

COVER STORY

STAR OF THE SHOW

John Vellinger leads a firm
that interacts with space
from Southern Indiana

BY PIPER HANSEN,
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COVER STORY

'OUR MISSION, WHILE IT'S IN SPACE, IT'S TRULY TO HELP PEOPLE ON EARTH'

John Vellinger has made a career of cosmic pursuits

John Vellinger thinks “we’re reliving a golden age of space.” ¶ He would know. ¶ But it’s less about alien-filled media and crackly one-liners transmitted from astronauts on the moon. This time, he said, it’s more about learning to print human tissue on the International Space Station and repeatedly testing how the body functions without gravity. ¶ Vellinger is at the forefront of this latter version of the space age where – through engineering and countless experimental modules he’s thought up since middle school – he’s made sure biotechnology has the opportunity to interact with and succeed in the expanse beyond earth.



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Orbiting 250 miles above earth on the International Space Station are almost a dozen facilities Vellinger had a part in designing. They're running bone density experiments, testing bioprinting theories and gathering data on the effects of microgravity.

At least one of Vellinger's facilities has a seat on every SpaceX rocket launching this year carrying commercial cargo. Vellinger is launching 16 facilities this year on various flights specifically designed to grow crystals in space to be used in pharmaceuticals.

"Our mission, while it's in space,

it's truly to help people on earth," Vellinger said.

A hand in 'two different worlds'

Vellinger is the co-founder and former CEO of Techshot Inc., a research and manufacturing company based in Galena, Indiana, that's been pioneering biological and physical science space payloads since 1988.

Vellinger's Techshot is behind the first American system capable of printing human tissue in microgravity. Its science and engineering team created small-scale research devices with a

carousel of centrifuges on which control groups can be tested in an environment of weightlessness.

An in-orbit X-ray machine is used to understand bone density for osteoporosis and other muscle-wasting disease treatments.

"It's almost like two different worlds – you've got this space world that you're working in, playing in, and doing a lot of very innovative, constructive and cool research on. And then you ask, 'how does that translate into the world you live in on a day-to-day basis?'" Vellinger said. "And so, that's what I try to do: Figure out how I can use the space world to impact in a positive way."

Techshot was acquired by Florida-based Redwire Corp. at the end of 2021 just after the latter's initial public offering. Now, Vellinger is Redwire's president of in-space industries, where he has the resources to accelerate the development of biomedical technology and talk to astronauts running experiments on his facilities in space.

Redwire Corp. works to support space infrastructure, especially by scaling up in-space manufacturing in low-earth orbit (the region of space closest to earth's surface with an altitude no more than 1,200 miles.)

Most of those facilities and systems, the company hopes, will have a direct impact on the future sustainability of space flight and optimize product creation for use on earth.

Redwire has continued to operate in Southern Indiana and the company is set to be the anchor tenant in the \$10 million, 60-acre Novapark Innovation & Technology Campus between Georgetown and Edwardsville.

"We are at the edge of some very unique opportunities in space," Vellinger said. "I feel like it's a very rich environment for new discovery. And with all of the technologies that we have? If you pair those together, there's a lot of positive impact we can make here on the ground."

The chicken or the egg

A poster reading "LAUNCH AND LAND YOUR EXPERIMENT" in Vellinger's Lafayette, Indiana, middle-school science classroom used to taunt him. It advertised a science fair-type contest sponsored by the National Science Teachers Association and the

ABOUT JOHN

Title: President of in-space industries, Redwire Corp.

Age: 59

Hometown: Lafayette, Indiana

Lives: Floyds Knobs, Indiana

Recent career history:

President and CEO at Techshot Inc., 2017-21; co-founder, executive vice president and COO at Techshot Inc., 1988-2017

Education:

Bachelor of Science, mechanical engineering, Purdue University, 1989

Family: Wife, Erin; children, Morgan, Grant, Paige, Nikolas; one grandchild

Hobbies: Boating and traveling

◀ John Vellinger in the Payload Operations Control Center, which allows for direct communication to the International Space Station at Redwire Space in Galena, Indiana. Vellinger serves as president of in-space industries at Redwire.

National Aeronautics and Space Administration to bring awareness to the Space Shuttle.

