Co-operation profile details from Enterprise Europe Scotland

# 12 RU 86FG 3PD3 - Multielement integrated sensor sensitive to pH value Technology collaboration OFFER


## Abstract
A company from Moscow, Russia, specialized in developing portable electromechanical biosensors, developed a prototype of pH-sensitive field effect transistor for express quantitative determination of bioactive compounds concentrations. The technology mitigates the problem of pH-sensor cells degradation during multiple use. The company is looking for partners for joint further development.


## Description
Nowadays, concurrent detection and measurement of bioactive substances concentration became extremely important in medicine, for human protection and civil security. Sequenators, based on sensor cells, identify violations in DNA molecules and proteins.
The main problem of analogues is degradation of pH-sensor cells during multiple use.
The company has developed a prototype of pH-sensitive field effect transistor, based on sensor cells sensitive to pH value. Such cells are implemented on a unified technological platform of integrate microelectronics and microsystem technique. The platform ensures the sensors high potential functional capabilities combined with simple signal transformation owing to innovative technical solutions. This approach helps to solve degradation problems and opens new possibilities of further miniaturization. Use of the sensor cells can extend the period of exploitation of sequencing equipment for genome interpretation.

Innovative Aspects:
The innovation of the technology lays in original design solution based on multiple charge transfer.
The technology advantages are:
" high accuracy of measurements (±0,1 pH)
" capability of sequencing equipment operation with natural nucleotide (no special biochemical markers are needed)
" short time of detection
" simplicity of design solutions: no need to use lasers, expensive optics, cameras, fluorescence effect, enzymes stream for sequencing
" low cost of production and exploitation.

## Target partner expertise sought:

- Type of partner sought: IT industry

- Specific area of activity of the partner: developer of electrochemical biosensors

- Task to be performed by the partner sought: integration and coordination of experts with different specialization for development of elements of the technology for semiconductor sequencing

## Key information:

Country of origin: RUSSIAN FEDERATION

Listed under: Electronics, Microelectronics \ Measurement, Testing & Standards \ Engineering \ Physical Sciences

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**To find out more, contact Enterprise Europe Scotland on 0141 228 2797 or email us at info@enterprise-europe-scotland.com quoting ref 12 RU 86FG 3PD3**

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