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Inside C2

# Southern DAILY

Make Today Different

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## Brazilian troops clear pro-Bolsonaro camp after protesters storm capital

BRASILIA, Jan 9 (Reuters) - Brazilian soldiers backed by police dismantled a camp of supporters of far-right former President Jair Bolsonaro in the capital on Monday, a day after rioters launched the worst attack on state institutions since the country's return to democracy in the 1980s.

After thousands of Bolsonaro's backers stormed Congress, the Supreme Court and the presidential palace on Sunday, police in riot gear amassed at the pro-Bolsonaro camp outside Brasilia's army headquarters, while troops took down tents, Reuters witnesses said. The protesters were dispersed.

President Luiz Inacio Lula da Silva, Bolsonaro's leftist rival who took office on Jan. 1 after a narrow October election win, promised to bring those responsible for the violence to justice, after demonstrators broke windows and furniture, destroyed art work and stole guns and artifacts.

Lula, who was back at work at the Planalto presidential palace, met with his defense minister and the armed forces commanders to discuss the attacks that recalled the assault on the U.S. Capitol two years ago by backers of former President Donald Trump.

Brazilian equities higher in volatile trade after capital stormed

Peru bans entry to former Bolivian president Morales, eight others  
Economy, drug gangs and migration top agenda at North American leaders summit  
U.S. President Joe Biden joined other world leaders in condemning Sunday's riots, calling them "outrageous," while Bolsonaro, who is now in Florida, denied inciting his supporters and said the rioters had "crossed the line."

Bolsonaro was admitted to a hospital in Florida on Monday, a source close to his family said, adding that his condition was "not worrying."

Pro-Bolsonaro truckers, who have caused havoc on Brazil's highways for weeks, held more protests through the night.

A toll road operator for the BR 163 highway that cuts through Brazil's top grain-producing state Mato Grosso reported several blockades that were cleared by dawn. Police said blockades on another highway in Parana state were also cleared.

"There are still people trying to block roads and access to oil refineries," presidential spokesman Paulo Pimenta told reporters. State-run oil company Petrobras (PETR4.SA) said its refinery operations and fuel supplies had not been affected.

Supreme Court Justice Alexandre de Moraes ordered the governor of Brasilia removed from office late on Sunday for 90 days over alleged security failings and demanded that social media platforms Facebook, Twitter and TikTok block accounts of users spreading anti-democratic propaganda.



Facebook parent Meta (META.O) said on Monday it was removing content supporting or praising the weekend actions. Telegram, TikTok, Twitter and YouTube did not immediately respond to requests for comment.

Brazil's financial markets held steady, with the Bovespa benchmark stock index (.BVSP) edging higher in afternoon trading. Some analysts said Sunday's violence could strengthen Lula politically and impact policy in Latin America's largest economy.

### 'FASCIST' ASSAULT

Lula, a former union organizer who was also president from 2003 to 2010, said the local militarized police force that reports to Brasilia Governor Ibaneis Rocha, a former Bolsonaro ally, had done nothing to stop the protesters from advancing.

Lula decreed federal intervention of public security in the capital and promised exemplary punishment for the leaders of the "fascist" assault that he said was aimed at provoking a military coup that could restore Bolsonaro to power.

"All the people who did this will be found and punished," Lula, speaking from Sao Paulo state, told reporters on Sunday night.

He blamed Bolsonaro, whose four years in power were marked by divisive nationalist populism, for inflaming his supporters after a campaign of baseless allegations about election fraud.

From Florida, where Bolsonaro flew to 48 hours before his term ended, the former president rejected the accusation. He said on Twitter that peaceful demonstrations were

democratic but the invasion of government buildings "crossed the line."

The assault raised questions among Lula's allies about how security forces in the capital were so unprepared for rioters who had discussed their plans on social media for days.

The occupation of the government buildings had been planned for at least two weeks by Bolsonaro's supporters in groups on messaging platforms such as Telegram and Twitter, yet there was no move by security forces to prevent the attack, called by one group as "the seizure of power by the people."

