

Annex B – LIST OF SIGNIFICANT SPACE FOCUSED AND SPACE RELATED RTO ACTIVITIES BY PANEL 1998 – 2004

B.1 AVT PANEL

B.1.1 AVT Space Focused Activities

AVT-007/ RTG-010	Hypersonic Vehicle Propulsion Technologies
AVT-008/ RTG-001	Hypersonic Experimental and Computational Capabilities – Improvement and Validation
AVT-016/ RTG-005	Evaluation of Methods for Solid Propellant Burning Rate Measurement
AVT-096/ RTC-003	Internal Aerodynamics in Solid Rocket Motors
AVT-116/ RLS-010	Critical Technologies for Hypersonic Vehicle Development
AVT-117/ RLS-011	Heat Transfer and Inverse Analysis
AVT-130/ RLS-013	Flight Experiments for Hypersonic Vehicle Development
AVT-034/ RTC-004	Measurement Techniques for High Enthalpy and Plasma Flows
AVT-089/ RSM-011	Advances in Rocket Performance Life and Disposal
AVT-142/ RLS	Experiment, Modelling and Simulation of Gas-Surface Interactions for Reactive Flows in Hypersonic Flights
AVT-ET-023	Improved Hypersonic Performance through Boundary Layer Transition Prediction

B.1.2 AVT Space Related Activities

AVT-001/ RSY-001	Missile Aerodynamics
AVT-021/ RWS-001	Intelligent Processing of High Performance Materials
AVT-048/ RSY-008	Active Control Technology for Enhanced Performance Operational Capabilities of Military Aircraft, Land Vehicles, and Sea Vehicles
AVT-076/ RSM-007	Low Cost Composite Structures in Military Platforms
AVT-077/ RSM-008	Cost Effective Application of Titanium Alloys in Military Platforms
AVT-078/ RTG-019	MEMS Applications for Land, Sea and Air Vehicles
AVT-087/ RSY-012	Combat Survivability of Air, Space, Sea and Land Vehicles
AVT-090/ RSY-013	Reduction of Military Vehicle Acquisition Time and Cost through Advanced Product Simulation
AVT-092/ RTG-025	Qualification by Analysis
AVT-093/ RTG-026	Integration of Tools and Processes for Affordable Vehicles
AVT-095/ RTC-002	Intelligent Systems for Aeronautics
AVT-122/ RSM-016	Nanomaterials Technology for Military Vehicle Structural Applications
AVT-124/ RSM-017	Recent Developments in Non-Intrusive Measurement Technology for Military Application on Model-and Full-Scale Vehicles
AVT-129/ RLS-012	Nanotechnology Aerospace Applications
AVT-134/ RTG	Multidisciplinary Optimization for Propulsion and Power Systems for Air, Land and Sea Vehicles
AVT-135/ RSY	Innovative Missile Concepts
AVT-136/ RTG	Assessment and Experimental Calibration of Aerothermodynamic Flight Prediction Tools
AVT-139/ RSM	Net-Shape Processing
AVT-141/ RSM	Multifunctional Structures/Integration of Sensors and Antennas
AVT-143/ RLS	Design, Analysis and Experimental Investigation of High Speed Plumes Cost Through Advanced Product Simulation

AVT-ET-008	Propulsion Systems for Land, Sea, Air and Space
AVT-ET-021	Survivability of Air, Space, Sea and Land Vehicles
AVT-ET-022	Reduction of Military Vehicle Acquisition Time and
AVT-ET-027	Novel and Emerging Vehicle and Vehicle Technology Concepts
AVT-ET-033	Inclusion of Lethality Aspects in the Scope of the AVT Panel
AVT-ET-042	Active Controls
AVT-ET-054	Tools and Processes for Affordable Weapon Systems
AVT-ET-066	MEMS
AVT-ET-067	Low Cost Composites
AVT-ET-069	Cost Effective Application of Titanium Alloys

