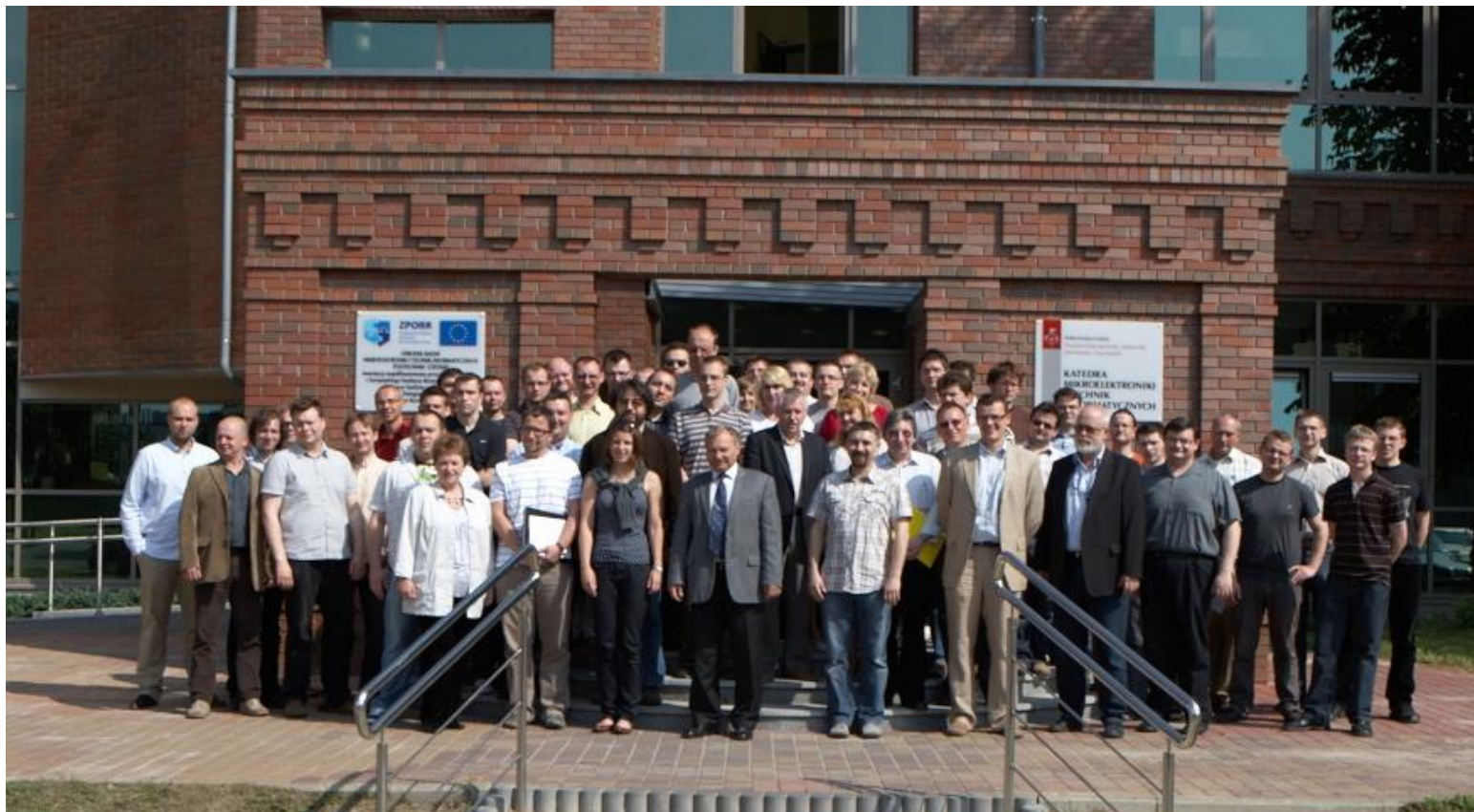
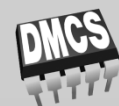




