

Guru 1NC

Contention 1 is Framework:

The standard is upholding the most life.

1] Humanity will perish in 100 years if colonization doesn't occur

Kharpal, 17 (Arjun Kharpal, Journalist, Senior Technology Correspondent, 05-05-2017, accessed on 2-9-2022, CNBC, "Stephen Hawking says humans must colonize another planet in 100 years or face extinction", <https://www.cnbc.com/2017/05/05/stephen-hawking-human-extinction-colonize-planet.html>)//gpatel

Humans need to colonize another planet within 100 years or face the threat of extinction. high-profile physicist Stephen Hawking has warned. In a new BBC documentary called "Stephen Hawking: Expedition New Earth" set to air later this year, the professor will "present his predictions that the human race only has 100 years before we need to colonize another planet," a press release from earlier this week said. "With climate change, overdue asteroid strikes, epidemics and population growth, our own planet is increasingly precarious." Previously, Hawking theorized that humanity probably has around 1,000 years left before it becomes extinct. His timeline appears now to have shortened. The famous physicist has issued a number of warnings about the future over the past few years. At the start of 2016, Hawking warned about the dangers from nuclear war, global warming, genetically-engineered viruses and artificial intelligence (AI). "Although the chance of a disaster to planet Earth in a given year may be quite low, it adds up over time, and becomes a near certainty in the next thousand or ten thousand years," Hawking told the BBC in an interview at the time. "By that time we should have spread out into space, and to other stars, so a disaster on Earth would not mean the end of the human race," he added. "However, we will not establish self-sustaining colonies in space for at least the next hundred years, so we have to be very careful in this period." Hawking is not the only major figure in the technology and science world that has warned about the threat to human existence. Earlier this year, billionaire Elon Musk said or risk becoming irrelevant in the age of AI. The SpaceX founder is working on a company called Neuralink to do just that. Founder Jack Ma, meanwhile, also recently warned that society could because of the disruption caused by new technology and the internet.

2] Colonization is the only way to survive an asteroid impact

Whitwam, 17 (Ryan Whitwam, Author, Science/Technology Journalist, 08-20-2021 , accessed on 2-9-2022, ExtremeTech, "5 Reasons Space Exploration Is More Important Than Ever", <https://www.extremetech.com/extreme/268062-5-reasons-space-exploration-is-more-important-than-ever>)//gpatel

Speaking of saving lives, space exploration could save all our lives. The solar system has calmed down a lot since the early eons, but there are still an unknown number of big asteroids and comets out there that could smack into the planet and really ruin your day. It's happened several times in the past, each one causing a mass extinction. It's not a matter of *if* another large asteroid hits Earth, but *when*. A robust space program is the only hope we have of deflecting such an object. If we're not working toward that goal, humanity already has an expiration date.

3] Heat Death will kill Humanity

Wallace-Wells, ND (David Wallace-Wells, Author, Climate Change Journalist, No Date, accessed on 2-9-2022, New York Times Magazine, "The Uninhabitable Earth", <https://nymag.com/intelligencer/2017/07/climate-change-earth-too-hot-for-humans.html>)//gpatel

Humans, like all mammals, are heat engines; surviving means having to continually cool off, like panting dogs. For that, the temperature needs to be low enough for the air to act as a kind of refrigerant, drawing heat off the skin so the engine can keep pumping. At seven degrees of warming, that would become impossible for large portions of the planet's equatorial band, and especially the tropics, where humidity adds to the problem; in the jungles of Costa Rica, for instance, where humidity routinely tops 90 percent, simply moving around outside when it's over 105 degrees Fahrenheit would be lethal. And the effect would be fast: Within a few hours, a human body would be cooked to death from both inside and out. At 11 or 12 degrees of warming, more than half the world's population, as distributed today, would die of direct heat. Things almost certainly won't get that hot this century, though models of unabated emissions do bring us that far eventually. This century, and especially in the tropics, the pain points will pinch much more quickly even than an increase of seven degrees. The key factor is something called wet-bulb temperature, which is a term of measurement as home-laboratory-kit as it sounds: the heat registered on a thermometer wrapped in a damp sock as it's swung around in the air (since the moisture evaporates from a sock more quickly in dry air, this single number reflects both heat and humidity). At present, most regions reach a wet-bulb maximum of 26 or 27 degrees Celsius; the true red line for habitability is 35 degrees. What is called heat stress comes much sooner. Actually, we're about there already. Since 1980, the planet has experienced a 50-fold increase in the number of places experiencing dangerous or extreme heat; a bigger increase is to come. The five warmest summers in Europe since 1500 have all occurred since 2002, and soon, the IPCC warns, simply being outdoors that time of year will be unhealthy for much of the globe. Even if we meet the Paris goals of two degrees warming, cities like Karachi and Kolkata will become close to uninhabitable, annually encountering deadly heat waves like those that crippled them in 2015. At four degrees, the deadly European heat wave of 2003, which killed as many as 2,000 people a day, will be a normal summer. At six, according to an assessment focused only on effects within the U.S. from the National Oceanic and Atmospheric Administration, summer labor of any kind would become impossible in the lower Mississippi Valley, and everybody in the country east of the Rockies would be under more heat stress than anyone, anywhere, in the world today. As Joseph Romm has put it in his authoritative primer *Climate Change: What*