B.1.3 AVT Activities Related to Human and Robotic Exploration of Space

AVT-023/ RWS-004	Fatigue in the Presence of Corrosion
AVT-033/ RTC-003	Development and Operation of UAVs for Military and Civil Applications
AVT-047/ RTG-015	All Electric Combat Vehicles (AECV) for Future Applications
AVT-049/ RSY-009	Unmanned Vehicles for Aerial, Ground and Naval Military Operations
AVT-060/ RWS-005	Magnetic Materials for Power Applications
AVT-085/ RSM-009	Life Management Techniques for Ageing Air Vehicles
AVT-098/ RTG-028/CDT	All Electric Combat Vehicle (AECV) for Future Applications – Co-operative Demonstration of Vehicle Performance
AVT-103/ RTG-031	Fuel Cells for Land, Sea and Air Vehicles
AVT-105/ RLS-009	MEMS Aerospace Applications
AVT-137/ RTG	Corrosion and Maintenance Data Sharing
AVT-138/ RTG	Nanotechnology for Autonomous Vehicles
AVT-140/ AG	Corrosion Fatigue and Stress Corrosion Cracking in Ageing Military Vehicles
AVT-ET-025	Fuel Cells for Land, Sea, Air and Space Applications
AVT-ET-040	All Electric Vehicles
AVT-ET-041	Uninhabited Vehicles

B.2 HFM PANEL

B.2.1 HFM Space Focused Activities

None

B.2.2 HFM Space Related Activities

None

B.2.3 HFM Space Related Activities: Human and Robotic Exploration of Space

HFM-001/ SY-001	Collaborative Crew Performance in Complex Operational Systems
HFM-003/ SM-001	Computer Models for Aircrew Safety Assessment Uses: Limitations and Requirements
HFM-004/ WS-002	Individual Differences in the Adaptability to Irregular Rest-Work Rhythms/Status of the Use of Drugs in Sleep-Wakefulness Management
HFM-005/ WS-003	Aeromedical Aspects of Aircrew Training
HFM-007/ LS-001	Alternative Control Technologies: Human Factors Issues
HFM-013/ WG-25	Alternative Control Technologies in Aerospace Environment (AMP WG-25)
HFM-014/ WG-26	Screening Protocol for Aeromedical Medications in Aviation Medicine
HFM-021/ RSG-028	Human Factors in Virtual Reality Applications
HFM-028/ SC-003	Cardiopulmonary Aspects of Aerospace Medicine
HFM-029/ SY-003	Countering The Directed Energy Threat: Are Closed Cockpits the Ultimate Answer?
HFM-030/ SY-004	Operational Issues of Aging Crew Members
HFM-031/ WS-004	Human Reliability in Safety Critical Systems
HFM-052/ LS-220	Human Consequences of Agile Aircraft
HFM-054/ AG-341	The Requirements for an Emergency Breathing System (EBS) in Over-Water Helicopter and Fixed Wing Aircraft Operations
HFM-058/ WS-007	What is Essential for Virtual Reality Systems to Meet Military Human Performance Goals?
HFM-084/ SY-009	The Role of Humans in Intelligent and Automated Systems
HFM-118/ RTG-039	Ground-based Spatial Orientation Training
HFM-121/ RTG-042	Virtual Environments for Human/System Interaction
HFM-130/ RTG-047	Development of an Assessment Methodology for Demonstrating Usability, Technical Maturity, and Operational Benefits of Advanced Medical Technology
HFM-131/ RTG-048	Validation of Medical Surveillance Algorithms
HFM-135/ RSY-018	Unmanned Military Vehicles as Force Multipliers
HFM-136/ RWS-013	Virtual Media for Military Applications
HFM/ET-034	Non-Ionising Bio-effects: Emerging Laser Threats and Human Protection Strategies
HFM/ET-040	Representation of Human Behaviour in Constructive Simulation
HFM/ET-041	Virtual Environments for Human/System Interaction
HFM/ET-051	Applications and Assessments for Telemedicine (TMED) Support to NATO Response Force
HFM/ET-054	Virtual Media for Military Applications

B.3 IST PANEL

B.3.1 IST Space Focused Activities

IST-051/ RTG-023	Characterising the Ionosphere
IST-056/ RSM	Enhancements on the Understanding of the Structure and Modelling of the Ionosphere
IST-ET-023	Characterisation of the Ionosphere

