

Health - Projects

An overview of the funded projects from the Targeted Programme Health

Fighting antimicrobial resistance (15HLT01)

Innovative imaging techniques will support the development of improved antibiotics to beat resistant bacteria

Drug-resistant Gram-negative bacteria are responsible for around two thirds of deaths attributable to antimicrobial resistance and a major challenge surrounds the effective penetration of antibiotic drugs into the bacteria. This project will develop innovative measurement capabilities to image the penetration of drugs into Gram-negative bacteria, providing vital help to scientists optimising antimicrobial drugs to combat these deadly bacteria.



Earlier diagnosis of Alzheimer's disease (15HLT02)

New and improved tests will allow patients to access effective treatment through earlier diagnosis

Early diagnosis of Alzheimer's disease can help patients access effective treatments and sources of support, but is being hampered by a lack of accuracy in the measurement of biomarkers which indicate Alzheimer's disease. Following HLT05 Metallomics, this project will establish new reference measurement procedures for both established and new biomarkers to support reliable diagnostic test results and further the development of population-based screening.



Effective hearing tests and protection (15HLT03)

An innovative device and new measurement methods will ensure more accurate diagnosis and treatment of hearing conditions

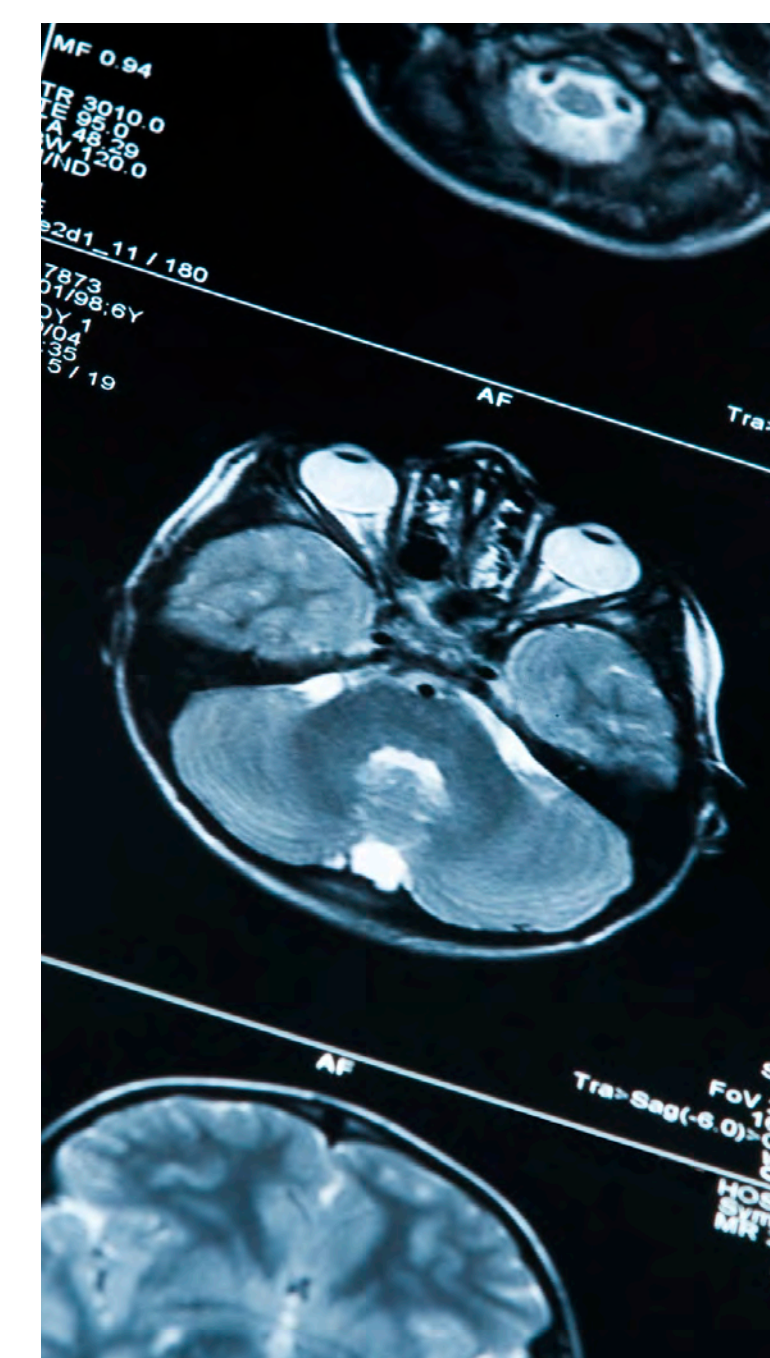
Hearing loss is an important public health concern with substantial economic costs, estimated at over €200 billion a year, and social consequences, such as the delayed development of speech and language skills. The project will further develop and validate the innovative universal ear simulator concept from HLT01 Ears in readiness for clinical practice, to support effective hearing assessment and protection.



