



***SWING Project: Short Wave critical Infrastructure Network based on new Generation of high survival radio communication system***


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**Preliminary technical meeting  
INGV – Rome, January 09<sup>th</sup> | 2012**

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## ACRONYM LIST

**CIPS** – “Prevention, Preparedness and Consequence Management of Terrorism and other Security related Risks“

**INGV** – Istituto Nazionale di Geofisica e Vulcanologia

**CNIT**- Consorzio Nazionale Inter-universitario per le Telecomunicazioni

**NOA** - National Observatory of Athens

**EO** – Ebro Observatory


**ECIs** - European Critical Infrastructures

**CGAs** - Controlling Governmental Agencies

**HF** – High Frequency

**SW** - Short Wave


**SWING** - Short Wave critical Infrastructure Network based on new Generation of high survival radio communication system

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## 1 INTRODUCTION

On January 09<sup>th</sup>, 2012 a technical meeting related to the preliminary and administrative procedures has been held in Rome at INGV.


## 2 MEETING REPORT

### 2.1 Participants

The NOA and EO partners are participating in videoconference.

The attendees are in the following table:

NAME OF PARTICIPANTS	INSTITUTION	CONTACT
ZOLESI Bruno (Co-ordinator)	INGV	<a href="mailto:bruno.zolesi@ingv.it">bruno.zolesi@ingv.it</a>
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ABRARDO Andrea	CNIT	<a href="mailto:abrardo@dii.unisi.it">abrardo@dii.unisi.it</a>
MORELLI Michele	CNIT	<a href="mailto:michele.morelli@iet.unipi.it">michele.morelli@iet.unipi.it</a>

## 2.2 Welcome

Co-ordinator Bruno Zolesi opens the meeting at 14:00.

He welcomes all the attending guests and the partners in videoconference and presents the general information of the SWING project (CIPS program).

## 2.3 SWING project presentation

Cesidio Bianchi presents the proposed project: study and design of a system of HF radio connection among European Critical Infrastructures (ECIs) and/or Controlling Governmental Agencies (CGAs) that replace broad band transmission able to survive in any adverse conditions and terrorist attack. He shows the expected results of the project: demonstrate the feasibility of a network high survival HF communication as back-up and independent system to ensure minimum management and communication requirements, in the case of internet failure due to a terrorist attack.

He presents the four working group involved in the SWING project:

WG1: INGV Co-Ordinator

WG2: CNIT Co-Beneficiary


WG3: NOA Co-Beneficiary

WG4: EO Co-Beneficiary

These groups will work at the five objectives of the project that must be reached by the nineteen activities (following TABLE 1 and TABLE 2) as reported in the Application Form and the Annex F of the project.

The discussion continues with the budget estimate form, as reported in the Annex II of the SWING project Grant Agreement (HOME/2010/CIPS/AG/026 No. 30-CE-0453366/00-06).

Bruno Zolesi informs all the participants that the total cost of the action is estimated at EUR 671.145,83, representing the total eligible costs, and the Commission shall contribute a

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maximum of EUR 468.306,45 (equivalent to 69,78% of the estimated total eligible costs). A pre-financing payment EUR 280.983,97 shall be made to co-ordinator by the Commission.

Co-ordinator shows how the amount of the grant requested will be transferred to each co-beneficiary (table A).

<b>ORGANISATION</b>	<b>GRANT REQUESTED (€)</b>	<b>PRE-FINANCING (€) (60% OF THE GRANT)</b>
INGV	234.898,05	140.939,98
CNIT	199.946,91	119.968,00
NOA	16.731,86	10.039,00
EO	16.729,62	10.037,00

**Table A**


## **2.4 General discussion and conclusions**

All the participants talk about the technical modalities to reach all the objectives of the planned activities. A member of the CNIT staff proposes to create some groups within the working groups to organize the activities of the project.

At the end of the discussions Bruno Zolesi and participants decide that the next meeting could be held in the month of June, 2012 to check the progress of the first three deliverables (Activities 6, 7 and 8).


Co-ordinator thanks the attending guests and the partners in videoconference for their contribution and closes the meeting at 17:00.

*Rome*, January 09<sup>th</sup> | 2012

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**TABLE 1 – SWING Objectives**

<b>a)</b>	To study internet communications criticality.
<b>b)</b>	To analyse the requirements necessary to ECIs and CGAs management and control.
<b>c)</b>	To develop a communication protocols in order to define standard software and hardware tools supporting reliable and interoperable Short Wave radio communication techniques for ECIs and CGAs protection.
<b>d)</b>	To study the frequency management system taking into account the special characteristics of the ionospheric channel.
<b>e)</b>	To design a radio-communication architecture for a distributed South European short wave radio network.

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**TABLE 2 – SWING Activities**

TYPE/NAME OF THE ACTIVITY	NAME OF ORGANISATION THAT WILL IMPLEMENT THE ACTIVITY	WHEN?	DELIVERABLES
1- Interface with EU authorities and coordination.	INGV	M1 - M24	Communications and Internal Report
2-Technical analysis of the communication problems related to the identification and designation of CIs in the interested area.	INGV - CNIT	M1 – M9	Technical Report
3- Determination of the topology of high survival radio communication network.	INGV - CNIT	M1 – M9	Technical Report
4- Characterization of the minimal amount of information necessary for the survival of the CIs communication.	INGV - CNIT	M10 – M13	Technical Report
5- Operative supervision of the network architecture.	INGV - CNIT	M13 – M16	Technical Report
6-Analysis of the existing architecture of HF communication based on <b>internet protocol access</b> with reference to the above considered infrastructures.	CNIT	M1 – M6	Technical Report





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7-Analysis of existing HF connection system in terms of software and hardware for internet connection.	CNIT	M1 – M6	Technical Report
8- Definition of the High survival HF radio network technical requirements.	CNIT	M1 – M6	Technical Report
9 - Radio network system design.	CNIT	M9 – M12	Technical Report
10-Criteria of early warning alert and procedures to activate the back up network.	CNIT	M10 – M12	Technical Report
11-Monthly prediction of the hourly HF set of frequencies over the n radio links given by the network, based on the available ionospheric model and methods.	INGV, EO	M13 – M16	Technical Report
12-Daily forecasting of the hourly HF set of frequencies based on the Mediterranean ionospheric measurements.	INGV, EO	M13 – M16	Technical Report
13-Ground wave propagation analysis when required.	INGV	M20 – M24	Technical Report
14-Frequency management system for HF communication link optimization.	INGV, EO	M20 – M24	Technical Report
15-Identification of the professional profile able to maintain and operate network.	INGV,CNIT, NOA, EO	M22 - M24	Technical Report

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16-Dissemination of deliverables within communities informing about initiatives organised in the context of the project.	INGV,CNIT, NOA, EO	M22 - M24	Technical Report
17-Professional training activities trough courses, workshops and conferences.	INGV,CNIT, NOA, EO	M22 - M24	Technical Report
18-Assessment of the potential impact and feasibility of the project for ECIs and CGAs and final recommendations for the EC.	INGV,CNIT, NOA, EO	M22 - M24	Technical Report
19-Realization of a demonstrator constituted by 4-terminals HF network.	INGV,CNIT	M1 - M24	(Realization of the demonstrator)