Everyone Needs to Know, heat stress in New York City would exceed that of present-day Bahrain, one of the planet's hottest spots, and the temperature in Bahrain "would induce hyperthermia in even sleeping humans." The high-end IPCC estimate, remember, is two degrees warmer still. By the end of the century, the World Bank has estimated, the coolest months in tropical South America, Africa, and the Pacific are likely to be warmer than the warmest months at the end of the 20th century. Air-conditioning can help but will ultimately only add to the carbon problem; plus, the climate-controlled malls of the Arab Emirates aside, it is not remotely plausible to wholesale air-condition all the hottest parts of the world, many of them also the poorest. And indeed, the crisis will be most dramatic across the Middle East and Persian Gulf, where in 2015 the heat index registered temperatures as high as 163 degrees Fahrenheit. As soon as several decades from now, the hajj will become physically impossible for the 2 million Muslims who make the pilgrimage each year. It is not just the hajj, and it is not just Mecca; heat is already killing us. In the sugarcane region of El Salvador, as much as one-fifth of the population has chronic kidney disease, including over a quarter of the men, the presumed result of dehydration from working the fields they were able to comfortably harvest as recently as two decades ago. With dialysis, which is expensive, those with kidney failure can expect to live five years; without it, life expectancy is in the weeks. Of course, heat stress promises to pummel us in places other than our kidneys, too. As I type that sentence, in the California desert in mid-June, it is 121 degrees outside my door. It is not a record high.

The value is life. However, although there is life, upholding the quality of life to the highest degree is extremely important.

The value criterion is utilitarianism. Utilitarianism is defined as the doctrine that actions are right if they are useful or for the benefit of a majority. An action is right insofar as it promotes happiness, and that the greatest happiness of the greatest number should be the guiding principle of conduct.

Contention 2 is the Private Sector is the leader of space exploration

4] Private Sector: Better, Cheaper, Faster, Efficient

Thiessen, 20 (Marc A. Thiessen, Former White House Director of Speechwriting, Author, Columnist, 05-01-2020, accessed on 2-9-2022, The Washington Post, "SpaceX's success is one small step for man, one giant leap for capitalism", <https://www.washingtonpost.com/opinions/2020/06/01/spacexs-success-is-one-small-step-man-one-giant-leap-capitalism/>)/gpattel

