



# New WEAG Technology Taxonomy (TT)



**2004**

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With effect from 1<sup>st</sup> September 2004 the Taxonomy shown below is adopted as the official WEAG Technology Taxonomy.

## A. Underpinning Technologies

### **A01 Structural & Smart Materials and Structural Mechanics**

- A01.01 Metals and metal matrix composite technology
- A01.02 Ceramics, CMC and glass technology
- A01.03 Polymers and polymer matrix composite technology
- A01.04 Structural materials processing - joining technology
- A01.05 Structural materials processing - surface protection technology
- A01.06 Non-destructive evaluation and life extension of structural materials
- A01.07 Corrosion and wear control technology
- A01.08 Structural mechanics
- A01.09 Structural materials processing - forming
- A01.10 Structural Materials processing - material removal
- A01.11 Smart / functional materials for structural uses

### **A02 Signature Related Materials**

- A02.01 Acoustic and vibration absorbing materials
- A02.02 IR signature control materials
- A02.03 Radar absorbing materials and coatings
- A02.04 Structural radar absorbing materials
- A02.05 *No longer in use*
- A02.06 *No longer in use*

### **A03 Electronic Materials Technology**

- A03.01 Silicon-based materials
- A03.02 III-V compounds
- A03.03 Other semiconducting materials
- A03.04 Insulating and dielectric materials
- A03.05 Carbon-based materials
- A03.06 Superconducting materials
- A03.07 Magnetic materials

### **A04 Photonic/Optical Materials and Device Technology**

- A04.01 Optical materials and devices
- A04.02 IR/Visible/UV detector materials and devices
- A04.03 Non-linear optical materials and devices
- A04.04 Display materials and devices
- A04.05 Lasers - all types
- A04.06 Non-laser devices
- A04.07 Transparent materials

### **A05 Electronic, Electrical and Electromechanical Device Technology**

- A05.01 Device concepts and fabrication
- A05.02 Device packaging
- A05.03 Device integration/reliability
- A05.04 Electric batteries
- A05.05 Electric fuel cells
- A05.06 Solar cells

- A05.07 RF power sources and devices
- A05.08 Acoustic power sources and devices
- A05.09 Other electric power sources and devices
- A05.10 Electric motors
- A05.11 Inertial / gravitational devices

**A06 Energetic Materials and Plasma Technology**

- A06.01 Propellants
- A06.02 Conventional fuels
- A06.03 Explosives
- A06.04 Pyrotechnics
- A06.05 Plasma techniques
- A06.06 Explosives detection techniques

**A07 Chemical, Biological and Medical Materials**

- A07.01 Chemical agent defence, precursors and related materials
- A07.02 Biological agent defence, precursors and related materials
- A07.03 Mid-spectrum agent defence
- A07.04 Chemical and biological detection techniques
- A07.05 Chemical research for non-CBD applications
- A07.06 Medical products and materials

**A08 Computing Technologies & Mathematical Techniques**

- A08.01 Software engineering
- A08.02 Protocol technology
- A08.03 COTS software assessment
- A08.04 Architectures
- A08.05 High integrity and safety critical computing
- A08.06 Secure computing techniques
- A08.07 Encryption / crypto technologies
- A08.08 Mathematical modelling development
- A08.09 OA tools and techniques
- A08.10 *No longer in use*
- A08.11 Software verification and accreditation techniques

**A09 Information and Signal Processing Technology**

- A09.01 Data and information management technology
- A09.02 Digital signal processing technology
- A09.03 Optical signal processing technology
- A09.04 Image / pattern processing technology
- A09.05 Speech and natural language processing technology
- A09.06 Optimisation and decision support technology
- A09.07 *No longer in use*
- A09.08 Information and data fusion technology
- A09.09 *No longer in use*
- A09.10 *No longer in use*
- A09.11 Other information processing technology

**A10 Human Sciences**

- A10.01 Human information processing
- A10.02 Military human resources
- A10.03 Teams, organisations and cultures
- A10.04 Human survivability, protection and stress effects
- A10.05 Individual and team training
- A10.06 Human factors integration

- A10.07 Collective training
- A10.08 Human performance enhancement
- A10.09 *No longer in use*
- A10.10 *No longer in use*
- A10.11 *No longer in use*
- A10.12 Surgical techniques and medical procedures
- A10.13 Human health physics
- A10.14 Human performance monitoring techniques
- A10.15 Human factors in manufacturing

**A11 Operating Environment Technology**

- A11.01 Oceanography
- A11.02 Terrain science
- A11.03 Meteorology
- A11.04 Upper atmosphere and space environment
- A11.05 Acoustic propagation in air and water
- A11.06 Electromagnetic propagation in air and water

