Celtic-Plus Proposers Day
21\textsuperscript{st} February 2017, Berlin

Health Use cases Enabled by 5G

Milla Immonen, Senior Scientist, Project Manager
Digital Health, Data-driven solutions
Milla.Immonen@vtt.fi
5G as eHealth Enabler

Network slicing
Distributed cloud & MEC
Virtualization
Low latency
Reliability
Connectivity
Performance
Positioning accuracy

Health data connectivity
Hospital
Emergency situations
Workplace safety
Home care
Aging
Smart home
Robotic surgery
Remote care

Hospital
Emergency situations
Workplace safety
Home care
Aging
Smart home
Robotic surgery
Remote care

Milla Immonen, VTT, milla.immonen@vtt.fi

Milla Immonen, VTT, milla.immonen@vtt.fi
VTT Technical Research Centre of Finland Ltd

Leading research and technology company in the Nordic countries with 2600 employees.

PERSONALISED HEALTH SOLUTIONS
- Digital health
- Wearable technology
- Molecular diagnostic sensors and reagents
- Components for mobile devices

HYPER-CONNECTED SOCIETY
- Network optimisation and management
- Digital service engineering
- Wireless access

INDUSTRIAL INTERNET AND PRODUCTIVITY
- Process and analytical measurement
- Lighting +
- MIKES Metrology
- Space technologies
- MEMS and MFG development

Milla Immonen, VTT, milla.immonen@vtt.fi
VTT’s 5G Test Network

http://5gtn.fi/

Milla Immonen, VTT, milla.immonen@vtt.fi
Proposal Introduction

Identify eHealth use case(s) that benefit from 5G capabilities
Refine the idea with the consortium

Project:
- Industry driven
- Vertical 5G service development
- 5G network architecture and solution development to support the eHealth use cases
- Health care professionals and end users involved
- Piloting and testing in real 5G test network and with real users

VTT:s own knowledge from two research teams:

<table>
<thead>
<tr>
<th>Network Resource Management and Control</th>
<th>Digital Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>5G test network</td>
<td>Health sensor data analysis</td>
</tr>
<tr>
<td>Data transmission &amp; aggregation</td>
<td>Health concept development</td>
</tr>
<tr>
<td>Distributed cloud &amp; MEC</td>
<td>Persuasive systems</td>
</tr>
<tr>
<td>Network and service virtualization</td>
<td>Health and movement data analysis</td>
</tr>
<tr>
<td></td>
<td>Health records</td>
</tr>
</tbody>
</table>
Proposal Introduction

Outcome:
• Will be refined with the consortium

Impacts:
• Less healthcare costs
• Better and more effective healthcare
• Equal health services for all
• Better quality of life
• New business opportunities for companies
• Effective utilisation of 5G capabilities
We are searching for partners

- Telecom infrastructure providers
- Telecom operators
- Research partners on 5G and health
- Healthcare professionals
- End user organisations
- Health sensor providers
Contact Info

For more information and for interest to participate please contact:

Milla Immonen  
Senior scientist, project manager  
Digital Health, VTT  
milla.immonen@vtt.fi  
+358 20 722 2168  
Kaitoväylä 1, P.O.Box 1100  
FIN-90571 OULU, FINLAND

Tiia Ojanperä  
Senior scientist, project manager  
Network Resource Management and Control, VTT  
tiia.ojanpera@vtt.fi  
+358 20 722 2077  
Kaitoväylä 1, P.O.Box 1100  
FIN-90571 OULU, FINLAND

http://www.vtt.fi