

ASU in position to accelerate collaboration between space, semiconductor industries

Arizona Space Summit highlights role of universities in industry

By Scott Bordow, ASU News

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More than 200 academic, business and government leaders in the space industry converged in Tempe March 19–20 for the third annual [Arizona Space Summit](#), a statewide effort designed to elevate Arizona as a premier hub for the space sector.

The event, co-sponsored by Arizona State University, Northern Arizona University and the University of Arizona, was a future-focused collaboration that featured remarks by Phoenix mayor Kate Gallego, a welcome message from Sally Morton, executive vice president of ASU's Knowledge Enterprise, and panels that discussed ideas such as how Arizona's space and semiconductor industries can collaborate for economic growth, leveraging Arizona's research universities, and designing for permanent habitation on orbital and lunar stations.

Jessica Rousset, executive director of ASU's [Interplanetary Initiative](#), said it's an "exciting time" in the global space sector, noting that the space economy is expected to reach \$1.8 trillion in the next 10 years.

"We're seeing an incredible pace of innovation and technological advances that are dramatically dropping costs and increasing capabilities," Rousset said. "We have a lot to celebrate. We have great momentum, and I think the summit is a good example of that."

Morton detailed ASU's involvement with several NASA missions and said the university's [NewSpace Initiative](#) is one of 12 initiatives or institutes whose goal is to lead the integration of academia with the commercial space sector.

"The purpose is to really increase the chances of space enterprises getting off the ground," Morton said.

Gallego said the state of Arizona already is a leader in the space industry, pointing to the number of companies that call Arizona home, like Honeywell Aerospace, Northrop Grumman and Blue Origin, and the work being done at ASU and the University of Arizona.

That commitment, she said, could better help position the next-generation workforce.

"As we think about 'What are the exciting jobs of the future?' we're betting on space as a really exciting opportunity, building on the fact that we are longtime leaders already."

Gallego said that as the United States celebrates the 250th anniversary of the signing of the Declaration of Independence in 2026, it would be appropriate for Arizona to focus on the "incredible innovation (around space) that has happened in Arizona — from our companies to our universities."

"I don't think we tell that story well enough," she said.

An afternoon panel co-hosted by Elena Rocchi, head of the space architecture and extreme environments program at [The Design School](#), and Gui Trotti, a professor of practice at The Design School, examined the need to design habitats and structures for space, including the development of commercial space stations, advanced space suits and life-support systems for long-duration interplanetary missions.

"It's an incredible time," Trotti said. "With the acceleration of (space travel), we will not only have astronauts or highly trained people in space, but we'll have people like you and me who might want to go to space for short periods of time. Or all the companies that might need a laboratory or tools in space to do their experiments. Whatever it is, we will have more and more people going to space and they're going to need way more amenities than what NASA provides now."

Christian Maender, a senior executive at the aerospace company Barrios Technology, said he's not convinced there will be a rush of people or companies leaving Earth unless there's "value" in the exploration beyond the fact that it's possible.

"It is not enough of a driver to sustain the economics of the cost of doing it," Maender said. "You have to find real things that you can do in orbit, real things you can do to drive that value. And that value needs to drive money. Profit is what drives the reason for people to put more things (like

sustainable infrastructure) into space to support all the humans.”

That profit could come in the form of space mining, the monetization of extracting valuable materials from asteroids and other celestial bodies.

Zaheer Ali, a professor of practice from the [Thunderbird School of Global Management](#) and the moderator of the space mining panel, acknowledged that the space industry is filled with people who doubt the feasibility of space mining.

But University of Arizona faculty member Anjani Polit said scientific missions are already paving the way for such mining, noting that in 2023 the OSIRIS-APEX mission, of which she is a deputy principal investigator, became the first U.S. mission to collect a sample from an asteroid.

“I get asked all the time by investors if we can do this and I tell them we’ve already mined before,” said Matt Gialich, co-founder and CEO of AstroForge, a company designed to extract minerals in space.

During a panel about space and semiconductor collaborations, Hugh Barnaby, an [engineering](#) professor, said ASU is in a unique position to accelerate that collaboration.

Barnaby pointed out that the Department of Commerce and Natcast, a nonprofit organization designated to operate the National Semiconductor Technology Center, recently announced the [ASU Research Park](#) in Tempe, adjacent to the university’s [MacroTechnology Works](#) building, as the site of the co-located NSTC Prototyping and NAPMP Advanced Packaging Piloting Facility.

It is the third of three CHIPS for America research and development flagship facilities, and the one with the largest financial investment.

Read more

[ASU selected as home and partner for CHIPS and Science Act-funded national facility for semiconductor advanced packaging](#)

In addition, ASU is the lead for the [Southwest Advanced Prototyping Hub](#), one of eight regional innovation hubs established under the Department of Defense’s Microelectronics Commons, an initiative to accelerate the development and production of microelectronics technologies.

“All of those are very serious resources that exist in Arizona right down the street,” Barnaby said. “That is a big, big deal.”

Michael Rosas, vice president of business development for the Arizona Commerce Authority, said the Natcast partnership with ASU is a “complete game changer.”

“It really sends the message that we’re not only a semiconductor hub, but the semiconductor renaissance is happening here in Arizona,” he said. “This facility, when it’s up and running, is going to build the most advanced chips for quantum computing, the ones that are going to be in the rockets. It’s the exclamation point at the end of the sentence.”

Added Gallego: “If we have the best chips, the smallest and most advanced computer power, we can continue to spur innovation in this community. And we’re just very proud that the chips that will spur that innovation in everything from satellites to rockets to space exploration will be made in the city of Phoenix.”

The aerospace industry isn’t just leveraging the growth of the semiconductor space in the state. It’s also benefitting from the work being done at research universities like ASU and the University of Arizona.

John Otto, senior director at Raytheon Technologies, a multinational aerospace and defense company, said ASU and UA have made it easier for companies to leverage their research and innovation by becoming more business oriented in their thinking.

“There’s been so much growth and so much interaction with the industry, and having students work on real projects and then having those students feed into that whole ecosystem of companies has been very beneficial and complimentary,” Otto said.

Zachary Holman, vice dean for research and innovation at ASU’s Ira A. Fulton Schools of Engineering, said aerospace companies can boost their workforce and fill critical positions by setting up internship programs for university students.

“It makes for an extremely potent graduate when they have that training in the classroom and labs — which can be scripted — but what’s not scripted is their experience in the company,” Holman said. “If you work at a company and you aren’t already taking interns from your local university, please do that.”

This story originally appeared on [ASU News](#).

Main image



Jessica Rousset, executive director of ASU's Interplanetary Initiative, welcomes guests to the third annual Arizona Space Summit on Thursday, March 20, at the Omni Tempe Hotel at ASU. The summit is a statewide, future-focused collaboration to establish Arizona as a premier hub for the space sector by showcasing the space ecosystem and its economic potential. Photo by Charlie Leight/ASU News

Text image(s)



Phoenix Mayor Kate Gallego speaks about the economic developments in Phoenix that can attract and support the burgeoning space industry at the third annual Arizona Space Summit on Thursday, March 20, at the Omni Tempe Hotel at ASU. Photo by Charlie Leight/ASU News



More than 200 academic, business and government leaders in the space industry converged in Tempe March 19–20 for the third annual Arizona Space Summit. Photo by Charlie Leight/ASU News