Police retook the damaged public buildings in the futuristic capital after three hours and dispersed the crowd with tear gas.

Justice Minister Flavio Dino said 200 demonstrators had been arrested, although that number is expected to rise.

Dino said investigations aimed to uncover who financed the several hundred buses that brought Bolsonaro's supporters to Brasilia and question the suspended Brasilia governor.

Bolsonaro faces legal risks from several investigations before the Supreme Court in Brazil and his future in the United States, where he traveled on a visa issued to heads of state, diplomats and other government officials, is in question.



## 美南電視 15.3

每周一至五每晚7點專題節目

每晚7點播出  
專題節目

每天一至五下午6:30播出《美南新聞聯播》

每周一晚7點：主持人：黃梅子，《生活》節目（《生活故事會》、《丁師傅私房菜》和《修車師姐》三個單元輪流播出）  
每周二晚7點：主持人：陳鐵梅，《美南時事通》  
每周三晚7點，主持人：王潔，《美南時事通》、《美南名人堂》  
每周四晚7點，主持人：Sky，《子天訪談錄》或馬健《J&J論壇》  
每周五晚7點，主持人：蓋軍，《美南時事通》

美南網Scdaily.com和youtube 頻道Stv15.3 Houston同步收看直播



主持人：黃梅子



主持人：陳鐵梅



主持人：王潔



主持人：馬健



主持人：Sky



主持人：蓋軍

# WEA LEE'S GLOBAL NOTES

01/07/2023

## Dow Jones Stocks Rally

The Dow Jones average rallied about 700 points on Friday. The data showed a slowdown in wage growth for the Federal Reserve to ease pressure for any further rate increase.

The Dow rose 700.53 points, or 2.1%, while the broad-based S&P 500 gained 2.3%.

The data released from the Labor Department showed that 223,000 jobs were added nationwide in December and the wage increase rate was only 0.3%.

Some investors believe that our economy is moving forward for a soft landing, while the Federal Reserve Bank's interest hike seems to have been effective.

Economists are paying attention to major companies' financial reports this month, including profit and income and labor salaries.

Due to the double increase in the interest rate that had a serious effect on the real estate market, suppressing inflation is still the first task. But excessive interest rate hikes lead to economic recession. How to hold it off is the real problem.



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Republic of Guiana Honorary consul at Houston Texas



**Southern DAILY** Make Today Different

## Editor's Choice



Secret Service agents keep watch as U.S. President Joe Biden speaks with border patrol officers as he walks along the border fence during his visit to the U.S.-Mexico border to assess border enforcement operations, in El Paso, Texas. REUTERS/Kevin...MORE



Security forces operate as supporters of Brazil's former President Jair Bolsonaro demonstrate against President Luiz Inacio Lula da Silva, in Planalto Palace, in Brasilia, Brazil. REUTERS/Ueslei Marcelino



A drone view of a tree that fell during a winter storm with high winds in Sacramento, California. REUTERS/Fred Greaves



Supporters of Brazil's former President Jair Bolsonaro demonstrate against President Luiz Inacio Lula da Silva, in Brasilia, Brazil. REUTERS/Antonio Cascio



A woman stands at the site of a missile strike that occurred during the night, as Russia's attack on Ukraine continues, in Kramatorsk, Ukraine. REUTERS/Clodagh Kilcoyne



Buffalo Bills fans show support for Damar Hamlin before a game against the New England Patriots at Highmark Stadium in Orchard Park, New York. Mark Konezny-USA TODAY Sports

# BUSINESS

## Taiwan Semiconductor Is Investing \$40 Billion In The State Of Arizona To Boost World Chip Production

Compiled And Edited By John T. Robbins, Southern Daily Editor



A lab technician holds a large circular disc silicon wafer that Taiwan Semiconductor will start producing in 2024 at their Arizona facility. (Image source: Getty Images.)

