

03

IN FOCUS

IN FOCUS: CHANGING CONSUMER PREFERENCES AND THE GROWTH OF BRANDS IN THE UNITED STATES AND CHINA

The diamond dream is very much alive. The physical attributes that diamond jewellery consumers are drawn to – the sparkle and beauty of diamonds – are accompanied by emotional associations of love and promise, prestige, mystique, tradition and a sense of the eternal. Diamonds continue to be seen as an emotional symbol and a store of value.

However, the diamond industry cannot afford to take this situation for granted, especially when the consumer landscape is changing so rapidly.

This 'In Focus' section provides an insight into the changes in two of the world's most important diamond consumer markets: the US, the world's largest, and China, the world's fastest growing.

The results shown here are drawn from extensive consumer research commissioned by De Beers. In its most recent survey, the research covered over 20,000 women in the US (nationally representative) and over 10,000 women in China (representative of 123 Tier 1, 2 and 3 cities).



THE UNITED STATES

OPPORTUNITIES EMERGING DESPITE CHALLENGING ECONOMIC CONDITIONS

The US remains the largest market for diamonds in the world. Total US retail sales of diamond jewellery reached pre-2009 downturn levels in 2013 while polished diamond content in jewellery increased by 20 per cent from 2008. Overall, the US accounted for approximately 40 per cent of global polished diamond consumption by value in 2013.

The US consumer market is made up of women's jewellery, men's jewellery and jewellery for adolescent girls, called 'teens' jewellery'. Of those three segments, women's jewellery represents by far the largest portion of total diamond jewellery sales, with well over 90 per cent of sales value.

Traditionally, two major segments of diamond jewellery have been analysed in the US women's category: bridal jewellery (including diamond engagement rings (DER) and diamond wedding bands (DWB)) and non-bridal jewellery (which can be further subdivided into married women's diamond jewellery (MWDJ) and single women's diamond jewellery (SWDJ)) – see Fig. 32.

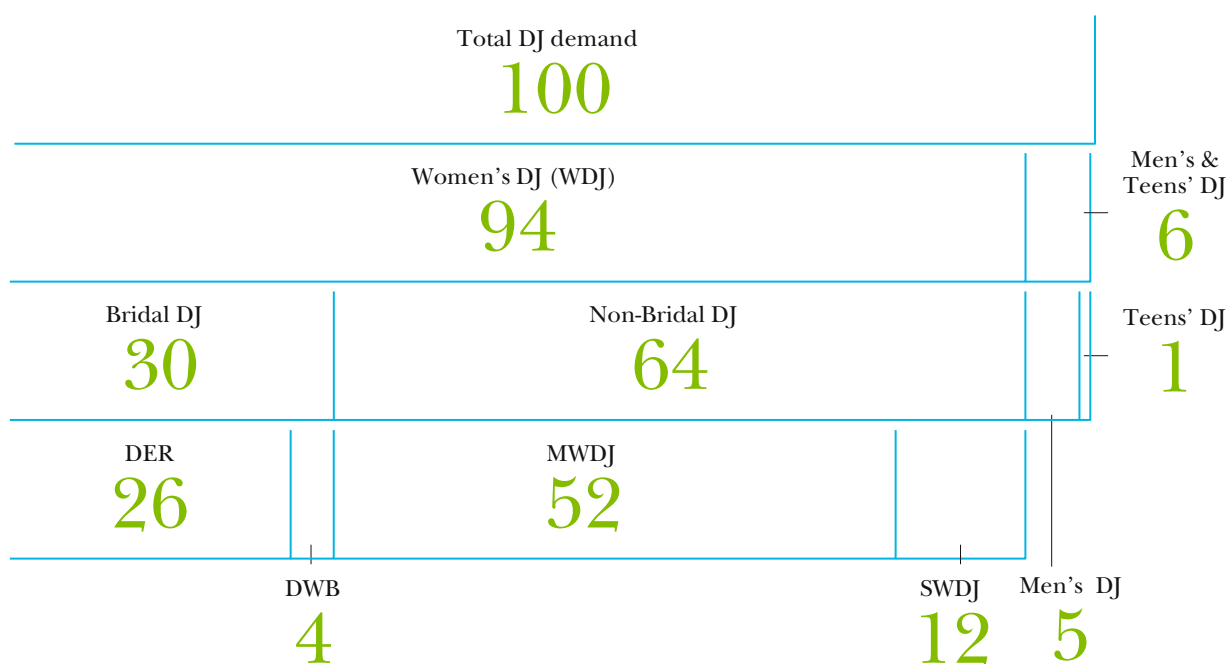
Non-bridal diamond jewellery is the largest segment by value in the US. In 2013, it accounted for over four in five pieces and about two-thirds of sales value of women's DJ. However, compared with the pre-recession state of the US market, this segment has lost share both in volume and in value to the bridal segment (see Fig. 33).

This shift has been driven by two changes. Firstly, the number of DER pieces sold has increased and the average price per DER piece has grown even more rapidly than unit sales. The average DER price is more than three times higher than the average price for other women's jewellery. As a result, in 2013 DER accounted for a little over one in 10 pieces sold, but represented close to 28 per cent of retail market value of women's DJ.

Secondly, within the non-bridal segment, the two sub-sets – MWDJ and SWDJ – have behaved quite differently since the economic downturn. Over this period, the share of MWDJ has declined in volume of pieces, while its share of value has gone up slightly. At the same time, the SWDJ segment has retained its share of volume, but its share of value has declined.

FIG. 32: DIAMOND JEWELLERY (DJ) MAIN CONSUMER SEGMENTS IN THE UNITED STATES (2013)

Per cent of DJ value

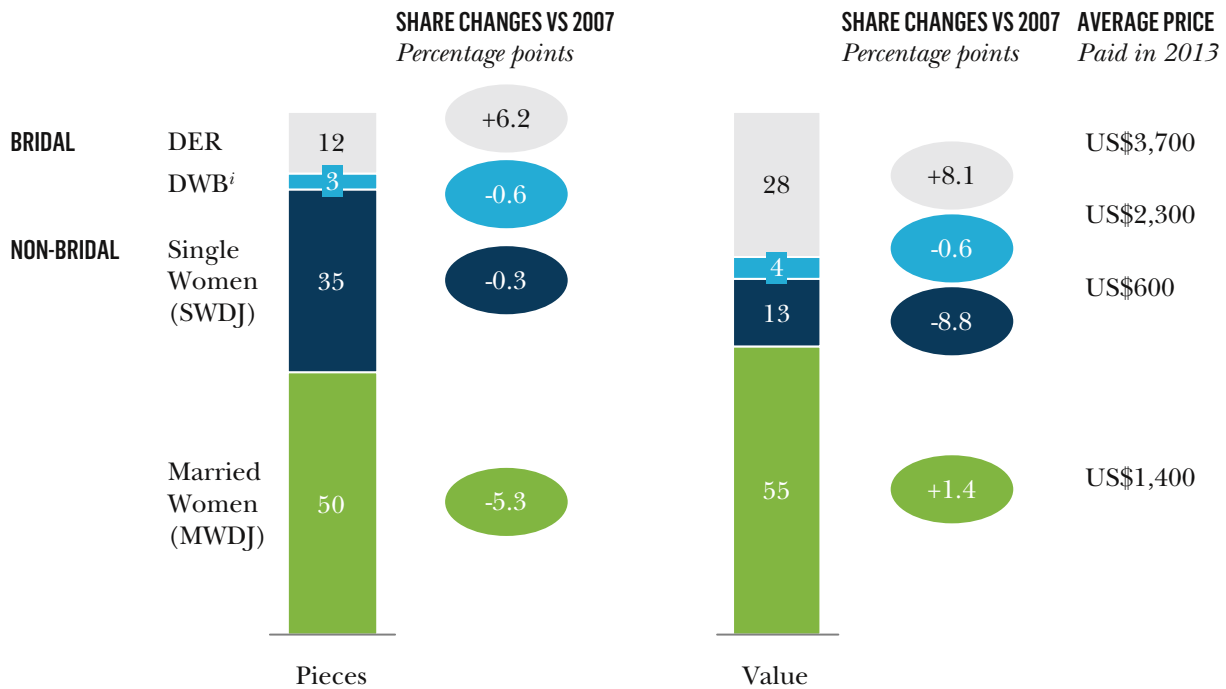


Note: Area of rectangles reflects approximate proportion of total market by value

Source: De Beers

FIG. 33: BREAKDOWN OF WOMEN'S DIAMOND JEWELLERY SHARE BY SEGMENT IN THE UNITED STATES

Per cent (by pieces and value)



ⁱ In 2013, diamond wedding band (DWB) defined as ring with a setting of diamonds in a single row, all about the same size
Source: De Beers

These trends reflect, in part, the impact of the economic downturn experienced by married and single women in the US:

- Married women in households most affected by economic pressures exited the category while those who acquired received more expensive pieces on average.
- Single women continued to acquire pieces but at lower prices on average.

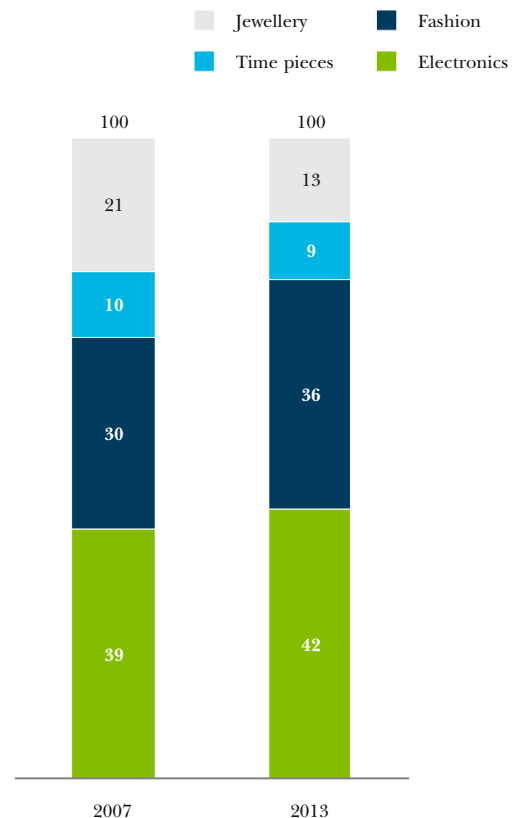
FINE JEWELLERY IS FACING STRONG COMPETITION FROM OTHER CATEGORIES

It is clear that, as the US economy recovers from the financial crisis, the new consumer landscape holds both challenges and promise for diamond jewellery.

