Heraeus

HERAEUS PRECIOUS FORECAST 2020

More price volatility is ahead

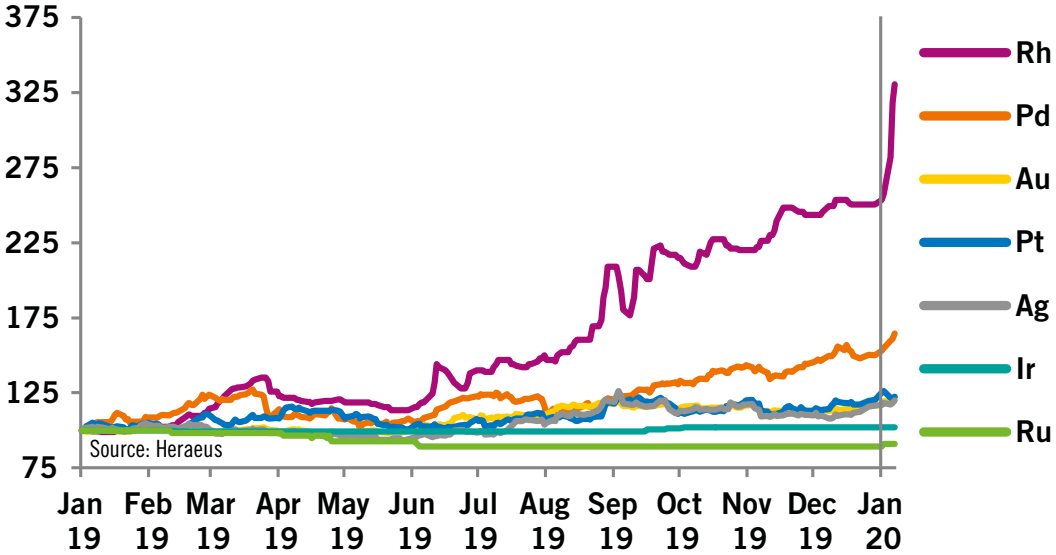
The US economy appears to be slowing more than the Eurozone and the Federal Reserve has more room to ease monetary policy. Although the Fed claims there will be no change to interest rates this year, the market is expecting at least one cut owing to the weak economic situation. This would likely see the dollar weaken relative to the euro.

Gold and silver prices have been boosted early in the year by safe-haven buying spurred by the US assassination of an Iranian general. Knee-jerk reactions to geopolitical events tend to be short-lived so this rally could quickly fade. However, Middle East tensions, the US presidential election and trade talks could all be incentives for safe-haven asset demand this year, so the backdrop remains favourable for gold and silver price appreciation.

Platinum is the weakest among the PGMs. The significant price discount to gold and palladium has helped to drag the platinum price up, but with poor fundamentals and a huge oversupply anticipated (excluding investment) for a second year there is unlikely to be much further upside.

Palladium and rhodium have started 2020 where 2019 left off, by rallying hard. Price volatility looks set to remain a feature this year. Lease rates only started to pick up in January after prices had already rallied strongly so there was sufficient liquidity. For now the markets are tightening and end-users are paying ever higher prices for the metals. The prices of both metals are tightly bound to the fortunes of the automotive industry and prices this high could reverse rapidly if the economic situation does not improve and auto sales continue to slide. Some disruption to supply from South Africa is possible which would have a larger relative impact on production of the small PGMs than on platinum or palladium.

Prices indexed to 100 1 Jan 2019



FORECAST EUR/USD

€/$				
2019	Average: 1.12	Low: 1.09	High: 1.15	Price change: -3%
2020 Forecast		Low: 1.08	High: 1.21	

The euro is favoured over the US dollar

The Euro could show more strength this year. Over the last few years, differentials in economic growth rates have been a better guide to the movement in the EURUSD exchange rate than central banks' interest rates. That may well be the case again in 2020. The waning impact of the fiscal stimulus means that growth in the US economy is easing more than in the EU. The OECD predicts US growth will slow by 0.3 percentage points to 2.0% in 2020, but in the Eurozone the economy is projected to slow by 0.1 percentage point and expand by 1.1%.

Euro volatility is likely to increase this year. The euro showed very little volatility in 2019, trading in a narrow range. The euro hit its high for the year in January 2019 at 1.15 after which it traded down, reaching 1.09 by the end of September. It then moved higher, recovering to end the year at 1.12. In fact, 21-day volatility hit its second-lowest level ever in May and averaged the lowest level ever for the year as a whole. Previously, in years when volatility was particularly low, the following year saw volatility more than double.

