

INTRODUCTION

Workshop on environmental monitoring sector

Task: Identify sector topics and
recommendations for future calls

Workshop on ICT Services for Environment, Safety and Security in the Baltic Sea. Helsinki, 12.4.2010



Workshop plan.

Total time: 2 h

15 min: Moderator's introduction;

10 min: *Tour de table* including self-identifying to one of the groups: *developers of ICT applications, environmental scientists using ICT applications, professionals depending ICT on acquiring environmental information;*

20 min: Invited lecture

Monitoring Baltic Sea Eutrophication From Space

Prof Susanne Kratzer, University of Stockholm, Sweden;

30 min: work in 2-3 sub-groups: identification of sector topics (*participants will work with post-it sheets putting one idea per sheet, and arranging them into a list of themes*);

15 min: reporting by subgroups, arranging a common list;

15 min: voting the priorities (*participants will 'vote' by putting colour-coded stickers by each of the proposed topics*);

15 min: final discussion, **formulating the outcome: 1 ppt slide including a prioritized list of themes**

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WHAT IS ICT?

Information and communication technology is defined as the combination of informatics technology with other, related technologies, specifically communication technology.

UNESCO, 2001

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TWO MAJOR CHALLENGES:

1) ICT IS THE MOST DYNAMIC SECTOR

WE MUST BE EXTREMELY FAR-SIGHTED: IMAGINE THE ICT LANDSCAPE AT THE TIME RESEARCH OF 2012-2015 WILL COMMERCIALIZE



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1. New network and service infrastructures will emerge replacing the current Internet and Web.
2. ICT based on nano-scale integration, new materials, photonics and organic electronics will provide new types of devices and intelligent systems.
3. The next generations of ICT will have to support the targets ... ultra low power consumption. ICT devices for virtual mobility and more efficient environmental simulation and monitoring.

Source: EC FP7

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TWO MAJOR CHALLENGES:

2) THE THEME IS EXTRAORDINARY BROAD
WE MUST APPLY A STRUCTURED APPROACH

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EXAMPLE: TOPICS OF THE IRISH BEAUFORT AWARD PROGRAMME

Information and Communications

- Automatic identification and tagging of events in sensor data streams;
- Wireless technologies for use offshore and their integration with inshore communications networks;
- Underwater communications inc. acoustics, distance, reliability, speed, power and their integration with onshore communications networks;
- Web service workflow tools allowing users to bind processes together for particular applications;
- Integration of instruments and sensors into a grid computing environment with web services interfaces;
- Techniques for simulation and visualization of complex data sets;
- Automatic linking of instruments and metadata production; and
- Development of methodology for grid enabling instruments.

Sensors and Sensor Systems

- Sensitivity for low levels of trace chemical concentrations;
- Fouling of sensors;
- Selectivity limitations;
- Limited stability of sensor chemistry and material;
- Correlation of pressure and depth sensors data to allow *in-situ* instruments to match satellite altimeter data;
- Interfacing of sensor systems with networks and communication and data infrastructure mechanisms;
- Instrument capabilities and functions in respect to data acquisition and analysis;
- Design and operation of sensor platforms; and
- Integration of fibre-optic technology with sensors, communication and power sources.

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CAN WE AGREE ON THESE RESUMPTIVE TITLES?

- DEVELOPMENT OF INTEGRATED INFORMATION COLLECTION AND DISTRIBUTION SYSTEM (S);
- DEVELOPMENT AND IMPROVEMENT OF SENSORS;
- DEVELOPMENT OF NEW PLATFORMS;
- TECHNIQUES FOR SIMULATION & VISUALIZATION OF COMPLEX DATA SETS;
- ELSE ?

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