded jewelry:** The growing influence of Western fashion trends has sparked a surge in demand for studded jewelry accessories, which contributed to ~18% of the jewelry market in CY 2023 and is expected to grow to contribute 25-30% of the market in CY 2028. As consumers seek to emulate the glamor and sophistication associated with Western styles, there is a heightened interest in incorporating diamond-studded jewelry into clothing items. This trend reflects a broader cultural shift towards luxury and self-expression, driving the popularity of studded jewelry in the fashion landscape.

Figure 18: Indian Jewelry Market Size – by Studded vs Plain Jewelry
In INR Billion (USD Billion), CY 2020, CY 2023, CY 2028P



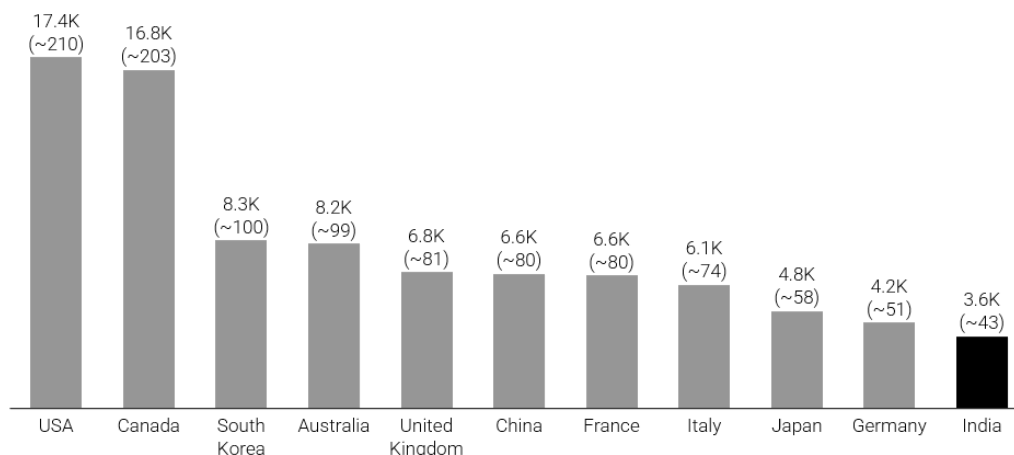
Note(s): P is Projected

Source(s): Redseer research and analysis

- **Increasing significance of diamonds in marriages and engagement rings:** As traditions evolve and societal norms change, there is a growing preference for diamond-studded jewelry, especially engagement rings symbolizing commitment and love.
- **Technological advancements in diamonds leading to lower selling prices:** The advent of lab-grown diamonds (LGDs), which have 70-80% lower selling prices than natural diamonds on a per-carat basis in CY 2023, is enabling growth in the market. LGD brands are increasing branding regarding the similar nature of LGDs with their natural counterparts, boosting customer awareness.
- **Multiple Direct-to-Consumer (D2C) LGD brands emerging offering certified LGD-studded jewelry:** D2C LGD brands are ensuring transparency and providing consumers with access to high-quality, affordable jewelry options.

In CY 2023, the jewelry consumption per capita for India stands at INR 3,600 (USD 43), which is ~80% lower than that of the USA and ~46% lower than that of China. While India is the third largest jewelry consumer, the scope for growth is still large.

Figure 19: Jewelry Consumption per capita- by Country
In INR (USD), CY 2023

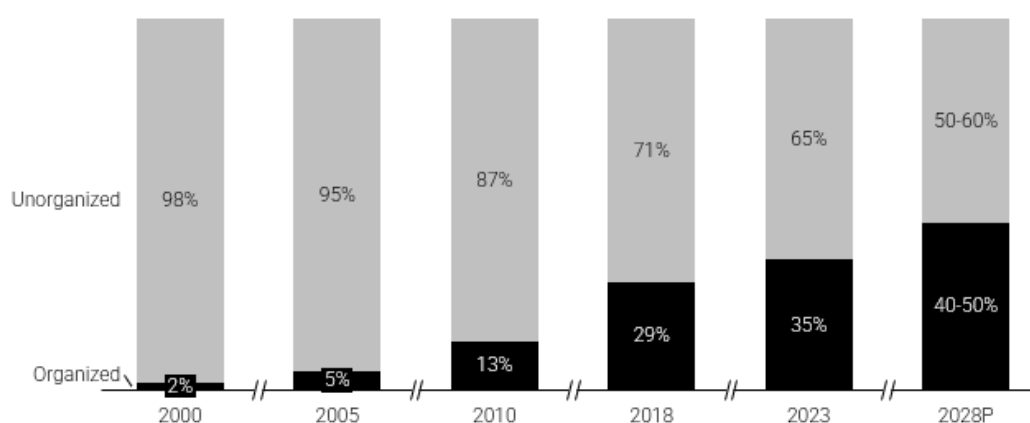


Source(s): World Bank, Redseer research and analysis

Organized market is gaining share in India due to both demand and supply-side drivers, aided by regulatory reforms.

The organized market drove ~35% of the Indian jewelry market in CY 2023, while the industry remains dominated by the unorganized segment comprising local jewelers & goldsmiths. The share of the organized market in India is much lower than that of global leaders like China and the USA, where the organized market holds 60% and 80% of their markets, respectively. Following the trend in developed markets, the share of organized jewelry retail in India has rapidly increased in the past two decades, increasing from a meager 2% in CY 2000 to ~35% in CY 2023. From being dominated by traditional jewelers, the market is witnessing a shift after the emergence of organizations in the form of key industry leaders providing sophisticated retail experiences across the country.

Figure 20: Indian Jewelry Market by Market Structure
In %, CY 2000 – CY 2023, CY 2028P



Source(s): Redseer research and analysis

Traditional family jewelers have prominently controlled the Indian jewelry market till CY 2000. The early 2000s were marked by the emergence of an organized market with the first few players launching retail stores in India. Further, dominant local players started their regional expansion and began deploying franchise models. Multiple players also launched multiple sub-brands from CY 2000

to CY 2010, leading to further growth in the market. Post CY 2016, supply-side reforms like the introduction of Goods and Services Tax, mandatory gold hallmarking, and demonetization further pushed the growth of organized retail. The organized market share is expected to increase to contribute to 40-50% of the market by CY 2028. Multiple factors have been driving this growth and are expected to continue to do so in the future –

Some of the key demand drivers for organized jewelry retail are:

1. *Increasing Urbanization & Migration*

With an increase in demand for labor in urban areas & better wages, the country has witnessed a rapid rise in migration over the last few years. As a result, traditional jewelers whose business is largely dependent on family connections are losing their business to migration, while the organized segment is enjoying a growing consumer base by fulfilling their need for a reliable & transparent jewelry partner in urban cities.

2. *Increasing young population and rising women's participation in the workforce, reshaping consumer preferences*

In CY 2023, India had the largest Gen Z (anyone in the age group of 11-26 years) and Millennial (anyone in the age group of 27-42 years) population of 761 million, which constituted ~53% of the country's total population. With the rise in the younger population, there has been an evident shift in consumer preferences for jewelry. More in line with global trends, there has been a rise in demand for modern, fashionable, everyday & affordable jewelry with better designs. Organized markets are more adapted to cater to the changing needs of the consumer, providing them with an advantage over unorganized jewelers.

Women's participation in the workforce has been increasing gradually with better access to education and career opportunities, increasing daily wear and fashion jewelry sales. Organized market players have been better able to address the gap in the daily wear and fashion jewelry market through the integration of online & offline storefronts in comparison to unorganized players with a lack of online presence.

3. *Increasing need for authenticity and transparency*

With a rise in awareness & brand consciousness, consumers have now become more sophisticated in terms of their jewelry preferences. There is a need for quality & price assurance among consumers, contributing to the need for certification. Leading organized retailers have been able to address this need, providing certifications from world-renowned laboratories, hence providing customers with a superior shopping experience & satisfaction.

4. *Shift to brand value and superior shopping experience*

Organized market jewelry players have leveraged multiple marketing campaigns and carefully fabricated a brand name, value & trust over the years. Providing a wide variety of designs, transparent prices, product customization, after-sales buyback service & superior showroom shopping experience, they have been able to grab an increased consumer base as compared to unorganized players. Also, the adoption of an omnichannel approach has been crucial. Strategy integrating various shopping channels (online, in-store, mobile) into a seamless customer experience has been instrumental in inclination towards organized players as it has provided customers with better information and built trust, leading to informed decision-making.

Some of the key supply-side drivers for organized jewelry retail are:

1. *Goods & Services Tax (GST)*

Total tax & duties levied on gold jewelry increased by ~1.6% after the implementation of GST (with effect from July 1, 2017). GST brought in increased transparency in the jewelry market by enforcing tax compliance, which ultimately benefitted the larger organized market players by reducing the cost gaps between organized & unorganized market players.

2. *Mandatory Hallmarking Requirements*

Gold hallmarking is a purity certification & was voluntary till June 16, 2021, when the government mandated it. Organized market players have always found themselves on the lower end of the stick as unorganized players enjoyed a cost advantage over them by non-disclosure of purity standards. But with the compulsion of hallmarking, unorganized players will find themselves in a tight spot with additional costs & processes to comply with the hallmarking requirements. Reduction in the price gap will eventually shift business from unorganized to organized sector.

3. *Mandatory PAN Card*

Government-mandated KYC in the form of PAN or Aadhar Card for any transaction above INR 2 Lakh with effect from January 1, 2016, for jewelry purchases, hence making it compulsory to establish the identity of the buyer, which will make it difficult for the unorganized market to operate.

4. *Demonetization*

With the advent of demonetization, a perceptible shift from cash to cashless transactions was noticed in the jewelry sector. Organized players, adding on their transparent transactions claim, were quick to switch to the new mode of payments, while the unorganized retailers who run a predominantly cash-based business found it difficult to adjust to the changes, giving the organized players a chance to further penetrate the market.

Demand for jewelry in India observes peaks in the last three months of each calendar year, i.e., October, November, and December. This is due to a combination of wedding season, harvest season, and festivals which take place during the last quarter of each year - all occasions where jewelry-buying is an important part of the Indian culture. Other periods where demand has seen an increase are in April and May, which are the festivals of Akshay Tritiya and Ugadi. These mark important days signifying prosperity and good fortune; thus propelling mass purchase of gold in India.

1. **Global Diamond Market**

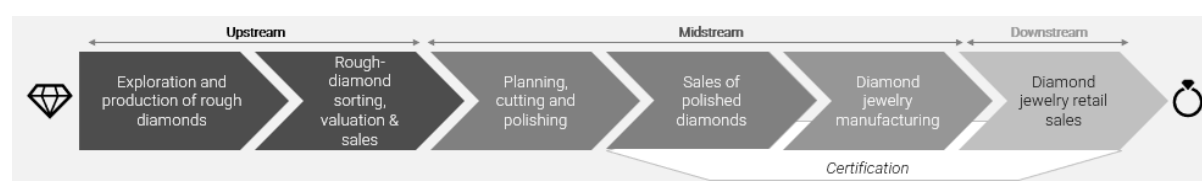
Diamonds are precious stones made of carbon atoms arranged in a dense lattice structure that makes them incredibly hard and resistant to deformation. Their most well-known application is for the studded jewelry industry. Diamonds are utilized in the making of studded jewelry due to their brilliant and luxurious nature, often adorning items like engagement rings, earrings, necklaces, and bracelets. Due to their abrasive nature, they are also extensively utilized in various industrial applications, including the manufacturing of industrial drills, dental tools, speaker domes, and computer components.

There are two main types of diamonds: natural & lab-grown. Both natural diamonds and lab-grown diamonds (LGDs) share remarkable similarities in their physical, chemical, and optical properties. Both exhibit the brilliance, fire, and durability that make diamonds prized stones. The only discernible difference between them lies in their origin – natural diamonds are formed over millions of years under immense heat and pressure from the Earth’s surface. Conversely, LGDs are created in laboratories over a few weeks using various manufacturing techniques.

The supply chain of natural diamonds (NDs) involves several stakeholders, each adding value to the final product.

Three major stages define the value chain in the natural diamond industry, beginning with the exploration of a potential diamond deposit and ending with retail sales.

Figure 21: Value chain of Natural Diamond-studded Jewelry



Source(s): Redseer research and analysis

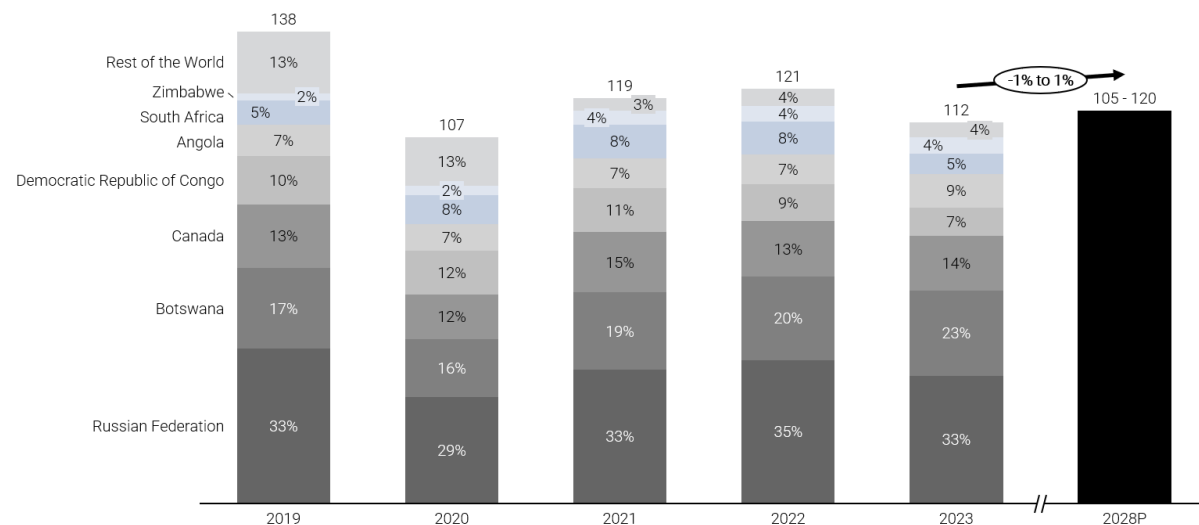
Upstream:

This stage starts with exploration, where producers engage in the search for commercially viable diamond resources. Once a promising site is identified, producers proceed to develop and construct new mines. The exploration phase involves extensive geological surveys, exploration drilling, and feasibility studies to evaluate the economic viability of mining operations. Upon confirming the potential of a site, producers invest in infrastructure, equipment, and personnel to establish and operate the new mine. This stage is critical for securing a sustainable supply of diamonds and involves significant investment, planning, and risk assessment to ensure successful mine development and production. In CY 2023, there were ~1,700 million carats of industrial diamond reserves, as per the US Geological Survey.

The next phase involves producers extracting diamondiferous ore (diamond-bearing location or materials) mined out of the ground. Once mined, the diamond ore passes through various processing stages to extract rough diamonds from it. Because these diamonds are in their natural state, they are called rough diamonds.

Mining of rough diamonds is highly dependent on reserves, and the growth of rough diamond production has been at ~1% from CY 2010 to CY 2019. The annual production has grown by ~1% from CY 2020 to CY 2023 and is expected to be in the range of 105-120 million carats by CY 2028. Russia, Botswana, and Canada account for ~68% of total natural diamond mining in CY 2022. Furthermore, in the same year, ~35% of the world’s rough diamonds are of Russian origin. International sanctions due to the Russia-Ukraine war limiting or prohibiting the importation of these diamonds could negatively affect the worldwide supply of natural diamonds.

Figure 22: Global Natural Rough Diamond Production – by Countries
In Million Carats, CY 2019 – CY 2023, CY 2028P



Note(s): P is Projected

Source(s): Kimberley Process, Redseer research and analysis

In the last phase of upstream processes, after extracting rough diamonds, the producers inspect, classify, and prepare them for sale. An initial sorting of rough diamonds is done for their valuation.

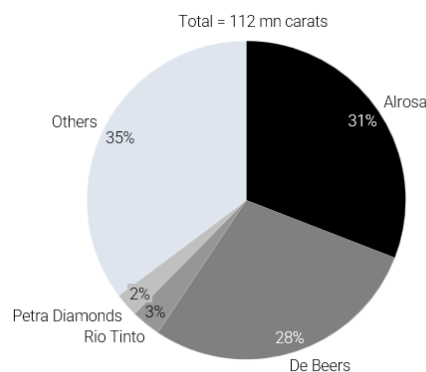
Rough diamonds are sold through 3 main channels –

- Tenders and auctions: Rough diamonds are offered for sale through competitive bidding processes.
- Long-term contracts: Diamond producers and major buyers negotiate long-term supply contracts, where predetermined quantities of rough diamonds are sold at regular intervals.
- Spot market sales: Buyers purchase diamonds at prevailing market prices without long-term commitments.

The authorized bulk purchasers of rough diamonds are called sight holders who can buy them via any of the above sales channels.

Another feature of the upstream stage of diamond production is that the market is highly concentrated in terms of market participants. The two largest players in the industry, Alrosa and De Beers, together accounted for ~60% of the world's annual production of rough diamonds in CY 2023.

