

18 EXECUTIVE SUMMARY

ARTIFICIAL INTELLIGENCE, ROBOTICS AND DATA SCIENCE

Topic Coordinators Sara Degli Esposti (IPP-CCHS, CSIC)
and Carles Sierra (IIIA, CSIC)

18 CHALLENGE 1

INTEGRATING KNOWLEDGE, REASONING AND LEARNING

Challenge Coordinators Felip Manyà (IIIA, CSIC)
and Adrià Colomé (IRI, CSIC – UPC)

38 CHALLENGE 2

MULTIAGENT SYSTEMS

Challenge Coordinators N. Osman (IIIA, CSIC)
and D. López (IFS, CSIC)

54 CHALLENGE 3

MACHINE LEARNING AND DATA SCIENCE

Challenge Coordinators J. J. Ramasco Sukia (IFISC)
and L. Lloret Iglesias (IFCA, CSIC)

80 CHALLENGE 4

INTELLIGENT ROBOTICS

Topic Coordinators G. Alenyà (IRI, CSIC – UPC)
and J. Villagra (CAR, CSIC)

100 CHALLENGE 5

COMPUTATIONAL COGNITIVE MODELS

Challenge Coordinators M. D. del Castillo (CAR, CSIC)
and M. Schorlemmer (IIIA, CSIC)

120 CHALLENGE 6

ETHICAL, LEGAL, ECONOMIC, AND SOCIAL IMPLICATIONS

Challenge Coordinators P. Noriega (IIIA, CSIC)
and T. Ausín (IFS, CSIC)

142 CHALLENGE 7

LOW-POWER SUSTAINABLE HARDWARE FOR AI

Challenge Coordinators T. Serrano (IMSE-CNM, CSIC – US)
and A. Oyanguren (IFIC, CSIC – UV)

160 CHALLENGE 8

SMART CYBERSECURITY

Challenge Coordinators D. Arroyo Guardado (ITEFI, CSIC)
and P. Brox Jiménez (IMSE-CNM, CSIC – US)