ICT & MEDICAL PROJECTS



Bartosz Sakowicz, PhD





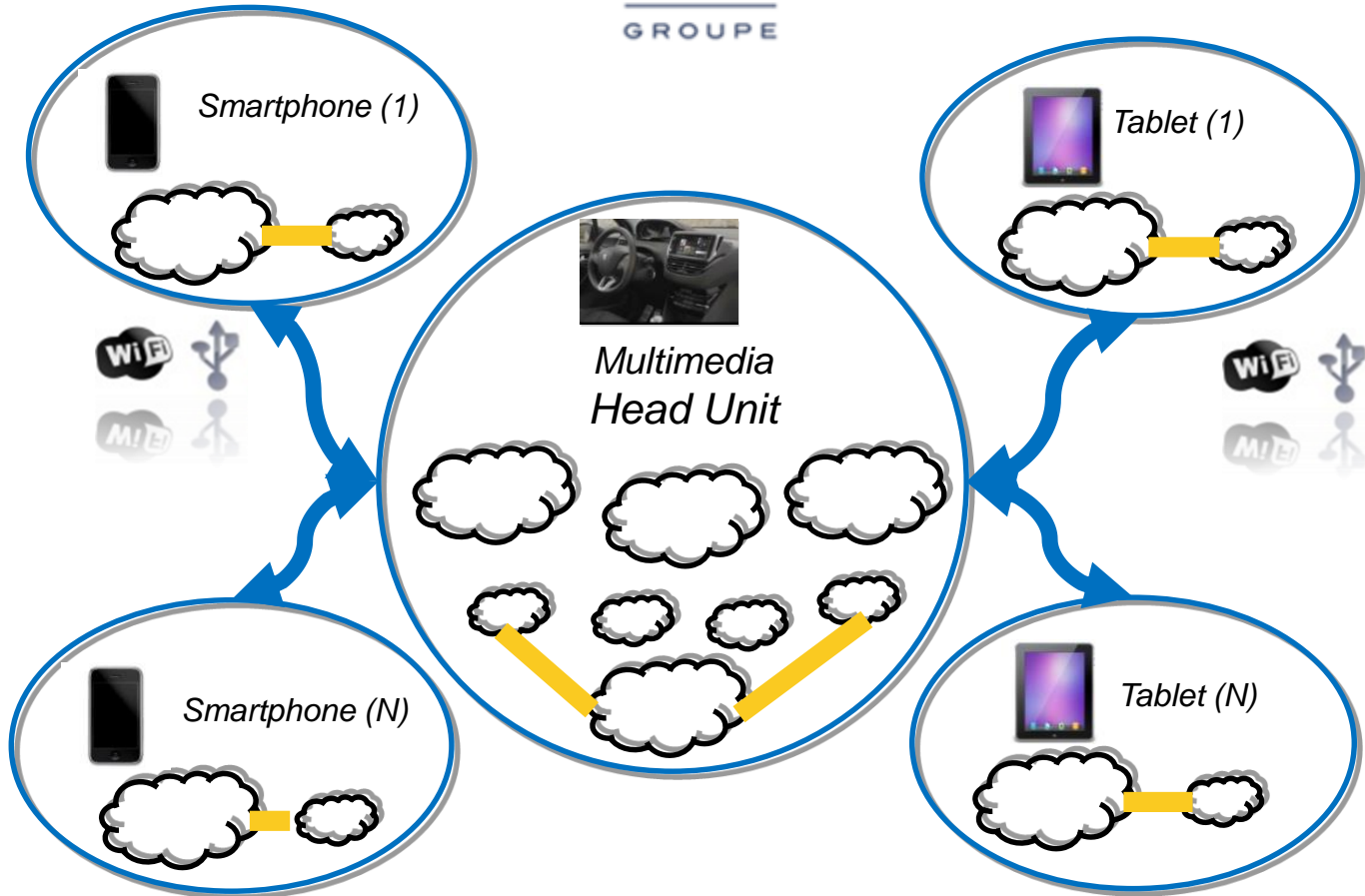
AGENDA

OUR PROJECTS:

1. ADAM Project - Common platform for Car multimedia head unit and mobile devices
2. Application of the latest generation of DDCC and BNDCC composites in the field of cutting tools
3. Effective decision support system based on a controlling data warehouse
4. Online support system for the identification and treatment of speech defects in children of preschool age
5. Automated multiparameter system for assessment of the patient's general condition with comprehensive analysis of the respiratory and circulatory functions
6. Sudden Cardiac Death Risk Stratification Model Based On Markers From 24-hour Ambulatory ECG Recordings
7. Echocardiogram Projection On 3D Tomographic Image Of Left Ventricle



