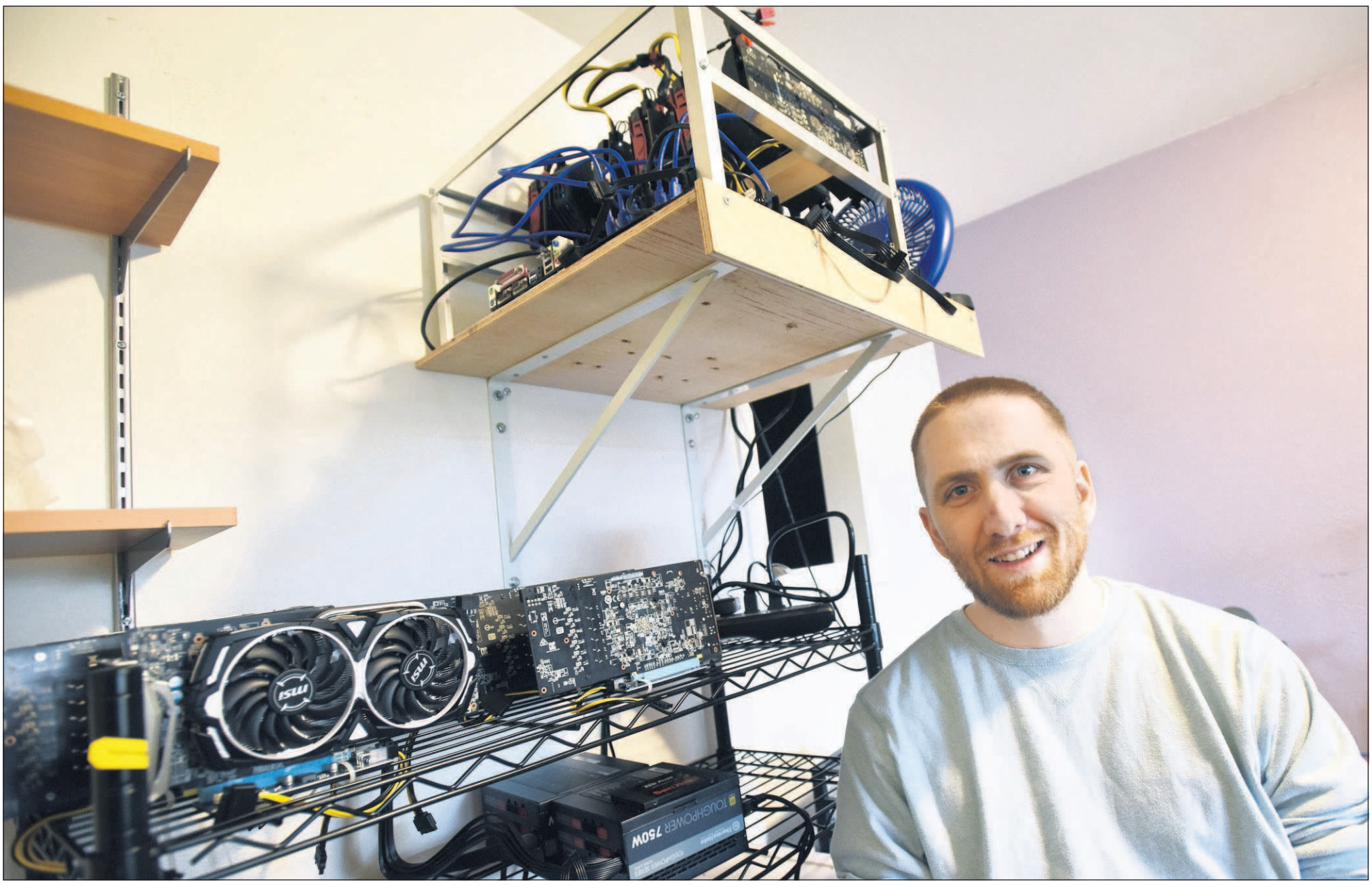


Staff photo by E.J. Harris

Nick Landreth of Nick's Cell Phone Repair in Pendleton has begun building ethereum cryptocurrency mining rigs for customers.

LOCALS MINE, INVEST IN CRYPTOCURRENCY

Why locals are investing and mining cryptocurrency

By JAYATI RAMAKRISHNAN
East Oregonian

Even if you're not a major investor, you've likely heard about bitcoin. Last year saw skyrocketing value for the cryptocurrency and others that operate on the same technology.

