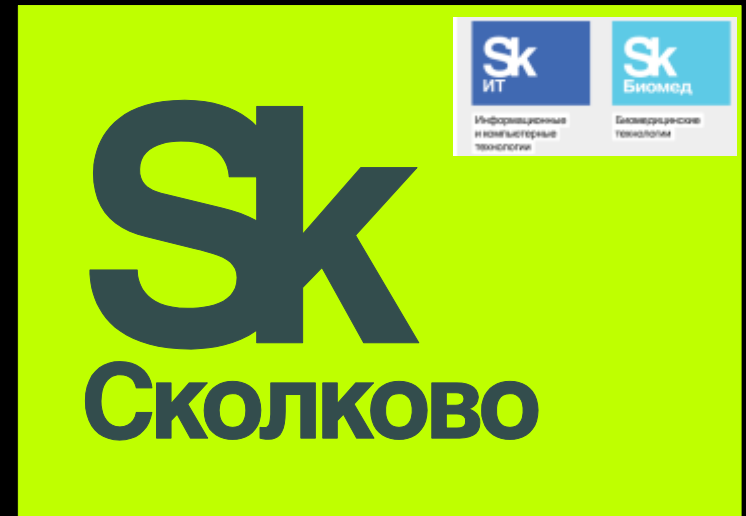


# Mobile Diagnosis Device (MDD)



SELECTION OF  
THE BEST  
CONCEPT



# Social Order for MDD

- Early diagnosis of diseases can significantly reduce mortality rates, but still very few people can obtain doctor's advice during the day
- Rapid ageing of population in developed countries leads to a sharp growth of prices of health care services

# Technical Prerequisites for Development of MDD

- ✓ Availability of a large number of small-sized sensors that could be used for non-invasive diagnosis
- ✓ Growth of computing power of mobile devices  
(iPad 2012 = supercomputer 1985)
- ✓ Emergence of wireless communication channels
- ✓ Emergence of decision-making systems based on cloud computing technology (IBM Watson, etc.)



# Why Skolkovo?



- Skolkovo is an innovation center that brings together many talented engineers and scientists to solve breakthrough problems
- Participants of IT and BMT clusters have all prerequisites necessary to develop such a device: biomedical knowledge, knowledge of the latest technology, sensors, software and hardware platforms
- Solving the problem of creation of a multipurpose MDD is very important for Russia
- Other niche diagnosis solutions possessing a great commercialization potential can be created within the development of MDD concept

# IDEA FOR SELECTION



- The purpose of selection is to choose the best MDD concept meeting the target characteristics
- The prize for the winner will be RUB 9,000,000
- The winner will have to pass the procedure to get Skolkovo participant status for the purpose of refining its concept and will receive the prize
- The prize will be given in the form of minigrants from the two clusters and supposes further cooperation of the winning team with the Foundation, in particular, drafting a further grant application to be submitted to the Foundation (according to the Foundation's regulations) to implement their concept

# SELECTION REQUIREMENTS

- *\* actions performed by MDD should not require involvement of any person, but for the patient .*
- **MDD FUNCTIONALITY:**
  - diagnose patient's diseases and identify symptoms at an early stage of diseases;
  - display the results of reading of patient's main medical parameters and make a conclusion about patient's health status.
- **Requirements to the concept:**
  - Concept should be described with a clear reference to in what way and how soon the device can be created.
- **Operating requirements:**
  - Device should be designed to be used both indoors and outdoors and should be able to operate without recharge for at least two hours. In addition, the device should be fit for use by one person.
- **Size requirements:**
  - Device should weigh not more than 1.5 kg.



