Precious Metals Report 2019

Everything you need to know about gold, silver, platinum and palladium!

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Preface

Dear Readers,

Now in its third year, we are delighted to present our special report on precious metals, which follows on from our successful Battery Metals and Uranium Reports. We now regard precious metals as indispensable for our own (crisis) provision. Not to be forgotten is the unconditional use of precious metals as a store of value and money substitute, as well as to protect against extremely bad times. Because if the global financial systems can no longer withstand the money pressure orgies of the central banks and it comes to collapse, the one who owns gold and/or silver ounces is clearly at an advantage in order to be able to supply himself and his family with the most necessary food. But we do not want to assume the worst, but physical precious metals reassure me of the possible coming distortions. The gold price unfortunately had to go through the valley of tears again in 2018, but now it looks like a successful turnaround. At around USD 1,320 per ounce of gold, we should have found solid ground and the chart technique indicates potential of around USD 1,600 per ounce of gold over the next 18 months. We look positively into the future and take gold as a store of value and inflation protection. Above all, however, precious metal companies should be able to generate attractive returns again if precious metal prices continue to march north. Producers and prospective precious metal producers in particular have an enormous leverage on the respective metal price and are excellently suited as investments. In this precious metal report, we present some interesting companies that are suitable for speculation on rising precious metal prices. We also want to give you the necessary basic knowledge by means of our general part, so that you can make your own decisions.
Of particular interest is the interview with precious metals expert Prof. Dr. Dennin, who gives an insight into the processes in the precious metals sector and in a guest article on global debt and the increasing loss of confidence in the stability of the financial system deals with the question of why investors should take precious metals into account in their long-term asset strategy.

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My team and I hope you enjoy reading the Special Report on Precious Metals and that we can provide you with lots of new information, impressions and ideas. Only those who inform themselves in many ways and take their investment matters into their own hands will be able to win and preserve their assets in these difficult times. Precious metals have existed for thousands of years and will continue to do so.

Yours,
Jochen Staiger

Jochen Staiger is founder and CEO of Swiss Resource Capital AG, located in Herisau, Switzerland. As chief-editor and founder of the first two resource IP-TV-channels Commodity-TV and its German counterpart Rohstoff-TV, he reports about companies, experts, fund managers and various themes around the international mining business and the correspondent metals.

Tim Roedel is chief-editorial- and chief-communications-manager at SRC AG. He has been active in the commodity sector since 2007 and held several editor- and chief-editor-positions, e.g. at the publications Rohstoff-Spiegel, Rohstoff-Woche, Rohstoffraketen, Wahrer Wohlstand and First Mover. He owns an enormous commodity expertise and a wide-spread network within the whole resource sector.

Precious metals –
irreplaceable for the economy and for investors at the same time!

Precious metals - above all gold and silver - have held a high fascination since time immemorial. Already in the early Copper Age, when since about 7,000 BC people valued gold as a status symbol. While many (high) cultures came and went - mostly gold, silver and Co. were one of the main reasons for the respective decline of a society - one remained constant: Precious metals! Even today, people cannot escape the fascination of precious metals, although the industrial benefit has increasingly come to the fore.

What are precious metals?

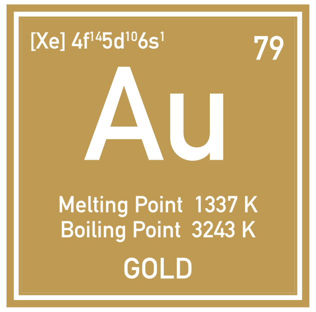
In purely chemical terms, precious metals are metals that are resistant to corrosion, i.e. that are permanently chemically stable in a natural environment under the influence of air and water. The group of precious metals primarily includes gold and silver, as well as the so-called platinum metals platinum, palladium, ruthenium, rhodium, osmium and iridium. Mercury is also a precious metal. There are also a number of so-called semi-precious metals, including copper. A third group consists of the so-called short-lived radioactive precious metals, which play virtually no role in practice. In the following, this report will deal exclusively with the four most common precious metals gold, silver, platinum and palladium.

Gold: Everyone loves it, everyone wants it!

Gold is a chemical element with the element symbol Au and the atomic number 79. It can be machined very well (moderate melting temperature) and does not corrode. Not only is it rare, but it is also heavy, and its yellow shine is resistant, which is why it is regarded as imperishable and is therefore used to a large extent for jewellery or in the form of coins or bars to preserve its value. Gold is also considered easy to alloy, which makes it very attractive as a material.

Most important characteristics: Appearance, corrosion resistance, good workability, good contact

Not only in the form of jewellery or coins, but also in medical applications, gold scores particularly highly with its yellow appearance and corrosion resistance. For example, in dental prosthetics, where additional precious metals such as platinum are added due to the relatively high softness of gold. In industry, gold is used mainly in the construction of circuits as an additive (gold plating) to wires, printed circuit boards, switching contacts and connectors.



Deposits and extraction

Gold is very rare in nature. The earth's crust contains an average of only 4 grams of gold per 1,000 tons of rock. In addition, it occurs on earth predominantly dignified, i.e. in elementary, metallic form. It is found in primary raw material deposits as gold-bearing rock (gold ore) as well as in secondary deposits, including soap deposits. Up to 20% of the gold mined annually is extracted as by-product, mainly from copper, nickel or other precious metal mines.

Supply situation

The main gold mining areas are currently China, Australia, Russia, the USA and Canada, which together account for almost half of the total annual production. The former absolute leader in gold production until 2007, South Africa was in sixth place in 2017 and will soon be overtaken by Peru. Other important gold producing nations are Mexico and Chile, where gold is mined mainly as a by-product from silver mines.

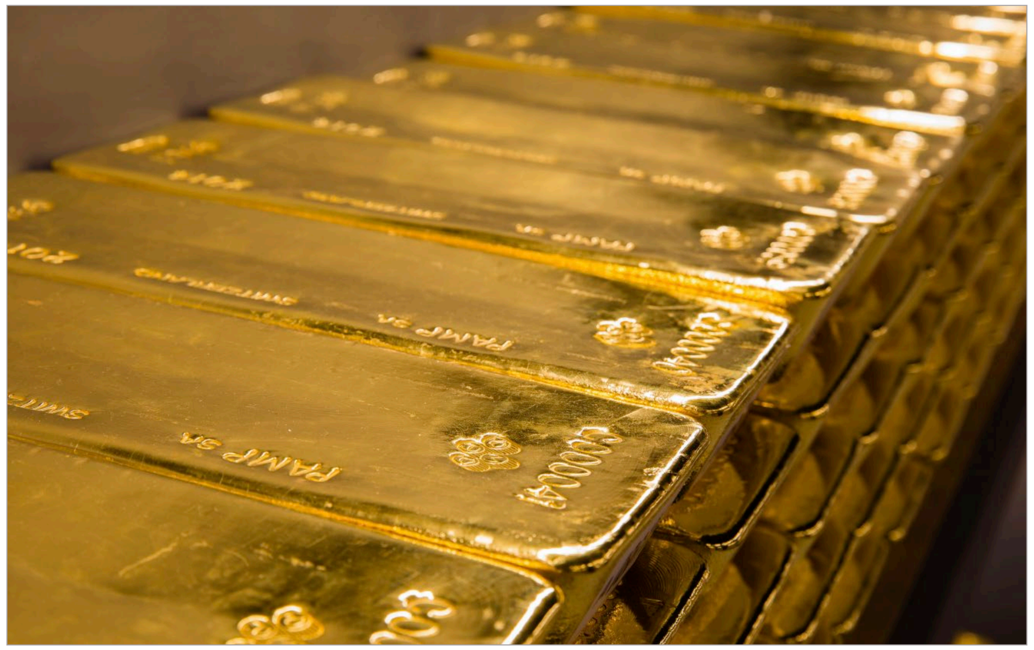
Gold production rises only marginally – Gold peak reached?!

Since the turn of the millennium, gold production has risen every year until 2018, but this has recently weakened more and more. Whereas around 2,380 tonnes of the yellow metal were extracted from the earth worldwide in 2007, the figure was 2,844 tonnes in 2011 and 3,207 tonnes in 2015. Since then, production has risen only marginally to 3,285 tonnes in 2016 and 3,318 tonnes in 2017. Contrary to all forecasts, gold production rose again slightly in 2018 to 3,346 tonnes. Even though 2018 represented another record year in gold production, it can be assumed that the gold peak, i.e. the annual gold production, has reached its peak for the time being.

The reasons for a decline in gold production are manifold

Several factors contribute to this.

First, more and more deposits are reaching the end of their lifetime. Those that are not yet fully exploited must be removed more and more elaborately in order to obtain further gold-bearing material. Some mines already reach depths of 4,000 meters and more. A torture for man and machine at temperatures around 50 degrees Celsius. In addition, producers are always having problems with tectonic conditions. Smaller earth tremors often lead to burials and fatalities at such depths.
The gold content continues to fall steadily. Currently, gold deposits are still exploited at an average rate of more than 1 gram of gold per ton of rock (g/t). However, there are already indications that this mark will fall to only about 0.9g/t in a few years' time in the case of deposits that have not yet been developed.
A third point is the (lack of) discovery of new deposits. While more than a billion ounces of gold were discovered in the 1990s, from 2000 to 2014 the figure was just over 600 million ounces. Since then, the new discoveries have



Gold reserves of the Deutsche Bundesbank (photo: © Nils Thies, 2017, CC BY-NC-ND 2.0)

Goldprice US$/oz
(Surce: JS by amChart)

again really collapsed. This is mainly due to the fact that gold producers have concentrated primarily on reducing mining prices in recent years due to a persistent slump in gold prices. Particular savings were made on exploration, which meant that virtually no major deposits were discovered in recent years.
This means nothing other than that, as a result of the above points, there is a high probability that production will decline in the coming years.

Demand situation

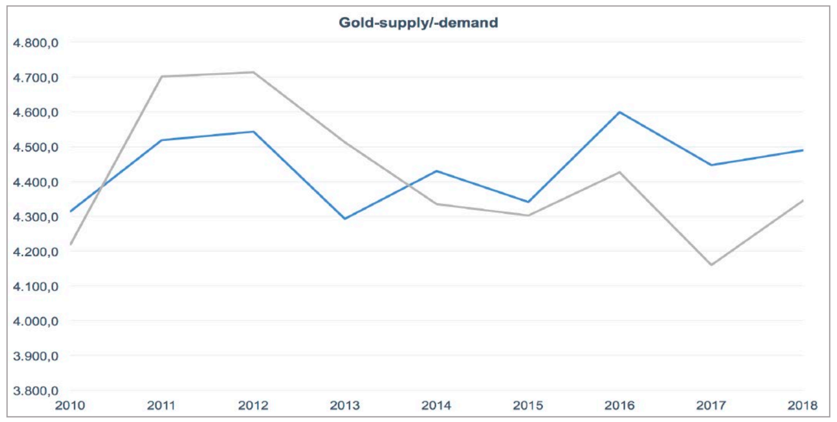
Central banks have long been back on the buying side again

The central banks are „exacerbating" the situation, albeit only marginally at present. After decades of gold sales, they have been back on the buying side for several years. A total of 23 central banks increased their gold reserves in 2018. Russia (which has officially overtaken China in the meantime), but also Turkey, India, Poland, Egypt, Brazil and Kazakhstan bought gold in 2018. Central banks increased their gold stocks by 651.5 tonnes in 2018. This was 74% more than in 2017, which meant that a large amount of supply was taken off the market by the central banks alone, which once again appeared on the demand side and not on the supply side.

Demand from jewellery sector and investment sector stable - technology sector growing steadily

In 2018, there was demand for around 4,345 tonnes of gold worldwide. The lion's share of this came from the jewellery sector, which consumed 2,200 tonnes. In second place was the investment sector, which demanded about 1,159 tonnes. Demand from the technology sector was strong, reaching 334.6 metric tons in 2018. This showed that gold is being used more and more not only in smartphones and game consoles, but also in the field of electromobility. This is a circumstance which, in view of the beginning electric (mobility) revolution, is likely to lead to continued strong growth in demand from the technology sector in the future.

Goldsupply (blue) and -demand (gray)
(Source: own representation)



Conclusion: Everything depends on the investment sector

Although the technology sector in particular is likely to generate the highest percentage growth in demand for gold in the coming years, everything depends on the investment sector. Assuming that the jewellery industry is likely to remain at the same level in terms of demand as in previous years, it is precisely the inflows into gold-deposited ETFs that have recently been at a rather weak level, but which have recovered since the end of 2018 and therefore have the greatest demand growth potential. Geopolitical factors played less of a role recently, which scratched the image of gold as a „safe haven in bad times". It will be exciting on the supply side. A lack of replenishment in the form of high-grade new discoveries as well as an increasingly cost-intensive supply, as more difficult mining is likely not only to lead to a future supply deficit, but also to the necessity of a higher gold price so that demand can be met at all in a cost-covering manner.

Silver: Gold's „little brother" is also the absolute star of the industry!

Silver is a chemical element with the element symbol Ag and the atomic number 47 and belongs to the so-called transition metals. It is a soft, easily deformable heavy metal with the highest electrical conductivity of all elements and the highest thermal conductivity of all metals. It is precisely these properties that make it an indispensable metal for industrial applications.
But silver is much more than that: unlike gold, it is consumed, and the sheer number of possible applications is constantly increasing with technical progress. In addition to be an industrial metal, silver is also a precious metal. Like gold it is in principle money and serves to maintain value. It can also be seen as a kind of hedge against progressive inflation.

Supply situation

Mexico, Peru and China are leading producer nations

In 2015, global silver production reached an all-time high of around 895 million ounces. In 2016, however, production fell by about 0.7%. In 2016 about 889 million ounces of silver were extracted from the earth's crust. In 2017 there was even a real slump to only 852 million ounces! With an annual production of 180 million ounces (about 20% of total world production), Mexico ranks first among the producing nations, followed by Peru and China. Together, these three countries account for about half of global silver production.

Silver is above all a by-product!

Only about 30% of the annual production comes from pure silver mines or from mines in which silver is the primary raw material. The vast majority (70%), on the other hand, comes from mines in which silver is only a by-product, i.e. mainly from zinc/lead mines, but also from copper and gold mines.

Weak base metal prices cause silver production to stagnate and supply to fall overall

This high dependency primarily on base metals such as lead, zinc and copper means that weakening base metal prices and the associated closure of mines or at least a reduction in the corresponding base metal production also have a negative impact on the production of the by-product silver. Thus, price declines - above all for copper, but also for lead - in recent years have ensured that silver production only rose marginally and has even been in decline since 2016. Stagnating silver production is to be expected in the coming years, as the output of new mines will only be able to compensate for the loss of zinc/lead mines with difficulty. From today's perspective, silver production is even expected to decline again from 2019 onwards, as is the overall silver supply (including recycling). This is primarily due to the expected closure of several medium-sized to large zinc/lead mines and further to an enormous investment backlog which has accumulated in recent years due to the weak silver price development. Corresponding silver projects were put on hold and developed only inadequately. The consequence of this is that these projects will only be put into production after a long delay. In addition, the recycling rate has been declining since 2011 and in 2017 amounted to only about 138 million ounces.

Silverprice US$/oz

(Source: JS by amChart)

Silver companies set priorities on cost savings

The development of the mine pipeline has stalled in recent years with weak silver prices, partly because the silver companies had to deal primarily with getting their cost structure under control. The high silver prices, mainly in the years 2010 to 2012, ensured that mines with all-in costs of over US$ 20 per ounce were also put into operation. These quickly became unprofitable after 2012. But instead of closing them, the companies have been trying to reduce costs ever since. There was little time and even less money left for elaborate exploration and development programs. In the meantime, the vast majority of companies have been able to reduce their costs to an acceptable and largely profitable level.

Recycling and central bank sales should not contribute to an increase in supply

A further decline in the supply of silver recycling can also be expected. Sales by central banks have hardly played a role since 2011 and are unlikely to lead to a significant increase in silver supply in the coming years.

Demand situation

Silver with hermaphroditic function

While gold is mainly used as an investment, to preserve value and in the form of jewellery (only about 9% of annual demand comes from industry), silver has a kind of hermaphroditic function. This means that about 60% of the total silver demand comes from industry, while the rest is mainly demanded by investors in the form of bars and coins as well as by the jewellery industry.

Main applications: Electronics, Alloys, Photography, Photovoltaics

Its peak values for important properties (highest electrical conductivity of all metals, high thermal conductivity and pronounced optical reflectivity) make silver indispensable above all in the fields of electrics, electronics and optics or photography. These sectors also account for a good half of the total industrial demand of about 600 million ounces. In addition, there are applications as silver alloys (with copper, zinc, tin, nickel, indium), which are used in electrical engineering and soldering technology as solder alloys (so-called brazing), contact materials (especially in relays) and conductive materials (such as capacitor coatings). Since 2011, the photovoltaic sector has also played an important role in silver demand. China, in particular, wants to significantly increase the share of photovoltaic capacity. By 2020 alone, the Middle Kingdom wants to achieve 110 gigawatts of cumulative photovoltaic output. This means that more and more silver is bound in corresponding solar modules for at least 20 years!