Figure 23: Global Natural Rough Diamond Production – by Players
In %, CY 2023



Source(s): Kimberley Process, Redseer research and analysis

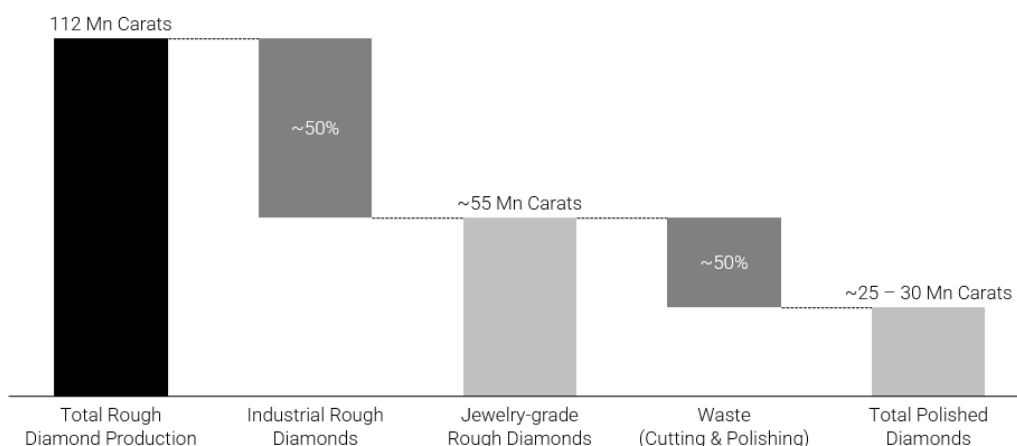
Midstream:

This stage begins with careful examination and analysis of the rough diamond's characteristics, such as its size, shape, color, clarity, and potential internal flaws or inclusion. This is done to maximize each rough diamond's beauty, brilliance, and value while cutting and polishing. Diamond cutters use advanced technology like 3D scanning and modeling to create precise digital blueprints for each diamond. These blueprints determine the optimal shape and proportions for cutting the diamond to maximize its brilliance and fire while minimizing weight loss. The planning stage also involves making decisions about the number and placement of facets, which significantly influence the diamond's sparkle and overall appearance.

Skilled artisans called “lapidaries” then use their expertise to ensure that each diamond is cut to achieve the best possible combination of beauty and value. They transform the rough diamonds into finished stones to create the largest gem possible, given the physical properties of the stone.

From the total rough diamond production, ~50% of diamonds are used for industrial purposes, and the rest, ~50%, are jewelry-grade rough diamonds. These rough diamonds lose ~50% of their weight in the cutting and polishing process.

Figure 24: Global Gem-Quality Polished Natural Diamond Production CY 2023

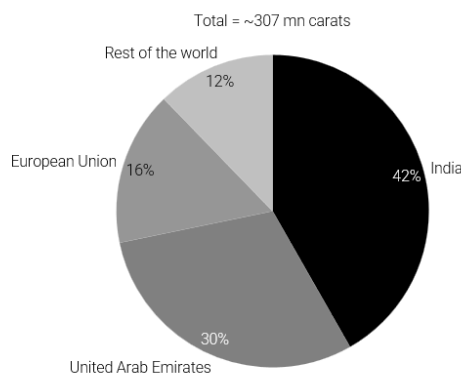


Note(s): Industrial diamonds are used for non-jewelry purposes in manufacturing processes across various industries (construction, high-tech, etc.). It might contain some diamonds that eventually are used in studded jewelry manufacturing, however, their share is relatively minute.

Source(s): Redseer research and analysis

India is the leading importer of rough diamonds, contributing to ~42% of overall rough diamond imports in CY 2023. UAE and EU are the next leading importer of rough diamonds.

Figure 25: Import of Rough Natural Diamonds – by Geography CY 2023



Note(s): The imports are higher than current year production due to rough diamond stocks and double counting as rough diamonds travel to multiple countries before their final destination

Source(s): Kimberley Process, Redseer research and analysis

Cut and Polished diamonds (CPD) are then sold at wholesale prices to jewelry manufacturers. India is the world's largest center for cutting and polishing diamonds, accounting for ~95% of the world's total polished diamonds in volume terms in CY 2023. This is primarily due to the low labor costs and an abundance of skilled artisans – talent accumulated with Surat, which has been a diamond trading center for several decades. In India, Surat is the primary hub of cutting and polishing diamonds, contributing to more than 90% of India's total volume of CPD in CY 2023.

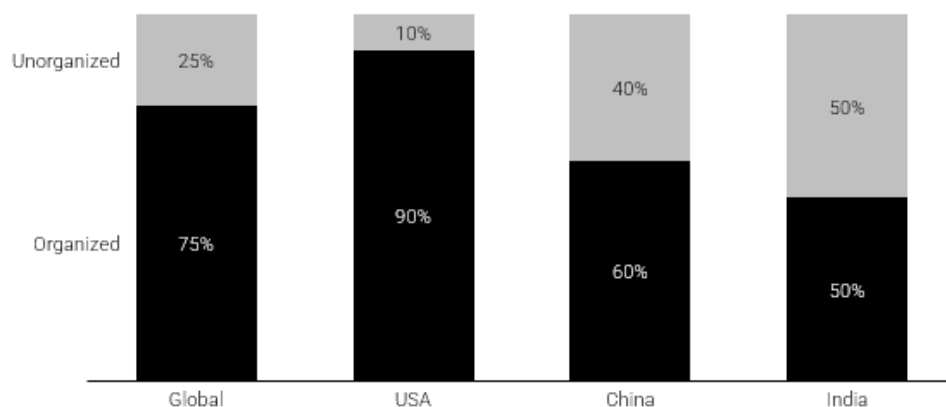
Polished diamonds undergo thorough grading and certification by independent gemological laboratories. These laboratories assess various factors, including color, clarity, cut, carat weight, and testing for natural or lab-grown origin to determine the quality and value of the diamonds. Certification of diamonds is done across the last two stages of the value chain for loose gemstones as well as studded jewelry.

Downstream:

Retail sales are the next stage of the value chain, which consists of multiple jewelry retailers selling to consumers around the world. The market is very fragmented, with multiple retail formats. After the pandemic, online retail is increasingly becoming a preferred channel for diamond purchases due to its diverse selection and increased options for consumers. While the USA is the largest consumer of diamonds, demand in Asia is increasing at a faster rate.

The retail global diamond market is categorized into organized and unorganized, where organized refers to studded jewelry being sold through established retail chains, branded stores, and online platforms, whereas the unorganized includes sales through local jewelers, family-owned businesses, and informal traders. The global diamond market is primarily organized, with only 20-30% coming from unorganized channels in CY 2023. The USA is the top consumer of natural diamonds, with a 55% market share, followed by China and India, both contributing ~22% combined in CY 2023. The USA diamond market is highly organized, with ~90% contribution due to major established brands, retail chains, and stringent regulations governing the industry. Chinese and Indian diamond markets are relatively more unorganized, with ~60% and ~50% contribution from organized channels, respectively in CY 2023.

Figure 28: Global Natural Diamond Jewelry Market (in value terms) - by Market Structure
In %, CY 2023



Source(s): Redseer research and analysis

Lab-grown diamonds (LGDs): a classic case of innovation-led disruption

The development of LGDs began in the 1950s. Initially, LGDs were manufactured almost exclusively for industrial applications. However, with advancements in technology, they gradually came to meet the demand for jewelry-grade diamonds, which led to the production of jewelry-grade LGDs in the 2000s.

Traditional diamond mining involves several intricate steps, including exploration, extraction, cutting, and distribution. In contrast, LGDs revolutionize the supply chain by bypassing mining and related processes and producing diamonds with the same composition in a faster and more sustainable manner. Technological developments have further streamlined LGD production, reducing both costs and production time. The demand for LGDs is largely driven by changing consumer preferences towards more affordable, sustainable, and ethical options. While natural diamonds still dominate the big engagement markets, LGDs offer a compelling value proposition. Consumers increasingly prioritize larger LGDs with color and higher clarity with the same budget, which would have gotten them a smaller and less quality natural diamond.

Lab-grown diamond (LGD) prices are generally 70-80% lower than those of natural diamonds on a per-carat basis in CY 2023. LGD prices have declined by 37% from CY 2020 to CY 2023. Such a decrease is primarily contributed by the declining wholesale prices. The rising consumer interest and improved technology have pushed multiple players in the production chain of lab-grown diamonds, causing an oversupply in the market.

However, prices of LGDs are expected to stabilize shortly due to a theoretical minimum cost of production. In CY 2023, LGD growers are estimated to incur an initial capital investment of USD 180,000 for rough lab-grown diamonds produced per reactor. These expenses include the cost of CVD reactor machines, generators, cooling systems, gas supply systems, and other setup costs. This investment cost can vary depending on the number of reactors a grower operates. These reactors have an estimated average monthly capacity of ~180 carats. Assuming ~85% utilization, they are projected to produce ~1,900 carats of rough LGD annually. An additional estimated operating cost of ~USD 51,300 is incurred for producing rough LGD per reactor, which is then sold to polishers at ~USD 66,500, yielding an estimated margin of ~20-25% over the revenue in CY 2023. The projected operating profit per reactor is around USD 15,200 in CY 2023. Dividing this by the estimated capital investment per reactor of ~USD 180,000 results in an estimated 8% RoIC. Polishers then sell this to jewelry manufacturers with an estimated operating margin of 30-35%, at a wholesale value of USD 200-250 for a 1-carat polished LGD in CY 2023.

After manufacturing diamond studded jewelry, it is sold to retailers at USD 650-700 per carat with an estimated 20-25% operating margin in CY 2023. Jewelry manufacturers bear multiple costs like the High-Pressure High-Temperature (“HPHT”) color treatments, grading and certification, laser inscription, annealing, shipping and handling of the diamonds between different facilities, and insurance². Margins largely depend on the scale of the retailer. Retailer’s prices to the end consumer are often varied with high operating margins of ~30-35%, thus bringing the price of the loose stone up to ~USD 1,100 for a 1-carat loose stone in CY 2023.

Given the capital-intensive nature of LGD production, LGD growers are unlikely to be able to reduce the selling price of rough LGDs much further. Other players in the value chain are also unlikely to shrink their margins significantly. Thus, LGD prices will likely stabilize. Also, LGD per carat retail prices have seen a price decline slowdown towards ~37% from CY 2020 to CY 2023, compared to the 65% decline observed from CY 2016 to CY 2020.

Figure 29: Indicative Breakdown of Margins for LGD growers

CY2023

Metric	Units	LGD Grower
Capital invested per reactor (includes other setup cost)	USD	~180,000
Average annual capacity per reactor	Carat	~2,160
Annual rough LGD production per reactor	Carat	~1,900
Operating cost (rough LGD) per reactor	USD	~51,300
Operating revenue per reactor	USD	~66,500
Operating Margins	%	20-25%
ROIC	%	~8%
Years to cover reactor setup costs	years	~11

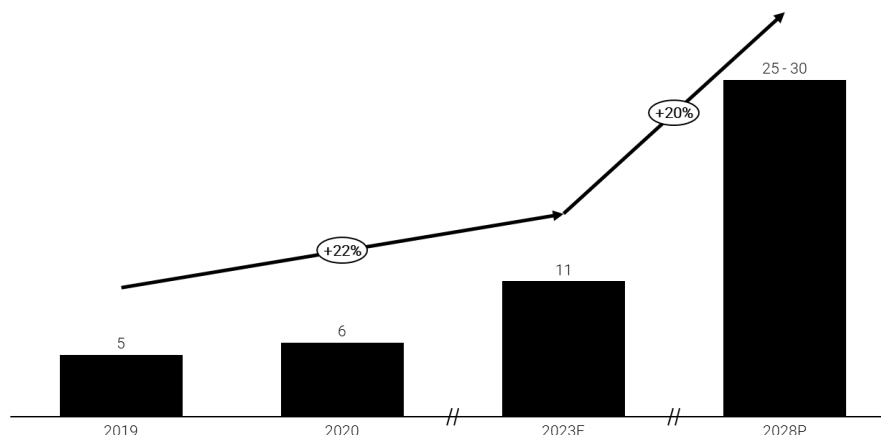
*Note(s): 1. Grower margins are for organizations only selling rough LGDs. 2. Annual production=80% (utilization rate) * Average annual capacity per reactor 3. Annual CPD LGD production per reactor = Annual Rough LGD production per reactor * wastage (assumed at 50%). 4. These assumptions on investments and costs can vary further than the ranges given basis the size of the grower, and year of incorporation. 5. Operating Margins = operating profit/operating revenue*

Source(s): Redseer research and analysis

At present, rough gem-quality LGD production for jewelry purposes is estimated at ~11 million carats in CY 2023. The rough gem-quality LGD production is expected to increase at ~20% CAGR to reach a projected ~25-30 million carats by CY 2028.

² These expenses can be incurred at other stages in the value chain.

Figure 30: Global Gem-quality Rough LGD Production – by Volume
In Million Carats, CY 2019 – CY 2023E, CY 2028P

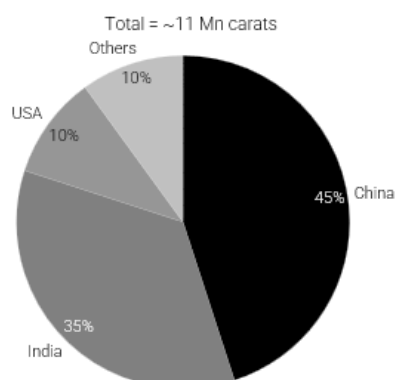


Source(s): Redseer research and analysis

China and India are the leading producers of LGDs, together contributing to an estimated ~80% of the LGD volume in CY 2023. The USA is the 3rd largest LGD producer with a 10% share.

Amongst the top studded jewelry-consuming nations, the USA leads the consumption of LGD-studded jewelry with more than ~80% of the market demand in terms of estimated volume for CY 2023. The high-income nation is viewing promising growth in non-bridal diamond-studded jewelry owing to the affordability of LGD-studded jewelry. Furthermore, jewelry brands like Pandora, which are leaders in lab-grown diamond sales, have the USA as their largest market. Their expansion into LGD-studded jewelry in North America has captured shoppers' interest, boosting demand for their entire product range.

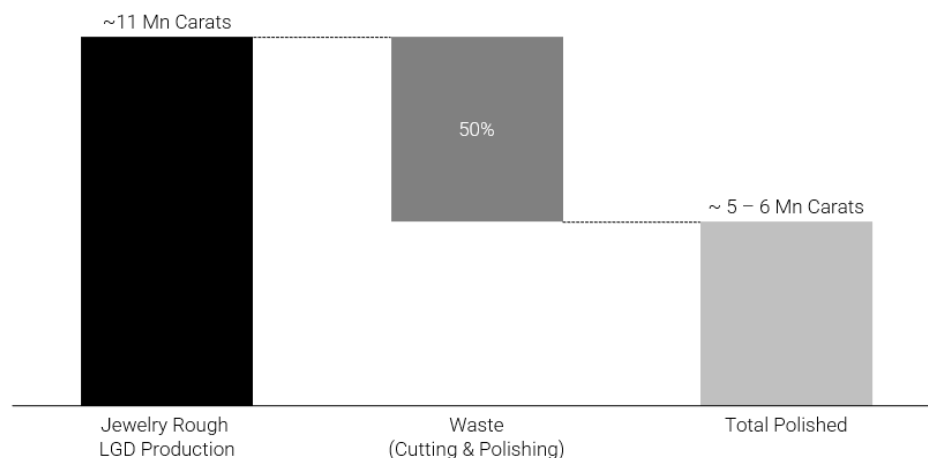
Figure 31: Global Gem-quality Rough LGD Production – by Country
In %, CY 2023E



Source(s): Redseer research and analysis

Similar to the production process of natural diamonds, lab-grown diamonds undergo sorting for both jewelry and industrial applications before they can be cut and polished to achieve the desired shape. It is estimated that LGDs lose ~50% of their weight during this stage.

Figure 32: Global Gem-quality Polished LGD Production
In Million Carats, CY 2023E



Source(s): Redseer research and analysis

Two primary methods are utilized in the production of LGDs: the High-Pressure High-Temperature (HPHT) method and the Chemical Vapour Deposition (CVD) process.

1. **HPHT:** Emerging in the 1950s, this is the older of the two methods in terms of usage and involves a higher initial investment. Herein, diamonds are produced from carbon material in apparatuses, which create high temperatures and pressures found in natural diamond formation. This method is also used to treat the color of naturally mined or CVD lab-grown diamonds. However, its reliance on graphite input faced supply chain challenges during the pandemic, posing setbacks for the industry, particularly in China, which extensively uses the HPHT technique.
2. **CVD:** This method involves the crystallization of a diamond seed through the infusion of a carbon-containing gas in a chamber. However, it was not until the 1980s that this process was refined. Today, it requires smaller machines, works at moderate temperatures and low pressure, and tends to be cheaper and more sustainable than HPHT diamonds, thus opening the possibility for cost-effective mass production of diamonds. Unlike HPHT diamonds, which are contaminated by nitrogen, CVD diamonds are purer as they do not contain nitrogen or boron impurities. India deploys extensive use of the CVD technique.

Diamonds produced through the two methods often differ in shape, clarity, and color. Following production, they require planning, cutting, and polishing before they can become suitable for jewelry. This step is crucial, as it gives the final diamond its shape. About 90-95% of the gem-quality LGDs came to Surat, India, for cutting and polishing in CY 2023.

