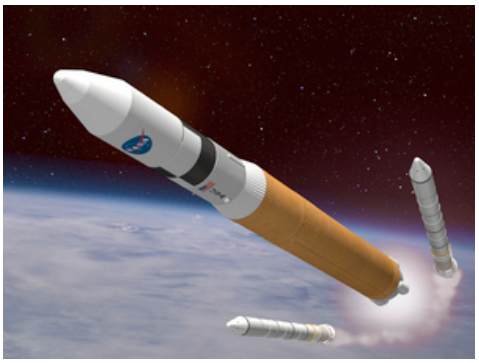
NASA's New Space Race Needs Life Support



Enlarge NASA/AP

The Ares V is being designed as a heavy-launch vehicle capable of sending large-scale hardware and materials to the moon and supplying needed staples to sustain a human presence beyond Earth orbit.

October 24, 2009 text size A A A

Houston, we have a problem: According to a blue-ribbon panel, the U.S. space program is on an unsustainable trajectory.

This past week, the Human Spaceflight Plans Committee released a report saying that unless NASA receives more money fast, the space agency will have to scale back its near-term ambitions.

Former President George W. Bush had laid out a vision to send a manned spacecraft back to the moon, and then eventually to Mars. So NASA developed a plan to make it happen.

The idea might have been great, but the execution — well, that's another matter.

It turns out, if NASA continues on its current path, the agency will end up building rockets to nowhere — because it'll run out of cash.

So the panel, led by Norman Augustine, presented the White House with a few alternative options.

One would be to go for it — to accelerate work on NASA's most powerful rocket — called the Ares V — and start thinking about getting back to the moon fast.

Another option is to focus more on trying to land manned spacecraft on things like asteroids, as well as sending manned flights beyond the low-Earth orbit into deep space.

But both of those proposals would require more money — to the tune of at least $3 billion a year. Is it worth it?

Enlarge Bill Ingalls/NASA/AP

Astronaut Leroy Chiao gives a thumbs-up in 2004 before lifting off for the International Space Station.

Why Send Humans Instead Of Robots?

Former astronaut Leroy Chiao, a member of the Human Spaceflight Plans Committee, tells NPR's Guy Raz that it's important to keep manned missions in the program.

"Just as a species, we're explorers," he says. "It's exciting for us to see humans exploring, because we can identify with those people."

While Chiao acknowledges that robots are capable of plenty of the exploration part, he echoes the report's call for balance between manned and unmanned missions. Practically speaking, he says, you need humans in space because they're far more adaptable than robots.

"The human is much more adaptable and can assess the situation on the spot and take action," he says. "Missions have been saved because of human intervention.

"There's no question it's more expensive to send human beings, but at the same time, it offers operation flexibility that you can't get otherwise."

What Makes It So Expensive?

Part of what makes sending a manned mission to Mars so expensive is the stops along the way.

We'd have to start with sending humans back to the moon. Chiao says that's because we need to relearn how to land and operate on other planets.

"The last Apollo mission was 37 years ago, so all the people who executed that program are long since retired from the industry or moved on," he points out. We'd more or less be starting all over again.

Then, we'd need to know how to operate in a deep space habitat for extended periods.

"One-hundred-eighty or more days — that's something we've never done," Chiao says. "So those two things we need to build up in order to be able to go and send a human mission to Mars."

To build that knowledge, Chiao says, an asteroid flyby might be interesting.

"We would learn a lot about the engineering that went into a departure stage, and the operations, the navigation," he says. "All that gets us to the nearest object."

"Landing, of course, would have its own set of challenges," Chiao says, "but no question — we would be learning and building infrastructure to go explore farther on to Mars."

He's realistic about the possibility of a manned mission to Mars, though. Chiao says he was 8 years old when Apollo 11 landed, and as a young adult, he expected humans to make it to the Red Planet much sooner. "But I am optimistic," he says, "that we will go to Mars in my lifetime."

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comments

Margaret Gibbons (MGibbons) wrote:
Dear ATC, Your interview w/Larry Chiao was the wrong way to cover the NASA report. "Man who would profit from government program believes that program to be essential" is not news (see Mr. Chiao's website http://leroychiao.com/). I would like to know if most of the other members of the "blue-ribbon" panel also have a career or financial interest in promoting human space flight. If so, isn't that the story to cover? And how could you let Mr. Chiao's assertion about "operation flexibility" go unchallenged? What was inflexible about the Mars Rover mission? Even if a robot mission to Mars fails it is cheaper and safer to send ten more robot missions than a single manned trip.
October 26, 2009 12:10:07 AM CDT
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Gabriel Garcia (gabotech) wrote:
What a waste of money. They should spend to fix the world instead of this kind of proyects. It remembers me the new leaders of the world don't want to face real challenges, like solving pollution or pooverty. They're only thinking of projects that only require to spend money. The matter is left to engineers and scientists, they will develope any kind of thing. So they promote these kind of things to justify to themselves their big wages and that they were

useful at least in someway.
October 25, 2009 9:51:42 PM CDT
Recommend (0) Report abuse