First of all, fine jewellery is facing strong competition from other luxury and experiential categories. In 2013, fine jewellery was not among the top five on the list of gifts that US women would most like to receive, ranking behind holidays (foreign and domestic), electronics, home furnishings and spa days. Among young people (aged 18-34), the desirability of fine jewellery ranked below branded luxury products such as designer handbags and clothing. However, diamonds were still the most popular choice for fine jewellery for all age segments; in fact, diamonds were almost three times more popular than any other type of jewellery.

FIG. 34: SHARE OF ADVERTISING VOICE IN THE UNITED STATES

Per cent



Source: Mindshare

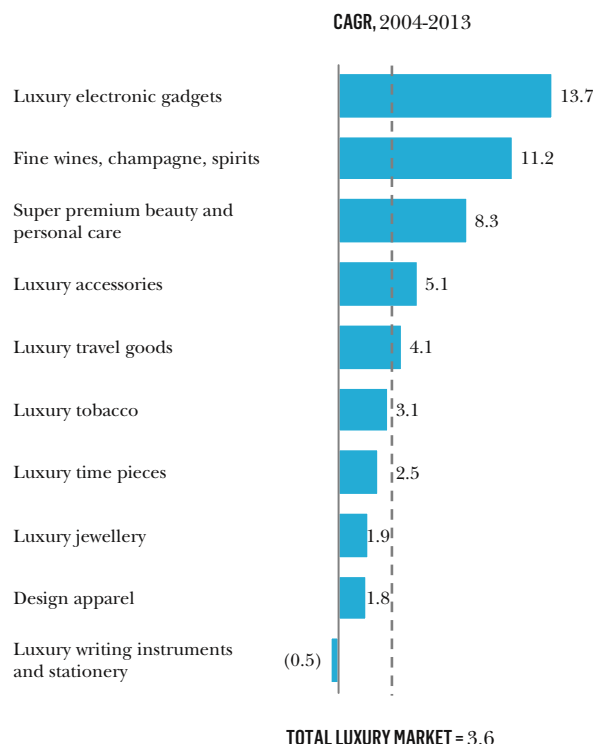
Part of the explanation for this relative weakness of fine jewellery in consumers' preference may be that other luxury and discretionary categories have continued to compete far more strongly for consumers' attention. Share of advertising voice for fine jewellery within the US luxury segment has declined over the last seven years (from 21 per cent in 2007 to 13 per cent in 2013 – see Fig. 34)³⁵.

Overall, the fine jewellery category has been growing at a slower rate than other discretionary and luxury goods for some time (see Fig. 35). Luxury jewellery sales grew at a compound annual growth rate of just below two per cent between 2004 and 2013, well behind luxury electronic gadgets (14 per cent), fine wines (11 per cent) and premium beauty/personal care (eight per cent)³⁶.

In addition, a growing number of Americans facing financial strain in the aftermath of the financial crisis have resorted to recycling jewellery. The experience customers sometimes encountered when trying to sell back their jewellery pieces, especially to non-specialised businesses, could also have played a role in impacting upon the product's relative desirability (see the 'Trends to Watch' box).

FIG. 35: GROWTH OF LUXURY CATEGORIES IN THE UNITED STATES

Per cent



Source: Euromonitor

TRENDS TO WATCH

DIAMOND JEWELLERY RECYCLING

Trading of previously owned diamonds (sellback, trade-up) is a normal part of the lifecycle of jewellery and forms a growing segment of the diamond jewellery industry. However, this activity has attracted greater attention in the diamond industry in recent years, as its scale was boosted not only by the global economic downturn but also by the accompanying appreciation of gold prices during that period. In many cases, consumers wanted to sell back their gold jewellery, and diamonds were simply a by-product; on other occasions, the diamond was the main item being sold back.

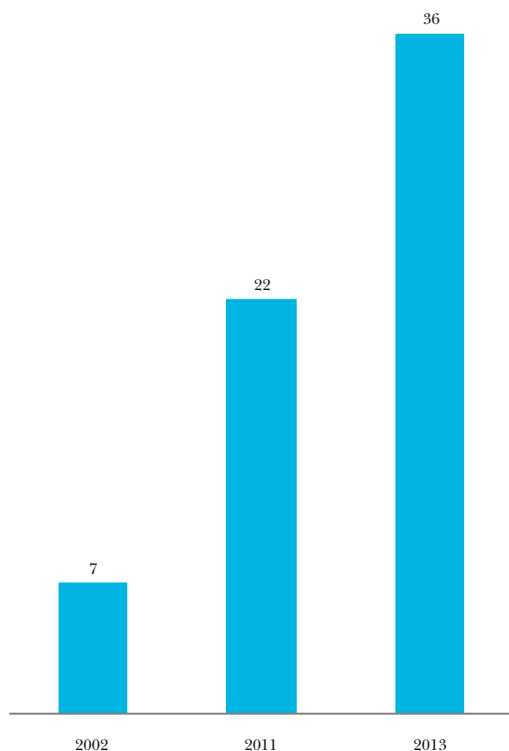
Due to the lack of a reliable buy-back offer from traditional retailers, US consumers have increasingly turned to pawnbrokers and to high-visibility, non-specialised new entrants to sell back their diamond jewellery. Consumers who have sold diamond jewellery through these channels have often left dissatisfied, especially due to a perceived lack of transparency and objectivity in the pricing of their jewellery. Consumers who trade up their diamond jewellery through specialised channels are generally less dissatisfied with their experience.

The recycling trend could undermine trust in the diamond industry and consumers' belief in the diamond dream. The industry will need to continue to work towards offering consumers expert advice and clear choices when it comes to recycling of diamond jewellery.



FIG. 36: CONSUMERS WHO REPORTED BUYING A BRANDED DIAMOND ENGAGEMENT RING

Per cent



Source: De Beers

FIG. 37: RETAILER QUOTES ON IMPACT OF FOREVERMARK ON THEIR BUSINESS

“When I was initially introduced to Forevermark, I was very intrigued by Forevermark’s brand promise and, more importantly, how partnering with De Beers and Forevermark could elevate my brand and increase my margins. In the year and a half that I have been involved with Forevermark, I have seen an increase in margins anywhere from 15 to 30 per cent. I am sometimes seeing a 35 per cent increase on loose goods, compared with the equivalent unbranded polished since I’m not competing with other jewellers and online companies who are selling inferior Gemological Institute of America (GIA) graded stones for little to no margin.”

“Since partnering with Forevermark, the sheer beauty of the diamonds, exclusivity of the brand, and the other value added features have enabled us to ask for margins at 15 to 30 per cent higher than we had for GIA certified diamonds. We have been able to achieve it with great success.”

Source: De Beers

Raising fine jewellery’s place to the top of the desirability list is not a simple matter. As discussed in the retail section of this report, US jewellers have been under financial pressure and find it challenging to invest in innovation and advertising to boost the category.

Despite the challenges facing fine jewellery in the US, there are promising opportunities for growth in diamond jewellery. The premium and bridal segments continue to expand. The rise of brands and premium products means that retailers have the opportunity to realise higher margins necessary for investing in desire-creating activities.

BRANDS HOLD THE KEY TO GROWTH

Brands are becoming more important to the US consumer. The acceleration in consumer preference for brands of diamonds and diamond jewellery is evident from the claimed acquisition of branded engagement rings – from just seven per cent in 2002 to three and five times that level in 2011 and 2013 respectively (see Fig. 36). The growth in importance of branded jewellery will have a particular impact in attracting the brand-conscious younger US consumer.

A variety of brands has been gaining space in the US market for diamond jewellery in recent years. There has been an uplift in awareness of specialist diamond brands such as Hearts on Fire, Leo and Tacori. Traditional branded jewellers such as Tiffany and Cartier have seen a jump in claimed brand acquisitions in the last couple of years, and fashion brands such as Dior and Chanel are also growing. Forevermark has been part of this trend and has experienced growing retailer and consumer interest since its US launch in Q4 2011.

The attraction of branded diamond jewellery to retailers is that it supports both the diamond dream and higher margins. The offer of brands with a specific positioning and story, which goes beyond the 4Cs, helps retailers address consumer needs for emotional engagement with the product and protects the offer against commoditisation (see Fig. 37).

BRITNEY'S JOURNEY



BRITNEY'S PROFILE

26 years old

Event co-ordinator for a cruise ship company

Lives in Chicago

Has a Forevermark diamond engagement ring

TESTIMONIAL

For as long as she could remember, Britney had known she wanted a diamond engagement ring.

As soon as her fiancé proposed, she went online to search for rings.

“When I Googled engagement rings, Tiffany was the first website to pop up. I used its ring finder to get an idea of styles and cuts – and decided I wanted a cushion cut.”

Shortly afterwards Britney and her fiancé Kevin went to try on rings. They made a special trip to the mall where they could browse a number of high-end department stores and jewellers in one go.

At one of the stores, Britney was shown a Forevermark diamond. She loved the beauty of the diamond and the sales assistant showed her and her fiancé the inscription. They told her about registering the ring online, and how it was responsibly sourced.

CONTEXT

The DER tradition is well established in the US, with acquisition rates remaining around 80% since the 1980s (compared with 10% in 1940).

Online is the most popular channel for research. In 2013, 34% of consumers and half of brides researched online before acquisition.

For most brides (81% in 2013), the decision process begins with selecting the shape of the main diamond in the DER.

While rounds are still popular, fancy shapes have become more attractive, and now represent over half of bridal pieces:

- Princess (25%)
- Cushion (8%)
- Emerald (4%)
- Other fancy cuts (19%).

In 2013, 36% of consumers and 53% of brides browsed jewellery stores before purchase, visiting an average of three stores each.

Few women decide what they want before going in-store. In 2013:

- 48% purchase decisions made on the spot
- Only 14% completely selected before purchase.

When choosing between a generic and branded diamond, beauty and rarity are the key attributes that influence selection in 2013, both attributes had over 80% relevance.

Responsible sourcing becomes a differentiator when choosing between brands – in 2013, more than half of consumers thought it provided distinctiveness to the brand.

Note: Names have been changed
Source: De Beers

HIGHER-END JEWELLERY IS A FURTHER GROWTH OPPORTUNITY

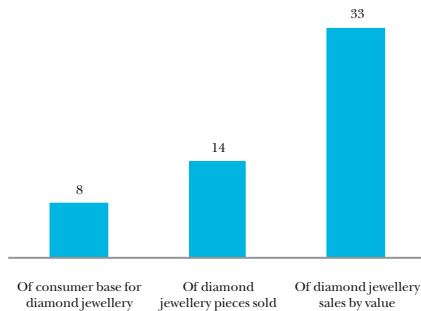
Additionally, there are exciting growth opportunities in the US for high-end diamond jewellery. Average incomes for the top one per cent of Americans have grown much faster than national average wages³⁷. In 2013, female consumers with household income of over US\$150,000 accounted for eight per cent of the consumer base for diamond jewellery, but in terms

of actual acquisition this group accounted for 14 per cent of diamond jewellery pieces and 33 per cent of sales by value (see Fig. 38).