Monetary policy is easing, as economic growth has slowed. The Fed has loosened monetary policy more aggressively than the ECB, but also has more room for additional monetary policy easing. The ECB cut its deposit rate to -0.5% and restarted asset purchases, but that does not leave much room for further accommodation. The Fed cut interest rates three times in 2019 and has been expanding its balance sheet again, but its target rate range is 175-150 bp. If monetary policy has an impact on the exchange rate then it appears that it should favour a stronger euro.

USD:EUR exchange rate

Political influences on the economy could be negative. After much wrangling, trade talks between the US and China have resulted in a modest initial agreement. US attention may well now turn to trade talks with the EU, and the US trade balance with the EU could become a source of friction. If the US takes a firm stance this could favour the dollar. However, while there may be some tough talk from the US regarding tariffs on EU goods, if the EU can find some concessions on trade then an agreement could be reached. With the US presidential election in November, a quick deal could well suit President Trump. Brexit is moving inexorably towards a conclusion. A withdrawal agreement seems likely but the details of the UK's future relationship with the EU still need to be worked out. A hard exit is still possible and there is plenty of opportunity for disagreements before a final exit occurs.

Overall the euro is expected to strengthen against the dollar in 2020 and trade between 1.25 $/€ and 1.08 $/€. The US economy appears to be slowing more than the Eurozone and the Fed is more likely to ease monetary policy if that continues to be the case. Exchange rate volatility is likely to increase, particularly as trade discussions with the US are on the agenda and Brexit is still to be finally resolved.

PRECIOUS METALS FORECAST – GOLD

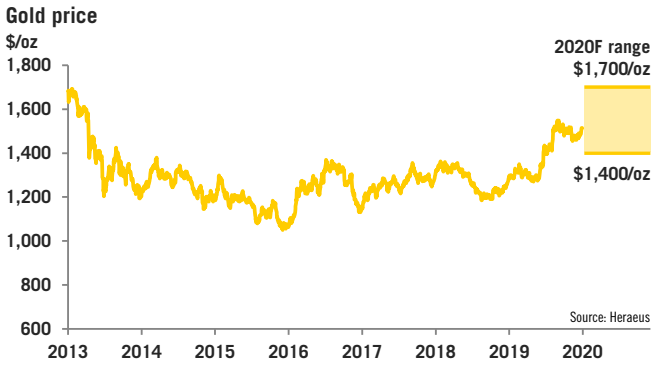
79
Au

2019	Average: $1,392/oz	Low: $1,185/oz	High: $1,549/oz	Price change: 18%
2020 Forecast		Low: $1,400/oz	High: $1,700/oz	

Elevated risks to keep the gold price firm

The risks to global growth are expected to remain elevated this year, with economic and geopolitical uncertainty supporting safe-haven gold purchasing. The US-Iran tensions, the US presidential election and trade talks could all be drivers of safe-haven asset demand. While Phase 1 of the US-China trade agreement was achieved in December, it is only a small step in the direction of a full deal. The more difficult areas have been left for later discussions, which will no doubt continue to cause swings in risk sentiment and the gold price.

US rate cuts and falling bond yields should be gold price-positive. The Fed made three cuts to interest rates in 2019, with its target rate now between 1.5% and 1.75%. Fed Chairman Jerome Powell confirmed rate cuts were now on hold for the time being, removing that source of potential support for gold in the short term. However, interest rate futures project an increasing probability of further cuts as the year progresses. The bond market also views the economic outlook unfavourably with yields falling, which will also reduce the opportunity cost for gold investors. If inflation remains steady, this raises the chance of real interest rates turning negative, which would be positive for gold in the longer term. The ECB has cut its deposit rate further and restarted asset purchases, but appears to have less room for manoeuvre than the Fed. If US monetary policy eases relative to the ECB, then the dollar would likely lose some strength which would also be price-supportive for gold.



A high gold price and slow economic growth will restrain consumer demand, as the gold price is expected to climb. China and India's jewellery markets, which together account for nearly 40% of global consumer demand, were hit particularly hard last year by the high price, compounded by concerns over slowing economies, plus an increase in custom duty tax in India. However, net gold purchasing by central banks was strong in 2019 (526 t in the first three quarters) and is likely to remain robust this year, as countries such as China and Russia continue to diversify their reserves and reduce their dependence on the US dollar.

