

# Hosted Payload Episode 5

*Wiley Connected*

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With wildfire smoke choking the DC landscape, host Henry Gola and guest Kara Azocar of Iridium lean in to the moment and discuss the 2008 cautionary tale Wall-E. Then, Payton Alexander talks about the space environment, new State Department goals, and paying the FCC on the Orbital Debrief.

## Transcript

Henry Gola

Hello and welcome to Episode 5 of Hosted Payload, the satellite and space law podcast. From Wiley Rein in Washington, D.C., I'm Henry Gola. When Iridium's new Vice President of Regulatory, Kara Azocar, agreed last week to join this episode to discuss the movie Wall-E, we did not anticipate how timely it would be, with smoke from Canadian wildfires turning beautiful June skies on the eastern half of the country from blue to the same rusty orange tones of that Pixar classic. On this episode, we'll discuss whether, 15 years after its initial release, Wall-E's ultimate message of hope for our planet holds up. Then, my colleague Payton Alexander joins me to break down the latest in satellite and space news in The Orbital Debrief. Giddy up!

All right, welcome back to Hosted Payload. Today my guest is Kara Azocar. She is Vice President of Regulatory at Iridium Satellite. Kara, welcome to Hosted Payload.

Kara Azocar

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Thank you for having me.

Henry Gola

We're excited to have you. Excited to talk about the 2008 Pixar animated film Wall-E, which was your choice, Kara. I like it the first animated film we're discussing on this podcast. So, congrats on that honor.

Kara Azocar

I am honored it just shows my maturity level, I suppose.

Henry Gola

Yeah, that's right, that's right. And the fact that you have young kids too I'm sure also says that.

Kara Azocar

That too. Although, we rewatched it this weekend and we had seen it previously, and they were like "why are we watching this again?" and like left the room and found another TV and I was like "This is, this is gripping. It's about orbital debris, come on!"

Henry Gola

All right. So let me give a brief synopsis of the film and then we'll get right into it. So ah, the 2008 Pixar animated film Wall-E was directed by Andrew Stanton and written and directed ah by Stanton and Jim Reardon. 800 years in the future, the trash collecting and compacting Wall-E is the last robot on earth. Over this time, he's developed a personality and he's lonely. Soon, he's visited by the sleek robot Eve, who transports him and a plant to a faraway spaceship that's housing what's left of the human race. Wall-E won the 2009 Oscar for Best Animated Feature and was nominated for Best Original Screenplay, among other Oscar nods. All right, Kara. An FCC parlance, Wall-E: petition to deny or comments in support?

Kara Azocar

Comments...well, I guess, comments in support.

Henry Gola

It seems like a tentative comments in support. Tell me why.

Kara Azocar

Well, because there's some like, there's some pieces of it that I find sort of inaccurate.

Henry Gola

Okay.

Kara Azocar

So, like for instance, they, there's this scene where Wall-E follows Eve into space to she's going, she or it, is going back to you know, complete its mission. And Wall-E is so lonely that he grabs hold of the side of the ship that that Eve's in, and flies through the atmosphere. And, in the process, like a bunch of satellites hit him on the way - it on the way up - and there's a few things that are inaccurate about that that did perturb me a little bit.

Henry Gola

Go on.

Kara Azocar

Um, so first, first of all the space - the satellites that hit it like don't really look like what current satellites look like and any of the satellites that look like that have since been deorbited one way or another. So, there's that. And also it shows them just sort of like floating in the atmosphere, but they would be moving at like a very rapid speed and be like hitting Wall-E rather than just floating there. So. That's the lawyer's version of that science and why it's wrong.

Henry Gola

I hear you yeah. They were just sort of in a sort of stasis in orbit there. And they were whole satellites, right? I mean I could see some debris floating out there. I don't know if you saw the movie that came out last year or the year before, *Don't Look UP*. But in that movie, there was also a lot of debris in space. But it was debris. This movie it was just whole, like flocks, of satellites that were just whole satellites, not moving, as you say, or appearing not to move. I also noticed that the spaceship just sort of blasts its way through and is not affected by hitting the satellites. It's almost like they just deflect off. But I appreciate, Kara, that you got right to the point on a space and satellite podcast about the satellites that were in this movie. So that's kudos to you on that. Besides that, did you find anything else unrealistic about the movie or was the rest of it to your liking?