The presence of an affluent customer base for higher-end products has resulted in a shift of the profile of polished diamonds consumed in the US in the past five years. Large higher-clarity stones have grown notably, while all other types of polished have either declined or remained flat (see Fig. 39).

FIG. 38: 2013 FEMALE CONSUMERS WITH HOUSEHOLD INCOME OVER US\$150K ACCOUNTED FOR

Per cent

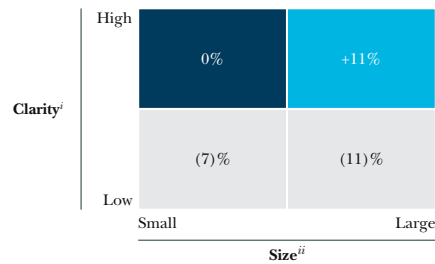


Source: De Beers

FIG. 39: CHANGE IN TYPE OF POLISHED CONSUMED

2008–2013 CAGR

CHANGE IN TYPE OF POLISHED CONSUMED IN US



ⁱ Low: Pique; high: VS+

ⁱⁱ Small: <0.49 carat; large: >1 carat

Source: De Beers

"I really loved the Forevermark diamond, but it was a bit more expensive than some of the other rings, and slightly more than our agreed budget. The sales assistant was lovely but I told her I had to go home and think about it."

A few weeks later, Kevin returned to the store where they had seen the Forevermark diamond and bought it.

"I couldn't believe it when Kevin pulled out the box and I saw it was from Forevermark! I guess I secretly hoped he would get it. It was such a nice surprise!"

A few months later, the couple returned to the same store to buy their wedding rings, which they had tried on earlier when they were browsing for engagement rings. Kevin's was plain, but Britney wanted a few diamonds on the wedding ring as well.

Britney also used this occasion to buy a pair of diamond earrings – a gift from her parents to wear on her wedding day.

"I'm very proud of my ring and love it when people ask me about it – I can tell them all about the inscription and the fact it is responsibly sourced."

In the high-end bridal market (DER over US\$8,000), three-quarters of couples have a defined budget for the DER.

Despite this, almost half of couples with set budgets end up spending slightly more than they had planned.

In 2013, the most popular places to purchase DER were:

- Independent jeweller (28% of acquirers)
- National jeweller (28%)
- Regional jeweller (17%).

77% DER pieces in 2013 were paid for by the man alone; men tend to spend more on a DER when shopping alone than with their partner.

Over half of women have some say in selecting their engagement ring.

- In 2013:
- 35% chose the piece
 - 25% hinted/ advised on choice.

Brides now wait 14 months between engagement and marriage (five times longer than 1980s), allowing them to save for longer and spend more on diamond jewellery.

In 2013, many women bought another piece of diamond jewellery *in addition* to their DER for the wedding occasion:

- Earrings: 9%
- Necklace: 8%
- Bracelet: 4%.

For DER, there are two key moments when branding is important: the first is the receipt of the DER in a branded box.

The second key moment when branding is important is when friends and family ask about the DER, and the acquirer is able to describe the attributes particular to the DER brand she has selected.

Clearly, precise targeting of this consumer segment through higher-end products and brands would help capture its potential more effectively.

THE BRIDAL SEGMENT HAS EXCELLENT PROSPECTS

Despite a lower percentage of the US population opting for marriage, and a longer wait to first marriage among those who do, among those who choose to marry the average amount spent per occasion continues to increase, according to a report by Mintel, a consultancy³⁸.

In this context, the tradition for bridal diamond jewellery is still going strong. Current penetration of bridal diamond jewellery is in line with historic levels, highlighting the resilience of this segment to the economic pressures in the US in the last few years:

- 79 per cent of those who got engaged in 2013 acquired a new diamond-only DER;
- 73 per cent of those who married in 2013 acquired a new diamond-only DER.

Of all DERs acquired in 2013, a total of 82 per cent were diamond-only rings, the majority set in white gold or yellow gold, followed by platinum and silver, with the latter taking share from gold in the last few years.

The amount spent on diamond engagement rings has increased in real terms over the last 10 years.

In 2003, the average DER cost just over US\$2,500 (US\$3,165 in 2013 terms); in 2013, it cost just under US\$3,700 on average.

There are several reasons for the considerable growth of bridal jewellery in the US. The post-recession US bride tends to be more educated, older and more affluent (particularly second-time brides, who make up one-third of the total), and can afford to spend more on the wedding. Brides today also wait five times longer between engagement and marriage than in the 1980s (14 months today on average vs less than three months in 1980); their longer engagement period may allow the couple to save up for the wedding and their budget for diamond jewellery may therefore be bigger.

There has also been notable growth in the number of brides who buy other types of jewellery to celebrate their engagement in addition to their DER. In 2013, 17 per cent of women who got engaged and received a DER acquired an additional piece of diamond jewellery compared with only five per cent of women in this situation 10 years ago.

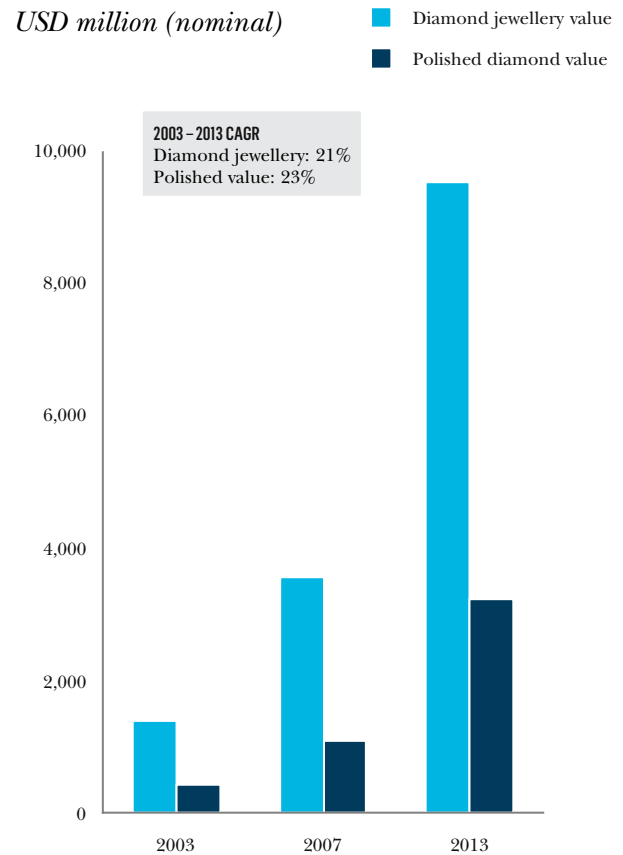
CHINA

A STORY OF GROWTH AND EVEN GREATER GROWTH POTENTIAL

Sales of diamond jewellery to Chinese consumers were the fastest growing in the world over the last decade, with a compound annual growth rate of 21 per cent from 2003 to 2013 (see Fig. 40). As a result, the share of polished diamonds sold in jewellery to Chinese consumers grew from barely three per cent in 2003 to just over 13 per cent of global demand in 2013. Including Hong Kong and Macau, the share of this region's consumers in the global demand of polished diamonds in jewellery was almost 16 per cent in 2013 in USD.

This vertiginous growth in demand for diamond jewellery has been driven by growing numbers of consumers able to buy into the category, and by the increase in the average price and the sizes of diamonds they can afford to buy. Average prices paid jumped by 32 per cent in real terms between 2003 and 2013, to over RMB 8,000 (US\$1,300) (see Fig. 41). Average carats per piece over the same period rose from 0.18 to 0.25.

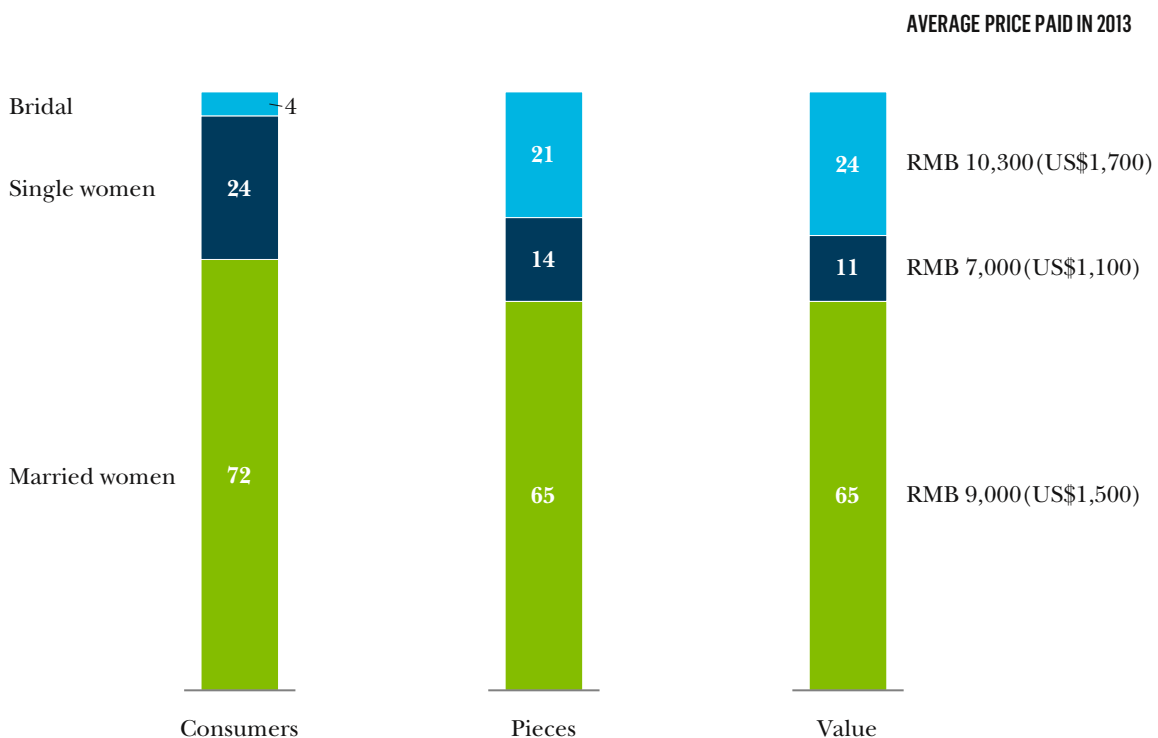
FIG. 40: DIAMOND SALES TO CHINESE CONSUMERS



Source: De Beers

FIG. 41: 2013 CHINESE DIAMOND JEWELLERY BY SEGMENT

Per cent (by acquirers, pieces and value)



Note: The 2013 FX assumed is US\$1 = RMB 6.1905. All prices rounded
 Source: De Beers

THERE IS STRONG POTENTIAL FOR FURTHER GROWTH

Fine jewellery is the object or experience most desired by urban women in China. Asked to select from a list of competitive items or experiences they most coveted, almost half (48 per cent) of Chinese women selected fine jewellery, a much higher percentage than the next most desirable gift item – designer handbags, chosen by just under a third of Chinese women. Among types of jewellery, diamond jewellery was by far the most popular choice, with about two-thirds of female consumers selecting it as their first or second preference (see Fig. 42).