It was one small step for man, one giant leap for capitalism. Only three countries have ever launched human beings into orbit. This past weekend, SpaceX became the first private company ever to do so, when it sent its Crew Dragon capsule into space aboard its Falcon 9 rocket and docked with the International Space Station. This was accomplished by a company Elon Musk started in 2002 in a California strip mall warehouse with just a dozen employees and a mariachi band. At a time when our nation is debating the merits of socialism, SpaceX has given us an incredible testament to the power of American free enterprise. While the left is advocating unprecedented government intervention in almost every sector of the U.S. economy, from health care to energy, today Americans are celebrating the successful privatization of space travel. If you want to see the difference between what government and private enterprise can do, consider: It took a private company to give us the first space vehicle with touch-screen controls instead of antiquated knobs and buttons. It took a private company to give us a capsule that can fly entirely autonomously from launch to landing — including docking — without any participation by its human crew. It also took a private company to invent a reusable rocket that can not only take off but land as well. When the Apollo 11 crew reached the moon on July 20, 1969, Neil Armstrong declared “the Eagle has landed.” On Saturday, SpaceX was able to declare that the Falcon had landed when its rocket settled down on a barge in the Atlantic Ocean — ready to be used again. That last development will save the taxpayers incredible amounts of money. The cost to NASA for launching a man into space on the space shuttle orbiter was \$170 million per seat, compared with just \$60 million to \$67 million on the Dragon capsule. The cost for the space shuttle to send a kilogram of cargo into space was \$54,500; with the Falcon rocket, the cost is just \$2,720 — a decrease of 95 percent. And while the space shuttle cost \$27.4 billion to develop, the Crew Dragon was designed and built for just \$1.7 billion — making it the lowest-cost spacecraft developed in six decades. SpaceX did it in six years — far faster than the time it took to develop the space shuttle. The private sector does it better, cheaper, faster and more efficiently than the government. Why? Competition. Today, SpaceX has to compete with a constellation of private companies — including legacy aerospace firms such as Orbital ATK and United Launch Alliance and innovative start-ups such as Blue Origin (which is designing a Mars lander and whose owner, Jeff Bezos, also owns The Post) and Virgin Orbit (which is developing rockets than can launch satellites into space from the underside of a 747, avoiding the kinds of weather that delayed the Dragon launch). In the race to put the first privately launched man into orbit, upstart SpaceX had to beat aerospace behemoth Boeing and its Starliner capsule to the punch. It did so — for more than \$1 billion less than its competitor. That spirit of competition and innovation will revolutionize space travel in the years ahead. Indeed, Musk has his sights set far beyond Earth orbit. Already, SpaceX is working on a much larger version of the Falcon 9 reusable rocket called Super Heavy that will carry a deep-space capsule named

Starship capable of carrying up to 100 people to the moon and eventually to Mars. Musk's goal — the reason he founded SpaceX — is to colonize Mars and make humanity a multiplanetary species. He has set a goal of founding a million-person city on Mars by 2050 complete with iron foundries and pizza joints. Can it be done? Who knows. But this much is certain: **Private-sector innovation is opening the door to a new era of space exploration.** Wouldn't it be ironic if, just as capitalism is allowing us to explore the farthest reaches of our solar system, Americans decided to embrace socialism back here on Earth?

5] Private Companies, not Governments, are shaping the future of space exploration

Houser, 17 (Kristin Houser, Writer, Editor, 06-12-2017, accessed on 2-9-2022, Futurism, "Private Companies, Not Governments, Are Shaping the Future of Space Exploration", <https://futurism.com/private-companies-not-governments-are-shaping-the-future-of-space-exploration>)
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SpaceX, Blue Origin, Bigelow Aerospace, Virgin Galactic, Boeing, Lockheed Martin... **Not only has the number of private companies engaged in space exploration grown remarkably in recent years, these companies are quickly besting their government-sponsored competitors.** "We're starting to see advances made by private entities that are more significant than any advances in the last three years that were made by the government," Chris Lewicki, CEO and President of Planetary Resources, tells *Futurism*. Amazon CEO Jeff Bezos's **Blue Origin and Tesla CEO Elon Musk's SpaceX are arguably the two companies that are setting the pace.** In November 2015, the former completed the first successful vertical rocket landing after sending their New Shepard 100 kilometers (62 miles) into the air. **SpaceX landed its own rocket a month later,** only they did so with a craft twice as heavy as Blue Origin's and traveled all the way into space first. A month after that, **in January 2016, Bezos's company became the first entity to re-launch and re-land a previously used rocket.** SpaceX followed suit in 2017. **"The government was never able to [build reusable rockets], but now, two private companies within the space of the same year have done that,"** points out Lewicki. Not only are **private companies** already surpassing their government counterparts, several **are poised to widen their lead in the coming months and years.** If all goes according to plan, when SpaceX's Falcon Heavy launches in September, it'll take the title of the world's most powerful rocket away from NASA's Saturn V. Virgin Galactic is already selling tickets for what it expects to be the first private space flights, which will take place aboard the sleek VSS Unity. **SpaceX plans to send space tourists to the Moon in 2018, and then in 2024, the company hopes to launch a system that will take people all the way to Mars...roughly 5-15 years before NASA expects to do the same.**

