



ESA General Studies Programme (GSP)

Time Line

Time Line*

2000






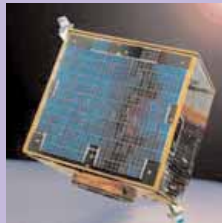










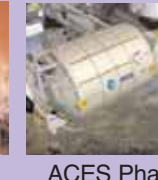






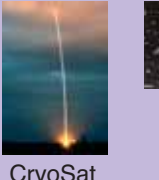

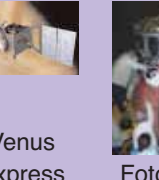
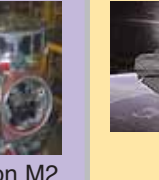
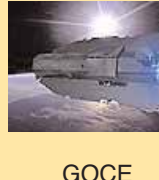
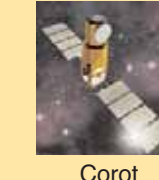







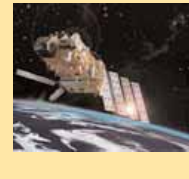

2001

Political/economic/strategic studies list

BASIC	 Zvezda module ISS  First ISS habitation crew	 Leonardo on ISS (Europe's multi-purpose logistics module on ISS)  Proba-1  Artemis - Spot 4 laser link
GSP Studies	99N61: Assessment of metallic joining techniques in space environment: Materials, Processes and Specific Tools 99N65: Development of Launcher Tracking and Telemetry Acquisition by Data-Relay Satellites	95N60: Future Satellite Concepts, Technologies etc. (ex-94/N60)
INSPIRATIONAL	 Cluster-II	
GSP Studies		
UTILITARIAN	 EuroMoon	 Artemis
GSP Studies	99N95: Study Lunarsat Propulsion 99N96: Study Filter Wheel 97S42/43/44/45 - 97C11-97V10 New millennium activity: EuroMoon 97S46/47/48: New millennium activity: Solar Sail 96N75: Preparation of a synthesis report on breakthrough technologies at research centres 97N40: Knowledge-based system technology applied to mission control	96T20: North American scenario for the evolution of broadband services (ex-95/T55) 96T30: Appl. scenarios & architect. for future broadband mobile sat. comms. 96T40: Appl. scenarios & architect. for global, high-capacity sat. comms.

- 96 A10: Financial impact of industrial-return constraints (ex-95/A10)
- 96 A20: Direct economic effects of ESA programmes
- 96 R50: Direct economic effects of the Ariane programmes (ex-95/R10)
- 97 A47: Inventory, monitoring and management of fresh water
- 97 L75: Dépendance stratégique et programme européen
- 97 L81: Réflexion sur l'évolution de l'ESA
- 97 L82: Les industriels de la défense aux États Unis et en Europe
- 97 L84: University-industry relations in the space domain (2)
- 98 A95: Feasibility study for software engineering activities at Vilspa (ESAC)
- 98 L30: Use of ESA facilities by private companies
- 98 L35: Legal support to the definition of innovative financing schemes
- 98 L55: Study on evaluation of European space facilities
- 98 L56: Legal aspects of the rationalisation of European space facilities
- 98 L65: Réflexion sur l'avenir de l'ESA (rider to 97L81)
- 98 L66: Réalisation de fiches sur l'industrie de certains pays
- 98 L83: University-industry relations in the space domain (1)
- 98 N91: Short electrodynamic tethers for deorbiting/reorbiting small satellites
- 99 N97: Study of ESA outreach activities
- 00 L05: Concept study on the creation of a European entity to foster joint space projects with Russia
- 00 L10: Study on innovation in non-space domains
- 00 L55: Study on the evaluation of European space facilities (CCN to 98/L55)
- 00S96: Feasibility analysis for a study on economic & scientific benefits of the ESA Science Programme
- 01 L20: Assessment of the European launcher production industry (ex-00/L20)
- 01 L25: Assessment of the European space software industry (ex 00/L25)
- 01 L30: Assessment of the European space ground-segment industry (ex 00/L30)
- 01 L91: Study on the implementation of an ESA observatory
- 01 L92: Study on processes used to forecasting beyond 2020 (CCN to 01/L91)
- 01 N21 and 02N22: Distributed concurrent development
- 01 S87: Survey and funding of RTD projects recently funded by the EC in the field of biotechnology (00/S87)
- 01 S88: ESA coordination with the European Commission for pursuit of joint projects (00/S88)
- 01 S89: Support to preparation of proposals to the European Commission for map projects of joint ESA/EC interest in biomedical areas (ex 00/S89)
- 02 A16: The potential of spaceborne remote sensing to contribute to the quantification of anthropogenic emissions in the context of the Kyoto Protocol
- 02 L25: Global view of the Space Industry in ESA Member States
- 02 L92: Study on the implementation of an ESA observatory (CCN to 01/L91)
- 03 L20: Study of European Cooperating States
- 03 L21: Satellite user equipment supplier study
- 03 L37: Technical assistance for ESA in the assessment of space and security policy in Europe
- 04 L20: Study of European Cooperating States
- 04 L28: Study proposal for the realisation of a European Space Centre for Social and Commercial Applications
- 04 LXX: ESA's first approach in the prospective field