Kara Azocar

I mean it's an animated film. So, it was it was to my liking, but I wouldn't say it was realistic. I think I liked how it was it was really about like love and friendship more than about...Sort of it was a very, I think, kind of - especially on a day, like you may not be able to see out my window but, like, we're on a day in the DC-area where it's like terrible air quality because of environmental factors. And so, it's kind of this sad movie about like what happens if you don't take care of earth and space for that matter. And so, it was solemn in that respect, which is probably why my kids were like "I don't need to watch this anymore. It's a little sad." But then it was also about this love between these two robots that, like, aren't supposed to have personalities but very clearly do and it's...It's interesting. There's these moments where each of them have no personality at all where, like, I think at some point like WALL-E, he gets reprogrammed. Eve saves him, saves WALL-E. And WALL-E, he gets reprogrammed, and WALL-E comes back and has no personality and it's this like sad moment. And

same thing with Eve. In the beginning, Eve is like just doing Eve's job. And then, over time, WALL-E gets to Eve and Eve becomes more personal. I liked those aspects of it. I thought that was nice.

Henry Gola

Yeah, um I found, and I'll ask you about this too. But I found like post-covid, after everything we went through personally and as a society, that the aspect of like Wall-E longing for touch, right? That's all he wants. He wants to hold someone's hand. The whole movie was kind of, it kind of took on a new meaning, watching that again now in 2023 than maybe it had in 2008. Did you find that as well?

Kara Azocar

Yeah, I did that's a very good point. And I forgot about that because their hands, like, don't really even like fit together. And Eve is this, like, bot that's like a totally cylindrical shape and, like, doesn't really come out except when it has a function to do so. And all WALL-E wants to do is like get Eve's hand out so that he can hold it. And it was that longing for personal connection that we lost for like whatever, 18 months, two years, three years, whatever you want to call it during covid. So I totally agree.

Henry Gola

You know Pixar movies I find, they're not, I think your kids are not alone and mine were the same way. They did not want to watch this again. And they've seen it but they liked it. It wasn't they were like "I don't like this movie." It was just like "I've seen it and I'm not sure I want to watch it again." And I always felt the same way about *Up*. I don't know if you've seen the movie *Up*, but that is also, you know, it's also not one you want to watch a lot because it's so, ah, like it's such a tearjerker. And so like, you know, heavy, I guess. Um, and this one like I kind of felt the same way. So, do you think this is a hopeful movie a depressing movie or both?

Kara Azocar

Oh, there are points of it that are very depressing. But I think it ends hopeful when the humans, like, so the humans are also like my children are with screens. Like they just are, like, programmed after all these - I forget how many years they had been on that ship at that point.

Henry Gola

700.

Kara Azocar

They had been on the ship for 700?

Henry Gola

Yes, yeah.

Kara Azocar

Oh, that's interesting. Well, and they were in these chairs and just sort of floating around and they were drinking all their food and they had screens right in front of their face. And there's a point at which Wall-E crashes into one and they fall out, and they realize like what's around them. And, so, I found it to be this hopeful...and the ship's captain when Eve brings back the plant at first is like, "I've been on autopilot for 700 years, what do you mean that I have to steer the ship somewhere or return to earth? I don't even know what earth looks like."

Henry Gola

Right.

Kara Azocar

And there's this conflict between the people on the ship and the robots on this ship that I feel like is not to, not to bring it back to, you know, law and policy, part of the current debate with AI as well, with artificial intelligence like and how it's sort of humans having the minds, versus robots having the minds. And so, I found it hopeful. In the end the humans went out and they returned to earth and they plant plants on earth and start to like repopulate it. So, I found the ending very hopeful but much of the movie is very depressing.

Henry Gola

Yeah, that's for sure. You know, the AI in this movie, autopilot, is a kind of obvious callback to Hal in *2001 Space Odyssey*. He's got the red eye. He's piloting the ship. But they're, they're, a little different. You know Hal in *2001*, sort of develops human traits first for survival, right? And Auto in this movie, you can kind of think of it the same way, right? He's trying to, or whatever "It", is trying to survive because without ship continuing on he has no job, right? And also likewise, he's also just continuing his mission. He was told not to go back to earth at some point, right? And then he kind of sabotages the whole deal. So, AI is never really presented as a good guy in movies though. You look at like the terminator, this movie, *2001*. Um, it's rarely presented as something that's beneficial for humankind. Maybe that'll change over time in movies, we'll see.

