

## Evaluation Summary Report

**Proposal :** 288633  
**Acronym :** FENIX-EU  
**Program :** FP7  
**Call :** FP7-ICT-2011-EU-Brazil  
**Funding scheme :** Small or medium-scale focused research project -STREP - CP-FP-INFSO  
**Duration :** 30 months  
**Activity :** ICT-EU-Brazil-2011-10.1 - EU-Brazil Research and Development cooperation

**FENIX-EU**

Wireless Mobile Sensor Network supported by Satellites for Enhancing Security and Efficiency of Forest Brigades-EU

**Proposal submitted by :**

N°	Proposer name	Country	Total cost (€)	%	Grant requested (€)	%
1	UNIVERSITAT JAUME I DE CASTELLON	Spain	596,266	30.35	472,356	31.52
2	Zentrum fuer Telematik e.V.	Germany	850,640	43.30	637,980	42.57
3	SHEFFIELD HALLAM UNIVERSITY	United Kingdom	517,780	26.35	388,335	25.91
	<b>Total</b>		<b>1,964,686</b>	<b>100%</b>	<b>1,498,671</b>	<b>100%</b>

**Abstract :**

This project proposes a new methodology, based on mobile wireless sensor networks, to enhance the efficiency and security of fire fighters brigades in the forest interventions. As an example, in the past approximately 25.000 Km square of Amazonia forest have been burnt every year. In Europe the situation is very complicated in countries such as Portugal, Spain and Greece. Very good results in terms of avoiding forest fires have been obtained by educating people on how to manage the agriculture resources (see "Amazonia sem fogo" project). Moreover, once the fire has occurred the brigades are in charge of giving a quick solution to a problem that is actually very difficult to be solved, and where the technical resources are in some situations very poor. In this project we propose the study and design of new technical methods for giving security to the brigades, preventing risk situations for the fire fighters and providing a way to enhance the efficiency of the intervention. The system is intended to provide a network of small satellites to guarantee the connectivity of the brigade during the intervention in big areas such as the Amazonia. Moreover, sensors will be attached to the brigades vehicles, the fire fighters and medium sized semi-autonomous mobile sensors, providing in real time information to a centralized based station in terms of security.

**Evaluation :**

<b>1. Scientific and/or technological excellence (relevant to the topics addressed by the call) ( Threshold 3.0/5 ; Weight 1.00 )</b>	<b>Mark:</b>
<p>The proposal addresses extremely important and relevant topics concerning the monitoring of forests. The objectives are sound but the aspects of control are limited since no specific details have been provided. The concept of developing a wireless sensor network for real-time fire fighting intervention is very clear, and the objective of integrating ground- and space- based monitoring for forest fire fighting is worthwhile.</p> <p>However, this proposal fails to advance the state-of-the-art which is primarily limited to issues of integration of multiple components, both hardware and networking.</p> <p>The proposal makes several references to extensions of previous and ongoing projects and promises incremental development of existing technology, rather than advancing state-of-the-art. Furthermore, it proposes extensions to existing technologies such as pico-satellites and transport protocols to support integration with satellites which are clearly outside the scope of the call.</p> <p>In most cases, the progress is incremental in nature or deals with the challenges of integration only. Other aspects such as design of the robot also fall outside the scope of the call.</p>	<u>2.00</u>

<p>The work plan and packages have a strong emphasis on analysis and design of infrastructures and protocols and on management and coordination issues. The work plan is therefore inappropriate for the call.</p> <p>The primary scientific work is divided into two work packages, with a vast majority of the effort (195 out of 371 PM) allocated to only one work package. The planned deliverables are all (with the exception of the project website) of type REPORT. This implies that the prototypes and demonstrations do not appear as deliverables. The major milestones are concentrated at the beginning of the project (months 3 and 9) and do not reflect the potential risks of integration activities, planned for M24, which would be too late in the project to allow for adjustment of the plans.</p>	
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<b>2. Quality and efficiency of the implementation and the management ( Threshold 3.0/5 ; Weight 1.00 )</b>	<b>Mark:</b>
<p>The implementation is too dependent on the consolidation of some of the suggested technologies involved to achieve a great impact in environment protection.</p> <p>Adequate project management structure and procedures have been proposed. The proposal identifies risk but does not have a clear formal risk management and appropriate measures as a management task to be implemented.</p> <p>The proposal has very experienced participants, particularly in related projects in this area.</p> <p>The consortium is not appropriately balanced. The proposal does not show adequate expertise and resources in the area of software and no particular network expertise which places the proposal at risk. Instead there are a large number of robotics as well as space and aeronautics experts involved.</p> <p>The proposal lacks the involvement of the mentioned 'strong industry participants' needed from the very beginning of the project.</p> <p>The non-academic partners have a relatively minor involvement in terms of person-months. Furthermore, there is a significant overlap in activities, amongst several partners with expertise in robotics and at least two with experience in satellites.</p> <p>The division of tasks in work package 3 amongst partners with matching expertise is not clearly specified. For the demonstration of the networked monitoring and control abilities of the system, the effort spent for the design of the robot is far too high.</p>	3.00

<b>3. Potential impact through the development, dissemination and use of project results ( Threshold 3.0/5 ; Weight 1.00 )</b>	<b>Mark:</b>
<p>An interesting aspect of this proposal is the incorporation of human expertise into a smart system for forest fire fighting that has great impact on environmental protection in regions of both the EU and Brazil that, for different reasons, are endemic high fire-risk zones. The impact in the areas relevant to the call, however, is limited.</p> <p>The measures in regard to the dissemination (Web Page + Workshops and summer schools) are appropriate for the type of proposal.</p> <p>Intellectual property management follows an open source policy, also adequate for a proposal that expects to have a public domain impact.</p>	4.00

<b>4. Remarks ( Threshold 10.0/15 )</b>	<b>TOTAL:</b>
The proposal scored below threshold on criterion 1 and overall.	<u>9.00</u>

<b>Does this proposal have ethical issues that need further attention? (If yes, please complete an ethical issues report form (EIR))</b>	N
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For each criterion under examination, score values indicate the following assessments. Half point scores may be given :

0- The proposal fails to address the criterion under examination or cannot be judged due to missing or incomplete information

1- **Poor.** The criterion is addressed in an inadequate manner, or there are serious inherent weaknesses.

2- **Fair.** While the proposal broadly addresses the criterion, there are significant weaknesses.

3- **Good.** The proposal addresses the criterion well, although improvements would be necessary.

4- **Very Good.** The proposal addresses the criterion very well, although certain improvements are still possible.

5- **Excellent.** The proposal successfully addresses all relevant aspects of the criterion in question. Any shortcomings are minor.