*See back page of brochure for colour coding key, etc.

Time Line	2028	2032	2035	2002	2003	2004	2005	2006															
BASIC					 Deep-space ground station at New Norcia	 Ariane-5 (514/V160)	 ISS exploitation activities with EADS	 Ariane-5 ECA (LAU)	 Ariane-5 ES (LAU)	 Sloshsat	 Proba- 2.25 (TEC)												
INSPIRATIONAL	 Automatic Mars Mission (HME)	 Cargo Element of Mars Mission (HME)	 Human Mission to Mars (HME)	03L05: Globus support to GRID study 01N05: Study of GRIDS and collaborative environment for space applications (SpaceGRID) 02N05: CCN to SpaceGRID - new QinetiQ travel plan and costs	01A11/12/13/14: Treaty enforcement services using Earth observation: wetlands/desertification/carbon/MARPOL	98A30: ATM based distribution of high-volume environmental and microgravity data 96C10/15: Adaptive Space Station systems for an international Moon programme 96C20: Space Station educational applications study	05B03: Advanced Planning & Scheduling Initiative	06B22: A tool for radiative transfer modelling of planetary environments in the Sun's reflected and thermally emitted electromagnetic spectrum 04L31: Space-weather pilot project															
GSP Studies	98S40: System concepts, architectures & technologies for space exploration 00S54: Future power systems for space exploration 02S54: Future power systems for space exploration (CCN to 00/S54) 02N94: 'Martian' in-situ propulsion system 02L54: European options for exploration missions 00S51: European mission architectures and technologies in the Mars exploration scenario 01L55/56: Industrial support to the set-up of a framework for the European exploration of the Solar System 03L82: Potential for co-operation between RKA and ESA in the area of exploration 04L82: Potential for co-operation between RKA and ESA in the area of exploration (CCN to 03/L82) - Review of the ESA human mission to Mars 02S87: MARSTECHCARE, necessary biomedical technologies for crew health control during long-duration interplanetary manned missions 00S55: Study on the survivability and adaptation of humans to long-duration interplanetary and planetary environments 99S10: Phase-A study of a multi user facility for exobiology research (ex 98/S10) 99S11: Phase-A study of a multi-user facility for exobiology research (parallel competitive to 99/S10) 02L49: Concept study of a Mars mission simulation using the IBMP simulation facility	02S91: Study to validate and slightly adapt a water recycling system for a Mars simulation campaign in Concordia (south pole) 00S56: Automation and robotics for human Mars exploration 03S78: Mars atmosphere thermodynamic tables 01L46: Exobiology mission to Mars 01L57: MHD concept for robotic and human exploration of the Solar System 02N99 / 03N99: Hydrogen storage in microspheres (Phase 1: Theory)	03N16: Multidisciplinary optimisation in mission analysis and design process 04L52/53: Ariadna - Advanced global optimisation tools for mission analysis and design 04L56/57: Ariadna - Assessment of mission design including utilisation of libration points and weak stability boundaries 03L34: Study on space nuclear reactor developments: Possible cooperation with terrestrial nuclear entities in the frame of the Aurora Programme 04L83: Radio-isotope power sources 04L26/27: Bionics and space system design 04L60/61/63/64/33/78/51/54/55/58/59/73/74/75/77: Ariadna studies	 Foton-M1	 Integral	 Mars Express	 Maxus 5 launch	 SMART-1	 Double Star 1	 ACES Phase-C/D contract	 Rosetta	 Lisa Pathfinder Phase-B2/C/D	 Double star 2 launch	 Maxus 6 launch	 Astro E2 (SCI)	 Huygens landing on Titan	 CryoSat failure (EOP)	 Astro-F (SCI)	 Venus Express (SCI)	 Foton M2	 GOCE (EOP)	 Corot (SCI)	 Node-2 (HME)
