

**Short presentation of a project proposal for the
5th call Space in FP7**

„Wireless Sensors for Spaceflight Applications“

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type of organisation – SME

Sofia, Bulgaria



**COSMOS Matchmaking Event
18th March 2011, Sofia, Bulgaria**



Draft Call Topic that the Proposal Aims at:

Activity 9.3. Cross-cutting activities

Area 9.3.1. SME specific research

SPA.2011.3.1-01 Bringing terrestrial SME research into the space domain

Short outline / Proposal concept I

Wireless sensors – a key technology in industrial data acquisition:

- No wires – easy installation and maintenance
- Smaller size and lightweight
- Unprecedented sensor's flexibility and adaptability
- Intelligent data collection and filtering – significant reduction of data volume to be transmitted
- Sensors can be reused

Fields of application:

- Industrial automation and control
- Refinery & offshore drilling platforms
- Automotive applications

Short outline / Proposal concept II

The main objective of the proposal: Transfer of existing wireless sensors' technologies, know-how, best practices and solutions from industrial to space domain.

- Underline of main difficulties, challenges, possible solutions for:
 - Suitable RF bandwidth and range
 - Immunity against on-board RF noises and interference
 - Wireless protocol to be used (in terms of above)
 - Suitable implementation of wireless power supply
 - Communication reliability (a key of change from wired to wireless sensors)
- Technology readiness for production of wireless sensors for space domain
- A demonstration samples/prototypes ready for field test

Consortium I

- ***SelCom Ltd.*** (www.selcomltd.com)
 - Bulgarian high-tech development and production company with years experience in satellite telecommunication
 - Product range for international markets
 - Participant in few space oriented projects
 - In the last two years focused on sensors, specially wireless sensors
- ***Space and Solar-Terrestrial Research Institute at BAS*** (www.space.bas.bg)
 - Fundamental and applied space oriented investigations
 - Development of scientific and on-board equipment
 - Participant in many space oriented projects.

Consortium II

The Team:

- An excellent combination of applied researches (SRI) and design and production engineers and technicians (SelCom)
- A good complement of R&D experience and engineering knowledge and practice
- Deep understanding of the requirements to the spacecraft on-board electronic equipment
- Years experience in design and manufacturing of high-tech electronic devices, modules and systems

Consortium III

Following additional partners wanted:

- A company (except SelCom) working in the field of wireless sensors and wireless sensor networks – hardware, software or both – to take part in evaluation and development of wireless sensors for spaceflight applications.
- Research institutes able to create models of wireless sensors' behaviour in different space geometries and environments.
- A company willing to put in practical tests developed wireless sensors and evaluate their pros and cons. Also actively to participate in initial definition of the requirements to the on-board wireless sensors.



Contact and further information

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