### KEY POINTS

*Taiwan Semiconductor will be investing \$40 billion in the state of Arizona to boost world chip production.*

*The numbers are big, but the two new Arizona facilities will be a drop in the global chip production bucket.*

There's plenty of worry out there about what would happen to the global economy if China ever made a more aggressive military push to take back the island of Taiwan. Amid this worry, many companies and government organizations have been pushing Taiwan Semiconductor Manufacturing (TSM -1.14%) -- far and away the largest chip foundry on the planet and a recent addition to Warren Buffett's stock portfolio -- to diversify production into other countries.

But as things turned out, Taiwan Semi has just announced a second fab (a chip manufacturing facility) in the state of Arizona, over a year before its first facility there is complete. The total investment in the two fabs will be in the ballpark of \$40 billion.

This sounds like fantastic news for Taiwan Semi, as well as for chip designers Apple and Nvidia, which will be among the first customers of the new fabs down in the southwestern desert. But two lesser-known names could be the best way for investors to profit: Applied Materials and ASML Holding.

**Lots of silicon, but a lot of equipment needed to fill a fab first**

Taiwan Semi said its first fab will begin cranking out silicon wafers in 2024, using an enhanced version of its 5-nanometer manufacturing technology (the nanometers referring to the size of the transistors within a chip, with smaller sizes representing more powerful chips). The second fab will start production in 2026 using 3-nanometer tech. Together, the company said it could produce 600,000 silicon wafers a year at max capacity.

some pieces of equipment (specifically, ASML's extreme ultraviolet lithography machines) costing a couple hundred million dollars apiece.



In other words, new fabs like the ones being built in the Grand Canyon State mean more growth for Applied Materials and ASML now while Taiwan Semi shareholders wait for that new output to go live.

### Another boom in chip demand is coming

In 2022, global chip sales (the actual end product, not the wafers themselves) are expected to be around \$600 billion. That's up from just over \$400 billion in 2019 before the pandemic. The booming demand for silicon-based devices isn't going away anytime soon, though. Analyst and industry estimates now point toward global chip sales surpassing \$1 trillion no later than 2030.

It won't be a straight-uphill growth trend. For example, the value of chips sold is expected to dip slightly in 2023. However, big-ticket consumer goods like automobiles and home appliances are joining the digital era and will look a lot more like your smartphone in the coming years. Something similar is happening in the industrial world, where equipment of all sorts is getting hooked up to a network connection. 5G network infrastructure construction is ongoing, as are data center build-outs to support artificial intelligence and other high-end computing in the cloud.



Besides supporting new fabs in Arizona, Applied Materials and ASML will also be involved in the construction of other sites like Intel's planned mega-fab in Ohio. Dozens of other facilities, like the other 17 fabs that Taiwan Semi owns in Taiwan and China (and one small fab in Washington state), will also need upgrades. Fab equipment also gets old and needs replacing, which also means ongoing sales for Applied and ASML, not to mention ongoing service and software fees.

Taiwan Semi, Intel, and others will get some government assistance via legislation like the U.S. CHIPS Act during this boom in capital spending. However, it remains unknown how profitable these companies will be along the way -- or how profitable they'll be once this boom is all said and done.

Fab equipment sales, though, tout high margins and cost what they cost, regardless of consumer and business end-demand for chips (which impact

manufacturer profit margins). As these machines get more complex, the price tag on them goes up too, which is boosting Applied's and ASML's margins. (Courtesy <https://www.fool.com/investing/2022/12/09/taiwan-semiconductors-arizona-fab-could-mean-big-w/>)

### Related TSMC To Produce 3-Nanometer Chips At Its Arizona Factory



(Image: Getty Images)

TSMC founder Morris Chang said today that the semiconductor giant and Apple supplier will build 3-nanometer chips at its factory in Arizona, though final plans are not ready yet. The factory is currently under construction, with plans to begin production in 2024.

