

HMDC Presents... FUTURISTIC SC: Video 1 Transcripts

These are the words spoken in the two Video 1 films for FUTURISTIC SC (The Topic). We read along while we watch, pause at each time mark, and circle any word we do not know so we can look it up together.

VIDEO 1 (EXPLAINER)

[0:00] Welcome to this explainer for HMDC Presents... Futuristic Security Council. Use of space in 2100. Part 1. The topic. We are going to speak slowly and in plain English today to make sure you are fully briefed on the rules of outer space for your upcoming debates. Now, before we jump in, let's get one very clear ground rule straight. Your committee is set in the year 2100, but that year is entirely imagined. Because of that, every single fact and figure you hear in this explainer is absolutely real and comes from the year 2026 or earlier. Whenever we do talk about an imagined scenario for your debate, we will clearly label it as a fiction 2100 assumption. Make sense? Right, let's quickly check out our simple agenda. We are breaking this down into four parts.

[0:46] Space today and space law. Three harms in outer space. Five major space solutions. And finally, questions for your delegation. Space today and space law. We will look at current satellites and the Outer Space Treaty. So, look up. Orbiting right above us is a massive web of technology. According to Jonathan's Space Report, published on October 12, 2026, there are exactly 16,988 active satellites out there. That is a massive amount of hardware just floating in orbit. But what is really interesting is who actually owns all that hardware. Roughly 65% of all those working satellites belong to just one private company. Yep, Starlink. And these satellites are highly desirable because they help pretty much everyone.

[1:35] From everyday citizens walking down the street to national armies. We rely on them for our phones, the internet, weather tracking, farming, banking, and global navigation. They really are the invisible backbone of modern life. But what are the rules up there? Well, according to the UN Office for Outer Space Affairs, last accessed in October 2026, the basic law is the Outer Space Treaty. This treaty clearly bans claiming territory in space and it bans putting weapons of mass destruction in orbit. It also makes states responsible for whatever their private companies do. However, it actually does not ban other conventional weapons. And that legal gap can definitely cause harm. Three harms in outer space. We are going to look at debris, weapons, and unfair risks.

[2:20] The first harm is debris or space junk. The European Space Agency, in a report from April 1, 2025, tracked about 40,000 objects. And estimated, there are over 1.2 million pieces of debris larger than just one centimeter. This massive growth in junk is highly undesirable. And it continues multiplying even if we launch absolutely nothing new, just from things bumping into each other. And why does this tiny junk cause so much harm? The NASA Orbital Debris Program Office, last accessed in October 2026, points out that these collisions happen at unbelievable speeds, about 10 kilometers per second. At that speed, a tiny fleck of paint hits like a bowling ball and can shatter a satellite. And what is highly undesirable?

[3:05] Debris trapped near the 800-kilometer mark will literally stay up there for centuries. The second harm we are facing is the spread of weapons and signal jamming. This threat is growing fast. On April 8, 2026, the Secure World Foundation studied 13 different countries that are actively developing space weapons. We are already feeling this down on Earth. The Center for Strategic and International Studies reported on April 25, 2025, that GPS jamming is actively happening in conflict zones. Plus, a RAND Corporation report from May 21, 2025, highlighted stark lessons from Ukraine, showing exactly how vulnerable our commercial satellites are during wartime. The third harm is an unfair risk to human life down here on the ground. A study published in Nature Astronomy on July 11, 2022, found there is about a 10% chance of casualties from falling rocket bodies over a decade.

[3:56] And if anyone tells you this risk is shared equally by everyone on Earth, that is simply incorrect. The highest chance of this falling actually lands on cities in the global south, which creates a deeply undesirable situation. So how do we solve this? Let's move to part three, five major space solutions. Here are the main advantages and objections you will be debating in committee. Solution number one is a formal weapons treaty. This is desirable because it gives us a clear binding rule against weapons in space. But there is pushback. The UN Office for Disarmament Affairs, last accessed in October, 2026, notes a major objection here. A treaty like this completely misses ground-based missiles that shoot up into space, and making sure countries actually follow the rules is really hard to check.

[4:41] So solution two shifts gears to norms of responsible behavior. This can really help by focusing on observable actions that countries can agree on incredibly fast. The objection though, these are just voluntary rules. There is literally no penalty if a country breaks the norm and engages in undesirable behavior. Solution three is a ban on destructive anti-satellite tests. This is highly desirable because it directly targets the single action that causes the most harm by creating space debris. However, as the RAND Corporation laid out on July 28, 2025, there is a strong objection. A test ban only stops testing. It totally misses the actual use of these weapons in a real war. And it does not stop jamming or cyber attacks at all. Solution four is all about debris rules and traffic management.