Recent decline in physical demand

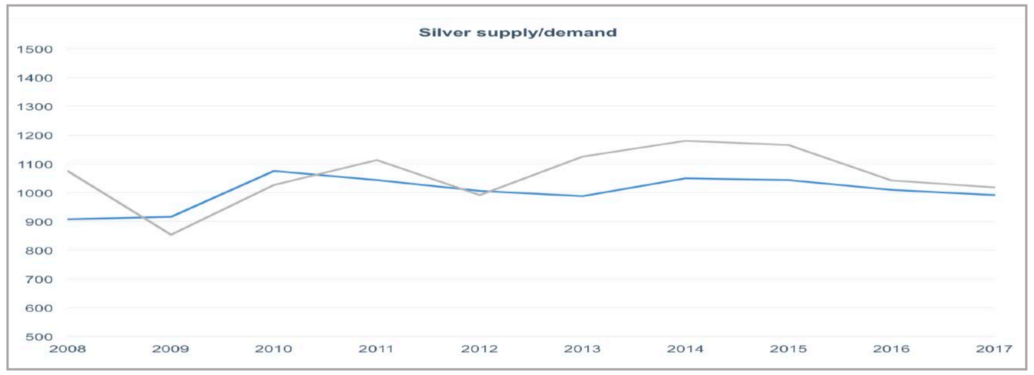
Physical demand for silver reached a record high of approximately 1.165 billion ounces in 2015 and dropped from an extremely high level to approximately 1.042 billion ounces in 2016 and 1.018 billion ounces in 2017. The main reason for this was weaker demand from the investment sector. Between 2015 and 2017, the demand for coins and bars fell by almost half to 151 million ounces. This was offset by a slight increase in industrial demand, which amounted to 599 million ounces in 2017.

Like gold silver is in principle money and serves to maintain value.

(Source: AdobeStock)

Conclusion: Continuing supply deficit

The silver sector has been experiencing a significant supply deficit for several years, culminating in over 162 million ounces in 2016! Since the year 2000, for example, there have only been four years in which global silver producers have generated a surplus in silver supply. Since 2013, a total of 380 million ounces



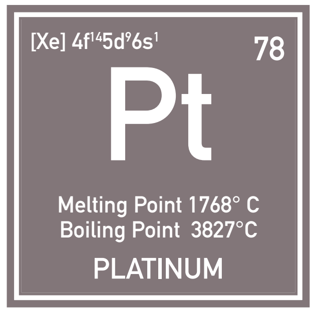
Silversupply (blue) and Silverdemand (gray)

(Source: own representation)

more silver has been in demand than could be produced. All in all, global silver demand is expected to rise again in the coming years. In addition to expected rising ETF inflows and further physical demand, the Asian jewellery industry and several industrial sectors such as photovoltaics, touchscreens and displays in particular are expected to see some drastic increases in demand. On the supply side, the same applies as for gold: most primary silver producers have concentrated in recent years primarily on reducing mining prices due to a sustained slump in silver prices. Particular savings were made on exploration, which meant that virtually no major deposits were discovered in recent years. Price weaknesses in several base metals also caused the development of mines producing silver as a by-product to be postponed for the time being.

Platinum: irreplaceable in the industry, mysterious for many investors!

Platinum is considered by investors to be an absolute rarity and at the same time extremely mysterious. Platinum is a chemical element with the element symbol Pt and the atomic number 78.



Main properties: Forgeable, ductile, corrosion resistant

It has an extremely high density and is at the same time very easy to forge and stretch. Its grey-white colour has always fascinated people, probably also because platinum has a remarkable resistance to corrosion and therefore does not tarnish. Due to its high durability, tarnish resistance and rarity, platinum is particularly suitable for the production of high-quality jewellery.

Almost infinite possibilities of use

Platinum finds its way into a whole range of different applications. By far the most common use of platinum is in the automotive industry, where it is used in the form of automotive catalysts. In addition to the classic diesel oxidation catalysts, platinum is also finding increasing use in catalysts in fuel cells, which could be an enormous demand driver in the future. The second major field of application in industry is the chemical sector. Platinum is also used in alloys, for glass production (crucibles), in electrical resistors and for medical applications and apparatus. Another large field of application is the jewellery industry, where platinum is often alloyed with other metals, mainly gold. The fourth major area is the investment sector.

Deposits and extraction

Platinum comes in a dignified form, i.e. in elementary form in nature. Metallic platinum (platinum soaps) is practically no longer mined today. Although a large part of the platinum mined in a few places comes from primary deposits, production as a by-product in the production of non-ferrous metals (copper and nickel) is becoming increasingly important. There the platinum group metals are produced as a by-product of nickel refining.

Supply situation

South Africa, Zimbabwe, the USA and Russia are the leading producer nations.

Only the South African Bushveld Complex, the Great Dyke Complex in Zimbabwe and the Stillwater Complex in Montana as well as Russia have extensive and significant primary platinum mining. Over 70% of the world's platinum mined in 2017 came from South African mines. Russia followed with about 12%, Zimbabwe with 8% and North America with 6%. Overall, platinum mining is a relatively small sector with only about 6.1 million ounces produced per year.

High recycling rate

Although a certain amount of gold and silver is recycled back into the cycle, platinum is recycled to a very high percentage. In 2017, about 1.89 million ounces were recovered from recycling. Recycling thus accounted for 23.5% of the total platinum supply of the year.

Offer stagnates

Overall, the global platinum supply has stagnated in recent years. While in 2013 about 7.8 million ounces of platinum were available (of which about 5.8 million ounces from mining and nearly 2 million ounces from recycling), in 2018 about 8 million ounces of platinum reached the free market (mining: 6.1 million ounces, recycling: 1.9 million ounces). An increase in platinum production, on the other hand, is not in sight, as in South Africa in particular platinum extraction is becoming ever deeper and therefore more expensive.

Platinum price US$/oz
(Source: JS by amChart)

Demand situation

Platinum has a hybrid function

Like silver, platinum has a kind of hybrid function. This means that about two thirds of total platinum demand come from industry, while the rest comes mainly from the jewellery industry and from investors in the form of bars and coins.

Main customers: automotive industry and jewellery production

Expressed in figures, it is the automotive sector that has the highest demand for platinum in 2018. 3.11 million ounces were mainly used for catalyst construction. In second place was the jewellery industry, which demanded 2.40 million ounces of supply (including recycling). This was followed by demand from the rest of the industry with 1.83 million ounces. The investment sector collapsed from 265,000 ounces in 2017 to only 125,000 ounces in 2018.

Hydrogen storage technologies as future demand drivers

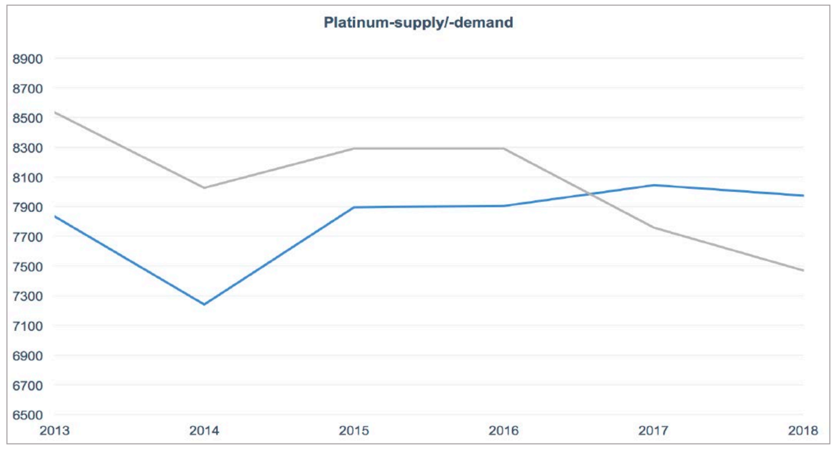
Innovative hydrogen storage technologies are already being researched in South Africa. Power generation with platinum catalysts is the big issue here. Low-cost hydrogen storage systems for fuel cell vehicles and portable applications are still dreams of the future, but China alone plans to produce two million hydrogen fuel cell vehicles by 2030. Germany has just commissioned the world's first hydrogen fuel cell train. A large platinum company is already investing together with Shell Technology in the development of hydrogen compression technology. As the name suggests, these so-called platinum electric vehicles need platinum as the basic raw material.

Industry demand increases, jewellery demand decreases, investment demand collapses – current supply surplus

Four things are particularly striking in the platinum sector.

- First: Demand from industry is increasing more and more. While demand from the automotive and industrial sectors was still at 4.655 million ounces in 2013, this figure rose to 4.94 million ounces by 2018.
- Secondly, the trend in the jewellery sector, on the other hand, is contrary. In 2013, 2.945 million ounces of platinum were still in demand from jewellery manufacturers. By 2018, however, it was only 2.405 million ounces.
- Third: Demand from the investment sector, i.e. in the form of bars and coins for investment purposes, is highly volatile, but is declining overall. By 2013, 935,000 ounces were in demand for investment purposes. By 2014 it was only 150,000 ounces, by 2015 305,000 ounces, by 2016 535,000 ounces, by 2017 265,000 ounces and by 2018 only 125,000 ounces.
- Fourth, while there was still a supply deficit of almost 400,000 ounces by 2016, including recycling, this turned into a supply surplus of 285,000 ounces in 2017. In 2018, 505,000 ounces more platinum were offered than was in demand. The pure platinum production of 6.065 million ounces in 2018 cannot keep up with the demand of 7.47 million ounces.

Platinum supply (blue) and Platinum demand (gray) (Source: own representation)



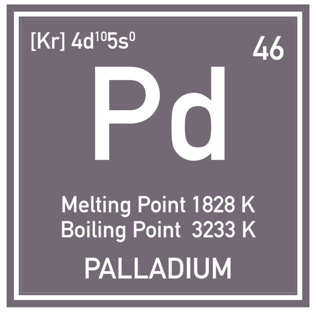
Platin nugget (Source: PicClick)

Conclusion: the key lies in recycling, investment demand and car manufacturers

The demand for platinum can therefore only be met because of the very large share of platinum recycling in the total supply. The recycling rate has recently risen again slightly and could accelerate again in view of the millions of diesel vehicles that have been scrapped. If the fuel cell becomes established in automotive engineering alongside the purely electric car, an increase in demand can be expected from there. Much also stands and falls with the investment sector, which should return to its former strength. The supply surplus is not expected to end until 2020 at the earliest.

Palladium: not just a platinum substitute!

Palladium is primarily a chemical element with the element symbol Pd and the atomic number 46. Many experts regard it as a substitute for platinum in several applications, mainly in the production of catalysts, because it is very similar to platinum in chemical behavior.



Most important characteristics: Low melting point, reactive, absorbent

Palladium has the lowest melting point among platinum metals and is also the most reactive. At room temperature it does not react with oxygen. It retains its metallic shine in the air and does not tarnish, which makes it interesting for the jewelry sector and to a lesser extent for the investment sector. The low melting point makes it easier to process than platinum. Palladium also has the highest absorption capacity of all elements for hydrogen. At room temperature it can bind up to 3,000 times its own volume.

Most important applications: Exhaust catalysts, alloys, electrode materials

Finely dispersed, palladium is an excellent catalyst for accelerating chemical reactions, especially for the addition and elimination of hydrogen and for cracking hydrocarbons. By far the most important application for palladium is thus in the field of catalytic converters for gasoline engines. About 83% of the palladium demanded in 2017 was needed for the construction of catalytic converters. Palladium is also frequently used for alloys in jewellery, especially in combination with gold, from which so-called white gold is produced. Palladium removes the golden-yellow colour from the entire alloy. Palladium is also used as an electrode material for fuel cells and as a contact material for relays.

Deposits and extraction

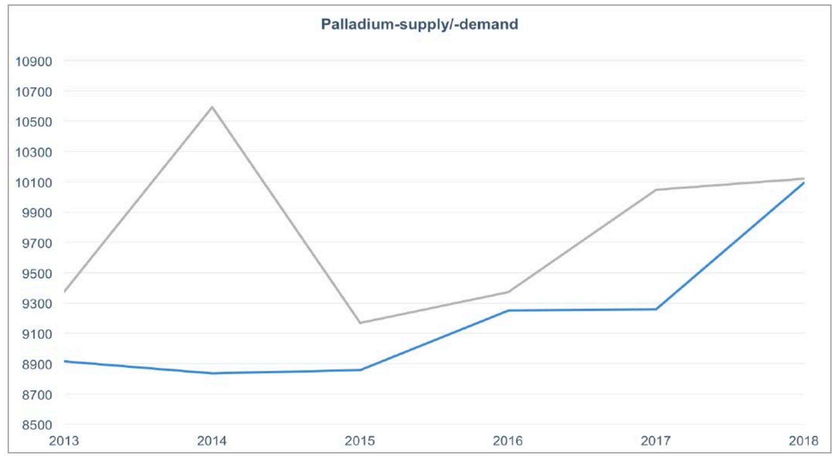
Metallic palladium and palladium-containing alloys are found mainly in river sediments as geological soaps but are largely exploited. Most of it is now extracted as a by-product from nickel and copper mines.

Supply situation

South Africa and Russia dominate palladium production

In recent years, South Africa and Russia have emerged as the clearly dominant palladium producing nations. In 2018, Russia contributed 41.3% of total production. South Africa followed

Palladium supply (blue) and Palladium demand (gray) (Source: own representation)



closely with 37.6%. The remaining palladium production was largely split between the USA and Canada. Only 5% of the world‘s palladium came from other countries. Overall, platinum mining is a relatively small sector with only about 6.9 million ounces produced per year.

High recycling rate

Similar to platinum, palladium‘s high recycling rate contributes to (almost) meeting demand. In 2018, a total of 3.2 million ounces of palladium were recycled. This represented 31.4% of the total palladium supply.

Supply stagnating to increasing

The palladium supply showed stagnating to rising tendencies over the past three years, which was mainly due to two decisive factors.
Firstly, increasing recycling. This increased by approximately 85,000 ounces from 2015 to 2016 and by a whopping 420,000 ounces from 2016 to 2017 to 2.9 million ounces. In 2018, more than 3 million ounces were recycled for the first time, exactly 3.212 million ounces.
Secondly, the high returns from the investment sector, mainly from corresponding palladium-backed ETFs. In 2015, 659,000 ounces of palladium returned to the free market, in 2016 646,000 ounces, in 2017 386,000 ounces and in 2018 about 555,000 ounces.

As a result, total palladium supply increased from 9.53 million ounces in 2015 to 10.09 million ounces in 2018.
As with platinum, palladium is also expected to increase its recycling rate in recent years, but at the same time production will tend to decline.

Demand situation

Supply deficit in 2018

In contrast to platinum, however, the palladium market has a supply deficit that amounted to around 29,000 ounces in 2018.

Car manufacturers demand more and more palladium – investment sector remains weak

The main reason for this is the strong increase in demand in the automotive sector. Whereas in 2015 there was still demand for 7.6 million ounces of palladium, mainly for use in catalytic converters, by 2016 there were already 7.95 million ounces, by 2017 even 8.4 million ounces and by 2018 8.655 million ounces. The extent to which this trend will continue remains to be seen, although automobile manufacturers are increasingly using palladium as a substitute for platinum. However, if demand for gasoline engines falls, palladium demand will also fall. This can possibly be compensated for by the use of fuel cell vehicles, but these are still a dream of the future. The second major customer, the industry, has recently remained at a stable level of around 1.85 million ounces with its demand. The jewellery industry hardly plays a role with a demand of around 166,000 ounces per year. The investment sector remained weak recently and is likely to remain a supplier in 2019 rather than a consumer of palladium.

Palladium price US$/oz (Source: JS by amChart)

About 83% of the palladium demanded in 2017 was needed for the construction of catalytic converters. (Source: Shutterstock)

Conclusion: Much depends on the price

However, this is mainly because the palladium price has recently risen sharply. This tripled within three years from the beginning of 2016. As a result of the higher palladium price, many investors reduced or liquidated their ETF holdings and realised gains. At the same time, palladium is also becoming increasingly unattractive as a substitute for platinum, which is now much cheaper. Nevertheless, there is still a small supply deficit. The extent to which this will continue or disappear in the coming years depends not only on the price of palladium but also on how things will continue with the gasoline (combustion) engine. Palladium‘s dependence on the automotive industry is unmistakably high, making it a riskier investment than silver, for example.

Special features and dependencies of the individual precious metals on each other

At the end of our remarks, we would like to briefly discuss a few special features of the precious metals sector that are or could be important for the pricing of the individual metals.