				02N93: Magnetospheric Propulsion for Science Exploration	96M36: Technical support to science team study on exobiology (Moon/Mars) - 7 96M37-97S91: Exobiology science team 97S80: Definition study of Mars Express (1) 96N60: Landing-site analysis (1) 95D50: Assessment of ballistic re-entry & return operations (ex-94/D20) 01S98: Study Workshop on ESA's Roadmap in Life & Physical Sciences & Applications (ex 00/S98)	97S82: EP lunar trajectory analysis for SMART 97S92: Study of SMART-1 mission	03S35: VLBI tracking of the Huygens Titan Probe																
				Phase-A study Integral	94S10 Phase-A study of Internarsnet 98S50: Mars Express - Netlander study 01A19: Crater Detection (Survey of Algorithms for Automatic Recognition of Impact Craters) 03A25 and 05A25: Impact Crater Discovery	 Swarm geomagnetic survey selected	 Galileo GSTB-V2/A GSTB-V2/B (NAV)	 MetOp-1 (EOP)	 Radarsat-2 (EOP)	 MSG-2 (EOP)	 TerraSar-X (EOP)	 MetOp-1											
				95E60: Impact of surf. anisotrop. on large scale opt. imag. sens. (ex-94/E60) 95E75: Retrieval algorithms for a backscatter lidar (ex-94/E75) 95E80: Spectroscopic database for mm and sub-mm wavelengths (ex-94/E80) 95E85: Earth radiation budget mission scenario (ex-94/E85) 95E90: Absorpt. cross-section of ozone, sulphur dioxide, etc. (ex-94/E90) 96E15: Simulation of atmospheric infrared spectra 96E25: Doppler wind lidar impact study 96E35: Land-coastal ocean interaction 96E45: Validation of SAR interaction model 96E65: Synergetic measurements from passive instruments and a cloud radar 96E75: Spatial resol. & radiometry accuracy of spaceborne SAR data prod. for hydrology 96E80: Spatial and spectral scales of spaceborne imaging spectrometric data 02A10: Study for the monitoring of fires in the Mediterranean Area using MSG data (CCN) 98A81: The retrieval of geo- & bio-physical information from remote sensing 99A32 : Mise en Place d'un System de Surveillance des Culture Illicites au Moyens des Satellites d'Observation de la Terre (ex 98/A25) 94E25: Cloud detection (ex-93/E65) 95E10: Earth radiation budget - general-purpose database (ex-93/E25) 95E15: Water-vapour continuum (ex-93/E50) 95E30: Spectral and radiometric calibration (ex-94/E30) 95E40: Study & measurement of dielectric properties of sea water (ex-94/E40)		03S46 and 02N90: Floating bare tether as active upper-atmosphere probe	96S10: Phase-B2 study of H-maser clock 95T15 - 95T30: Second-generation GNSS mission analysis (parallel contract) 96T10: European regional GNSS 2 97A55: Sea-level research study on the benefits of high resolution 98S83: Definition of observations requirements to support future Earth explorations 00S04: Future Earth Observation Missions: The Sea Ice Mission 0005: Future Earth Observation Missions: The Ocean Salinity Mission 96E20: Retrieval of atmospheric space gas profiles from infrared SP 00S01: APP-FSA: Future Earth Observation Missions: Atmospheric Chemistry (1) 01S02: Future Earth Observation Missions: Atmospheric Chemistry 2 (ex 00/S02) 03A23: Operational Atmospheric Chemistry Monitoring Missions 01S03: Future Earth Observation Missions: Soil Moisture (ex 00/S03) 96E30: Passive microwave radiometer data for precipitation determination 97S35: Retrieval from sub-mm sounding	01A21 Application of Synthetic Aperture Radar Polarimetry: XCLP 00A08 Establishment of SAR land products and standard algorithms for commercial and public service applications 00A45 Validation of mobile stations for reception and processing of SAR data in real time 99S84: Scaling problems and sensor parameter selection for a synthetic aperture radar Earth Watch mission (ex 98/S84)															
UTILITARIAN		 Solar Power Satellites																					
GSP Studies		05U12: Solar Power from Space Programme Plan - Phase II																					