In seventh grade, Vellinger entered. Designed to test and understand how a chicken embryo would develop without the effects of gravity necessitating the manual turning of an egg for gestation, Vellinger's experiment was effectively a microgravity incubator.

A few years earlier, Vellinger's father took him and his brother to see a baby chick exhibit at the Chicago Museum of Science and Industry. The brothers were so excited, they came home and begged to hatch chicks in their basement.

"My family provided the foundation and then that teacher capitalized on that excitement and directed me in a path that could be very rewarding and fulfilling," Vellinger said.

He entered and won the regional competition, but the incubator experiment stalled at the contest's national level. He continued to re-enter until he won in high school.

But just because you win, doesn't mean you fly.

It was several years and a few semesters at Purdue University later when NASA brought Vellinger to the Kentucky Fried Chicken corporate headquarters in Louisville where the fast-food giant offered to sponsor the mission.

Vellinger spent his next few summer breaks in the '80s working with KFC on his incubator, readying it to go into orbit. It was KFC that suggested Vellinger train teachers and astronauts Christa McAuliffe and Barbara Morgan to run his experiment, Chix in Space, on the Space Shuttle Challenger.

Befriending and teaching McAuliffe and Morgan had Vellinger starstruck. For his experiment, that was the winner of a competition sponsored in part by teachers, to be conducted by the first educator in space just made sense.

But on the morning of Jan. 28, 1986, just over one minute into flight, the Challenger exploded over Cape Canaveral, Florida, as a result of a rocket booster failure that ignited the fuel tank. All seven crew members died in the accident, including McAuliffe.

Still grieving the loss of friends and his years-long science project, an undeterred Vellinger asked KFC

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to fund Chix in Space a second time. He tweaked and refined the design of his incubator until the Space Shuttle Program was ready to again take flight.

Chix in Space launched on Space Shuttle Discovery in March 1989 with more than two dozen fertilized eggs on board.

"If we're going to colonize the moon and Mars someday, and we want to have future generations up there, I think we might have to take a serious look at if gravity is required to do that," Vellinger said.

Eight space chicks that were fertilized before launch survived the trip; the first one that hatched, named Kentucky, lived at the Louisville Zoo.

The Chix in Space launch, Vellinger's college graduation and the founding of Techshot, (at the time it was just Shot) happened almost simultaneously. And Vellinger was running with the same crowd — a fellow Purdue graduate, John Blaha, ran the experiment on Discovery and KFC engineer Mark Deuser, who helped construct the incubator, co-founded Shot. Today, it's all a part of a larger enterprise.

Redwire's revenues for the entirety of 2023 increased 51.9% from the previous year to \$243.8 million. That figure is compared to a reported revenue of \$160.5 million in 2022 which was a 16.7% increase from the previous year's revenue of \$137.6 million, the year the company made its initial public offering.

For the full year ending Dec. 31, 2024, Redwire is forecasting revenue of \$300 million.

Real earth application

In the future, Vellinger and Redwire want to marry the advancements of his technology in space with implementation in biotechnology and pharmaceutical industries.

The opportunity to do so is now — launch costs have gone down and the ability to process more samples has gone up, Vellinger said.

This is in part because of a piece of equipment, called Ad Set, that has the capability to stay in orbit while other modules are brought to it, making a smaller package that weighs less and doesn't need to be transported.

"In a period of less than 10 years, the launch frequency has increased based on people like Elon Musk and SpaceX and all the different companies that have provided



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launch opportunities," Vellinger said. "It's made the frequency of being able to go to space much more affordable, much more available, and that's made it commercially attractive."

Operating on the space station is Vellinger's equipment that's allowing researchers to plan more advanced microgravity experiments. His "PIL-BOX" technology grows crystals that have a different structure without gravity

sidelining them.

What's always excited Vellinger about space is "trying to come up with a configuration that will allow the science an opportunity to succeed."

"Space is rich with opportunity," Vellinger said. "We have the technology to explore and try to capitalize on those opportunities and be able to actually develop technologies that are going to help people here on earth."

▲ Construction crews work on the new 30,000-square-foot Redwire Space facility at the Novapark Innovation & Technology Campus just outside of Georgetown, Indiana.