Even so, China remains underpenetrated: while diamond jewellery ownership has risen to 20 per cent in the top urban cities surveyed (up from just 10 per cent in 2003), it is still far below the US ownership rate of approximately 70 per cent.

The consumer base is likely to continue to widen as the portion of the Chinese population able to buy into the category expands further. McKinsey & Company predicts that, by 2020, ‘mainstream’ consumers – relatively well-to-do households with annual disposable income of between US\$16,000 and US\$34,000 – will make up 51 per cent of urban households (from six per cent in 2010), and affluent households with annual incomes of more than US\$34,000 will make up six per cent (from two per cent in 2010 – see Fig. 43)³⁹.

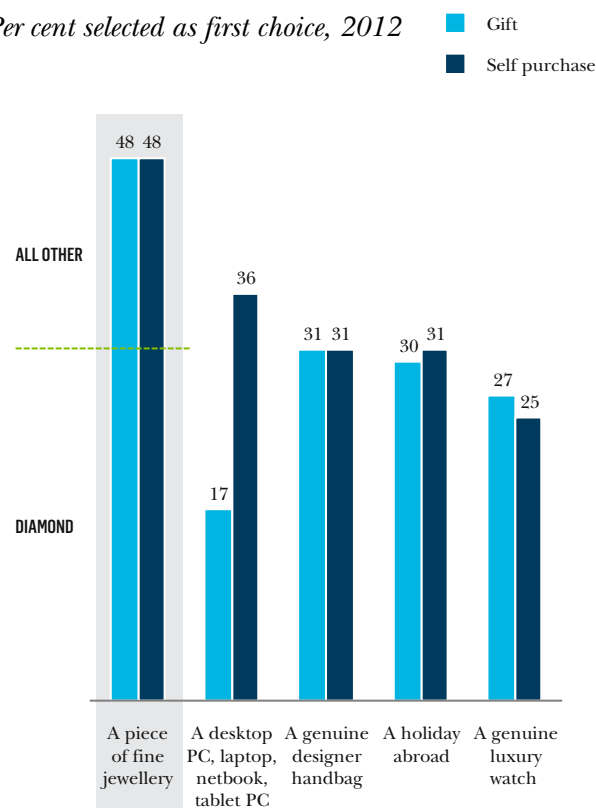
In addition, consumers who have already bought diamond jewellery are expected to find additional occasions to buy diamonds.

The number of wealthy individuals has also grown strongly in China. In its 2013 Wealth Report, Credit Suisse estimates the number of Chinese millionaires (ie individuals with assets above US\$1 million) to be 1.1 million in 2013, up 90,000 in one year alone⁴⁰. According to global consultancy Capgemini, China has the fourth-largest number of high net-worth individuals (HNWI, those with investable assets of over US\$1 million), reaching 643,000 in 2012, up just under 16 per cent on 2011⁴¹. A 2014 study by consultancy WealthInsight shows that together, Beijing (sixth in the list of the top 10 cities with most millionaires) and Shanghai (ninth on the list) have more USD millionaires (excluding the value of their primary residences) than London⁴².

This potential for growth is recognised by the big Chinese jewellery chains. Their store network expansion has continued apace over the past three years, leading to an estimated total of, approximately, 15,500 stores offering diamond jewellery in 2013 – 29 per cent more than in 2010. Chow Tai Fook, a leading specialised jewellery chain, has disclosed its aims to open a net of 200 jewellery points of sale each year in the medium to long term (see Fig. 44)⁴³. This is a further indication of local retailers’ confidence in the prospects for diamond jewellery in China.

FIG. 42: CHINESE WOMEN'S DESIRE FOR DIAMONDS AND COMPETING ITEMS

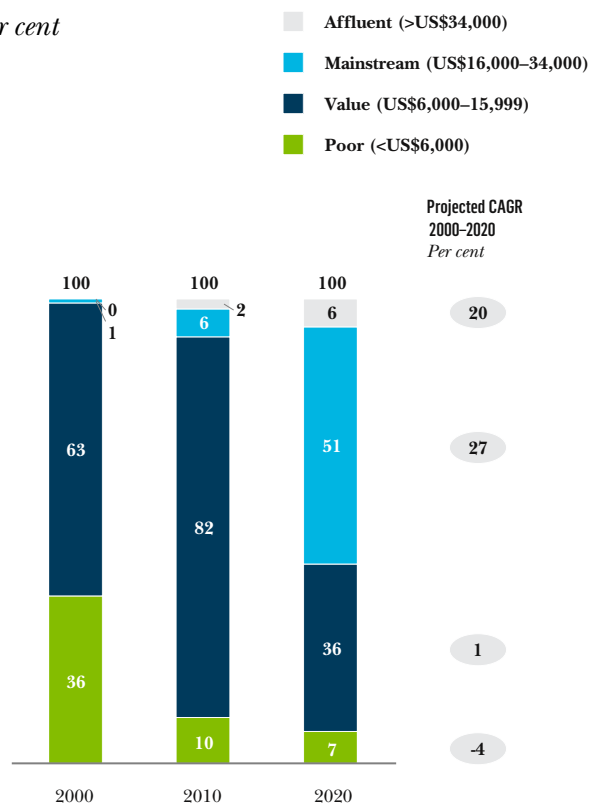
Per cent selected as first choice, 2012



Source: De Beers

FIG. 43: SHARE OF URBAN HOUSEHOLDS BY ANNUAL HOUSEHOLD INCOMEⁱ

Per cent

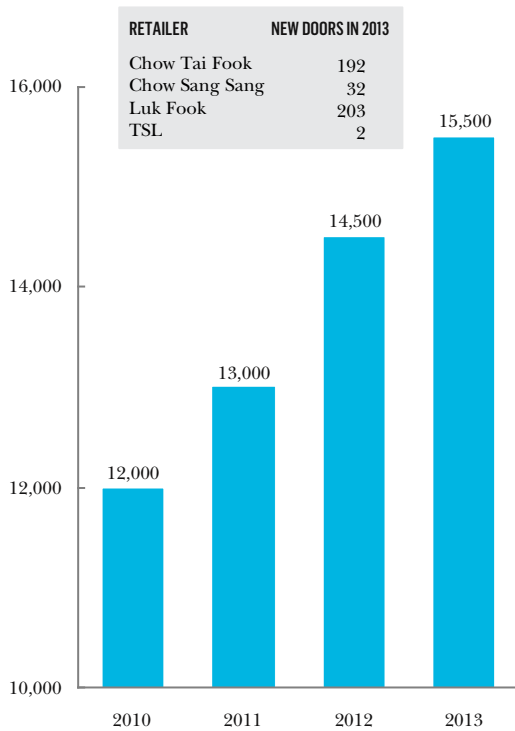


ⁱ In real 2010 dollars; in 2010, US\$1 = RMB 6.73

Source: De Beers

FIG. 44: DIAMOND JEWELLERY RETAIL EXPANSION IN CHINA

Number of doors, estimatedⁱ



ⁱ De Beers estimate, numbers are approximate
Source: Public filings and De Beers analysis

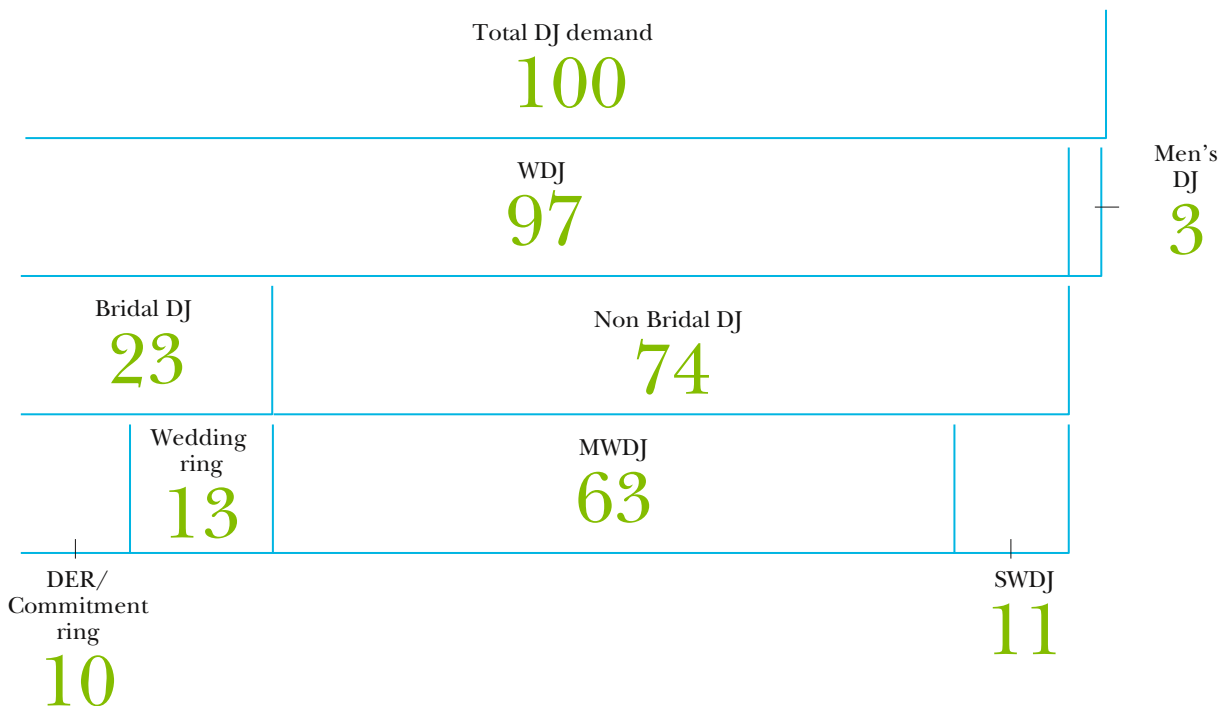
THE IMPORTANCE OF THE BRIDAL SEGMENT IN CHINA

In 2013, diamond jewellery consumption by Chinese women was led by married women who acquired almost two-thirds of pieces and accounted for the same proportion of sales value. The second most important consumer segment was bridal women, who acquired about a fifth of pieces and contributed just under a quarter of sales value. Single women represented the smallest proportion of sales, acquiring 14 per cent of pieces representing 11 per cent of total value (see Fig. 45).