ADAM PROJECT - COMMON PLATFORM FOR CAR MULTIMEDIA HEAD UNIT AND MOBILE DEVICES





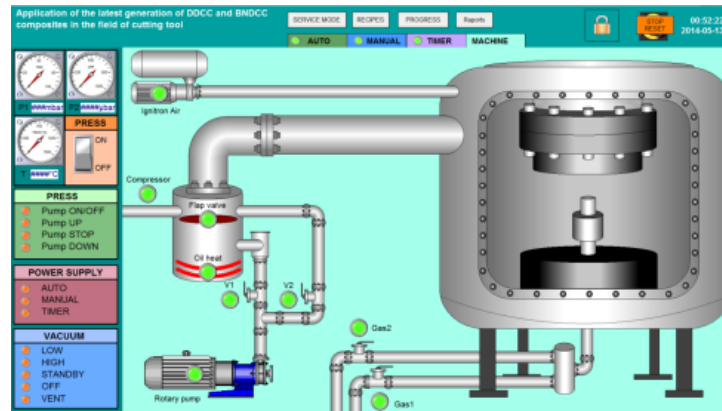
APPLICATION OF THE LATEST GENERATION OF DDCC AND BNDCC COMPOSITES IN THE FIELD OF CUTTING TOOLS



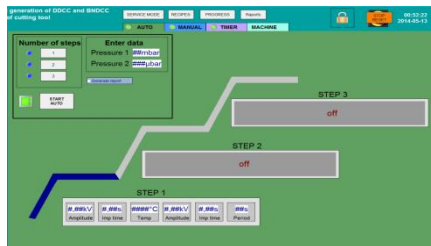
The National Centre
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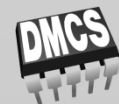
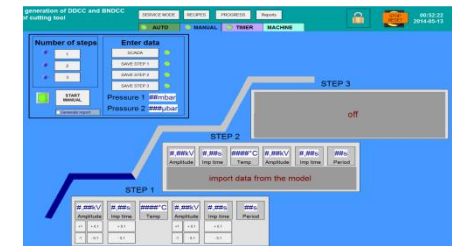
Pulse Plasma
Sintering



Control System
Prototype



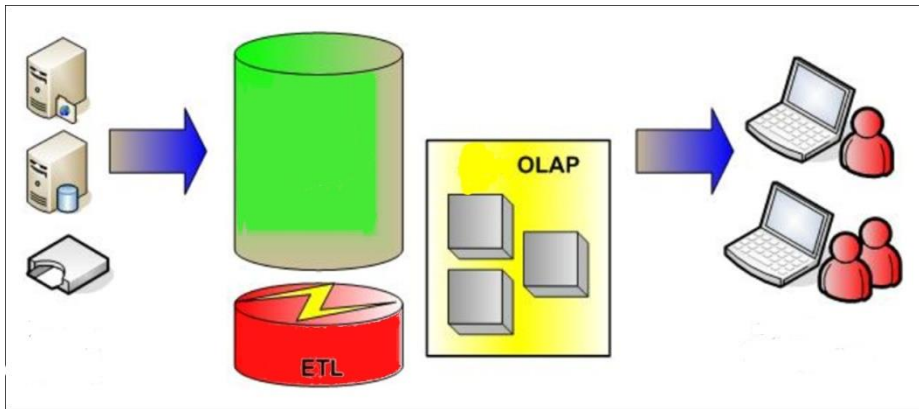
Supervisory Control And Data
Acquisition System for PPS
Process – Proficy iFix HMI





EFFECTIVE DECISION SUPPORT SYSTEM BASED ON A CONTROLLING DATA WAREHOUSE

- Advanced data mining methods in the data warehouse incrementally powered



- Research, analysis, design, execution and implementation of a pilot system - to support effective business decisions.
- The distinguishing feature: possibility to make real time analysis of the data included in data warehouse mixed with actual data from transactional systems.
- Advantage of the solution: making the decisions based on the most recent data.



