

# **SSA Programme (Space Situational Awareness Programme)**

**– Period 2 (2013-2016)**

## *SSA objectives and long term perspectives in the SWE and NEO domains*

- Develop and/or participate to the development of selected SWE space missions in cooperation with international partners
- Perform the development of required SWE instruments and services;
- Identify flight opportunities for selected SWE instruments;
- Recover data from present and future SWE and NEO missions
- Maintain and expand the precursor services as build-up during the preparatory programme.
- Develop enhanced NEO survey and other observation capabilities.

## *SSA objectives and long term perspectives in the SWE and NEO domains (cont)*

- Develop improved methods to predict the future orbits and impact risk of NEOs, including comets.
- Develop technologies required for potential NEO mitigation space missions.
- Establish SSA-SWE and SSA-NEO architectures based on the requirements
- Network existing European SWE and NEO assets into a consistent system
- Support the definition of an organisational structure and the identification of European service providers for the SWE and NEO segments.

## **Objectives for the SSA-SWE Segment (2013 – 2016)**

- Networking of available national and European SWE assets
- Continuation of the Proba-2 operations and exploitation
- Implementation of the first flight opportunities for hosted payload SWE instruments and planning for the future HP missions
- Exploitation of SWE instruments, as well as data and service centres
- Study (phase A) of a mission to ensure availability of solar wind, IMF and coronagraph data from L1
- Studies of mission concepts for enhanced SWE monitoring and forecasting with sensors away from the Sun-Earth line
- Continuation of the preparation of SWE additional services
- SSA-SWE technologies development

## **Objectives for the SSA-NEO Segment (2013 – 2016)**

- Networking of available NEO assets.
- Test, Validation and enhancement of the established NEO segment.
- Development / Enhancement / Maintenance of prototype telescopes for NEO.
- Establishment of a tasking function for the telescopes.
- Development of enhanced data processing and storage capabilities.
- Study of a mission to mitigate the NEO risk.
- Technologies development for the NEO domains (calculations of potential ground locations of an impactor, tools to assess impact effects in the atmosphere and on ground).

## *Indicative budgetary framework*

### **SWE developments, T&V**

<b>SWE Model and software development</b>	<b>5</b>
<b>Enhancement of the SWE Data system</b>	<b>2</b>
<b>Development of standards</b>	<b>0,5</b>
<b>Service validation and verification</b>	<b>2,5</b>
<b>Technologies development</b>	<b>2,5</b>

### **SWE data procurement and services**

<b>Procurement of SWE sensor data</b>	<b>4</b>
<b>Federated services</b>	<b>4</b>
<b>Provision of services at the SSCC, coordination and user support</b>	<b>4</b>
<b>SWE monitoring system studies (L1/L4/L5)</b>	<b>2</b>

### **SWE instrumentation and embarkation**

<b>Phase C/D of SWE instruments for high priority missions</b>	<b>11,5</b>
<b>Phase A/B/C/D of wide angle coronagraph</b>	<b>5</b>
<b>Hosted payload embarkation costs</b>	<b>9,5</b>

### **Mission operations**

<b>Hosted Payload missions</b>	<b>1,4</b>
<b>Proba-2</b>	<b>2,6</b>

### **NEO Segment**

<b>Developments for the NEO Segment</b>	<b>8</b>
<b>SSA-NEO Precursor Services</b>	<b>2</b>
<b>SSA-NEO Telescope deployment</b>	<b>0,5</b>
<b>Study of NEO mitigation risk</b>	<b>1,5</b>