The acquisition levels for each of these three segments were very different: 48 per cent of brides acquired diamond jewellery, while among married women acquisition was seven per cent and among single women four per cent. Brides' jewellery also had the highest average price and the highest average carats per piece. Even so, bridal acquisition rates remain well below the peaks seen in US and Japan, as average household wealth continues to grow (see Fig. 46).

FIG. 45: DIAMOND JEWELLERY (DJ) MAIN CONSUMER SEGMENTS IN CHINA (2012)

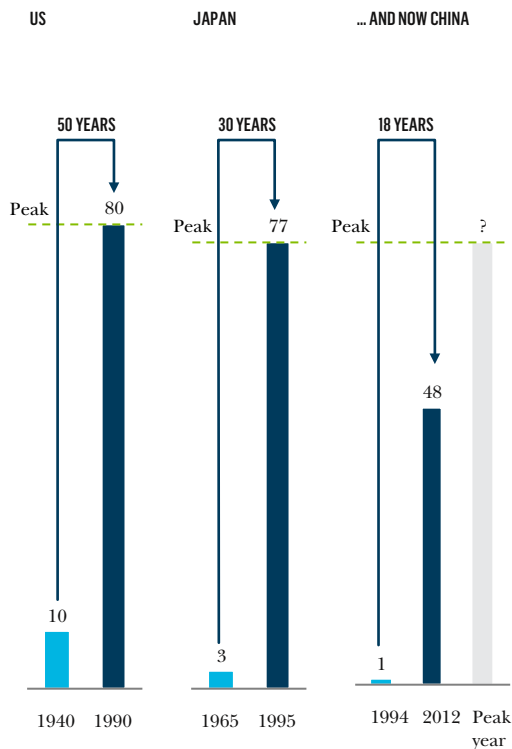
Per cent of DJ value



Note: Area of rectangles reflects approximate proportion of total market by value
Source: De Beers

FIG. 46: PENETRATION OF BRIDAL DIAMOND JEWELLERY

Per cent



Source: De Beers

GROWTH IS LIKELY ACROSS ALL THREE ROUTES TO DIAMOND OWNERSHIP

As described above, the bridal segment in China is important today not only for commercial reasons but also because of the important role it plays in the consumer’s introduction to the diamond category. There are three main routes into the diamond jewellery category for the Chinese consumer (see Fig. 47). By far the most common of these is falling in love and getting married (the ‘Love route’). Typically, a diamond solitaire ring is acquired as part of an engagement or marriage celebration; later on, earrings or necklaces may be given as further expressions of love.

Major milestones in life such as birthdays and wedding anniversaries form the second most important route into the category for Chinese consumers (the ‘Milestone route’). Younger consumers, in particular, often receive their first piece of diamond jewellery as a gift for a special occasion from their parents or boyfriend.

Finally, there is the ‘Spoiling route’: receiving or buying their first diamond jewellery piece (usually earrings or a bracelet) as a treat. In 2013, 18 per cent of Chinese consumers bought diamond jewellery for ‘no specific occasion’ and 24 per cent of diamond jewellery was self-purchased rather than received as a gift.

FIG. 47: CHINESE WOMEN’S MAIN ACQUISITION ROUTES

Love route

- The Love route starts with the diamond ring, typically acquired for engagement or marriage celebration
- The diamond is used as a symbol of true love and promise
- It is often chosen together with the purchaser
- Less likely to be motivated by price

Around

50%

of all journeys

Milestone route

- First acquisition is a solitaire pendant acquired to celebrate a personal milestone
- The diamond represents success and achievement
- Likely to be a gift from a boyfriend, spouse or parent
- Quick decision (few days – 22 per cent) or even unplanned (36 per cent)

Around

23%

of all journeys

Spoiling route

- First acquisition is earrings or bracelet
- The diamond is ornamental, attracting compliments
- More likely that this is a nice treat, acquired as a present from a boyfriend
- Recipients are younger and have more say in choosing the item

Around

16%

of all journeys

Source: De Beers

JI LAYMAY'S JOURNEY



JI LAYMAY'S PROFILE

26 years old

Living in Shanghai

An employee working in finance

A wedding diamond ring bought from Donghua

TESTIMONIAL

Ms Ji planned to buy a diamond ring because her wedding was approaching. She thought that a diamond ring was a necessity for her marriage.

Her friends recommended she go to the Tiffany and Cartier stores to have a look. However, the prices were too high for her.

Ms Ji decided to learn more about diamonds on the internet before continuing her search. That is the first time she noticed the brand Forevermark, although she did not click the link. Online, she learnt about the 4Cs and browsed various designs and cuts.

CONTEXT

In 2012, almost half of new brides, in Tier 1, 2 and 3 cities, acquired a diamond engagement ring, up from below one per cent in 1994.

In China, brands enter into the purchase decision very early. 99% of women have awareness of major local and some international brands, and on average each customer is aware of 5.5 brands.

10% of women sought advice from friends and family when making significant jewellery purchases.

Over a fifth of Chinese women use the internet for research into diamond jewellery:

- 11% look to learn more about quality and prices
- 6% educate themselves on brands
- 5% are pre-selecting designs.

Among single women and affluent consumers, internet use for these purposes is even higher at 40% and 56%.

Source: De Beers

As the Chinese market matures, we expect to see growth across all three of these consumer journeys: 'Love', 'Milestones' and 'Spoiling'.

The growing importance of 'Milestones' and 'Spoiling' makes it more likely that consumers will acquire more than one 'must-have, one-off' piece of diamond jewellery over their lifetime. It also opens the door to more indulgent pieces and more varied designs, moving beyond the solitaire-only design that still makes up 80 per cent of diamond pieces across all types of jewellery, including rings, neckwear and earrings.

ENGAGING THE CONSUMER WILL BE KEY TO GROWTH

The diamond jewellery selection process in China involves a high level of engagement from the woman who will be acquiring the piece, even when receiving diamond jewellery as a gift.

The vast majority of recent acquirers or consumers currently choosing a piece of diamond jewellery consider branded offers as their first or second choice. When it comes to actual acquisition, Chinese consumers prefer to buy from trusted domestic retailers such as Chow Tai Fook and Chow Sang Sang, which surveyed consumers say they can trust.

Since 2008, however, claimed acquisition of diamond jewellery from international brands Cartier and Tiffany by young middle-class consumers has grown eight to nine times.

The purchase process is consultative: both the man and the woman need to be convinced, despite the fact that 71 per cent of pieces are paid for by the giver alone. In 2013, nearly half of pieces gifted were chosen by the recipient of the gift together with the actual purchaser.

As part of this process, customers undertake extensive browsing in shops. The most common place is a specialist jewellery retailer, with almost six in 10 acquirers, followed by jewellery counters/sections in department stores, with more than a third of acquirers.

The purchase journey involves a range of touch-points before a selection is made, including word-of-mouth recommendations from friends and family. The internet has its role to play too. Although not a significant sales channel in China, the internet is used by over a fifth of acquirers for related purposes, such as to learn about fine jewellery quality and prices, learn about brands, and to pre-select designs. The internet is used more frequently in the diamond purchase process by single women, 40 per cent of whom resort to it, and also by affluent consumers (about six in 10 research online).

Ms Ji's elder sister recommended she go to the Donghua store. She thought that the store was reputable and had a good selection. Ms Ji went to Donghua on North Sichuan Road. There she noticed the Forevermark counter and went to see the products. The salesman told her that every Forevermark diamond is unique and has an invisible inscription with a unique number.

Store visits are the most popular research channel for Chinese women. In 2012:

- 56% visited specialist jewellery stores to view selections
- 38% visited department stores.

This information about Forevermark attracted Ms Ji a lot, so she came back home and searched for more information about the brand. on the Forevermark website. Here she noticed its rarity (only one per cent of diamonds make the Forevermark grade) and its responsible sourcing promise. This gave Ms Ji a good impression that Forevermark was a high-quality product.

Chinese consumers attach trust to known brands such as Forevermark. Trust is the top driver of diamond jewellery brand consideration in China.

Ethical sourcing appeals to consumers as it indicates the company is more likely to be honest with them and to provide a genuinely high quality product.

Ms Ji went to some jewellery stores on Nanjing Road, such as Laofengxiang, Xieruilin and Laomiaohuangjin, but none of their products attracted her. Finally, she went to the Donghua store which is located in Nanjing Road. She went to the Forevermark counter and chose a 75 point diamond solitaire to try. The salesman gave her another two (60 points and 70 points) to compare.

Chinese consumers shop around actively – visiting an average of three stores before purchase.

Ms Ji didn't make her decision at once. She came back home and had a long think about the three diamonds. In the end, she thought the 75 point ring offered the best value for money. The next day, she went to the store and bought it.

Within the branded offer, best value for money still plays an important part for the Chinese consumer.

In addition, mobile usage in China is growing quickly, with mobile broadband and WiFi penetration rates up 64 per cent and 600 per cent respectively from 2011 to 2013⁴⁴. Retailers and jewellery brands need therefore to maintain a strong online presence in China.

Chinese spend abroad has become more important on a global scale. In the diamond jewellery category, the average price of pieces acquired abroad is over 50 per cent higher than the average paid at home.

According to McKinsey Consumer and Shopper Insights, the spend by Chinese tourists on goods, including jewellery and other luxury items, accounts for about a third of a total projected spend overseas in 2014 of US\$154 billion. This level of spend was generated by an estimated 93 million trips abroad in 2013, more than five-fold growth in trips since 2002. Chinese travel abroad is expected to grow by 13 per cent annually to reach 135 million trips by 2016. Overall, the Chinese are reported to represent no less than 27 per cent of global luxury purchases, with 60 per cent of this figure being conducted abroad⁴⁵.