During a press conference in Taipei, Chang said "three-nanometer, TSMC right now has a plan, but it has not been completely finalized," Reuters reports. "It has almost been finalized -- in the same Arizona site, phase two. Five-nanometer is phase one, 3-nanometer is phase two."

On its website, TSMC says its 3-nanometer tech, called N3, will be a full node stride from its 5-nanometer technology and will offer up to 70% logic density gain, up to 15% speed improvement at the same power, and up to 30% power reduction at the same speed when compared to its predecessor. It is targeting volume technology in the second half of this year.

The world's largest foundry, TSMC makes almost half of the world's most advanced chips. The dominance of Taiwan's semiconductor companies (TSMC's peers include Foxconn) is one of its major advantages against China, which considers Taiwan a province, but as worldwide chip shortages stymie the production of electronics, it also calls into question the supply chain's reliance.



TSMC's Arizona factory, along with a second one that is reportedly in the planning stages, is part of the Biden administration's strategy to bolster U.S. chipmaking. TSMC is also building a factory in Japan and is in talks with the German government to build another one in that country.

Other foundries working on 3-nanometer chips include Samsung Electronics, which started producing 3-nanometer chips in June, ahead of TSMC. The South Korean tech giant is producing 3-nanometer

chips at its Hwaseong and Pyeongtaek semiconductor facilities. Samsung said last year it would invest 171 trillion KRW (\$132 billion) in its logic chip and foundry business by 2030, and it is also building a semiconductor plant in Texas. (<https://techcrunch.com/2022/11/20/tsmc-3-nanometer-arizona/>)

### Related Taiwan Semiconductor Plans To Build Second Factory At Its Phoenix Site

Taiwan Semiconductor Manufacturing Co. says it has started construction on a second semiconductor chip plant in Phoenix. Combined with another under-construction plant nearby, the company says it will have invested \$40 billion in the projects.

More than 10,000 construction workers would be involved in building the plants, known as "fabs," TSMC says. Work on the first plant is being led by a joint venture of Dallas-based Austin Commercial and Houston-based CTCI Americas Inc. Neither the contractors nor TSMC immediately responded to inquiries about the team for the second fab.

The first fab is expected to begin production in 2024 and feature 4-nanometer process technology, even more advanced than the 5-nm process that was originally planned. The second fab would feature 3-nm process technology and is slated to come online in 2026. Once completed, the fabs would produce more than 600,000 wafers per year, TSMC says.



### TSMC's Phoenix fabs would produce more than 600,000 wafers per year once they begin production, the company says. (Photo courtesy of Taiwan Semiconductor Manufacturing Co., Ltd.)

TSMC is also in planning stages to build an on-site industrial water reclamation plant, the company announced Dec. 6. The plant would allow the plants to achieve "near zero liquid discharge."

President Biden traveled to Phoenix Dec. 6 to speak about the TSMC projects and other manufacturing projects that have benefited from U.S. government spending packages like the Chips and Science Act, which allocated \$39 billion to boost semiconductor chip manufacturing construction in addition to other incentives. Biden touted the projects as an example of manufacturing returning to the U.S. and strengthening the supply chain. Other tech manufacturers are also in the midst of U.S. fab projects, including Micron with a plant outside Syracuse, N.Y. and Intel in central Ohio. Biden was joined at the event by executives from some of TSMC's supplier and customer companies, including Apple CEO Tim Cook.

