THE SILVERINSTITUTE

Silver News

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Majority of Above-Around Stocks are Unavailable to the Market Regardless of Price

No Correlation Between Above-Ground Stocks and Price

What is the relationship between the amount of above-ground stocks of silver and the metal's price? Because so many factors contribute to the price of silver, at least understanding the role of above-ground stocks can help investors and others make informed decisions. This is a challenging question because accurate numbers are often difficult to suss out especially because the role of silver has changed in recent years. Once only a storehouse of wealth, for instance in bars, silverware, jewelry and coins, items that stay mostly as they were produced – and largely unavailable to the market – silver has become an industrial metal that usually gets consumed or otherwise taken out of circulation except for recycling, whose effect can vary. To explore this question, The Silver Institute and consultancy Precious Metals Insights (PMI) have published their research in a Market Trend Report titled *Price Sensitivity of Above-Ground Silver Stocks*.

The most important conclusion is that no correlation exists between the overall level of above-ground stocks and the silver price.

Other conclusions:

- Movements in bullion stocks have an impact on the silver price and vice versa;
- The vast majority of above-ground stocks are "immobile," with only small net additions to, or subtractions from, stocks on an annual basis;
- Increases in bullion stocks are often positively correlated with the price, as investment demand grows when silver prices increase, which still stimulates higher prices;

- Multi-year drawdowns in bullion stocks have tended to occur in bear markets for silver and have exacerbated these. However, these drawdowns have typically set silver up for more substantial rallies as investors have rebuilt their bullion holdings; and
- Above-ground stocks of fabricated products are less price-sensitive than those of bullion. Only specific subsets of silver fabrication demand show a sensitivity to the price, such as jewelry and silverware.

To download the complimentary report, please click here.

Real Silver Price and Level Above-Ground Stocks



Fabricated Products. Sources: LBMA; US Bureau of Labor Statistics; The Silver Institute; Precious Metal Insights

There appears to be no correlation between the price of silver and above-ground stocks.

Silver Industrial Demand on Track to Post New Record

For the fifth consecutive year, the silver market is forecast to record another deficit – total supply less demand – driven by industrial demand. In addition, President Donald Trump's anticipated tariff policies have fueled short covering and deliveries of silver into CME warehouses since late 2024. Economic and geopolitical uncertainties have also fueled silver demand and gave rise to a recovery of silver prices since the start of 2025. However, according to analyses by the Silver Institute and consultancy Metals Focus – which will research and produce the Silver Institute's annual *World Silver Survey 2025*, to be released on April 16 – concerns about the Chinese economy have weighed somewhat on the silver price.

Silver Demand

Global silver demand is expected to be mostly stable in 2025 at 1.20 billion ounces. Silver industrial fabrication is forecast to grow by 3 percent with volumes on track to surpass 700 million ounces (Moz) for the first time, posting a new record high. Global photovoltaics installations are expected to achieve another all-time high in 2025, benefiting silver demand.

Gains are also expected in the electronics sector and in the production of ethylene oxide (EO) which uses silver catalysts.

Silver physical investment is also forecast to rise by 3 percent, thanks to improving demand in Europe and North America. A slight decline in India, where high local silver prices will encourage liquidations, could offset some of these gains.

Silver Supply

Total global silver supply is forecast to grow by 3 percent this year to an 11-year high of 1.05 billion ounces.

Silver mine production is expected to reach a seven-year high this year, rising by 2 percent to 844 Moz. Increased output is anticipated from both existing and new operations in several markets.

Silver recycling is projected to increase by 5 percent, with volumes breaching 200 Moz for the first time since 2012.

Silver Investment

Despite headwinds from a stronger dollar and US Treasury yields, investor sentiment has improved towards silver during early 2025. Looking ahead, uncertainty over US trade and foreign policies, record-high US equities, and worries about US public debt levels should reinforce interest in portfolio diversification, which may benefit silver and gold investment.

For further details, click here.

Monitoring Stent Relies on Silver

Sends Patient Data to Healthcare Workers

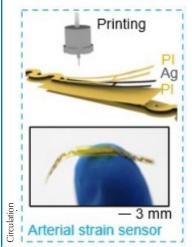
About 1.2 million coronary stents are implanted every year in the US, and while they save lives, could they also be used to monitors patients' continuing health? Now, a stent that can measure artery stiffness and narrowness has been developed using sensors composed of layers of silver, stainless steel, gold and a polymer. It sends information wirelessly and without batteries to healthcare workers.