Total supply this year is expected to grow modestly in 2020. A high price will continue to incentivise mine expansions this year as operating margins increase. Recycling will be driven by the strong local gold price in countries such as India, China and Turkey.

Despite soft consumer demand, investment demand and central bank purchases will provide support for gold. Gold's typical seasonal rally took off in late December and the ramping up of tensions in the Middle East saw a knee-jerk reaction of safe-haven purchases, giving the price a boost in early January. However, sentiment is strongly bullish with speculative futures positions on NYMEX reaching a record high net long and the gold price reaching its most overbought level since 2010. A great deal of political uncertainty is already priced in, so if the situation settles down then the gold price will most likely pull back. The gold price is expected to trade in a range between $1,700/oz and $1,400/oz.

PRECIOUS METALS FORECAST – SILVER

47
Ag

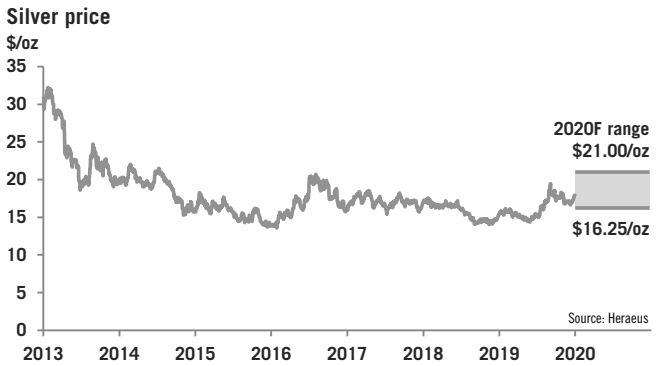
2019	Average: **$16,20/oz**	Low: **$14,35/oz**	High: **$19,45/oz**	Price change: **17%**
2020 Forecast		Low: **$16,25/oz**	High: **$21,00/oz**	

Industrial demand little improved

Silver will continue to benefit from safe-haven investment purchases, but its industrial exposure means it faces more headwinds than gold. Demand could remain challenged in 2020, as economic growth is predicted to improve only modestly compared to 2019. Sluggish manufacturing and more difficult Phase 2 trade talks between the US and China are downside risks to global growth. The geopolitical and economic situation is expected to support gold with continued safe-haven buying which should also benefit silver.

Global demand for photovoltaic silver is forecast to be higher this year than in 2019. The photovoltaic industry is set to rebound slightly after last year's weak growth in several key markets such as China and the US. Chinese demand is likely to be healthy this year, with projects that were delayed due to policy uncertainty in 2019 being pushed through. Elsewhere, photovoltaic demand is expected to be driven by grid parity and clean energy targets, particularly in the EU which has a national binding renewable energy target to meet this year. Photovoltaic installations in Europe are estimated to grow by 25% this year, although thrifting will see reduced loadings in photovoltaic cells and modules.

Electronic and electrical silver demand will be enhanced by widespread implementation of 5G technology this year, although this will depend on how much support this gives to smartphone sales which continued to struggle in 2019. Sales of semiconductors are expected to increase this year, driven by demand for compatible devices and infrastructure.



Silver supply should grow modestly in 2020. Primary mine supply is anticipated to have dipped in 2019 due to declining ore grades and delays to mine expansions, and these impacts could continue into the first half of 2020. However, the situation should improve and by-product silver production could increase this year as globally lead/zinc and copper mines are expected to see higher output.

Silver is predicted to modestly underperform gold again, trading in a range between $21.00/oz and $16.25/oz. The silver price consistently underperformed gold for the first half of last year, which saw the gold:silver ratio climb to a 28-year high of 93 in July. Silver finally managed to gain on gold in the second half of the year, but over the year as a whole the gold:silver ratio rose from 83 to 84. While industrial demand should be supportive, particularly from the photovoltaic industry, investment demand may not be strong enough to see silver outperform. In January, while gold was benefitting from robust safe-haven buying, the gold:silver ratio held steady at around 85. Silver has tended to perform better than gold when inflation picks up but while economic growth remains subdued, inflation is unlikely to accelerate.