**A12 Mechanical, Thermal and Fluid-Related Technologies and Devices**

- A12.01 Mechanical / hydraulic technologies and devices
- A12.02 Lubrication technology
- A12.03 Thermal and thermodynamic technologies and devices
- A12.04 Fluid mechanics - phenomenological and experimental
- A12.05 Fluid dynamics techniques

**B. Systems-related technologies**

**B01 Lethality & Platform Protection**

- B01.01 Warheads
- B01.02 Penetrators
- B01.03 *No longer in use*
- B01.04 Battle damage reduction techniques
- B01.05 Explosive Ordnance Disposal
- B01.06 Mine detection and clearance
- B01.07 Armour systems
- B01.08 Defensive Aids Suite
- B01.09 Other platform protection measures

**B02 Propulsion & Powerplants**

- B02.01 Gas turbines
- B02.02 Reciprocating and rotary IC engines
- B02.03 Rocket engines and ramjets
- B02.04 Gun and launch tube propulsion
- B02.05 Electric propulsion - rotary and linear
- B02.06 Transmissions / powertrains
- B02.07 *No longer in use*
- B02.08 Ion thrusters
- B02.09 Nuclear propulsion
- B02.10 Final drive - air propellers and rotors
- B02.11 Final drive - water propulsors
- B02.12 Final drive - wheels and tracks

**B03 Design Technologies for Platforms and Weapons**

- B03.01 Aerodynamic designs
- B03.02 Hydrodynamic designs

- B03.03 Structural designs
- B03.04 Mechanical designs
- B03.05 Stealth designs
- B03.06 Ballistic designs
- B03.07 Thermal / cryogenic designs
- B03.08 Electrical and electronic designs
- B03.09 Optical designs
- B03.10 Acoustic designs
- B03.11 Environmental protection designs

**B04 Electronic Warfare Systems & Directed Energy Technologies**

- B04.01 DET – RF
- B04.02 DET – lasers
- B04.03 DET – other
- B04.04 ECM – RF
- B04.05 EOCM - IR/ Visible/ UV
- B04.06 ECM - acoustic
- B04.07 ECM - magnetic & electrical
- B04.08 ESM – communications
- B04.09 ESM - non-communications
- B04.10 EPM - RF
- B04.11 EOPM - IR/ Visible/ UV
- B04.12 EPM - acoustic
- B04.13 EPM - magnetic & electrical

**B05 Signature Control and Signature Reduction**

- B05.01 Radar signatures
- B05.02 *No longer in use*
- B05.03 Laser signatures
- B05.04 IR signatures
- B05.05 Visible/UV signatures
- B05.06 Acoustic signatures
- B05.07 Electrical and electrochemical signatures
- B05.08 Magnetic signatures

**B06 Sensor Systems**

- B06.01 RF sensors/antennas - active
- B06.02 RF sensors/antennas - passive
- B06.03 *No longer in use*
- B06.04 *No longer in use*
- B06.05 IR sensors - active
- B06.06 IR sensors - passive
- B06.07 Visible/UV wave sensors
- B06.08 Acoustic sensors - active
- B06.09 Acoustic sensors - passive
- B06.10 Non-acoustic sensors - UW
- B06.11 Electrical and electro-chemical sensors
- B06.12 Magnetic sensors
- B06.13 CB sensor systems
- B06.14 Explosive detection sensors
- B06.15 Micro-sensor systems for active control of structures
- B06.16 Motion sensor systems
- B06.17 Environmental monitoring systems

**B07 Guidance and Control Systems for Weapons and Platforms**

- B07.01 Navigation systems
- B07.02 Weapon guidance and control systems
- B07.03 Platform guidance and control systems
- B07.04 *No longer in use*
- B07.05 Display systems
- B07.06 Stores and weapon release / discharge

**B08 Simulators, Trainers and Synthetic Environments**

- B08.01 Skills training systems
- B08.02 Tactical / crew training systems
- B08.03 Command and staff training systems
- B08.04 *No longer in use*
- B08.05 Virtual Reality
- B08.06 Synthetic environments - synthetic force generation
- B08.07 Synthetic environments - natural environment generation
- B08.08 Synthetic environments - management systems

**B09 Integrated Systems Technology**

- B09.01 Systems engineering and integrated systems design
- B09.02 Interoperability standards
- B09.03 Radiation hardening
- B09.04 Robotics / automation in operational systems
- B09.05 Reliability and maintainability of systems
- B09.06 Health monitoring systems
- B09.07 Safety systems
- B09.08 System repair technology
- B09.09 Electro-magnetic compatibility
- B09.10 In-service data capture systems
- B09.11 Integrated systems testing & evaluation
- B09.12 Middleware systems