Kara Azocar

I think Auto was like a complicated AI. And I do, I do, think there was like – Auto had a belief that it was keeping the humans safe, because there was that video where the former leader on earth said "Don't return." But it was like 700, or 699 years ago.

Henry Gola

Right.

Kara Azocar

It had been so long that um, so I think that that's...It just, it just, indicates one of the problems with the fact that that intelligence is artificial, is the inability to make judgment calls.

Henry Gola

So that's right, that's right. That's a great point. All right. So, part of Wall-E's charm is that he collects and saves random bits of trash like a spork and a twinkie that, you know, humorously survives for 700 years and can still be. So, if you had the choice of a few objects to stow away on a remote part of the planet, what would you keep?

Kara Azocar

That's a hard question. I guess they have to be things that would keep for 700 years, right?

Henry Gola

That's right, that's true. But not even for 700 years. What would you take with you if you had like 3 things.

Kara Azocar

Oh um, for sure a photograph of my family. Um I don't know a piece of jewelry that reminds me of like you know, something else to do with family and.

Henry Gola

And.

Kara Azocar

And I would probably take like a piece of food like the twinkie just to see how long it survives. Like a Mcdonald's chicken nugget.

Henry Gola

That's very scientific of you. That, that, despite you know you're the last person on Earth and you're taking things somewhere that you would still do a science experiment to benefit - to see what's happening.

Kara Azocar

I'm not really a things person to be totally honest. So, none of that. I just assume like if I lost everything tomorrow like what would be the most important thing to me. Ah, and so I'd probably want to know if I was to save something, like what would happen to the things that I keep? Rather than, you know, like I'd be curious like what happened to that photograph over the years. Like how would it change? Would it totally deteriorate or would there still be something to it? Um and same with like a stone or a jewelry like a some sort of

precious stone. Like will it keep forever?

Henry Gola

Ah, interesting. So, I thought about this question too because I, I wasn't gonna...I thought it was an unfair question to spring on you without answering myself.

Kara Azocar

Good. I Appreciate that.

Henry Gola

So, I also, I also came up with a photograph but then the other thing I thought of was like taking something to play music that wouldn't need power. Like an old phonograph or something and a record so I could like hear music, right. At some point and what would, it might get boring to hear the same thing over and over again, but it would be something.

Kara Azocar

The music one though - not to interrupt you - is interesting because in the movie, Wall-E, he has like cassette tapes which I thought was interesting that it's a 2008 movie and they didn't do DVD, is probably because they would have gotten scratched. Or something like that. Or like an iPad that he found power for, but instead they had like VHS tapes and Wall-E was listening to the songs in them and learning about love and people through them.

Henry Gola

Yeah.

Kara Azocar

So, it's interesting that you chose music because that was something very important in the Wall-E movie as well.

Henry Gola

It was. It was very important to Wall-E he had that old tape I guess it was "Hello, Dolly," and I read like I'm not a theater buff by any stretch of the imagination, and I guess the song that they played in the movie is not even like one that's, like, famous from that, from that musical. Um, so that was an interesting choice and kind of speaks to the randomness of what he was just going around and finding, you know? Wall-E gets a lot of credit because the first 20 minutes have no dialogue, right? It's almost like a silent, it's a silent movie.

Henry Gola

I found it very peaceful. What did you think about that first twenty minutes? I mean it's depress-, again, depressing. You're at looking at sort of like a hellscape of earth. But it's also peaceful. It's not like a typical animated movie with like, you know, pop songs and you know, zooms and, you know, sound effects, right? It was very sort of like I said peaceful. How about you? What did you think of that?

Kara Azocar

I thought that was the depressing part of the movie. I didn't find peace in that at all. But I like that you did! It is quiet and thoughtful and very pensive. So, I can see why peaceful is a word you would consider. I just thought it was sad. Like he, he - it - I keep calling Wall-E a he and Eve a she but they don't really have genders. So, I don't know why I do that, so I apologize. But ah, so, Wall-E like goes by all of these like dead Wall-Es...