PRECIOUS METALS FORECAST – PLATINUM

78
Pt

2019	Average: $864/oz	Low: $790/oz	High: $993/oz	Price change: 18%
2020 Forecast		Low: $800/oz	High: $1,050/oz	

Oversupplied but relative value keeps investors interested

The platinum market will remain in surplus this year, at more than 1 moz (excluding investment). Demand is expected to be around 160 koz lower this year, as a result of a shrinking jewellery market (China) and reduced automotive demand (Western Europe). Rising use in a number of industrial applications, including fuel cells, will not be enough to offset losses in other demand areas. Refined mine output is estimated to decline by around 150 koz this year, but the reduction in primary supply is projected to be partially negated by growth in autocatalyst recycling.

Mine supply is estimated to be over 6 moz in 2020. The high prices of palladium and rhodium have incentivised mature mines in South Africa to remain in operation, which will further contribute to the oversupply of platinum and keep prices suppressed. The impact of load-shedding (rolling power cuts) by Eskom, the country's electricity provider, is now the main risk to South African PGM output, which accounts for more than 60% of global platinum supply. December saw the implementation of Stage 6 load-shedding for the first time ever, when 6,000 MW of power was cut from the national grid, and led to mine stoppages for one day for the first time since 2008. Prolonged load-shedding at this level (or higher) could seriously impact output this year.

Platinum demand is unlikely to gain from autocatalyst substitution in the near term. Automotive demand is estimated to decline by around 75 koz this year, mostly owing to a further shrinking of the diesel passenger car share in Western Europe. As the price of palladium continues to climb, substitution for platinum in autocatalysts appears to be an attractive prospect. However, OEMs do not appear to be in a position to make changes to catalyst formulations this year and any meaningful impact on platinum demand is still a few years off. Heavy-duty truck sales are also predicted to decline in the major markets, including North America, China, Japan and Europe, as a result of the global economic slowdown.

Platinum price

Jewellery demand is forecast to fall further this year, down by around 100 koz. China, the largest platinum jewellery market, continues to contract and growth in smaller markets such as India and Japan will not be enough to offset the decline. Platinum jewellery demand in China has fallen by more than half since it peaked at around 2 moz in 2013.

Secondary supply is set to hold steady, at around 2 moz. Jewellery recycling will follow a similar trend to jewellery demand, declining modestly this year owing to poor sentiment in China and Japan. The recycling of autocatalysts is forecast to grow slightly, led by gains in Western Europe, but restricted by bottlenecks created by silicon carbide-based diesel particulate filters which are more difficult to process.

Industrial applications are a bright spot for platinum, with estimated growth of around 2% year-on-year, as chemical and petroleum demand, in particular, is projected to expand.

Significant investment demand will be needed again to balance the market in 2020, with a surplus of over 1 moz expected before investment. Platinum held in ETFs increased by a record 960 koz in 2019 and with coin and bar purchases anticipated to be over 200 koz, total investment demand was well over 1 moz. It seems unlikely that such large purchases of ETFs will be repeated. However, the platinum price remains at a huge discount to gold and palladium and this relative value could keep investors interested.

The fundamental outlook for platinum remains poor and the price is expected to be range-bound between $1,050/oz and $800/oz, which will be dictated by investor interest.

PRECIOUS METALS FORECAST – PALLADIUM

46
Pd

2019	Average: $1,538/oz	Low: $1,270/oz	High: $1,991/oz	Price change: 49%
2020 Forecast		Low: $1,800/oz	High: $2,800/oz	

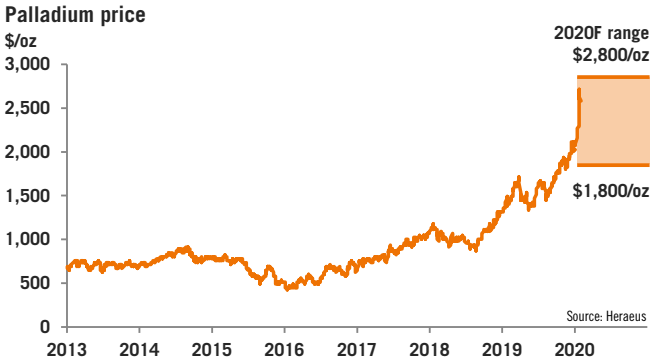
Another volatile year in prospect as supply glitches will rally prices

The palladium market is projected to remain in deficit this year, by more than 500 koz. Despite a forecast decline in light-vehicle sales in some of the major automotive markets, higher loadings of PGMs in autocatalysts are expected to offset that and maintain overall demand. Primary supply is anticipated to hold steady, while autocatalyst recycling only edges up owing to some capacity constraints.

