Integrated Dashboard

The Problem

The three projects thus far articulated to UKSA – Advanced Flood Warning; Marine Pollution and Illegal Logging – are all significant as stand-alone projects. The Malaysian government believes that, despite the disparate nature of the projects, the solutions will share some common services – e.g. satellite imagery – and that rather than have independent systems, an integrated approach will produce the most cost effective results which will allow us to more fully sustain , run and implement actions from the data. The solutions will also share an end user community consisting of 28 Ministries and Government Agencies. The Malaysian Government believes that all 3 stated problems would benefit from a single contracted 'Prime Management' partner working with UPNM to maximise overall resource commitment and success in trials and development. This 'Prime Contract' approach to coordinate all three requirements with this fourth one using the UPNM to focus on the Malaysian 28-member stakeholder group is going to offer UK Space Companies the best chance for technical and commercial success as relations with 28 very different government departments must be managed carefully. We would hope that a Prime Contractor in UK would involve other UK Space Companies as part of their solution to bring all four requirements together

An intuitive, transparent dashboard that presents essential information to end users in multiple ministries and government agencies in a simple, entitlement based, secure login format will enable optimal usage of the system is a key requirement to Malaysia. Being a major training provider to Malaysian government and institutions, UPNM recognises the need for standardisation as much as possible.

Malaysia also recognises that continuing low or further falling oil prices may significantly affect future government budgets. Although we remain committed to the three areas and tasks listed separately, we want to ensure long term support for these tasks is done in the most cost effective and efficient way possible, minimising through life cost. An obvious way to achieve this is to combine the results of all three into a single, standardised system which has possibility for future growth.

UPNM and the Space Applications stakeholder group have also studied the information provided by UKSA on your Space for Smart Government Programme with great interest and believe this approach of cross department working and standardisation also reflects what you do in this area

The system will allow us to benefit in the following way:

- Reduce training requirements across multiple agencies to a single training package – significantly reducing initial and through life costs
- Allow different units and organisations to easily share and understand information as they will be using the same system – essential for the applications we will use the data for
- Be of significant economic value by providing overall cost saving to the Malaysian government for the reasons listed above
- Give us national significant capability on the understanding of, education in and use of satellite data into our government departments and organisations

To this end the Government of Malaysia formally requests support from UKSA the provision of advice and a possible solution to create a widely accessible 'National Information Dashboard'. The system must be intuitive considering its primary goal is to inform the end users of events in Maritime Pollution, Illegal Logging and Flood Warning activities to enable a coordinated response making best use of national resource. It must also be scalable as we hope to add other applications to it as we progress in this area

Context

Responsibility for implementing the projects effectively resides within the Chain of Command in the Malaysia Space Applications Stakeholder Group – Chaired by UPNM. To enable the implementation and ensure long term commercial sustainability of the proposed solution, to recognise real benefits, the Malaysian government believes that an integrated system that can manage and distribute data to the appropriate individuals via an intuitive, customisable dashboard interface is crucial. The system will become the catalyst for change in

national procedures and inter departmental cooperation – this is something welcomed, endorsed, and recognised as a critical need by the Stakeholder Group

The system must be robust and scalable both in terms of numbers of users and additional services and data streams that may be integrated in the future.

Impact

The impact of the 3 core projects can only be enhanced by this 4th requirement - a speedy, easy to use dashboard interface. The dashboard will result in better government departmental standing operating procedures and inter department cooperation in the operational environment as applies to:

- Incident response and deployment of resource
- Incident recording and statistical reporting
- Compiling evidence and intelligence
- Following up on incidents

The critical impact shall be achieved through speed of access to critical information:

- Coordinating multi agencies in mitigating flood risks and where necessary evacuating vulnerable communities before disaster hits.
- Interdiction of vessels and compilation of evidence against those engaged in illegal discharging of oil, waste and other pollutants.
- Rapid identification of target areas where illegal logging may have occurred, gathering of evidence against perpetrators and subsequent prosecution.

Malaysia Requirement – What action Malaysia will take with the information provided

The Command and Control components of Malaysian Government Ministries and agencies need accurate information, updated frequently and presented effectively to coordinate responses. The information will be used by the Stakeholder Group to facilitate early intervention in (depending on situation) preserving life, protecting resources, preventing environmental disaster through prosecution, prevention, securing an effective chain of evidence and a nationally coordinated response.

We believe the solution must make best use of modern communications technology to deploy information across a raft of formats and devices. We would welcome your advice in this matter.

The end-user requirement is for a dashboard that shall enable the user to identify swiftly and easily any anomalies and events that require further investigation. The supporting data should be presented using an intuitive point and click/touch screen interface on multiple formats. The level of data that each user shall have access to shall be customisable and controllable (restrictions on sensitive information unless appropriate user rights or entitlements have been granted).

The system shall require a dedicated core network with appropriate processing capabilities to ingest and merge data streams effectively. This may be a secure server on government premises or a secure cloud service, subject to the latter meeting prescribed security protocols.

The Contract Management Requirement

A sustainable solution, by necessity needs to be a cost effective solution which means that the integration and management of the data streams – including making maximum use of each single satellite pass for earth observation data – are key elements of the solution. This speaks greatly to the need for a single 'Prime Contract'. From our own perspective and in keeping with our views the Stakeholder community here in Malaysia are allocating budget to UPNM in order that we are the coordinating authority from our side.

The Malaysian government's preference is for a single coordinated solution rather than three disparate solutions completed independently of each other. Often, companies with little experience working in Malaysia

find our version of bureaucracy difficult to manage. We also would strongly prefer to work with a single entity to coordinate with us here, on the ground, and back in UK with the task leads.