Cryptocurrency is traded digitally, the value of which increases or decreases like a stock depending on how many people are investing in it and how much is being produced. It is not issued by any central authority, rendering it theoretically immune to government interference or manipulation, and a rigorous verification system makes it nearly impossible to counterfeit, according to its backers.

Transactions are tracked using a technology called "blockchain," similar to a ledger. If one person makes a change or conducts a transaction, it is visible to all users.

There are more than a thousand different types of cryptocurrency — bitcoin, ethereum, ripple and litecoin are a few — and many inhabit their own niche.

Though the technology has been around for about a decade, cryptocurrency saw a huge surge in popularity last year, with many reaching their highest value ever. Bitcoin grazed $20,000 in December, before beginning to drop. As of Wednesday, the value was about $9,000. Ethereum reached its highest price so far in January, above $900.

There is a limit on how much cryptocurrency can be mined, which users say likens it to a precious metal. Because there is a limited amount, the value increases. The maximum number of bitcoins that can be mined is 21 million, and about 17 million are in circulation. More on mining later.

Byron Wysocki, a Pendleton man who has invested in bitcoin for several years, said the spike and subsequent drop is understandable with any new currency.

"I think we had a huge bubble there," he said. "Any asset class with four digits of growth (in one year), I don't think any economists would argue that's not a bubble."

He said he expects there was some "fear of missing out" that led to the bitcoin spike at the end of 2017, with several high-profile investors getting on board.

"I think the fundamentals, it's kind of a geeky thing," he said. "I think it's something held by a lot of 18- to 34 year-old male millennial computer geek type people who have disposable income."

He said while he doesn't think that type of growth is likely for bitcoin again, it won't diminish the longevity of the currency.

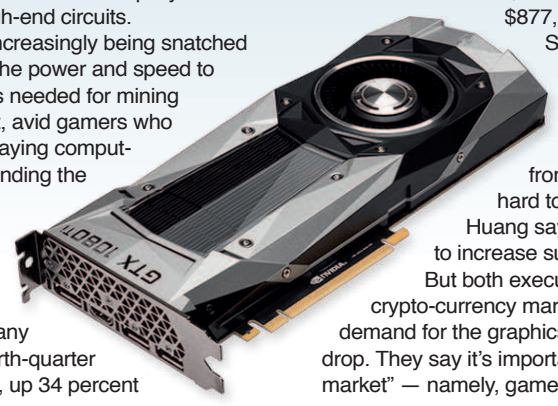
"The internet was supposedly built in 1983," he said. "Essentially, it's the 1990s of internet versus bitcoin. It may be 20 to 30 years before cryptocurrency becomes mainstream."

Gamers vs. bitcoin miners

Chipmaker Nvidia designs many of its graphics processors with video gamers in mind, but a mania for digital currencies like bitcoin has rapidly built a new clientele for the high-end circuits.

Graphics cards are increasingly being snatched up because they have the power and speed to perform the calculations needed for mining virtual coins. As a result, avid gamers who build their own game-playing computers are having trouble finding the cards.

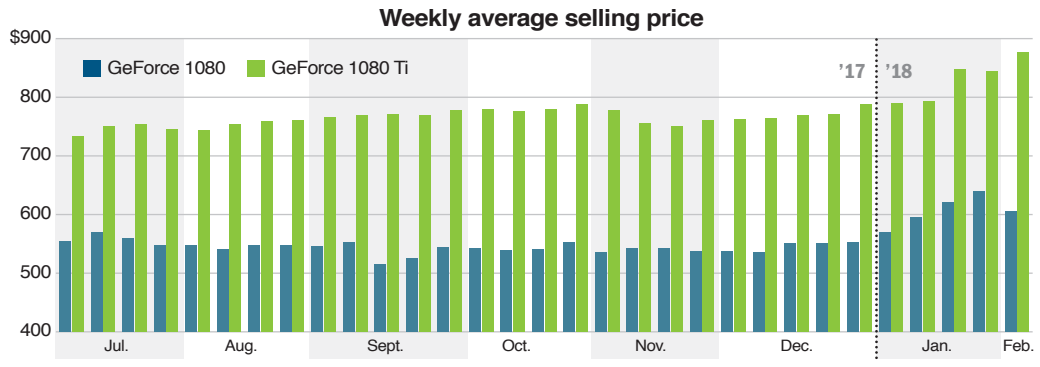
In the short run, the demand from mining is helping Nvidia's bottom line. The Santa Clara, California, company this month reported fourth-quarter revenue of $2.91 billion, up 34 percent from a year earlier. Although Nvidia doesn't set what retailers charge, the average price of its premium 1080 Ti model rose $80 over the past month to $877, NPD Group analyst Stephen Baker says.