Automotive demand will continue to be driven by the implementation of stricter emissions legislation, such as Euro 6d (Europe) and China 6a (China), which requires higher loadings of palladium. However, the China Association of Automobile Manufacturers (China being the largest gasoline vehicle market) has already predicted a 2% decrease in car sales this year to 25.3 million units, down from 26 million sold in 2019. Despite this, automotive demand is likely to hold up, keeping the market in deficit and supporting the elevated price.

Industrial palladium demand is forecast to decline by nearly 5% year-on-year, owing to the impact of the high price reducing usage for dental alloys, electrical components and chemical catalysts. Substitution is anticipated to sharply reduce dental demand as cheaper (non-PGM) alternatives are favoured.

Global primary supply is estimated to be essentially flat this year. Higher yield from North America due to expanding output from Stillwater and North American Palladium is expected to offset reduced supply from South Africa and Russia. With a geographically diverse mine supply, the palladium market is also less exposed to the unreliability of Eskom's electricity supply and its power cuts, but production stoppages would still impact palladium output. Maintenance on Nornickel's Nadezhda furnace will temporarily curtail Russian production by around 50 koz this year.



Palladium recycling is expected to grow this year as metal recovered from autocatalysts, waste electrical and electronic equipment (WEEE) and jewellery increases, but some refinery capacity constraints could limit the gains from autocatalysts. The growth in autocatalyst recycling continues to reflect the higher PGM content of autocatalysts due to tightening emissions legislation. Euro 5 legislation was introduced in 2009 so these cars are now reaching the end of their lives in greater numbers.

The price is predicted to trade in a range between $2,800/oz and $1,800/oz since the palladium market is forecast to have a sizeable deficit again this year. By early January the palladium price had rallied by over $250/oz in little more than a month and yet lease rates only started to increase in January. Liquidity is not quite as tight as the rapidly rising price might suggest. However, any supply glitches could see the price jump higher. The palladium price rallied 50% in 2019, has doubled in just two years, and is trading at more than twice its previous record high from 2001. However, such rapid price gains can be followed by equally rapid declines if market conditions ease. The main downside risk is a further deterioration in the economic outlook, reducing car sales.

PRECIOUS METALS FORECAST – RHODIUM

45
Rh

2019	Average: $3,906/oz	Low: $2,440/oz	High: $6,250/oz	Price change: 151%
2020 Forecast		Low: $5,000/oz	High: $12,000/oz	

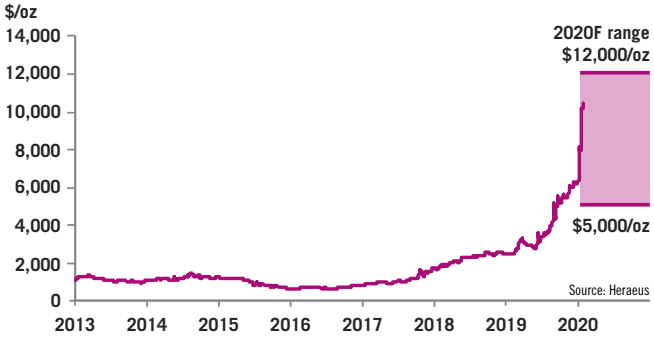
Demand benefitting from tighter emissions standards

Higher loadings are projected to offset lower car sales. Rhodium used in autocatalysis represents more than 80% of total demand for the metal, and is predicted to increase from last year. Demand is supported, alongside palladium, in gasoline vehicle autocatalysts by the implementation of new, stricter emissions legislation in several major regions around the world (particularly in China, the largest gasoline car market). The higher loadings are likely to outweigh the effect of stagnant car sales. Overall demand growth for rhodium, however, will be limited by industrial applications in which rhodium usage is anticipated to decline modestly.

A high price is encouraging substitution in industrial end-uses. Industrial rhodium demand is estimated to fall by almost 10% this year, partly as a result of substitution in glass fabrication. Glass fibre fabricators typically switch to a higher platinum (reduced rhodium) content alloy when the Rh:Pt ratio breaches 4:1. The ratio is more than 6:1 and has been above the substitution threshold since July 2019.

