

**HORIZON 2020**

HEALTH PARTNERING DAY 2017

HEALTH, DEMOGRAPHIC CHANGE & WELLBEING



7 DECEMBER 2017, BRUSSELS

Session 1: Better Health and care

# **Application of cerebrovascular autoregulation monitoring system during cardiac surgery with cardiopulmonary bypass**

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# Project idea



Hypothesis - post operative cognitive dysfunction (POCD) can be related to a temporal cerebral hypoperfusion and consequently to the **impairment of cerebrovascular autoregulation (CA)**.

We propose to use the innovative ultrasonic real-time CA monitoring technology for identification of the individual patient-specific MAP values during cardiopulmonary bypass in order to prevent brain injury and POCD.

# Health Telematics Science Institute Expertises



- Focus on finding solutions to the scientific and technological problems in measurement and monitoring of physical and biological processes.
- Current partner of proposed project – *Clinic of Cardiothoracic and Vascular Surgery, Hospital of Lithuanian University of Health Sciences.*
- **Clinical partners for multi-centre clinical trials are sought.**
- The Institute researchers (collaborating with the professionals from other fields of science and technologies in Lithuania, Western Europe, USA and China) have created the **first in the world non-invasive absolute intracranial pressure measurement technology, cerebrovascular autoregulation monitoring technology**, technologies for monitoring and diagnostics of volumetric intracraniospinal waves and brain compliance and many other **innovative technologies** which are being protected by more than **30 patents in the US, Europe, Japan and Lithuania**. Researchers of Institute hold **intellectual property rights of more than 150 inventions**.

**Topic**

Innovation  
Health

# **Application of cerebrovascular autoregulation monitoring system during cardiac surgery**

Cerebrovascular autoregulation, monitoring system, cardiac surgery, cardiopulmonary bypass



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