

Prelim Bits 15-05-2017

India's first infrared sensors

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- A team of scientists from IIT-Bombay has made a key breakthrough in developing India's first infrared sensors for thermal imaging.

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- The technology can be used for a range of applications such as night vision, surveillance and going beyond military and security operations — even in **the detection of cancers**.

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- The sensor **captures the thermal signature emanated by a subject** and is accurate to the point of picking up minor temperature differences.

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- The DRDO spends about Rs. 1,000 crore per year on importing night-vision devices for Indian soldiers and has been searching for an indigenous solution for over two decades.

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Traffic pollution reaches the Himalayas

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- Geologists have found **high levels of sulphur from diesel emissions** along the Manali-Leh highway through the northwestern Himalayas.

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- While the good news is that **heavy metal contamination was found to be low**, the soil had significantly high levels of sulphur (490-2033 ppm).

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- Indian diesel contains some of the highest concentrations of sulphur in the world and an estimated 70% of automobiles running on Indian roads use diesel.

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- With the likely increase of exhaust and sulphur in this region in the future, the paper recommends periodic monitoring of contaminant accumulation and human health along the Manali-Leh Highway.

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Bhairon Singh Shekhawat Life Time Achievement Honour in Public Service

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- The President of India will visit Jaipur on May 15, 2017 to deliver the 1st Bhairon Singh Shekhawat Memorial Lecture and present the 1st Bhairon Singh Shekhawat Life Time Achievement Honour in Public Service to **Pawan Kumar Chamling**, Chief Minister of Sikkim.

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- Bhairon Singh Shekhawat (23 October 1923 - 15 May 2010) was the 11th Vice-President of India. He served as the Chief Minister of Rajasthan three times, from 1977 to 1980, 1990 to 1992 and 1993 to 1998.

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Lunar Palace

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- Chinese students will live in a laboratory simulating a lunar-like environment for up to 200 days as Beijing prepares for its long-term goal of putting humans on the moon.

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- The volunteers will live in the sealed lab (dubbed the "**Yuegong-1**", or "Lunar Palace") to simulate a long-term, self-contained space mission with no input from the outside world.

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- Human waste will be treated with a bio-fermentation process, and experimental crops and vegetables grown with the help of food and waste byproducts.

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- The Lunar Palace is the **world's third bioregenerative life-support base**, and the first developed in China.

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