

2016 NATO Science & Technology Priorities

1. Presented here are the 2016 NATO S&T Priorities. The Priorities serve to guide medium to long-term S&T planning across NATO S&T.
2. The Priorities are organized in 10 S&T Areas, each with Targets of Emphasis. The 10 S&T Areas provide a broad reference frame, while the Targets of Emphasis provide selective focus and orientation.

10 S&T Areas

Precision Engagement	Communications & Networks
Advanced Human Performance & Health	Autonomy
Cultural, Social & Organisational Behaviours	Power & Energy
Information Analysis & Decision Support	Platforms & Materials
Data Collection & Processing	Advanced Systems Concepts

Precision Engagement

Precision Engagement encompasses kinetic and non-kinetic acts of engagement (defence and offense) in order to achieve political and military objectives with minimum collateral damage and undesirable secondary effects.

Targets of Emphasis

PE-1	Precision Control
PE-2	Weapons – Techniques & Systems
PE-3	Weapons – Effects
PE-4	Active & Passive EM/Acoustic/Optic Countermeasures
PE-5	Rules of Engagement, Legal, and Ethical Implications

Related S&T Fields

(26)	Mathematics, Statistics, Information Theory, Systems Theory, Logic, Classical Mechanics, Fluid Mechanics, Acoustics, Optics, Electromagnetism, Thermodynamics, Materials, Quantum Mechanics, Nuclear, Inorganic Chemistry, Organic Chemistry, Zoology, Botany, Human Physiology, Political Science, Sociology, Anthropology, Psychology, Oceanography, Physical Geography, Meteorology.
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Advanced Human Performance & Health

Advanced Human Performance & Health is focused on all aspects of human health and performance for the military.

Targets of Emphasis

AHP&H-1	Human Resiliency
AHP&H-2	Medical Solutions for Health Optimization
AHP&H-3	Enhanced Cognitive Performance
AHP&H -4	Human/Machine Interfaces

Related S&T Fields

(14)	Systems Theory, Classical Mechanics, Acoustics, Optics, Electromagnetism, Materials, Inorganic Chemistry, Organic Chemistry, Zoology, Botany, Human Physiology, Sociology, Anthropology, Psychology.
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Cultural, Social & Organisational Behaviours

Cultural, Social & Organisational Behaviours encompasses the efforts to fully understand, model and predict the behaviour of groups of individuals.

Targets of Emphasis

CS&OB-1	Social Influence
CS&OB-2	Political Influence
CS&OB-3	Cultural Communications
CS&OB-4	Group & Organisational Behaviour

Related S&T Fields

(7)	Statistics, Information Theory, Systems Theory, Political Science, Sociology, Anthropology, Psychology.
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Information Analysis & Decision Support

Information Analysis & Decision Support spans analysis, models, tools, information representation, and advice to support strategy, policy and force employment decisions.

Targets of Emphasis

IA&DS-1	Decision Support
IA&DS-2	Big Data & Long Data Processing and Analysis
IA&DS-3	Multi-Domain Situational Awareness

Related S&T Fields

(10)	Mathematics, Statistics, Information Theory, Systems Theory, Logic, Human Physiology, Sociology, Psychology, Oceanography, Meteorology.
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Data Collection & Processing

Data Collection & Processing focuses on improving the precision and accuracy of observation of objects and phenomena to support analysis of effect and decision making.

Targets of Emphasis

DC&P-1	Electromagnetic Sensors
DC&P-2	Non-Electromagnetic Sensors
DC&P-3	Sensor Integration & Networks
DC&P-4	Advanced Signal Processing

Related S&T Fields

(17)	Mathematics, Statistics, Information Theory, Systems Theory, Classical Mechanics, Acoustics, Optics, Electromagnetism, Thermodynamics, Materials, Nuclear, Inorganic Chemistry, Organic Chemistry, Zoology, Botany, Human Physiology, Astronomy.
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Communications & Networks

Communications & Networks focuses on developing secure, reliable, mobile, and robust military networks and communications systems.

Targets of Emphasis

C&N-1	Secure & Resilient Communications
C&N-2	Trusted Multi-Domain Information Sharing
C&N-3	Ad Hoc and Heterogeneous Networks

Related S&T Fields

(12)	Mathematics, Statistics, Information Theory, Systems Theory, Acoustics, Optics, Electromagnetism, Materials, Quantum Mechanics, Inorganic Chemistry, Oceanography, Physical Geography.
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Autonomy

Autonomy encompasses the necessary advancements to enable smart machines and our ability to work with them.

Targets of Emphasis

A-1	Artificial Intelligence
A-2	Mission Autonomous Systems
A-3	Human-Autonomous Machine Teaming

Related S&T Fields

(14)	Mathematics, Statistics, Information Theory, Systems Theory, Logic, Classical Mechanics, Acoustics, Optics, Materials, Human Physiology, Political Science, Sociology, Anthropology, Psychology.
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Power & Energy

Power & Energy encompasses the supply (including the generation, distribution, transformation, and storage) of power and energy for propulsion and operation of military platforms and systems.

Targets of Emphasis

P&E-1	Power and Energy Storage
P&E-2	Alternative and Renewable Energy Sources
P&E-3	Propulsion
P&E-4	Enhanced Energy Efficiency & Management

Related S&T Fields

(11)	Classical Mechanics, Fluid Mechanics, Electromagnetism, Thermodynamics, Materials, Nuclear, Inorganic Chemistry, Organic Chemistry, Botany, Economics, Political Science.
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Platforms & Materials

Platforms & Materials focuses on enhancing the performance of physical platforms in operations, covering the spectrum from individual armour to manned and unmanned platforms in the sea, land, air, and space domains.

Targets of Emphasis

P&M-1	Fast and Agile Platforms
P&M-2	Unmanned Platforms
P&M-3	Hypersonic Platforms
P&M-4	Advanced and Adaptive Materials
P&M-5	In-theatre Fabrication & Production of Equipment

Related S&T Fields

(7)	Classical Mechanics, Fluid Mechanics, Acoustics, Optics, Thermodynamics, Materials, Political Science.
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Advanced Systems Concepts

Advanced Systems Concepts provides an integrating view of advanced S&T, to realize increasingly complex, capable, resilient and adaptive systems.

Targets of Emphasis

ASC-1	Integrated Human – Machine Hybrid Force
ASC-2	Clusters & Swarms
ASC-3	Modular, Scalable Systems
ASC-4	Efficient and Effective Logistics
ASC-5	Integrating Live & Simulation Systems
ASC-6	High Assurance Engineering & Validation

Related S&T Fields

(13)	Mathematics, Statistics, Information Theory, Systems Theory, Logic, Classical Mechanics, Materials, Human Physiology, Economics, Political Science, Sociology, Anthropology, Psychology.
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