Harry Fiasco (Leibniz) wrote:
Dearest Jack Campbell,
For as much as I have read, it seems that people like theoretical physicist Lawrence Krauss and Buzz Aldrin (among others, these are just some good celebrities of the field) agree with my statement.
Back it up a little, you can't just tell me that and I am wrong and advise me to read more. I fully support NASA, it would be my dream job to work for them. I also think there is a lot to be said for manned space exploration (I'll take back, to a degree, what I said about parlor trickery), it just seems that with the cost and dangers, it may well be better to keep improving unmanned methods. Furthermore, you said that we had learned more during this recent ERA, not necessarily from the missions themselves. So clue me in, oh well read one, give me a list of everything we have learned from manned missions to space and weigh it against what we have learned from earth bound exploration of space.
October 25, 2009 7:09:40 PM CDT
Recommend (1) Report abuse

Pam Schuh (Schamphuh) wrote:
Don't worry this Congress won't spare the billions necessary; they are on an outrageous spending spree that seems to have no end; probably a good idea to get it soon, before China comes to collect making your grandchildren slaves. Why not just load up a rocket with money and aim it toward Mars? That should satisfy everybody involved.
October 25, 2009 5:57:35 PM CDT
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James Wescott (Wescott) wrote:
Fohgetabodit! The ESA is already so far ahead of the USA it's pathetic. The reason Europe didn't want to squander billions on a war in Iraq is because they had already pledged trillions to their space program. The best European minds of science, math and engineering have crafted a feat of engineering wonder that's already surpassed the American Hubble in clarity and data. It's mapping the Universe as I sit here and write this. As I sit here and write this, Millions of Americans are shoot'n up, shooting each other, and gaining an average of 20 pounds a year.
October 25, 2009 4:16:40 PM CDT
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Jack Campbell (Megafauna) wrote:
Harry Fiasco (Leibniz) wrote:
We can probably learn a lot more from unmanned exploration of space, than from expensive and dangerous long term manned missions.

Completely untrue, we have learned more, and invented more in the era of the Apollo missions then we ever would have from unmanned space flight.

yuchen hu (dreamyu) wrote:
Contribute nothing to our economy

False, NASA technology has powered many MANY breakthroughs in technology that you use every single day.

Before commenting on something you know next to nothing about I suggest you people read some history. Ceasing our exploration of space would put one more nail in the coffin of human imagination and understanding, two things that are quite rare already in this hum-drum money grubbing world.
October 25, 2009 4:15:21 PM CDT
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Harry Fiasco (Leibniz) wrote:
We can probably learn a lot more from unmanned exploration of space, than from expensive and dangerous long term manned missions. If we were to send humans to Mars, the 18 months spent in space would likely supply a deadly dose of cosmic radiation to the astronauts. It's kind of like climbing Everest, the summit only counts if you make it back alive. I want to know more about the workings of the cosmos and the possibilities of life on other planets, and I believe this kind of knowledge is good for humanity. However, it is my humble opinion that this is better done with robots and really awesome telescope and spectral analysis and large hadron colliders and the like. I am more impressed with the ability to

understand nature in this way, than doing the amazing, yet somewhat parlor trick-esqe, form of human space travel.
October 25, 2009 3:00:24 PM CDT
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Shawn PaunchaiGreen (zoosstink) wrote:
Reduce the budget of the military. Continue NASA.
October 25, 2009 11:07:30 AM CDT
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Peter Erich Keller (drkeller) wrote:
It's not about money, it's about space-technology. If we do not continue our efforts in space exploration we will fall behind. The next step should be a manned ORION space-glider in the size of an ORION capsule, launched with the Ares rocket. This space project is similar to the designed ESA project PHOENIX space-glider/ARIANE 5. The technology is available to NASA. The ORION space-glider would have some resemblence to the early lift bodies, equipped with air-breathing engines on top of the rear part.
October 25, 2009 10:43:37 AM CDT
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Terry Nonieka (TerryN) wrote:
Just as are looking to spend trillions on saving the planet from greenhouse issues, we should, as a backup, spend on NASA in case of greenhouse failure (or North Korean/Iran Nuclear Nuts). In the event that our planet can no longer support humans, we currently have no choice but to die. If NASA can survive this Amish Atitude (no further technology), then we would have an alternative for humans to survive. Perhaps until the earth is able to support us again. It is SO short sighted to say we just hand out this money so people can use it buy new DVD's and blue jeans to keep the retail sales economy robust for 1 more month.
October 25, 2009 9:50:39 AM CDT
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