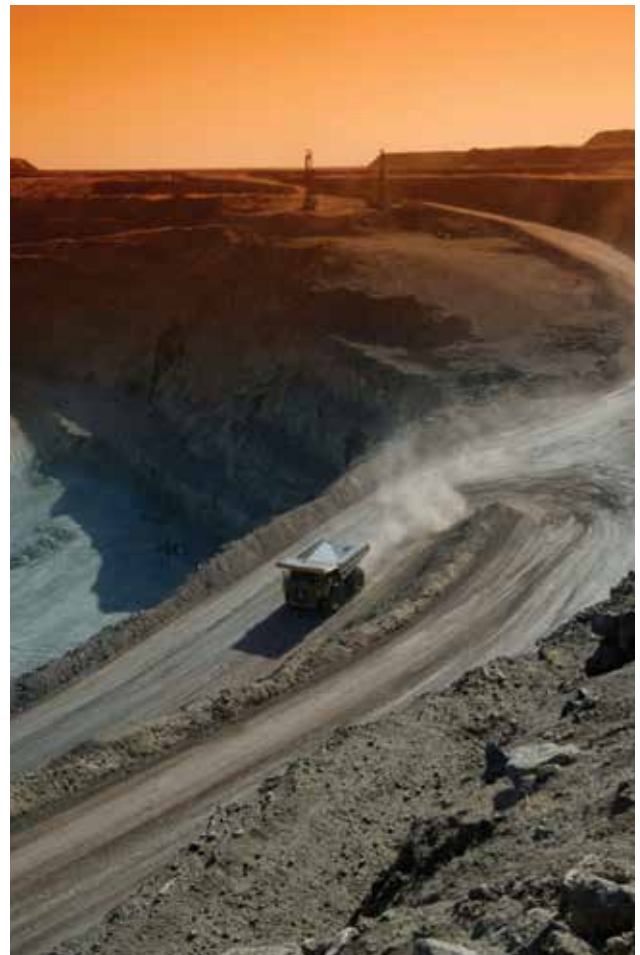
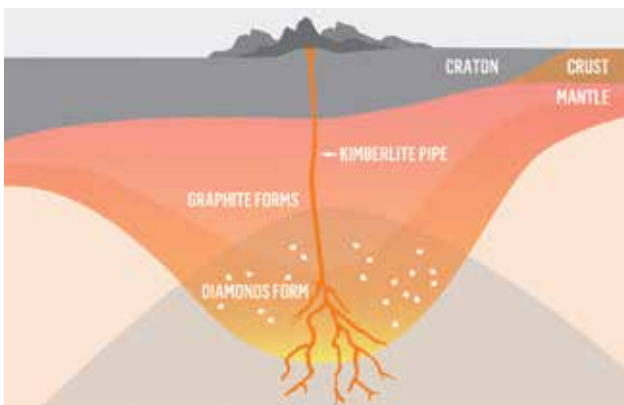
It is evident that China presents a huge growth opportunity for diamonds. But the Chinese consumer is increasingly sophisticated and discerning. To succeed, retailers and brands will need to establish a trusted name, and be prepared to meet the Chinese consumer's desire for inspirational and authentic stories, information and assurance of high-quality products.

IN FOCUS: THE MIRACLE OF PRODUCTION

Challenges and innovation in rough diamond production.

The Canadian Arctic and Botswana are a long way from the diamond jewellers of Fifth Avenue in New York, Times Square in Hong Kong, Bond Street in London, and Place Vendôme in Paris. However, it is in places like these that the world's most valuable diamonds are being extracted at immense cost and effort.

Diamonds were formed within the earth's sub-cratonic lithospheric mantle by processes more than three billion years ago. They tend to occur within ancient and stable parts of the earth's crust, known as cratons, where they have been protected from destructive geological processes and were then transported to the earth's surface within kimberlite.



ESCALATING COST AND COMPLEXITY

Finding, developing and mining kimberlite pipes in some of the world's most inhospitable places are astonishing feats of engineering and human ingenuity. They each require enormous investments in exploration, project development, infrastructure, mine equipment and also human capital – training miners to mine in a safe and sustainable way.

The cost and capital intensity of diamond mining projects are rising, for three main reasons. Firstly, global demand for capital goods has driven price increases in equipment. At the same time, operating costs in some of the major mining geographies have increased significantly over the last few years. In Botswana, for example, the cost of electricity increased 11 per cent per year between 2002 and 2012⁴⁶ and labour costs increased 14 per cent per year⁴⁷. In Russia, the price of electricity increased 12 per cent per year over the same period⁴⁸ and labour costs 19 per cent⁴⁹, while in South Africa power prices have risen by an average of 14 per cent over the same period⁵⁰ (see Fig. 48).

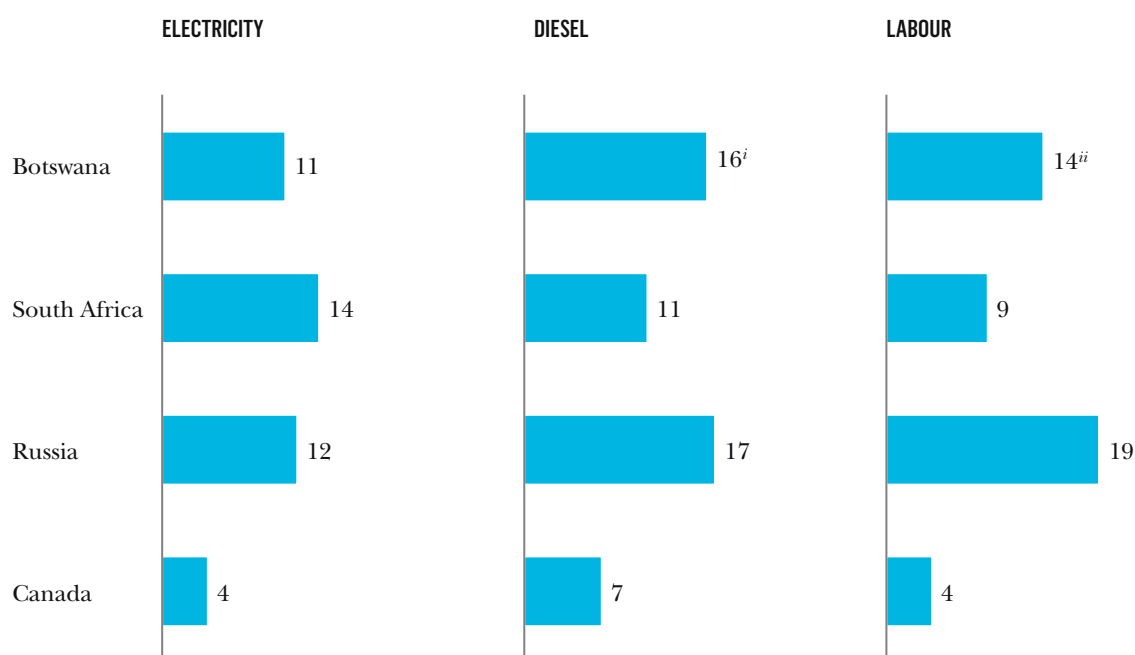
Secondly, diamond miners are developing deeper and more remote parts of existing deposits, such as the Jwaneng Cut 8 project or the Venetia Underground mine.

Finally, new projects are further away, in more hostile natural environments that include the Arctic. Such operations are inherently more complex to run and involve greater infrastructure investments.

Miners go to extraordinary lengths to bring diamonds to market. This has always been the case and supply will continue to increase as demand grows. However, this cannot happen without substantial effort and investment. The cost and complexity of mining diamonds will continue to increase, and diamonds will remain one of the most coveted of earth's products.

FIG. 48: COSTS INCREASES ACROSS THE MOST COMMON OPEX INPUT FACTORS

CAGR 2002-2012 in local currencies (nominal), per cent



ⁱ From 2006 to 2012

ⁱⁱ From 2002 to 2011

Source: South Africa: Eskom, SAPIA, South Africa Department of Mineral Reserves; Botswana: Ministry of Minerals, Energy and Water Resources, Botswana department of statistics, press searches; Russia: Russian Statistics

FROM DISCOVERY TO START OF PRODUCTION

Time lapse to development has increased for diamond mines.

MINE	YEARS TO PRODUCTION	
<i>Mir</i>	4 years	 <i>average</i> 5 years
<i>Aikhal</i>	1 year	
<i>Udachny</i>	16 years	
<i>Orapa</i>	4 years	
<i>International</i>	2 years	
<i>Jwaneng</i>	10 years	 <i>average</i> 20 years
<i>Jubilee</i>	10 years	
<i>Argyle</i>	6 years	
<i>Catoca</i>	29 years	
<i>Ekati</i>	17 years	
<i>Zarnitsa</i>	45 years	
<i>Komsomolskya</i>	26 years	 <i>average</i> 16 years
<i>Nyurba</i>	5 years	
<i>Diavik</i>	9 years	
<i>Arkhangelskaya</i>	25 years	
<i>Victor</i>	20 years	
<i>Snap Lake</i>	11 years	
<i>Grib</i>	18 years	
<i>Karpinskogo-1</i>	35 years	
<i>Botuobinskaya</i>	21 years	
<i>Gahcho Kué</i>	21 years	
<i>Renard</i>	16 years	

