**SARAD Overview**

**Vision Statement**

The Satellite Applications Catapult (<http://sa.catapult.org.uk/>) is developing SARAD, a SAR Applications Development capability to help increase the knowledge and use of SAR data. It will provide help and advice to those who might benefit from the use of SAR-derived information, and will provide access to supporting facilities including data access and storage, software tools and computing infrastructure (e.g. CEMS).

The overall goal of SARAD is, in **partnership with industry**, to help g**row the uptake of EO** Applications and Services, specifically **utilising SAR data**.

Once established SARAD will be a **UK focal point for SAR** application development and outreach to stimulate the **uptake of SAR services delivered through UK industry** and leading to **growth of the UK economy**.

**SARAD Objectives**

* To establish the Satellite Applications Catapult as a **Centre of Excellence for SAR** data processing and applications, **cementing the UK’s reputation as a leader in SAR** platforms, applications and services.
* To **raise awareness and promote the uptake of EO Services** by the end-user community with particular focus on the **benefits of using SAR from Space**.
* To **stimulate, educate and grow UK Industry**, especially **engaging the SME** **community**, for the provision of **SAR based services**.
* To help bring **scientific developments** through to **commercial offerings**.
* To build **interest and capability in NovaSAR-S data exploitation**, including the provision of S-band pre-mission test data.

**SARAD Components**

SARAD activities can be divided into three logical components:

|  |  |
| --- | --- |
| User Engagement | Covers all the outreach activities such as publicity, workshops, training courses etc. |
| Consultancy/Support | Covers engagement with users for application development, proof of concept activities and use of Catapult and other facilities. |
| Facilities | Covers the data/hardware/software aspects of SARAD activities, including working with others such as CEMS and the S-band Airborne SAR. |

*Table 1. SARAD components.*

At the highest level we can have a simple concept diagram as shown below:

CEMS

Facilitation

Services

Customer Engagement

Consultancy/Support

Facilities

* Joint Projects
* Reports
* Presentations
* Demonstrators
* Data Products
* Expertise/Advice
* etc
* Requirements
* Knowledge
* Software
* Data

**SARAD**

Management

**Satellite Applications Catapult**

Outreach

Operational Services

*Figure 1. High level SARAD Concept diagram emphasising inputs and outputs.*

**SARAD User Community and Activities**

We can identify 6 different User Categories for SARAD User Community.

|  |  |  |
| --- | --- | --- |
| User | Code | Description |
| End-Users | U1 | Users of information and knowledge to make decisions. |
| Domain Service Providers | U2 | Companies that provide services in a given domain, e.g. SOYL mapping/gps services for precision agriculture |
| Space Service Providers | U3 | Companies that provide services based on satellite data, e.g. Astrium GeoServices |
| Application Developers | U4 | Companies that develop algorithms and software that solve particular problems. |
| Consultants | U5 | Companies that have domain expertise and work with partners to develop solutions to specific problems |
| Scientific Researchers | U6 | Researchers in Academia (or Industry) working on the scientific understanding of SAR data |

*Table 2. Main categories of SARAD Users.*

Other stakeholders will also be taken into account in the SARAD development, such as:

* Catapult Management

|  |  |
| --- | --- |
| SARAD Specific Activities | |
| Area | Activity |
| User Engagement | Publicity |
| Conferences |
| Presence at industrial showcases |
| Articles |
| Newsletters |
| Personalised emails |
| Website page hosted by Catapult |
| Helpdesk |
| Exploration Workshops (>20 people) |
| Spark Workshops (<15 people) |
| Solution Workshops (~5 people) |
| Education Classes |
| Training Courses |
| Call identification & bid writing |
| Project Management |
| Consultancy/Support | Application Advice |
| Expert Contact Service |
| Concept development |
| Project definition |
| Project support |
| Product/Service Design |
| Quality Control (inc. Cal/Val) |
| Facilities | Data (satellite, airborne, in-situ, cal/val) |
| Software Tools |
| Computing Environment (inc. CEMS) |

* Data suppliers (inc. Satellite Data Distributors)
* Software suppliers
* Training Providers (including for example Universities)
* Satellite builders (e.g. SSTL)
* Funding providers (e.g. UK Space Agency, TSB, Venture Capitalists)

These stakeholders could provide some of the outreach, training and consultancy services, the SARAD facility infrastructure, the CEMS infrastructure, expert knowledge and data.

*Table 3. Specific SARAD activities.*