Improved monitoring and treatment of neurodegeneration (15HLT04)

Innovative techniques will help clinicians monitor disease progression and treatment success for Alzheimer's and Parkinson's diseases

Alzheimer's disease and Parkinson's disease are two of the most common neurodegenerative diseases, and while their symptoms differ, there are similarities between the underlying changes to the brain in each disease. This project will explore innovative techniques, based on non-invasive magnetic resonance imaging approaches, to support earlier diagnosis of these diseases and dose monitoring for patients.



Earlier detection of cardiovascular disease (15HLT05)

New standards and tools will validate emerging techniques to identify those at risk of cardiovascular disease

Accurate measurement of blood flow (perfusion) to the heart could be used to identify patients at risk of cardiovascular disease, allowing them to be given appropriate treatment at an earlier stage, increasing their chance of survival. This project will develop tools to assess the reliability of different imaging techniques for measuring perfusion, validating their potential use in the diagnosis of cardiovascular disease.



Health - Projects

An overview of the funded projects from the Targeted Programme Health

Advanced dosimetry for effective cancer treatment (15HLT06)

A suite of measurement resources will enable clinics to implement individual dose planning for patients

Accurate knowledge of the radioactivity absorbed by tissue in a patient's body, rather than just the administered dose, could make a significant difference to the success of cancer treatments using radiopharmaceuticals. Following HLT11 MetroMRT, this project will develop a robust measurement protocol, standardised methods, test objects and resources to help molecular radiotherapy clinics set up and validate individual dose planning for patients.



Ensuring effective, targeted treatment with antibiotics (15HLT07)

New test methods will help clinicians effectively target treatments in the ongoing fight against antimicrobial resistance

Antimicrobial resistance driven by the misuse of antimicrobial drugs threatens the effective treatment of an ever-increasing range of infections. This project will develop the metrology needed to reliably evaluate new and existing clinical test methods used in the detection and monitoring of antimicrobial resistance, to increase the efficacy of clinical testing and allow clinicians to better target existing and novel treatments.



Supporting innovative radiotherapy techniques (15HLT08)

New standards will enable safe, effective treatment of cancer with emerging MR-guided radiotherapy