Production and consumption of LGD are growing at a faster rate than natural diamonds.

Figure 33: ND and LGD Comparison

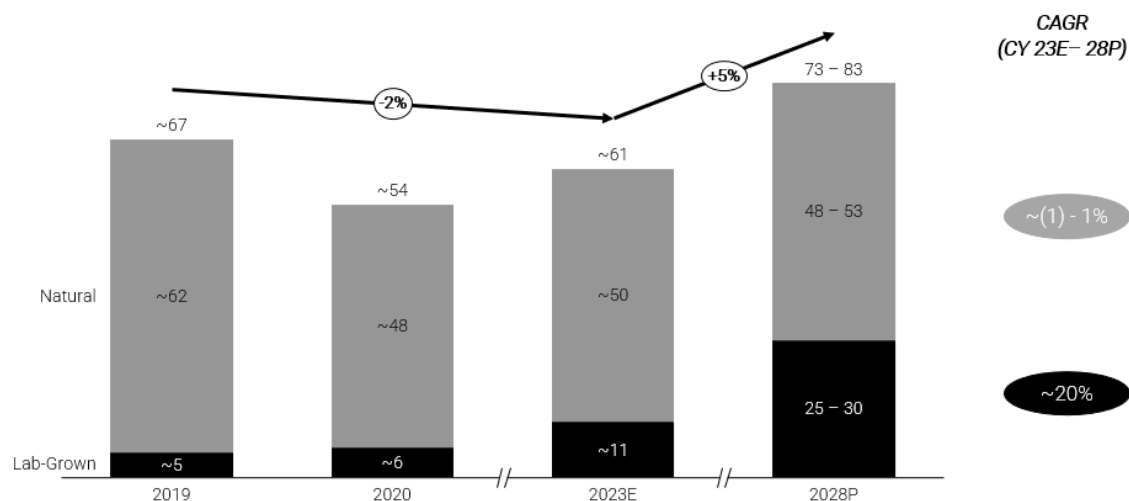
	Natural Diamond	Lab-Grown Diamond
Origin	Mined from the earth	Chemically developed in labs
Shape of rough form	Octahedron	Cuboctohedron/Cube
Chemical Composition	Single element carbon with some impurities	Single element carbon with negligible impurities
Production Methods	Mining	HPHT, CVD
Major Producing countries	Russia, Canada, Botswana	China, India
Indicative Producers	Alrosa, De Beers, Rio Tinto	Blue Star, Dholakia Technologies, Greenlab Diamonds, Zuhai Zhong Na Diamond
Carbon Footprint	~110 kg CO _{2e} per carat	~10 kg CO _{2e} per carat
Retail Price of a 1 carat solitaire ¹	~US\$ 5K	~US\$ 1.1K

Note(s): 1. Only sold in set jewelry, price based on estimated cost of loose stone: 1-carat, VS clarity, F-H color, V-G ideal cut. These prices can vary by the quality of a diamond. The name of the producers is an indicative list.

Source (s): Redseer research and analysis

Currently, the total global gem-quality rough diamond production is estimated at ~61 million carats in CY 2023. LGD production has observed a faster growth than natural diamond production from CY 2020 to CY 2023 and has reached an estimated ~11 million carats. It is further expected to increase at a faster growth rate of 18-22% till CY 2028 and projected to reach 25-30 million carats.

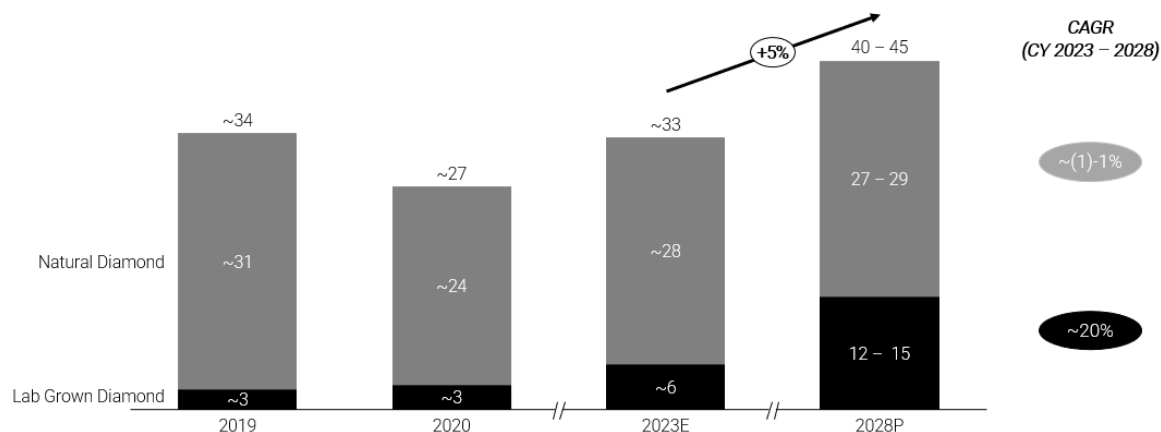
**Figure 34: Global Gem-quality Rough Diamond Production by ND and LGD
In Million Carats, CY 2019 – CY 2023E, CY 2028P**



Source(s): Kimberley Process, Redseer research and analysis

In CY 2023, the global cut and polished diamonds (CPD) used for jewelry purposes stood at an estimated ~33 million carats, with ~28 million natural diamonds and ~6 million LGDs.

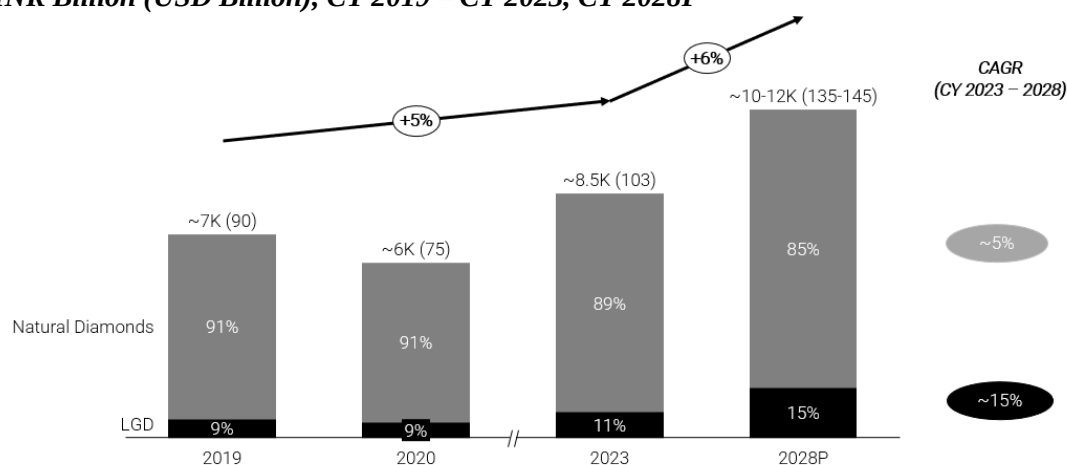
Figure 35: Global Cut and Polished (Gem-quality) Diamond Production by ND and LGD
In Million Carats, CY 2019 – CY 2023E, CY 2028P



Source(s): Redseer research and analysis

The overall global diamond jewelry consumption stands at ~INR 8.5K billion (USD 103 billion) in CY 2023, with ~89% contribution from natural diamond consumption. The market is expected to grow at a CAGR of ~6% to reach INR 10-12K billion (USD 135-145 billion) by CY 2028, with LGDs driving growth by increasing at a projected ~15% CAGR, whereas natural diamond is expected to grow at ~5% CAGR.

Figure 36: Global Retail Diamond Jewelry Consumption by ND and LGD
In INR Billion (USD Billion), CY 2019 – CY 2023, CY 2028P

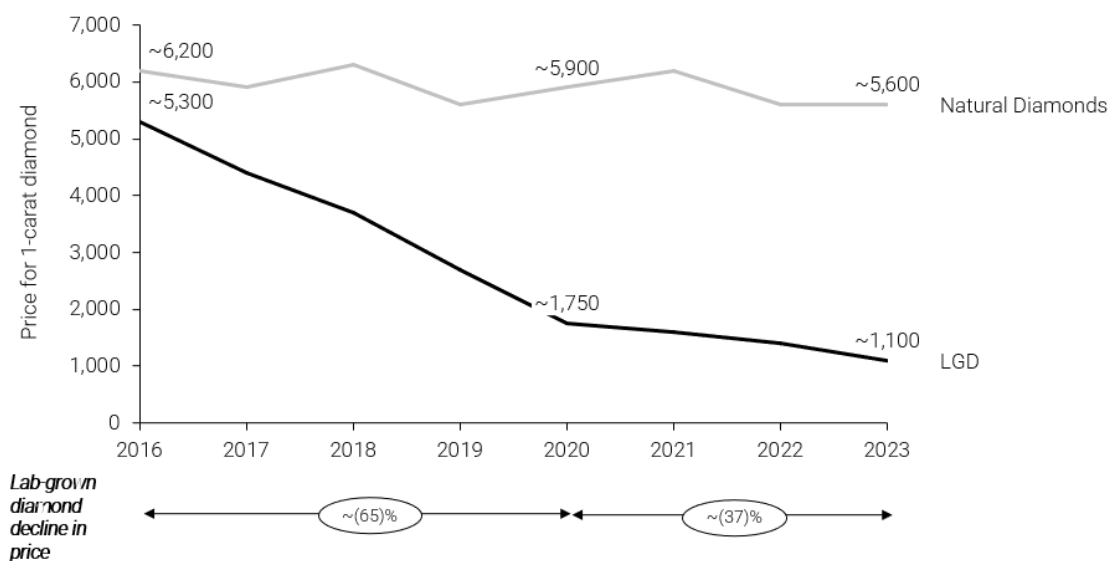


Source(s): Redseer research and analysis

The following are the key drivers for the fast growth of global LGD consumption-

- **Affordable luxury:** Lab-grown diamonds are generally priced 70-80% lower than NDs on a per-carat basis in CY 2023 and offer larger stones within the same budget in the retail market. Customers can avail of larger and varied stones for similar prices. There is a potential for customers to increase the frequency of purchasing diamonds.

Figure 37: Retail Pricing Benchmark of LGD vs Natural Diamonds
 In USD, CY 2016 – CY 2023



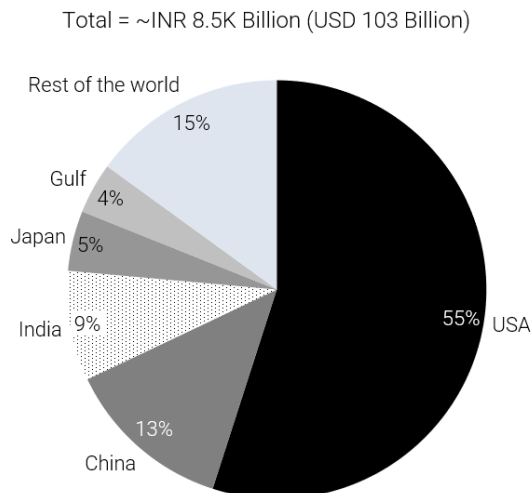
Note(s): Only sold in set jewelry, price based on the estimated cost of loose stone: 1-carat, VS clarity, F-H color, V-G ideal cut. These prices can vary on the quality of the diamond.

Source(s): Redseer Research & Analysis

- LGDs provide the opportunity to design diamonds:** Unlike natural diamonds, LGDs offer the possibility of customization of colors, sizes, and clarity during the production process. For example, while natural-colored diamonds are rare in nature, LGDs can be artificially created in laboratories in a matter of a few weeks.
- Greater acceptance from jewelry retailers:** Big jewelry brands increasingly see LGDs as a lucrative introduction to their fashion and everyday jewelry segments. Jewelry retailers are increasingly adopting LGDs as they drive sales volumes and act as an affordable entry point for consumers. As advancements in technology make LGDs more characteristically rich, the inclusion of separate LGD lines by these industry players is observed. For example, a leading LGD jewelry brand commenced retail of LGDs in CY 2021 in the UK and expanded to the USA and Canada, recognizing the sustainability appeal. It has since then launched multiple campaigns featuring top celebrities as the face of its LGD collection, introducing rings, earrings, bracelets, and necklaces. Another leading jewelry and accessories brand renowned for its precision cutting, innovation, and artistry since 1895 added lab-grown diamonds to its B2B portfolio in CY 2016 before expanding into the consumer-facing fine jewelry market around CY 2018.
- Changing consumer perception of LGDs:** The shift in consumer preferences towards experiences and affordability rather than traditional symbols of status is driving demand for lab-grown diamonds. Companies' marketing programs have begun advocating for LGDs.

China, India, and the USA are the world's top 3 diamond-studded jewelry-consuming markets that combined contribute to ~77% of the market in CY 2023. The USA is the largest consumer of diamond jewelry with ~INR 4.8 K billion (USD 57 billion). Both China and India have grown at more than ~20% CAGR to reach ~INR 1,120 billion (USD 13.5 billion) and ~INR 780 billion (USD ~9 billion), respectively, in CY 2023.

Figure 38: Global Diamond-studded Jewelry Consumption by Countries
 CY 2023



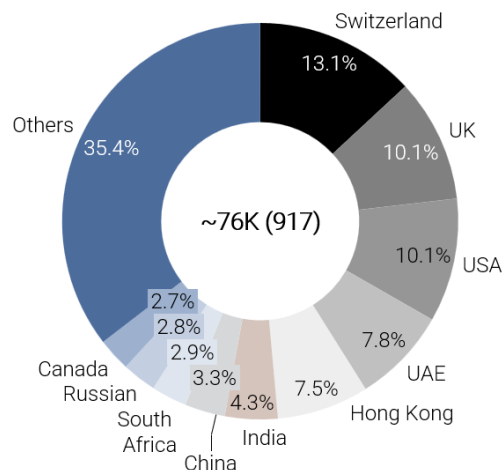
Source(s): Redseer research and analysis

India is not only a key diamond-studded jewelry consumer but also plays a key role in the value chain – for both natural and lab-grown diamonds

India is an export hub for jewelry and loose stones

India was the sixth-largest exporter of jewelry and loose stones and had a ~4.3% share in global exports in CY 2022.

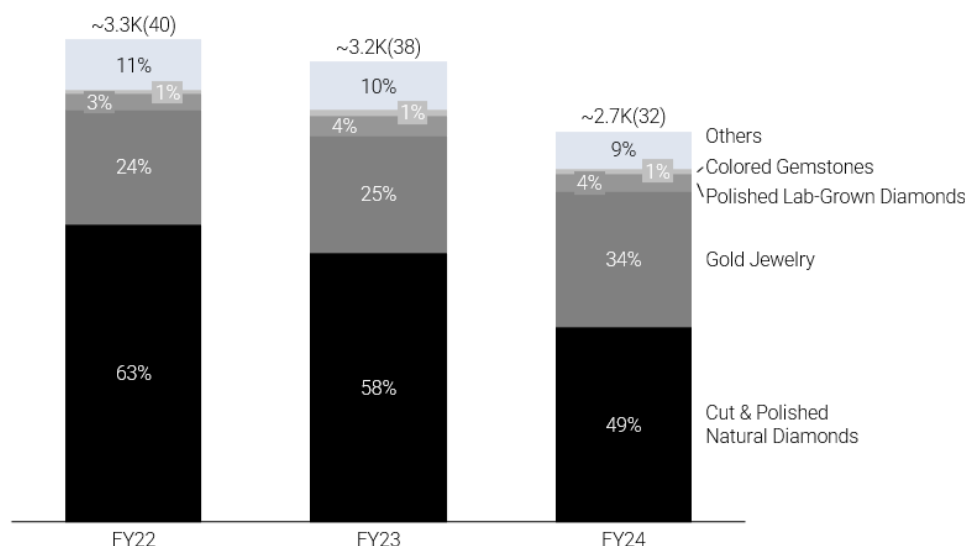
Figure 39: Global Jewelry and Loose Stones Exports¹ by Countries
 INR Billion (USD Billion), CY 2022



Note(s): 1. Jewelry and loose stone exports include cut and polished diamonds, gold jewelry, silver jewelry, polished LGDs, colored stones, platinum jewelry, and others

Source(s): Gem and Jewelry Export Promotion Council ("GJEPC")

Figure 40: Indian Jewelry and Loose Stones Exports by Type of Products
INR Billion (USD Billion), FY 2022 – FY 2024



Note(s): "Others" includes rough-colored stone exports, silver and platinum jewelry, imitation jewelry, pearls, gold bars, polished synthetic stones, etc.

Source(s): Gem and Jewelry Export Promotion Council ("GJEPC")

Cut and polished diamonds (CPD) account for ~50% of total jewelry and loose stones exports in FY 2024: India is the world's largest hub for cutting and polishing diamonds, accounting for ~95% of the world's polished diamonds in CY 2023. As per data from the Gem and Jewellery Export Promotion Council (GJEPC), India held the top position in CPD exports, accounting for ~27% of the world's exports in FY 2022. CPDs from India are exported to countries like the USA, Hong Kong, the UAE, Belgium, etc. The USA is the key market, with a 36% share in FY 2023, followed by Hong Kong at 25%.

In FY 2024, gross exports of CPDs dropped from ~USD 22 billion in FY 2023 to ~USD 16 billion. Several factors contributed to this decline, including the normalization of the pent-up demand post-recovery from concerns around the Russia-Ukraine crisis, rising inflation in global economies, and weak demand from China and Western countries.