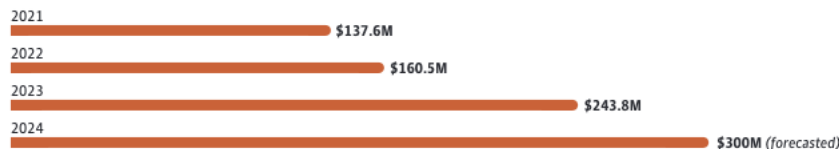
There's more from Vellinger in the Q&A below.

Answers have been lightly edited for clarity:

What does it sound like when you talk to the astronauts on the space station? It sounds a little bit like a radio. We have pretty good coverage, but as they're orbiting the earth, it's not continuous communication. Sometimes, we go into a blackout period where we can't talk to them for a few minutes, maybe an hour. We used to write up instructions to conduct experiments and research and they'd have to follow that. But now, they have a shoulder camera and microphone so we can actually tell them, 'it's not the red button, it's the green one two buttons over.' And we have that real-time interaction which is really cool and it's improved the operation performance of our hardware.

REDWIRE'S ROCKET RIDE

Revenue growth at Redwire Corp. (NYSE: RDW) by year:



SOURCE: REDWIRE CORP.

"We have the technology to explore and try to capitalize on those opportunities and be able to actually develop technologies that are going to help people here on earth."

John Vellinger, president of in-space industries, Redwire Corp.

Have you been to space? No, but I have been on a parabolic flight. I would like to go to space, I think it would be very exciting. But I don't think I would want to stay long-term. One thing that's cool about space that people don't understand here on the ground – you and I are sitting in this room and we're not even really taking advantage of two-thirds of this room. Space is actually more roomy than people realize, but it's still pretty tight quarters.

Do you have a favorite space movie? "The Martian" is pretty close. Sometimes I watch things about space and I'm like, 'that's not very realistic.' I don't geek out over "Star Trek." One of my other favorite movies is "Apollo 13," the crackle when they get communications back again is really something.

Are there any iconic Louisville or Southern Indiana things you haven't done but want to? I've been to the Kentucky Derby, the Louisville Slugger Museum & Factory, parties at the Muhammad Ali Center. I need to do more with the Bourbon Trail. It's so funny; I'll be flying in from a trip and I'll be talking to my neighbor and it's crazy how many people fly just specifically to do the Bourbon Trail.

What are you usually up to on the weekends? We love to boat. We have a cabin down on Nolin Lake in Kentucky. I love to go to Captain's Quarters and just hang out, watch the boats come in. I love to be on the water; I tell people that's my golf course. You can do it as a family and there's something about when I get on the water that allows me to really relax and not think about all the stress. ☘

REDWIRE AMONG KEY AREA DEVELOPMENTS



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Florida-based Redwire Corp. acquired TechShot in 2021 and still operates out of its 22,000-square-foot facility in Galena, Indiana, but a new 30,000-square-foot facility is being constructed at the Novaparke Innovation & Technology Campus in Georgetown.

Several developments coming together near Georgetown, Indiana

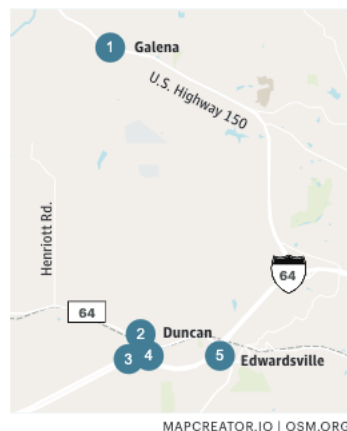
BY PIPER HANSEN
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The foundation is being poured for a new facility in the Novaparke Innovation & Technology Campus between Edwardsville and Georgetown, Indiana, where an aerospace infrastructure company will be the anchor tenant.

Nearby town and county officials hope once it moves in at the end of next year, development of the Ind. 62 and Ind. 64 corridor will continue.

Redwire Corp. is building a new 30,000-square-foot facility at Novaparke as the Florida-based company looks to increase production of technology enabling human spaceflight and commercial microgravity research.

