



ESSC-ESF Input on H2020-SPACE Work Programme 2018-2020 (v. 13062017)

19 June 2017

The European Space Sciences Committee (ESSC) has reviewed the draft work document for the Horizon 2020 2018-2020 Space Work Programme (draft dated 13/06/2017). This programme is deemed as very important by the European Space community. The ESSC, representing this community, wishes to offer the following comments and observations:

OVERARCHING ISSUES

- Since FP7, the scientific community has been encouraged to involve and actively engage with industrial partners, including SMEs, in proposals and projects with a strong scientific focus. This has created (and is still creating) synergies and facilitates collaboration between the academic and industrial sectors. It seems valuable to adapt this approach to Horizon 2020 projects having a strong application and technology focus; involving research laboratories, as end users or upstream enablers, would enhance the impact of the activities supported.
- The EU support to space activities in H2020 should be concentrated in areas where this support can and will make the difference, e.g. support to scientific teams. The currently announced support in some areas (e.g. Access to Space) is considered too limited to have any significant effect on these fields and should therefore be strategically mobilised on areas for which this investment would provide significant impact.
- The added value of the EU funding for space is not to substitute for or overlap with what ESA and national space agencies are doing already, but to facilitate and support scientific teams working on space sciences and exploration upstream (proposal preparation) and downstream (data exploitation), which are not funded – or only marginally – by national funders. This is one of the few areas that the EU should prioritize in the SPACE Work Programme (WP). Such an approach –ensuring complementarity between all sources of funding and especially between ESA and H2020- would allow to optimise the use of taxpayer funds while increasing the impact of European investment. Better coordination could also reduce the imbalance between European countries with different funding approaches. A programmatic gap analysis would allow to map areas with the highest potential synergies.
- A retrospective analysis of the success of previous funding efforts is lacking, as well as an analysis of various outreach efforts (How are project extensions decided? How do we know what outreach aspects have the most impact? Are we attracting the right categories of smart and motivated young people? How do we track careers of young scientists? How are promotions justified? How is success evaluated in science careers?).
- An overarching vision and assessment of the long-term coherence of what the H2020 programme should have accomplished by 2020 is lacking.
- It is not clear whether international partnership and global sharing of efforts are taken into account in the WP and how they would be supported if they are.
- Over the past years, the ESSC advocated for continuity of vital topics supported within the EU's FPs. In this context, the ESSC welcomed the introduction of the Strategic Research

Clusters (SRCs) mechanism and the integration of supported projects following subsequent calls. The two SRCs implemented so far are focussed on technology development. Although these topics can be considered as enabling for space science, they are not scientific topics as such. The WP should include support for at least two new SRCs. These new SRCs should be focussed on scientific topics to complement and optimise the technology aspects covered through the first two SRCs (cf. previous thematic recommendations from ESSC on SRC potential topics).

THEMATIC ISSUES

- There is a lack of emphasis on science in the WP, and particularly on science data exploitation, with two notable exceptions, namely SPACE-20-SCI-2018 (scientific instrumentation and technologies enabling space science and exploration) and SPACE-30-SCI-2020 (Scientific data exploitation – still to be developed), which is commendable. However, the corresponding support (19 million euros for 2018-2020) is considered insufficient in comparison to the efforts required. This should be increased and support should also be provided in a much more sustainable (i.e. multi-year) manner.
- The new efforts in Space Weather activities are per se laudable (in particular with 9 million euros funding level instead of 3 M€). However all goals and efforts are now geared at services and technical solutions while basic research is absolutely necessary. Some of the required basic science seems to be curtailed behind “improved modelling efforts”, but this is insufficient. This need has been advocated by ESSC and COSPAR, but their recommendations were not taken into account. The ESSC is also concerned by the change in space weather prediction time as compared to the previous version of the WP. With prediction time goals extended to several days, prediction of coronal mass ejection before they happen will be required. As a consequence, only solar physicists with eruption prediction in mind will be in a position to fully respond to the call expectation.
- The ESSC also notes that the full domain of research in microgravity is missing from the call, however some activities related to these disciplines (in particular with regard to access to space) are considered in the document. Here again and as highlighted in the first bullet point of this document, this involves the academic community in the supported projects seems critical to maximise the relevance of the WP.