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Rocketplane XP Refining Design for \$30 Million Project

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Rocketplane Limited, Inc., an Oklahoma company that hopes to make space travel as safe, convenient and routine as air transportation, is ramping up work on its Rocketplane XP design.

Charles Lauer, co-founder of the company and director of business development, said the Rocketplane team has spent about \$4 million over the last 10 months on the project. A total investment of about \$30 million is what it will take to get the first XP built, through flight testing and nudging its way into revenue-generating service, Lauer said during the Space Technology & Applications International Forum (STAIF), held here February 13-17.

Rocketplane Limited, Inc. has obtained from the State of Oklahoma a \$13 million face value Investment Tax Credit to develop a reusable suborbital tourist business at the Oklahoma Spaceport. Rocketplane's main office and engineering center are based at Will Rogers Airport in Oklahoma City, and quite appropriately located on Amelia Earhart Lane.

The plan calls for Rocketplane XP to depart from the Oklahoma Spaceport located in Burns Flat and whisk customers to a suborbital altitude of better than 100 kilometers above the Earth's surface. At that height, a spectacular view is promised, along with a period of weightlessness lasting for up to four minutes. The company also envisions transporting innovative scientific experiments and valuable payloads to suborbital space and beyond.

The company's working goal is to conduct its first commercial passenger flight in early 2007.

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Charles Lauer, Rocketplane Limited co-founder, said his team has spent about \$4 million over the last 10 months on the project, and that a total investment of about \$30 million is what it will take to get the first Rocketplane XP (above) built, through flight testing and nudging its way into revenue-generating service.

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"There's real engineering going on," Lauer told the STAIF gathering. "After 10 years of working on this project, now we've got real hard-

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ware."

The fuselage of the Rocketplane XP is a modified Lear 25 series using the same General Electric CJ-610 turbojet engines found on the standard business jet configuration. Those powerful engines would be used for takeoff and then shut down after rocket engine

ignition.

The XP jet engines would be restarted at high altitude after re-entry, as the craft makes it way on the approach corridor to the Oklahoma Spaceport. Those jet engines, by the way,

are the non-afterburning version of the J-85 engines that Scaled Composites uses on the White Knight carrier aircraft that transported SpaceShipOne to release altitude. In 2004 SpaceShipOne became the first privately owned vehicle to fly into space.

Lauer said Rocketplane en-

gineers are building a new delta wing that attaches to the Lear jet fuselage — on the same keel plate used to mount the current wing structure. In addition, a new aft fuselage structure is being fabricated to accommodate the rocket engine thrust loads. The vehicle also is getting a new vertical tail structure.

Orbital Technologies Corp. of Madison, Wis. is providing the main rocket motor.

Lauer said the suborbital craft will undergo an extensive series of shakeout test flights next year. "We're going to have a lot of data before we start commercial service."

Runway rollout of the fully operational XP is slated for the middle of 2006. The welcome carpet for paying customers is to be rolled out the following year. The going rate is now targeted in the \$150,000 to \$160,000 range, Lauer said.

The traffic model for the XP starts at about 200 people a year, Lauer said. "Our capacity is a lot more than that."

Given two XP vehicles, flights would be dedicated primarily to tourism, as well as microgravity research, Lauer added.

Marketing space: lessons learned

Last year, Rocketplane and Incredible Adventures of Sarasota, Fla. announced a marketing agreement in which both companies would begin taking reservations for the XP space flights.

Taking adventure to a higher level is what space tourism is all about, said Jane Reifert, president of Incredible Adventures.

"I'm starting my own little campaign to change the phrase space tourism," Reifert told the STAIF audience. "To me a tourist is somebody going to Disney World with a camera and blocking traffic when I'm on the way to work ... somebody getting in the way."

Reifert said that those hungry to fly into space are highly educated and highly motivated individuals. They are risk takers, space thrill-seekers and adventurers, she said, and shouldn't be associated with someone just camera-clicking away.

There are a number of lessons learned that Reifert and her company have already chocked up in the adventure tourism business.

"Marketing space will not be easy. Fun haters are everywhere. Most of them are lawyers, insurance agents and government officials. Anyone marketing space to civilians must be prepared to meet obstacles," Reifert said.

A suborbital flight is no vacation, Reifert said. "Adventurers are fulfilling a lifelong dream. They will pay a premium price to see their dream come true ... but they expect a premium product in return. Be prepared to deliver everything you promise and more," she advised.