Sophic Inf: Is Amazon or Microsoft a better place to work? Advice for an MBA student (http://www.geekwire.com/2016/amazon-microsoft-better-place-work-advice-mbastudent/)

Space & Science

# Video: Jeff Bezos shares big ideas, from Amazon's drone landing pads to a 10,000year clock

BX AKAM BNXKE (HSSQ://V V V .GEEJ V EQE.CNL /AT SHNQ/AKAMBNXKE/) on October 23, 2016 at 11:00 am



(http://cdn.geekwire.com/wp-content/uploads/2016/10/161023-bezos1.jpg)

Amazon billionaire Jeff Bezos shows off a tortoise cufflink during the Pathfinder Awards banquet at Seattle's Museum of Flight. The tortoise symbolizes the approach Bezos takes with his Blue Origin space venture. "We believe slow is smooth, and smooth is fast," he says. (Credit: Tania Shepard / Azzura Photography)

Someday, you'll be printing out a landing pad to guide an Amazon drone to its delivery, or maybe taking a suborbital space trip on a Blue Origin rocket ship, or marveling over the mechanism of a clock designed to run for 10,000 years.

Such were the visions laid out by Amazon's billionaire founder, Jeff Bezos, on Saturday night as he received one of this year's Pathfinder Awards (http://www.museumofflight.org/About-Us/pathfinder-awards) from the Museum of Flight.



(http://cdn.geekwire.com/wp-

content/uploads/2016/10/20161022\_Pathfinder\_Awards\_179.jpg)

Airplane restorer Addison Pemberton at the Museum of Flight's 2016 Pathfinder Awards.

🔰 (https://twitter.com/intent/tweet?uˈrl 🖿 ttpt://pa/kw2fik/2fikedim.geek/sineur/art/sel/2file/kt2fis2fib/ekt2fib/ekt2fi

(Photo by GeekWire/Kevin Lisota)

Bezos and airplane restorer Addison Pemberton (http://www.museumofflight.org/user\_area/uploads/2016\_PathfinderAward\_Pemberton.pdf), known as the "Godfather of Biplanes," received the awards for their contributions to preserving the past and building the future of flight.

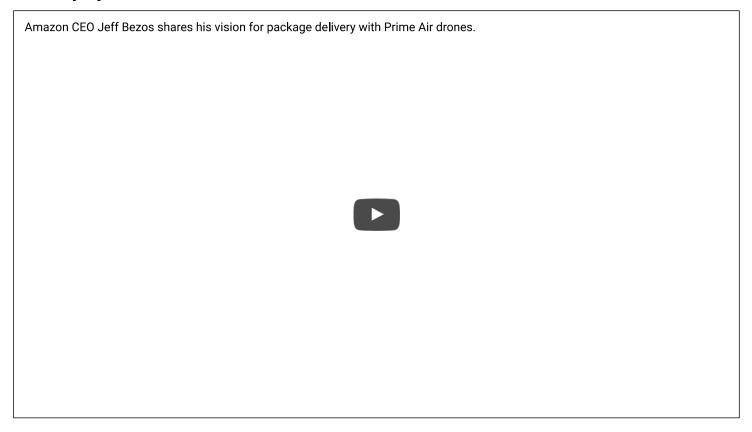
More than 450 supporters and VIPs attended the annual black-tie award dinner, held in the T.A. Wilson Great Gallery (http://www.museumofflight.org/explore-the-museum/museum-galleries/great-gallery) beneath the wings of the museum's Blackbird spy plane (http://www.museumofflight.org/Exhibits/blackbird).

Although Bezos' most lucrative "day job" is to lead America's biggest online retailer, he acknowledged that his fortune – currently estimated at more than \$70 billion (http://www.forbes.com/profile/jeff-bezos/) – is meant to serve a higher purpose. Literally.

"Amazon has been kind of a lottery winning for me," he said. "And by the way, the Amazon winnings are what I'm using on Blue Origin. So those winnings are going into developing space."

Aerospace plays a part in a wide range of Bezos' pursuits, including Amazon's future. Here's a video rundown of the high points from his talk:

### **Delivery by drone**



Bezos said Amazon's efforts to develop fleets of drones for package deliveries are proceeding apace – with a farm in the English countryside near Cambridge (http://www.geekwire.com/2016/search-amazon-drone-testing-site-britain/) serving as the main testing ground.

"We're getting really good cooperation from the British equivalent of the FAA, the CAA (https://www.caa.co.uk/home/)," Bezos said. "It's incredible. It's really cool."

Deployment of the drones depends not only on Amazon's progress, but on approvals from the Federal Aviation Administration, Britain's Civil Aviation Administration and other regulatory agencies around the world.

