

# SmartHMA

## Management, administrative aspects and risks in SmartHMA project

Bartosz Buszke and Daniel Zinkiewicz

Wasat Sp. z o.o.

## Contractor and Consortium

- The Prime Contractor of the SmarHMA project is **WASAT Sp. z o.o.** - the Polish SME that develops IT solutions and downstream services based on Earth Observation, GIS, satellite navigation and mobile technology. The company is involved in the FP7 Space, EUREKA, ESA and commercial projects.
- Among other developments, in **EUREKA “Crumbs” project** WASAT realised mobile mapping solutions implemented in mobile devices.
- The company also develops satellite-based and mobile applications for farmers in **ESA IAP** project.

## Contractor and Consortium

- The company cooperates with several academic institutions and other high-tech SMEs.
- Currently 3 employees are earmarked for working in the project: Daniel Zinkiewicz (IT and geoinformation engineer) and 2 mobile developers.
- In view of a possible growing involvement of the company in the HMA-related projects /ground segment software/GSTP more people will be recruited and trained for working with ESA

## Subcontractor - Spacebel

- **Spacebel** – the key partner closely associated with EO ground segment software development and other activities of ESA.
- As a member of the development team of the ESA EO-DAIL and SSE system, and a contributor to the HMA standardisation process, Spacebel will facilitate the design of a system for professional purposes in close relation with the existing ESA infrastructure. This will ensure full compliance with the HMA and OGC standards on which SmartHMA will be based.