ONLINE SUPPORT SYSTEM FOR THE IDENTIFICATION AND TREATMENT OF SPEECH DEFECTS IN CHILDREN OF PRESCHOOL AGE



Free online
social service

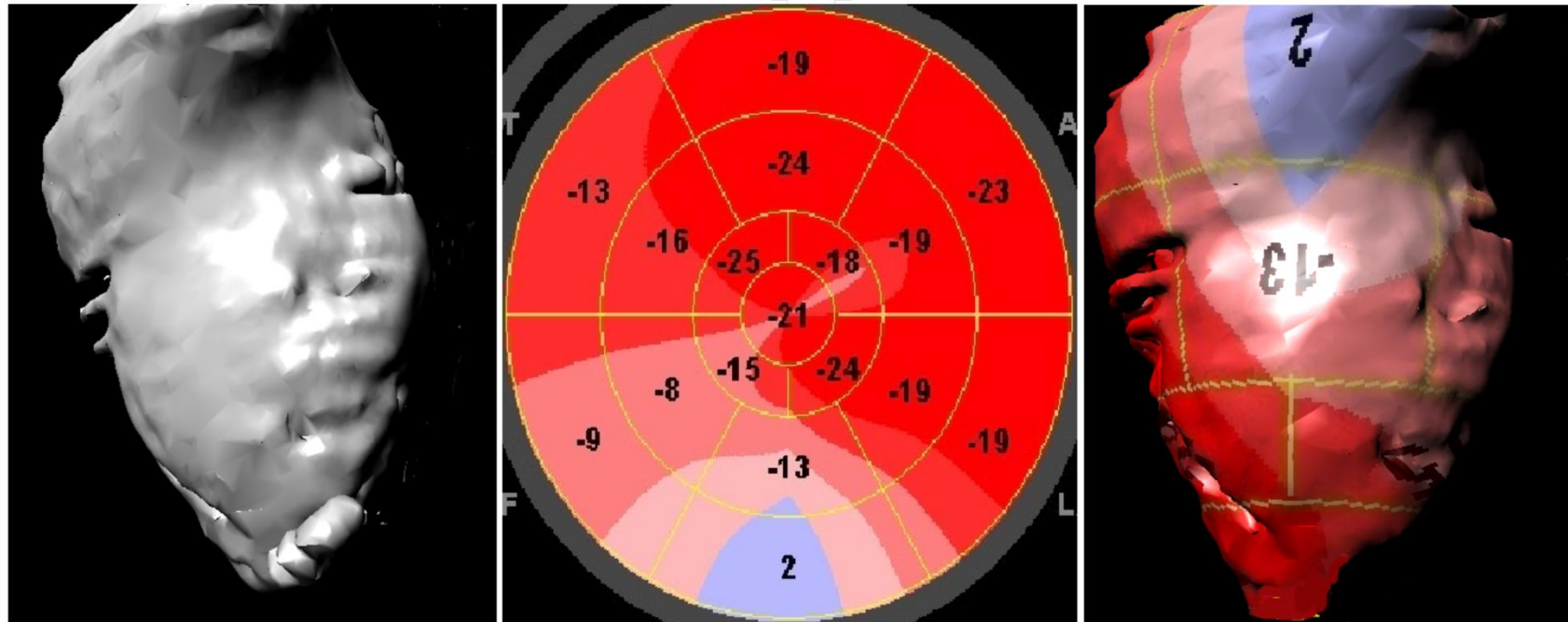



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ECHOCARDIOGRAM PROJECTION ON 3D TOMOGRAPHIC IMAGE OF LEFT VENTRICLE



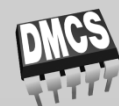
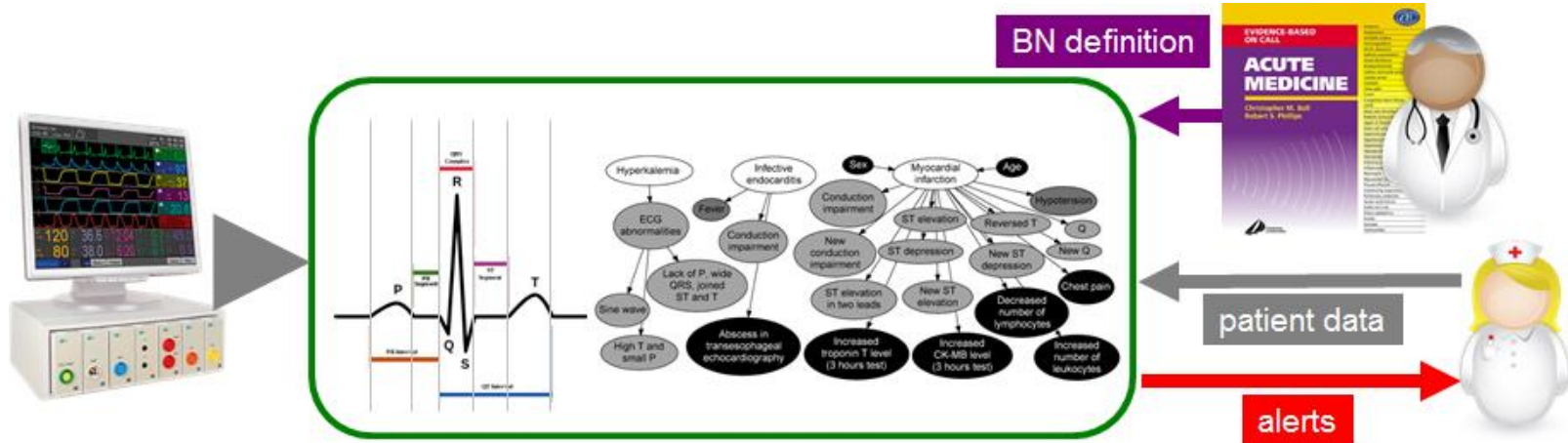
- Echocardiogram represents a contractility distribution in left ventricle
- It would be useful to present this distribution on CT images which precisely depict small blood vessels around the ventricle
- This way we could detect which particular blood vessel is responsible for worsened contractility in this region



