

HYPERImage Project Advances Research on Hybrid PET/MR Scanner

Philips, one of eight partners in the European Union-funded HYPERImage research project, has announced that the project has achieved a major milestone in its plan to create hybrid PET/MR imaging. This new technique is based on the simultaneous acquisition of time-of-flight PET and MR images.

That milestone is the development of a functional gamma-ray detector that meets the performance requirements of the latest time-of-flight PET scanners. The new gamma-ray detectors have been designed to be compatible with the strong static and dynamic magnetic fields that would be present in a combined PET/MR scanner. Furthermore, the team has achieved major progress with respect to MRI-based static and dynamic PET attenuation correction.

The project involves eight partners from six European countries and has a total budget of around seven million euros. The ultimate goals of the project are to advance the accuracy of diagnostic imaging in cardiology and oncology and open up new fields in therapy planning, guidance and response monitoring.

A hybrid PET/MR scanner could simultaneously deliver the anatomical and functional information achievable using state-of-the-art MR scanners (e.g. soft tissue contrast and physiological processes in blood vessels) and the molecular imaging information provided by PET. As a result, it would combine the best of both worlds, which could ultimately help to pinpoint and characterise disease sites within the body more accurately than is currently possible.

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