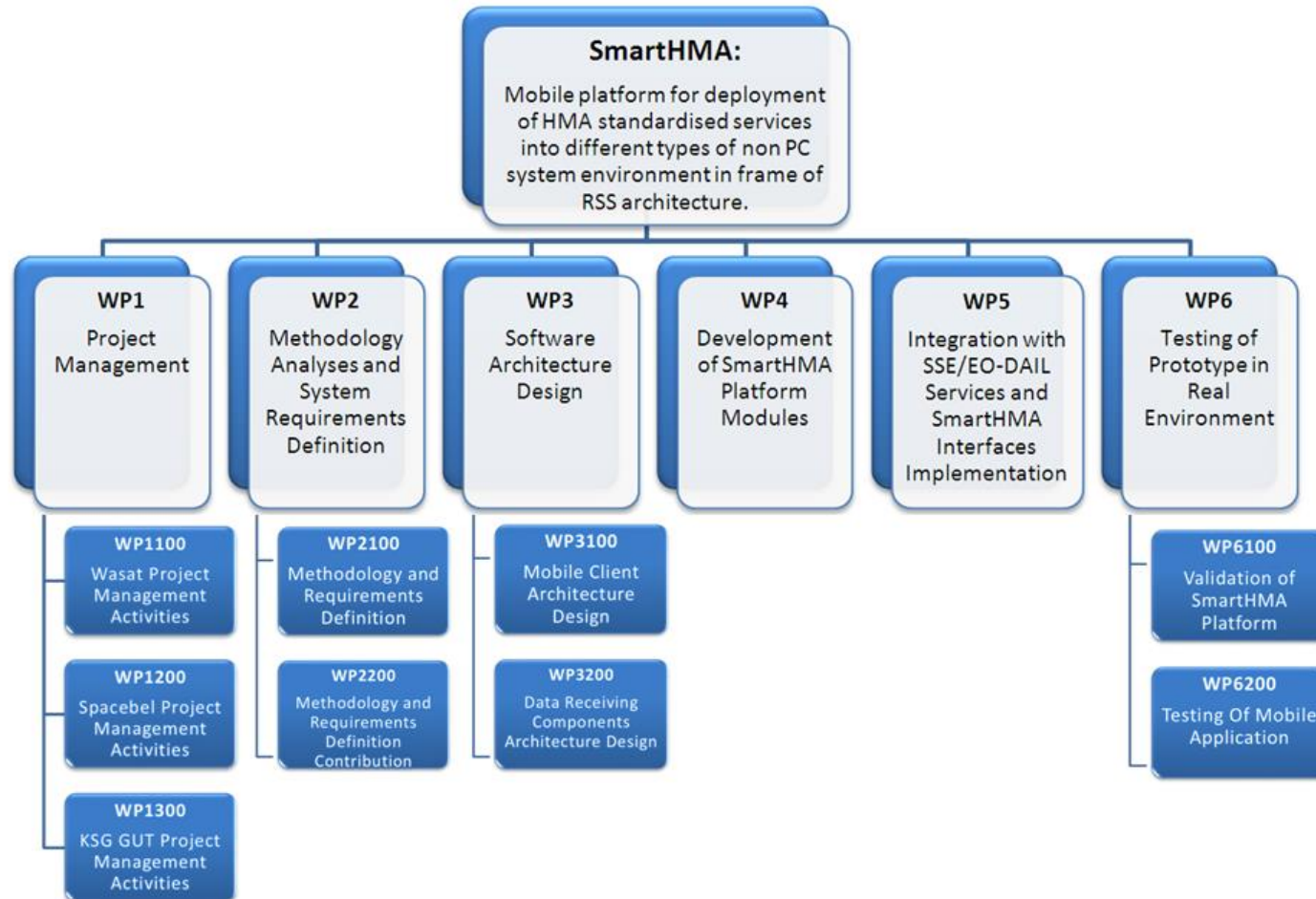
## Subcontractor – KSG GUT

- **KSG GUT - Department of Geoinformatics of Gdańsk University of Technology** – as the university department, KSG has the facilities for acquisition and processing of EO data.
- Based on the EO data received from its own ground station, the Department has implemented and released the first service in Poland on the SSE platform.
- In the project the role of the KSG GUT is to represent the service providers community and to facilitate the adaption of SmartHMA to the needs of a service provider.
- The Department will also supply the requirements for the provision of its services. Such cooperation will result in a full verification and validation of developed SmartHMA platform, where modifications recommended by the KSG GUT will be included.