Lab-grown diamonds: India is the second largest in terms of rough LGD manufacturing in the world after China - India produced ~35% of the world's LGDs in CY 2023. However, India ranked first in exports of lab-grown diamonds in CY 2022, with a share of 29% of the world's exports. LGD exports constituted ~4% of India's total jewelry and stones exports in FY 2024.

Several factors have contributed to India's leadership in the diamond value chain –

- **Strong moats that enable India to control ~95% of the global diamond polishing requirements in CY 2023 –**
 - **Skilled Labor Force:** A large pool of skilled artisans and craftsmen is available, possessing expertise in diamond cutting, polishing, and studded jewelry manufacturing. Traditional craftsmanship has been passed through generations with a culture of precision and attention to detail.
 - **Cost Efficiency:** Skilled labor force and artisans are available at much lesser costs compared to other diamond manufacturing centers in the world.

- **Early adoption of LGD manufacturing:** While LGD manufacturing technology has been developing for several decades, Indian entrepreneurs and manufacturers have warmed up to LGDs and scaled up production quickly, making India the second-largest LGD manufacturer in the world.
- **Infrastructure and ecosystem:** India has developed a robust infrastructure that includes specialized diamond-cutting and polishing centers in cities like Surat, Mumbai, and Jaipur. These hubs are equipped with state-of-the-art technology and facilities for efficient diamond processing. A well-developed network of industry associations and trade bodies also facilitates collaboration, knowledge sharing, and skill development.

The government is supporting the domestic diamond industry by building infrastructure and policy interventions, specifically for LGDs

The Government of India (GOI) has implemented several initiatives to boost the diamond industry in both processing and trading infrastructure –

- **Surat Diamond Bourse (SDB)** has been established in Surat, Gujarat, to consolidate and streamline various aspects of the diamond industry. Inaugurated in CY 2023, the SDB is the world's largest jewelry and diamond business center, built up over 6.6 million sq. ft. of area, encompassing 4,500 offices for national & international traders.
- **Safe harbor rules:** The Union Budget 2024 proposed allowing Safe Harbor Rules for the sale of rough diamonds in Special Notified Zones (SNZs). Safe Harbour Rules aim to create a more favorable trading environment and reduce regulatory liability. This is aimed at making India a trading hub for rough diamonds, similar to Dubai and Belgium.

Additionally, the GOI has emphasized boosting the exports of lab-grown diamonds due to their cost-effectiveness and growing demand in the market.

- **Research grants:** In the Union Budget 2023, GOI allocated a grant of INR 2.42 billion to IIT Madras for research on LGDs. The primary objective was to develop a sector complementary to the natural diamond industry, stimulate domestic employment and manufacturing, and decrease reliance on imports.
- **Duty exemptions:**
 - a. **Customs duty exemption for LGD seed diamonds:** In February 2023, CBIC (Central Board of Indirect Taxes) provided exemption from customs duty on the import of seeds for use in the manufacturing of rough lab-grown diamonds. This exemption shall be available till 31st January 2025.
 - b. **Customs duty exemption for testing and certification of diamonds:** Selected laboratories have been permitted to import diamonds to their laboratories without any import duty for certification/grading reports.
- **Policies**
 - a. **Foreign Direct Investment (FDI):** The GOI allows 100% FDI in the LGD sector through the automatic route, positioning India as an attractive market for LGD companies.
 - b. **Distinct import codes for LGD:** Two distinct import codes were created for LGDs and natural diamonds to enhance transparency and enable consumer-level product identification.

2. Traceability, Trust & Certification In Loose Stones and Studded Jewelry Market

Certification consists of the physical analysis of a stone provided by independent³ laboratories. It is a structured process that includes both scientific analysis and manual assessment. Some of the most common problems faced by stakeholders in the loose stones and studded jewelry supply chain are related to traceability, standardization, and authenticity. The grading system serves to standardize product evaluation among jewelers, laboratories, and consumers worldwide.

Historically, studded jewelry and loose gemstones have been graded through visual inspection. The process was very subjective and depended largely on the skill, expertise, and judgment of the individual involved, including the parameters selected. This posed a challenge to reliable valuation and comparison of diamonds originating from different parts of the world. The situation has improved drastically since the latter half of the 20th century, with certification laboratories and institutions setting their respective standards for certification.

The major global peer set⁴ of diamond certification companies include Gemological Institute of America (GIA), Gemological Science International (GSI), Hoge Raad Voor Diamant (HRD) Antwerp, Solitaire Gemmological Laboratories (SGL), and International Gemmological Institute (IGI)⁵. All these players have a presence in India along with global reach in at least 5 countries.

Certification plays a key role in the global loose stones and studded jewelry market. While metal quality can be determined based on its purity, the properties of diamonds are not visibly distinguishable to the human eye and require an expert assessment. Diamonds are made of carbon and other impurities, which impart essential characteristics (such as color) to the stone. Hence, “purity” cannot be used as a parameter for diamond quality analysis, unlike metallic elements such as gold, silver, and platinum. Thus, it is nearly impossible to have a single standard for diamond certification. However, the key common standards include cut, clarity, color, and carat weight. Often, metrics of fluorescence, symmetry, etc., are also evaluated. These standards would vary in terms of rigor, transparency, and scope across industry players – leading to variability in diamond grading. Comprehensive certification of diamonds is thus essential for several reasons.

1. **Establishing trust & authenticity for downstream stakeholders:** Diamond and colored stone certification serves as vital proof of grade, authenticity, quality, and origin for both the present and future. This helps eliminate doubt about the product and assures engaging with the right product. A certificate, thus, provides legitimacy to multiple players in the value chain as well as makes the process for authentication of diamond quality & possibility for reselling seamless.
2. **Counterfeiting and fraud:** With advancements in technology, counterfeiters have become increasingly adept at producing simulants replicating the appearance of diamonds and colored stones using advanced techniques, such as synthetic stones and sophisticated imitations. These counterfeit stones can closely resemble natural diamonds in terms of appearance, color, and clarity, making them difficult to distinguish without specialized equipment and expertise. This erodes consumer trust and creates hesitation as they are unable to distinguish between genuine and counterfeit stones. All stakeholders, particularly the jewelry retail brands, stand to lose their reputation if counterfeit goods bearing their brand name or trademarks enter the market. Thereby arises a need to appropriately educate all stakeholders in assessing diamond and colored stone characteristics in addition to certification.

³ Independent implies the lab is not affiliated with any jewelry retailer, manufacturer, or other commercial entity that could potentially bias their assessments.

⁴ Referred to as the peers – see definition in glossary.

⁵ As used in this report, all references to IGI refer to the global IGI business as a whole, including IGI India and its subsidiary, IGI Belgium and its subsidiaries and IGI Netherlands and its subsidiaries.

3. **Identification of the origin of diamonds:** The diamond market is rapidly evolving and moving towards LGDs. LGDs are typically cheaper than comparable NDs, resulting in greater affordability & access. India and China are emerging as high-growth LGD manufacturers. Such growth has two-fold effects. Firstly, LGDs create their demand for certification on parameters similar to NDs, along with origin reports. On the other hand, growth in LGDs – especially the unorganized market – creates the risk of adulteration (e.g., impersonation of LGDs as NDs) as they are indistinguishable in the absence of adequate equipment. IGI is the first mover among its global peers to introduce lab-grown diamond grading with comprehensive parameters. Additionally, it became the first among its global peers to issue certification reports for lab-grown diamonds globally (CY 2005).
4. **Ethical sourcing and traceability:** A universal standard for what constitutes an “ethically sourced” or “sustainable” diamond is absent. While industry initiatives such as the Kimberley Process Certification Scheme aim to prevent the trade of conflict diamonds, there is potential to expand the scope and enforcement mechanisms. New technologies for end-to-end traceability, such as blockchain, are very nascent. Additionally, standards for environmental sustainability in diamond mining vary widely depending on local regulations, industry practices, and corporate policies. Diamond certification labs are also increasingly moving towards sustainable practices.

As a result, diamond certification has grown in the last few years despite several challenges faced by diamond industry stakeholders.

Certification is one of the key elements in assuring the quality of diamonds and colored stones for each stakeholder in the supply chain. This is particularly critical for midstream and downstream activities so that the authenticity and quality of the stones used in jewelry-making are verifiable.

- **Wholesalers and manufacturers:** Certification of loose diamonds and colored stones is important to ensure input quality as purchased from cutting-polishing players. This allows accurate comparisons and ensures consistency in grading. Additional information on the origin geography of natural diamonds and colored stones helps meet ethical sourcing requirements.
- **Retailers:** Certification builds trust in the retailers’ buying process, allowing better visibility on the valuation of the diamonds used in jewelry manufacturing. It also reduces the risk of retailers investing in inventory that may be difficult to sell or subject to disputes and returns due to quality discrepancies.
- **End consumers:** The purchase of jewelry is based on trust in the retailer. ~50% of the natural diamonds market in India is organized in CY 2023. However, in the absence of a standardized process for checking the quality of diamonds (in contrast to the standardized implementation of “hallmark” for checking the purity of gold used in a jewelry piece), the need to build customer trust is even higher. Certification from independent certification providers meets this gap. It also establishes trust in aspects such as the “Ethical” sourcing of diamonds and colored stones, with certified identification of the origin.

Brief history of gemstones and diamond certification

Diamond certification involves thorough analysis conducted by independent laboratories, blending scientific examination and subjective evaluation. Today, the diamond grading system serves as a crucial communication tool across the industry. Over time, this system has evolved and been influenced by technology, collaboration, and a deeper understanding of diamonds.

In the 1800s, diamond grading faced challenges, especially in determining color consistency. Terms like “Jager” and “Cape” denoted diamond origins (based on their mining locations), and grading metrics were largely inconsistent, complicating the grading system. In 1941, a US-based gemological laboratory became the first firm to introduce a standardized grading system. The creation of 4Cs

(Carat Weight, Color, Clarity, and Cut) in 1953 has since replaced subjective descriptors with objective letter grades, which have emerged as internationally recognized standards.

Process of certification for diamonds and colored gemstones

The process of diamond certification involves a series of meticulous steps conducted by independent laboratories to evaluate various aspects of a diamond's quality –

1. **Weight and measurement:** Specialized equipment is employed to accurately weigh and measure the dimensions of the diamond. Typically, the weight of a diamond is measured in “carats” and “cents”, with 1 carat being equal to 200 milligrams and a “cent” denoting 2 milligrams. Precision in these measurements is crucial, forming fundamental aspects of the diamond's overall evaluation.
2. **Color grading and fluorescence:** Color is a significant factor affecting the value of a diamond. The rarity of the color of a diamond, especially a natural diamond, influences its pricing, with exceptional stones fetching premium prices. Each certification agency has its own set of “master stones” consisting of diamonds with known color grades. These stones serve as a reference to determine the color grade of the stone being tested. The diamond is examined under controlled lighting conditions to accurately assess its color, ensuring consistency and reliability. It is done on a D-Z scale where D signifies colorless and Z, light yellow.

Diamonds are also tested on their fluorescence, which is the property of diamonds to emit visible light when exposed to UV rays. The degree of fluorescence impacts a diamond's brilliance; very strong fluorescence can make it look hazy. The intensity of fluorescence is reported in a range from “none” to “very strong” after optical measurement of the visible spectrum of light generated by passing UV rays through a diamond.

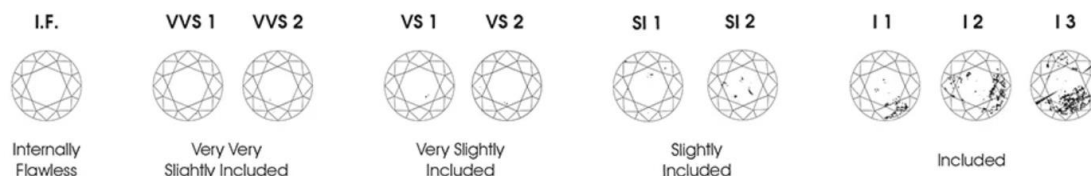
Figure 41: Example of Color Grading Scale used for Diamond Certification



Source: International Gemmological Institute (IGI)

3. **Clarity and finish grading:** Highly skilled graders examine the diamond under magnification and standardized lighting conditions. They assess clarity characteristics such as “inclusions” (internal flaws) and “blemishes” (external imperfections). The finish quality, including polish and symmetry, is also thoroughly evaluated against specific standards. Multiple graders may be involved in this step to verify the findings and ensure consistency. The most recognized grading system grades the highest to lowest clarity of diamonds from Flawless (FL) to Included (I). Clarity grades denote the absence or presence of inclusions and are determined under 10x magnification. Gemologists use a step-by-step wedge technique, examining the diamond in segments, to provide a map of the diamond's internal and external clarity characteristics.

Figure 42: Example of Clarity Grading Scale used for Diamond Certification



Source: International Gemmological Institute (IGI)

4. **Cut grading:** There has been an increased emphasis on and awareness of the fancy-shaped diamonds. Broadly, diamonds are categorized into two primary shapes when considering their cut grades: “round”

and “fancy.” For round brilliant diamonds, evaluation is based on a set of guidelines/parameters that directly affect the – brightness (amount of white light that a diamond reflects.), fire (dispersion or colorful flashes of light that a diamond emits when exposed to light), scintillation (shimmer effect that occurs when a diamond is viewed from different angles), weight ratio (weight in relation to a diamond’s average girdle diameter), durability (risk of damage that might result from an extremely thin girdle), polish (quality of the diamond’s surface finish) and symmetry (alignment of diamond’s facets). The first three describe the diamond’s appearance, and the remaining four components describe the design and craftsmanship. Shapes such as “Princess”, “Cushion”, “Heart”, “Radiant”, “Emerald”, “Oval”, “Pear”, etc. fall under the category of “Fancy” shape diamonds. Most laboratories grade these diamonds on select guidelines/parameters (typically only polish and symmetry). The typical grading scale of cut consists of 5 - 6 levels (different for different certification agencies), ranging from poor/fair to excellent/ideal.

Figure 43: Type of Diamond “Shapes”



5. **Certification report:** Finally, a comprehensive certification report is generated detailing the diamond’s characteristics based on the grading system employed by the certification agency. This report includes information and relevant graphical representation of the diamond’s cut, color, clarity, carat weight, finish symmetry, fluorescence, and any inscriptions. It serves as official documentation of the diamond’s quality and attributes, providing valuable information for consumers, retailers, and industry professionals alike.
6. **Other testing parameters (typically provided as optional tests by laboratories)**
 - a. **Laser Inscription:** A unique identification number can be laser-etched onto the diamond’s girdle. This inscription provides added security and traceability, connecting the report directly to the physical diamond and enhancing confidence for buyers.
 - b. **Origin Identification:** Different laboratories have varying methods for certifying the geographical origin of diamonds and colored stones. Some laboratories document a diamond’s unique characteristics from its rough state and examine the finished diamond to certify its origin; others have identified subtle differences in physical traits of diamonds produced from different geographies as markers to create an in-house database.

Colored Gemstones: The grading process of colored gemstones is similar to diamonds, with some minor variations. It encompasses evaluating the same 4C’s: color, clarity, cut, and carat weight.

1. **Color** is assessed based on intensity, saturation, and hue, with some stones like ruby and sapphire being highly valued for their vibrant colors. The color of a colored gemstone can also help identify its origin and species.
2. **Clarity** refers to the presence of inclusions, which are tiny imperfections within the colored gemstone’s crystal structure, with fewer or less visible inclusions indicating higher clarity grades.
3. **Cut** affects a colored gemstone’s brilliance and sparkle, with well-cut stones maximizing light reflection.
4. **Carat** weight measures a colored gemstone’s mass, with larger stones generally commanding higher prices.

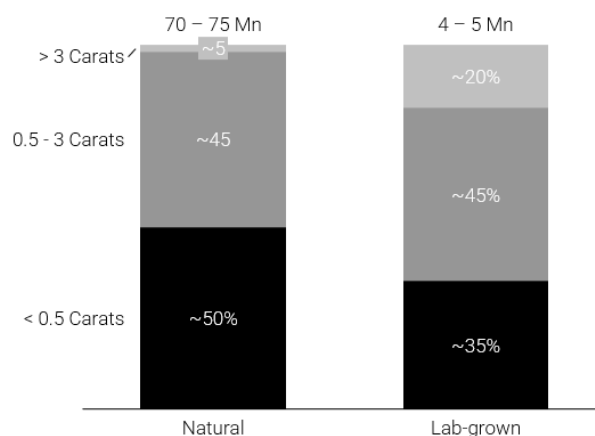
The rarity of features like color and clarity influences pricing, with exceptional stones fetching premium prices. Optical measuring devices are used to measure loose polished stones' proportions, measurements, and facet angles. Studded stones are measured but not weighed.

3. Diamonds, Studded Jewelry and Colored Stones Certification Market

Diamond grading takes place once the diamonds are cut and polished. They either get certified as loose stones or, after getting studded in the jewelry, for which a certificate is issued detailing the diamond's various attributes as the studding permits. Since the founding of the business in 1975, IGI has advanced various technical and industry practices in the loose stones and studded jewelry certification segment. In 1980, IGI USA was the first to issue jewelry identification reports among its global peers.