Time Line	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2020	2025	2026	
BASIC															
GSP Studies	05B04: Application of concurrent engineering methodologies to improve the treatment of anomalies during a project life-cycle 06B28: Round-trip engineering for space systems 06B30: Space instrument design modelling in concurrent engineering approach 04A11: VEGA ISS servicing 97N20 and 97N21: ATV enhancements for additional missions 04A42: Feasibility study of the implementation of an infrared hyperspectral sensor on Proba	05B10: Feasibility study of a wide-area high-precision navigation service for EGNOS and Galileo 02L43 and 03L42 and 04L42: Launch of the manned Soyuz-TMA spacecraft from CSG Kourou + CCN	05B12: Formation-flying demonstration mission 04L41: Definition of human transportation systems for LEO and exploration missions 04N15: Industrial consolidation of an atmospheric re-entry experimental vehicle 04S74, 04S75: Pre-Phase-A study of Earth re-entry vehicle/capsule 00N93: Aerobraking (ex - 98/N93) 01N68: Concept of foldable wing re-entry vehicle	05B01: Use of Galileo for launch vehicle services 05B08: Feasibility and applications of optical clocks as frequency and time references in ESA deep-space stations	06B26: Optical flow navigation systems for landing 05B18: Study on the use of 25.5-27 GHz band in ESA ground stations 06B34: Distributed agents for autonomy 05B06: Establishment of a draft European safety plan for nuclear power sources for space. 05B14: Novel gravitational modelling of irregular celestial bodies	04N11: ATV Evolution 97/N96 Assessment of small reusable launcher development						06B24: Feasibility study for a reduced planetary navigation and communication system			
INSPIRATIONAL															
GSP Studies	05I19: Remote sensing inputs for regional to global CO ₂ concentration data assimilation 05I21: Gravity improvement of ocean shelf circulation model simulations 06I27: Monitoring and modelling individual sources of mass transport in the Earth system by means of satellites	01A95: Ultra-stable optical link for ISS (ex 00/A95)	06I25: Assessment of vegetation photosynthesis through observations of solar induced fluorescence from space 98S83: Definition of observational requirements for support to a future Earth Explorer atmospheric chemistry mission 02S29: The scientific analysis of limb-sounding observations of the upper troposphere 00N57: ISS utilisation for antenna testing (CCN to contract 14067) 00N56: Use of the Space Station for measurements of satellite and Earth-based antennas 02S40: Phase-A level studies of EUSO	06I15: Observation techniques and mission concepts for analysis of the global carbon cycle 06I29: Assessing SAR calibration requirements over land using geophysical retrieval algorithms 05I31: ACRAS (Advanced Concepts for Radar Sounder) 02S41: Phase-A level studies of LOBSTER 04S41: Phase-A level studies of LOBSTER (CCN to 02/S41)	03S69/70-04S69/70/71-03L71: Phase-A study of ExoMars mission 03L81: Engineering support on Rover Locomotion for ExoMars Rover Phase-A 05I23: Exploiting longer wavelength SAR data for the improvement of surface process modelling 05I37: From Huygens to the Exploration Programme: Lessons learnt from the design, development, qualification and flight operations of the Huygens entry probe. 00N94: Study on NEO hazard and options for mitigation 02L50/51/52/53/60/61: Near-Earth Objects space mission preparation 98S80: Payload suite and telescope for NGST 00S92: Understanding the distribution of Near-Earth Objects 98S86: Visible wavelength camera/spectrograph for NGST 00S20: Study of Near-Infrared Multi-Object Spectrograph for NGST using MEMS technology 01S62: Study of the optics module for the Mid-Infrared Instrument for NGST 01S22: Study of alternatives to MEMS for generating versatile slit masks for a Near-Infrared Multi-Object Spectrograph for NGST (ex 00/S25) 01S23 Update of IFS compatible with recommended specifications (ex 00/S30) 01S24: Study of Near-Infrared Multi-Object Spectrograph for NGST using MEMS technology (parallel to 00/S20) 01S59: Study of Near-Infrared Multi-Object Spectrograph for NGST using MEMS technology (CCN01 to 00/S20) 01S63: Study of the