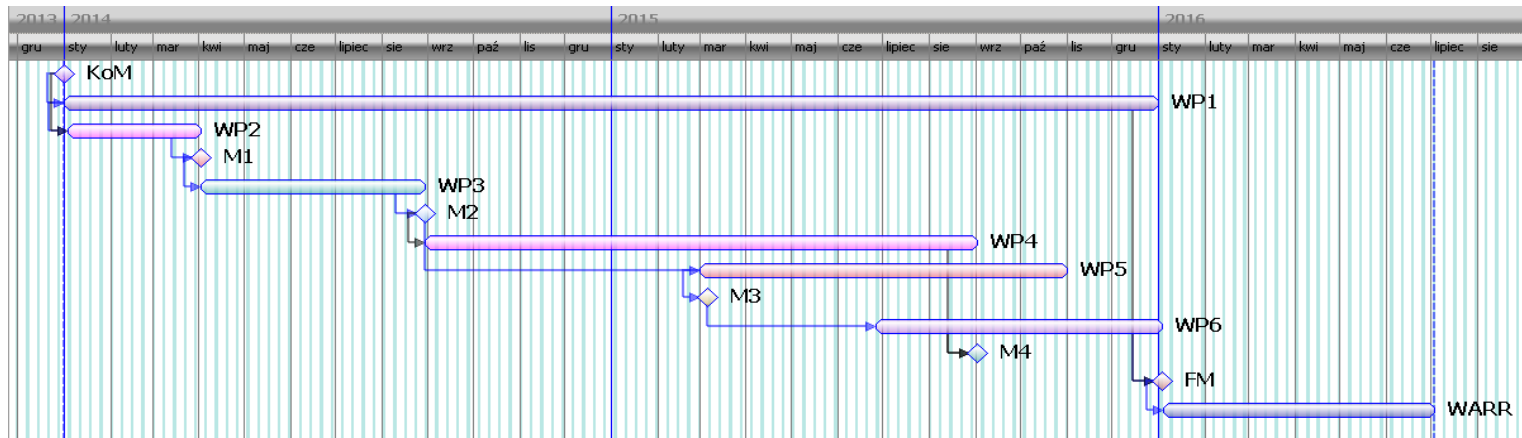
## Workpackages

- The project is divided into 6 work packages (WP) organised in “waterfall” structure and covers the requirements capture and final system design (theoretical part). It also covers the integration algorithms and software implementations as well as the beta trials and beta version demonstrations (implementation phase). The mentioned tasks can be described as follows:
  - Requirements analysis of HMA oriented application
  - Software architecture design
  - Development of mobile client side skeleton
  - Individual modules development
  - Service retrieving algorithm development
  - Software Implementation and Integration
  - Validation and verification trials (to determine performance) Beta Version of software demonstration

## Workpackages - WBS



## Workpackages - Schedule



- WP1 Project Management – Start: T0+0 End: T0+24
- WP2 Methodology Analyses And System Requirements Definition - Start: T0+0 End: T0+3
- WP3 Software Architecture Design - Start: T0+3 End: T0+8
- WP4 Development Of SmartHMA Platform Modules - Start: T0+8 End: T0+20
- WP5 Integration With SSE/EO-DAIL Services And SmartHMA Interfaces Implementation - Start: T0+14 End: T0+22
- WP6 Testing of SmartHMA Beta Version in Real Environment - Start: T0+18 End: T0+24



## Agile methodology

- The Agile approach to software development refers to the iterative and incremental strategy involving self-organizing teams and cross-functioning teams working collaboratively to create software and solutions.
- The challenge facing SmartHMA application developers is that a hardware and infrastructure for mobile applications is constantly evolving, which results in an average lifespan for an application to be approximately 12 months.
- The principles of Agile software development establish a framework for a development team to use, develop and release applications so they have the longest life span in the marketplace
- In parallel to the ESA high requirements expectation for the software, the SmartHMA should fit the iterative and incremental strategy that drives Agile software development.