Contention 3 is Economic Growth

6] The Private Sector is the Engine of Economic Growth

Department of Foreign Affairs and Trade, 14 (Department of Foreign Affairs and Trade, 05-07-2014, accessed on 2-9-2022, Department of Foreign Affairs and Trade, "The role of the private sector in promoting economic growth and reducing poverty in the Indo-Pacific region", [//gpatel](https://www.google.com/url?q=https://www.aph.gov.au/DocumentStore.ashx?id%3D53a5f52f-5ee9-414b-879b-6bbcd7e8678%26subId%3D252459&sa=D&source=docs&ust=1644458466453307&usg=AOvVaw1LWpQcgKm9Uv-itdMfx94i)

The private sector is the engine of growth. Successful businesses drive growth, create jobs and pay the taxes that finance services and investment. In developing countries, the private sector generates 90 per cent of jobs, funds 60 per cent of all investments and provides more than 80 per cent of government revenues.

7] Private entities reuse and repair spacecrafts and satellites, decreasing costs

Thompson, 16 (Amy Thompson, Writer, 10-14-2016, accessed on 2-9-2022, Inverse, "3 Ways Private Companies are Reducing Spaceflight Costs", [//gpatel](https://www.inverse.com/article/22193-three-ways-to-make-space-affordable)

American entrepreneurs are leading that charge. Through government partnerships, private industry is working to significantly reduce the cost of spaceflight, ensuring more people can reach the stars. Here's a look at three ways private companies are changing the way we access space. "One of the core problems in space is the cost of transportation," Tim Hughes, SpaceX Senior Vice President, said at the conference. "SpaceX is addressing this issue by working to create reusable rockets." Historically, rockets were lost in orbit after launch. However, that's no longer the case. Companies like Blue Origin and SpaceX have been working towards reusability. SpaceX CEO, Elon Musk, has said that recovering the rocket's first stage, refurbishing it, and then re-flying it, could reduce the cost by as much as a factor of 100. "By improving the reliability and cost of access to space, we can enable bigger things to happen," Hughes explained. Mike Gold, the vice president of Space Systems/Loral — a satellite manufacturer and pioneer in the fields of space systems and robotics — is also a fan of recycling rockets. But with a twist: While SpaceX is working towards reusing the first stage, he and others are focusing on the upper stage. "We want to reuse the second stage and turn it into a habitat," explained Gold. "If we do that, then every time we launch into space we can be creating real estate, while lowering costs." The idea is to start with an Atlas V rocket, and transform the upper stage (aka the Centaur), into a habitat after you reach orbit. To do this, the team proposes adding a docking hatch to the Centaur, and then topping it off with a Cygnus spacecraft — the same one that currently makes supply runs to the ISS. Once in orbit, it can dock with the space station, where crews could then begin the process of converting it into a new hub. Satellites and other spacecraft have a limited lifespan. When one breaks down or runs out of fuel, they are abandoned in orbit, resulting in a lot of space junk. But what if we didn't have to replace satellites, what if we could repair them on orbit? That's what NASA hopes to do. "No longer are we going to just deploy a satellite, where we build it on Earth, launch it and then throw it away." Gold explained during the

panel. "From now on, we're going to restore, refuel, and refurbish these systems." NASA's Restore-L mission is a satellite-servicing mission set to launch in 2020. By using technology tested on the International Space Station that tracks how vehicles approach and dock with the station, the new spacecraft will rendezvous with and refuel the aging remote-sensing satellite, Landsat 7. One of NASA's commercial partners, Orbital ATK, has a different type of servicing mission planned for 2018. Its Mission Extension Vehicle (MEV) will be able to dock with satellites in orbit, allowing the MEV to adjust an older satellite's orbit, or move a satellite into a completely different orbit — either because an anomaly caused it to launch to the wrong location, or because it's getting a new assignment). "Eventually we're just going to have persistent platforms in orbit where you can build satellites in orbit," Gold said, "and this is going to change everything."