NGST Mid-Infrared Instrument Cryostat 02S60: Definition study for the Near-Infrared Spectrograph for NGST (+ CCN1 = 110k) 02S61: Definition study for the Near-Infrared Spectrograph for NGST 99S20: Study of the on-board data management for the Next-Generation Space Telescope 99S86: Fundamental physics: LISA (ex 98/S70) 00S22: LISA rider 97S71: Structural and thermal studies of LISA payload 97S72: Study of gravitational fields and spacecraft motion cancellation 97S74: Accelerometer design optimisation study 98S85: Study of Multi-Object/Integral Field Spectrograph for the Next-Generation Space Telescope 97A10: Study of a global network for research on Near-Earth Objects 98S85: Study of Multi-Object/Integral Field Spectrograph for the Next-Generation Space Telescope	97S50: Solar System: Mercury orbiter 05I40: Absolute long-distance measurement with (sub) micron-accuracy for formation-flight applications. 00S95: Preparation for selection of Cornerstone 5 - BepiColombo 00S68: BepiColombo Radioscience Experiment (RSE) definition and accommodation - 1 02S69/70/71-02L41: Studies on BepiColombo 99S50: Solar System: Mercury orbiter (rider to 97/S50) 97S61: Spacecraft system analysis of Gaia instruments (CCN to contract 12111/96) 98S75: Support to ESA for the Gaia mission (CCN to contract 12382) 02N14/17: Microphotonics for space-borne applications	06I17: Observation and mission concepts for chemistry – climate interactions 06I42: Antenna element integrated into the parachute for future landers and entry probes 05I46: Isotope heated acoustic MHD concept study 04S31: Solar Orbiter assessment study 02L44: Mars Sample Return Mission study 03S72: Phase-A study of a Mars Sample Return mission 04S73: Phase-A study of a Mars Sample Return mission 01N58: Alternative electrical energy generation for near-Sun spacecraft (<1 AU) based on thermoelectric generators	05I01/03: XEUS telescope accommodation 05I05-06I07: Studies on Darwin assessment study 97S60: Astronomy: the interferometry Cornerstone - 1 (astrometry)	02S66: HYPER: Industrial Feasibility Study 06I09: Cosmic Vision FIR 06I11: Cosmic Vision Fundamental Physics 06I13: Cosmic Vision Jupiter 06I44: Novel time-synchronisation techniques for deep-space missions 03N54: Stirling engines for reliable and efficient electrical power in space (CCN to 00/S54) 03N92: Benefits of adaptive optics for future communication links to and from spacecraft at deep-space distances 99N51, 99N54, 99N53: Propulsion 2000: Assessment of new needs for advanced space propulsion for the next Century	06I09: Cosmic Vision FIR 06I11: Cosmic Vision Fundamental Physics 06I13: Cosmic Vision Jupiter 06I44: Novel time-synchronisation techniques for deep-space missions 03N54: Stirling engines for reliable and efficient electrical power in space (CCN to 00/S54) 03N92: Benefits of adaptive optics for future communication links to and from spacecraft at deep-space distances 99N51, 99N54, 99N53: Propulsion 2000: Assessment of new needs for advanced space propulsion for the next Century	01S65: DARWIN – Fast Interferometer Characterisation (FINCH) 03S33/34: Darwin-Genie Instrument Definition Study (1) 00N42 and 00N27: Definition of a formation-flying demonstration mission 00A40: Autonomy requirements and technologies for future constellations of satellites 01N23: Definition study of a FEPP subsystem for small satellites (ex 00/N23) 03A42: Spacecraft SWARMS: Feasibility and applications (ex 00/A50) 03A60: In-Orbit Automatically Assembled Interferometric Microwave Radiometer (INOAA)	02S66: HYPER: Industrial Feasibility Study 06I09: Cosmic Vision FIR 06I11: Cosmic Vision Fundamental Physics 06I13: Cosmic Vision Jupiter 06I44: Novel time-synchronisation techniques for deep-space missions 03N54: Stirling engines for reliable and efficient electrical power in space (CCN to 00/S54) 03N92: Benefits of adaptive optics for future communication links to and from spacecraft at deep-space distances 99N51, 99N54, 99N53: Propulsion 2000: Assessment of new needs for advanced space propulsion for the next Century	01S65: DARWIN – Fast Interferometer Characterisation (FINCH) 03S33/34: Darwin-Genie Instrument Definition Study (1) 00N42 and 00N27: Definition of a formation-flying demonstration mission 00A40: Autonomy requirements and technologies for future constellations of satellites 01N23: Definition study of a FEPP subsystem for small satellites (ex 00/N23) 03A42: Spacecraft SWARMS: Feasibility and applications (ex 00/A50) 03A60: In-Orbit Automatically Assembled Interferometric Microwave Radiometer (INOAA)	01S92 and 01S91: Controlled gravity spacecraft propulsion programme 03L26: Possible gravitational anomalies in quantum materials 04L50: Ariadne - Theoretical study of the interaction of mesoscopic quantum systems with gravity	