Henry Gola

Right.

Kara Azocar

because clearly there had been, like, many Wall-Es that had come to clean up earth and Wall-E was the only one left and he goes by all the dead ones. That one was really quite upsetting to me. And he like takes off like pieces of the old of the other Wall-Es so that, so that the Wall-E that's on - that's alive - can like stay on. Like he replaces his eye, you replaces his like wheels on his bottom

Henry Gola

His tread, yeah.

Kara Azocar

Yeah, the tread. Yeah, exactly so I found that very sad.

Henry Gola

Yeah, I mean I don't think it's, I don't think it's like a slip or anything to call them "he" or "she," because they're sort of the most human characters in the movie, right? They're more human than the humans, right? They have more, they show more emotion and have more ah, like, zest for life you might even say than the humans until the very end, right until the humans sort of, you know, get up out of their chair and the captain makes the big move to bring him back to earth.

Okay, so I'm going to guess that Wall-E is not your favorite Pixar movie ever. Maybe it is, but what is, if it's not?



Kara Azocar

That's a good question. Is *Sing* a Pixar movie?

Henry Gola

*Sing* is by the Rival Dreamworks folks, like the guys, the folks who do like Minions and that stuff.

Kara Azocar

That's what I thought. Okay, so then it's the one, what's the one that's about the emotions?

Henry Gola

*Inside Out*?

Kara Azocar

That one. That's my favorite.

Henry Gola

*Inside Out* is really really good and my kids will watch that over and over. And that one is just as sad. Um, when the imaginary friend sort of sacrifices himself. Pixar, man, they, ah, they make it emotional when you watch a movie. For parents and kids.

Kara Azocar

That's true. It's true and I saw *Inside Out*, like I didn't have kids at that time I just decided to watch it. Um, and it's still like, when I have moments where like a particular - I picture those the like different feelings. Like I, it's like very impressionable on me.

Henry Gola

Yeah, I agree with you. Like I love the Anger character and I love the end because we have cats and dogs and I love the end when the cat is on the, on the control panel and just hitting things. Like I think that's hysterical. So.

Kara Azocar

Yep.

Henry Gola

All right. Any last thoughts on Wall-E?

Kara Azocar

No. But I want to hear what your favorite Pixar film is.

Henry Gola

My favorite, my favorite Pixar film is probably Toy Story 1 or 2. I actually saw Toy Story in high school and I wrote a review for my high school newspaper and I gave it 5 stars. I remember that to this day. And then I got made fun of by my classmates for giving an animated movie such a good review. But I really, I thought it was so at the time - and I still is- I thought it was so like ingenious and innovative in terms of like an animated movie kind of having adult themes. Um, so that one is stuck with me. Um I love *Inside Out*. I love most of them. I thought *Soul* was great. Um, I'm looking forward to the new one that's coming out this summer. Um, so yeah, I'm ah um, I'm a Pixar stan for sure.

Kara Azocar

Me too. You've made a friend so that's good.

Henry Gola

All right. Well, thanks Kara. Really appreciate you joining this latest episode of Hosted Payload. Thanks.

Kara Azocar

Thank you for having me.

Henry Gola

All right and welcome into the Orbital Debrief. Joining me, again, to tell you everything you need to know in space and satellite law is my colleague Payton Alexander. Payton, welcome back.

Payton Alexander

Thanks Henry! It's great to be back on the show.

Henry Gola

Well, the environment is on the mind of many with smoke from Canadian wildfires polluting the air across much of the east coast but, Payton, let's talk about what's going on with government activity regarding the environment in space.

Payton Alexander

Absolutely. So, as I'm, as I'm sure our listeners are aware, recent years of witness the authorization of constellations of thousands of new satellites as companies race to provide internet connectivity and other services from space to the whole service of the planet. And, traditionally, the National Environmental Policy Act, or NEPA, has not been applied to activities in space by the FCC. But, back in November, the Government Accountability Office released a report discussing how the FCC considers the environmental effect of these large constellations and, specifically, how it determines whether licensing them is excluded from NEPA.

Henry Gola

Okay, so what did the GAO recommend in that report?

