

## NVIDIA Helps Power Bid for 2015 Moon Mission -- and \$30 Million in Prizes

### German Scientific Team Using NVIDIA Tesla GPUs to Land, Navigate Moon Rover, and Process 3D Lunar Images as Part of Google Lunar X PRIZE

BERLIN, GERMANY -- NVIDIA today announced that NVIDIA® Tesla® GPUs are being used by a team of German scientists participating in a global competition to land a robotic rover on the moon by 2015.

Developed to foster a new era of lunar exploration, the [Google Lunar X PRIZE](#) offers the largest international incentive prize in history. A total of \$30 million will be awarded to the first privately funded teams that safely land a rover on the surface of the moon, drive the rover 500 meters over the lunar surface, and transmit detailed video, images and data back to Earth for further study.

A team of 100 German scientists, engineers and developers has formed the [Part-Time Scientists](#) (PTS), one of 26 teams from around the world participating in the contest. To help ensure its success, the PTS team has deployed NVIDIA Tesla GPUs in several of the servers and workstations in its mission-control center where the Asimov rover will be operated. Tesla GPUs will accelerate the mission's computationally intensive applications, such as simulating vehicle navigation, monitoring positions of the rover in real time, and processing and transmitting high-resolution video and images.

"NVIDIA GPUs will be instrumental in helping us land the Asimov rover safely and allowing us to calculate a wealth of detailed information to enhance our understanding about the lunar surface," said Robert Böhme, team leader of the PTS team. "At the same time, we will demonstrate the amazing scientific accomplishments that are possible with modern, high-performance GPU technology."

The PTS team will benefit from the Tesla GPUs at all stages of the mission. During preparation and planning, GPUs will be used to simulate millions of different mission scenarios. This will enable the team to improve launch and landing techniques by, for example, adjusting the timing and duration of thruster burns for course corrections, while minimizing the margin of error.

Once Asimov has reached its destination, the PTS team will use the computational power of Tesla GPUs to navigate and monitor the rover's activities and generate highly detailed lunar maps from the transmitted stereoscopic 3D images.

Quickly processing and analyzing the massive volume of video produced by the Asimov -- and sending back new navigational directions -- is critical to the success of the mission. Any delay could divert Asimov from its correct course or, in the worst case, increase the chances of it hitting an obstacle that could force PTS to abort the mission.

With NVIDIA GPUs, PTS expects to achieve a 5-10X speed up in the processing of the massive video feeds produced by the rover. Only GPU-based computing systems have the computational power required to process and deliver this information cost-effectively in real time.

#### About The Google Lunar X PRIZE

The \$30 million Google Lunar X Prize was created in 2007 by the X PRIZE Foundation with the goal of creating lunar exploration missions that are at least 90 percent privately financed. There are currently 26 teams from 17 countries in the competition. A \$20 million grand prize will be awarded to the team that fulfills all contest requirements on or before Dec. 31, 2015. More information is available at the [Google Lunar X PRIZE website](#).

#### About NVIDIA Tesla GPUs

NVIDIA Tesla GPUs are massively parallel accelerators based on the NVIDIA CUDA® parallel computing platform. Tesla GPUs are designed from the ground up for power-efficient, high performance computing, computational science and supercomputing, delivering dramatically higher application acceleration for a range of scientific and commercial applications than a CPU-only approach. Today, Tesla GPUs power three of the world's top five supercomputers.

More information about NVIDIA Tesla GPUs is available at the [Tesla website](#). To learn more about CUDA or download the latest version, visit the [CUDA website](#). More NVIDIA news, company and product information, videos, images and other information is available at the [NVIDIA newsroom](#). You can also follow us on [Twitter \(@NVIDIATesla\)](#).

#### About NVIDIA

[NVIDIA](#) (NASDAQ: NVDA) awakened the world to computer graphics when it invented the [GPU](#) in 1999. Today, its [processors](#) power a broad range of products from [smartphones](#) to [supercomputers](#). NVIDIA's [mobile processors](#) are used in [cell phones](#), [tablets](#) and [auto infotainment systems](#). [PC gamers](#) rely on GPUs to enjoy spectacularly immersive worlds. Professionals use them to create [3D graphics](#) and visual effects in movies and to design everything from golf clubs to jumbo jets. And researchers utilize GPUs to advance the frontiers of science with [high performance computing](#). The company has more than 4,500 patents issued, allowed or filed, including ones covering ideas essential to modern computing. For more information, see [www.nvidia.com](#).

Certain statements in this press release including, but not limited to statements as to: the impact and benefits of NVIDIA Tesla GPUs; and the effects of the company's patents on modern computing are forward-looking statements that are subject to risks and uncertainties that could cause results to be materially different than expectations. Important factors that could cause actual results to differ materially include: global economic conditions; our reliance on third parties to manufacture, assemble, package and test our products; the impact of technological development and competition; development of new products and technologies or enhancements to our existing product and technologies; market acceptance of our products or our partners products; design, manufacturing or software defects; changes in consumer preferences or demands; changes in industry standards and interfaces; unexpected loss of performance of our products or technologies when integrated into systems; as well as other factors detailed from time to time in the reports NVIDIA files with the Securities and Exchange Commission, or SEC, including its Form 10-K for the fiscal period ended January 29, 2012. Copies of reports filed with the SEC are posted on the company's website and are available from NVIDIA without charge. These forward-looking statements are not guarantees of future performance and speak only as of the date hereof, and, except as required by law, NVIDIA disclaims any obligation to update these forward-looking statements to reflect future events or circumstances.

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#### **About NVIDIA**

Since 1993, [NVIDIA](#) ( NASDAQ : NVDA ) has pioneered the art and science of [visual computing](#). The company's technologies are transforming a world of displays into a world of interactive discovery — for everyone from gamers to scientists, and consumers to enterprise customers. More information at <http://nvidianews.nvidia.com/> and <http://blogs.nvidia.com/>.

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