UTILITARIAN															
GSP Studies	05U01: Health and Telemedicine via Satellite – Demonstrations for the transition phase 05U20: Assessment of the structure and evolution of the downstream value-adding sectors of space-based applications 05B20: Space-based logistical support for distribution of medicines 02S10: Observation techniques for future solid-Earth missions 02S16-04S20: Development of a vegetation fluorescence canopy model (sub-item 4 of 01/S20) 02S26: Synergetic use of remote-sensing data in snow accumulation and ice sheet topographic change estimates (sub-item 1 of 01/S25) 03S20: Synergetic use of remote-sensing data in high latitude coupled, ocean-atmosphere model simulations (sub-item 2 of 01/S25) 04A26: Definition of scenarios and roadmap for operational oceanography 96T61 and 97A50: DICE equipment for pilot telemedicine for Sarajevo	00A09: Radio-occultation techniques for airborne remote sensing of the lower troposphere 00A10: Complementary work on radio occultation techniques for airborne remote sensing of the lower troposphere 98A80: Potential utility of GNSS occultation for atmospheric profiling 97N80: Broadband ESA satellite testbed laboratory (BESTLAB) 98A60: High-capacity multimedia by satellite: the GEO case 98N80: Optimisation of bus & payload performance for GEO co-located telecom. satellites 99A75: Antenna system for receiving signals from GEO satellites in slightly inclined orbits 99A91: Real-time TV broadcasting to low-cost mobile terminals	06U28 : Study of exploitation of MetOp and Swarm data in view of future space-weather payloads 02S79: Artemis laser link for atmospheric turbulence statistics 96T50: Advanced spectrum-shaping techniques for efficient bandwidth use 97A70: Application scenarios & architecture of broadband satellites 97N80: Broadband ESA satellite testbed laboratory (BESTLAB) 98A60: High-capacity multimedia by satellite: the GEO case 98N80: Optimisation of bus & payload performance for GEO co-located telecom. satellites 99A75: Antenna system for receiving signals from GEO satellites in slightly inclined orbits 99A91: Real-time TV broadcasting to low-cost mobile terminals	05U14: Air-traffic monitoring from satellite 05U22: Concepts for demonstration of advanced techniques and technologies on an EO small mission 03L37: Technical assistance for ESA in the assessment of space and security policy in Europe 00A 63: New methods and systems for time & frequency distribution via satellite 98N30: Ultra-stable optical clocks, frequency sources & standards 99A27/28/29-01A29-99A26/30-01A28: Risk management - DECIDE studies 98A83: Forest fires Earth Watch: utilisation study and mission concept	06U26: Definition of an automatic geo-localisation procedure for high-resolution remote-sensing imagery	05U18: Navigation and integrity autonomous satellite navigation system	05U09: Phase-A of a Near-Earth Objects (NEO) mission 05U16: Feasibility of a decentralised European electrical energy network based on renewable energy sources. 00A07 & 02A07: Application of the PARIS Concept to transoceanic aircraft remote sensing 02N96/97: Entangled photons for quantum communications in space 03N91: Accommodation of a quantum communication transceiver (source, detector, calibration elements, etc) in an optical terminal 03A69: Application study for optical correlator	05U07: Techniques and mission concepts for the future Eumetsat Polar System 06U28 : Study of exploitation of MetOp and Swarm data in view of future space-weather payloads 06U30: Tomorrow's bird: a view at the future of (commercial) spacecraft for the next-generation launchers							