Stents are small, minimally-invasive mesh tubes that are inserted into blood vessels to bolster and hold open weakened or narrowed arteries. Often, they are inserted after a person has suffered a heart attack or some other heart or artery condition. Stents can also help treat an aneurysm, which is a bulging of artery walls which, if left untreated, can burst, often resulting in death.

A laser micromachining process was used by researchers at <u>Louisiana State University</u>, <u>Baton Rouge</u>, <u>Louisiana</u> to form an electronic stent. This device not only performs the usual job of stents but can monitor and record arterial stiffness and narrowing, giving healthcare workers a better understanding of how well the stent is working and the patient's overall circulatory health.

There is no battery in the stent. Instead, signals are sent to a loop antenna outside the body through induction, much the same way that RFID tags send signals to prevent theft of goods or collect payments for road tolls.

So far, the stents can detect artery strains as small as 0.15% in test sheep, according to lead researcher Robert Herbert, PhD, whose project received funding from the <u>Brain Aneurysm Foundation</u> and whose findings were published in the journal <u>Circulation</u>.



The stent is composed mainly of silver sandwiched between stainless steel, gold and polymer layers

This stent sends information about the patient's blood vessel wirelessly to healthcare workers.

Silver Nanoparticles Can Make Tire Production and Recycling Safer for Workers

Imbedding silver nanoparticles into rubber tires is helping to keep workers safe from the unhealthy effects of their production and disposal.

During new tire production and recapping (recycling bald or damaged tires so they can be reused) rubber particles are spewed into the air during the main processes of drilling, grinding, cutting and regrooving. Breathing these particles can affect health, so knowing exactly how many of these particles are in the air of tire facilities is crucial to keeping workers safe.

The challenge has been how to measure these particles so facilities can change ventilation systems and worker habits, or use other means to lower exposure.

Scientists at the French <u>National Institute for Industrial Environment and Risks</u> (<u>Ineris</u>), a public industrial and commercial establishment, under the supervision of the French Ministry responsible for the environment, imbedded silver nanoparticles into rubber and then monitored these particles, which indicated how many rubber particles were entering the environment.

Why use silver? For one thing, silver is simple to track through electronic sensors, and, in their report in the journal <u>Science of The Total Environment</u>, the researchers wrote: "Silver has been chosen as it is not part of the usual formulation of tires and could be employed in practical application as a tracer." In order to make sure that measurements were accurate they first noted that there was little difference in spew rates between rubber with silver nanoparticles and those without. In other words, adding silver had no effect on measurements.

The researchers were able to determine how many particles were released during separate processes and even the time period during the procedure itself that emitted the most and least particles. Importantly, the scientists were able to measure the size of rubber particles emitted into the workplace as some sizes and shapes are more dangerous to inhale.

In addition, the tests also looked at the final part of a tire's lifecycle – disposal – and were able to determine how many rubber particles were thrown off during incineration. As with the other tests, there was little difference in the residue between rubber that contained silver nanoparticles and those without, offering scientists the opportunity to determine how much incineration contributes to workplace air pollution without being concerned that silver skewed the results.



TravelCenter

Silver helps to measure rubber particulates in the air during production and recycling.

A Silver Band-Aid for Plants?

It's been well established that bandages laced with silver keep bacterial infections at bay in humans and thus promote faster healing.

Could it work on plants, too?

The answer seems to be 'yes' based on work from plant biologist Núria Sánchez Coll and her team at the <u>Centre for</u> <u>Research in Agricultural Genomics in</u> <u>Barcelona, Spain</u> who tested bacterial cellulose patches with imbedded silver. Bacterial cellulose is a highly pure form of cellulose formed by 'good' bacteria. It is often used in bandages for wounds in people, because it keeps wounds moist and biodegrades without harming tissue. According to Coll, it had not been tested in <u>wound treatment on plants</u>.



A cut from a razor blade on a leaf was healed in 7 days after it was covered by a bandage containing silver and cellulose.