Chief Financial Officer Colette Kress acknowledges that the company has benefited from the mining but says it's hard to measure. CEO Jensen Huang says the company's working to increase supply.

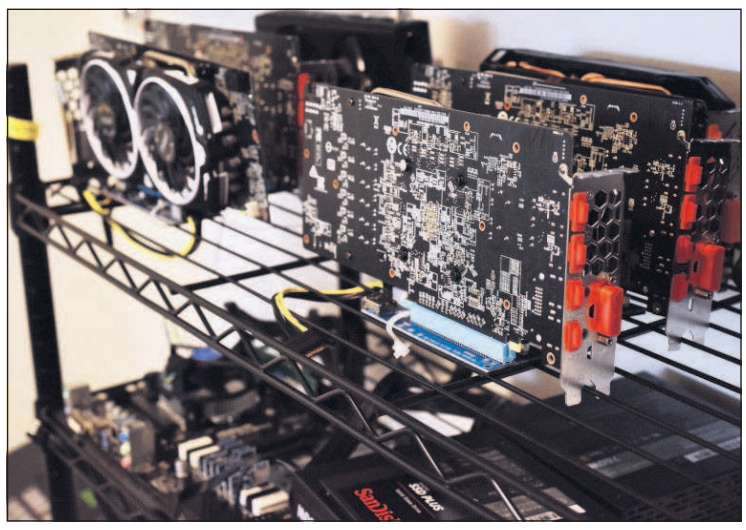
But both executives also caution that the crypto-currency market is volatile, meaning demand for the graphics chips could suddenly drop. They say it's important they keep their "core market" — namely, gamers — happy.

Weekly average selling price



Source: NPD Group

Matt O'Brien; Alex Nieves • AP



Staff photo by E.J. Harris

A cryptocurrency mining rig is essentially a series of computer video cards daisy-chained together with a motherboard and a power supply.

Mining

Bitcoin, and several other types of cryptocurrency, are generated through a process called mining. The machines known as "miners" validate transactions between those trading currency by solving a series of complicated algorithms, and extract a transaction fee from each process. Each machine also records each transaction that happens on the blockchain, thereby making it visible to everyone on the system.

Wysocki noted that a miner fills a role similar to a bank for traditional currency, except that anyone can run a miner.

There are some "cloud mining" companies that run large numbers of machines, which use their computing power to earn payment.

"A good analogy is data centers, except it's decentralized," Wysocki said. Like with data centers, he said, the best places to mine are locations with cheap electricity, cheap labor and cold weather.

While the local market for cryptocurrency is small, it does exist. Nick Landreth of Nick's Cell Phone Repair in Pendleton recently began building ethereum miners to sell to local clients. There are two packages Landreth sells — one is a 6 GPU (graphics processing unit) miner, which costs $4,500. The other is a 3 GPU rig, which costs $3,000. Both options are for machines that will be built, optimized, and ready to use, Landreth said.

Building a mining rig is similar to assembling a computer motherboard.

"Most of the work is just optimizing and stripping down the system so it can only mine ethereum," he said.

Landreth said the most challenging aspect of building miners is finding parts.

"They're very in demand," he said.

Once a person purchases a rig, Landreth said, they can simply connect their device (like a smartphone or computer) to the miner, plug the miner in, and go to the network.

Potential

David Anderson, a Pendleton resident who trades in ethereum, said the potential for cryptocurrency and blockchain technology is essentially limitless.

"It's a powerful new way to control and share data, and make it immutable," he said. "There are so many other uses — real estate, different types of legal contracts."

Wysocki acknowledged the risks of cryptocurrency. Though technologies like bitcoin and ethereum are visible to all users on the blockchain, there are some untraceable cryptocurrencies, such as monero, which is conducted on the dark web. But for users in countries where government is faltering, digital currencies can be a safer investment.

"You have drug money — which is a bad thing," Wysocki said. "You have some terrorist money in the system, which is another bad thing. But you also have countries like Venezuela, other hyper-inflation countries. It seems like this is a much better system than relying on your own government's currency."

Anderson said the technology has also become a place for innovators to come up with new ideas. He said the appeal for him is the potential to create something new and useful.

"Investing in the underlying technology — believing in what service or product being offered is actually going to better future society, not so much as buying it just because the price is going up," he said.

Wysocki said he recommends caution when putting money into cryptocurrency, but not to be afraid of it.

"I don't think you should be taking out credit cards or mortgaging your house," he said. "But I don't think putting one percent of your child's college fund into bitcoin (is) necessarily a bad idea."