



## **ADDRESS TO THE EUROPEAN SPACE AGENCY MINISTERIAL COUNCIL 2022**

**Prof Chris Rapley CBE**

**Chair, European Space Sciences Committee**

*“On a finite planet, human ingenuity is unbounded”*

Dear Chairs, Dear Ministers, Mr Director General, Ladies and Gentlemen,

The European Science Foundation’s European Space Sciences Committee provides an independent voice for the European space sciences community. We are honoured to present our findings regarding the ESA Director General’s science proposals for CM22.

As scientists, we believe that evidence-based reasoning lies at the heart of wise decision-making for a well-governed, vibrant and prosperous society. In a world facing daunting societal and environmental challenges, knowledge from the vantage point of space underpins essential science-based services, as well as opening up new windows on the Universe. Space research attracts new cohorts of engineers and scientists – the problem solvers of the future. Its successes provide Europe with an influential and respected voice on the world stage, and create a sense of identity and pride amongst European citizens.

In the meantime, we are at the threshold of an historic new era; the establishment of a permanent human presence off-planet. Nations that lead in this endeavour will reap the greatest benefits.

In my role as ESSC Chair, I attend all three ESA science advisory committees, and I wish to pay tribute to the professionalism, skills and dedication of the ESA teams, and to the hard work and commitment of the science advisors.

On the programme package, the ESSC has the following Observations:

- ESA has a track record of world-leading scientific and technological breakthroughs.
- This is especially impressive given the relatively modest size of its budget, and the complexity of managing the interests of multiple partners to achieve such technologically challenging outcomes.
- A pivotal feature is a ‘science-led’ approach, relying on the creative interplay between science ‘push’ and technology ‘pull’.
- The programme is enabled by a highly effective combination of the skills and efforts of the academic community, industry, and ESA’s internal technological and programmatic expertise.
- This has proved a potent wellspring of collective success, and a powerful means to stimulate fruitful cooperation across all Member States.
- Given the impacts of recent geopolitical events, and with the arrival in the space arena of numerous new national and commercial actors, we believe that this is the moment to expand European space-related leadership and autonomy.
- The CM22 proposals build on established ambitions and goals, encompassing fundamental science, the next phase of human and robotic exploration, and crucial inputs to the study and monitoring of the Earth’s climate and environmental systems.
- The mandatory element is the backbone of the Agency, and is a core driver of the capabilities that deliver scientific, cultural, technical and commercial benefits, whilst strengthening European sovereignty.
- LISA, NewAthena, and the series of missions currently in preparation for launch, lie at the cutting edge of fundamental physics, astrophysics, planetary science, and the search for extra-terrestrial life – pushing the frontiers of human knowledge.
- We are concerned, therefore, that the flat cash settlement, and consequent declining purchasing power, will constrain and reduce the scope and scale of the programme,

including the enabling technologies for future missions, and we thus encourage increased investment as soon as possible.

- Regarding the optional programmes, the Terrae Novae Period 3 builds on past successes, whilst transitioning to a programme in which scientific research will both enable and exploit the new opportunities presented by human and robotic exploration beyond Low Earth Orbit to the Moon and Mars.
- The Earth Observation package further consolidates Europe's pre-eminent position in providing vital information for society to address the climate and environmental crises, whilst at the same time laying new scientific and technological foundations for understanding the Earth system.
- Given the highly integrated nature of both optional packages, we draw attention to the disproportionate effect of even small funding reductions.

Our Recommendations therefore are as follows:

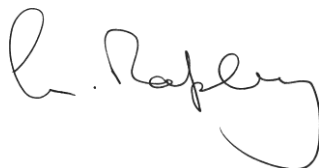
**The Mandatory programme should be supported in full, with a funding uplift at the earliest opportunity, and certainly at CM25.**

**The optional programmes should also be funded in full.**

**ESA and all related European actors should combine efforts to articulate the value of space science for humankind, and to showcase the outstanding success of ESA and of the European science enterprise.**

*“When you have a great story to tell, use a Megaphone!”*

**Chris Rapley**

A handwritten signature in black ink, appearing to read 'C. Rapley', with a large, sweeping flourish at the end.

**Chair**, on behalf of the European Space Sciences Committee



<http://www.essc.esf.org/>

ESSC secretariat: [essc@esf.org](mailto:essc@esf.org)  
European Science Foundation - ESF  
1, quai Lezay Marnesia  
67080 Strasbourg Cedex, France