In CY 2023, ~33 million carats of loose-cut and polished diamonds, both natural and LGD, were produced. These 33 million carats of cut and polished diamonds translate to 70-75 million number of diamonds – spread across various carat weights. Natural diamonds exhibit a skewed concentration towards smaller diamond sizes, with ~50% of diamonds measuring less than 0.5 carats. This is mainly due to the conditions needed to form large and rare diamonds. Mining processes often break larger stones, and smaller diamonds are more practical and cost-effective to sell and buy. This is different in the case of lab-grown diamonds, where only ~35% of the loose gemstones measure less than 0.5 carats, as they can be produced in larger sizes more consistently under controlled and optimized growth conditions. Unlike natural diamonds, they aren't subject to the unpredictable factors of natural formation and mining, allowing for the creation of larger diamonds that meet market demands more effectively.

Figure 44: Global Number of Gem-quality Diamonds Split by Carat Weights
Number of Diamonds (Millions), CY 2023E



Source: Redseer research and analysis

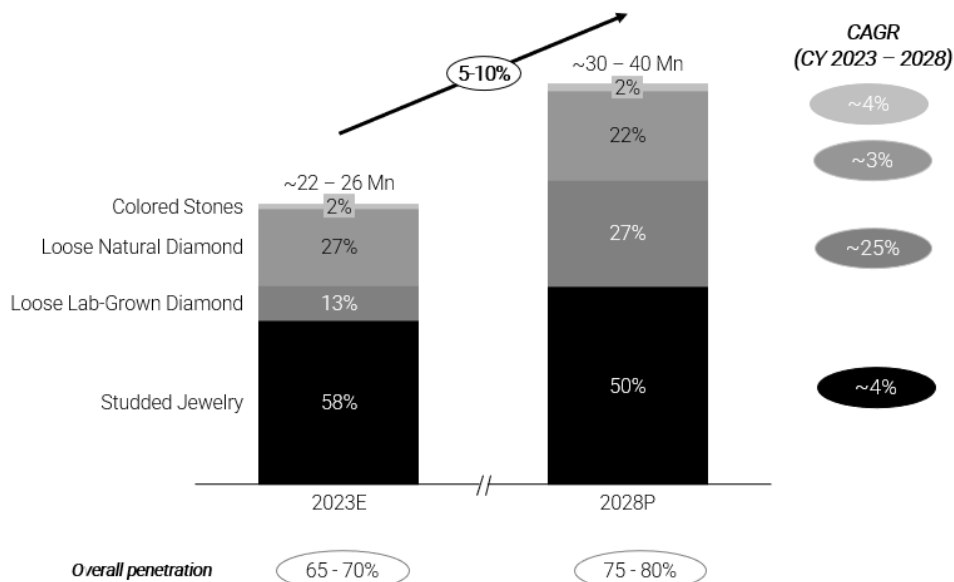
Of the total number of diamonds, the penetration of certification for natural diamonds is ~65% in CY 2023. These can either translate into loose gemstones or studded jewelry certificates. The majority of them are certified as studded jewelry, with IGI having a global market share of ~42% in terms of the number of studded jewelry certifications in CY 2023. IGI commands a global market share of 33% in the number of certifications of diamonds, studded jewelry, and colored stones performed in CY 2023.

The certification penetration for LGDs is higher at ~70% in CY 2023. One of the reasons for this is that LGDs are more likely to be produced in larger carat sizes, which are more commonly certified.

The overall natural diamond certificate generation is expected to rise by ~3% till CY 2028. LGD Certification is leading the certification growth by volume expected to rise by ~25 %, leading to a projected total of 8-9 million LGD certificates in CY 2028. Overall, an estimated 22-26 million certifications were issued in CY 2023, which is projected to grow at a CAGR of 5-10% till CY 2028.

Figure 45: Number of Certifications Issued – by Volume

Number of Certifications (Millions), CY 2023E, CY 2028P



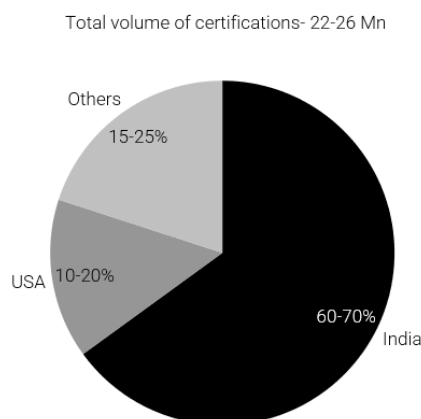
Note(s): The number of stones per studied jewelry certification is assumed to be 3. Thus, colored stones getting certified as % of total colored stones is higher than the overall number of certifications.

Source(s): Redseer research and analysis

India contributed 60-70% of the overall diamonds, studied jewelry, and colored stones certifications as a key cutting and polishing hub in CY 2023. This is followed by the USA, which contributed to 10-20% of the overall certifications.

Figure 46: Number of Certifications Issued – by Geography

In %, CY 2023E

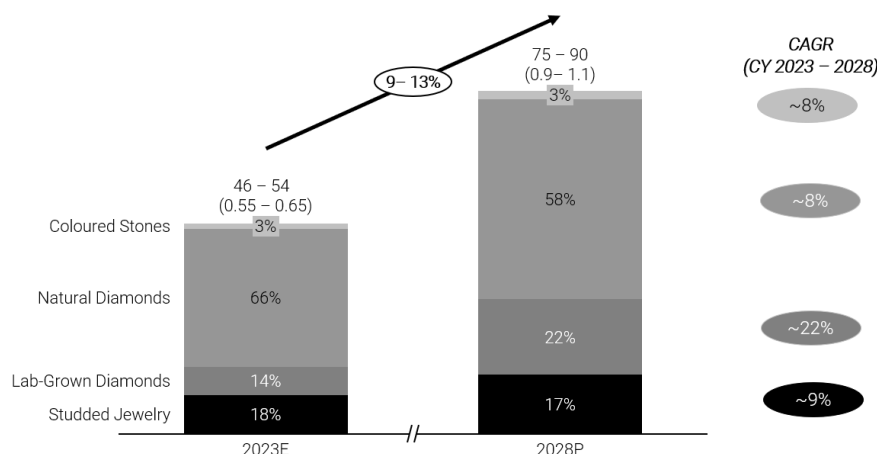


Note(s): Geography split corresponds to lab presence.

Source(s): Redseer research and analysis

The loose stones and studded jewelry certification market is estimated at INR 46-54 billion (USD 550-650 million) in CY 2023. This is projected to grow by 9-13% from CY 2023 to CY 2028, with LGD being projected as the fastest-growing segment with a CAGR of ~22% in the same period.

Figure 47: Loose Gemstone & Studded Jewelry Certification Market
INR Billion (USD Billion), CY 2023E, CY 2028P



Source(s): Redseer research and analysis

Key drivers for the growth of loose stones and studded jewelry certification

As the studded jewelry market grows, demand for certification is likely to rise as well. Thus, diversification in jewelry types, changing consumption patterns, and lower selling prices, among other factors, have a spill-over effect on the loose stones and studded jewelry certification market. However, certain salient growth drivers unique to increasing the certifications' volume include –

1. **Increasing awareness among consumers:** The increasing awareness around certification is driven by consumer education campaigns, industry partnerships, online resources, and media coverage about the certification process. Certification from an independent body is positioned as a solution to assure the end customers of the quality and authenticity of diamonds and colored stones. It also helps preserve value and improve resale potential. Further, there is a gathering momentum of requests for certificates of diamond origin to assure customers that ethical and sustainable practices have been employed in sourcing and production.
2. **Increase in sales of lab-grown diamonds:** About ~70% of the LGDs are getting certified globally for CY 2023. Surging demand for LGDs is expected to lead to increased certification requirements to ~85% of LGDs by CY 2028.
3. **Shift towards organized jewelry retail and rise of D2C brands:** The diamond jewelry market in India is predominantly unorganized at ~50% in terms of sales value in CY 2023. It comprises several thousands of individual retail shops and workshops versus only a few hundred chain stores. However, as income levels and discretionary spending increase, consumers have demonstrated a tendency to shift towards organized jewelry retail as they demand consistent quality, premium purchase experience, and brand value. Organized market players are expected to expand their reach in underserved urban centers through multi-channel strategies, including D2C online sales. Combined with increased awareness of the potential for fraud and misrepresentation, the need for certifications is expected to also increase.
4. **Potential for expanding certification to lower-size diamonds:** Natural diamonds over 0.5 carats were typically certified, with costs under 2% of the retail value as of CY 2023. However, smaller diamonds face higher certification costs. Due to the increasing risk of adulteration and the need for authenticity

assurance, the certification of smaller diamonds is expected to rise. In CY 2023, it is estimated that about 50% of natural diamonds under 0.5 carats were certified, compared to an overall estimated certification rate of around 65%. By CY 2028, this rate is expected to increase to 60%.

For lab-grown diamonds (LGDs), some market players price these diamonds per piece rather than per carat, making the certification of smaller LGDs more viable. In CY 2023, ~45% of LGDs under 0.5 carats were estimated to be certified, compared to ~70% overall. By CY 2028, certification for these smaller LGDs is expected to rise to ~68%.

5. **Jewelry as an asset:** Appraisal certificates provide the monetary replacement value of the loose stones and studded jewelry for insurance purposes. Hence, when such jewelry is viewed as a financial asset, revisions to the appraisals are done to estimate the value of the diamond.
6. **Increasing second-hand market in diamond-studded jewelry:** De Beers began operating its second-hand diamond arm as early as CY 2016. With vintage jewelry sales on the rise, new platforms dedicated to pre-owned jewelry are emerging, reflecting a growing consumer trend toward rare pieces and iconic designs. In this case, certification verifies a diamond's attributes and assures its provenance and quality.

4. Competitive Landscape of the Loose Gemstone & Studded Jewelry Certification Market

The loose stones and studded jewelry certification market exhibits oligopolistic characteristics and is dominated by a few players, primarily due to the need to build up a strong reputation and credibility, alongside the requirement for specialized expertise and advanced equipment. These players tend to have offices in key diamond-consuming, polishing, and producing nations around the globe. With a legacy of approximately 50 years, the International Gemmological Institute (IGI) is one of the established reputed certifiers in the global market, along with the Gemological Institute of America (GIA) and Hoge Raad Voor Diamant (HRD) Antwerp. Among these, GIA is a nonprofit institute, and no other player among IGI peers is listed. More recent global players emerging in the 2000s competing with them include Gemological Science International (GSI) and Solitaire Gemmological Laboratories (SGL).

These characteristics arise due to the following key reasons – leading to high barriers to entry for new players:

- **Reputation & brand name:** Existing incumbents maintain a stronghold over certification service, with their legacy of operations acting as a proxy for trust and quality. Due to their long-standing presence and grading criteria, leading laboratories garnered trust and recognition from consumers and sellers.
- **High initial set-up costs:** Another prominent reason for high barriers to entry is high initial set-up costs, considering the cost of equipment and infrastructure. Scaling up also requires a similar presence across key locations - which could potentially deter competition.
- **Standard operating procedures (SOPs) and personnel:** The top laboratories have established education practices, providing them with a steady supply of high-quality talent. Their technological capabilities established SOPs and systems to train gemologists, thus acting as entry barriers.
- **Strategic partnerships:** Major laboratories often form partnerships with jewelry retailers, further solidifying their market position.
- **International accreditation:** Internal grading standards such as ISO often certify top laboratories. These stand as evidence to test the independence and quality of certification laboratories.

Similar oligopolistic characteristics are also evident in a few sectors, such as accounting and credit rating, where a select few firms dominate due to the high barriers to entry created by the need for established reputations. According to the International Accounting Bulletin annual survey, the Big Four giants – EY, Deloitte, KPMG, and PwC – dominate the global accounting market with over 74% market share in CY 2020. Their scale and resources allow them to invest heavily in technology, training, and global infrastructure, ensuring consistent service quality across regions and industries. They have built extensive networks and long-standing relationships with clients, and their reputation and brand recognition make them the preferred choice for large corporations and public companies.

Likewise, the trio – Moody's, S&P, and Fitch dominate the global credit rating industry. These agencies have been operating for over a century, building a strong reputation and brand recognition among investors and financial institutions. The Big Three have established a wide network of users, including investors, issuers, and regulators. Investors and financial institutions tend to be risk-averse and prefer to rely on established brands like the Big Three, creating a self-reinforcing cycle. Further, new entrants face regulatory barriers, such as the rigorous registration process of the US Securities and Exchange Commission (SEC) for Nationally Recognized Statistical Rating Organizations (NRSROs).

In this market, there also exist a few local and regional players. Key diamond markets such as the USA, China, and India have multiple players operating on a regional scale. Despite their local presence, they lack international offices and haven't scaled up globally as of CY 2023. On a global scale, reputation and brand names become important to establish a presence as a market leader.

In terms of global presence, GIA and IGI are the leading players, with a presence in 10+ countries and multiple laboratories across countries as of September 2024. IGI has the largest number of laboratories globally and the largest number of schools established, among the peers, as of September 30, 2024. In terms of revenue for CY2023, IGI is the world's second-largest independent certification and accreditation services provider among its global peers for diamonds, studded jewelry, and colored stones certifications. IGI commands a global market share of ~33% based on the number of certifications of diamonds, studded jewelry, and colored stones performed in CY 2023. It has a ~42% global market share based on the number of studded jewelry certifications and a global leader with ~65% market share based on the number of certifications of LGDs in the same year.

Figure 48: Competition Benchmarking (as of September 2024)

	GIA	IGI	HRD	GSI	SGL
# of labs	12	31	3 ¹	14	16
# of schools	8	18	3	NA	3

Note(s): 1. Includes number of diamond labs only, excludes representative offices 2. # denotes number. The number of schools includes offline establishments only.

Source: Company websites

Global players are typically located across key markets in the USA, Hong Kong, Belgium, Türkiye, the UAE, and India. While the USA and Hong Kong are among the key consuming nations, India, the UAE, Türkiye, and Belgium are home to global diamond manufacturing and trading hubs such as Surat, Dubai, Istanbul, and Antwerp, respectively, in CY 2023. However, among the peer set, one of the players has exited the Turkish market.

Since ~95% of cutting and polishing takes place in India in CY 2023, India has also become a crucial center for certification. All global players house their laboratories in Mumbai – home to Bharat Diamond Bourse, the world’s largest diamond bourse by area in CY 2022. In India, IGI India was the first international laboratory for diamonds, studded jewelry, and colored stones certification to be established; it was also the first to provide certification and accreditation services among its global peers in 1999. In India, IGI India is the largest independent certification and accreditation services provider in terms of the number of certifications of diamonds, studded jewelry, and colored stones (~50% market share in the same) for CY 2023. IGI India also serves 9 of the top 10 jewelry chains in India⁶. As the largest certification services provider for lab-grown diamonds in India, IGI India serves more than 5 Indian growers of lab-grown diamonds with over INR 100 crores of revenue for FY 2023. As of September 30, 2024, IGI India has the largest pan-India laboratory network among its global peers for grading lab-grown diamonds, complemented by global reach, giving it a significant competitive advantage. Furthermore, IGI India took the initiative to establish its own signature event, D Show, which has evolved in the last 13 years to become a widely used platform in India for 100+ jewelry retailers, 80 jewelry manufacturers and 800+ visitors to engage and share insights, in CY 2024. Some significant certifications IGI India has undertaken include the jewelry adorned on the Ram Lalla idol in the Ram Mandir temple in Ayodhya, India, in January 2024, and the largest laboratory-grown diamond⁷ weighing 75.33 carats, ‘Celebration of India’ as of September 30, 2024.

These players also operate as centers of learning and research, and offerings extend from gemological analysis to product offerings such as screening equipment for diamond grading and analysis. All global players have their gemological schools. Among its global peers, IGI has the largest number of laboratories globally and the largest number of schools established as of September 30, 2024. Schools serve the purpose of both training gemologists and raising awareness about the importance and process of diamond screening and grading. This also serves as a gateway to promote the player’s distinct grading standards by training the workforce for the same.

Even though the industry standard of grading diamonds based on the 4Cs is the largely prevalent and accepted metric of grading, this judgment is subjective, and it can vary among institutions and gemologists themselves. Reliance on human judgment, variability in lighting and equipment, variability in master stone sets (a lineup of diamonds that have predetermined characteristics used as a reference point to grade diamonds) and the complexity of the diamonds’ inherent properties are certain factors leading to the subjectivity in the diamond grading process. Different graders may perceive inclusions, blemishes, and color variations differently, influenced by their experience and visual assessment conditions. Due to this subjective element, there is tolerance in the industry for a diamond rating. For example, a diamond can be off by one letter grade in color grading result meaning one lab may grade a particular diamond to be an ‘E’ color while another can evaluate it as an ‘F.’ Grading methodology also differs across stone type and shape, whether studded or not.

IGI is one of the three players that offer a full stack of comprehensive offerings among the peer set, covering grading and classification services across different stone types.