8] Private Entities provide sufficient paying jobs

Schindelheim, 21 (Ramona Schindelheim, Editor-in-Chief, Writer, Producer, Media Consultant, Journalist, 05-03-2021, accessed on 2-9-2022, Working Nation, "Private Companies propelling job growth in the space industry", <https://workingnation.com/private-companies-propelling-job-growth-in-the-space-industry/>)/gpatel

"Analysis also found that in regard to U.S. salaries, the average private sector space salary was \$123,234, more than double the average salary for all U.S. private sector jobs of \$59,202, and well above the average annual salary of \$95,350 for STEM occupations, according to 2019 data, the most recent year available," according to the report. It's all part of an estimated \$423.8 billion global space economy with private, commercial companies driving growth. By one estimate, the space industry could top \$1 trillion by 2040.

9] Mining Asteroids through Private Entities will boost economies tremendously

Reich, 22 (Aaron Reich, Writer, Copy-editor, author, historian, researcher, 01-06-2022, accessed on 2-9-2022, The Jerusalem Post, "Asteroids can destroy the Earth, asteroid mining can help save it", <https://www.jpost.com/science/article-691731>)

But nowadays, we can get iron and nickel from the Earth. So why would we waste our time trying to go to space, in what will likely be long, complicated and expensive voyages, for something that could be mined locally? There are several reasons for this. Mining on Earth, especially in modern times, is incredibly destructive to the planet. Iron mining, for example, emits several types of harmful gases into the atmosphere and releases acidic compounds such as sulfuric acid into the environment. Iron mining also often causes the natural terrain to be altered, which can destroy natural habitats for many animals and can cause severe damage to the ecosystem. As iron mining happens all over the world, these consequences are global, and add to the overall worsening climate disaster. Mining asteroids, however,

would avoid these consequences from happening, as the Earth itself won't be exploited for these resources. According to the Weizmann Institute of Science's Dr. David Polishook, who is also a member of NASA's Double Asteroid Redirection Test (DART) Mission which seeks to test asteroid deflection in order to avert an impact, there are three categories we need to care about. First, he told the Magazine, there are strong metals, such as iron and nickel. These are relatively common on Earth and can be used in a variety of applications. Second, there are the rarer metals such as platinum and iridium. These minerals are very rare and extremely expensive. As such, there is definitely a profit to be made by bringing these to Earth. The third isn't a mineral exactly but is still something extremely important: water. "Yes, the same H2O we all drink," Polishook clarified. This itself isn't unsurprising. Scientists have long known water and ice to be present on various asteroids throughout the solar system. In fact, it is commonly theorized that asteroid impacts are what ended up bringing water to Earth in the first place. The scientific community is well aware of the potential value of this field, as while the collective mass of asteroids may not seem like much compared to a planet – indeed, according to NASA, the combined mass of all asteroids in the asteroid belt between Mars and Jupiter is actually less than the Earth's Moon – they are still filled with valuable materials in extremely high quantities. Yes, launching mining missions to asteroids is expensive, but the returns could be worth it. Especially since asteroids have materials there that astronauts could use. This includes water, which can be used for drinking, creating oxygen for astronauts to breathe, or creating hydrogen for spacecraft to use as fuel. It could also be possible to mine a certain type of helium isotope known as helium 3. A thin layer of this light material that originates from the Sun can be found on the surface of any atmosphere-less body, including asteroids, and it could be possible to turn this into energy through nuclear fission. In other words, economically, the cost of these missions could be negligible. There is also great interest in identifying asteroids that would be prime targets for these missions, with many prioritizing large and close-by asteroids. One website, the asteroid value database Asterank, has even begun estimating the value of various asteroids as well as the estimated profit of these missions. Right now, according to Asterank, a number of asteroids are valued over \$100 trillion, but in terms of cost-effectiveness, the most profitable is Ryugu, with an estimated value of \$82.76 billion and an estimated profit of \$30.08b. Another ideal target, though much more difficult, is Ceres, the largest asteroid in the asteroid belt, with a diameter of around 980 kilometers – in fact, it is so large that, according to some scientists, it should actually be considered a planet in its own right – which is rich in ice water. This could serve as an ideal hub of sorts for these mining missions.

Conclusion

PRIVATE ENTITIES LEADING SAVING US FROM EXTINCTION, ECONOMIC BENEFITS, AND THE PRIVATE SECTOR BEING FAR BETTER THAN GOVERNMENT-SPONSORED AGENCIES MAKES THE APPROPRIATION OF OUTER SPACE BY PRIVATE ENTITIES JUST.

THUS, YOU MUST VOTE FOR NEGATIVE. THANK YOU.