

BUSINESS INNOVATION SYMPOSIUM (E6)
Interactive Presentations (IP)

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BRIDGING SCIENCE AND ENTERTAINMENT WITH SHOOTING STARS ON DEMAND

Abstract

ALE would like to present an introduction to our company and project. We aim to become one of the world's first space entertainment companies. Our project will create artificial shooting stars that can be released on demand anywhere in the world. Our "Sky Canvas" project paints the night sky with shooting stars. A natural shooting star occurs when a particle in space, with a size of a few millimeters, enters the atmosphere and burns brightly through a process called ablation. Our goal is to artificially recreate this process. We will launch a satellite loaded with about 100 to 300 "source particles" that become ingredients for shooting stars. When the satellite stabilizes in orbit, we will discharge the particles using a specially designed device on board. The particles will travel about one-third of the way around the Earth and enter the atmosphere. It will then begin ablation and become a shooting star. In the "Sky Canvas Project," numerous source particles can be continuously emitted, which allows us to create not only a single shooting star, but a meteor shower.

We believe that artificial shooting stars by ALE can clearly be seen anywhere, even in city skies. Our shooting stars will be available in a wide variety of different colors with the flame reaction. Our shooting stars travel slower and longer across the sky than a natural shooting star. This makes it possible for more people to enjoy the spectacle for a longer period of time. A shooting star burns brightly across the sky at an altitude of 60 to 80km. At ground level, this can be observed in an extremely wide area, with a radius of approximately 100km, or a diameter of approximately 200km. While this project is about promoting outer space entertainment, it is also equally about contributing to scientific research. Our efforts are led by roughly 20 space engineers, four professors in Japan's prestigious institutions, doctorate students in their research labs, as well as engineers in partnering institutions. Development of artificial shooting star particles and observing its behavior in luminescence, vibration and vacuum chamber experiments have allowed these scientists to uncover new facts about the behavior and nature of meteoroids and the upper atmosphere. As we further develop the artificial shooting star technology and officially launches then observes the trajectory of its shooting stars after 2018, the engineering team hopes to contribute further to scientific research.