TEMPLATE A

RESPONSE FOR SOLUTIONS: "Space2030" Agenda Mid-term Review

For Permanent Observer Organizations with COPUOS

NOTE BY SECRETARIAT: the following template is designed to allow Member States of the United Nations and permanent observer organizations with COPUOS to provide standardized responses to any of the 4 Overarching Objectives, and showcase their space solutions

Overarching objective [1-4]	Actions 2.1, 2.2, 2.3, 2.4, 2.5, 4.1, 4.5, 4.6, 4.10
Country/Observer Organization	Scientific Committee on Solar-Terrestrial Physics (SCOSTEP)
Project partners [e.g. name of government ministry, company, academic institution, UN entity…]	SCOSTEP is one of the Affiliated Bodies of the International Science Council (ISC) and a permanent observer of UNCOPUOS.
Short Project summary and goals [no more than 200 words]	The Scientific Committee on Solar-Terrestrial Physics (SCOSTEP) has identified "cross-scale coupling" as the overarching theme for conducting and promoting coordinated research and outreach activities for the period 2026-2030. This new 5-year scientific program of SCOSTEP is called COURSE: Cross-scale cOUpling pRocesses in the Solar-tErrestrial system, and is organised in three main scientific Focus Areas: 1) Sources of Space Weather and Space Climate: 2) Solar wind, Magnetosphere, and Ionosphere coupling; 3) External impacts and internal dynamics of the Earth atmosphere. For each Focus Area SCOSTEP has identified: 1) long-standing goals, i.e., key questions persistent through SCOSTEP scientific programs; and 2) objectives, i.e., precise outcomes that can be addressed over the 5-year program duration. The three Focus Areas are naturally interconnected through cross-scale coupled physical processes, e.g., magnetic reconnection, turbulence, wave-particle interaction, shocks, instabilities, common to the different regions of the solar terrestrial system and several other overarching themes, such as societal impacts, extreme events, human and robotic exploration, improving predictions. In addition, SCOSTEP envisions the implementation of the program through identified novel methods, integrated models; new missions; the combination of multipoint in-situ data with ground observations; improved metadata; and adoption of Findable, Accessible, Interoperable, and Reusable (FAIR) principles.
Relevant SDGs [1-17]	7,8,9,13,15,17

Space/Satellite solution: [e.g. please describe the role of space]	Solar-terrestrial physics is essentially a part of space physics and studies space-earth relationship. Both in-situ measurements by satellite and remote-sensing measurements from ground instruments contribute the development of solar-terrestrial physics.
Project impact [key outcomes, in bullet points, 100 words]	● New scientific understanding of solar-terrestrial physics, particularly in coupling processes in different spatial and time scales ● Improvement of space weather prediction to protect safe operation of satellites and human beings in space as well as space use on society such as satellite positioning and communication. ● Improvement of our understanding of long-term solar and space effects on Earth's climate change.
Reference [website/publication/…]	SCOSTEP/PRESTO Newsletter vol.42, article 1 https://scostep.org/wp-content/uploads/2025/01/SCOSTEP_PRESTO_Newsletter_Vol42_high_reso.pdf