B.3.2 IST Space Related Activities

IST-002/ SY-002	Frequency Assignment, Sharing and Conservation in Aerospace Systems
IST-009/ SY-003	Tactile Mobile Communications
IST-010/ SY-004	Protecting NATO Information Systems in the 21st Century
IST-015/ RTG-004	Information Fusion
IST-021/ RTG-007	Multimedia Visualisation of Massive Military Datasets
IST-023/ RSY-008	Military Communications
IST-036/ RWS-005	Massive Military Data Fusion and Visualisation: Users Talk with Developers
IST-039/ RSY-011	Smart Antennas
IST-040/ RSY-012	Military Data and Information Fusion
IST-045/ RTG-017	Network Centric Operations Security
IST-047/ RTG-019	Building Robust Systems with Fallible Construction
IST-053/ RTG/CDT-001	Content Based Information Security (CBIS)
IST-059/ RTG-024	Visualisation Technologies for Networks Analysis
IST-035/ RTG-015	Awareness of Emerging Wireless Technologies
IST-054/ RSY-015	Military Communications
IST-048/ RTG-020	Dual Use of High Assurance Technology
IST-061/RTG-027	Information Infrastructure supporting Net Centric Warfare Communications
IST-060/ RTG-026	Advanced Multi-Sensors Surveillance Systems for Counter-Terrorism
IST-ET-003	Information Fusion
IST-ET-018	Smart and Adaptive Antennas in Military Communications
IST-ET-020	Awareness of Emerging Wireless Technologies
IST-ET-033	Software Defined Radio

B.3.3 IST Space Related Activities: Human and Robotic Exploration of Space

IST-029/ RTG-011	Use of Intelligent Agents in Virtual Reality
IST-032/ RTG-014	Multi-Robots Systems in Military Domains
IST-037/ RLS-238	Speech and Language Technology in Military Applications
IST-052/ RWS-008	Short-Term Realisable Multi-Robots Systems in Military Domains
IST-057/ RWS-009	Military Applications for Multi-Robots Systems
IST-058/ RTG-025	Military Applications for Multi-Robots Systems
IST-ET-013	Use of Intelligent Agents in Virtual Reality
IST-ET-015	Multi-Robots Systems in Military Domains

B.4 NMSG

B.4.1 NMSG Space Focused Activities

None

B.4.2 NMSG Space Related Activities

MSG-003/ RTG-003	M&S Technology In Support Of Simulation Based Acquisition
MSG-006/ RTG-006	M&S Support to Assessments of Extended Air Defence C2 Interoperability
MSG-012/ RTG-009	Recommendations on the Establishment of a NATO Simulation Resource Library
MSG-019/ RTG-016	Verification, Validation and Accreditation (VV&A) Of Federations
MSG-027/ RTG-020	Pathfinder: Integration Environment for Multi-Purpose Application of Distributed Networked Simulation
MSG-033/ RTG-024	High Level Architecture STANAG Development
MSG-034/ RTG-025	Data Standardisation: SEDRIS Technologies
MSG-038/ RTG-026	NATO Library of FEDEP Tools: Maintenance and Evolution
MSG-039/ RTG-027	M&S Support to Assessment of EAD C2 Interoperability
ET-002	Validation Verification and Accreditation of Federations
ET-009	PATHFINDER Integration Environment for Multi-Purpose Application of distributed networked Simulation

B.4.3 NMSG Space Related Activities: Human and Robotic Exploration of Space

None

B.5 SAS PANEL

B.5.1 SAS Space Focused Activities

SAS-021/MAS-005 Long-Term Technologies for Alliance Ground Surveillance

B.5.2 SAS Space Related Activities

SAS-054/ RTG-015 Methods and Models for Life Cycle Costing

SAS-028/ RTG-007 Cost Structure and Life Cycle Costs (LCC) For Military Systems

SAS-036/ RSY-006 Cost Structure and Life Cycle Cost (LCC) For Military Systems

B.5.3 SAS Space Related Activities: Human and Robotic Exploration of Space

SAS-007/ LTSS-003 Life Cycle Cost of All-Electric Combat Vehicles

B.6 SCI PANEL

B.6.1 SCI Space Focused Activities

SCI-058/ SY-003	Precision Time-Space, Positioning and Navigation
SCI-098/ SY-009	Use of Space Systems in Integrated Military Missions
SCI-146/ ET-026	Commercial Space System Capabilities and Military Requirements
SCI-150/SY-015	Integration of Space-based Assets Within Full Spectrum Operations

