BiomedConnect:
Cloud platform for collection and analysis of biomedical data

Rybinsk, 2014
Modern development areas

- Mobile Technologies
- Wearable Electronics
- Cloud platforms
- Health 2.0
The need for telemedicine today

• Desire to take care of ones health and parents and relatives health, and struggle with lack of time

• Early diagnosis of diseases

• Remote monitoring of the health status of the patient (e.g., Holter monitoring)

• Informatization of medicine - increasing opportunities

• Health personalization - searching convenient tools
Growth points

- Development of biomedical sensors
  - Wearable Electronics
  - Smart sensors and wireless communication

- Developing expertise analysis of sensor data and expert systems

- Infrastructure projects that allow introducing results of developments today - BiomedConnect
Cloud Platform BiomedConnect
Users

• Regional cardiac centers
• Remote medical facilities (medical and obstetric stations)
Biomedical sensors for BiomedConnect

• Currently, 6 and 12 channel portable electrocardiographs

• To be developed:
  – Spirometer
  – AD-monitor
  – Pulsometer
  – It can be any device with an open protocol and wireless (Bluetooth, WiFi) communication channel
Application areas

- Hazardous cardiac arrhythmia (WHO: “80% of premature heart attacks and strokes can be prevented”)
- Acute coronary syndrome
- Severe diabetes
- Bronchial asthma
- Epilepsy
- etc.
BiomedConnect features

- Receiving data from biomedical sensors and visualization on a mobile device
- Relaying data to the cloud
- Processing data in the cloud
- Videoconferencing with doctor from browser
- Visualization of data and processing results in a thin client with an adaptive user interface design
- Formation of user response (reaction doctor)
- Utilitarian function (keeping the database of doctors, patients, searching, filtering, statistics and so on.)
Platform test

• Product testing
  – Load testing (10,000 patients, 1,000 doctors)
  – Emergency testing (testing platform resiliency in case of failure of equipment)

• Field experience
  – Tests based on FAP Krasnaya Gorka, Rybinsk district and City Hospital № 6 Rybinsk
Support of IHE IH7 standards

• Currently, work is underway to test IH7 integration on the Russian Federal Health Information System
  – Integration with the registry of patients service
  – Integration with CDA services

• Unified patient identification implementing

• IHE XDS.b (Cross-Enterprise Medical Document Sharing) implemented