The Comex still determines the spot prices

Although the pricing of the four precious metals gold, silver, platinum and palladium is mainly influenced by the market economy, such as supply and demand, it is basically determined by the New York Commodities

Exchange (Comex). Contracts for all kinds of metals and other commodities have always been traded on Comex. Theoretically there is a compulsion to physical extradition, but this is almost never demanded. This even makes it possible to trade one billion ounces of silver a day (global silver production in 2017 was „only“ 852 million ounces of silver a year) or more, even if you don‘t own this sheer unimaginable amount of silver. Such actions can keep the price of precious metals artificially low or manipulate it.

Gold and silver have long since become a substitute currency

In the case of gold and silver, it is important to know that the markets, which have been shaken by debt crises and geopolitical upheavals, have long since made gold a kind of substitute currency. That this is the case is shown by the 700 percent increase in gold in the first decade of the 21st century and the large outflows of gold from Europe to China, which have increased in recent years. If gold were made a currency again, the same would happen with silver and the number of gold and silver needed to build such a gold and silver-based currency system would be several times higher than what would be less needed due to a possible dwindling industrial demand due to crises.

Silver hangs on gold, but is much more volatile

Over the past 3, 5 and 10 years it can be said that the price development of silver and gold has been about 80% the same. However, this says nothing about volatility: The silver to gold beta during this period ranged from 1.2 to 1.4, meaning that a 10% increase in the price of gold can be expected to result in an approximate 12-14% increase in the price of silver. As you can see, silver is therefore a riskier, but also potentially more promising investment.

Palladium replaces Platinum – Platinum replaces Palladium

Platinum and palladium are chemically very similar and have therefore been increasingly recognized as substitutes over the past 20 years. In 2010, for example, three researchers received the Nobel Prize in Chemistry for a process that uses palladium as a catalyst to efficiently combine carbon atoms into complex molecules. Substitution, however, is also always a cost issue, which is why the nimbus of palladium as a cheaper platinum alternative is likely to be gone for the time being.

The best precious metal shares promise multiplication potential!

Gold and silver in particular have been in a bear market or sideways phase for several years, from which there has been no escape so far. Corresponding share values are therefore strongly undervalued in comparison to the large (standard) indices. There is a supply deficit for palladium which does not seem to disappear in the coming years. We have taken this as an opportunity to present some promising precious metal companies to you below. We are concentrating primarily on development companies with extremely promising projects and on mining companies already producing with established and profitable deposits.

Global debt and the increasing loss of confidence in the stability of the financial system:

Why investors should consider precious metals in their long-term asset strategy.

Guest Article by
Prof. Dr. Torsten Dennin

Dr. Torsten Dennin has over 15 years of professional investment experience. He is the founder and Managing Director of Lynkeus Capital LLC, a Swiss investment company specializing in commodities.
Dr. Dennin is Professor of Economics at EBC University, Düsseldorf, and a full member of the Berlin Institute of Finance, Innovation and Digitalization. He also lectures regularly at the Dualen-Hochschule Baden-Württemberg (DHBW) in Germany. He is the author of the books "Secured Commodity Forward Contracts in Asset Management", "Lukrative Rohstoffmärkte - Ein Blick hinter die Kulissen" and "Afrika - Kontinent der Chancen" as well as numerous other publications in professional journals. In 2019 his latest book "From Tulips to Bitcoins" was published.

Every quarter, the global debt of states, companies and households grows more than the entire physical gold market is worth: 8 trillion US dollars! At the same time, interest rates continue their upward trend, while central banks‘ balance sheets continue to grow - an explosive mix for the global financial system. In this environment, investors should consider precious metals such as gold, silver, platinum and palladium in their long-term asset strategy.

It‘s been almost 50 years.

The collapse of the Bretton Woods system in 1971 initiated one of the largest economic experiments in world history: Currencies that were no longer tied to a leading currency or material values such as gold or silver - the system of flexible exchange rates was born and the principle of incurring debt without consequences became viable.

Debt is rising faster than the economy is growing. Money devalues.

From 1970 to the present, global economic power, measured by global GDP (the value of all products and services manufactured in one year), has risen to nearly $80 trillion. In the same period, however, the debts of private individuals, companies and states have grown disproportionately: together they reach almost 250 trillion US dollars, which corresponds to a global debt ratio of 320%. The International Monetary Fund (IMF) warns 2018: the mountain of debt is larger today than it was at the height of the financial crisis in 2007, despite the debt brake, fiscal pact or American debt ceiling. In January 2019, the US government debt alone will scratch the USD 22 trillion mark - this harbours new risks for the financial system.

Looking back on the last few years, this also means that not only was ever weaker growth financed with ever more debt, but all currencies suffered massive losses in purchasing power. The US dollar, for example, now has only a fraction of its original purchasing power of 1971 - we are talking about an 80% depreciation! More precisely: 100 US dollars in 1971 had roughly the same purchasing power as 620 US dollars today. During the same period, the Deutschmark and then the Euro lost slightly more than 60% of their value [1].

Debts are rising, despite zero interest rate policy.

Despite a historically low level of interest rates, Europe‘s schoolmaster, Germany, only manages a black zero in budget policy. This means that no new debts are taken on, but also no debts are reduced. In the USA, on the other hand, the tax reform and the current budget are likely to increase the already gigantic debt in the next three years by a further trillion US dollars a year.

Negative effects from rising interest rates.

What happens now in an environment of rising interest rates? The first consequence is an increase in debt service. Public spending is falling, i.e. less money is available for public investment and social services. Companies limit their investments, which has negative effects on the economy and employment. Households have to spend more money on, for example, credit card debt, car lease payments and real estate loans, and consequently limit their consumption. As you can see at first glance, this is not a pleasant scenario. On the other hand, the massive rise in debt levels is a guarantee that interest rates cannot be reduced to a „normal“, i.e. historically average level.

[1] See FED and ECB data, www. federalreserve.gov, www.ecb.europa.eu, accessed 18.2.2019.

Central Bank Balances and Target Balances. The risks are rising.

The global economic and financial crisis from 2007 and the sovereign debt crisis in Europe from 2010 have cost much confidence in the financial system and government institutions. The fight against the crisis has taken the policy of cheap money with negative interest rates to the extreme in Europe. The unconventional monetary policy of the central banks has inflated the central bank balance sheets of the largest economic areas like balloons - FED, ECB, BoJ, PboC, BoE or SNB. In Europe, the balance sheet number of the European Central Bank now exceeds the total economic strength of Germany. In addition, the target balances in the Eurosystem have taken on an unprecedented size: the balance sheet requirement of the Deutsche Bundesbank against the Eurosystem, for example, rose to 976 billion euros in the summer of 2018, and the one trillion-euro mark is within reach. For example, if Italy leaves the euro area, half of this amount is at risk.

Can precious metals protect your assets?

In this context, investment advisors often refer to precious metals in strategic asset allocation to hedge risks. The gold market is by far the largest precious metals market, followed by silver and the platinum group metals platinum, palladium, rhodium, ruthenium, osmium and iridium, of which only platinum and palladium are suitable for investment.[2]
Gold has proven its worth as a store of value for 5,000 years, and gold and silver in the form of coins have been used as means of payment for more than 2,500 years. Since 1970, gold and other precious metals have been in a much better position to preserve purchasing power than the US dollar and the Deutsche mark or the euro. At present, however, it is not the fear of inflation but the concern for the financial system that makes gold interesting. However, after several lean years inflation can quickly become an issue again, if the central bank's target of 2% is exceeded in Europe, an overshooting is likely.
What is the fundamental value of a troy ounce of gold or silver? Does an intrinsic value exist that is oriented, for example, to the funding costs? It is undisputed in industry circles that the costs of promotion mark a lower limit of price development at least in the medium to long term. How attractive it is to own precious metals, on the other hand, can be assessed on the basis of the following factors:

- monetary policy
- inflation
- currencies
- economic data
- Supply and demand
- insecurity

The monetary policy of the central banks, in particular of the FED and the ECB, influences the interest rate level and thus the „opportunity costs" of gold. If the savings book offers attractive interest rates, this has a negative effect on the demand for gold. Precious metals should play to their strengths above all in times of rising and high inflation, when the rate of cash devaluation rises. If real interest rates, i.e. nominal interest rates minus the inflation rate, stagnate or fall, this is good for precious metals. The development of the US dollar is also a decisive influencing factor: if the US dollar weakens, this is a positive factor for precious metals. Important economic data provide clarity as to whether the economy is running „smoothly": if the economy is booming and unemployment figures are falling, this is the bad omen for precious metals. We are currently in the longest stock market boom since the golden 1920s, so a certain degree of caution is advisable[3].
Uncertainty includes geopolitical crises, terrorist attacks and a financial system that is going through the cracks. Finally, it plays a role whether fundamental trends in supply or demand are shifting in the gold or silver market, for example. The most important buyer of physical gold, for example, is India. The most important owners of gold are the central banks. Central banks worldwide hold around 33,800 tons of gold. The largest holdings are held by the central banks of the USA, Germany and the International Monetary Fund IMF. In recent years, China, Russia and Turkey in particular have been buyers of gold. In 2018, central banks around the world significantly increased their gold holdings. China has also built up its gold reserves massively in recent years, but due to enormously high foreign exchange reserves, the Middle Kingdom only achieves a gold cover ratio of its currency of 2.5%. By way of comparison, the USA and many European countries cover between two thirds and three quarters of their foreign exchange reserves with gold.
There are currently about 190,000 tons of gold worldwide[4]. This is the estimated amount of gold that has been mined in human history. The value of this quantity of gold adds up to about 8 ½ trillion US dollars. This alone corresponds to the increase in global debt in the first quarter of 2018. Gold inventories are therefore not suitable for debt repayment.

Conclusion.

The markets for most assets have become accustomed to the policy of cheap money. The stock markets saw their all-time high in the autumn of 2018, Germany can still borrow virtually free of charge, and real estate prices are also rising. However, the turnaround in interest rates has already begun in the USA. Four interest rate steps alone in 2018 raised the key interest rate to 2.25%-2.5%. In Europe, too, quantitative easing was suspended for the time being at the end of 2018, but the first interest rate hike is still a long way off. Many market observers fear that the capital markets could react irrationally and with significant valuation discounts if interest rates in Europe are tightened again. Gold and other precious metals may not be suitable for repaying debt, but they can be used as crisis and inflation protection for private investments.

2 Federal Institute for Geosciences and Natural Resources (BGR), www.deutsche-rohstoffagentur.de, accessed 18.02.2019

3 Chris Anstey: Goldman Warns That Market Valuations Are at Their Highest Since 1900, www.bloomberg.com/news/articles/2017-11-29/goldman-warns-highest-valuations-since-1900, 29.11.2017

4 World Gold Council, www.gold.org, accessed 18.2.2019

Interview with Dr. Torsten Dennin –
Founder and CEO of Lynkeus Capital LLC

Dr. Torsten Dennin is the founder and CEO of Lynkeus Capital LLC, an investment boutique specialized on the topic area commodities, seated in Switzerland. Since 2003 Dr. Dennin is analyzing the international commodity markets with a focus on energy and the global equity sectors oil & gas and metals & mining. Until the middle of 2017 Dr. Dennin managed the division Strategy and Research of Tiberius Asset Management AG. Previously Dr. Dennin worked as Co-Head Natural Resources for VCH Vermögensverwaltung (asset management) (2010-2013) and from 2003 to 2010 as Portfolio Manager for Deutsche Bank AG in Frankfurt am Main. During this time, he was responsible for the investment decisions of several commodity funds. Dr. Dennin studied economics at the University in Cologne, Germany and at Pennsylvania State University, USA. He wrote his doctorate on the topic Commodity Markets at the Schumpeter School of Business and Economics.

Prof. Dr. Dennin, this year „From Tulips To Bitcoins", your new book, will be published by the American Greenleaf publishing house, in late summer the German version will be published by Finanzbuchverlag and a Russian translation is also planned. What is it about, and what is particularly interesting for precious metal investors? Can you give us a little foretaste?

The tulip madness in Holland in the 17th century was considered almost 400 years as the largest bubble of the financial markets. „From tulips to bitcoins" describes how this bubble was replaced by bitcoins in 2017/2018. A fabulous performance of a few cents to over 20,000 US dollars, followed by a crash in which investors lost 80% of their capital.
In 42 chapters I show how cyclical the commodity and crypto markets can be, what investors should always keep in mind! In the precious metals sector, I show the consequences of the end of the gold standard, the use of rare metals for energy storage and electromobility, and the cycles of gold, silver, platinum and palladium.

Also, in your books „Lucrative commodity markets – a look behind the scenes" and „Africa. Continent of Opportunities", you will repeatedly pick up on the topic of raw materials. What fascinates you so much about the commodity markets?

My first book focuses entirely on the commodity markets - crude oil, natural gas, copper, gold and silver: all fascinating markets with their own dynamics. In „Africa - Continent of Opportunities" I show the attractive development opportunities of raw material projects, including gold, silver and gemstones. Africa is a continent that most investors are still unfairly ignoring - unfairly!
On the commodity markets, I'm thrilled by the strength of my hands! You can touch a ton of copper, as well as a barrel of crude oil or a gold bar. In times of high share valuations and a zero-interest rate environment, the reliability of tangible assets increases to a degree.

But haven't the stock markets, especially the technology sector, performed much better in recent years?

Admittedly, the performance of the stock market and in particular of Apple, Alphabet (Google) and Amazon in recent years has been impressive. But don't you think it's unhealthy that the stock market value of Google, for example, alone exceeds the value of all mining companies in the MSCI World Metals & Mining Index, which includes around 100 companies including mining giants such as BHP Billiton, Rio Tinto, Glencore and ArcelorMittal? This reminds me rather of the times of the „New Economy". What are the arguments in favour of raw materials? First, unlike the stock market, commodities have a five-year bear market behind them, which bottomed out in spring 2016. Raw materials are therefore relatively „cheap". Second, commodities are good performers in the late cycle of economic development. We are in the longest share boom since the golden 1920s, so caution is advised. And thirdly, despite all the enthusiasm for technology, people often forget without lithium, cobalt, copper and nickel there is no electric car and no iPhone on the phone!

You are also founder and managing director of Lynkeus Capital LLC, an investment company specializing in commodity markets. What do you do differently from your competitors? What strategy or investment objective are you pursuing?

Lynkeus Capital's approach is to analyze the commodity markets and the companies operating in them holistically. With the Lynkeus Commodity Strategy, I have developed a concept that invests asset classes across the board in commodities. An investment can be represented either directly via the commodity or via shares or bonds of commodity producers. Depending on what pays off more for the investor. An example: In a positive market environment for gold and silver, shares in gold and silver mines often show a significantly more positive investment performance, as rising prices are often reflected as a „multiplier" in the company's earnings and value. For example, in addition to direct investments in gold and silver, the portfolio also includes equities and bonds from gold and silver mines. For the selection, the strategy relies on a stringent quantitative investment process in combination with a qualitative fundamental market analysis.

An interesting and innovative concept, but what has the strategy brought to the investor so far? And what are the risks?

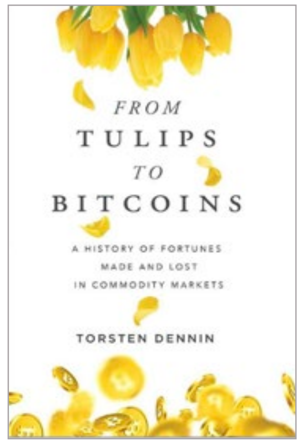
The Lynkeus Commodity Strategy has been active on the commodity markets since March 2016 but has been on paper since June 2013. Over the last 5 years, an average annual performance of +18% was achieved (CAGR). Such a result is, of course, also associated with a corresponding fluctuation in value. Accordingly, investors must always take setbacks into account. In particular, last November and December were painful. Since the beginning of 2019, however, the strategy has been clearly on the up again.

What do you pay particular attention to when assessing the attractiveness of an investment in a gold and silver mine?

As with real estate („location, location, location"), for me the location, quality and potential of an asset as well as the competence and reliability of the management are decisive factors in qualitative fundamental analysis for a gold or silver mine. This applies to precious metals as well as to the mining and energy segment. Prior to this, all companies go through a quantitative filter („screening"). Diversification is another important point that should not be neglected.

How do you assess the development of the stock and commodity markets in 2019? What were the big value drivers and the big value destroyers on the commodities market? And how do you assess the further development for the year as a whole?