Payton Alexander

So, the GAO report makes three major recommendations to the FCC and the first one is that they said the FCC needs to review whether licensing these large constellations of satellites usually doesn't have significant effects on the human environment. The second, is GAO recommends the FCC establish a timeframe and a process for periodic review of this exclusion of these constellations under NEPA. And the final recommendation is GAO wants the FCC to identify the factors that they'll consider when determining in the future if an extraordinary circumstance is present when reviewing these licenses for large constellations.

Henry Gola

Got it. So, has the FCC taken action yet? What's been their response?

Payton Alexander

Not yet. As of now the FCC has not taken action. However, Chairwoman Rosenworcel did indicate in a recent letter to Congress that the FCC is likely going to review its exclusion of large satellite constellations from NEPA. Ah, including whether to establish a timeframe and a process or periodic review of that exclusion.

Henry Gola

All right. Well, that will be a rulemaking with major import for satellite operators at the FCC takes it on moving on. It looks like last Tuesday the State Department released a strategic framework for space diplomacy. Tell us more about this.

Payton Alexander

Yeah, so this is actually a first of its kind outline of how the department will advance us space leadership. It's focus on three pillars. One is advancing space policy through diplomacy. Two, using space policy to advance wider diplomatic goals. And three, empowering the department workforce, their staff, on tools for engaging with space policy. So, the framework also emphasizes international cooperation in specific areas like using remote sensing satellites for climate change, arm control, and economic competitiveness.

Henry Gola

Sounds like an important goal and one that hopefully we could build on to cooperate for remote sensing to stay on top of these wildfires.

Payton Alexander

Yeah, I think that's exactly the kind of thing they have in mind.

Henry Gola

All right. Back to our home agency, the FCC. The commission is now seeking comment on everyone's favorite time of year, regulatory fees and how much you have to pay. Can you walk us through the background on this?

Payton Alexander

Sure, so the FCC's regulatory fee system is designed to offset the cost of regulating the wide range of industries that they regulate. So, these fees are paid by the regulated entities and the idea is that the fees should be proportional to the benefit that the industry receives from the regulation. So, for instance, a satellite company providing commercial robot sensing doesn't pay for the time and effort the agency spends regulating robocalls, for example.

Henry Gola

But even though, I'm sure nobody likes to get robo called.

Payton Alexander

Right, right. But even though the FCC has traditionally considered not just the general benefit to the public, ah, in the context of distributing the cost of regulatory fees, but specifically the benefit to each industry or kind of regulated entity.

Henry Gola

Okay, so what is new in this year's notice of proposed rulemaking on reg fees for space and satellite companies?

Payton Alexander

So we're breaking a lot of new ground. Um in recent years the FCC has been exploring ways to foster the development of in-space servicing assembly and manufacturing, or ISAM, and that includes on orbit servicing or OS missions as well as rendezvous proximity and docking operations or RPO. Ah, these are all really new exciting developments promised to revolutionize the space sector, allowing us to do things like repairing and repositioning satellites on orbit, manufacturing tools and equipment in space, and even assembling new

spacecraft and space infrastructure off earth. Ah, so here what the FCC is asking is whether these operations fit into existing regulatory fee categories or if maybe new categories would be more appropriate.

Henry Gola

Gotcha, the old square peg in the round hole. So, why is this such a tough nut to crack?

Payton Alexander

Well, so, ICM is hard to pin down because we don't really know what the industry is going to look like yet. It's still in its infancy. The typical mission profile could resemble that of a geostationary satellite or a non-geostationary satellite, which each have their own fee category. Or, it could involve a lot of on-orbit movement, vehicles switching locations, altitudes, inclinations, even flying back and forth from geostationary to non-geostationary orbit. So, because NGSOs and GSOs pay different regulatory fees, as do small sats and other kinds of satellites, the FCC is seeking more comment on how we're going to slot ICM into all of this.

Henry Gola

Gotcha. So, when does industry have to submit their comments by?

Payton Alexander

So, comments are due on the NPRM next Wednesday, June 14<sup>th</sup> and reply comments are due two weeks after that, on June 29<sup>th</sup>.

Henry Gola

All right, terrific, Payton. Thank you so much for the Orbital Debrief and these three things we need to know.

Payton Alexander

Thank you. Always a pleasure.