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My name is Rafael Lugo, I'm an aerospace engineer and I work with a team that is looking

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at the space system trajectory from lift-off all the way to splash-down. The project that

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I'm working on, is looking at being able to simulate the trajectory of the Space Launch

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System for Exploration Mission 1, from lift-off, to orbit around the moon, all the way back

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to entry descent and landing using the heat shield from the Orion Capsule. We call that

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end-to-end. The tools we use are geared towards analyzing different parts of the trajectory;

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lift-off, orbit, splash-down and ultimately, we'll be able to combine these tools, in

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a seamless, integrated, analysis so that we're able to look at missions using the Space Launch

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System to other planets including Mars. What excites me about this project is, the fact

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that, the tools I am using are ultimately going to be able to be used on missions to

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other planets, other bodies. What I have here
behind me is a heat shield for the Orion Capsule.

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The Orion Capsule rides at the top of the
SLS and the SLS is basically pushing the capsule

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all the way to the moon and back and the heat
shield is what protects the capsule during