



# eltic-Plus<sup>+</sup>

Smart Connected World



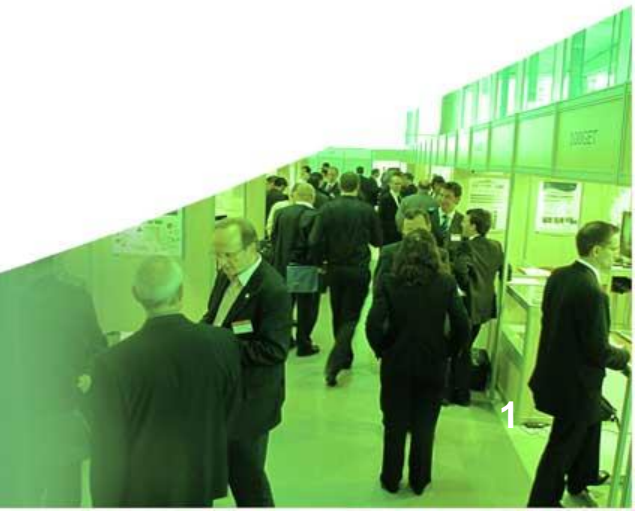
Celtic-Plus Proposers Day  
21<sup>st</sup> February 2017, Berlin

## IoT/M2M for smart farming using renewable energy

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- *What is the main benefit of the idea/proposal?*

The project will develop a telemetry system with self-diagnosis and auto-configuration functionalities for smart farming using renewable energy sources for powering the system

- *What makes the added value?*

The proposal aims to advance the technology for IoT / M2M communications, especially where no GSM coverage is available and to improve the energy efficiency for telemetry with low-power sensors in remote locations by using only a small size solar panel.



- *Why should I participate in the project?*

- *Agriculture to feed 9 billion*
- *Farmers and big data companies invest in precision agriculture, using sensors, drones, satellites and GPS tracking systems*
- *farmers using only one type of precision technologies increased their yield by 16% and cut down water use by 50%.*
- *rapid payback using these technologies*
- *a 15% savings on seed, fertilizer, and chemicals*



<b>Company Name</b>	Beia Consult International SRL
<b>General Manager</b>	George SUCIU Sr. ( <a href="mailto:george.suciu@beia.ro">george.suciu@beia.ro</a> )
<b>Business Field</b>	<ul style="list-style-type: none"> <li>• Trading and distribution of IT &amp; telecommunications equipment</li> <li>• National and EU R&amp;D Projects</li> <li>• Telecommunications, Telemetry &amp; IT turn-key projects</li> </ul>
<b>Team</b>	Total of 40 employees: 20 engineers, 13 R&D employees (2 Ph.Ds, 1 Ph.D candidate, 5 senior researchers, and 5 junior researchers), 7 management personnel
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<b>Home Page</b>	<a href="http://www.beia.ro">www.beia.ro</a> , <a href="http://www.beiaro.eu">www.beiaro.eu</a>
<b>Certification</b>	ISO 9002/2000; ISO 14001;ISO27000
<b>Established</b>	1991, family owned (George Suciu Sr. Founder, Jr. Co-owner)

# Proposal Introduction (1)

## *Motivation*

- *Agricultural plants are extremely sensitive to climate change, because higher temperatures and changes in precipitation patterns increase the likelihood of diseases, which can lead to crop failures and irreversible damage to plants.*
- *Current advancements in the Internet of Things (IoT) and Cloud Computing paradigms led to the development of new applications based on highly innovative and scalable service platforms, including in viticulture.*
- *IoT solutions have a great potential in ensuring the quality and safety of agriculture products.*

## *Objectives:*

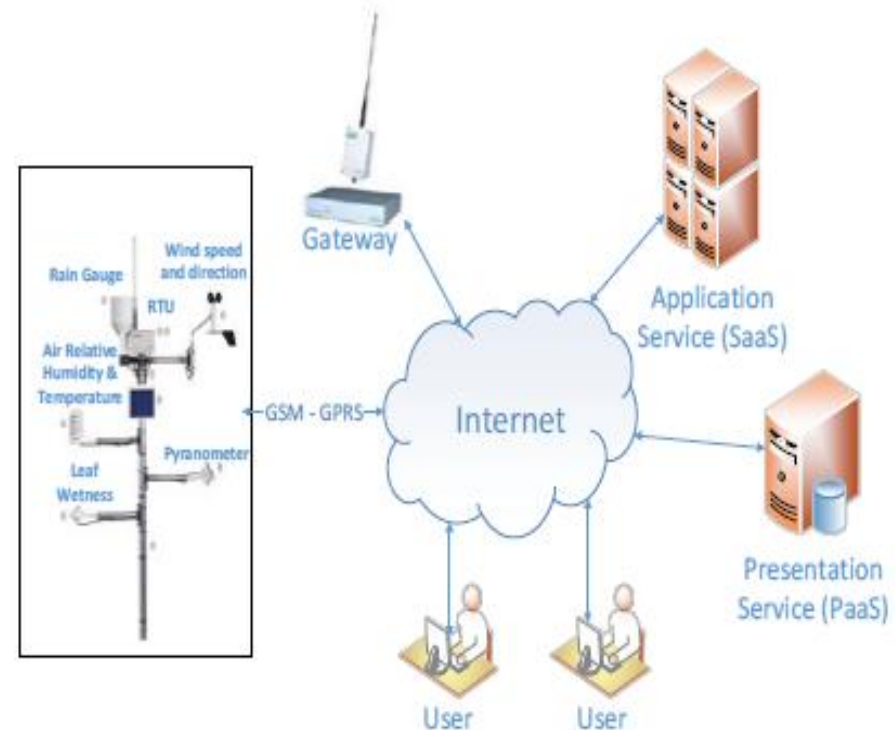
- *to develop a tele-monitoring system that can operate in severe condition (radiation, corrosive, humidity, extreme climate, floods, underground, underwater)*
- *to advance the technology for M2M communications in water-environments, especially where no GSM coverage is available*
- *to improve the energy efficiency for telemetry with low-power sensors in remote locations by using only a small size solar panel*

## *Expected outcome*

- Telemetry system with secure self-diagnosis and auto-configuration functionalities
- Green energy operation in remote locations and harsh environmental conditions (perturbations and corrosion)

## *Impacts*

- Reduced costs and risks through automation
- Integration of existing systems





## *Partners involved*

- *BEIA Consult International / SME / Romania / Development, integration and proof-of-concept prototyping work*
- *UPB (University Politehnica of Bucharest) / UNI / Romania / Development and research of models and techniques for communication components*
- *ICPE-CA (National Institute for R&D in Electrical Engineering) / RES / Romania / Development and research of materials for energy efficient structures*

## *Missing partners / expertise*

- *Under-water/ground communication expertise / IND, RES, UNI, SME / ANY country / Design and development of ultra-low power protocols for wireless under-water communication*
- *Sensors expertise / IND, RES, UNI, SME / ANY country / Design and development of micro- and miniaturized sensor systems*

# Contact Info

For more information and for interest to participate please contact:



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