When the robotic aircraft go into operation, they'll be able to fly at speeds of more than 50 mph with a 20-mile range. The system is designed to deliver packages weighing less than 5 pounds, a weight range that Amazon says covers 86 percent of the products it sells (http://www.geekwire.com/2013/amazons-aerial-delivery-drones-bezos-big-idea-fly/).

"It's going to work really well in one of the hardest neighborhoods — urban, dense suburban neighborhoods," he said. "You just need a landing field. And if you have a landing field, you can mark it with a symbol which you can print out on your printer and put wherever you want the vehicle

 The drone will be programmed to recognize the symbol on the printout and drop its package in the landing zone.

"If it sees anything that makes it nervous, it can divert, or phone home for help and get a human to help it land," Bezos said.

### **Amazon Prime Air**

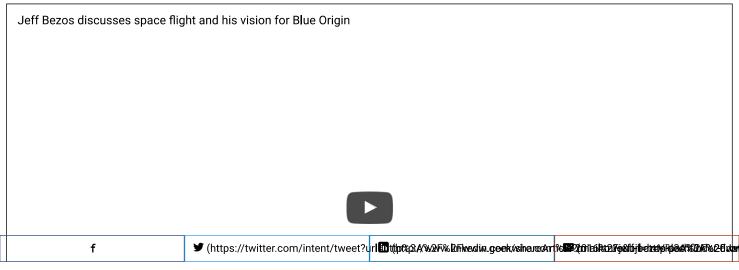


Amazon is already using a more conventional type of flying machine to deliver its packages. The company's first branded Boeing 767 cargo jet was unveiled in August (http://www.geekwire.com/2016/photos-amazons-first-prime-air-cargo-jet-takes-spotlight-seattles-seafair-air-show/), and more planes are being added regularly (http://www.geekwire.com/2016/atlas-air-boeing-767-freighters-amazon-prime/).

The company plans to build up a 40-plane Amazon Prime Air fleet to supplement cargo transport services provided by the likes of UPS and FedEx.

"Twenty-one years ago, when I started the company, I was delivering all the packages to the post office myself," Bezos recalled. "I was hoping that one day we'd be able to afford a fork lift. So it's a very big change in a very short period of time. I feel incredibly lucky for a whole bunch of reasons, and that's one of them."

## **Space trips on Blue Origin**



After a string of successful test flights to space and back, Blue Origin is on track to start flying test astronauts on suborbital trips at its West Texas launch facility late next year, Bezos said. That will set the stage for paying passengers to get on board in 2018.

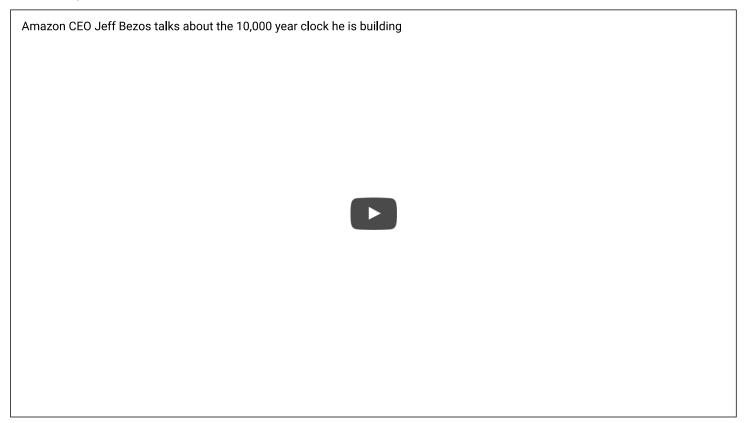
"It's going well," said Bezos, who founded the space venture in 2000.

Blue Origin hasn't yet started taking reservations. The company hasn't even announced what the ticket price will be. Nevertheless, Bezos picked up some new prospects at the awards banquet.

"You've got a whole table of Boeing test pilots who want to get in line over there," said emcee Steve Taylor, who's the chief pilot for Boeing Flight Services. "I told them the line forms behind me."

Blue Origin has said that customers who buy tickets on the New Shepard suborbital space vehicle will get preferred access when the company's New Glenn orbital spaceship is ready for passengers.

## 10,000-year clock



One of the longest-range projects on Bezos' radar screen is the 10,000-year Clock of the Long Now (http://longnow.org/clock/), a project conceived by inventor Danny Hillis. Thanks to a \$42 million contribution from Bezos (http://www.geekwire.com/2011/jeff-bezos-celebrates-longterm-thinking-budgets-42m-clock-ticks-10000-years/), the clock is being built inside a mountain on his property in West Texas, not far from Blue Origin's launch site.

