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PRESS RELEASE – SPACEWARD 2008 \$2M BEAM POWER CHALLENGE: TRUMPF LASER TO SUPPORT COMPETITION TEAMS

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2008 Space Elevator Beam Power Challenge Gets Helping Hand.

Mountain View, CA; January 21, 2008 – The Spaceward Foundation is thrilled to announce that TRUMPF Laser will be supporting Space Elevator teams in the upcoming 2008 Space Elevator Power Beaming competition.

TRUMPF Laser will be providing a top of the line TruDisk 8002 laser for use by participating teams, including on-site operation and full safety and engineering support.

The TruDisk laser is a diode-pumped commercial laser source used for industry laser processes such as cutting and welding. It offers exceptional beam quality at high power which easily enables the 1-km range, as well as an innovative fiber-optics based beam distribution system that allows multiple teams to use the same beam source.

For power beaming applications, the beam is expanded over a large area so that its intensity is reduced by several orders of magnitude. The beam is then directed at a photovoltaic panel similar to solar panels used on rooftops as a clean electrical energy source.

Competing teams as well as Spaceward personnel will be available at the TRUMPF exhibit at the Photonics West tradeshow on Thursday, January 24, at the San Jose Convention Center, booth #6130.

Team registration is open, and the latest revision of the competition handbook is available at <http://www.spaceward.org/elevator2010-pb.html>...

Building on the results of the 2007 Space Elevator Power Beaming Challenge, the goals of the 2008 challenge have been set at 1 km height, 5 m/s minimum speed, for a prize level of \$2M. An intermediate prize level of \$900k is set for a



speed of 2 m/s. Teams that can reach an altitude of 1 km at between 1 and 2 m/s will be awarded a prize of up to \$50k.

Illustrations of the 1 km challenge over two hypothetical sites are shown at www.spaceward.org/elevator2010-pb.html, showing the challenge as it would look if held over Meteor Crater in Arizona, and if held over the 2007 venue. The latest revision of the competition handbook as well as a registration link are also available there.

"Power beaming is about transferring power through light beams, and TRUMPF's know-how allows it to take a leading role in these games" says TRUMPF VP of Laser technology, Holger Schlueter, and adds: "Including myself, many of us here at TRUMPF have never lost our excitement about space exploration, and my organization is thrilled to help shape the future of space travel".

"We could not have asked for a better contributor" says Ben Shelef, CEO of the Spaceward Foundation. "with a 1-km beam power demonstration, we will have taken the Space Elevator competition to the next level."

"Personally I'm looking forward to 2008 to be the year Space Elevator research and development really takes off" says Brad Edwards, who's developed what's known as the modern Space Elevator design. "with recent results in the fields of Carbon Nanotubes and Lasers, and with progress like we've been seeing in the Space Elevator challenge, we expect the perception that the Space Elevator is a near-term project to become more prevalent".

Clayton Ruzkowski, USST team leader (first place 2007): "I am very proud of how our team preformed at the 2007 competition. Our system has barely scratched the surface in terms of what we can achieve. With TRUMPF's laser, we expect to be able to greatly increase the speed of our climber."

BACKGROUND:

The Space Elevator games concentrate on two far-reaching technology concepts that will enable NASA to enhance its space program – power beaming for wireless power transfer, and Nano-materials such as Carbon Nanotubes for strong structures.

Ken Davidian, program manager for Centennial Challenges: "I am excited and impressed with the evolution and level of technical maturity demonstrated by the



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teams in both the Tether and Beam Power Challenges. Over the past 24 months, individual teams started from scratch, have grown continually, have coalesced into communities, and are on the verge of accomplishing substantial achievements worthy of a Centennial Challenges prize."

Dr. Bradley C Edwards, the leading Space Elevator researcher and science advisor to the games: "The Space Elevator games, with their emphasis on strong tethers and power beaming, represent the road to building the Space Elevator. We hope their cumulative effect on the engineering community will enable further effort in this direction."

The Space Elevator is a revolutionary Earth-to-Space transportation system proposed in 1960 by Yuri Artsutanov and enhanced in 2000 by Dr. Bradley Edwards, then at Los Alamos National Labs. The system is comprised of a stationary cable rotating in unison with the Earth, with one end anchored to the surface of the planet and the other end in space. Electric cars then travel up and down the cable, carrying cargo and people.

For more information on the competitions, visit: <http://www.spaceward.org>, email ted@spaceward.org, or call (630) 240-4797.

Press resources are located at <http://www.spaceward.org/press.html>

The Spaceward Foundation is a public-funds non-profit organization dedicated to furthering space science and technology in the public mindshare and in educational curriculums. We believe that expanding mankind's habitat is essential to its survival, and that the most effective way to induce long-term change is through education.

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