In the USA, the S&P 500 index started to climb to 3,000 index points in autumn 2018. In Germany, the DAX was quoted at over 13,000 points. These times are over - prices are significantly lower but valuations are still high and (more importantly) the outlook is clouded. In this late capital market cycle, commodities as a whole should outperform. At the same time, the Bloomberg Commodity Index, as an indicator of the commodity markets, is trading just +10% above its absolute lows of 2016. Investors have therefore not missed a thing.
For the equity markets, I expect a volatile and therefore risky environment in 2019. Western industrial nations are increasingly at odds with the US leadership, growth in China is fragile, the US is increasingly shutting itself off, and Europe is struggling with its own integrity. Common sense suggests that rising debt combined with rising interest rates cannot be good for consumers, businesses or handsome investments.
On the other hand, periods of uncertainty are advantageous for precious metals. After the long-awaited breakout of gold and silver prices failed to take place in 2018, prices fell back to 1,200 and 14 US dollars per troy ounce respectively. Gold and silver are currently showing a healthy upward price trend again with 1,300 and 15 US dollars respectively. Positive value drivers in recent months have been palladium and uranium. The largest value destroyers were found in industrial metals. For 2019 as a whole, I see positive signs for the commodities market, driven by



New:
Torsten Dennin
From Tulips To Bitcoins
Finanzbuchverlag
Juni 2019
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Lynkeus Capital, founded at the beginning of 2016, specialises in cross-asset class investments in international commodity markets with a focus on energy and metals. The focus is on identifying exceptional investment opportunities in commodities and commodity producers, as well as achieving convincing, positive value growth in every market phase ("absolute return"). Lynkeus is a member of the Association for Quality Assurance in Financial Services (VQF), a self-regulatory organisation for asset managers in Zug recognised by FINMA.

the precious metals and energy sectors. Saudi Arabia, USA and Russia - There is little that these countries have in common except an interest in higher oil prices. And gas liquefaction (LNG) in 2019/2020 is giving the North American energy markets new momentum - Northstream 2 in Europe or not.

Gold, silver and platinum have not given investors any pleasure in recent months. What are the advantages of precious metals in the current market phase?

Admittedly, the star in the precious metals sector was palladium, which as a catalyst metal benefited in particular from the diesel scandal. A troy ounce currently costs almost $1,500, more than gold or platinum.
I primarily see the strong US dollar as a negative factor for precious metals in recent months. The strong hands, the central banks, on the other hand, were on the buyer side, while demand for Gold Exchange Traded Funds (ETFs) weakened and did not pick up again until early 2019. An end to the strength of the US dollar and the prospect of less sharply rising interest rates in combination with geopolitical risk factors speak in favour of precious metals in 2019.
One risk factor is the escalating debt worldwide as a result of the low level of interest rates. According to data from the Global Debt Monitor, international debt continues to rise faster than economic power, and the IMF warns of a debt level that is now higher than before the financial crisis. The increased level of debt is a guarantee that interest rates cannot be reduced to a „normal“ level. The 10-year interest rates in the USA and Germany have even fallen significantly again recently, instead of rising. Real interest rates, i.e. interest rates minus the inflation rate, have returned to negative territory - bad for bond buyers, good for gold & silver.

Does this apply to all precious metals to the same extent? Specifically asked for the investor: what is the difference between gold, silver, platinum and palladium? What should you invest in?

An important factor is market size and related factors such as tradability, liquidity and volatility. The classic investment metals are gold and silver. Both metals long served as the basis for currency systems (keyword: „gold and silver standard“). Based on current prices, the value of annual mine production for gold is around 120 billion US dollars, for silver it is slightly more than 12 billion US dollars - i.e. much smaller and thus more volatile than the gold market. Platinum, palladium and rhodium taken together do not even reach the size of the silver market. Investors must be aware of this.
The growth in electrically powered vehicles (EVs) is passing by the so-called platinum group metals, because their main application is in the area of catalytic converter technology. As a result of the diesel scandal, palladium developed significantly better than the other precious metals. Only in the case of platinum is the jewelry industry an important influencing factor.
Note: demand from industry is highest in platinum group metals, is still an important factor in silver, but plays hardly any role in gold. The jewellery industry dominates here, followed by investment demand in the form of ETFs, coins and bars.
If the purpose of an investment in precious metals is to protect assets against inflation and instability of the financial and monetary system, gold is still of the greatest importance. We recommend silver in admixtures. The gold-silver ratio has proven to be an important indicator. The ratio indicates the ratio between the price of gold and the price of silver. A high figure means: Relative to the historical average, silver is currently undervalued compared to gold. So, silver would be cheap compared to gold.

Over the past 30 years, the gold/silver ratio has averaged 66, which means it took 66 ounces of silver to buy one ounce of gold.

Lynkeus Capital LLC

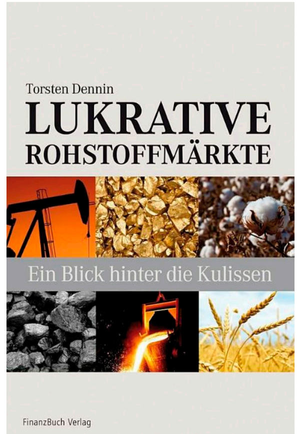
The gold / silver ratio of the last 20 years (Source: own representation)

Currently the ratio is 83, and thus close to the historical highs. An admixture of silver can therefore make sense.

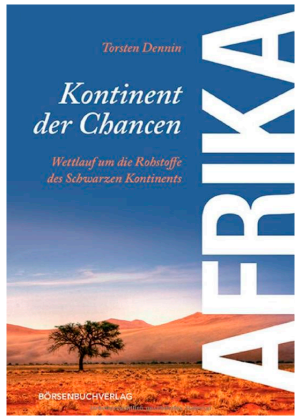
After a good performance, gold and silver mines left strong feathers especially in the last quarter of 2018. What's the next step here?

Investors in gold and silver mines can look back on a positive increase in value of just under 10% in the first few weeks of 2019. This means that the rift of the last quarter of 2018, when not only gold and silver but also the shares of mining companies came under pressure, has been shattered. Gold at just under 1,200 US dollars and silver below 15 US dollars per troy ounce did not sound very encouraging to investors. Even for many gold and silver mines, even lower prices can soon become a problem. Now we have returned to a lucrative level.
Should the gold price finally break through the USD 1,370 mark, nothing stands in the way of a further rise to levels of 1,400 to 1,500. For silver, this increase corresponds to price levels of 22-24 US dollars. However, the prerequisite is that gold does not fall below the levels of 1,124 US dollars and 1,046 US dollars per troy ounce, the local lowest prices of 2016 and 2015. Otherwise, a further correction to levels below 800 US dollars cannot be ruled out.
Let's look at the index funds of VanEck large and small gold and silver mines (GDX and GDXJ) we are currently trading at attractive levels. By the way, it looks the same for the large mine values like BHP, Rio and Glencore.
We are convinced that at the current price level we have still identified an attractive buying level both for precious metals and for gold and silver mines. At the latest when the price of gold passes the USD 1,370 mark again for the first time, the chase to catch up of the gold and silver mines will accelerate. A doubling of the current price level is not excluded.

What is the situation with regard to the flow rate? Which are the largest producer countries, and which are the leading companies?



Torsten Dennin
Lukrative Rohstoffmärkte: Ein Blick hinter die Kulissen
FinanzBuch Verlag, 2. Auflage, Oktober 2011
ISBN 3898795993



Torsten Dennin
Afrika – Kontinent der Chancen: Wettlauf um die Rohstoffe des schwarzen Kontinents
Börsenbuchverlag, April 2013
ISBN 3864701007

The decline in exploration spending by companies since the peak before the 2007 financial crisis suggests that this will soon be reflected in declining production figures. Gold mining, however, has surprised us in recent years with slight increases. The World Gold Council reported a slight increase in mine production to 3,350 tonnes in 2018. A „Peak Gold“ scenario of production is thus a long time coming. Silver production peaked at 26,800 tonnes in 2014 and has since declined slightly but steadily to around 25,000 tonnes in 2018. The production of platinum and palladium, on the other hand, amounts to just 500 tonnes.

Gold and silver are mined almost everywhere in the world. The leading countries in gold mining are China, Australia, Russia, USA and Canada. In silver mining, Mexico, Peru and China lead. In the case of platinum, on the other hand, South Africa dominates production, while in the case of palladium the country on the Cape shares this rank with Russia. A higher concentration of support can also contribute to a higher fluctuation in value.

The largest gold mine operators in terms of production are Barrick Gold, Newmont Mining, AngloGold Ashanti and Goldcorp. The concentration in the industry is increasing more and more due to the low prices. In the last months two elephant weddings surprised: Barrick Gold and Randgold merged and Newmont Mining followed suit with the acquisition of Goldcorp.

The largest „pure“ silver producer is Fresnillo. However, KGHM Polska Miedź and BHP Billiton produce more ounces per year, but silver accounts for only a fraction of their total turnover. For both gold and silver, it is not so much the large companies that deserve investors‘ attention as interesting development projects in the small and medium-sized business sector. Through an aggressive acquisition policy, the South African company Sibanye-Stillwater, for example, moved into the top 10 global gold producers and into the top 3 global producers of platinum and palladium. In the latter category, Anglo American Platinum, a subsidiary of South African Anglo American, and Russian Norilsk Nickel are the leaders.

Bitcoins and other crypto currencies are an exciting topic. How do you interpret current developments? Isn‘t this a competition for gold and silver?

Bitcoins managed to break a 400-year-old record in 2018: Finally there‘s a bubble bigger than the Dutch tulip mania! In 2019, the prices of many crypto currencies recovered from their lows. Here, too, reality seems to have finally arrived.

But apart from that: Bitcoins and other crypto currencies, like gold, offer a hedge against the risks of the traditional financial system. Therefore, in 2018, cryptographic assets that may have been lacking in gold and other precious metals have grown. One problem, however, is the high volatility in this area. For example, crypto currencies covered with gold or other forms of digitisation that are actually backed by physical gold offer a way out. This is where the latest technical standards and a millennia-old investment medium come together. It almost seems as if the gold standard is resurgent through private initiatives. The combination of new technological standards such as the blockchain with gold opens up new investor circles and promotes the acceptance of gold and silver. Therefore, I do not see competition in this development, but a meaningful solidarity.

How do you assess the future development of gold and silver? What‘s more promising? Gold and silver mines, or a direct investment in gold and silver?

Physical gold forms the basis of any long-term asset strategy. Rising interest rates and a strong US dollar are short-term negative factors for a positive development - as 2018 impressively demonstrated. Internationally, however, debt is rising faster than economic power, so that the rise in interest rates seems limited. Otherwise, the negative consequences would be a slowdown in economic growth and a reluctance to consume and invest - negative factors for the stock market, but positive for the development of the gold price. Falling real interest rates, i.e. inflation is rising faster than interest rates, are also a positive sign for the gold price. Rising debt and an increase in debt service also limit the strength of the US dollar. In sum, precious metals help to build up a counterweight against inflation and financial crises. In view of the current US economic policy, the stability of the European Union after the Brexit and the fragile constitution of economic growth in China, an „insurance“ seems to be advisable. In a positive environment for gold, silver should clearly outperform. This is also supported by the comparatively high gold-silver ratio. A „normalisation“ of the price ratio of gold to silver to a ratio of 60-65 implies an outperformance of silver to gold of approximately 25%. This can confidently be described as „brilliant“ prospects!

Both are good news for mining companies: rising prices earn the company more, and the value of the company increases! Even in an otherwise weak equity environment, gold and silver mines should perform well.

(Source: Endeavour Silver)

Target of 2 to 6 million ounces of gold firmly in sight

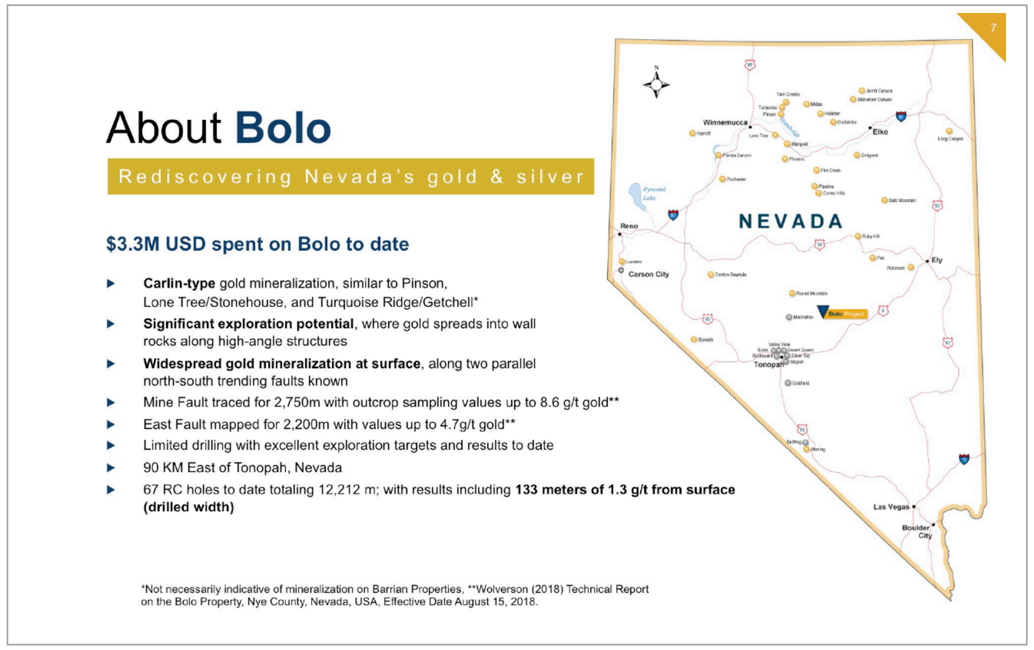
Barrian Mining is a very young (IPO in April 2019!) Canadian mining development company specializing in prospective gold projects in Nevada and New Mexico. The highly successful and experienced management team focuses primarily on near-surface deposits.

Bolo Gold Project – Acquisition

Barrian Mining's current flagship project, called Bolo, covers 3,332 hectares and is located 90 kilometres east of Tonopah in Nevada. It is accessible throughout the year and already has an exploration history. The Company may, under an agreement with Allegiant Gold, earn a 75% interest in Bolo by incurring pre-defined exploration expenditures. The company must invest at least US$4 million in the development of the project up to and including 2022 in order to acquire a 50.01% stake and control of Bolo. To earn a 75% interest, Barrian Mining will have to incur a further US$2 million in exploration expenditures in 2023 and 2024, respectively. The expenses can also be incurred more quickly in order to accelerate the acquisition of the project.

Bolo Gold Project – Exploration Activities and Successes to Date

Prior to the acquisition of Bolo, previous licensees had already invested more than US$ 3.3 million in the development of the project. Among other things, mapping work and sampling were carried out. In addition, more than 12,200 meters have already been drilled. It has been shown that Bolo is a Carlin-like gold mineralization similar to that on the known Pinson, Lone Tree/Stonehouse, and Turquoise Ridge/Getchell projects. The widespread gold mineralization on the surface, along two parallel north-south faults, has already exposed up to 8.6 grams of gold per tonne of rock (g/t) (Mine Fault) and up to 4.7 g/t gold (East Fault). Drilling has also identified several high carat gold and silver bearing intercepts. These include 133 metres at 1.28g/t gold from surface, including 30.5 metres at 3.24g/t gold, 90 metres at 1.0g/t gold from surface, 52 metres at 1.27g/t gold from surface and 58 metres at 41.13g/t silver from surface (including 7.6 metres at 220g/t silver).



(Source: Barrian Mining)

Bolo Gold Project – Exploration Potential

To date, drilling has only taken place to depths of about 45 metres, which means that there is a high exploration potential, especially for the area below. In addition, the area has not yet been investigated using modern geophysical methods. At the same time, however, the license area hosts a large number of large area anomalies within which the presence of gold and silver has already been detected by sampling. The seven known gold zones also hold further potential in all directions, as none of these have yet been fully delineated. Accordingly, the target of 2 to 6 million ounces of gold set by the Barrian management is high-caliber.

Bolo Gold Project – Planned Exploration Activities

Even before the IPO in April 2019, Barrian Mining stepped on the gas.
For the first half of 2019, for example, drone flights including image analyses and magnetic geophysical measurements are planned. Further, soil sampling will be systematic and drill targets for the second half of 2019 will be identified.
New drilling is planned for the second half of 2019, designed to establish the depth extension and continuity of the gold-silver mineralization between the Uncle Sam, South Mine Fault and Northern Extension zones.
In a second phase, further drilling is planned for 2020 to connect the three zones. Based on the pending results of the 2019 programs, the Company will commence an aggressive zone reclassification in the Main Zone in 2020 and initiate a new target drill program for exploration of the Northern Areas. A NI43-101 compliant resource estimate is planned for 2021.

(Source: Barrian Mining)

Sleeper Gold/Silver Project

Barrian Mining's second flagship project is called Sleeper and is located in New Mexico. It is an area with historical mining activities. A total of 15.7 million ounces of silver and approximately 327,000 ounces of gold have already been mined there. Sleeper is basically a large epithermal vein field with silver-gold bearings. Dozens of mineralized and potentially mineralized veins that have never been drilled offer potential for greater discovery. The total strike length is 72 kilometres, of which only 4.8 kilometres (3 miles) have been developed and explored. In 2010, drilling was carried out on the consolidated project which intersected 10 metres averaging 219g/t silver and 4.4g/t gold. A historical, non-NI43-101 compliant resource estimate returned 845,000 tonnes of rock averaging 320g/t silver and 5.1g/t gold for 8.9 million ounces silver and 138,400 ounces gold. The Sleeper project will be started as soon as gold and silver prices have recovered further.

