



MUSAR

-

An Innovation Project on Multistatic Opportunistic SAR

Xavier Neyt ⁽¹⁾ and Christian Barbier ⁽²⁾

⁽¹⁾ Ecole Royale Militaire, Avenue de la Renaissance 30, 1000 Bruxelles xne@elec.rma.be

⁽²⁾ Centre Spatial de Liège, Avenue du Pré-Aily, 4031 Angleur cbarbier@ulg.ac.be



Contents

- 1. Context of the Project**
- 2. Objectives of the Project**
- 3. Partnership**
- 4. Planning and WBS**

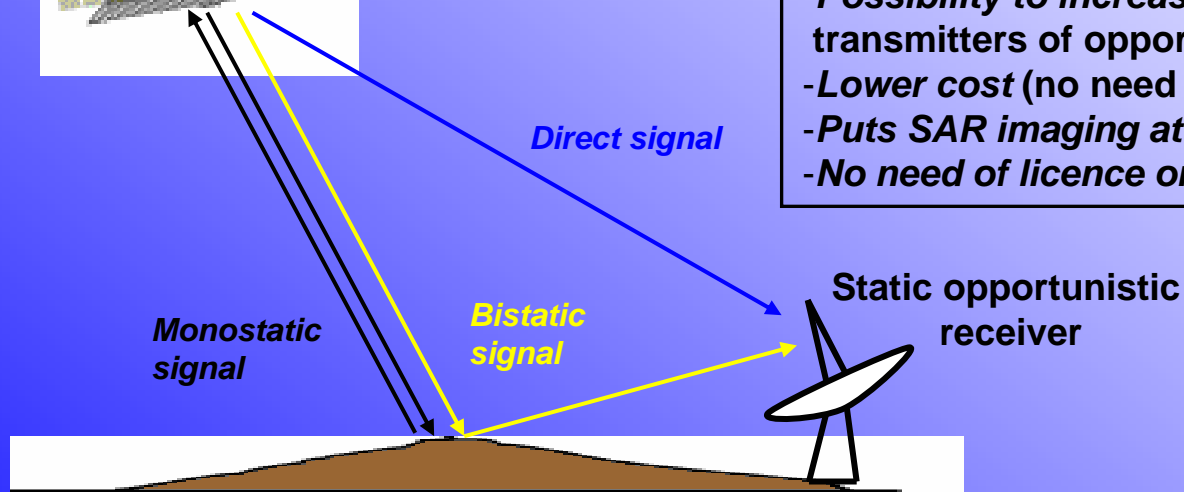
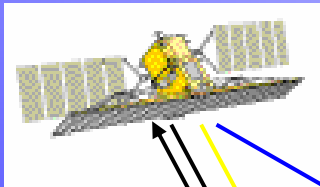


I. Context of the Project



Passive (bistatic) opportunistic SAR :

Transmitter of opportunity
(SAR satellite)



Advantages of passivity :

- *Built-in redundancy* (subject to central frequency and bandwidth requirements)
- *Possibility to increase revisit rate* by using several transmitters of opportunity
- *Lower cost* (no need for a transmitter)
- *Puts SAR imaging at the reach of lower budgets*
- *No need of licence or to satisfy transmit power regulations*



II. Objectives of the Project



MUSAR is an **INNOVATION Project** having the following **objectives** :

- To model the raw signal
- To develop and breadboard receiving system H/W
- To perform direct path and backscattered signal separation
- To develop a spatial beamforming focusing processor
- To develop a spatial Fourier-based focusing processor
- To characterize the focused image quality
- To purchase the corresponding focused ENVISAT image
- To draw conclusions and identify future developments