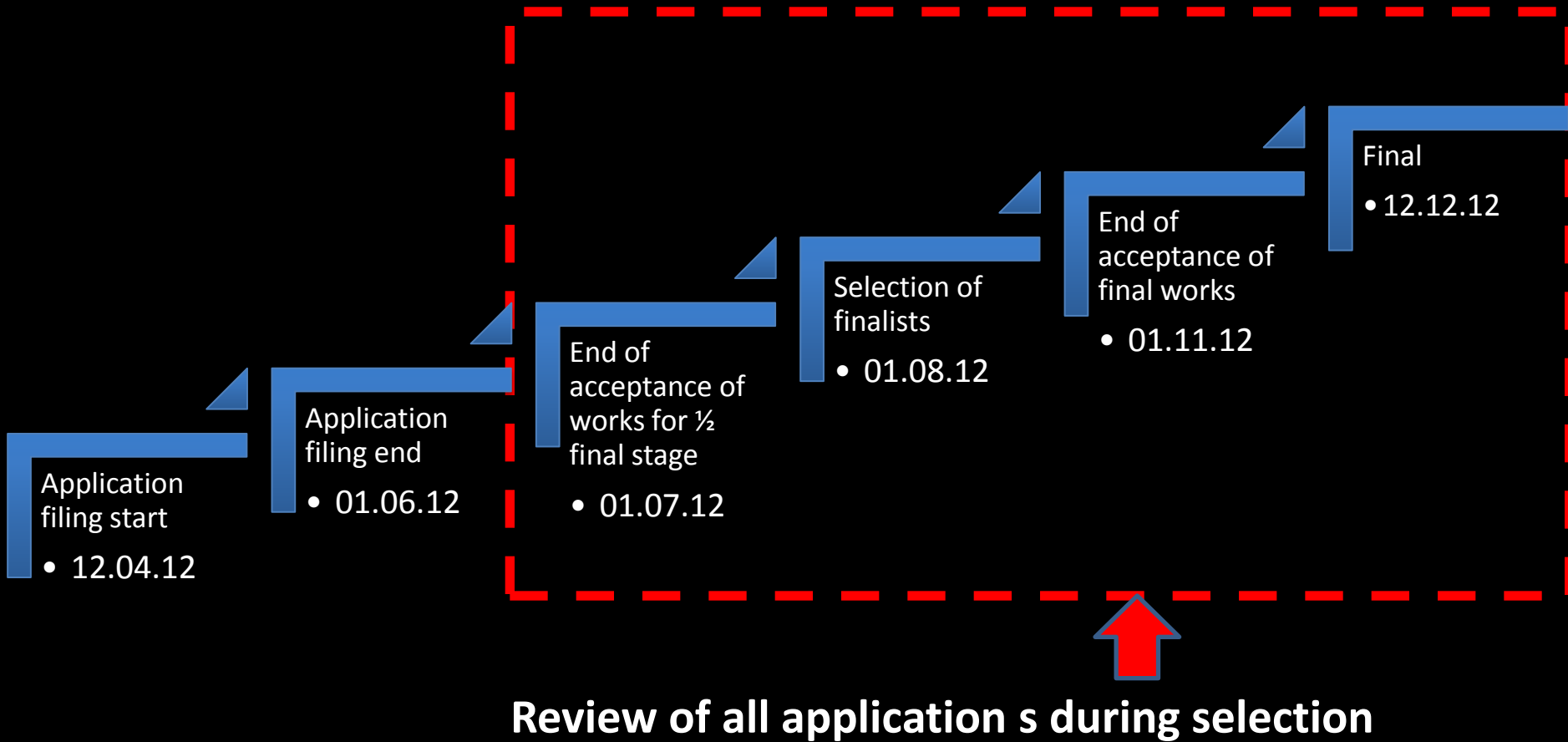
# DISEASES TO BE DIAGNOSED

*\* Device should be able to diagnose at least three of the following diseases (in addition to \*):*

- Anemia;
- Urinary tract infections;
- Different types of diabetes;
- Atrial fibrillation;
- Acute pharyngitis;
- Sleep apnea;
- Melanoma;
- Chronic obstructive pulmonary disease;
- Abnormalities in comprehensive metabolic panel;
- Hypothyroidism /Hyperthyroidism;
- Leucocytosis;
- \* No diseases from the list above;



# Selection Schedule





# Selection Criteria



- MDD concept feasibility.

*Numerical score, 1 to 5. Criterion weight – 70%*

- MDD consumer properties.

*Numerical score, 1 to 5. Criterion weight – 15%*

- Project team: whether or not the competence of team members matches the proposed technical solution.

*Numerical score, 1 to 5. Criterion weight – 15%*

- Participant's project team in every respect is ready to promote its Concept up until its final implementation
- Participant's project team is able to implement the proposed concept in the most optimal way;

*\* Selection Jury reserves the right to announce that no winner has been selected.*



# Possible Architecture