AUTOMATED MULTIPARAMETER SYSTEM FOR ASSESSMENT OF THE PATIENT'S GENERAL CONDITION WITH COMPREHENSIVE ANALYSIS OF THE RESPIRATORY AND CIRCULATORY FUNCTIONS

Aim:

detect in real-time situations that can be dangerous for a patient





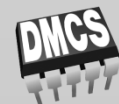
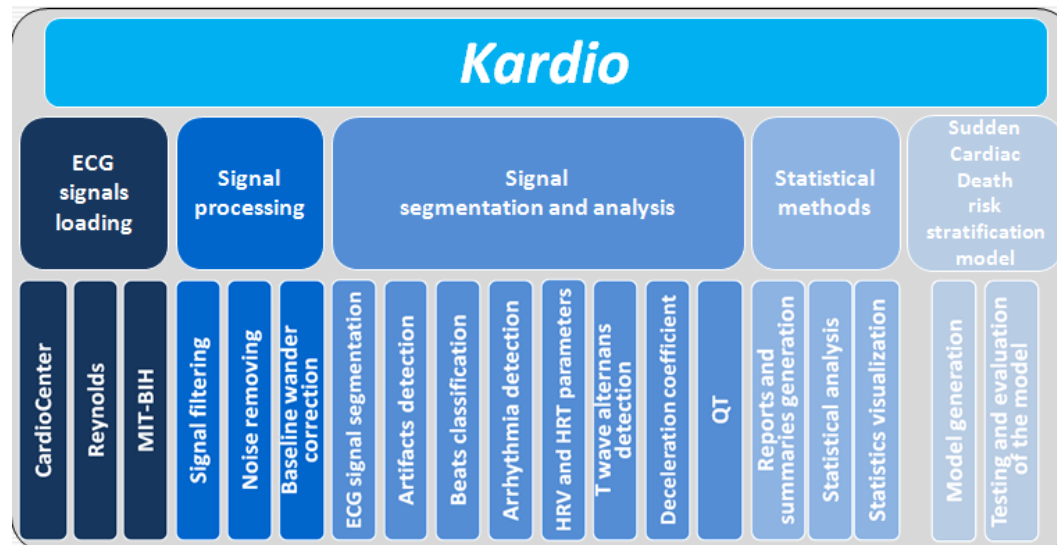
SUDDEN CARDIAC DEATH RISK STRATIFICATION MODEL BASED ON MARKERS FROM 24-HOUR AMBULATORY ECG RECORDINGS

Markers for Autonomic Nervous System assessment:

- Heart Rate Turbulence (HRT)
- Heart Rate Variability (HRV)
- Deceleration Capacity (DC)
- T-wave Alternans (TWA)

Our research:

- software development for
- DC and TWA calculations
- analysis and modelling of collected data





**THANK YOU
FOR YOUR
ATTENTION**