Strong shareholder structure – Sufficient cash for two and a half years

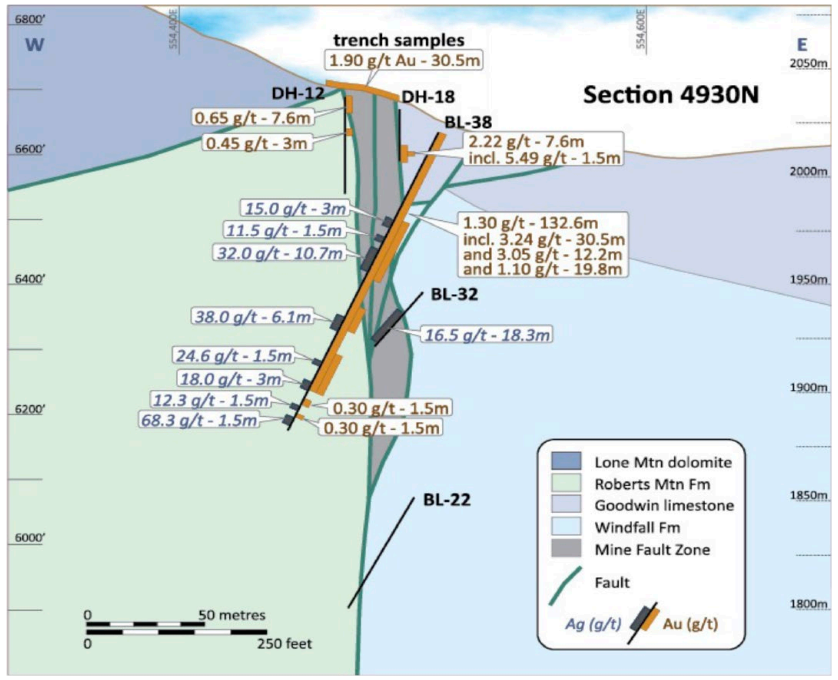
Barrian Mining has a very solid shareholder structure. Approximately 23% of the outstanding shares are held by management and in-

siders. A further 40% are in the hands of investors who are closely associated with the management.
The capital resources are excellent, as Barrian Mining has more than 4 million CA$ in his pocket, enough for about two and a half years of work.

Top management team

Barrian Mining has a highly experienced and successful management team.
CEO Max Sali is President of Baccarat Investments Inc, a private company that provides investment, advisory and management services to public companies. Sali is also CEO, Director and Founder of Defense Metals Corp. Most recently, he worked for Advantage Lithium, a company that has evolved from a shell to a positive PEA and has raised $42 million to date.
Director Jordan Trimble is currently CEO of Skyharbour Resources and Rockridge Resources. He has worked in various roles in the resource industry for numerous TSX Venture listed companies specializing in corporate finance and strategy, shareholder communications, marketing, deal structuring and capital raising. Previously, he led corporate development for Bayfield Ventures, a gold company with projects in Ontario acquired by New Gold in 2010.
Jim Greig is currently President of Benchmark Metals Inc, a high-grade gold and silver explorer in the Golden Triangle, Canada. He recently joined Keegan Resources Inc. as part of the mine development team driving the 5 million-ounce Esaase gold project in West Africa. With 20 years in the commodities sector, he brings extensive experience in exploration, development and mineral production. Selected resource engagements include the Hunter-Dickinson Group, Kennecott Canada, Breakwater Resources Ltd, McIntosh Engineering and Stantec Engineering.
Director Toby Pierce is a natural resources manager with more than 19 years of extensive transaction and valuation experience in deal sizes ranging from several million to $1.3 billion.

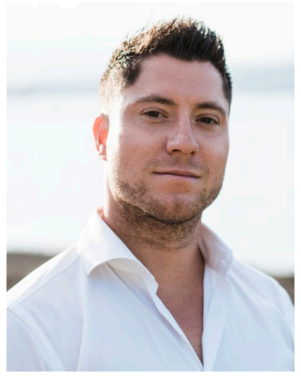
Historical Results of Drilling Programs on Bolo
(Source: Barrian Mining)



Summary: Top Assets Meet Aggressive Management

With Bolo, Barrian Mining seems to have secured a real top asset in the middle of one of the best mining areas on the planet. The fact that there are larger quantities of gold and silver there and are waiting for their uplift seems certain, it is now only a question of the quantity. A self-imposed exploration target of 2 to 6 million ounces of gold appears ambitious but should be feasible for the highly successful and experienced management. After all, in the past this has been able to prove several times that larger deposits can be discovered and that financing for exploration and beyond can be organised. Kris Raffle, an absolute Nevada gold specialist, is also part of the team and has already developed several top deposits in Nevada with his geological consulting company APEX Geoscience. Barrian Mining is an early-stage opportunity that offers an excellent base as a starting point. The company will be listed shortly.

Exclusive interview with Maximilian Sali, CEO of Barrian Mining


Maximilian Sali, CEO:

What have you and your company achieved in the past 12 months?

Over the last twelve months we have built Barrian Mining from an idea into a public company and have earn-in agreements on two fantastic assets, “Bolo“ in Nevada which is our main asset and “The Sleeper“ in New Mexico. Both assets have high-grade gold and silver results and our secondary asset has historical production. Recent drill results at Bolo enables the potential for a near-term maiden mineral resource.

What are the most important catalysts for the next 6 to 12 months?

The initial catalyst for growth at Bolo is step-out drill program to extend mineralization along the trend that intersected 133m at 1.3g/t gold from surface. Within that hole is a section of 30.5m of 3.5 g/t gold.
The second catalyst for growth is maiden mineral resource estimate based on historical and new drilling.

How do you see the current situation on the market for precious metals?

Barrian’s outlook on the gold space is very optimistic. Since we have started this company the price of gold has gone from around $1180 to $1325. Two massive mergers have occured in the Gold setor and central banks are buying up more gold then they have since the 2nd world war. Nevada is an exciting proven jurisdiction where shareholders in junior mining companies are already seeing gains. For example, Norther Empire was bought-out by Coeur Mining in August of 2018 for US$90 million when gold was $1200.

Barrian Mining Corp.

ISIN: -
WKN: -
FRA: -
ASX: -

Aktien ausstehend:-
Optionen: -
Vollverwässert: -

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Listing in April 2019

Cardinal Resources

Over 4.7 million ounces of gold in reserves and plenty of Blue Sky potential

Cardinal Resources is an Australian mining development company focused on prospective gold projects in West Africa. In politically stable Ghana, the company has two advanced projects and already has a reserve of 4.76 million ounces of gold.

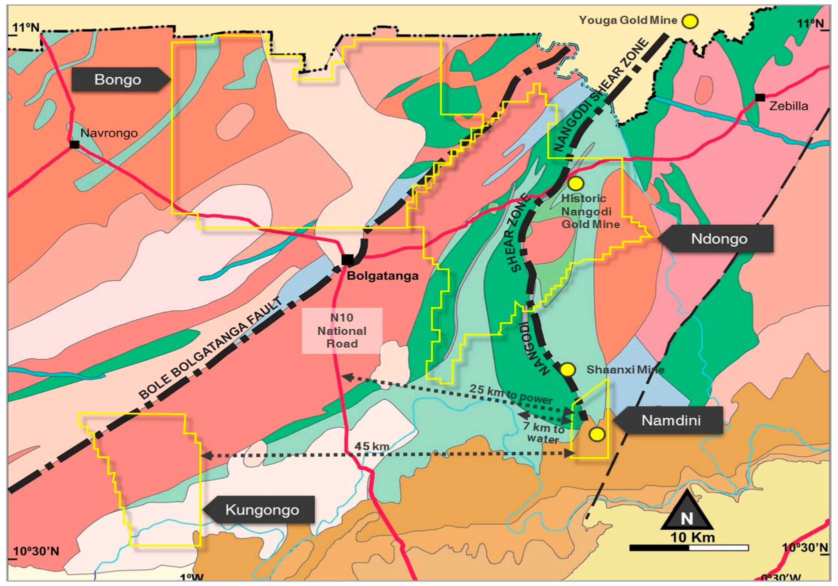
Flagship project Bolgatanga

Cardinal Resources' flagship project is called Bolgatanga and is located within a Palaeoproterozoic granite greenstone belt in northeastern Ghana near the border with Burkina Faso. Bolgatanga covers approximately 660 square kilometres and consists of the four individual concessions Namdini, Bongo, Ndongo and Kungongo. Compared to the south of Ghana, the north is still largely underexplored.

Namdini – Reserves and resources

By far the most advanced of Bolgatangas subprojects is called Nandini. It already has very substantial reserves of 129.6 million tonnes of rock with an average of 1.14 grams of gold per tonne (g/t). As a result, the Namdini deposit currently has 4.76 million ounces of gold reserves. Total resources (including reserves) amount to 180 million tonnes of rock averaging 1.10g/t gold for 6.5 million ounces of gold in the indicated category and a further 13 million tonnes averaging 1.2g/t gold for 500,000 ounces gold in the inferred category.

Bolgatanga covers approximately 660 square kilometres and consists of the four individual concessions Namdini, Bongo, Ndongo and Kungongo. (Source: Cardinal Resources)



Namdini – Deposit

The Namdini deposit extends to surface or shallow over approximately 1,150 by 350 metres with the particularly high-grade areas very close to surface. A possible starter pit contains approximately 1.06 million ounces of gold with average grades of 1.31g/t. This would extend to a depth of about 150 meters. A possible enlarged pit would be about 1,000 by 500 meters in size and about 400 meters deep. The great advantage: With the current mine design, the strip ratio, i.e. the ratio of deaf rock with no or only uneconomical gold content to gold-bearing rock, is only 1.4 to 1, for the starter pit even only 0.5 to 1. Below this area, the company was able to demonstrate further, partly high-grade gold mineralization, which has not yet been delineated in depth and thus represents an additional resource potential.

Namdini – Prefeasibility Study

Cardinal Resources published a positive pre-feasibility study for Namdini in September 2018. Based on an annual processing of 9.5 million tonnes of rock and a gold price of US$1,250, the starter pit will have an annual production of 361,000 ounces at an all-in-sustaining cost of only US$599 per ounce. Including the ramp-up phase, the starter pit would provide material for 2.5 years. The US$ 414 million that would be incurred as capital costs for the construction of the mine would, however, already be repaid after 1.8 years. All-in-sustaining costs of US$ 769 per ounce of gold could be calculated for the total mine life of about 14 years (average annual production of 294,000 ounces). Profitability (IRR) is 38% after tax and the discounted net asset value (NPV) of 5% is US$ 586 million.
For a slightly higher gold price of US$1,350, this results in an IRR of 46% after tax and an NPV of US$758 million.
Namdini already has a 15-year mining license that can be renewed. The environmental impact analysis has been commissioned.

Bolgatanga – Resource potential

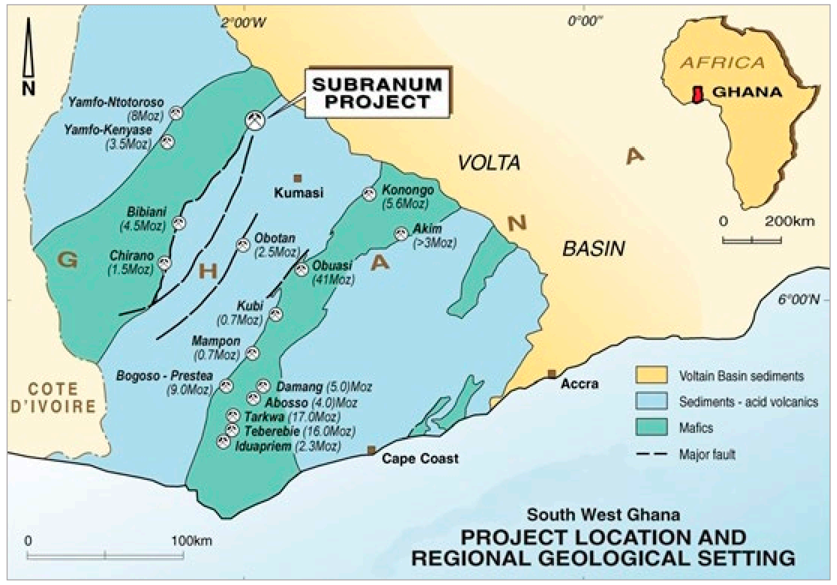
Namdini is by far the smallest of the Bolgatanga licenses. Corresponding resource potential exists in the three other concession areas. The company is currently working on several exploration initiatives to find what it is looking for there.

Ndongo

Six large area targets have already been identified on Ndongo with the initial focus close to large regional shear zones. Recent research has identified a discovery at Ndongo East. In July 2018, for example, an average of 9 metres of 23.3 g/t gold, including a 3-metre section of 59.2 g/t gold from a depth of 60 metres, was detected. Even closer to the surface, 7 metres of 4.4 g/t gold were found. In August 2018, 12.6 g/t gold over 6 metres was encountered directly below the surface from a depth of 2 metres. In November 2018, the company was able to demonstrate a 3-metre-long 29.3g/t gold intercept at a depth of only 45 metres in November 2018. At the beginning of 2019, 42.2g/t gold over 2 metres was also discovered. A total of several gold-bearing intervals have already been encountered over a strike length of 1.2 kilometres.

Bongo/Kungongo

Well drilling is planned for the Bongo license. Geophysical targets will be evaluated.
On the Kungongo license, 4.5 kilometers of strike length are currently being evaluated. The First Pass drilling campaign has also produced positive investigation results. A 3,000-metre drill program was started in the fourth quarter of 2018.



The Subranum project is located in the southwestern part of Ghana. (Source: Cardinal Resources)

Subranum Gold Project

The Subranum project is located in the southwestern part of Ghana, also in a Palaeoproterozoic granite-greenstone belt. It covers about 69 square kilometers and touches the so-called Sefwi Gold Belt. Previous exploration by Newmont (soil sampling, trenching and drilling) discovered a gold mineralized zone over 5 kilometres to a depth of only 50 metres. As drilling has taken place on irregular, widely spaced drill areas, Cardinal plans to systematically drill this initial target area to better define and expand gold mineralization along strike and at depth.

Coming Catalysts

Upon completion of the pre-feasibility study, the Company initiated the preparation of a Definitive Feasibility Study. This is to be published in the third quarter of 2019. Exploration campaigns are also being carried out in several licence areas, which should deliver a large number of results for the current year.

Strong shareholder structure – Sufficient cash

More than 50% of all outstanding shares are held by institutional investors and management. In addition, Cardinal Resources is funded with over AU$ 30 million in cash over months.

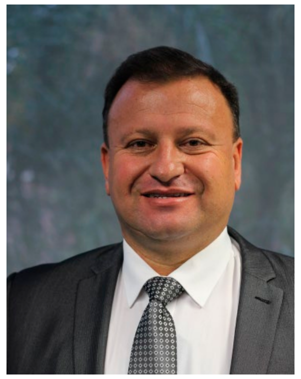
Superior management

Cardinal Resources has an outstanding management team with many years of experience in mining and Ghana.
CEO and Managing Director Archie Koimtsidis has been involved in all aspects of gold exploration, discovery, production and refining in West Africa and South America for 20 years. His most recent appointment before joining Cardinal Resources was as Deputy Country Manager Ghana for PMI Gold (now Asanko Gold). During this time, he was responsible for all field operations including the coordination of exploration, drilling and personnel management related to the Company's projects in Ghana.
Non-Executive Director Trevor Schultz has more than 45 years experience in the mining industry with experience in project development, construction and operations. Between 2008 and 2018, he was Executive and Non Executive Director at Centamin Egypt and responsible for the construction of the 12Mtpa processing plant, which has a similar flowchart to that proposed by Cardinal. Prior to that, he was Chief Operating Officer of Ashanti Goldfields (now Anglo Gold Ashanti) and lived in Ghana for 6 years. In addition, he worked for BHP in Australia and America and for Anglo American Corporation in South Africa.

Summary: Giant project, giant potential, feasibility study ahead

Cardinal Resources can probably be described as one of the few, largely undiscovered pearls in the gold sector. 4.76 million ounces of gold reserves are a real house number for a junior developer. In addition, current resources for one of four flagship concessions alone are 7 million ounces of gold. The second Ndongo concession already indicates the Blue Sky potential that the Bolgatanga project has. The latest drilling successes speak for themselves. All Bolgatanga licences lie within a radius of only 30 kilometres and could be exploited one after the other or jointly. The definitive feasibility study is scheduled for autumn 2019. If it turns out to be at least as good as the pre-feasibility study at hand, potential financier, partners and/or takeover bidders should be able to hand over the handle to each other. It is not without reason that analysts from leading investment houses see the Cardinal share averaging over AU$ 1.

Exclusive interview with Archie Koimtsidis, CEO of Cardinal Resources


Archie Koimtsidis, CEO:

What have you and your company achieved in the past 12 months?