[5:29] It is definitely desirable to have safer orbits for every country and company up there. The objection? It always comes down to money. As long as these rules are voluntary, companies are going to resist the massive costs of cleaning up their old satellites. And solution five is creating shared rules for space resources. This would help us prevent disputes before asteroid mining even begins. But the major space powers strongly disagree on which legal model to use, which is a massive objection standing in the way. All right, that brings us to our final section, questions for your delegation, to help you prep for the 2100 Security Council. As you get ready for this fiction 2100 assumption scenario, you need to ask your delegation three questions. First, will a binding ban or voluntary norms best help humanity?

[6:17] Second, who exactly is going to pay the huge bill for cleaning up all that space junk? And third, should those mined space resources be shared with everyone or kept by whoever dug them up? Think carefully, delegates. What you decide could change everything.

VIDEO 1 (CINEMATIC)

[0:00] For this exercise, we are projecting 70-odd years into the future. You are sitting on the United Nations Security Council, and the year is 2100. But everything you are about to hear, every data point, every threat, every legal loophole, is a verified fact from the real world of 2026. This visualization maps our active orbital infrastructure. Right now, there are nearly 17,000 working satellites rapidly circling the Earth. And that massive network is heavily centralized. Roughly 65% of those active machines are operated by a single private corporation. We rely on these arrays every single day. They route our phone calls, process our internet traffic, and track severe weather patterns long before they hit the coast.

[0:47] Major commercial industries are entirely bound to them. Global shipping fleets use precise orbital signals to navigate the oceans, while industrial agriculture depends on them to guide automated tractors and monitor crop yields. We rarely look up and see this machinery, but it functions as the hidden spine holding modern human civilization upright. Because our daily survival requires this crowded, privately-dominated environment to stay perfectly functional, humanity has developed a massive shared vulnerability. If those orbits are compromised, everything on the ground slows to a halt. This density map shows the first major physical threat. The space directly above us is polluted by an immense, unmanaged cloud containing over 1.2 million pieces of metallic debris larger than a centimeter.

[1:35] Up there, a microscopic piece of metal is a lethal projectile. These fragments travel at roughly 10 kilometers per second, more than 10 times the speed of a bullet. At that velocity, a bolt the size of a fingernail has the kinetic energy to tear straight through a working satellite. When a machine shatters, the problem multiplies. One destroyed satellite instantly produces thousands of new, uncontrolled shrapnel pieces. This sets the stage for a mathematical chain reaction. A single collision throws high-speed debris into the paths of other satellites, triggering secondary collisions that cascade across the entire orbital layer. These fragments do not simply wash away. In higher altitudes, they can continue circling the globe for centuries, threatening future generations.

[2:22] Orbital debris is actively expanding pollution. Left unchecked, this multiplying hazard will render our most useful orbits completely unusable. And what goes up often comes down. Dead rocket bodies and massive chunks of hardware regularly fall back to Earth without any guided control, posing a direct physical threat to human populations. The states launching these rockets are largely protected, while the global south absorbs the highest probability of impact. Look at the immense civilian density of Jakarta. Or consider Lagos. These equatorial cities are at least three times more likely to have a falling rocket stage pass overhead than northern capitals like Washington or Moscow. The danger on Earth extends beyond falling metal.

[3:09] Military forces in conflict zones are actively using electronic warfare to jam navigation signals. Those are the exact same signals civilian infrastructure requires. When GPS is blocked, the interference blindfolds commercial cargo ships, passenger airlines, and emergency rescue workers trying to locate disaster zones. This interference is actively happening right now, bleeding outward from conflict zones and disrupting daily operations thousands of miles from any traditional battlefield. We are left with a severe inequality. A small handful of powerful actors and private companies reap the highly desirable benefits of space. All innocent civilians and developing nations are forced to absorb the physical and electronic harms. The rulebook governing all of this activity is the 1967 Outer Space Treaty.

[3:56] It was written when only two nations on Earth could reach orbit. It established vital boundaries. Most notably, it strictly bans placing nuclear bombs or other weapons of mass destruction in space. But this diagram reveals the legal vacuum we face today. That 60-year-old treaty completely fails to regulate modern, non-nuclear threats. Ground-fired anti-satellite missiles, orbital lasers, and electronic jamming easily bypass the existing framework. We require new policies to close that gap. Options on the table include drafting a comprehensive new weapons treaty, defining strict behavioral norms, or implementing a hard ban on destructive missile tests. We also need binding rules to coordinate debris cleanup and create shared legal frameworks for whoever attempts to mine lunar resources.

[4:46] This is where you come in. As a delegate in the year 2100, you are seated in this room. The UN Security Council is the only body on Earth with the authority to issue Chapter 7 decisions, binding laws that can force compliance from both powerful nation-states and massive private monopolies. The harms are multiplying, and the mid-century rules no longer protect us. It is up to you to decide which specific policies you will champion to secure the sky and protect life down here on Earth.