This table is intended to show the relationship between the set of ongoing and completed studies forming the ESA General Studies Programme (GSP), and the overall ESA programmes over the period from 2000 until 2035. Both the GSP studies and the ESA programmes are grouped into the following study domains, to reflect their nature and aims:

Basic activities: required to develop and maintain the fundamental elements on which a space policy depends for its implementation: access to space, technology base, industrial capabilities, ground facilities, context analysis and new working methodologies.

Inspirational activities: Sciences (Earth-, Space-, Life- and Physical-) and human and robotic exploration.

Utilitarian activities: developing space systems to support public services (meteorology, environment, disaster management, education, energy, agriculture, etc.) and commercial offerings (telecommunication, navigation and imagery) for the benefit of citizens.

The colour associated with a given programme and/or mission indicates its current status: already developed, approved for development, or waiting for approval. The colour code associated with the GSP studies indicates the status of the study (completed or on-going), and it also indicates if the study is directly related to a particular mission or if its implications are too broad to be assigned to a single mission or programme. Cases in which studies do not materialise specific missions and/or programmes are contemplated, since they still had/have/will have an influence on future decision making about programmes and/or missions.

In front of each study is a code that indicates: Year/Category/Order. The letters correspond to the categories mentioned above:

- B, N, L for Basic
- I, S for Inspirational
- U, A, for Utilitarian.

The annex to the table lists studies directly related to policy, economics, or strategy. Since these studies have an influence at corporate level they have consequences for the "Agency's life" as a whole, independent of programme, category of activity, or Directorate.

In summary this table offers an overall, colourful, and graphical perspective of ESA's GSP activities, giving a simultaneous overview of the process of concept maturation, and the role of innovation in the design of European space missions and programmes.

Concerning ESA Missions Programmes:	Missions / Programme Approved for Development	Concerning GSP Studies:	Studies ongoing, results having an impact during the specified year
	Missions / Programme Awaiting Approval		Studies completed, having an impact during the specified year
	Missions / Programme Developed		Studies having not materialised into a mission or programme, but still relevant for ongoing activities at ESA or outside ESA