Figure 49: Grading and Classification Services Benchmarking (as of September 2024)

⁶ Top jewelry chains by revenue in FY 2024

⁷ Emerald-cut LGD

		GIA	IGI	HRI	GSI	SGL
Loose	Natural diamond	✓	✓	✓	✓	✓
	Lab-grown diamond	✓	✓	✓	✓	✓
	Coloured diamond	✓	✓	✓	✓	✓
	Finished jewellery	✗	✓	✓	✓	✓
	Hearts & arrows	✗	✓	✓	✓	✓
	Appraisals	✗	✓	✗	✓	✓
	Sorting & Screening	✓	✓	✓	✓	✓

Source: Company websites

The primary and prevalent offerings include loose gemstone grading for natural diamonds, lab-grown diamonds, and colored stones. Not all players, however, take up grading for other colored stones, such as pearls, which have very distinct standards. Diamonds, however, are typically graded on cut, clarity, color, and carat weight. Clients can opt for additional add-on services such as laser inscription of the certification number, origin reports, audits for quality checks, previous metal testing, photography, damage analysis, etc. In terms of revenue for CY2023, IGI is the world's second-largest independent certification and accreditation services provider among its global peers for diamonds, studded jewelry, and colored stones certifications in CY 2023. Since May 2023, IGI has been wholly owned by BCP Asia II TopCo Pte. Ltd., which is an affiliate of funds managed and/or advised by affiliates of Blackstone, the world's largest alternative asset manager, based on assets under management of \$ 1,107.63 billion as of September 30, 2024. For the certification and accreditation of lab-grown diamonds, which is the fastest growing sub-segment within the overall jewelry market with a CAGR of ~19% from CY 2019 to CY 2023 (in terms of value), IGI is the leader with ~65% of the global market share in the number of certifications for the year CY 2023. IGI, GSI, and SGL are firms that provide comprehensive certification across loose stones and studded jewelry.

One of the crucial add-on services is the cut analysis for Hearts and Arrows. Round-cut diamonds tend to exhibit hearts and arrows when examined from the pavilion and the crown of the diamond, respectively. However, a diamond can have a top grading in cut and clarity – but not exhibit Hearts and arrows. This is why Hearts and Arrows is tested independently and is considered a sign of superior craftsmanship. IGI Belgium was one of the earliest among its global peers to introduce the “Hearts & Arrows” diamond reports to the consumer market in 1998.

Another important add-on service taken by jewelers and consumers alike is appraisals of loose stones and studded jewelry for either insurance or financial investment purposes. However, very few laboratories offer appraisals of studded jewelry, even though natural diamonds are seen by many as financial/mortgage objects.

In summary, the loose stones and studded jewelry certification market's oligopolistic nature, driven by high entry barriers, including established reputations of the incumbents, and the strategic importance of global presence, ensures that leading players maintain their dominance, underscoring the critical role of trust, credibility, and comprehensive service offerings in shaping the industry's future.

5. Industry Threats and Challenges

Major threats faced by the loose stones and studded jewelry certification industry are as follows:

Redseer Strategy Consultants Private Limited, Prestige Obelisk, Kasturba Rd, Ambedkar Veedhi, Sampangi Rama Nagar, Bengaluru, Karnataka 560001. <http://www.redseer.com>,

- **Volatility in global diamond prices:** Fluctuations in diamond prices, influenced by factors like supply, demand, and economic conditions, can impact the demand for certification services. During periods of low prices, demand for certification may decrease as traders and retailers become more price-sensitive.
- **Technological advancements in counterfeiting and synthetic production:** Improved technologies in creating synthetic stones and treatments can make it increasingly difficult to distinguish between natural and lab-grown with treated diamonds. This necessitates significant investments in state-of-the-art equipment and highly trained personnel.
- **Reputation and Trust issues:** Any incidents of fraud, inaccuracies in certification, or involvement in unethical practices can severely damage the reputation of certification bodies.
- **Technological disruption and automation:** Advancements in AI, machine learning, and spectroscopy could lead to automated grading and identification, potentially reducing the need for human expertise and changing the dynamics in the industry.
- **Counterfeiting of colored stone certificates:** The presence of counterfeit certificates devalues the trust associated with genuine certifications. This necessitates continuous investment in advanced security features and anti-counterfeiting measures.
- **Advancements in colored stone treatments and synthesis technologies:** The continuous advancement of colored stone treatment and synthesis technologies makes it challenging for laboratories like IGI to stay ahead of the curve in detecting new treatments and synthetic stones.
- **Economic downturns:** Economic downturns, such as the one experienced during the COVID-19 pandemic, result in reduced disposable income, impacting luxury goods purchases, including jewelry. This can lead to a decline in demand for certification services, affecting IGI's revenue.
- **Geopolitical risk:** Geopolitical risks and conflicts in diamond-producing, trading, or processing regions can disrupt the supply chain, making it difficult for IGI to access diamonds for certification. This can lead to delays in service delivery and potential loss of revenue.
- **Environment and ethical concerns:** Concerns about the environmental and social impact of diamond mining could lead to a decrease in demand for natural diamonds and related services. Increased awareness of "blood diamonds" and ethical sourcing issues may further fuel this trend.

The loose stones and studded jewelry certification industry faces a dynamic risk landscape. By proactively identifying and addressing these risks, the industry can continue to play a vital role in ensuring consumer trust and maintaining the integrity of the diamond trade.

GLOSSARY

Term	Description
Colored gemstones	Precious gemstones, namely, ruby, sapphire, and emerald.
Colored stones	Gemstones (such as rubies, sapphire, and emerald) and semi-precious stones (such as amethyst, aquamarine, and topaz).

Costume jewelry	Imitation jewelry incorporates materials like Alloy, Stainless Steel, brass, Copper, Plastic, Glass, Cubic Zirconia, etc., creating a more affordable jewelry offering.
CY (Calendar Year)	The year starts on 1st January and goes on to 31 st December of the said year.
D2C	Refers to Direct-to-Consumer brands which includes platforms which caters directly to consumers without relying on middlemen of any sort.
Diamond	Unless stated otherwise, it includes natural and lab-grown diamonds.
Diamond parcels	A parcel paper or a paper pocket that is folded and contains a diamond inside.
Discretionary expenditures	Discretionary expenditures include spending on categories such as FMCG (excl. staples) apparel, consumer electronics, consumer appliances, general merchandise, and beauty & personal care (BPC), among others. These tend to have cyclical demand, fluctuating with economic conditions.
FY (Financial Year)	The year begins on the 1st of April of the base year and continues until the 31st of March of the succeeding year.
Gross Domestic Product (Real)	Real gross domestic product (GDP) is GDP given in constant prices by expressing values of all goods and services produced in a given year, expressed in terms of a base period.
Gross Domestic Product at Current Prices	GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for the depreciation of fabricated assets or for the depletion and degradation of natural resources. Data are in current U.S. dollars. Dollar figures for GDP are converted from domestic currencies using single-year official exchange rates. For a few countries where the official exchange rate does not reflect the rate effectively applied to actual foreign exchange transactions, an alternative conversion factor is used.
Gemstones	Includes diamonds and colored gemstones
Gem-quality	Stones that are used for jewelry
Gen Z	Persons aged 11-26 years
Gross National Income (GNI)	GNI per capita is the gross national income, converted to U.S. dollars using the World Bank Atlas method, divided by the midyear population. GNI is the sum of value added by all resident producers plus any product taxes (fewer subsidies) not included in the valuation of output plus net receipts of primary income (compensation of employees and property income) from abroad. GNI, calculated in national currency, is usually converted to U.S. dollars at official exchange rates for comparisons across economies, although an alternative rate is used when the official exchange rate is judged to diverge by an exceptionally large margin from the rate applied in international transactions.
High-Income households	Households with annual income of more than ₹1.1 million (US\$13,000)

Independent Laboratory	Independent implies the lab is not affiliated with any jewelry retailer, manufacturer, or other commercial entity that could potentially bias their assessments.
Jewelry-grade diamonds	Diamonds that are utilized for jewelry purposes often include relatively fewer inclusions than diamonds used for industrial purposes.
Labor force	The labor force includes the population of people 15 years old and over who are either employed, unemployed, or seeking employment.
Labor Force Participation Rate (LPFR)	The labor force participation rate is the proportion of the population ages 15 and older that is economically active: all people who supply labor for the production of goods and services during a specified period.
Loose stones	Includes diamonds (natural and laboratory-grown) and colored stones (precious and semi-precious) in loose/non-studded form
Low-income households	Households with annual income less than ₹0.3 million (US\$3,300)
Lower middle-class households	Households with annual income less than ₹0.8 million (US\$ 9,400) but more than ₹0.3 million (US\$ 3,300)
Master stone set	A lineup of diamonds that have predetermined characteristics is used as a reference point to grade diamonds.
Millennials	Persons aged 27-42 years
Non-Discretionary expenditures	Non-discretionary expenditures encompass spending on essential categories such as pharmaceuticals, staples, and fresh food, which are less sensitive to economic changes.
Non-Profit Institutions Serving Household Final Consumption Expenditure	Household and NPISHs' final consumption expenditure (formerly private consumption) is the market value of all goods and services, including durable products (such as cars, washing machines, and home computers) purchased by households. It excludes purchases of dwellings but includes imputed rent for owner-occupied dwellings. It also includes payments and fees to governments to obtain permits and licenses. This indicator includes the expenditures of nonprofit institutions serving households, even when reported separately by the country. Data are in constant 2015 prices, expressed in U.S. dollars.
Nuclear households	Includes “couple only” households, “couple with children” households, and “single parent with children” households
Peer Set	Players with a presence in India along with global reach in at least 5 countries which include the following players- Gemological Institute of America (GIA), Gemological Science International (GSI), Hoge Raad Voor Diamant (HRD) Antwerp, Solitaire Gemmological Laboratories (SGL) and International Gemmological Institute (IGI)
Private Final Consumption Expenditure (PFCE)	Expenditure incurred by the resident households and non-profit institutions serving households on final consumption of goods and services, whether made within or outside the economic territory
Organized market	Refers to studded jewelry being sold through established retail chains, branded stores, and online platforms, whereas the unorganized includes

	sales through local jewelers, family-owned businesses, and informal traders.
Return on Invested Capital (RoIC)	ROIC is used to measure the profitability and efficiency of a company in terms of how well it utilizes its capital. It is calculated by dividing the company's net operating profit after taxes (NOPAT) by its invested capital.
Semi-precious stones	Stones such as amethyst, aquamarine, and topaz
Stones	Diamonds (natural and laboratory-grown) and colored stones.
Studded jewelry	Jewelry that has been bejeweled with colored stones.
Synthetic stone	Stones that may visibly resemble natural or lab-grown gemstones but do not share their chemical properties, such as cubic zirconia, white sapphire, moissanite, zircon, rutile, spinel, and synthetic garnet.
Upper middle-class households	Households in India with annual income less than ₹1.1 million (US\$13,000) but more than ₹0.8 million (US\$ 9,400)

Annexure B

List of Promoters

Sr. No.	Name of Promoters
1	BCP Asia Topco II Pte Ltd
2	BCP Asia Holdco III Pte Ltd

List of Directors

Sr. No.	Name of Directors
1	Tehmasp Nariman Printer
2	Bimal Tanna
3	Tejas Naphade
4	Prateek Roongta
5	Mukesh Mehta

List of Key Managerial Personnel

Sr. No.	Name of Key Managerial personnel
2	Eashwar Iyer
3	Hardik Desai

List of Senior Management

Sr. No.	Name of Senior Management
1	Kareena Shahani
2	Lata Manghnani
3	Sindhu Loyal
4	Deborah Pienica



Prospectus Support for IPO

Engagement Letter

May 2024

For IGI ("Client") [*International Gemmological Institute (India) Private Limited*]



This Engagement Letter ("Agreement") is made and entered into this 6th day of May 2024 ("Effective Date") between:

Redseer Strategy Consultants Private Limited, a private limited company bearing CIN No. U70200KA2023PTC173158, incorporated and registered under the Companies Act, 2013 and having its registered office at Prestige Obelisk, Kasturba Rd, Ambedkar Veedhi, Sampangi Rama Nagar, Bengaluru, Karnataka 560001, (hereinafter referred to as "Service Provider" or "Redseer");

AND

International Gemmological Institute (India) Private Limited, a private limited company incorporated and registered under the Companies Act, 1956 and having its registered office at 702, 7th Floor, The Capital, Bandra Kurla Complex (Bandra East), Mumbai 400 051, Maharashtra, India (hereinafter referred to as "Client")

The "Service Provider" and the "Client" shall be hereinafter individually referred to as a "Party" and collectively as the "Parties".

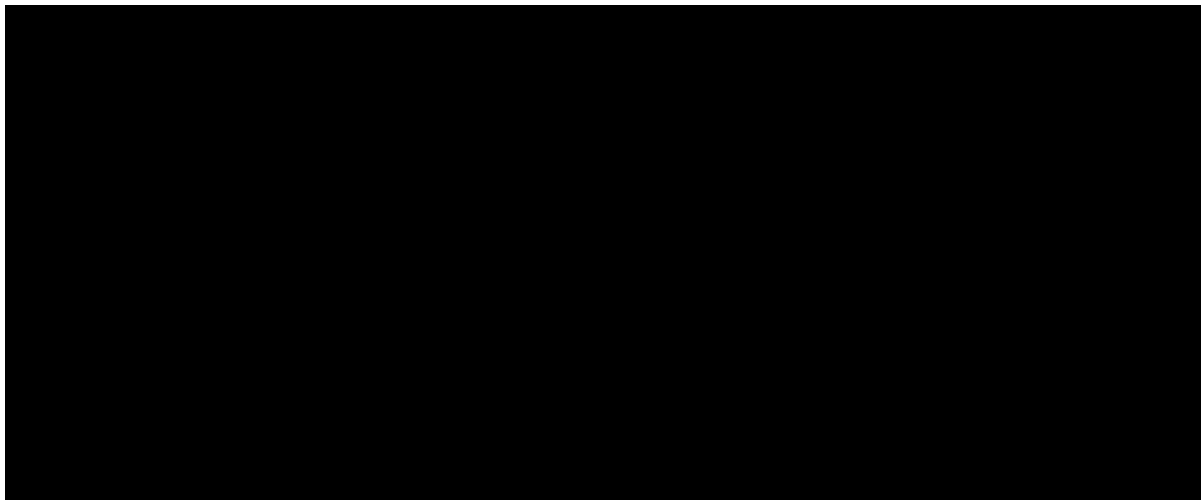
1. Context

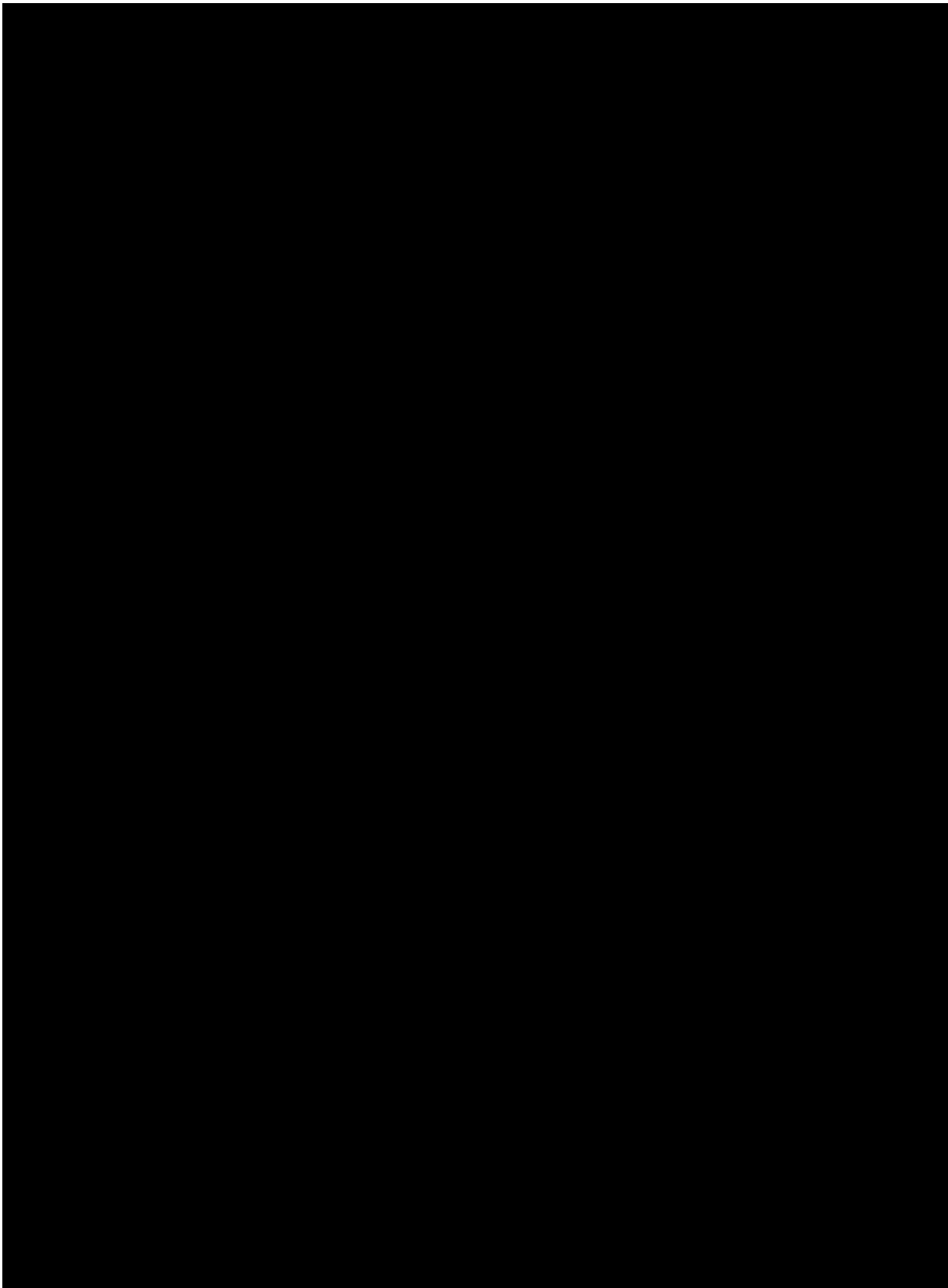
The Client wishes to engage the Service Provider to prepare an Industry report (the "Report") Initial Public Offering ("IPO") in connection with a proposed business transaction involving the Client (the "Proposed Business Transaction") ("Services") and the Service Provider has agreed to provide the same, as per the terms and conditions mentioned under this Agreement.