The company already operates out of a 22,000-square-foot facility at 7200



1. Redwire Space Technologies Inc. (current)
7200 U.S. 150 Greenville (Galena), Indiana
2. Knob Hill Communities Apartments
1151 Knob Hill Blvd. Georgetown
3. Melvin & Vickie Jensen Nature Preserve
7055 SR-64, Georgetown, Indiana
4. Novaparke Innovation & Technology Campus
111 Innovation Pkwy., Georgetown
5. Edwardsville Gateway Mixed-Use Development
4915 Old Georgetown Road., Georgetown

U.S. 150 in Greenville (Galena), Indiana, where it's focused on three-dimensional bioprinting, pharmaceutical manufacturing, cell reprogramming and other space-related technology creation.

Redwire entered the local market after acquiring Southern Indiana's TechShot in 2021.

"We are literally talking to the International Space Station on the phone from here in Greenville, Indiana," said John Vellinger, Redwire's president of in-space industries. "That's so cool. To me, just to be able to do that here in Southern Indiana – in the Midwest – is such a unique opportunity.

"And that's why there's no reason to move," Vellinger said. "Because we have the capability right here."

All of its employees will relocate to the Novaparke campus once the building is complete, where 75 workers are expected.

There, the state-of-the-art payload facility will house a mission-operations center with the capability to communicate with astronauts in space. The

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new spot will support an increase in demand from commercial companies to improve pharmaceutical development, disease treatments and enable Vellinger and his team to experiment with spaceflight in low-earth orbit.

Total investment in the building has not yet been disclosed.

Tower Pinkster, a full-service architectural, engineering and design firm in New Albany, is the architecture firm on the new building. Shireman Construction, a general contractor based in Harrison County, is managing the facility's build.

Seven companies have put in requests for information. The hope is that more companies will come online as the Redwire building takes formal shape, Don Lopp, director of operations for Floyd County.

What is Novaparke?

Novaparke is an approximately 60-acre property Floyd County officials have been working to redevelop for almost two decades as part of the Edwardsville Gateway Master Plan.



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The \$10 million park has 14 lots that can be repackaged and are meant to attract aerospace companies, biotechnology research and development firms, software designers and laboratory facilities.

Indiana University Southeast already has plans to house wet and dry lab space for some of its faculty, staff and students. Its School of Business will also have a presence in the

campus in providing local entrepreneurs with training, business seminars and one-on-one sessions.

Two coworking, community classroom spaces located in renovated barn houses on the property are being operated by The Root, an existing coworking space in downtown New Albany.

Before Novaparke, the county didn't have a contiguous area it

could advertise as available, said Floyd County Redevelopment Commission President Bob Woosley.

"Wedding both technology and the quality-of-life amenities has been something that has been a thoughtful process," said Lopp. "Not only for the county, but for the town."

The economic development strategy for Georgetown and for Floyd County is to "help increase the quality of place assets that we have," said Georgetown Town Manager Reny Keener. "... Even though we don't have a lot of land available inside town limits for growth, we're trying to work on new, creative incentives for small business and restaurants."

Woosley said the work Georgetown does complements Floyd County, listing the town's plans to revitalize land into what will become Novaparke, develop housing units along Ind. 64, repurpose an old school building into a community center, add a regional park (see the following page) and pave a continuous walkway that connects those amenities.

"The whole corridor has been thought of as how can it all complement each other so this little pocket of the county has most of everything it needs and it breeds success," Woosley said.

More housing on the way

The housing development is Knob Hill Communities – a \$150 million subdivision launched in 2014 along Ind. 64 with 346 single-family homes and 208 apartment units.

Indiana-based homebuilder Premier Homes and its sister companies Classic Truss and Premier Land Development anticipate apartment completion in 2025 and single-family home completion in 2028.

According to a community plat map, a commercial development is part of the subdivision, but specifics are still in the works.

Apartments leasing are two- and three-bedroom units between 1,100 and 1,250 square feet with rent ranging from \$1,299 to \$1,649 a month.

Homes, only some of which are available, are three and four bedrooms with square footage between 1,400 and 2,200 depending on model. Prices start in the \$270,000 range and increase based on size and style, like whether the home has a basement.

"We are excited to be a part of and contribute to the growth and development of Georgetown," said Premier Homes owner Jeff Corbett. ■

▲ Novaparke is an approximately 60-acre, \$10 million park in the Georgetown/Edwardsville area with 14 lots.

