



**SWIPE**

Seventh Framework Programme  
Space Theme



# D7.5 FINAL BROCHURE FOR OFFICIAL PUBLIC PRESENTATION EVENTS

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**Abstract:** This document shows the final brochure for official public presentation events of the SWIPE project.

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<sup>1</sup> Nature of deliverable: **R** = Report; **P** = Prototype; **D** = Demonstrator; **O** = Other

<sup>2</sup> Dissemination level: **PU** = Public; **PP** = Restricted to other programme participants (including the Commission Services); **RE** = Restricted to a group specified by the consortium (including the Commission Services); **CO** = Confidential, only for members of the consortium (including the Commission Services).

## Document History

Date	Version	Remarks
21/10/2015	0.1	First content created and version shared with partners.
31/10/2015	0.2	Contributions of all partners added.
09/11/2015	1.0	Final version submitted to the EC.

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## **Executive Summary**

This document describes the brochure that was developed for the SWIPE project, including the design approach.

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## List of Acronyms

Acronym	Meaning
ASIC	Application Specific Integrated Circuit
SEU	Single Effect Upset
SWIPE	Space WIREless sensor networks for Planetary Exploration
WSN	Wireless Sensor Networks

**Table 1 – List of acronyms.**

# 1 Introduction

The SWIPE brochure will be used as a dissemination tool that can be easily handed out to the public or target communities, at conferences or events, in order to promote the project's objectives, concept and partners, together with the potential benefits that the project results can bring. The next sections show the brochure layout and content in more detail.

## 2 Brochure Design and Content

### 2.1 Brochure Design

For this project, two types of brochures were designed in order to create two different means of dissemination of the project's impact to different communities if need be.

The SWIPE's first brochure was developed using a three column (tritych) template. Figure 1 and Figure 2 show the brochure front and back sides respectively. The design approach followed consists in a background image from a mission concept depiction (courtesy of TEKEVER), in pale colours, and black text. This brochure is structured in the following sections: Objectives and Results, Consortium Partners, Points of contact, SWIPE concept and motivation for the project, and approach (methodology followed for the project implementation).