The company has achieved:

- PEA – 7 Moz Mineral Resource on the Namdini Deposit
- PFS – 4.76 Moz Ore Reserve on the Namdini Deposit
- New discovery at Ndongo East – located within trucking distance from the Namdini Deposit

What are the most important catalysts for the next 6 to 12 months?

- BFS – Q3 2019 on the Namdini Deposit
- Project Finance
- Build Decision
- Exploration of our District Land Package
- Drilling of the new discovery at Ndongo East

How do you see the current situation on the market for precious metals?

Sentiment towards Gold has improved over the last 24 months as is reflected in the Gold Price which is drawing investors back into the sector – at a slow and understandably conservative pace.
Producers are naturally the priority investment choice followed by funded and unfunded developers whilst explorers are a low priority – with the exception of some explorers who are having drill bit success.
If Gold Price maintains >$1,300 through 2019, investor confidence may improve and they may begin to invest down the chain thru to explorers.

ISIN: AU000000CDV9
WKN: A1KBC9
FRA: C3L
TSX: CDV
ASX: CDV

Outstanding shares: 382.2 million
Options: 146.2 million
Fully diluted: 528.4 million

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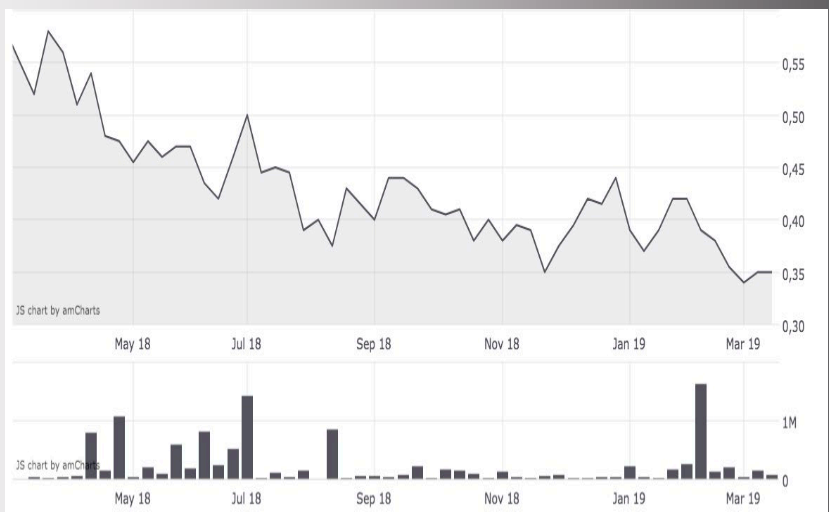
Cardinal Resources Limited



Endeavour Silver

Fourth mine commissioned, fifth online by the end of 2020

Endeavour Silver is one of the largest silver producers in North America with listings in New York, Toronto and Frankfurt. The Company mined a total of approximately 5.5 million ounces of silver and 52,967 ounces of gold from its three Mexican mines in 2018. Endeavour Silver is currently undergoing a period of upheaval, with a new mine currently being ramped up and another scheduled to come on stream by the end of 2020.

Guanaceví Silver Mine

Endeavour Silver's first Guanaceví plant, commissioned in 2004, consists of two mines, Porvenir Norte and Santa Cruz, which will both be closed shortly. As a replacement the two higher grade mines Milache and Santa Cruz South are currently being newly developed. The processing capacity on Guanaceví amounts to 1,200 tons of rock per day (tpd), which in 2018 could only be utilised with 841 tpd. In total, Endeavour Silver mined 1.96 million ounces of silver and 5,224 ounces of gold there in 2018. At the end of 2018, reserves were 8.22 million ounces silver equivalent and resources (excluding lead and zinc) were 21.27 million ounces silver equivalent.

Silver mine Bolañitos

Endeavour Silver's Bolañitos Mine was commissioned in 2007. The processing capacity on Bolañitos amounts to 1,600 tpd, in 2018 at 1,203 tpd about two thirds of it was utilized. In total, Endeavour Silver mined 975,555 ounces of silver and 21,127 ounces of gold there in 2018. At the end of 2018, reserves were 2.75 million ounces silver equivalent and resources were 14.51 million ounces silver equivalent.

Silver mine El Cubo

El Cubo was acquired in 2012 and has a processing capacity of 1,500 tpd, which was well utilized in 2018 with 1,427 tpd. In total, Endeavour Silver mined 2.58 million ounces of silver and 26,616 ounces of gold there in 2018. At the end of 2018, reserves were 2.23 million ounces silver equivalent and resources 11.90 million ounces silver equivalent.

Mine project El Compas

In 2016, Endeavour Silver acquired the El Compas Mining Project for only US$6.7 million in shares. In addition to the acquisition of the actual El Compas gold-silver mining operation, the nearby La Plata ore processing plant was leased with an initial processing capacity of 250 tpd (expandable to 500 tpd). El Compas currently consists of the two El Compas and El Orito veins and over ten other exploration targets. Drilling to date has included 4.70 metres of 239.55g/t gold and 1,333g/t silver.
Since January 2019, El Compas had approximately 900,000 ounces of silver equivalent reserves and 4.59 million ounces of silver equivalent resources (including reserves) at its disposal.
Endeavour Silver put the mine into operation in 2018 but had to shut down the processing due to a defect. Since January 2018, processing has been running smoothly and El Compas will reach full production in 2019.
In June 2017, Endeavour Silver acquired two further projects with a total area of 227 hectares in the immediate vicinity of the planned El Compas Mine in order to extend the mine life. These contain several veins with proven degrees of up to 1,300g/t.

Terronera – Reserves/Resources

On the San Sebastian project acquired in 2010, Endeavour Silver quickly discovered a high-grade silver-gold mineralization called Terronera, which now also gives the project its name. The existing at least four large gold vein systems there are each over three kilometers long. In 2017 Endeavour Silver was able to report further results from the La Luz Vein area. It encountered sensationally high-grade areas such as 1,180 grams silver equivalent per tonne of rock over 1.7 metres, 1,485 grams silver equivalent per tonne of rock over 1.3 metres and 3,335 grams silver equivalent per tonne of rock over 0.2 metres. The highest concentration was an amazing 11,245 grams of silver equivalent per ton of rock! In June 2018, 861g/t silver equivalent was found on a 21.2-metre-long intercept. In total, Terronera had 66.46 million ounces of silver equivalent reserves plus 13.56 million ounces of silver equivalent resources at the end of 2018. Continuing infill drilling has shown grades of up to 18,000 grams of silver equivalent per tonne.

Terronera – Prefeasibility Study

In August 2018, Endeavour Silver released a renewed pre-feasibility study (PFS) for Terronera. This is based on an initial production capacity of 750 tpd, which is to be increased to 1,500 tpd in the third year. The initial cost of capital was estimated at US$ 75.8 million. The planned expansion would cost a further estimated US$39.2 million. Over the initial estimated 9.5-year mine life, an average of 5.1 million ounces of silver equivalent will be produced annually. For the underlying prices of US$ 17 per ounce of silver and US$ 1,275 per ounce of gold, a strong after-tax IRR of 23.5% was calculated.

Terronera – Plans for Mining

The construction time for the mine could only be 12 to 16 months. A mine construction within 12 to 16 months would therefore be so quickly feasible, as Endeavour Silver has its „own" construction and planning team. This team is made up of the same project manager, the same Canadian engineering consultants and the same Mexican construction company that has been used since 2010 for the expansion of Bolañitos and the commissioning of El Cubo, among other things.
Endeavour Silver plans to make a production decision for Terronera in 2019, secure financing and begin construction of the facilities. Terronera could go into production at the end of 2020 and become Endeavour Silver's fifth and largest mine.

Development project Parral

In 2016 Endeavour Silver acquired the Parral project for only US$ 6 million in treasury shares. There are several large veins that extend over a length of eight kilometres and are up to 40 metres thick. Parral had a total of 32.20 million ounces of silver equivalent resources (excluding lead and zinc) at the end of 2018. There is also excellent potential for the discovery of new high-grade resources. Several high-grade drill results were reported in 2017. Among them was also a 0.6-meter-long section with fabulous 13,117g/t silver! Another high-profile drill success was reported by Endeavour Silver in May 2018 where up to 1,660g/t silver, 0.72g/t gold, 6.52% lead and 14.45% zinc over 2.3 metres were encountered in the San Patricio mineralization area.

Expansion of exploration in Zacatecas Province

In September 2017, Endeavour Silver announced that it had secured the right to explore and mine precious metals on Capstone Mining's 181-hectare Toro del Cobre concessions, located above 2,000 metres above sea level, at Toro del Cobre. Capstone's concessions are adjacent to the 75-hectare Calicanto concessions in Zacatecas (Mexico) owned by Endeavour Silver. The company is thus attempting to consolidate another project and make it fit for future funding.
Speaking of Calicanto, Endeavour Silver delivered absolute high-grade drill results for the core project in December 2017. Among other things, they came across 0.5 metres with a fabulous 16,350g/t silver equivalent! In July

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2018, recent drilling intersected 3,450g/t silver equivalent over 0.2 metres, among others.

New projects in Chile

In early 2019 Endeavour Silver announced that it had secured a portfolio of potentially high-profile exploration projects in Chile. The three projects Aida, Paloma and Cerro Marquez are located in northern Chile and are scheduled to be drilled in 2019. Initially, 5,500 metres are planned, with the option of a further 2,500 metres.

Catalysts for the coming months

In 2019, Endeavour investors can look forward to several significant advances. The company is planning a production decision for Terronera. Furthermore, it is planned to further reduce all-in-sustaining costs. The same applies to the acquisition of further projects that fit into the production profile as well as additional licenses in the area of previous projects in order to investigate and expand these by means of an aggressive exploration program and thus to extend mine runtimes accordingly.

Summary: Terronera becomes the absolute Company Changer

Endeavour Silver has already commissioned a new mine, El Compas, in 2019. Terronera is to follow by the end of 2020 and would then be by far the company's largest mine. With the new El Compas and Terronera mine, the all-in-sustaining costs will be reduced to less than US$10 per ounce of silver at the same time. In addition, the conversion at Guanacevi will take place in the coming months. The old, increasingly unprofitable mines there are being replaced by new, higher-grade mines. The new projects in Chile, which provide additional exploration and resource potential, will be exciting.

Bradford Cooke, CEO

Exclusive interview with Bradford Cooke, CEO of Endeavour Silver

What is your outlook for Endeavour Silver in 2019?

We are looking forward to a big year as we transition from optimizing our first three mines to building three new mines to expand our production and reduce our costs. At Guanaceví, which has been a very profitable mine but higher cost in recent years, we are developing two new, shallower, thicker, higher grade orebodies to produce more tonnes at higher grades and lower costs. At Bolañitos, which has been our lowest cost mine, we are transitioning from more silver-rich to more gold-rich parts of the orebodies and evaluating ways to increase the mine output to fill the plant. At El Cubo, which was our largest and very profitable mine last year, we reduced the production rate by about half to start the new year in order to give our exploration team more time to replace reserves. Our pipeline of three development projects in Mexico represents our next phase of organic growth for Endeavour Silver. At El Compas, we completed the mine and plant commissioning in Q1, 2019 to achieve commercial production at our fourth mine. At Terronera, we expect to receive the final government permit, arranging a US$60 million debt financing and commence construction of our fifth mine in Q2, 2019. Terronera has the potential to become both our largest and lowest cost mine and the next core asset of the Company. Because Terronera is shallower, thicker and richer than our other mines, the estimated operating costs should be amongst the lowest in the silver mining sector, with a cash cost at around $0.15 per oz silver and the all-in sustaining cost at approximately $1.36 per oz silver. Last but not least, Parral will be our largest exploration project in 2019 in order to expand resources, evaluate economics and commence permitting to become our sixth mine.

What is your long-term plan to create value for shareholders?

We became the fastest growing silver mining company from 2004 to 2012 by acquiring three small mines in famous old districts that had fully permitted, built and operational infrastructure but had run out of reserves. We successfully discovered new high-grade orebodies, developed new mines, modernized and expanded the plants to become a mid-tier producer of silver and gold. This was our Phase 1 growth. During the bear market of 2013-2018, we acquired three new silver projects in historic districts with substantial discovery potential but little infrastructure at very low prices. We successfully discovered new high-grade orebodies and are now plan to build three new mines over the next 3-4 years to become the next senior producer of silver. This is our Phase 2 growth. Since 2012, we have quietly acquired and explored three "home run" exploration properties in Chile that have world class potential. We plan to drill all three projects in H2, 2019 in the hope that a major new discovery will emerge to drive our Phase 3 growth. Endeavour Silver is the only silver mining company to focus on organic growth, every other silver miner has to buy its new mines, but Endeavour proposes to build its new mines. As a result, Endeavour Silver has the best organic growth profile in the silver mining sector, and it is what sets us apart from our peer group.

ISIN: CA29258Y1034
WKN: A0DJ0N
FRA: EJD
TSX: EDR
NYSE: EXK

Shares outstanding: 130.8 million
Options/PSUs: 6.6 million
Warrants: -
Fully diluted: 137.4 million

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Endeavour Silver Corp.

GoldMining

Mineral bank with more than 28.3 million ounces of gold equivalent

GOLDMINING

GoldMining is a Canadian mining development company focused on prospective gold projects in North and South America. As a so-called mineral bank, the business model consists of buying up top-class projects at the best possible conditions during bear markets and reselling them at the highest possible price during bull markets or generating development partners for them.

Almost 23 million ounces of gold in the treasury

GoldMining has made a number of high-profile acquisitions in recent years and now has a resource base of nearly 23 million ounces of gold. Including all other commodities, namely silver and copper, GoldMining's projects have more than 28.3 million ounces of gold equivalent. The most important projects are presented below.

Para State Projects – Brazil

7 projects are located within or just outside the Brazilian state of Para State. 4 of these already have a combined resource base of 2.41 million ounces of gold.
With 715,000 ounces of gold in the indicated category and 1.035 million ounces in the inferred category, Sao Jorge is the leading Para State Project. It is an open pit project with an average indicated grade of 1.54 grams gold per tonne of rock (g/t). Although 145 diamond holes have been drilled to date, approximately 80% of the property has not yet been tested for resources.
Cachoeira has 692,000 ounces in the indicated category and 538,000 ounces in the inferred category and a total of three separate deposits in the western licensing area. However, the eastern part of the shear zone has not yet been sufficiently investigated. The 285 holes drilled to date have averaged up to 100 metres in length. This results in a high exploration potential for Cachoeira in depth.
The other 5 projects have only been sporadically explored for gold occurrences to date, with no resource estimate at all yet available for three of them.
Para State has an excellent infrastructure. In addition, the state has a very low corporate tax rate of only 15.25%. By comparison, most other Brazilian states charge 34%. This provides a very good environment for interested development companies.

Titiribi Gold Project – Colombia

The so-called Mid-Cauca Belt runs from north to south through Colombia. This is regarded as one of the most perspective gold belts in the world and in the past 10 years alone has produced finds of about 100 million ounces of gold. The entire gold belt is nevertheless considered under-explored compared to other regions of South America. Most recently, major gold companies made several investments in corresponding projects of the Mid-Cauca Belt. Like Newmont, who invested $100 million in Buritica. The two gold-copper porphyries and epithermal gold deposits Titiribi and La Mina are located approximately 100 kilometers southwest of Medellin and are 100% owned by GoldMining. They are connected to an excellent infrastructure and already accommodate offices, drill core storage and a power supply. The two deposits together contain 5.3 million ounces of gold, 1.6 million ounces of silver and 800 million pounds of copper in the Measured and Indicated category and 3.5 million ounces of gold, nearly 700,000 ounces of silver and 151 million pounds of copper in the inferred category. Several drill areas have been identified but have not yet been further investigated for corresponding occurrences.

Crucero Project – Peru

The Crucero Project is located throughout southeastern Peru within the Orogenic Gold Belt and comprises three mining and five exploration licenses over 4,600 hectares. The A1 deposit hosts at least 993,000 ounces of gold in the indicated category and 1.147 million ounces in the inferred category. In addition, the project has high exploration potential as several other targets have not yet been explored by drilling.

Yellowknife Gold Project – Northwest Territories, Kanada

The Yellowknife Gold Project consists of several properties (Nicholas Lake, Ormsby, Goodwin Lake, Clan Lake and Big Sky) covering parts of the Yellowknife Greenstone Belt from 17 to 100 kilometres north of the city of Yellowknife. The Yellowknife Greenstone Belt is said to have mined over 15 million ounces of gold from the Con, Giant and Discovery mines in the past. The Discovery Mine, located on the Ormsby property, operated from 1950 to 1969 and is reported to have mined 1 million ounces of gold at an average grade of 28 g/t gold in the past. Over $60 million has been invested in exploration, underground development and camps on GoldMining's project areas in the past. Directly next to the Discovery Mine are the two high-grade target areas Ormsby and Bruce, about 10 kilometres away the target area Nicholas. In March 2019, GoldMining presented its first resource estimate for Yellowknife. Accordingly, the project has at least 14.1 million tonnes of rock averaging 2.33 g/t gold (equivalent to 1.059 million ounces) in the indicated category and 9.3 million tonnes averaging 2.47 g/t gold (equivalent to 739,000 ounces) in the inferred category.

