

## Significance of MediPix Technology

### Why in news?

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Scientists has recently used accelerated particles to produce first three-dimensional colour images of the human body.

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### What are the concerns with traditional radiological practices?

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- **X-Ray Techniques** - X-ray based technology suffer from the deficit that they can sharply visualise only hard tissues.

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- The shadows of soft tissues are less precise, Blood vessels and other conduits are imaged with invasive dyes.

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- **Magnetic resonance imaging (MRI)** - It provides a slightly different picture, based on the difference in water and fat content in tissues.

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- **Positron emission tomography (PET)** - It finds widest use in oncology, all but MRIs use radiation and dyes and chemical markers

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### What is the recent discovery about?

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- A chip of the Medipix family developed by CERN, the European Organisation for Nuclear Research, has been used by MARS Bioimaging to take colour see-through images of body parts.

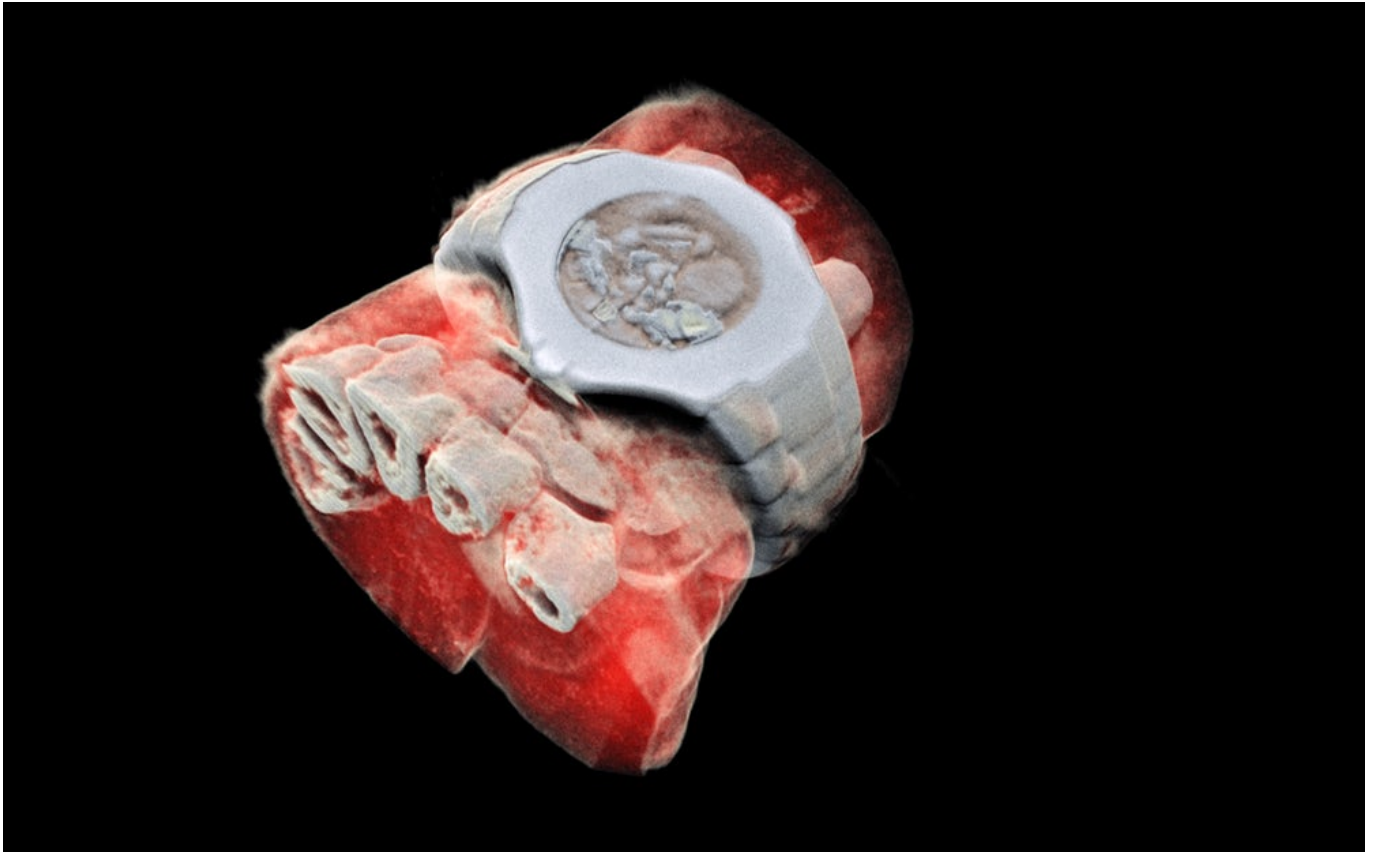
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- The hybrid pixel detector technology which the Large Hadron Collider used to track accelerated particles, to produce the first three-dimensional colour images of the human body.

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- The chip family has been in production for 20 years, and CERN's Knowledge Transfer Group had expected it to contribute to areas outside quantum physics.

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## **What is the significance of MediPix Technology?**

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- Researchers have already used Medipix to image cancerous tissue, bones and joints and the blood supply to the heart.
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- The Medipix3, which MARS Bioimaging intends to commercialise, promises a single solution superior to its predecessors.
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- Using algorithms to model very accurate spectroscopic data in three dimensions, it shows all tissues with equal clarity, in colour.
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- In the case of a fracture, it show physical damage to a bone and also

reveal trauma to surrounding tissue and reveal if blood and nerve supply is compromised.

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- It would depict structures exactly as they are, and not all of us are built exactly the same.

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- In the near future, when medical care will be customised to the individual, this exactitude would make a difference to the efficacy of care.

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- Thus the technology is scaling up rapidly, and holds incredible promise.

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**Source: The Indian Express**

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