"These are the most advanced semiconductor chips on the planet--chips that will power iPhones and MacBooks, as Tim Cook can attest," Biden said. "Apple had to buy all the advanced chips overseas. Now they're going to bring more of their supply chain here at home." (Courtesy <https://www.enr.com/articles/55518-taiwan-semiconductor-plans-to-build-second-fab-at-phoenix-site>)

# COMMUNITY

## The Fourth Industrial Revolution

### Robots, Drones And Sensors Are Changing The Way We Farm

## The Future Of Farming Is Here - High-Tech Brings Agriculture Into The 21st Century



Compiled And Edited By John T. Robbins, Southern Daily Editor

Last spring, farmer Brian Tischler was sitting in his tractor when he had an idea. What if his tractor was fully autonomous? Thanks to AgOpenGPS -- a software he developed that tracks where crops are seeded -- he's had more time to think of new ideas to improve his workflow. Tischler began creating on the spot, envisioning features for the autonomous tractor like remote control via smartphone, the ability to sense obstacles, and geolocation to ensure the tractor stays within a field. Across the farming industry, tech innovations like Tischler's are revolutioniz-

ing the way agriculture is done. These applications come at a critical time. The world population is expected to swell to 9.8 billion by 2050. Climate change and infectious disease are looming threats to livestock production and crop yield.

Tischler made the tractor program open source, sharing it online so farmers from across the globe can download and develop additions. Tischler, who recently won the 2018 ASTech Award for Outstanding Achievement in Agricultural Innovation, views the software as a way of giving back to the farming community. A lot of

leading-edge technology is not affordable for smaller operations.



"What inspires me is connecting with other people who share how they're using [the software]," says Tischler.

Such innovations have made the \$3 trillion industry more efficient, resourceful, and productive. In recent years, there have been varied applications of agriculture technology: crop-watering drones, software that uses satellites to manage nut and citrus orchards, virtual trials of new farming techniques, genomics testing that can ward off food contamination, and more.

### Recent innovations have made the \$3 trillion farming industry more efficient, resourceful and productive.

The DJI "Agricultural Wonder Drone" makes it possible for a single farmer to feed or spray pesticide on as much as 80 acres of crops a day. By comparison, a worker on foot may cover less than one acre in the same amount of time. Using the DJI drone, the farmer maps out the field by walking through it and the unit's controller creates a flight path, almost like a flying Roomba.

In Canada, the R2B2 team of scientists are researching rural connectivity and precision agriculture. Their studies utilize digital devices, applications, and databases of geospatial techniques to analyze and respond to variability in the field.

R2B2 looks at how wireless optimization and tools like sensors and drones support sustainable farming practices. For example, by using sensors to measure moisture and nutrients in the soil, farmers avoid loading up fields with excess irrigation and pesticides, saving money and protecting the environment.



Using linked technologies, a connected farm can also employ solar wireless devices like Ecorobotix, a solar-powered weeding robot. Dr. Helen Hamby, R2B2's lead scientist explains, "In the next generation of farming, there is a lot of monitoring done through connected and wireless devices. Wireless has changed things substantially."

### These innovations come at a critical time, as the world population is expected to swell and climate change and infectious

### disease are looming threats to livestock production and crop yield.

Many farmers have adopted precision agriculture practices. Christian Gastón Palmaz, CEO of Napa's Palmaz Vineyards, created VIGOMany farmers have adopted precision agriculture practices. Christian Gastón Palmaz, CEO of Napa's Palmaz Vineyards, created VIGOR (Vineyard Infrared Growth Optical Recognition), smart software that marries infrared imagery with soil moisture measurements. The algorithmic approach ensures that the vines grow at the same rate and that the exact amount of water needed is used--reducing water use by an estimated 20 percent.

Palmaz says, "Big data analytics has had a profound impact on understanding and addressing slight amounts of difference, which would otherwise propagate over time."



Technology can also help manage livestock wellness and reproduction. Remote Insights developed ear tags that monitor sows' behavior, movements, eating and drinking. The data is collected and analyzed to check that the animal has a healthy appetite and normal mobility. Moocall created monitors to check when a female cow is in heat and a pregnant one is ready to give birth. Such forward-thinking equipment can save a farmer numerous trips to the field or barn to review the herd. There's palpable excitement within the field about the myriad of technological possibilities, strengthening old farming traditions, by using technology to answer existing needs. As Hamby says, "This is the farming of the future." (Courtesy <https://www.verizon.com>)