Whistler Project – Alaska, USA

The Whistler Project is located approximately 150 kilometers northwest of Anchorage and has a runway and access to the Donlin Gas Pipeline. The project is district in character with an area of 170 square kilometres and hosts several near surface porphyry deposits. Currently, Whistler's resource base consists of 1.77 million ounces of gold and 343 million pounds of copper in the indicated category and 4.63 million ounces of gold and 713 million pounds of copper in the inferred category. There is also significant potential for high-grade epithermal mineralization. Although 70,000 meters have already been drilled, some areas are still little investigated. Several areas need to be explored in greater detail, including an area that has intersected 435.2 metres averaging 0.72g/t gold and 0.12 copper from previous drilling.

Rea Uranium Project – Alberta, Canada

Another possible trump card is the Rea Uranium Project in the western part of the Athabasca Basin, the current hottest uranium hot spot in the world. With its 125,000 hectares, it has district potential. It encloses Oranos (ex-AREVA) high-grade Maybelle deposit which has produced 17.7% U3O8 over 5 metres, among others. Orano is actively exploring the Maybelle Project there. GoldMining owns 75% of Rea, while Orano owns the remaining 25%.

Low free float, sufficient cash

Most of the outstanding Gold Mining shares are held by insiders or institutional investors. Thus, insiders, management, etc. hold about 20% of all shares. Large institutions and companies such as KCR Fund, Sprott, IAMGOLD, BRASILINVEST, Extract Capital, Marin Katusa and Ruffer Gold hold a further 36% of the shares. This means that only about 40% of all shares are directly tradable. Thanks to clever financing, GoldMining has recently been able to accumulate a considerable cash sum of 9.2 million CA$, which means that important development work can be financed over months.

Summary: High leverage on the gold price

Since its establishment in May 2011, GoldMining has assembled a significant portfolio of projects that together add up to over 28.3 million ounces of gold equivalent. The projects are not even completely explored in the slightest, the deposits are partly in several directions and in depth not yet delimited. The high-caliber Yellowknife Gold project is about to release its first resource estimate. GoldMining's successful management team should already be working on the next acquisition coup, which should be easily accomplished with a cash position of over CA$ 9 million. If the gold price plays along, GoldMining should have no major problems selling its projects or finding development partners for them. The Rea Uranium Project could prove to be a special trump card up the sleeve, as it encloses one of the most promising uranium projects of the uranium giant Orano and has not even been investigated for its own uranium deposits. In the event of a further increase in the price of uranium, it may be spun off into a separate company and thus become a kind of dividend in kind for the shareholders. Speaking of shareholders: around 60% of the outstanding shares are in firm, institutional hands, which secures the share at the bottom. Several analysts, including H.C.Wainwright&Co. and Roth Capital Partners, consider a share value of CA$ 4.50 to be appropriate. GoldMining plans to spend a total of CA$5 million on exploration in 2019, primarily for Sao Jorge and Yellowknife.

Garnet Dawson, CEO

Exclusive interview with Garnet Dawson, CEO of GoldMining

What have you and your company achieved in the past 12 months?

After completing the acquisition of three gold/gold-copper projects in 2017, the Company purchased additional contiguous mining claims at the Yellowknife project in NWT, graduated to the TSX, bought back 66% of the royalty at the Cachoeira project, completed acquisition of the Crucero project in Peru and announced an indicated resource of 1.0 million ounces and an inferred resource of 1.1 million ounces of gold at Crucero. More recently, the Company announced a measured and indicated resource of 1.1 million ounces grading 2.3 g/t and an inferred resource of 0.7 million ounces grading 2.5 of gold at the Yellowknife Project, received the Land Use Permit and Water License for the Yellowknife Project and submitted the final application for the Preliminary Environmental License to regulatory authorities in Brazil for the Cachoeira Project. GoldMining's global gold resource now totals 10.5 million ounces in the measured and indicated categories and 12.4 million ounces in the inferred category.

What are the most important catalysts for the next 6 to 12 months?

Advance projects by completing low-cost technical studies and permitting.
Continue to review gold projects in the Americas for potential acquisition.

How do you see the current situation on the market for precious metals?

The gold market is showing signs of improvement in 2019 with the price over $1300 since late January. At the turn of 2015 and 2016, the global stock markets tumbled. The S&P 500 Index fell about 11 percent from December 2015 to February 2016, amid the languishing Chinese economic data and following China's stock market collapse. As a consequence, the Fed paused its tightening cycle after the first hike in December 2015, raising interest rates not earlier than in December 2016. So, it lifted the federal funds rate only once in the whole year, although it forecasted four hikes. Under these conditions, gold soared about 20 percent between December 2015 and March 2016.
The similarities to 2015/2016 should now be obvious. The S&P 500 Index plunged about 16 percent in December 2018 (however, it partially rebounded since then). The Fed hiked interest rates that month, but it sent a clear dovish message, suggesting that it could be patient with further hawkish moves. So far, the price of the yellow metal jumped about 5 percent since December 2018.

GoldMining Inc.

ISIN: CA38149E1016
WKN: A2DHZ0
FRA: BSR
TSX: GOLD

Outstanding shares: 137.4 million
Options: 10.1 million
Warrants: 7.4 million
Fully diluted: 154.9 million

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Levon Resources

1.5 billion ounces of silver equivalent awaiting uplift

Vic Chevillon, Interim-CEO

Levon Resources is a Canadian silver-gold-zinc-lead development company that owns one of the largest unexploited silver deposits on the planet. The Company has demonstrated a silver resource of 595 million ounces within a few years, plus significant gold, zinc and lead resources as by-products. In total, Levon Resources has a silver equivalent of over 1.5 billion ounces!

Flagship Project Cordero – Resource

This project is called Cordero, is located in the Mexican state of Chihuahua, covers 37,000 hectares and is 100% owned by Levon Resources. The license area is traversed by two northeast trending porphyry belts, the Cordero Porphyry and the parallel Peridia Norte Belt, approximately 10 kilometers north. The project also includes the southern Perla Volcanic Dome, which covers an area of approximately 430 hectares. The project is part of the Chihuahua-Uacatecas Silver Gold Belt which contains many other significant deposits such as Penasquito (Goldcorp), Pitarilla (Silver Standard), Camino Rojo (Goldcorp) and San Agustin (Silver Standard) which are geologically and geochemically very similar. More than 126,000 metres have been drilled since exploration began in 2009, with Levon Resources showing some very impressive results. The most recent resource estimate to date, dating from March 2018 and compliant with the Canadian NI 43-101 resource calculation standard, indicates 407.8 million ounces of silver, 1.27 million ounces of gold, 3.77 billion pounds of lead and 8.03 billion pounds of zinc in the indicated category. It also has 187.5 million ounces of silver, 363,000 ounces of gold, 1.86 billion pounds of lead and 4.66 billion pounds of zinc in the inferred category. In total, this results in over 1.5 billion ounces of silver equivalent. The resource is not even completely delimited. This extends from the surface - visible through superficial outcrops - to a depth of several hundred metres, whereby the current resource could not yet be delineated both in depth and in several directions, thus offering additional expansion potential.

(Source: Levon Resources)

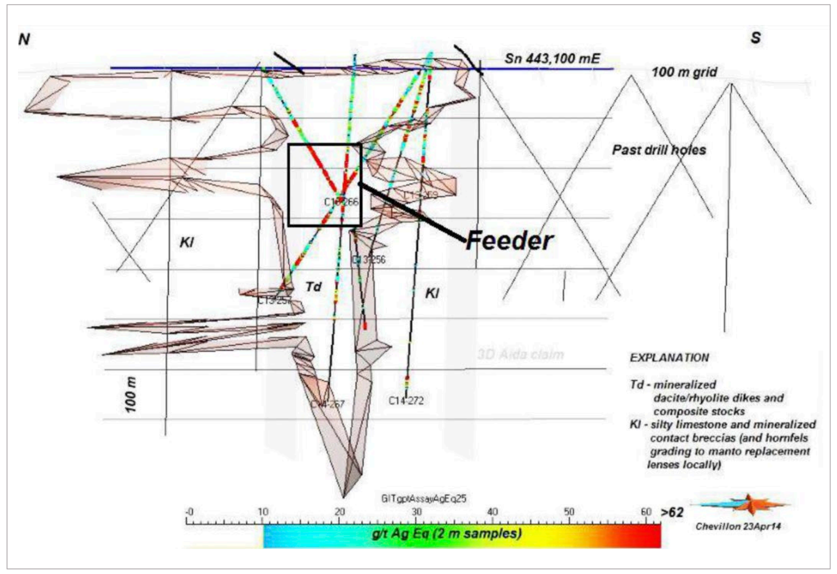
Flagship project Cordero – Positive PEA

Also, in March 2018, Levon Resources published a positive preliminary economic study (PEA) based on open pit production with a daily capacity of 40,000 metric tons. Based on US$20/ounce silver, US$1,300/ounce gold, US$1.00/pound lead and US$1.30/pound zinc, the project's (IRR) profitability was calculated to be 15.7% after tax. The net present value (NPV) at a discount rate of 7.5% would be US$ 387 million. The payback period would be 4.84 years. At a silver price of US$25 per ounce, the NPV would increase to US$683 million and profitability to 21.5% after tax. The payback period would fall to 3.9 years. The initial cost of capital was estimated at US$ 575 million and the further costs until the end of the mine term were estimated at US$ 295 million. Given an average annual production of 8 million ounces of silver, 99 million pounds of zinc, 69 million pounds of lead and 11,900 ounces of gold, this cost of capital appears absolutely justified.

The big advantage of the mining would be the very favourable strip ratio of 0.98:1. The mine life would initially be 29 years, but this can still be extended. Levon Resources would also set completely new standards for the size of the pit, which would have a length of 2,000 meters, a width of up to 1,300 meters and a depth of 380 meters!

Purchase of the AIDA claim makes more efficient mine design possible

Another milestone in the Company's history was the acquisition of the AIDA claim in July 2013, which appears to be relatively small at just 15.8 hectares but is of strategic importance to the development of the entire Cordero project as it is located within the core resource.
In 2013, Levon Resources launched a Drilling program started on the AIDA claim and other targets which produced some very good results. These include 28 metres at 275.1g/t silver equivalent, 24 metres at 106.9g/t silver equivalent and 98 metres at 95.1g/t silver equivalent. One of the holes had continuous silver mineralization over a length of 438 metres – directly from the surface! Further drilling in other areas of the project intersected both long intervals of low grades such as approximately 152 metres of 80.6g/t silver, 1.41% zinc, 2.27% lead and 0.61g/t gold at 152 metres, and shorter intervals of much higher grades such as 26 metres of 410.1g/t silver, 2.92% zinc, 7.06% lead and 1.057g/t gold within Pozo de Plata Diametre. The latter resource is analogous to the underground resource on Penasquito.



On the AIDA claim, the silver grades increase at depth.
(Source: Levon Resources)

Coming Catalysts

Levon Resources completed an 18-hole drill program in the summer of 2017, totaling 5,655 meters in length, primarily focused on infill drilling in the central area of the 2014 Cordero resource. The focus was on high-grade gold-bearing sections, which would be ideal for a start pit. In addition, it was examined to what extent this first pit could be extended as far as possible to the southeast and a gap within the Cordero Dome was closed which had hardly been investigated so far. Engineering and metallurgical studies are currently underway to optimize the mine model and increase the recovery rate.

Levon Resources seeks partnership with a major mining group

Levon has already signed confidentiality agreements and agreements with several major mining groups.

(Source: Levon Resources)

Cordero standstill agreements have been signed, all of which are intended to enable the acquisition of the AIDA Claims was very important. Levon does not intend to launch Cordero itself, but rather to partner with a major mining group.

Focus on further developed mine projects

In addition to Cordero, Levon Resources is involved in or owns several projects in the Canadian province of British Columbia. However, these are at an early stage and currently have no priority for company. Thanks to the management's vast experience, the company is able to manage projects from discovery to production, with all steps carried out in a highly professional manner and to the highest standards. Levon Resources is currently evaluating numerous projects in Central and South America where it would be possible to generate a positive cash flow and high returns very quickly by contributing management capacity and relatively low financial outlay.

Cash and cash equivalents refreshed, and shares cancelled

In a private transaction in August 2018, Levon Resources announced the sale of 1,884,810 common shares of Pershing Gold Corporation for US$3,864,158. The consideration paid to Levon consisted of $1,968,928 in cash and 9,003,467 common shares of Levon, which were immediately cancelled and the number of Levon shares outstanding decreased accordingly. With just under US$ 2 million in fresh capital, the company is fully financed for the coming months.

Summary:
Fewer outstanding shares, more cash

Levon Resources has one of the world's largest silver deposits. Especially for investors who expect a rising silver price, the share seems to be very interesting, as a rise of only US$ 1 in the silver price for Levon Resources means a change in the value of the silver in the ground of about US$ 600 million. The leverage offered by Levon is therefore enormous and the project offers many more opportunities and potential for resource expansion. It is to be expected that in the coming months the wheat chaff will also be separated from the silver chaff. The market should then realize that Levon Resources is currently significantly undervalued due to its enormous resource base. In particular, the extensive zinc deposits could become a problem in a production decision, as a massive supply deficit can be expected for zinc in the coming years. The Levon Resources share offers a very good risk/reward ratio, especially for investors who expect a significantly higher silver price in the medium term. In addition, there is always the chance of an entry by one of the large mining companies or even a takeover bid.

ISIN: CA52749A1049
WKN: A14WRT
FRA: 26V
TSX-V: LVN

Shares outstanding: 116.6 million
Options: 8.8 million
Warrants: 2.6 million
Fully diluted: 128.0 million

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Levon Resources Ltd.

Osisko Gold Royalties

Unique hybrid business model for maximum shareholder value

Osisko Gold Royalties is a Canadian royalty company which, since its establishment in June 2014, has focused primarily on precious metal royalty and streaming license agreements in North and South America. In essence, the business model is about financing mining companies in the exploration or construction phase against future delivery of a certain percentage of the mine‘s gold/silver, usually over the life of the mine. In other words, a highly specialised financing institution with an extremely high level of expertise in the sector. This know-how is based on the history of the company: Osisko first built the Malartic mine, which is still the largest gold mine in Canada today. When the mine was sold to a JV of Agnico Eagle and Yamana in 2014 after a failed takeover attempt by Goldcorp, the entire management team including geologists and engineers moved to the newly formed Osisko Gold Royalties. Today Osisko manages its royalties with 19 employees but has a first-class and highly experienced technical team with over 50 employees. On the one hand new projects can be judged very qualified, on the other hand several young explorers can be provided with first-class technical services (see Accelerator model below).

In just a few years, Osisko has become the world‘s fourth largest royalty company and currently has probably the greatest growth potential in this group.
Osisko differs from its competitors in that it also supports selected young mining companies with its own capital and high technical know-how. This accelerates and optimizes the development of young companies, hence the term „accelerator model“. At the same time, the value of the investment in the young companies is increasing considerably, so that Osisko has an additional lever to increase its own company value.

Osisko Gold Royalties holds a portfolio of over 130 royalties, streams and precious metal purchases, 19 of which are already actively contributing to cash flow, while others will enable the company to grow significantly over the next few years. Osisko Gold Royalties also holds stakes in several high-calibre development companies (accelerator model) and pays a quarterly dividend with a current yield of around 1.5 percent.

The 4 most important of a total of 19 high-calibre cash flow generating sources of revenue

Osisko‘s portfolio is anchored by four important assets, which are presented below.

Canadian Malartic

Osisko Gold Royalties was founded by Sean Roosen, who led the Canadian Malartic, currently Canada‘s largest gold mine, from exploration to production and ultimately to acquisition by Agnico Eagle and Yamana Gold. This acquisition also resulted in a 5% Net Smelter Royalty (NSR) license for production in Canadian Malartic. Canadian Malartic recently reported another record year of production and record mill throughput. In 2018, 698,000 ounces of gold were mined. Operators expect production of 650,000 ounces of gold in 2019 and 690,000 ounces in 2020. In addition, Osisko receives CA$ 0.40 per tonne of rock mined outside the current production area. The Barnat expansion, in particular, promises high funding potential for the future. As are several nearby pit and underground targets that are currently being drilled.

Éléonore

The Éléonore gold mine is operated by Goldcorp and recovered 420,000 ounces of gold in 2018. Osisko Gold Royalties owns a 2% NSR for the first 3 million ounces of gold mined. In addition, the NSR will increase by 0.25% per 1 million additional ounces of gold mined up to a maximum NSR of 3.5%.

Renard

The third major source of income for Osisko Gold Royalties is the Renard Diamond Mine, operated by Stornoway in Quebec. Osisko owns a 9.6% stream of all diamonds mined. The company must pay US$ 50 per carat. In 2018, Stornoway unearthed 1.34 million carats. For 2019, the operator expects a production of 1.8 to 2.1 million carats. Renard has estimated reserves of approximately 20 million carats and resources of more than 15 million carats in all categories.