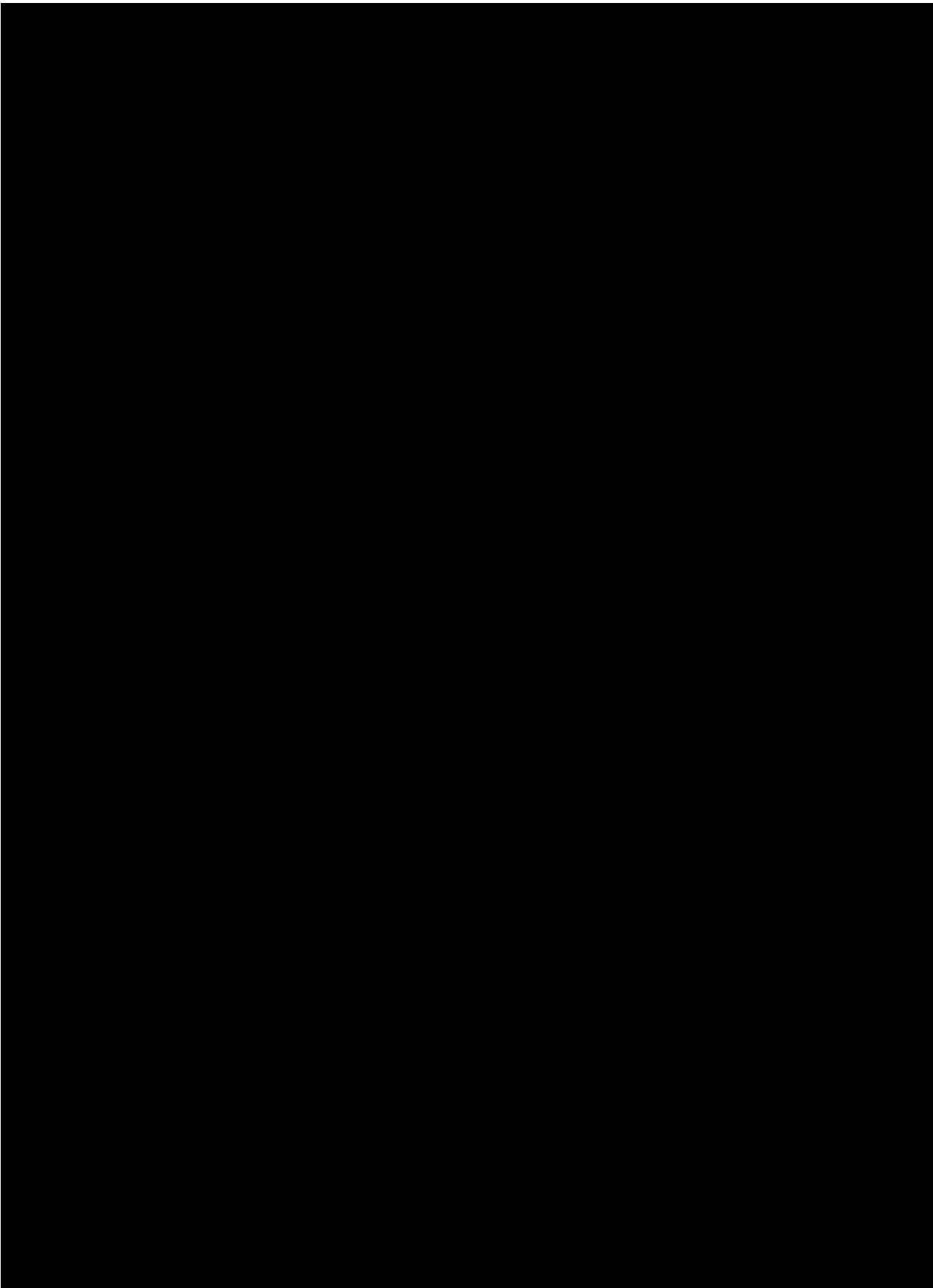
2. Term

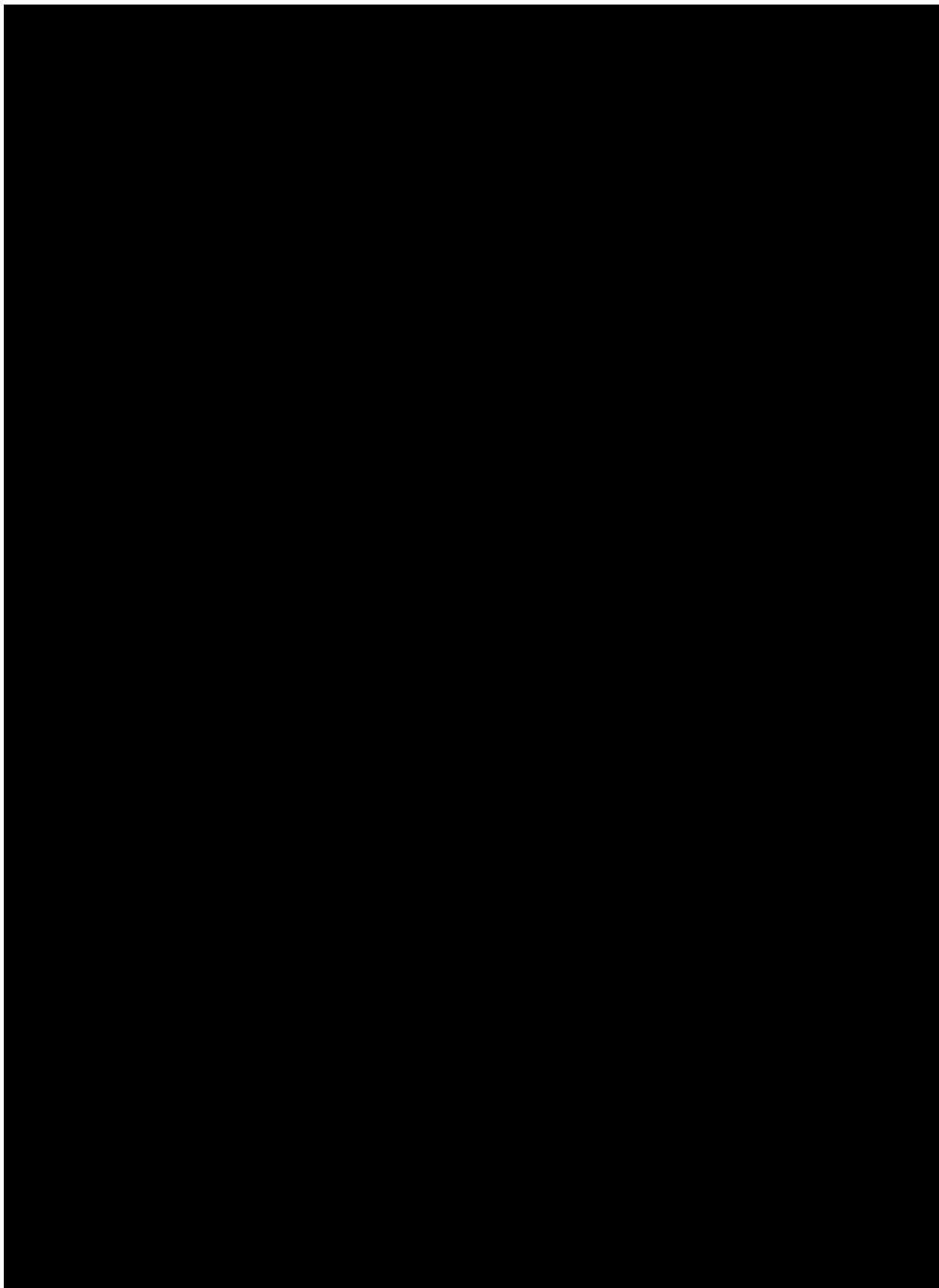
This Agreement shall come into effect on the Effective Date and shall continue in force, unless terminated in accordance with the provisions hereof ("Term").

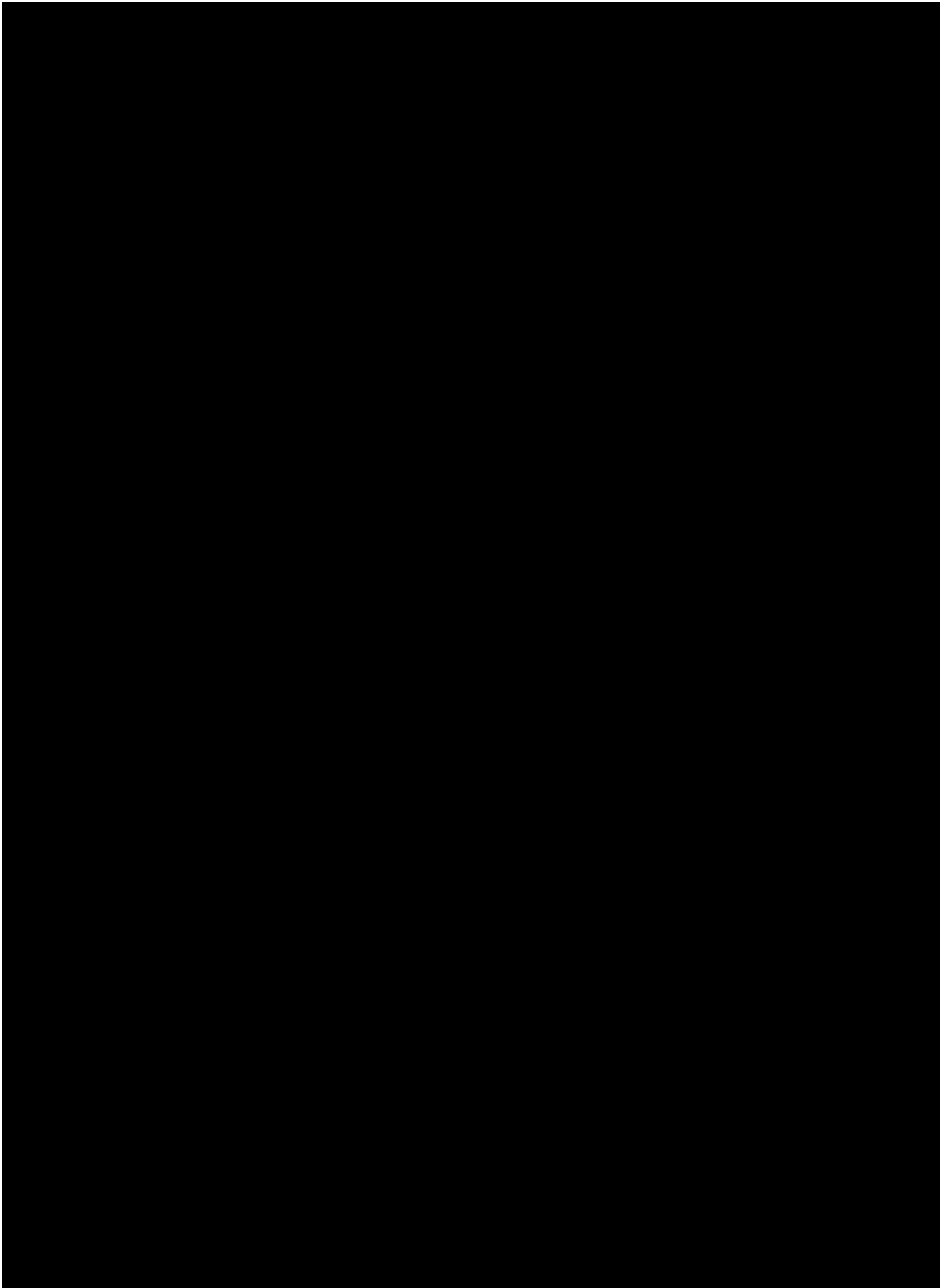
3. Scope of work and methodology

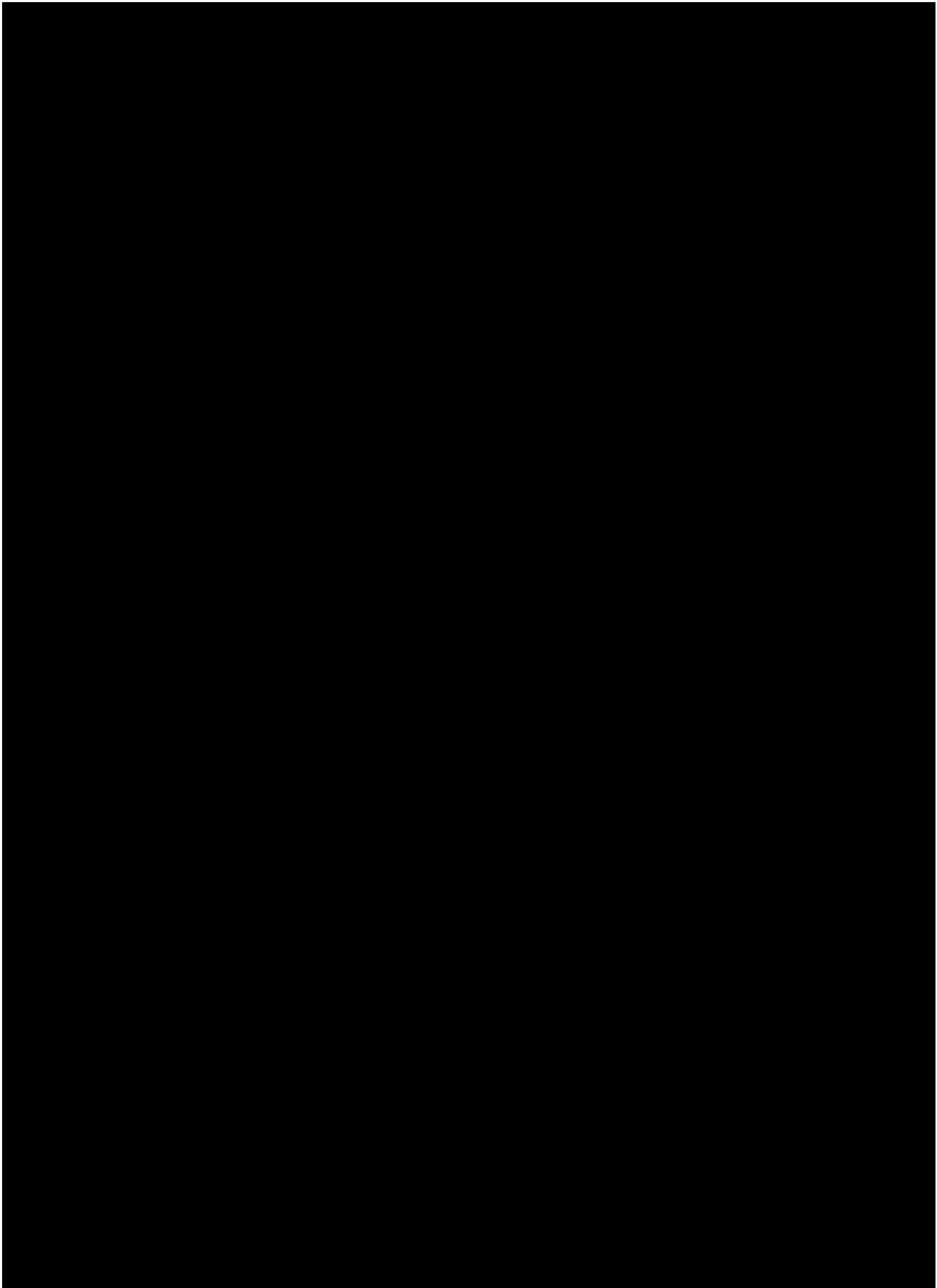














4. Scope Limitation

[Redacted content]

5. Methodology

[Redacted content]