## Milestones

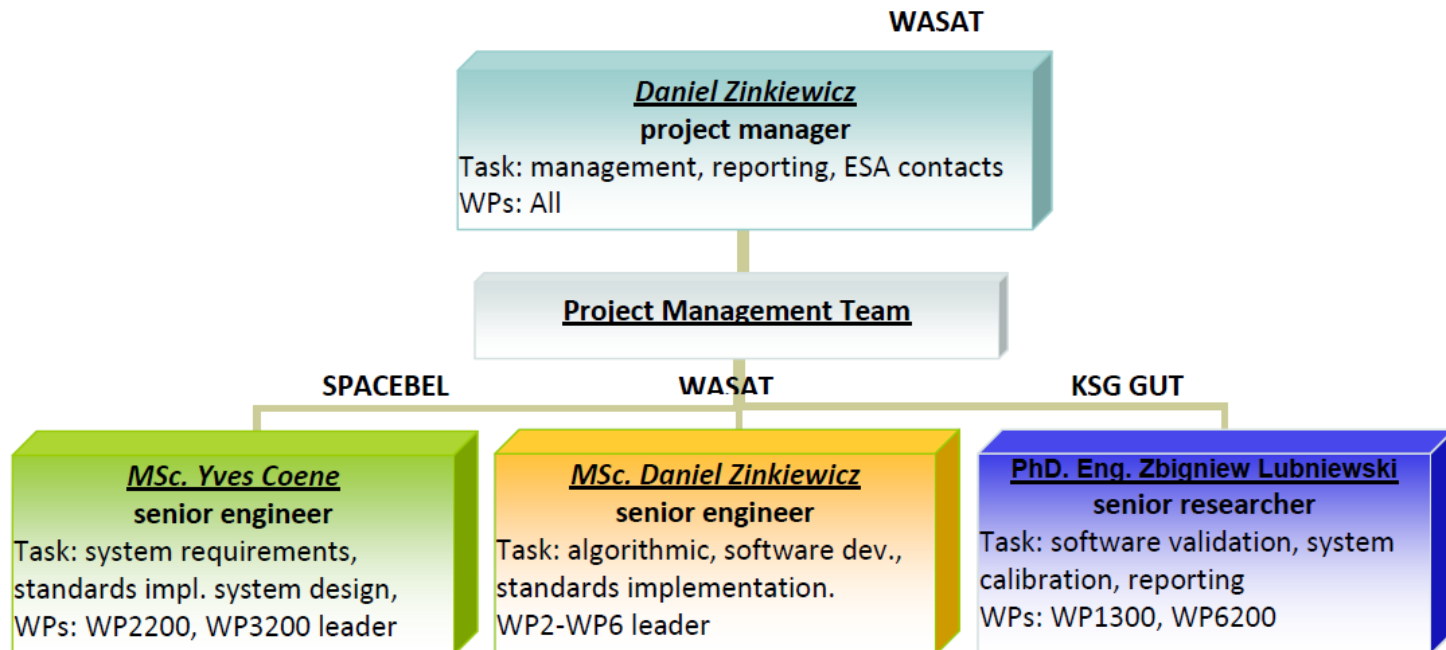
MILESTONE PLAN	
Milestone Description	Scheduled Dates
<b>KoM: Kick of Meeting</b>	<b>T0 + 0</b>
<b>Milestone 1 (M1): Upon successful completion of WP2 and successful review and acceptance of System Requirements and Technologies Analysis Report</b>	<b>T0 + 3</b>
<b>Milestone 2 (M2): Upon successful completion of WP3 and successful review and acceptance of System architecture design report</b>	<b>T0 + 8</b>
<b>Milestone 3 (M3): Upon successful completion and successful review and acceptance of first phase of Alpha Version of SmartHMA platform</b>	<b>T0 + 14</b>
<b>Milestone 4 (M4): Upon successful completion of first stage of WP5 and successful review and acceptance of first integration of Beta Version of SmartHMA</b>	<b>T0 + 20</b>
<b>Milestone 5 (FM): Upon the Agency's acceptance of all deliverable items due under the Contract and the Contractor's fulfilment of all other contractual obligations including submission of Appendix 3</b>	<b>T0 + 24</b>
<b>FINAL 2: Upon successful completion of the 6 month guarantee period [if applicable]:</b>	<b>T0 + 30</b>

## Deliverables

Document Identifier	Document Title	Milestone
PPR	Periodical Progress Reports	M1, M2, M3, M4
MoM	Minutes of Meetings	KoM, M3, FM
FR	Final Report	FM
D1102	Project Management Plan	KoM
ICD	Software Interface Control Document	M2
SRS	Software Requirements Specification	M1
SDD	Software Design Document	M2
D52	Software Integration document	FM
SUTR	Software Unit Test Report	M4
SVR	Software Verification and Validation Report	FM

Software Identifier	Software Title	Milestone
D4	Alpha version of subsystem elements	M3
D51	Beta version of integrated software	M4
FDP	Final Data Package	FM

## Team organisation / WP leaders



## Team organisation

- For each Work Package, one WP leader will be appointed.
- The WP Leader is responsible for the co-ordination of the work of the partners collaborating on that WP.
- The WP Leader will be in charge of
  - ensuring the communication of the partners working on the respective WP,
  - convening meetings when necessary
  - or telephone conferences where possible in order to minimise travel costs,
  - monitoring the activity of that WP and of reporting to the Project Manager with written reports every 3 months.

## Development risks

- Main technology risks are related to delays in the development phases. This risk is commonly associated with a developer or researcher team work delays. As a partial insurance against that risk an experienced team was selected to realise the project and it offers its advanced skills in development of algorithms, data processing and implementation of mobile based systems.
- System expectations risks are avoided by providing a good technical analysis carried out by specialists and acquiring an iterative approach in which the system will be adequate to the results of the user tests.
- Matching all HMA requirements straight into Android development environment could be challenging. In this case it will be necessary to extend the implementation of different libraries which should allow to reach the final results.

Thank you !