Eskom's power cuts are a risk to supply for South Africa-centric rhodium. Primary mine supply of rhodium is expected to be around 4% lower this year. Owing to the metal's high price, many South African PGM producers have extended the life of mature rhodium-rich mines beyond previously planned closure dates. Nevertheless, the country's output is forecast to decline this year, owing to mine depletion and shaft closures. With around 80% of rhodium mined in South Africa, the market will be particularly exposed to any load-shedding disruption this year from Eskom. Secondary supply growth will be driven by higher autocatalyst recycling in 2020.

Rhodium price



The rhodium market is set to extend its deficit into a second year as autocatalyst demand rises. Rhodium was by far the best-performing metal in 2019, rallying by $3,810/oz (+151%). With a similar demand profile to palladium, the downside rhodium price risk comes from falling auto sales, whereas any disruption to supply would increase the upward pressure on the price. The market is tight and price volatility could increase further so rhodium is expected to trade between $12,000/oz and $5,000/oz this year.

PRECIOUS METALS FORECAST – RUTHENIUM

44
Ru

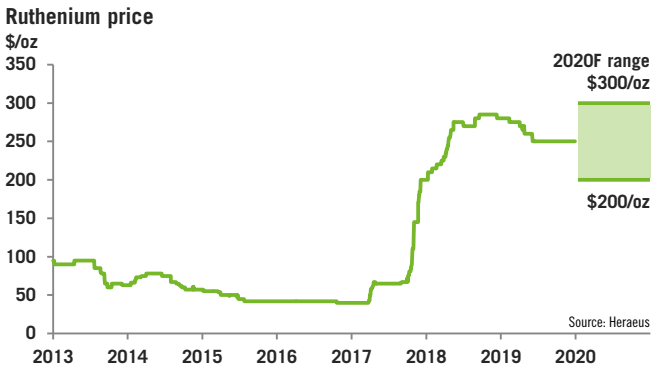
2019	Average: **$258/oz**	Low: **$250/oz**	High: **$280/oz**	Price change: **-11%**
2020 Forecast		Low: **$200/oz**	High: **$300/oz**	

Lower supply and steady demand suggest price appreciation continues

Mine supply of ruthenium is forecast to decline this year, for a second consecutive year, slipping under 1 moz. Minor curtailments to production in South Africa owing to power supply problems did not trouble the ruthenium price last year. However, should further disruption to South African supply occur this year (such as more prolonged power cuts), ruthenium would be the worst affected owing to South Africa's overwhelming share of global mine supply (90%).

Electrical demand for ruthenium faces continued uncertainty. Manufacturers of hard disk drives (HDDs) are presented with alternative technologies, some of which do not support the use of ruthenium. In 2019, Seagate revealed it was developing heat-assisted magnetic recording (HAMR) technology which does not use ruthenium-containing materials. Western Digital has continued to pioneer the use of microwave-assisted magnetic recording (MAMR), however, which will continue to use the metal. Seagate and Western Digital, alongside Toshiba, have the largest market shares of HDD manufacturing.

After holding steady for over six months through to the end of 2019, the ruthenium price has already shown some signs of life this year and is estimated to trade in a range between $300/oz and $200/oz.



PRECIOUS METALS FORECAST – IRIDIUM

77
Ir

2019	Average: $1,472/oz	Low: $1,470/oz	High: $1,500/oz	Price change: 2%
2020 Forecast		Low: $1,450/oz	High: $1,600/oz	

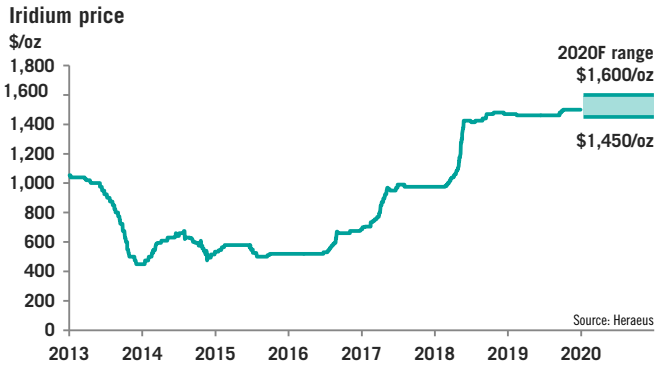
Improved demand supports the high price

Iridium crucible demand for lithium tantalite used in SAW (surface acoustic wave) filters was weak last year, due partly to stagnant smartphone sales. SAW filters are widely used in electronics, of which smartphones have a large market share. Demand is likely to grow this year, however, due to widespread adoption of the 5G network, though it is recognised that the growth rate will not be as dramatic as that from the step up to 4G. The International Data Corporation estimates smartphone shipments will grow by 1.6% this year, which is positive for iridium. Demand for sapphire substrates in LEDs should remain buoyant.