6. Timelines –

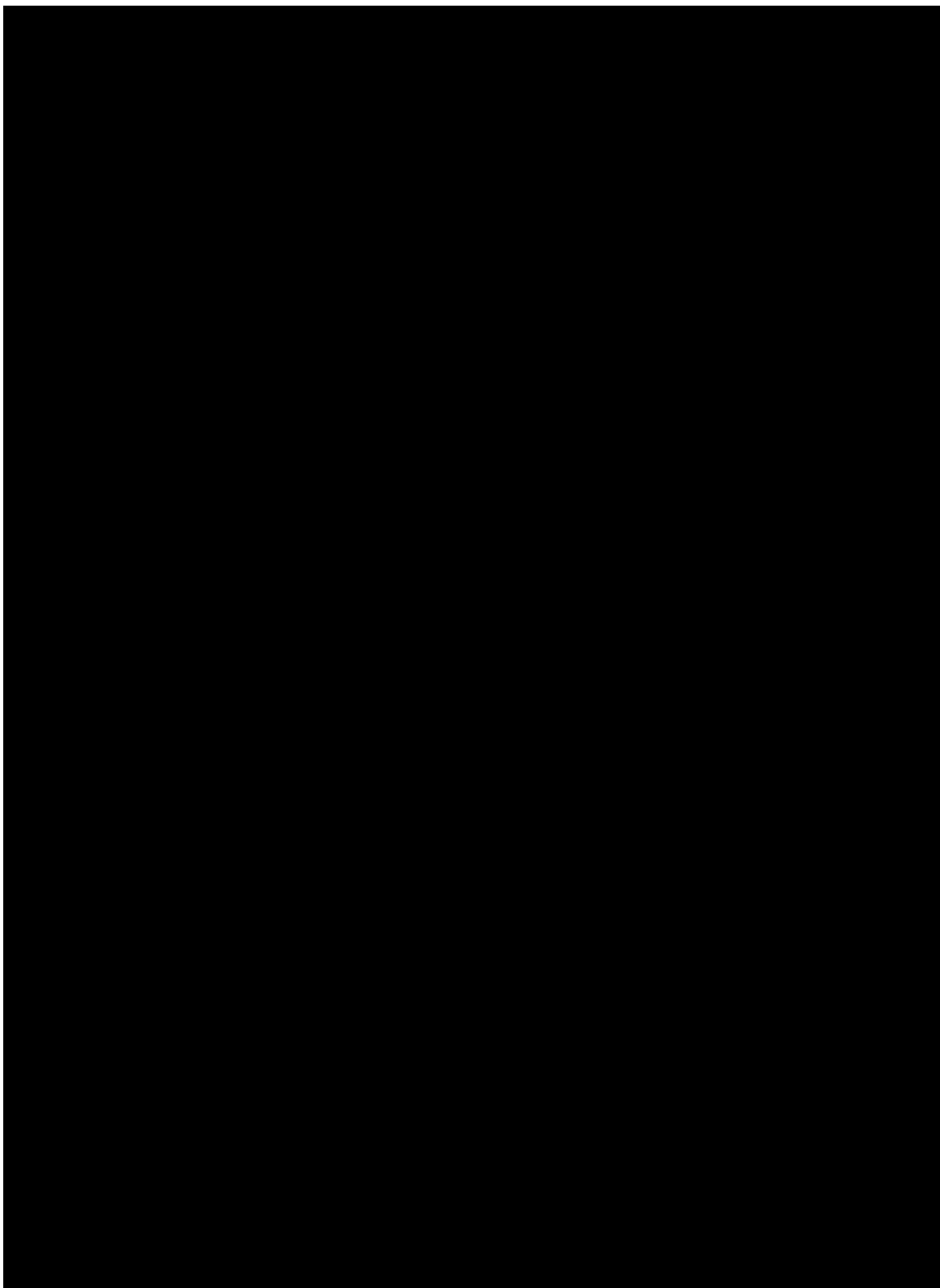
[Redacted content]

7. Engagement fee

[Redacted content]



8. Invoicing & Payment





9. Other terms & conditions

a) Representations, Warranties and Covenants of the Client

The Client represents, warrants and covenants to Redseer that:

- i. the person executing this Agreement has been duly authorized to do so by the Client, and all necessary internal actions, approvals which may be required under the Client's organizational documents have been undertaken;
- ii. the execution of this Agreement will not, directly or indirectly, contravene or conflict with or result in violation of any agreement, authorization or other obligation of the Client; and
- iii. it has and shall continue to have all requisite consents, permissions, approvals to disclose any data or information to Redseer for the provision of Services under this Agreement.

b) Representations, Warranties and Covenants of the Service Provider:

- i. The Service Provider has taken all necessary action/ corporate action or authorization or approvals as may be required to execute and deliver and to perform its obligations under this Agreement;
- ii. The Service Provider represents, warrants and covenants to Client that the person executing this Agreement has been duly authorized to do so by the Service Provider, and all necessary internal actions, approvals which may be required under the Service Provider's organizational documents have been undertaken;
- iii. The Service Provider represents, warrants and covenants to the Client that the execution of this Agreement will not, directly or indirectly, contravene or conflict with or result in violation of any agreement, authorization or other obligation of the Service Provider;
- iv. The Service Provider represents, warrants and covenants to the Client that it has and shall continue to have all requisite qualifications, expertise, resources, permissions, approvals for the provision of Services under this Agreement; and
- v. Service Provider assumes complete responsibility of the quality, durability, standard of the Services, and shall replace or rework on the same on the request of the Client.

At all times: (i) Redseer shall perform the services hereunder in compliance with the instructions of the Client and in strict and absolute compliance with applicable securities laws and other applicable legal and regulatory requirements and policy statements of regulatory agencies or self-regulatory agencies, including, without limitation, any applicable anti-money laundering laws and regulations, in each case in any jurisdiction in which it engages in any activity contemplated by this Agreement, (ii) without limiting the generality of the foregoing, (A) Redseer agrees that, in connection with the performance of the Services hereunder, Redseer shall engage in no act or practice that would, directly or indirectly, contravene the United States Foreign Corrupt Practices Act (the "FCPA") or the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (the "U.S.A. Patriot Act"), or any similar statute applicable in any jurisdiction in which it engages in any activity, that prohibits bribery, money laundering or payments to public officials, including, without limitation, any policies of any governmental or quasi-governmental agency implementing or enforcing the foregoing, and (B) hereby makes the specific representations, warranties and undertakings set forth more fully in Annexure C hereto.



Redseer shall immediately notify the Client if (i) any statement made herein ceases to be true in any material respect, the certification or undertakings in Annexure C are violated in any respect.

c) Confidentiality

Each Party acknowledges that in connection with this Agreement it may receive certain confidential or proprietary technical and business information and materials of the other Party, including, but not limited to any unpublished report, notes, drawings, writings, specifications, documentations, software processes, any technical, operational, marketing, customer data, business, financial and commercial information in relation to such Party ("**Confidential Information**"). It is clarified that the term 'Confidential Information' shall not include the report and materials shared with the Client for disclosure in the offer documents of the Client as set out in "Use of Deliverables" herein.

Each Party, its agents and employees shall hold and maintain in strictest confidence all Confidential Information, shall not disclose Confidential Information to any third party, and shall not use any Confidential Information except as may be necessary to perform its obligations pursuant to this Agreement and as may be required by a court or governmental authority, or by law or regulation. In the event of any disclosure required by a court or governmental authority, or by law or regulation, the recipient may disclose the Confidential Information only to the extent that it is compelled to do so by a court or regulatory authority with jurisdiction over the recipient and provided that the recipient gives the disclosing Party, such prior notice as is reasonable in the circumstances of the fact that it is compelled to make such disclosure. Notwithstanding the foregoing, Confidential Information shall not include any information that is in the public domain or becomes publicly known through no fault of the receiving Party or is otherwise properly received from a third party without an obligation of confidentiality. Each party acknowledges that the other party may be regulated by internal compliance regulations, and in order to ensure compliance with which regulations, the relevant party has established policies and procedures relating to confidentiality and retention of documents.

As such each party understands that the other party may retain a copy of any report, recording, presentation, correspondence, meeting note or other document which forms a record of the relevant party's professional involvement, where that record may contain or reflect Confidential Information, subject to keeping such record in strict confidence in accordance with the other terms of this agreement each party undertakes to ensure that such retention shall have been authorised by the relevant parties to this Agreement.

All Confidential Information is provided 'AS IS', and Neither Party makes any representation or warranty as to the accuracy or completeness of the Confidential Information. Recipient Party acknowledges that monetary damages would be both incalculable and an insufficient remedy for any breach of this Agreement by recipient Party and that any such breach would cause disclosing Party irreparable harm. Accordingly, recipient Party also agrees that, in the event of any breach or threatened breach of this Agreement, disclosing Party, in addition to any other remedies at law or in equity it may have (none of which remedies shall be mutually exclusive, and all of which remedies may be pursued concurrently and cumulatively), shall be entitled, without the requirement of posting a bond or other security, to equitable relief, including injunctive relief and specific performance.



d) Intellectual Property Rights

"IP" means and refers to patents, trademarks, service marks, trade names, copyrights and applications, licenses and rights with respect to the foregoing, and all trade secrets, including know-how, inventions, designs, processes, works of authorship, manuals, documentation, computer programs and technical data/information.

IP that belonged to (i) Redseer or its respective licensors, prior to providing Services to the Client; or (ii) the Client, prior to receiving Services, under this Agreement, shall continue to belong to the relevant party ("**Pre- Existing IP**").

Any rights, title and ownership in any deliverables, materials and reports developed for the Client pursuant to the provision of Services by Redseer ("**Developed IP**") shall be dealt in the following manner:

- (i) Redseer shall retain any and all right, title and ownership in the Developed IP prepared and delivered by Redseer or composed in the course of or incidental to the performance of the Services under this Agreement. The Client shall acquire no right, title, ownership or interest in any such Developed IP, by virtue of this Agreement or the Services performed under this Agreement. To the extent that the Pre- Existing IP of RedSeer is used in the Developed IP, RedSeer, grants a limited, perpetual, irrevocable license to the Client, solely in conjunction with the Services and deliverables as provided for and in accordance with this Agreement.

A consent letter will be signed between the Parties where Redseer will provide the consent to the Client for: (i) the use of Redseer's name as the source of the information provided by Redseer in its Report; and (ii) the Report (in its entirety or any portions thereof) being included in the DRHP intended to be filed by the Client with the Securities and Exchange Board of India ("SEBI") and the stock exchange(s) where the Equity Shares are proposed to be listed, the red herring prospectus and the prospectus intended to be filed by the Client with the registrar of companies, SEBI and the Stock Exchanges (including any addenda, corrigenda or international supplement(s) of the foregoing for distribution to investors outside India), and in roadshow/ investor presentations, research reports and any other marketing material, in each case relating to the IPO and in accordance with applicable law.

e) Indemnification

Each Party shall fully indemnify, defend and hold harmless the other Party, from and against any and all third party claims, direct damages, liabilities, and expenses (including any reasonable attorney fees, expenses and costs) incurred by the other Party of whatever kind or nature due to a breach by the breaching Party of any obligation, representation or warranty in this Agreement. The Client shall indemnify Redseer for losses arising from all such actions, in case the Report including but not limited to the facts or figures, qualifications or disclaimers mentioned therewith, is not presented or produced in the same manner, as prepared and submitted by Redseer, in the DRHP, RHP or any other Offer Documents.

f) Limitation of Liability

In no event shall either Party be liable for any claim for any indirect, punitive, incidental, exemplary, special or consequential damages, for loss of business profits, or damages for loss of business of the other party, or loss or inaccuracy of data of any kind, whether based on contract, tort or any other legal theory, even if one Party has been advised of the possibility of such damages. In no event shall either Party's total liability under this Agreement exceed the total amount of Engagement



Fees paid to Redseer under this Agreement.

g) Termination

This Agreement may be terminated by either Party for any reason upon sixty (60) days' written notice to the other Party. The Service Provider will continue to perform Services during the notice period unless otherwise mutually agreed upon by the Parties in writing. In the event, the Client provides with a notice of termination and directs the Service Provider not to perform the Services through the notice period, the Client agrees to pay the Service Provider an amount equal to the amount normally due to the Service Provider to the extent of Services completed and delivered.

This Agreement may be terminated by either Party, immediately, without advance notice, (a) for material breach of this Agreement by the other Party if such other Party has received fifteen (15) days' written notice and has failed to cure the within such period; or (b) if the other Party becomes insolvent or seeks protection under any bankruptcy, receivership, trust deed, creditors arrangement or if any such proceeding is instituted against the other Party and such proceeding is not dismissed within 90 (ninety) days.

Redseer's work is independent of the Client's final decision or timeline of the actual IPO. If the Client has any change of plans and terminates the Services in the middle of the engagement, the Client would be liable to pay Redseer the fee to the extent of Services completed and delivered. If Services are resumed for the engagement of this sort which was terminated midway, at such point Redseer would draft a new Engagement letter with scope and pricing for the Services, and it would be deemed as a new engagement.

Upon the expiration or termination of this Agreement, the Client will pay the Service Provider all fees for Services earned as of and through the effective date of expiration or termination and will also pay and reimburse the Service Provider for all expenses incurred prior to and through the effective date of expiration or termination and all non-cancellable commitments that shall have been pre-approved by the Client. The termination of this Agreement shall not release either Party from the obligation to make payment of all amounts then or thereafter due and payable.

h) Non-solicitation

Neither the Client nor Redseer shall offer or seek to offer directly or indirectly employment either permanently or part-time to the employees of the other party during the relationship and for a period of two years after the termination or expiry of this Agreement.

i) Nature of the Relationship

The Client acknowledges that Redseer will not advise Client or make recommendations related to making any investments or buy publicly listed stocks or selling any investment positions. Redseer is an independent contractor, and its output is not audited or verified and Redseer makes no representation that the information or output provided is accurate and complete. This is true for all information provided to the Client including but not limited to competitive intelligence, all estimates and projections about a company or a market, etc. This Agreement does not create a partnership or joint venture, and neither Party is authorized to act as agent or bind the other Party, except as expressly stated in this Agreement.



j) Use of Deliverables

The Client may share, disclose and divulge the deliverables, reports and information received from Redseer in the draft red herring prospectus, red herring prospectus, prospectus filed by the Client in connection with its initial public offering and all other related materials including investor presentations and other marketing material. The access and use of report/deliverables/information/data provided by Redseer is provided on an "as is" basis. While Redseer has taken due care and caution in preparing the report/deliverables/information/data shared herein based on information obtained from sources generally believed to be reliable, its accuracy, completeness and underlying assumptions are subject to limitations like interpretations of market scenarios across sources, data availability, amongst others. The Client shall share a disclaimer in this regard with third parties while sharing the aforementioned report/deliverables/information/data. The format of the disclaimer shall be as agreed amongst us in the consent letter issued in this regard..

k) Disclaimers

The Client agrees to include appropriate disclaimers and/or qualifications in the any materials in which information, data or statements from the Report are presented in connection with the Proposed Business Transaction, as provided by Redseer.

l) Key Contacts and Invoicing information

Redseer:

Engagement Manager: Kanishka Mohan

Email: kanishka@redseerconsulting.com

GST: 29AAMCR6459F1ZS

International Gemmological Institute (India) Private Limited:

Engagement Manager: Eashwar Iyer

Email: Eashwar.iyer@igi.org

Additionally, please fill the Annexure A which requests for invoice related information

m) General clauses:

- (i) **Execution:** This Agreement may be executed by the Parties either physically or electronically, in accordance with this Clause 10 (i).
- Physical execution: In the event that this Agreement is being executed physically, the Client shall affix its countersignature in the sign off sheet below.
 - Electronic execution: Subject to applicable law, in the event this Agreement is being executed electronically, the Client shall convey its absolute and unqualified acceptance of the terms and conditions set out in this Agreement, in writing, by electronic mail addressed to Redseer at anil@Redseer.com



The acceptance shall be conveyed only by a person duly authorised to do so by the Client, from the designated e-mail address and whose details have been set out as follows:

Name: Mr Eashwar Iyer
Designation: Chief Financial Officer
Designated email address: Eashwar.Iyer@igi.org
Address: 702, 7th Floor, The Capital, Bandra Kurla Complex, Bandra East, Mumbai – 400 051, Maharashtra, India.
Telephone: 9899259421
Fax: NA

- The electronic execution facility is being provided for Client's convenience. Redseer is entitled to rely on such electronic execution and the Client shall indemnify Redseer for any damages it may suffer as a result of a breach of this Agreement.
- (ii) **Modification/Waiver:** This Agreement may be modified by the Parties, but any modification of this Agreement must be in writing and executed by both Parties. Failure by either Party to enforce any right or seek to remedy any breach under this Agreement shall not be construed as a waiver of such rights, nor shall a waiver by either Party of default in one or more instances be construed as constituting a continuing waiver or as a waiver of any other breach.
- (iii) **Notices:** All notices to be given hereunder shall be transmitted in writing either by electronic mail with return confirmation of receipt or by certified or registered mail, return receipt requested, and shall be sent to the registered addresses of the Parties, unless notification of change of address is given in writing. Notice shall be effective upon receipt or in the case of email, upon confirmation of receipt.
- (iv) **Governing Law:** This Agreement shall be governed by and construed in accordance with the laws of India and the courts located at Bengaluru, India shall have exclusive jurisdiction over any claims arising out of this Agreement.

The Parties hereby acknowledge that the Parties have read and understood the terms of this Agreement and agree to accept and abide by its terms.

If execution of this Agreement is in the physical form, please countersign and return a copy of this signoff sheet to Redseer. If execution of this Agreement is in the electronic form, please leave this signoff sheet blank.

Signoff

**International Gemmological Institute (India)
Private Limited**

Name: Eashwar Iyer

Designation: Chief Financial Officer

EASWAR
SUBRAMANIAN
IYER

Signature:

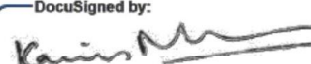
Digitally signed by EASWAR
SUBRAMANIAN IYER
Date: 2024.05.21 19:37:55
+05'30'

Redseer Strategy Consultants Pvt Ltd

Name: Kanishka Mohan

Designation: Partner

Signature:

DocuSigned by:

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