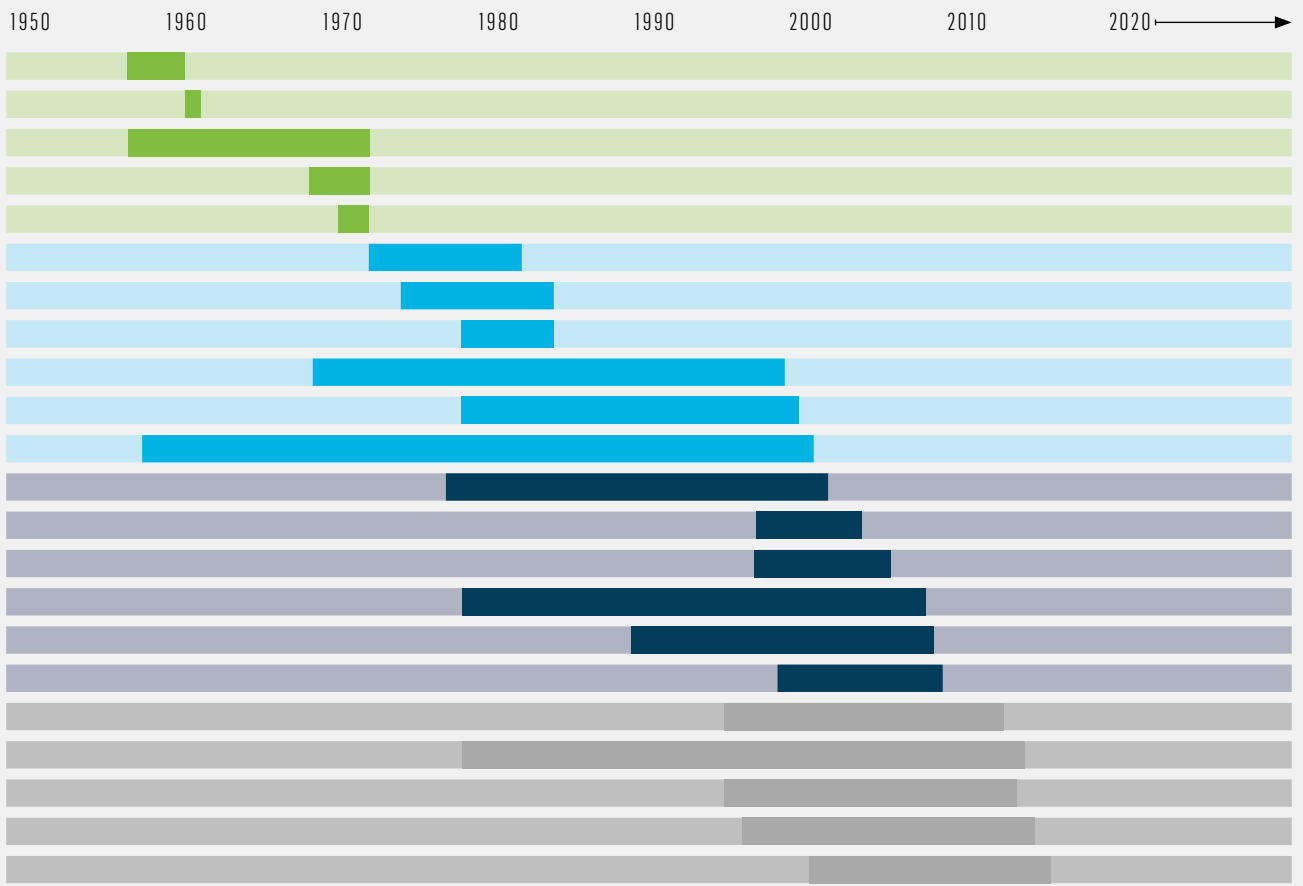
LOOKING FOR BROADER ECONOMIC AND SOCIAL CONTRIBUTIONS

The governments of many diamond producing countries have a strong desire to ensure that diamond extraction maximises local social and economic benefits.

Diamond mining companies make substantial direct and indirect contributions to local economic development in most countries where they mine. With lifespans that can cover decades, mining projects require large-scale and long-term capital investment, often reaching billions of US dollars. This investment often attracts significant additional inward investment to host countries. It results in direct economic and fiscal benefits including infrastructure development, provision of local healthcare and education, direct employment, and payment of taxes and royalties. Indirect benefits include the development of a supply chain to support the mining operations, skills development, indirect employment and community support.

For example, in Canada, De Beers has numerous comprehensive Impact Benefit Agreements (IBAs) with aboriginal communities in the areas near the company's operations. These IBAs not only provide compensation for any loss or potential loss of land during the construction, operation and closure of a mine, but they also provide a framework regarding priorities for local training, employment, business contracts, environmental management and social investment in areas such as culture and heritage activities.

In 2013, De Beers distributed more than US\$5 billion – or over 90 per cent of the value of total sales – to governments, suppliers, employees, shareholders and other finance providers. And of this, more than US\$3 billion was paid to stakeholders in Africa, where De Beers has the greatest proportion of its operations.



DIAMONDS IN THE DESERT



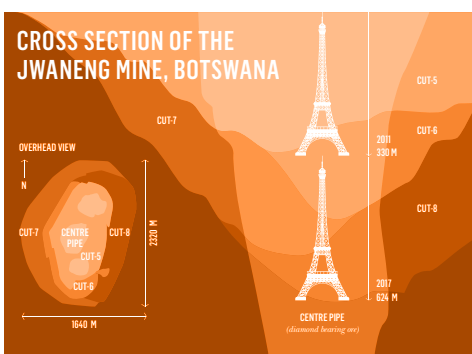
It's in Botswana, a sparsely populated country in southern Africa, that Jwaneng, one of the most valuable diamond mines in the world, was discovered in 1972 by De Beers' geologists. Ten years later, the mine commenced operations, yielding about 12 million carats per year. The ore that is mined at Jwaneng is particularly rich in high-quality diamonds. Jwaneng represents 60-70 per cent of the overall revenues of Debswana, the joint venture between De Beers and the Government of the Republic of Botswana.

The mine has been extended through various programmes, gradually unearthing new parts of the ore body by deepening the mine pit (see chart below). The most recent of these projects, known as Cut 8, will remove an initial 500 million tonnes of waste earth to expose the ore and, to ultimately,

recover more than 100 million additional carats and prolong the life of the mine to at least 2028. The project began in 2010 and the total investment cost is US\$3 billion – the single largest private investment in Botswana's history.

JWANENG IS ONE OF THE MOST VALUABLE DIAMOND MINES IN THE WORLD

Mining always carries safety risks, and while open-pit mines such as Jwaneng are generally seen as safer than underground mines, risks remain. Technology can help improve safety, however: in October 2013, a slope failure was predicted using stability analysis. As a result, the mine was evacuated ahead of the actual slope collapse and no workers were harmed, unlike an earlier instance in 2012, when a similar incident tragically resulted in a loss of life.



FIRE IN THE ICE



Thousands of miles lie between the heat of Botswana and the frozen lakes of the Canadian Arctic. Canada has been home to some of the largest recent developments of diamond mines; however, mining in the Arctic carries particular challenges. One example of this is De Beers' mine at Snap Lake in the Northwest Territories, 220 kilometres north of the closest city, Yellowknife.

The portrait of Calinda gives you a sense of what life is like for the mine workers there.

Calinda is 31 years old and has worked at Snap Lake since she completed the Underground Miner Training Program in 2008. "These past 4.5 years as a female underground miner have been an honour," said Calinda, who is a lube truck operator underground.

Calinda typically works a 12-hour shift for two weeks on the mine before returning home to the Tlicho community of Wekweeti for the next two weeks. The mine can only be accessed by plane, so she and her colleagues catch a special charter flight for De Beers employees to and from the mine from Yellowknife, and then board another plane home.

At Snap Lake, it is dark and remains so throughout most of the day. Temperatures can go down to -45 degrees Celsius and colder on the surface, although down in the mine it's warmer, where the air is heated to an average temperature of three to five degrees Celsius. De Beers provides all the warm clothing and safety items required for each employee to do his or her work safely.

SAFETY IS A BIG DEAL AT SNAP LAKE – THE MINE HAS WON TWO REGIONAL SAFETY AWARDS FOR OUTSTANDING PERFORMANCE

As Calinda explains: "Safety is our top priority: it's on everyone's minds, all the time, and we work together to keep each other and the environment safe. At the beginning and the end of every shift, the team does a handover, to ensure everybody is aware of the exact location they are mining."

TREASURES OF THE DEEP



In 1908, railway worker Zacharias Lewala was shovelling sand off a railway line in Kolmanskop, a few kilometres inland from the port of Lüderitz in Namibia, and picked up several stones, thereby unknowingly starting a diamond rush in Namibia. But how did this whole coastline along southwest Africa come to be strewn with diamonds?

It's another quirk of nature. Millions of years ago, glacial floods carried diamonds down the Orange River from some 500 miles inland and out to sea. Over millennia, the diamonds tumbled along the riverbed, in the process being naturally cleaned and polished, and arrived on the seabed in near-perfect form, making them amongst the most sought after treasures of nature.

It has taken a massive investment in new offshore mining technology by De Beers to enable these diamonds to be brought to the surface. Unaffected by the wild crashing waves of the Atlantic Ocean, the Debmarine Namibia mining fleet is a triumph of engineering ingenuity.

A gigantic crawler – like a monster vacuum – ploughs along the seabed sucking up the diamond-rich sediment and pumping it up to the ship (which is essentially a floating mine) on the surface. The 'mv Mafuta' is the latest of Debmarine Namibia's five deep sea mining vessels.

At a cost of more than US\$100 million, it is the largest and most sophisticated of Debmarine Namibia's fleet. The ship is automatically kept in position by a GPS that moves both ship and crawler along predetermined tracks to comb the seabed areas that geologists determine are most likely to yield the largest number of high-quality gems. Four hundred tonnes of sediment are pumped aboard every hour. The sediment enters an unceasing production line where it is automatically sized and separated, and the diamonds sealed in cans, a complex process untouched by human hands.

A GIGANTIC CRAWLER – LIKE A MONSTER VACUUM – PLOUGHS ALONG THE SEABED SUCKING UP THE DIAMOND-RICH SEDIMENT AND PUMPING IT UP TO THE SHIP (WHICH IS ESSENTIALLY A FLOATING MINE) ON THE SURFACE

Once the diamonds are extracted, the sediment is returned to the seabed to minimise environmental damage. Once a month, when the crew of the vessel change over amid the strictest security, the diamonds are brought ashore by helicopter before being transported to the sort house and eventually beginning the long journey to diamond jewellery retail stores all over the world.



IN FOCUS: SAFEGUARDING THE INDUSTRY THROUGH TECHNOLOGY

Technology plays a vital role across the entire diamond pipeline, helping both to secure future supply and to maintain the diamond dream.

SECURING SUPPLY IN A SAFE AND SUSTAINABLE MANNER

Throughout the pipeline, technology is critical to ensuring the supply of diamonds: in exploration, mining and sorting for diamonds efficiently, and also making sure that these activities are safe and minimise environmental impact.

EXPLORATION

Geologists rely on technological innovation to help them discover new viable sources of diamonds in locations that are often remote, previously underexplored and difficult to work in, such as near the Arctic Circle. In many such remote areas, traditional approaches to exploration are limited, and geologists therefore need to use new techniques to select targets⁵¹.

One new exploration technique, in particular, has been made possible by the recent development of SQUID (Super Conducting Quantum Interference Device). SQUID is a very sensitive magnetometer used to measure extremely subtle magnetic fields. This technology provides significant benefits over current exploration methods such as airborne magnetic and ground exploration systems, and has provided geologists with an important new tool⁵².



Another example is improvements in geophysical hardware that De Beers Exploration has developed. These improvements have resulted in the development of new systems with improved signal-processing capabilities, substantial reduction of noise, increased power and more sensitive receivers.

