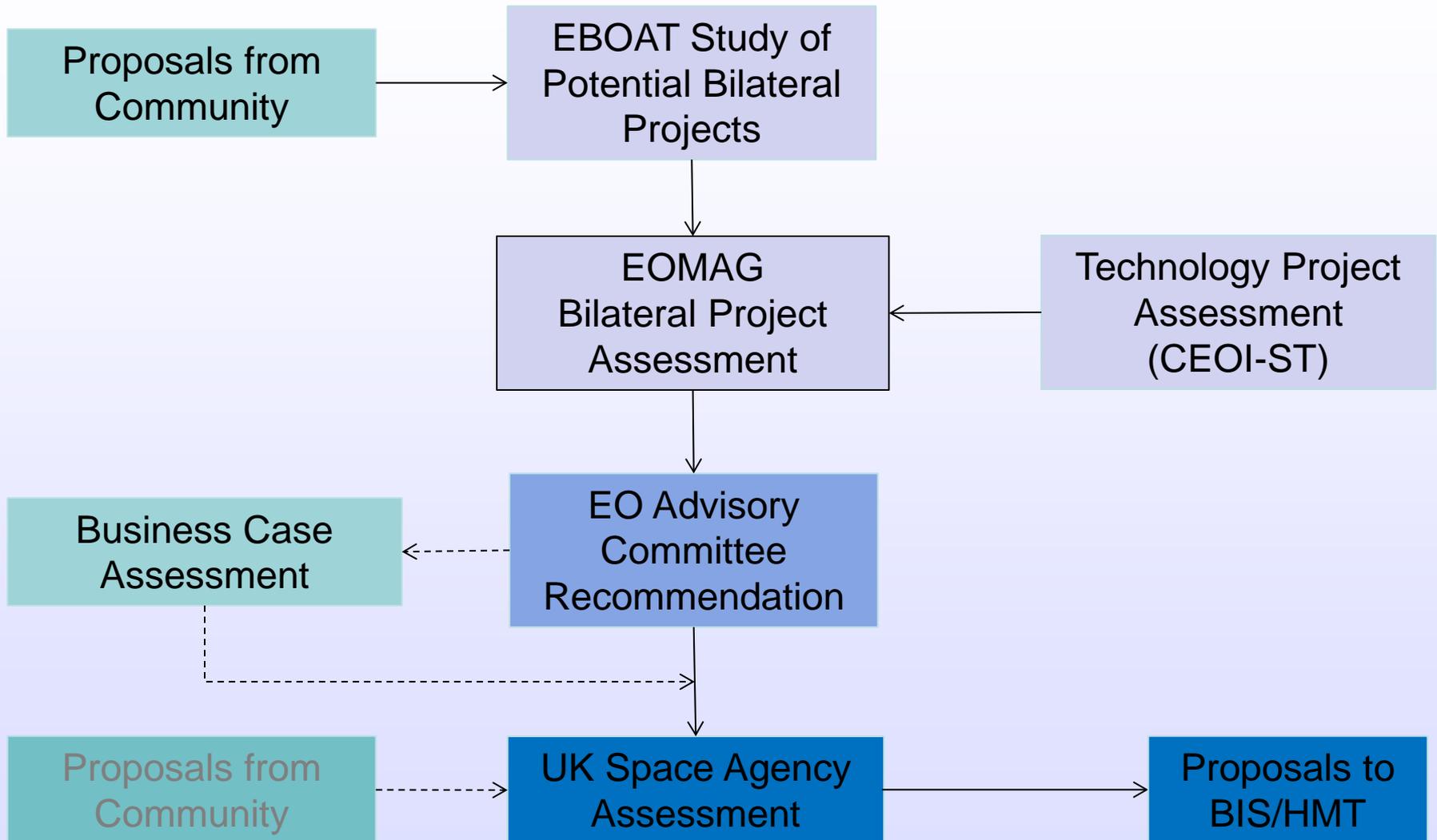


EO Missions Advisory Group

-
- EOMAG peer reviewed potential bilateral EO projects
 - working group of the EO Advisory Committee
 - The main tasks were to advise and make recommendations on:
 - the medium and long-term EO priorities for the UK, taking account of the scientific, industrial and commercial interests of the EO community;
 - assessing the priorities for the UK community for future bilateral EO missions, instruments and EO technology developments;
 - the necessity for technology development activities prior to implementation



Mission	Description	Bilateral strength	Bilateral partners
ALiSS	A mission to profile the upper troposphere and lower stratosphere (UTLS) region with high vertical resolution	3/4	Identified partners and established relationship
CHRIS4ER	A mission to measure terrestrial and coastal ecosystems, mineral mapping, and monitoring of inland waters and coastal phenomena	2	Partners identified but relationships not developed
CompAQS	A mission to measure key environmental gases for air quality monitoring and forecasting, particularly NO ₂ , linked to significant economic impacts through human health	2	Partners identified, but relationship not developed

Bilateral strength:

- 4:** established partners with funding
- 3:** established partners, no funding at present
- 2:** candidates identified; some evidence of bilateral interest from specific countries
- 1:** candidate partners identified, no relationship at present other than ESA
- 0:** no bilateral partner

Maturing – assess for Blue Board when ongoing work complete:

Mission	Description and Current Development Activities	Bilateral strength	Bilateral partners
LOCUS	<p>A mission to investigate composition of the mesosphere and lower thermosphere using measurements in the 1-5 THz range.</p> <p>This has just completed an ESA IOD mission study, and has technology developments underway under CEOI-ST funding. It is recommended that it is reconsidered when the latter is complete.</p>	1	ESA at present. Other interests in THz identified.
TRUTHS & TRUTHS ON ISS	<p>A mission to establish SI-traceable measurements for detection of decadal climate change.</p> <p>A mission study is currently underway under CEOI-ST funding, and it is recommended that it is reconsidered when this is complete</p>	2	Potential partners identified, but no formal relationship in place
SWAINSAT	<p>A mission to measure sea-surface roughness.</p> <p>The next steps for implementation of the GNSS reflectometry are well established through the current TechDemoSat mission and the selection of SGR-ReSI for the CYGNSS mission. The status should be re-assessed once progress with the measurement concept is established.</p>	3	USA funding CYGNSS. Similar missions in the US, Europe and elsewhere are in discussion

Good potential – not yet mature

Mission	Description and Recommended Development Activities	Bilateral strength	Bilateral partners
HeATED	<p>A mission to monitor global fires.</p> <p>This requires further technology development of the detector and optics</p>	1	Number of potential partner countries identified
Video from Space	<p>Video and still imaging at high resolution.</p> <p>Requires a concept study, building on the internal SSTL/Airbus market study, to assess best approach to providing video in space. This is a new market which is rapidly evolving, which needs to be taken into account.</p>	2	Potential Partner identified
NovaSAR-X	<p>An X-Band SAR mission.</p> <p>Requires work to identify the potential market and to confirm that a low-cost X-Band SAR mission with adequate performance can be implemented with UK-led technology components.</p>	1-2	Potential customers known, which could form the basis for a bilateral
UK-Brazil in Space	<p>An imaging mission focused on Brazilian forestry, especially the Amazon. The proposed satellite constellation can also be applied to humanitarian and commercial activities, including global disaster response, agricultural services and urban growth monitoring. Requires work to strengthen UK benefits, including the UK community interested in working with INPE</p>	4	Brazil is strongly positioned as a credible partner

Mission	Description and Recommended Development Activities	Bilateral strength	Bilateral partners
NeoSAR-L	Multi-purpose mission to monitor parameters such as soil moisture, biomass, maritime activities. A mission level feasibility study is required to confirm that a viable and affordable mission can be implemented with UK-led technology components	1	Number of countries and space agencies identified as potentially interested parties.
WIVERN	A mission to measure global wind fields. This is most likely to be implemented as an ESA Earth Explorer mission; however development of specific technologies funded by UK will enhance its readiness.	1	ESA

-
- Agency urged to put in place a funded national or bilateral programme
 - Three missions “ready” for implementation (ALiSS, CHRIS4ER and CompAQS)
 - Three missions approaching maturity (LOCUS, TRUTHS and SWAINSAT)
 - Four missions with good potential (HeATED, Video from Space, NovaSAR-X, UK-Brazil in Space)
 - **UKSA (through the CEOI-ST) should fund mission and business studies**
 - EO mission concepts be refreshed on an annual basis.
 - Support to potential UK-led ESA Earth Explorer missions should be assessed by a separate process.

Call Size	£500K, 4 studies; £125k max. grant + PV Study duration of 6-9 months
Proposed objectives:	Mission feasibility studies to strengthen funding case Main output is a business case for each selected mission
Proposals:	Open to top 10 of EOMAG preferred missions
Output Standardisation	Objective is that the studies bring the missions to a similar and comparable level of maturity CEOI-ST will run pre-ITT selection of financial advisor Mandated use of selected financial advisor in each study
Target Dates:	
Main ITT	End June 15
Response back	Mid Aug 15
Select and start by	Sept 15
End	March-May 16 (aligns with next EOMAG round)

5 Point Business Case

Strategic case	That the proposed government funding is supported by a compelling case that provides an holistic fit with UK Space Agency and government policy
Economic case	That the proposed funding would provide good value for money and that the costs and benefits of providing funding are clearly set out
Commercial case	That the proposed mission concept is attractive to the market place (in the broadest sense), can be procured, and is commercially viable
Financial case	That the funding profile (i.e. what will be spent, and when) is clearly set out
Management case	That it is clear how the mission will be delivered, including steps for monitoring and evaluating progress, and that it is achievable

- EOMAG process has been a valuable first step in identifying viable bilateral missions
 - Part of UK Space Agency ambition to develop a national space programme
- Next step is to carry out EO Mission Studies/
Business Case studies:
 - Will greatly increase strength of EO mission ideas
 - Significantly improve UK Space Agency ability to take advantage of any funding opportunity
- New round of invitations for EOMAG process planned for 2016