Mantos

Mantos is a Chilean copper mine that mines silver as a by-product. Osisko Gold Royalties currently holds a 100% stream of all silver mined up to a maximum of 19.3 million ounces. From then on, this is converted into a 30% stream. Osisko pays 25% of the daily spot price for the silver. An annual silver production of 600,000 ounces is expected by 2020. An annual silver production of 1.1 million ounces is expected from 2021 as part of an expansion.

Top projects in advanced development status

A further 15 precious metal royalty and streaming licence agreements concern top projects which are in an advanced development or even construction stage.

Eagle

A particular highlight is Victoria Gold‘s Eagle Mine, which has the potential to become the largest gold mine in the Yukon. Developed for ten years, three companies secured in May 2018 the complete financing of the construction of the mine with about 500 million CA$: Osisko with 50 million CA$ equity (approx. 15.5%) and 98 million CA$ for a 5% royalty, plus Orion Mine Finance (equity and loans) and Caterpillar Mine Finance. The Eagle Mine will produce approximately 200,000 ounces of gold per year from Q3 2019, and with 10,000 ounces per year will be the next major revenue field for Osisko.

Horne 5 from Falco Resources

Horne 5 is a huge gold-silver project in Quebec with very low cost, long life and best infrastructure right next to the city of Rouyn-Noranda. Osisko Gold Royalties holds a nearly 13% interest in Falco and has just acquired a 90 to 100% stream of silver resources mined for CA$ 180 million. Osisko has to pay 20% of the spot price. Horne 5 has approximately 6 million ounces of gold equivalent reserves. A bankable feasibility study has already been prepared for the project. Osisko Gold Royalties expects to receive up to 25,000 ounces of gold equivalent per year once the mine is operational.

Principal shareholdings

Osisko Gold Royalties currently holds several significant participations in advanced development companies under its accelerator model.
These include 16.7% of Osisko Mining (with the huge Windfall project in Quebec), 32.4% of Barkerville Gold Mines (consolidation and reactivation of an entire district from the time of Gold Rush, in which Osisko Mining holds an additional 16%), 11.4% of Osisko Metals (zinc in Northwest Territories and New Brunswick), 12.7% of Falco Resources and 15.5% of Victoria Gold.

Key figures + dividend

Osisko Gold Royalties has seen impressive growth and even more impressive growth ahead. With the help of all agreements, 80,553 GEOs (gold equivalent ounces) could be generated in 2018, representing an in-

crease of 37% over 2017. For 2019, the company expects 85,000 to 95,000 ounces of GEOs, with growth potential to 180,000 GEOs within the next 5 years.
The cash margin for 2018 was an incredible 90%. The Company pays a quarterly dividend of US$0.05 per share and had just over CA$174 million in cash or cash equivalents at the end of 2018. In early 2019, the Company reduced its debt by CA$ 43 million and repurchased and cancelled CA$ 9.8 million of treasury shares. In total, the company plans to repurchase its own shares worth 100 million CA$.

Summary: Relatively low risk with high growth potential

In just a few years, Osisko Gold Royalties has created a considerable portfolio of precious metal royalty and streaming license agreements in predominantly first-class jurisdictions. The company has a relatively low risk, as many of the mines produce at very low cost and therefore fluctuations in precious metal prices can lead to margin losses, but not to larger losses. Moreover, the company does not bear any development or production costs. The growth potential is gigantic in the event of stable or rising precious metal prices, especially as several new mines will go into operation in the coming years, at which Osisko Gold Royalties holds corresponding stream or royalty receivables. The share offers a correspondingly high leverage on the price of gold and silver.

Sean Roosen, CEO

Exclusive interview with Sean Roosen, CEO of Osisko Gold Royalties

What have you and your company achieved in the past 12 months?

Despite difficult market conditions, 2018 was a very productive year for Osisko Gold Royalties. We were active during a period of weak gold and commodity prices, opportunistically deploying capital into investments with attractive risk-return profiles. We started 2018 with a royalty investment into Victoria Gold to fund construction of the company's Eagle Gold mine located in Canada's Yukon territory. We expect Eagle to begin production in the second half of 2019.
Another important investment we made in 2018 was a restructuring of our stream on Stornoway's Renard diamond mine. The restructured stream provides for better margins as well as greater downside protection on diamond prices.

Other recent achievements include: purchasing an additional 1.75% royalty on Barkerville's Cariboo project which brings our total royalty interest to 4%; paying down the final C$30 million under our $450 million revolving credit facility; paying our 18th consecutive quarterly dividend resulting in over $86 million returned to shareholders; and announcing and starting a share buyback program for up to C$100 million.

What are the most important catalysts for the next 6 to 12 months?

We are looking forward to seeing Victoria´s Eagle project enter production as Canada's next significant gold mine. We also continue to see exciting opportunities to deploy capital into new investments as well as into our accelerator business where we support the advancement of earlier-stage projects and where we incubate our own future investment opportunities.

How do you see the current situation on the market for precious metals?

The US dollar has remained strong over the past few years which, along with 2018's transitory fear of rising interest rates, has not helped gold prices. At the end of last year, we saw increased market volatility which could signal the death throws of the presiding bull market in the US. These issues are presented against a backdrop of a US budget deficit, the Fed's hesitancy to raise interest rates, and record debt.
Market instability and inflation fears are generally positive for gold, so it appears that the stage is set.

Osisko Gold Royalties Ltd.

ISIN: CA68827L1013
WKN: A115K2
FRA: OM4
TSX: OR
NYSE: OR

Outstanding shares: 155.4 million
Options: 4.3 million
Warrants: 11.2 million
Fully diluted: 170.9 million

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TerraX Minerals
Lord of the most under-explored gold district in Canada

TerraX Minerals is a Canadian mining development company focused on gold projects in Canada. The company was able to gain control of much of the high-grade Yellowknife City Gold District. Countless gold occurrences and recent high-quality drill results demonstrate the district's potential as a prime gold district. The Yellowknife City Gold District is one of only 7 true gold districts in Canada - the northernmost and least explored.

Yellowknife City Gold Project - Location and Infrastructure

The Yellowknife City Gold Project comprises approximately 783 square kilometers of contiguous land immediately north, south and east of the city of Yellowknife City, which has approximately 20,000 inhabitants and is the capital of Canada's Northwest Territories. The project is located on the productive Yellowknife Greenstone Belt and includes 67 kilometres of strike length on the southern and northern extensions of the shear system, which also includes the high grade Con and Giant gold mines (not part of the project area) that have to date unearthed over 14 million ounces of gold averaging 16.0 grams gold per tonne (g/t) of rock. The heart of the project is 10 kilometres from Yellowknife and is close to vital infrastructure, including year-round roads, an airport, trained miners and good service providers.

Yellowknife City Gold Project - Exploration Areas

The Yellowknife City Gold Project essentially consists of four parts. The Southbelt, the Eastbelt, the Northbelt and the northernmost area Quyta-Bell, with the majority of exploration activities to date concentrated on the Northbelt and the Eastbelt. In total, the project has more than 50 exploration targets, 11 of which are ready for drilling and 4 of which have already been identified. 3 deposits are currently being expanded through drilling.

North Belt

Barney Deformation Corridor

The Barney Deformation Corridor is a 5-kilometre-long structure with associated high grade gold mineralization within a broad shear package in the Northbelt. There is an intersection with both the Crestaurum trend and the Con-Giant-Trend. Within the Barney Deformation Corridor, TerraX Minerals intersected 11 metres averaging 7.55g/t gold within the so-called Hebert-Brent Zone, 22.4 metres 6.35g/t gold and 27.0 metres 1.90g/t gold, among others,
The current focus is on confirming the nature of the gold mineralization and expanding the known deposit in all directions.

Sam Otto

Sam Otto is also located in the Northbelt and consists of the sections Sam Otto, Sam Otto West and Sam Otto South. These are one or more individual occurrences of high tonnage. The strike length is over 2 kilometres with individual mineralization approximately 100 metres wide each with the potential for higher grade gold lenses. Drilling encountered 11.5 metres of 2.42g/t gold, 27.7 metres of 1.64g/t gold, 27.16 metres of 2.16g/t gold, 123.50 metres of 0.59g/t gold, 129.40 metres of 0.5g/t gold and, as a special highlight, 8 metres of 60.6g/t gold in the Mispickel Zone. Sam Otto South is a new discovery made by a step-out well about 1.5 kilometers south of Sam Otto.
The current focus is on the expansion and testing of earlier step-out wells.

Crestaurum

Crestaurum is a very high grade 1.3-kilometre-long mineralized zone that represents the northern extension of the Giant/Con system. Crestaurum is divided into the zones Crestaurum Main (Shear), Crestaurum North and Hangingwall Structures. Crestaurum North has 2 parallel undrilled structures with further potential for new discoveries.
To date, TerraX Minerals has been able to demonstrate 7 metres of 10.2g/t gold, 5 metres of 20.7g/t gold and 5 metres of 62.9g/t gold, among others.
The current focus is on expanding the high grade Crestaurum Main Zone and drilling in the Crestaurum North area.

Homer

Homer is located to the north of the Northbelt and covers a mineralized area of approximately 2,000 by 750 meters. Homer is home to gold as well as silver, lead and zinc.
Homer has strong mineralization on the surface, which is in a shear zone. The Company has demonstrated 15.91 metres of 1.78g/t gold, 5.99 metres of 3.31g/t gold and 20.9g/t silver and 3.42 metres of 3.41g/t gold, 69.3g/t silver, 3.67% lead and 3.17% zinc.
The current focus is on surface work, with particular emphasis on geophysics and geochemistry to define additional shear zone targets. Additional drilling is expected to result in the expansion of recent discoveries.

Evaluation of historical drill cores

Since January 2019, TerraX Minerals has been evaluating a total of 16,000 metres of historical drill cores. These originate mainly from an area between the Giant Mine and Crestaurum or the Barney Deformation Corridor in the Northbelt. Geologists have already identified several visible gold mineralizations and are now working to locate the targets. The Company is giving high priority to this work to drill potentially high-grade areas for the 2019 Winter Drilling Program.

East Belt

Within the Eastbelt, Duck Lake is one of the most interesting zones. There are high-grade, flat layered veins within granite rock. Sampling returned up to 35.4g/t gold. The Eastbelt is also home to several historical mines. These included the Burwash Mine, which had average grades of 466g/t gold. Several high-calibre results were reported for sampling in the Burwash Trend area. Including 201g/t gold and 4.910g/t silver. The Eastbelt also includes the areas of the Ptarmigan and Tom Mines, which produced gold at an average grade of 9.26 g/t. Sampling there showed up to 226g/t gold. Excavations in the trenches yielded 5.50 metres of 24.72g/t gold.

South Belt

The Southbelt, located southwest of the city of Yellowknife, is an extension of the Con Mine. The shear zone extends about 5 kilometers southwest of the Con Mine to far into TerraX Minerals' license area. The Campbell Shear Zone and Campbell Footwall are classified by TerraX Minerals as drilling areas with the highest priority. Sampling returned up to 94.9g/t gold.

2019 drilling targets

The Barney Deformation Corridor, Crestaurum and Sam Otto are the three major targets that will be the focus of TerraX Minerals' gold deposit expansion in 2019. Homer has also been tested as a new high potential target and will be the focus of confirmation drilling. All four destinations in the Northbelt are within a radius of only 5 kilometres. In February 2019, TerraX Minerals received the land use permit to drill.

2-year drilling plan

TerraX Minerals is in the middle of a 2-year drilling plan. Phase 1 consists of expanding deposits of high-priority drill targets and surface working on so-called Bluesky targets to

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prepare them for drilling. In the second phase these Bluesky goals will be drilled and developed further.

Strong shareholder structure

TerraX Minerals has a strong shareholder structure. Approximately 60% of all outstanding shares are held by institutional and strategic investors and management. The largest single shareholder is Osisko Gold Royalties with about 10%.

Summary: High Bluesky potential in the midst of the best infrastructure

The Yellowknife City gold project continues to develop into a major global exploration target due to its size, infrastructure and proximity to the historic Con and Giant gold producers. The targeting program launched in 2018, including a consolidation of the Yellowknife City Gold District, provided the context for previous gold discoveries on and below the surface and focused on new, previously undrilled targets. The aim of the company is to develop and operate one or more multi-generation mines. The exploration potential of the entire project, some of which has not yet been investigated at all using modern methods, seems almost gigantic. An excellent infrastructure and equally good management round off the positive impression of the company.

David Suda, CEO

Exclusive interview with David Suda, CEO of TerraX Minerals

What have you and your company achieved in the past 12 months?

The past 12 months have been exciting for TerraX. There was a meaningful shift in management structure to best utilize the company's resources. We have optimized our ability to access and communicate with capital markets and we focused our technical teams' strengths on finding gold. Hence we have delivered a focused plan to add significant high grade ounces quickly and efficiently. The plan resulted from a data driven targeting exercise which included all information from the entire 783km2 district. Our team identified 3 high potential, high confidence targets for deposit expansion drilling. All three targets lie within 5km of each other in a core area that clearly point to the potential of the primary economic scenario on our district. Also, in cooperation with The Geological Survey of the NWT and The Giant Mine Reclamation Project, TerraX was able to recover 16,000 meters of historical drill core. The core was moved to TerraX's core storage facility in preparation for logging and sampling. TerraX has identified core from holes drilled on the northern extension of the Giant mine gold structure which sits on TerraX land. This core is significant to development of knowledge and future drilling accuracy on our highest priority targets.

What are the most important catalysts for the next 6 to 12 months?

Catalysts are plentiful on a property of this scale. The market will watch closely for assay results from historical core acquired in fall 2018. The 16,000 meters of core TerraX acquired comes from 2 of 3 top targets we have identified for the next drill campaign and will provide our technical team with more understanding of origin and magnitude of the Con-Giant structure as it extends north through the core area of our property. We also expect to have news regarding key claim acquisition, enhanced exploration permitting and results from our summer 2019 program to deliver a tangible addition of Gold Ounces in 1H 2020.

How do you see the current situation on the market for precious metals?

With the recent M&A activity in the precious space, and a macro economic backdrop supporting stronger commodity prices; there is definitely renewed interest from investors. We see high quality large-scale exploration projects as a major investment focus. There has been a major lag in exploration spending that is likely to increase the sense of urgency for producing gold companies to invest in and buy projects as they attempt to replace reserves quickly and in a meaning way.

TerraX Minerals Inc.

ISIN: CA88103X1087
WKN: A0YFEB
FRA: TXO
TSXV: TXR

Outstanding shares: 124.2 million
Options: 7.9 million
Warrants: 13.3 million
Fully diluted: 145.4 million

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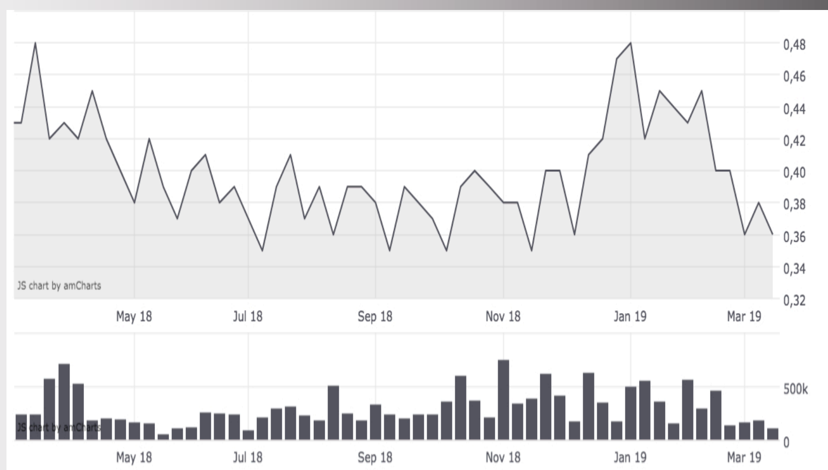

Overview of **SRC's communication programs**

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World wide Resource TV-Channels

Commodity-TV & Rohstoff-TV – more than **2 Mio views** p.a. •

SRC **YouTube Channel** – more than **1.1 Mio views** p.a. •

Partnership with Dukascopy-TV – worldwide **+20 Mio views** p.a. •

Commodity-TV, Rohstoff-TV, Dukascopy TV Swiss Financial Television, YouTube, CORE FINANCE

THE EXCLUSIVE MEDIA & COMMODITY CORPORATION | Stockhouse. Taking it to the Street.

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- Professional **roadshows in Europe & Switzerland**
- **Write-ups** through our editors & third party authors
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- **Deutsche Rohstoffnacht** – INVEST Stuttgart
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- **Precious Metals Summit,** Zurich ... and more

Precious Metals Summit Conferences, LLC, DRN Deutsche Rohstoffnacht, Edelmetall & Rohstoffmesse, Invest

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