III. Partnership

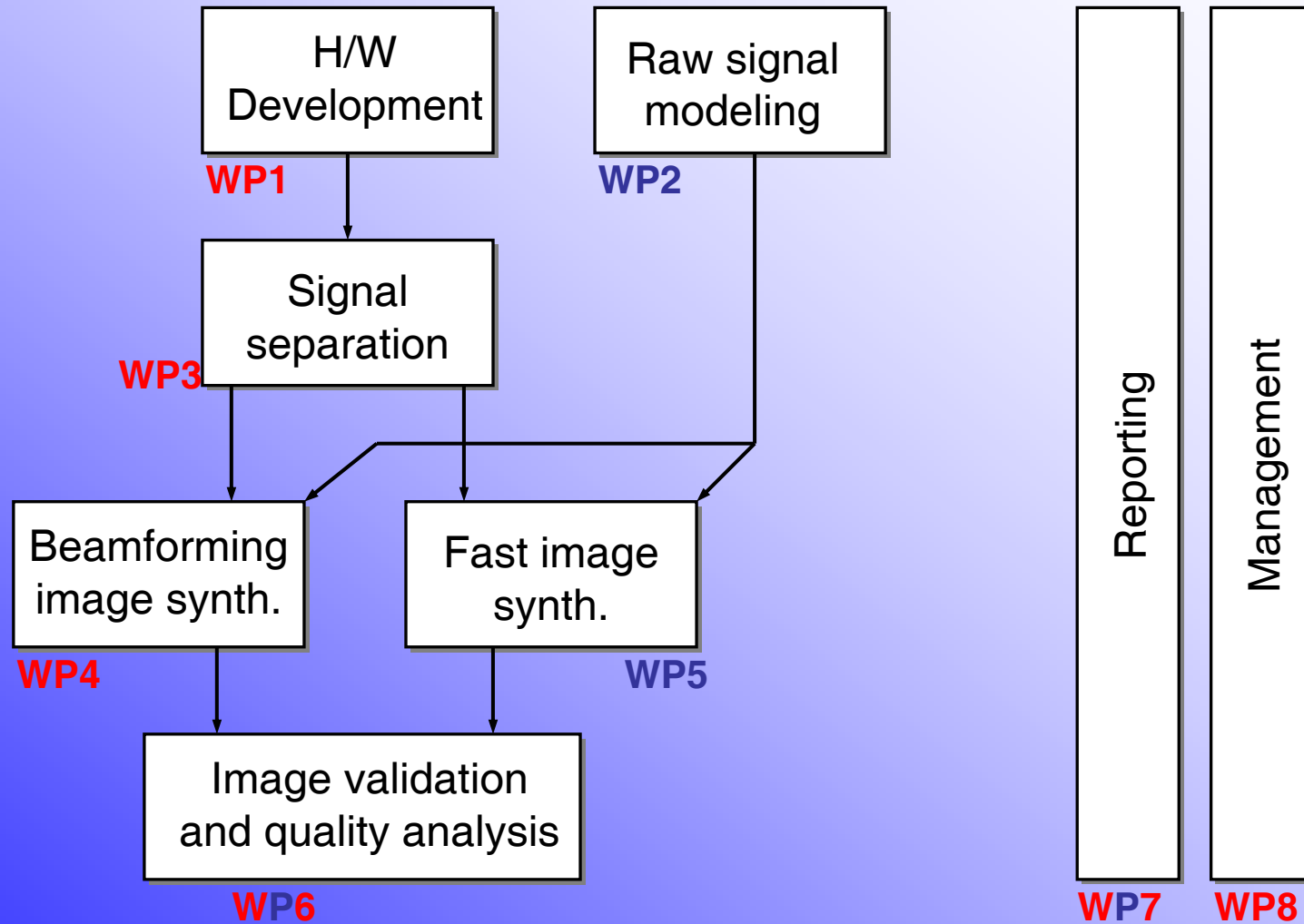


Institution	Status	Responsible
Koninklijke Militaire School - Ecole Royale Militaire (KMS-ERM) 	Coordinator Promotor 1	Prof. Marc Acheroy
Centre Spatial de Liège – Université de Liège (CSL-ULg) 	Promotor 2	Dr. Ir. Jean-Marc Defise



RMA
CSL

IV. Planning and WBS





RMA

CSL



2008

2009

- WP1** H/W Development
- WP2** Raw signal modeling
- WP3** Signal separation
- WP4** Beamforming image synthesis
- WP5** Fast image synthesis
- WP6** Image val. and qual. analysis
- WP7** Reporting
- WP8** Management

