

8 EXECUTIVE SUMMARY

OUR FUTURE? SPACE COLONIZATION AND EXPLORATION

Topic Coordinators Luisa M^a Lara López (IAA, CSIC)
and Gildas Léger (IMSE, CSIC-US)

12 CHALLENGE 1

IN-SITU RESOURCES UTILIZATION

Challenge Coordinators René Duffard (IAA, CSIC)
and Itziar González Gómez (ITEFI, CSIC)

42 CHALLENGE 2

FUTURE VOYAGES TO THE SOLAR SYSTEM

Challenge Coordinators Olga Prieto Ballesteros (CAB, CSIC - INTA)
and Joaquín Ceballos Cáceres (IMSE-CNM, CSIC - US)

70 CHALLENGE 3

**SPACE OPPORTUNITIES AND THREATS FOR SOCIETY:
PREDICTING THE SPACE-EARTH INTERACTION**

Challenge Coordinators Bernd Funke (IAA, CSIC)
and David Altadill (Observatorio del Ebro (OE, CSIC-Universidad Ramon Llull)

98 CHALLENGE 4

SUSTAINING HUMAN LIFE IN SPACE

Challenge Coordinators Ruth Benavides-Piccione (IC, CSIC)
and F. Javier Medina (CIB, CSIC)

122 CHALLENGE 5

IN SEARCH OF LIFE

Challenge Coordinators Guillem Anglada-Escudé (ICE, CSIC)
and Maria José Jurado (GEO3BCN, CSIC)

144 CHALLENGE 6

PUSHING THE LIMITS OF SPACE TECHNOLOGY

Challenge Coordinators Philippe Godignon (IMB-CNM, CSIC)
and Gustavo Liñán (IMSE-CNM, CSIC - US)