B.6.2 SCI Space Related Activities

SCI-019/ RSG-12	Tactical Implications of High Power Microwaves
SCI-030/ RSG-14	Communication, Electronic Warfare Control and Coordination
SCI-036/ AG-300T	Flight Testing of Radio Navigation Systems
SCI-042/ AG-339	Optical Gyros and their Applications
SCI-044/ SY	Non-Cooperative Target Identification Using Radar
SCI-053/ TG-004	Vehicle Dynamics, System Identification, Control and Handling Qualities
SCI-060/ LS-216	Application of Mathematical Signal Processing Techniques to Mission Systems
SCI-066/ TG-013	Countermeasures to Imaging Radars
SCI-081/ ET-012	Systems Engineering and Test Technology
SCI-083/ SY-006	Integration of Simulation with System Testing
SCI-107/ TG-022	Susceptibilities of Mobile Tactical Radio Systems
SCI-119/ WS-010	Tactical Implications of High Power Microwaves
SCI-120/ SY-011	Challenges in Dynamics, System Identification, Control and Handling Qualities for Land, Air, Sea and Space Vehicles
SCI-132/ TG-029	High Power Microwave Threat to Infrastructure and Military Equipment
SCI-137/ SY-013	Architectures for Network-Centric Operations
SCI-140/ TG-035	Vulnerability of Imaging Radars to Electronic Countermeasures
SCI-142/ LS-236	Robust Integrated Control System Design Methods for 21st Century Military Applications
SCI-143/ ET-024	Design Considerations for Theater Air Defense Systems
SCI-143/ WS-013	Design Considerations for Theater Air Defense Systems
SCI-144/ TG-037	System-Level Integration of Control, Plus Automation
SCI-152/ LS-239	Advances in Missile Guidance and Control
SCI-159/ TG-007	Reconnaissance and Neutralization of C3I Systems
SCI-166/ LS	Achieving Successful Robot Control Systems Design for 21st Century Military Applications, Part II, P-I
SCI-169/ TG	UAVs in a Multi-Platform Configuration for EW-Purposes
SCI-170/ TG	Trials to Investigate the Susceptibilities of Wireless and Mobile Tactical Radio Systems, P-N
SCI-173/ ET-119	The Evaluation of Complex Thermal Infrared Targets in Complex Backgrounds

B.6.3 SCI Space Related Activities: Human and Robotic Exploration of Space

SCI-023/ WG-05	Integrated Mission System Concepts and Technologies for Future Unmanned Combat Applications
SCI-045/ WS-001	Search and Target Acquisition
SCI-105/ AG-300E	Unique Aspects of Flight Testing of Unmanned Aerial Vehicles/ Unmanned Combat Aerial Vehicles

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SCI-109/ LS-224	Applications, Concepts and Technologies for Future Tactical Unmanned Aerial Vehicles
SCI-118/ TG-025	Automation Technologies and Application Considerations for Highly Integrated Mission Systems
SCI-138/ LS-237	Applications, Concepts and Technologies for Future Tactical Unmanned Aerial Vehicles

B.7 SET PANEL

B.7.1 SET Space Focused Activities

SET-037 /RSY06	Space-based Observation Technology
SET-039/ RSY08	NATO / Military Sensing Symposium (4 th MSS Symposium)
SET-045/ RTG26	Space-based Radar Technology for Military Applications
SET-050/ RSY11	Emerging Military Capabilities Enabled by Advances in Navigation Sensors
SET-054/ RTG30	Emerging Military Capabilities Enabled by Advances in Navigation Sensors
SET-064/ RLS-232	Advances in Navigation Sensors and Integration Technology
SET-064b/ RLS-232b	Advances in Navigation Sensors and Integration Technology
SET-084/ RTG-048	Emerging Technologies for Sensors Front-Ends
SET-087/ RTG-050	Vibrating Antennas and Compensation Techniques
SET-094/ RSY-019	Emerging EO Phenomenology
SET-095/ RSY-020	Bistatic-Multistatic Radar and Sonar Systems
SET-ET/ ET10	Space-based Radar Experiment Planning
SET-ET/ ET14	Advancement in Inertial Sensors and their Application into Navigation Systems
SET-ET/ ET35	Emerging Technologies for Sensors Front-ends

