

# 'Final frontier has spurred tech marvels'

## Kamlesh Lulla Of NASA Says Space Exploration Had Led To Unheard Of Technologies

TIMES NEWS NETWORK

Ahmedabad: Exploration of space began in the early 1960s as an adventure. As the 'Star Trek' TV shows and movie reminded us again and again, space is the final frontier, challenging mankind to boldly go where no man has gone before. But space exploration soon yielded technology and inventions that have become a necessity for tasks such as remote sensing, navigation and television broadcasts. Research for space threw open new possibilities and led to technology which improved life on Earth.

This was the key point of the lecture, 'Why

Lulla stressed on the need for interdisciplinary research in solving problems both on Earth and in space. He started off with the Apollo mission and later gave examples such as the International Space Station (ISS) to show what space exploration had produced

Explore Space: Space Explorations for a safer and better Earth', delivered by Kamlesh Lulla, chief scientist and research director of NASA, on the second day of IIT-Gandhinagar's innovation summit Amalthea. Lulla also stressed on the need for interdisciplinary research in solving problems both on Earth and in space.

Lulla started off with the Apollo mission and later gave examples such as the International Space Station (ISS) of what space exploration

## Innovation summit concludes

Kazutaka Kurihara, who invented a device called 'Speech Jammer', was also present on the final day of IIT-Gandhinagar's two-day innovation summit. The 'Speech Jammer' is able to disrupt a person's speech from a distance. The Ig Nobel Prize winner explained and demonstrated the technology to the students. The summit also hosted panel discussions on the topic 'What Does India Need?; Disruptive or Incremental Innovation?' **TNN**

had led to. "One of the first innovations was miniaturization of technology so that it could be fitted aboard spacecrafts. The journey to laptops and compact computers started 20 years before companies commercialized them. Right from solar panels to its various components, one can say that every part of the ISS has been the result of extensive research and development," Lulla said.

He gave other examples of stuff that was the result of research for space. For instance, robots (robots supporting astronauts in space), robotic hand, exoskeleton, and heart pumps used by the medical fraternity during complex surgeries, are the direct byproduct of the research done for space exploration. Lulla added that the world outside the space community has shown interest in technology such as portable ultrasound machines for immediate diagnosis of injuries and health issues, and vibration dampener for carrying premature babies in a vehicle.

Lulla also talked about visual imagery from space. "While a person would see a photograph, we see a cache of information. We can not only document gradual changing patterns of environment or population but also energy consumption, population distribution and even characteristics like poor districts and richer districts. We train astronauts aboard ISS to capture photographs that would later help us in analysis," he said.