Electrochemical demand will be a key growth driver in 2020. The use of iridium for ballast water treatment, in particular, will increase this year, as companies will build or retrofit ships to comply with new ballast water management legislation. Electro-chlorination is a popular form of water treatment, which uses iridium and ruthenium oxide-coated electrodes to catalyse the disinfection reaction of seawater. The latest standard for ballast water management entered into force in October of last year; all ships around the world must be compliant by 2024.

After peaking in 2019, mine supply of iridium is forecast to decline this year. In South Africa, which accounts for more than 80% of global supply, iridium output is projected to fall by around 7%. This follows a year of record production in South Africa and mine supply returns to a more typical level this year. Mine restarts such as at Eland and delayed shaft closures will have a marginal effect on the overall supply to the market.

Along with steady demand growth, shrinking supply from key producers is predicted to notably tighten the market, although a small surplus is anticipated. The price is already trading at a record high and is estimated to trade in a range between $1,600/oz and $1,450/oz.



ABOUT HERAEUS

Learn more about important trends in the precious metals markets on a weekly basis with our **Heraeus Precious Appraisal.** Please subscribe: **www.herae.us/trading-market-report.**

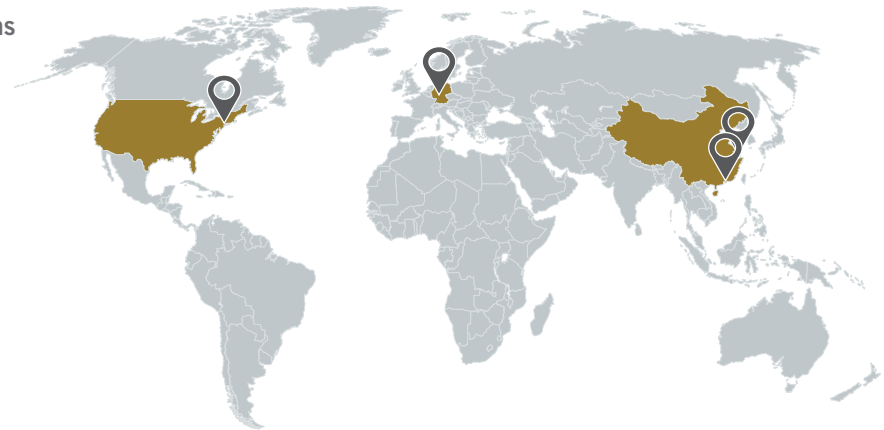
Heraeus Precious Metals

Europe, Middle East, Africa & other regions
Phone: +49 6181 35 2750
edelmetallhandel@heraeus.com

South East Asia
Phone: +852 2773 1733
tradinghk@heraeus.com

United States of America
Phone: +1 212 752 2180
tradingny@heraeus.com

China
Phone: +86 21 3357 5658
tradingsh@heraeus.com



A globally leading technology group, Heraeus is headquartered in Hanau, Germany. Founded in 1851, it is a family-owned portfolio company which traces its roots back to a pharmacy opened by the family in 1660. Today, Heraeus combines businesses in the environmental, energy, electronics, health, mobility and industrial applications sectors.

Heraeus Precious Metals – a global business unit within the Heraeus group – is a leading provider of precious metals services and products. We combine all activities related to our comprehensive expertise in the precious metals loop – from trading to precious metals products to recycling. Heraeus Precious Metals is one of the world's largest refiners of platinum group metals (PGMs) and a leading name in industrial precious metals trading.

The Heraeus Precious Forecast is produced in collaboration with:

SFA (Oxford) Ltd

United Kingdom
Phone: +44 1865 784366
www.sfa-oxford.com
The Oxford Science Park, Oxford, United Kingdom, OX4 4GA

consulting analysts in tomorrow's commodities and technologies

DISCLAIMER