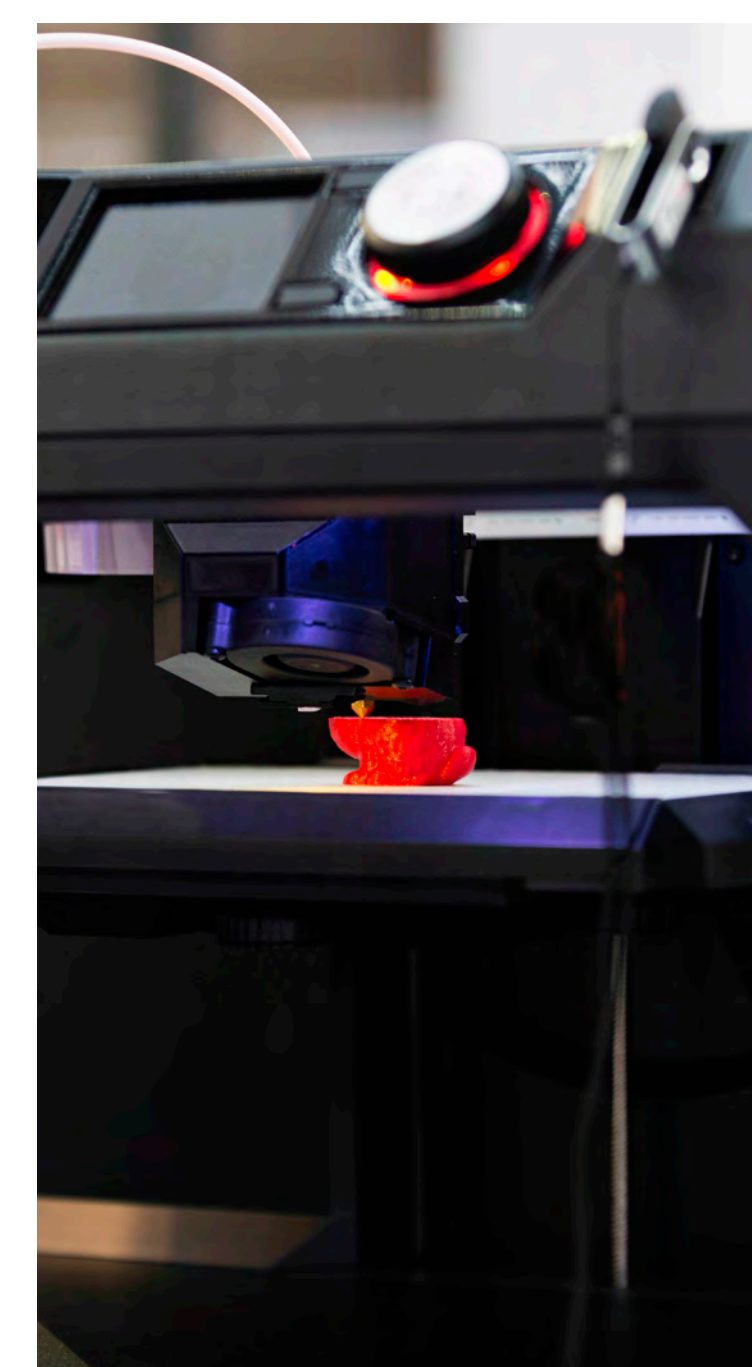
Magnetic resonance (MR)-guided radiotherapy is an emerging technique used in the treatment of cancer, which provides real-time images of a patient during treatment. This boosts tumour targeting accuracy, reducing side-effects and increasing survival rates. This project will develop new standards and measurement methods for MR-guided radiotherapy to accelerate the rollout of this state-of-the-art treatment.



Paving the way for 3D-printed medical devices (15HLT09)

Quality control methods will facilitate production of high-quality, low-cost customised medical devices

The rapidly expanding additive manufacturing (or 3D printing) industry has the capability to print a range of medical devices, such as prosthetics, dental implants and hearing aids, tailored to a specific patient. This project will establish control methods, relevant to both manufacturing and clinical practice, which will support high-quality and mass production of a range of high-quality, low-cost customised medical devices.



EMPIR - joint research projects for Europe

EURAMET e.V. -
the European Association of National Metrology Institutes

The European Metrology Programme for Innovation and Research (EMPIR) follows on from the successful European Metrology Research Programme (EMRP), both implemented by EURAMET. The programmes are jointly funded by the participating countries and the European Union and have a joint budget of over 1000 M€ for calls between 2009 and 2020.
EURAMET e.V. is a non-profit organisation under German Law.

EURAMET e.V.
Bundesallee 100
38116 Braunschweig
Germany

Full details can be
found at:
www.euramet.org

Dr Duncan Jarvis
EMRP Programme Manager
E-mail: emrp-pm@euramet.org
Phone: +44 20 8943 6707