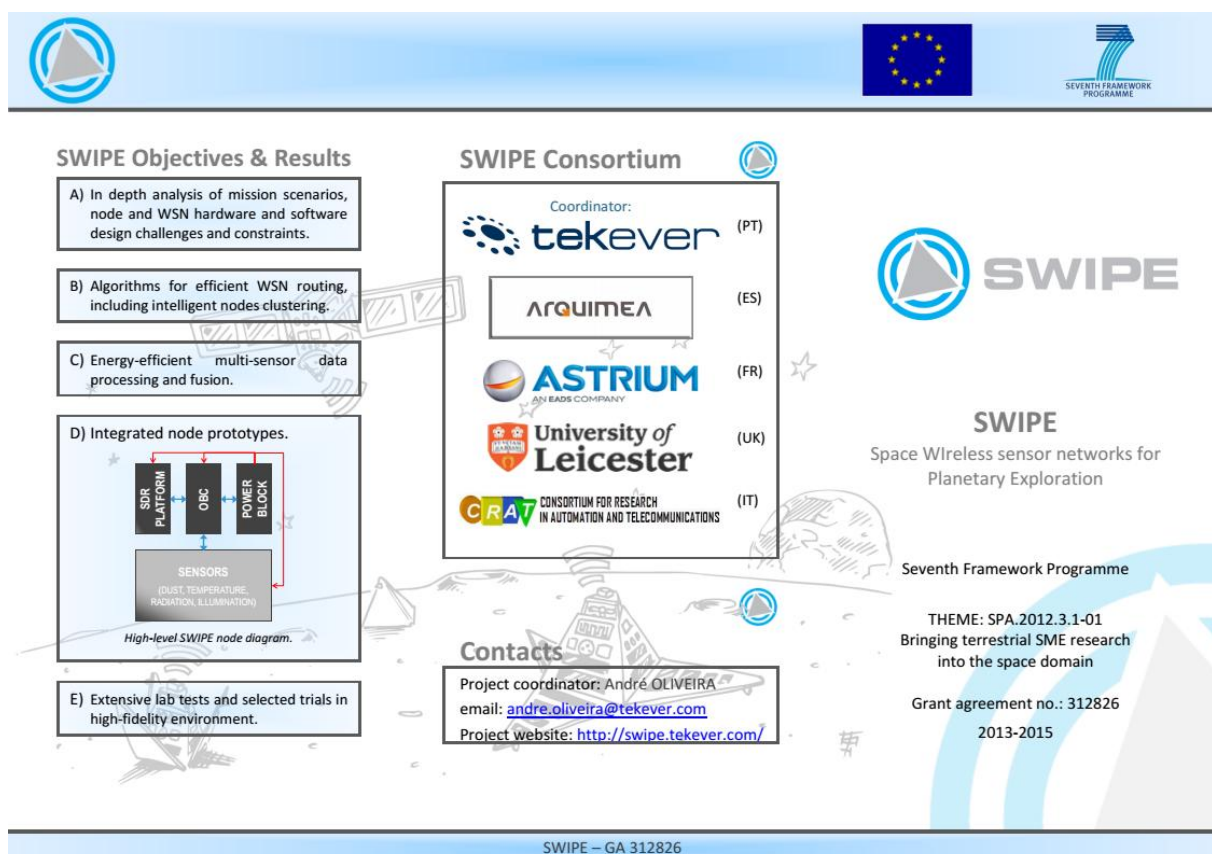


Figure 1 – Screenshot of the brochure layout (front)



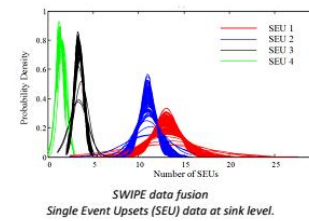
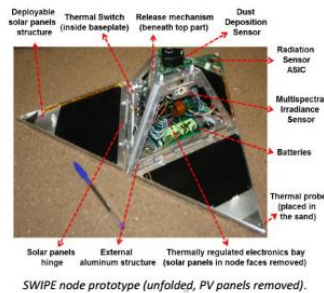
## SWIPE

In order to prepare for manned missions to other planets, it is necessary to monitor permanently the surface environment and have a clear notion of its conditions.

SWIPE objective was to bring hybrid satellite-*ad hoc* networks to space.

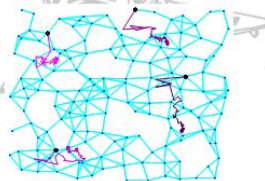
Wireless Sensor Networks (WSNs) are made of spatially distributed nodes interacting to monitor a region of interest. Sensor data are processed and relayed to one or more gateway nodes through single-hop or multi-hop communication across the WSN. These *ad hoc* networks, motivated by military applications, are used in industry for process and machine health monitoring and are a promising tool in several other areas like catastrophe evaluation, fire monitoring, environmental experiments and in other distributed sensing applications.

Mission scenarios analysed in SWIPE foresee that up to hundreds of WSN nodes are deployed onto a planet's surface to monitor a region of interest (in SWIPE, swirl locations on the Moon). Intelligent SWIPE algorithms for network management and communication routing make the WSN energy efficient and



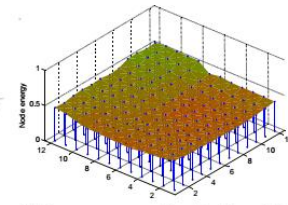
resilient to node failures. Data gathered from the sensors are fused and sent to the satellite for relay to Earth.

SWIPE has defined mission scenario in details, as well as mission and system requirements; SWIPE has also designed



and developed node prototypes (below 2 Kg), integrating power, computing, sensing and communication main units.

The whole system has been finally integrated and tested in laboratory and it will be tested also in a field test replicating relevant environmental conditions (Svalbard Islands).



SWIPE – GA 312826

**Figure 2 – Screenshot of the brochure layout (back)**

The second brochure, Figure 3, can be considered a leaflet, is a single sheet filled with information summarizing the SWIPE's Objectives and Results, condensing the most relevant information in two columns of text complemented with pictures.





## SWIPE Objectives & Results



Space Wireless sensor networks  
for Planetary Exploration

Seventh Framework Programme  
THEME: SPA.2012.3.1-01 - Bringing terrestrial SME  
research into the space domain

### SWIPE Consortium

Coordinator



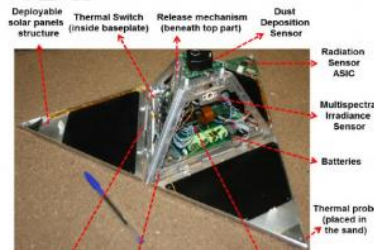
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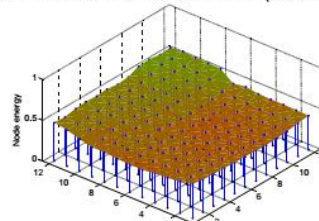
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SWIPE node prototype (unfolded, PV panels removed).

The whole system has been finally integrated and tested in laboratory and will also be field tested in relevant environmental conditions (Svalbards).



SWIPE energy management (smart routing and data fusion results in energy equalization).

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 Project website: <http://swipe.tekever.com/>

Figure 3 – Screenshot of the second brochure (leaflet) layout