◀ Premier Homes and its sister companies Classic Truss and Premier Land Development are working to complete 208 apartment units in the Knob Hill Communities by 2025.



NEW FLOYD COUNTY PARK DAYS AWAY FROM OPENING

DAVID A. MANN | LBF

First phase of a 207-acre regional park is nearing completion

BY DAVID A. MANN
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A new regional park now has an opening date. The park, located along Ind. 64 just outside of Georgetown, Indiana, is set to open Nov. 12. The Floyd County Parks and Recreation Department is developing the all-new, 207-acre regional park right between Novapark and the town limits of Georgetown.

The park is being developed in phases. The area opening next month – known as the Melvin and Vickie Jensen Nature Preserve – is only phase 1, as Don Lopp, director of operations for Floyd County, told me in a recent interview. A name for the entire park will be announced at the Nov. 12 opening event.

Phase one includes a new bridge on North Tucker Road that allows better access to the park, road improvements, trailheads and three miles of woody trails. Those include a large loop trail as well as a few others going east and west, Lopp said.

Melvin Jensen, who owned the property before giving it to the county, developed the trails himself, Lopp said.

“That was his vision. And he wanted to keep this as a nature park and reserve, and have people just enjoy the trails and being out in nature. We’re trying to live up to that,” Lopp said.

The Jensens bought the land in 1968 and raised a family there, with children Amy and Todd Jensen. After Vickie Jensen passed away in 2010, Melvin began dedicating himself to the land and grooming the trails, Amy (Jensen) Madigan explained.

That eventually led him to contact the county and start talking about it becoming a nature preserve. He was proud of the historical forest there and wanted it to remain undeveloped, she said.

Melvin Jensen died in 2022, after a house fire, as the News and Tribune reported. A garden has been planted at the former site of the home.

“We are deeply honored and grateful that the county has taken Dad’s dream and turned it into reality,” Madigan said. “While the scope changed with the circumstance around his death, the preserve and trail development is a beautiful endeavor that keeps our family’s legacy alive and allows the county amazing greenspaces.”

‘A great opportunity’

People want trails and multiuse paths – not just at the new park but throughout the parks system, said Matt Denison, superintendent of Floyd County Parks. At least, that’s what he’s heard in the past few years from interactions with the public.

A new multiuse path added to the nearby Greenville Park completely changed the daily usage of that park, for instance, he said. Kevin Hamersmith Memorial Park, on the north side of New Albany, also has been

▲ Benches surround a massive tree in a woody sitting area at the Melvin and Vickie Jensen Nature Preserve in Georgetown, Indiana.

“The preserve and trail development is a beautiful endeavor that keeps our family’s legacy alive and allows the county amazing greenspaces.”

Amy (Jensen) Madigan,
daughter of Melvin Jensen

well utilized and successful in the years since it opened.

“So the opportunity to come back here, just a few years after that, and start on another one – that ultimately will take a number of years to complete, but to get started on it, to be able to work on something like this – what a great opportunity,” Denison said.

The park, once complete, will be the largest in Floyd County. The next closest would be Sam Peden Community Park in New Albany, which is about 140 acres, not including the nearby fairgrounds.

The price tag for phase one is about \$700,000. Most of those cost are tied to the new bridge, which was built by Temple & Temple Excavating & Paving, out of Salem. CivilCon, out of Jeffersonville, was the engineer on that project. AllTerrain Paving & Construction, of New Albany, paved the road and main trailhead parking lot.

C&R Construction, of Corydon, is constructing the new entrance from Ind. 64. Paul Primavera and Associates Engineers, from Corydon, and Strand Associates, of Louisville, were involved in the road project as well. Witten Builders is donating a new road that connects the park to a nearby residential development (which it is also building.) Grant Line Nursery, out of New Albany, is doing landscaping work.

Phase two of the new regional park will begin in spring 2025 and will add another 40 acres, restrooms and another two miles of trails, totaling about five miles by year-end 2025.

The county is still in the planning phases for phase three of the park.

“We’re trying to figure that out,” said Denison.

There has been a survey asking what people would like to see there, which received a number of replies – from different activities, sports, fields and camping.

“And we’re just working with a firm to go through that and see what direction phase three might go,” he said. ☐