**B10 Communications and CIS Related Technologies**

- B10.01 Communications systems - below microwave frequencies
- B10.02 Communications systems - micro & mm wave
- B10.03 Communications technology - IR/ Visible/ UV
- B10.04 Communications technology - acoustic
- B10.05 *No longer in use*
- B10.06 Communications and CIS security systems
- B10.07 Command and information systems integration
- B10.08 *No longer in use*
- B10.09 Non-co-operative target recognition
- B10.10 *No longer in use*
- B10.11 Geographic Information Systems
- B10.12 Optimisation, planning and decision support systems
- B10.13 Infrastructure to support information management and dissemination
- B10.14 Network management systems
- B10.15 Air traffic control systems

**B11 Personnel Protection Systems**

- B11.01 Physical protection systems - threat
- B11.02 Physical protection systems - environment
- B11.03 CB & N protection - physical
- B11.04 CB & N countermeasures - medical

**B12 Manufacturing Processes / Design Tools / Techniques**

- B12.01 Design for improved reliability and maintainability
- B12.02 Cost engineering
- B12.03 Concurrent engineering and reduced design cycle
- B12.04 Advanced prototyping
- B12.05 Techniques and systems for production manufacturing
- B12.06 Project management and control
- B12.07 Manufacturing process simulation
- B12.08 Lean manufacturing
- B12.09 Process control technology
- B12.10 Environmentally friendly factory processes
- B12.11 Knowledge-based engineering

**C. Military assessments, equipment and functions****C01 Defence Analysis**

- C01.01 Policy, force development and balance of investment studies
- C01.02 Combined operational effectiveness and investment appraisals
- C01.03 Platform and system concept studies
- C01.04 Requirement definition studies
- C01.05 Scenario generation
- C01.06 Tactical development and support to operations and training
- C01.07 Other effectiveness and performance studies
- C01.08 Military doctrine analysis
- C01.09 Wargaming and Combat Simulation

**C02 Integrated Platforms**

- C02.01 *No longer in use*
- C02.02 Undersea platforms
- C02.03 Fighting land vehicles
- C02.04 Logistic, command and surveillance land vehicles
- C02.05 Combat aircraft
- C02.06 Logistic, support and surveillance aircraft
- C02.07 Helicopters
- C02.08 Unmanned land / sea / air vehicles
- C02.09 Lighter-than-air platforms
- C02.10 Communications satellites
- C02.11 Surveillance and navigation satellites
- C02.12 Other satellites
- C02.13 Space launchers
- C02.14 Fighting sea surface platforms
- C02.15 Logistic and support sea surface platforms

**C03 Weapons**

- C03.01 *No longer in use*
- C03.02 *No longer in use*
- C03.03 Mines - land
- C03.04 *No longer in use*
- C03.05 Missiles - anti air
- C03.06 Missiles - anti surface (sea)
- C03.07 Gun systems - platform mounted
- C03.08 Gun systems - hand held
- C03.09 Directed Energy Weapons
- C03.10 Non-Lethal Weapons

- C03.11 *No longer in use*
- C03.12 Mines - sea
- C03.13 Missiles - anti ground (land)
- C03.14 Torpedoes - anti surface
- C03.15 Torpedoes - anti submarine

**C04 Installations and Facilities**

- C04.01 Ground stations
- C04.02 Fortifications / defences
- C04.03 Battlefield engineering
- C04.04 T&E facilities
- C04.05 Site decontamination

**C05 Equipped Personnel**

- C05.01 Equipped men
- C05.02 Recruitment, selection and allocation
- C05.03 Training and education
- C05.04 Health and well-being

**C06 Miscellaneous Defence Functions and Policy Support**

- C06.01 *No longer in use*
- C06.02 International Security & COunter INsurgency
- C06.03 *No longer in use*
- C06.04 Equipment disposal and environmental protection
- C06.05 Non-proliferation
- C06.06 Hazard assessment
- C06.07 *No longer in use*
- C06.08 Logistics
- C06.09 Counter stealth

**C07 Battlespace Information**

- C07.01 Information infrastructure
- C07.02 Information Warfare
- C07.03 Command & Control
- C07.04 Digitization of the battlespace
- C07.05 ISTAR (= Intelligence, Surveillance, Target Acquisition & Reconnaissance)
- C07.06 Military intelligence

**C08 Business Processes**

- C08.01 Requirements capture
- C08.02 Concepts and product definition
- C08.03 Product supportability
- C08.04 Whole-life cycle improvement
- C08.05 Business process simulation
- C08.06 Benchmarking and Best Practice
- C08.07 Lean enterprise models
- C08.08 R&T management
- C08.09 Design in the extended enterprise
- C08.10 Procurement and contracting processes