Early experiments seemed to show that injured plants with these patches healed faster and more completely than those without. To verify their findings, the researchers made small cuts in widelyused lab-testing plants, based on a type of tobacco plant. After a week, they found that 80 percent of the wounds treated with the cellulose-silver patches had healed completely compared to 20 percent of the untreated plants. In addition, untreated plants showed indications of distress and dehydration both of which could kill the plant.

While cellulose patching is the main factor in the plants' recoveries, silver's antibacterial properties promote and bolster healing by keeping cell-killing

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bacteria out of the area so healing can proceed unimpeded. As with human wound healing, cells use a lot of energy fending off dangerous bacteria. This is energy that can instead be used to regenerate new cells.

Shielding Suit Keeps You Off the Grid

You Won't Get Phone Calls Either

A UK clothing company has produced a 'Shielding Suit' that they say blocks a large range of radio waves, from smartphones to AM radio broadcasts to Wi-Fi devices, essentially keeping the wearer off the grid.

The suit from <u>Vollebak</u> includes a jacket and pants impregnated with silver particles built into the fabric that block large swatches of electromagnetic radiation. This is similar to the so-called *Faraday Cage*, a room covered in conductive metal mesh so a technician can work on sensitive electronic devices without interference from radio waves that permeate our environment, such as those from cell phone towers, TV stations and remote-control devices for cars and garage doors Because seventeen percent of the nylon shell is made of silver, it also protects again bacteria, and because silver reflects body heat it prevents the wearer from being seen with infrared cameras, company officials say. The suit and jacket combination retails for about US\$5,290.

The company sells other clothing items such as those made from stainless steel and graphene.



Silver Nanowires Yield Better Industrial X-Ray Images

Opens New Opportunities for Fuel Cells, Energy Storage, Medical Devices, Catalysts and Sensors

Although most X-Rays are used for medical diagnostics, they're also used to watch processes such as those involving fusion – the joining of two materials through extremely high heat – and to detect the effect of temperature and pressure on materials such as metal pipelines where failures can be devastating.

The usual method is to blast high energy lasers at a back target – behind the subject being X-Rayed – which turn into observable X-Rays of the material under investigation. However this technique results in too few X-Rays being produced and more and more energy being consumed for larger, energy-demanding lasers.

Scientists at Lawrence Livermore National Laboratory (LLNL) may have found a solution, and it involves a target mainly composed of empty space, an aerogel in this instance, mixed with silver nanowires. (An aerogel is a synthetic, ultralight material made from a gel in which the liquid has been replaced with gas. Think of Styrofoam but even lighter and more porous.)This construction had a uniform density with many small voids containing carbon, oxygen, and nitrogen. Most of the atoms in the solid part were silver. This configuration nearly doubled the X-Ray's efficiency, resulting in brighter images and more detail. "We are able to make these ultralightweight silver aerogels because the quality of our silver nanowires is extremely high," said Yong Han, principal investigator of the project, in a prepared statement. "The custom feedstock synthesis capabilities we have at the lab allow us to create such materials with demanding specifications for diverse applications."

Fang Qian, lead author of the team's <u>research paper</u> noted: "The high porosity and excellent mechanical/electrical properties of these silver nanowire aerogels may lead to enhanced device performance and open up new possibilities in fuel cells, energy storage, medical devices, catalysis and sensors."

This silver/nylon suit protects the wearer from a wide range of radio waves.

Largest Silver Maple Leaf Bullion Coin Minted

10-Kilo Version of Canada's Popular Maple Leaf Coin

The **Royal Canadian Mint** has issued its largest Silver Maple Leaf bullion coin, a 10-kilo version of its popular 1-kilo, .999 Silver Maple Leaf series. "The Royal Canadian Mint's Silver Maple Leaf bullion has long dominated the precious metals market because it sets the benchmark for purity, security and manufacturing excellence," said Marie Lemay, President and CEO of the Royal Canadian Mint, in a prepared statement. "I am very proud to see those qualities amplified in our new 10-kilo, 99.99% pure Big Silver Maple Leaf that is yet another shining example of the talent and innovation of the people behind the one of the world's favorite silver bullion coins."



The coin was introduced in January at the 2025 *World Money Fair* in Berlin, Germany. Only 299 coins were struck; the retail price is about US\$17,400.

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