B.7.2 SET Space Related Activities

SET-001/ RSY01	E-O Prop., Sig. & System Performance Under Adverse Meteorological Conditions Considering O-o-A Ops
SET-007/ RTG01	Multi-Sensor Image Fusion for the Detection of Targets in the Battlefield of the Future
SET-010/ RTG04	Military Applications of Millimetre Wave Imaging (P03 RSG 20)
SET-012/ RTG20	Smart Antenna Structure
SET-015/ RTG12	The Characterization and Optimization of Advanced Thermal Images
SET-020/ RTG08	Detection and Tracking of Low Altitude Low RCS Air Vehicles
SET-022/ RTG10	Multi-sensor Image Exploitation
SET-026/ RSY04	High Resolution Radar Techniques
SET-028/ RWS01	Detection and Tracking of Low Level RCS Vehicles
SET-033/ RTG17	Missile and Aircraft E-O Signature Modeling
SET-040/ RTG22	Generation of Synthetic Data Bases for Non Cooperative Air Target Identification by Radar
SET-047/ RSY09	Passive and Low Probability of Interception (LPI) Radio Frequency Sensors
SET-049/ RSY10	Complementarity of Ladar and Radar
SET-053/ RTG29	Ground Target Automatic Recognition by Radar
SET-057/ RLS228	Military Application of Space-Time Adaptive Processing
SET-058/ RLS229	Optics-Microwave Interactions
SET-059/ RSY13	Target Tracking and Sensor Data Fusion for Military Observation
SET-060/IST-039/RSY14	Smart and Adaptive Antennas
SET-062/ RSM01	The Impact of Emerging Technologies and New Techniques on Air Defence Radars
SET-063/ RLS233	Knowledge-Based Radar Signal & Data Processing
SET-063b/ RLS233b	Knowledge-Based Radar Signal & Data Processing
SET-065/ RTG33	Multiband and Broadband Infrared Sensor Performance
SET-066/ RTG34	Frequency Sharing between Communication and Radar Systems

SET-068/ RTG36	Modelling, Analysis and Recognition of Radar Signatures for Non-Cooperative Aircraft Identification
SET-072/ RTG40	Modeling of Active Imaging System
SET-075/ RTG43	Polarimetric Signatures of Maritime Targets
SET-077/ RTG45	N-Dimensional Eye-Safe LADAR Imaging
SET-078/ RTG46	Multi-Band Radar Data Base for Air Defense Systems
SET-080/ RSY17	High Resolution Radar Signatures of Air Targets
SET-081/ RLS240	Radar Polarimetry and Interferometry
SET-082/ RWS	Stand-Off Detection of Biological Agents
SET-083/ RTG-047	High Performance Passive Millimeter Wave Imaging
SET-085/ RTG-049	Radar Signature Prediction of Cavities on Aircrafts, Vehicles, and Ships
SET-086/ LS	Advanced Radar Systems, Signal and Data Processing
SET-089/ RWS-005	Use of LWIR Hyperspectral Systems for Military Target Detection
SET-096/ RSM-002	MMW Advanced Target Recognition and Identification Experiment
SET- ET01	Atmospheric Propagation Effects on E-O Systems
SET- ET03	Data Fusion for Low Observable Targets
SET- ET06	Multi Sensor Fusion for Littoral Surveillance Systems
SET- ET07	Multi Sensor and Sensor Data Fusion
SET- ET13	Ground Target Automatic Recognition
SET- ET20	Mobile Telephones/Military Radars: Frequency Sharing
SET- ET22	Analysis of Hyperspectral Imagery for Target Detection
SET- ET23	Modeling of Active Imaging Systems
SET- ET24	Multiband and Broadband Infrared Sensor Performance
SET- ET26	Sparse Aperture and Aperture Synthesis Techniques for UAVs Ground Imagers
SET- ET28	Investigation of Software Radar Concepts
SET- ET29	Polarimetric Signatures of Maritime Targets
SET- ET32	N-Dimensional Eyesafe LADAR Imaging
SET- ET33	Validation of Multi-Sensor Models
SET- ET34	Data Base Generation in Support of Model Generation for Multi-band AD Radar System

B.7.3 SET Space Related Activities: Human and Robotic Exploration of Space

No activities uniquely related to Human and Robotic Exploration of Space.