Furthermore, technology is a critical part of reducing the environmental impact of exploration. The development of geophysical down-hole logging tools, for example, will improve the accuracy of 3D modelling, reducing the number of drill holes required. This not only reduces cost, but also minimises the effects on local environments.

PRODUCTION

Technology also plays an important role in the advancement of mining with ever-improving process efficiencies and novel and unique extraction methods. De Beers has been at the forefront of many of these innovations, ranging from process improvements through the adoption of dense media cyclones to the exploitation of new resources by the pioneering of marine mining for offshore deposits.

Technology also enhances the industry by detecting and deterring diamond theft through improved surveillance, smart security systems and access control. In particular, Scannex, a security system developed by De Beers that allows safe, low-dosage, full-body x-ray, ensures that diamonds do not leave with employees exiting the high security areas of the De Beers operations⁵³. This technology has also had applications outside mining (see Fig. 49).

Additionally, several producers including De Beers are using strategic laboratory facilities to add value to production operations by extracting critical data and information required to target, discover and evaluate diamond deposits. Such laboratories may comprise in-house sample treatment, indicator mineral, analytical, microdiamond and macrodiamond capacity and capability.

SAFETY

Technology also helps geologists and producers to manage the safety risks associated with operating in remote locations. Commercially available technologies include SMARTY cameras in vehicles to encourage safe driving, monitor driving behaviour, and enhance overall safety on the road; rollover protection aimed at protecting equipment operators and motorists from injuries caused by vehicle overturns or rollovers; and smaller, safer drill rigs.

FIG. 49: EXTENDING THE BENEFITS OF TECHNOLOGY OUTSIDE MINING

De Beers' Scannex technology has been used in hospitals to scan patients in a rapid and cost-efficient manner. This technology was first developed alongside a team from the University of Cape Town in the 1990s. Following its success, De Beers formed Lodox Systems (Pty), a separate company incorporated in South Africa, to produce the machines.

The Groote Schuur hospital in South Africa was one of the first in the world to use the scanner. "About 1,250 patients a year benefit from the Lodox machines. In the past, time-consuming multiple images had to be done but the Lodox saves time so life-saving decisions can be made more quickly."⁵⁴

To date, five Lodox machines have been installed, and orders for a further 12 have been placed⁵⁵.



MIDSTREAM OPERATORS

In sorting, valuing and sales, De Beers utilises proprietary technology to produce consistent assortments of its diamonds to satisfy the needs of its customers. In order to achieve this at economically viable rates, De Beers has developed and implemented advanced proprietary sorting technology for weighing and shape/colour/quality sorting of around 300 million stones that pass through the business each year. Sophisticated electro-mechanical feed and dispense mechanisms, and state-of-the-art image-processing, enable the fastest sorting machines to operate at up to 15 stones per second.



SAFEGUARDING THE CONSUMER AGAINST THE RISK OF UNDISCLOSED SYNTHETICS

When a consumer acquires a diamond, he or she wants to know for certain that it is a rare and inherently precious natural gem, brought to the surface after lying for hundreds of millions of years within the earth's mantle. Any damage to consumers' confidence in their natural diamond purchases could have consequences for the whole industry.

Undisclosed synthetic diamonds present exactly such a risk. The inability to distinguish confidently (and therefore disclose) synthetics from natural gem diamonds could lead to a collapse of consumer and trade confidence in the value-perception of, and desire for, natural gem diamonds. This may ultimately lead to consumers abandoning the category, temporarily or permanently.

Several organisations (De Beers included) have been working hard over many years to minimise the risks to consumer confidence resulting from deliberate or inadvertent undisclosed synthetics.

De Beers has invested nearly US\$65 million in research over the last 30 years (in today's value) to develop sophisticated technology, including DiamondSure™, DiamondView™ and DiamondPlus™ (see sidebar for further detail), that can readily detect all types of gem synthetics, providing consumers with the confidence that they are not unknowingly purchasing an undisclosed synthetic instead of a natural gem.

At the end of 2013, evidence came to light that some synthetic products may have been seeded, undisclosed, into parcels of natural diamonds in the major diamond trading centres. Earlier in 2012, more than 600 Chemical Vapour Deposition (CVD) synthetic colourless diamonds were found to have been sold undisclosed to someone who then submitted them to the International Gemological Institute facilities in Belgium and India. Small quantities of undisclosed high-quality CVD synthetic diamonds were also detected in China and in India⁵⁶.

Although technology was already available to detect synthetic gems, the first generation of detection technology had focused on screening larger gems. At the time, there was no cost-effective method of screening *melée* diamonds in the supply chain. It was not therefore possible to assess accurately the extent to which undisclosed synthetic *melée* posed a consumer confidence risk to the industry.

Research and development efforts were accelerated to address this issue, and effective *melée*-screening technology is now available.

WHAT IS A SYNTHETIC?

A synthetic is a product that has been partly or completely crystallised by artificial or human intervention through a variety of processes, such as High Pressure High Temperature (HPHT) or Chemical Vapour Deposition (CVD).

In some cases, synthetic diamond stones are treated to improve their colour, using heat treatment, irradiation or a combination of these treatments.

The first commercially successful synthesis of diamond was announced by the General Electric Company in 1955. These synthetics were produced using HPHT processes. An alternative method of diamond synthesis carried out by Union Carbide, based on Chemical Vapour Deposition techniques, is claimed to have pre-dated that of HPHT by two years.

The primary use of synthetics since then has been in industry, where they are used for wide range of applications, including mechanical, optical and electronic. Significant advances in the production of synthetics have occurred since then, with the first incidence of HPHT synthetics in the jewellery industry being noticed in the late 1980s and that of CVD synthetics in the late 1990s⁵⁷.

The Swiss Gemmological Institute (SSEF) has developed a non-portable Automated Spectral Diamond Inspection (ASDI) machine designed to screen colourless *melée* diamonds at a rate of 3,000-4,000 per hour⁵⁸.

De Beers, drawing on a co-ordinated effort between its Global Sightholder Sales and Technologies divisions, and the International Institute of Diamond Grading and Research (IIDGR), built a compact, portable automated machine, the Automatic *Melée* Screening (AMS) device, to scan both colourless and near-colourless *melée* quickly and cost-effectively. The AMS machine was piloted in Antwerp in mid-2013 and is now being sold to De Beers' Sightholders, helping to maintain confidence across the industry. The first 100 AMS machines were produced and available for shipment to the Sightholder community less than 12 months after the issue first surfaced. By the end of July 2014, orders for 60 AMS machines had been received, with installation and training having been completed for 25 of these units.

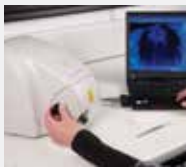
DE BEERS' PROPRIETARY DETECTION TECHNOLOGY

De Beers continues to make its detection technology available to Sightholders and the industry at large. Additionally, the company is working to raise awareness of how undisclosed synthetics might deliberately or unwittingly be introduced into the pipeline and of how this risk can be managed.

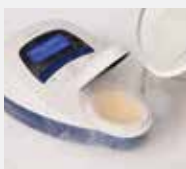
De Beers has developed four different types of detection machines and introduced them to the wider diamond industry:



DiamondSure™ is a portable screening instrument designed to screen rapidly for synthetics and simulants (with a measurement time of a few seconds per stone).



DiamondView™ is designed to identify the two per cent of stones that are referred for further testing by DiamondSure™. From the characteristic surface fluorescence patterns which are imaged and produced by short-wave ultra-violet illumination, a user is able to identify whether a stone is natural or synthetic.



DiamondPlus™ simplifies and significantly speeds up the task of detecting HPHT treatments applied to type II natural diamonds. It tests loose diamonds of between 0.05 and 10 carats within 15 seconds. DiamondPlus also helps to identify CVD synthetics, by detecting a feature which is very commonly found in CVD synthetics currently available.



The Automated Melée Screening Device (AMS) machine is a compact, automated version of DiamondSure™ with additional detection functionality, which enables 360 small stones per hour to be tested completely 'hands-off.' It makes it possible to screen melée-sized diamonds (1 to 20 pts) in a cost-effective manner. During pilot testing, an average pass rate of 98.5 per cent was achieved on nearly 80,000 colourless and near-colourless melée diamonds. The remaining 1.5 per cent diamonds were sent for further testing with DiamondView™ and confirmed as natural. No synthetic melée was found during this test.



De Beers has estimated total synthetics production capacity by combining publicly available information about the number and type of machines used by the main synthetics producers with the practical experience of Element Six Technologies (a leader in synthetic diamond production for technical applications, wholly owned by De Beers) in using such technology.

If all known CVD reactors capable of producing gems were used solely for synthetic gem production, the company estimates that annual production would be around 150,000 polished carats. HPHT production of colourless and near-colourless synthetics is estimated at below 10,000 carats.

In reality, however, most of the available capacity is used for industrial purposes, not for gem-quality production. Based on disclosed volumes, known cases of undisclosed synthetics and initial feedback from users of the AMS machines, the company estimates that production of gem-grade synthetics is in the range of 15,000-60,000 carats per year. The majority of these carats are produced by two or three companies based in South East Asia and North America.

Overall, the volume of gem-quality synthetics produced by either CVD or HPHT processes is estimated to still be low.

Despite these low volumes, the diamond industry must remain vigilant about the persistent risk of undisclosed synthetics. To date, through technological innovation, the industry has been successful in safeguarding consumer confidence. Continual investment in developing and deploying technology will be required to sustain that success in future.

INITIAL SIGHTHOLDER FEEDBACK ON AMS

- 1 “A relationship with a client is all about trust. It is our duty and responsibility to reassure our clients that all diamonds supplied are 100 per cent natural. While our in-house systems and processes already ensure this, **it is inevitably more reassuring for them to know that all shipments have been screened by the latest and most efficient technology available**, prior to their leaving our offices.”
- 2 “Like most responsible members of the industry, we are concerned that unscrupulous traders may facilitate synthetics entering the system undisclosed. Therefore, despite being fully confident of the integrity of our own pipeline, we wish to give our clients total confidence by adding an extra line of defence by screening all melée shipments on exit. **Currently, the AMS machine is the most practical technology** for this purpose, and on that basis we have integrated it into our processes.”
- 3 “**The machine is practical and simple to use** and, therefore, having been assured of the efficiency of its detection processes by the International Institute of Diamond Grading and Research, we find the AMS machine a highly effective final safeguard in the fight against undisclosed synthetics.”
- 4 “All deliveries to our clients receive a final QC before they leave our offices. Just as weights are checked and stone counts made, **it is easy to integrate a final screening by the AMS machine into our operations.**”