"There's actually a big team working on this now," he said.

f (https://twitter.com/intent/tweet?url மிரிவுக்கு இருவாக்கு மிரிவிக்கு மிரிவிக்கு மிரிவிக்கு மிரிவிக்கு மிரிவிக்கு மிரிவிக்கும். இது மிரிவிக்கு மிரிவிக்கும். இது மிரிவிக்கு மிரிவிக்கும். இது மிரிவிக்கு மிரிவிக்கும். இது மிரிவிக்கு மிரிவிக்கும். இது மிரிவிக்கு மிரிவிக்கும். இது மிரிவிக்கு மிரிவிக்கும். இது மிரிவிக்கு மிரிவிக்கும். இது மிரிவிக்கு மிரிவிக்கும். இது மிரிவிக்கு மிரிவிக்கு மிரிவிக்கு மிரிவிக்கு மிரிவிக்கு மிக்கு மிரிவிக்கு மிக்கு மிரிவிக்கு மிரிவிக்கும். மீரிவிக்கு மிரிவிக்கு மிக்கு மிரிவிக்கு மிக்கு மிரிவிக்கு மி

Eventually, the project's organizers plan to build several clocks capable of running 10,000 years, to be placed in sheltered locations around the world. "The idea is, it's a symbol of long-term thinking," Bezos explained.

Just knowing such a clock exists could help humanity change its perspective on problems ranging from world hunger to interplanetary migration.

"The fact of the matter is, we humans are getting so technologically capable that we need to think longer-term," Bezos said. "Ten thousand years ago, we really couldn't do very much damage. I think 100 years from now, 500 years from now, we're going to be able to do quite a bit of damage ... and do great things. I'm super optimistic. ... I think we'll figure it all out. We're going to have an amazing future in the solar system."

Bezos said the clock project's true significance may not sink in until centuries from now – by which time he expects his vision of millions of people living and working in space (http://www.geekwire.com/2016/interview-jeff-bezos/) to have become a reality.

"Three, or four, or five hundred years from now, people will be going, There is a 500-year-old clock in this mountain over here! Some crazy people back in the 21st century built it as a symbol of long-term thinking!" Bezos said. "Maybe it'll have an effect 500 years from now."

Ten thousand years from now, Bezos doubts anyone will remember who were the richest people of our age, or who won which presidential election.

"I do know one thing they will remember, for sure, which is the Apollo landing. ... They are going to remember that that's the time when humanity first left this planet," he said. "That's going to be a big deal, even 10,000 years from now."

Knud ro`bd`mc rbhdmbd?-Rlf mt o enq nt q Gddij V hqd Ro`bd & Rbhdmbd dl `lkmdv rldssdq(gssor://v v v .f ddij v hqd.bnl /ro`bd-mdv rldssdq') enq sno g d`c kmdr eqnl Ak`mBnxld, Gddij V hqdkj `dqnro`bd `mc rbhdmbd dc hsnq.

### Support STEM education: Donate to Geeks Give Back (https://geeksgiveback.org/)



(https://geeksgiveback.org/)

GeekWire is once again proud to partner with Bank of America to support Geeks Give Back (https://geeksgiveback.org/), a community-wide effort to raise \$1 million for the Washington State Opportunity Scholarship. This unique program provides scholarships to deserving students, the majority of whom are women and students of color, who are pursuing degrees in science, technology, engineering and math in Washington state. To donate as an individual or corporation, visit GeeksGiveBack.org today! (https://geeksgiveback.org/)

#### **Related Stories**



(http://www.geekwire.com/2016/inside-story-jeff-bezos-star-trek-beyond/)

Sgd hmrlcd rsnqx adglmc Idě BdynrĄ`kldmb`l dn nmæs`qSqdj BdxnmcĄ (gsso://v v v .fddj v hqd.bnl /2016/hmrlcd-rsnqx-idě-adynr-rs`q-sqdj -adxnmc/)



(http://www.geekwire.com/2016/jeff-bezos-blue-origin-motto-logo-boots/)

Gq`c`shl Fdqnbhsdq Idĕ Bdynr dwok`hm Bk d Nqff hmk I nssn, knfn Ċ `mc sgd annsr (gsso://v v v .fddj v hqd.bnl /2016/idĕ-adynr-ak d-nqff hml nssn-knfn-annsr/)



♥ (https://twitter.com/intent/tweet?url**in**tdp%aA%aA%&E%**Linedim.geek/sine.carr%s\%2finisktaF%&66jb<del>ehad/\$A</del>&&Gwa2fiuw**