This master locator lists the eighteen MCTL technology sections and the candidate technology areas for each of the three (3) parts of the MCTL. Technology areas not included in Part I, "Weapons Systems Technologies," were not included for one of the following reasons:

- Significant technologies identified for that technology area did not satisfy the requirements of the definitions of "Militarily Critical Technology."
- Technologies in the technology area have not been identified for inclusion in a weapon system or will not be available for use within the next three (3) years.

As Parts II and III are developed, changes can be expected on the tentative technology areas shown below. A short description of the three MCTL parts is shown below.

**Part I - Weapons Systems Technologies (WST)**
Contains a list of technologies critical to the development and production of superior Weapons.

**Part II - Weapons of Mass Destruction (WMD)**
Contains a list of technologies used in weapons of mass destruction and their means of delivery.

**Part III - Critical Developing Technologies (CDT)**
Contains a list of technologies, which when fully developed and incorporated into a U.S. system, will produce increasingly superior military performance or maintain a superior capability more affordably.

<table>
<thead>
<tr>
<th>PART I</th>
<th>PART II</th>
<th>PART III</th>
</tr>
</thead>
<tbody>
<tr>
<td>AERONAUTICS SYSTEMS TECHNOLOGY</td>
<td>ARMAMENTS AND ENERGETIC MATERIALS TECHNOLOGY</td>
<td></td>
</tr>
<tr>
<td>Advanced Concept Turbine Engines</td>
<td>Air Dispersed Explosives Systems</td>
<td>X</td>
</tr>
<tr>
<td>Aircraft, Fixed Wing</td>
<td>Ammunition, Small and Medium Caliber</td>
<td>X</td>
</tr>
<tr>
<td>Aircraft, Rotary Wing</td>
<td>Bombs, Warheads and Large Caliber Projectiles</td>
<td>X</td>
</tr>
<tr>
<td>Air Vehicles, Unmanned</td>
<td>Energetic Materials</td>
<td>X</td>
</tr>
<tr>
<td>Full Authority Digital Electronic Controls (FADEC)</td>
<td>Fuzing, Safing and Arming</td>
<td>X</td>
</tr>
<tr>
<td>Gas Turbine Engines</td>
<td>Gun and Artillery Systems</td>
<td>X</td>
</tr>
<tr>
<td>Human (Crew) Systems Interfaces</td>
<td>Mines, Countermines and Demolition Systems</td>
<td>X</td>
</tr>
<tr>
<td>Ramjet and Scramjet</td>
<td>Missiles</td>
<td>X</td>
</tr>
<tr>
<td>Sensors</td>
<td>Non-Lethal Weapons</td>
<td>X</td>
</tr>
<tr>
<td>Signature Control</td>
<td>Regenerative Liquid Propellant Gun</td>
<td>X</td>
</tr>
<tr>
<td>Systems Integration</td>
<td>Survivability, Armor and Warhead Defeat</td>
<td>X</td>
</tr>
<tr>
<td>Test Facility, Propulsion System</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These listings are subject to change as Parts II and III are developed. Technology areas may be added or deleted.
## 1996 DOD MCTL MASTER LOCATOR

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<thead>
<tr>
<th>PART I</th>
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<th>PART III</th>
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<tbody>
<tr>
<td>WST</td>
<td>WMD</td>
<td>CDT</td>
</tr>
</tbody>
</table>

### CHEMICAL & BIOLOGICAL SYSTEMS TECHNOLOGY
- Biological Material Production: X X
- Chemical and Biological Defense Systems: X X X
- Chemical Material Production: X
- Detection, Warning and Identification: X X X
- Environmental: X X
- Human Factors: X X
- Chemical & Biological Dispersion: X

### DIRECTED AND KINETIC ENERGY SYSTEMS TECHNOLOGY
- Coil Gun and Railgun: X
- Electrothermal and Electrothermal Chemical Gun: X
- High Power Microwaves: X
- Lasers, Gas Dynamic & Pulsed Electrical Atomic & Molecular: X
- Lasers, High Energy Chemical: X X
- Lasers, High Energy Excimer: X
- Lasers, High Energy Transfer: X
- Lasers, Short Wavelength: X
- Particle Beam, Charged: X
- Particle Beam, Neutral: X
- Supporting Technologies for Directed Energy (DE) Systems: X X

### ELECTRONICS TECHNOLOGY (cont'd)
- General Purpose Electronic Equipment: X X
- Microelectronics: X X
- Opto-Electronics: X X

### GROUND SYSTEMS TECHNOLOGY
- Advanced Diesel Engines: X
- Human Systems Interfaces for Ground Systems: X X
- Hybrid-Electric Propulsion Systems: X
- Sensors for Ground Systems: X
- Signature Control for Ground Systems: X
- Structures for Ground Systems: X
- Systems Integration for Ground Systems: X X
- Vetrronics: X X

### GUIDANCE, NAVIGATION AND VEHICLE CONTROL TECHNOLOGY
- Aircraft and Vehicle Control Systems: X X X
- Inertial Navigation Systems and Related Components: X X X
- Radio and Data-Based Referenced Navigation Systems: X X X

### INFORMATION SYSTEMS TECHNOLOGY
- Command, Control, Communications, Computing: X X X
- Intelligence and Information Systems: X X
- Computer Aided Design and Computer Aided Manufacturing (CAD/CAM): X X
- High Performance Computing: X X X
- Human Systems Interfaces: X X
- Information Security: X X X
- Intelligent Systems: X X
- Modeling and Simulation: X X X
- Networks and Switching: X X X

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### INFORMATION SYSTEMS TECHNOLOGY (cont’d)
- Signal Processing: X X X
- Software: X X X
- Transmission Systems: X X

### INFORMATION WARFARE TECHNOLOGY
- Combat Identification: X
- Electronic Attack: X X
- Electronic Protection: X X
- Electronic Deception: X
- Optical Countermeasures: X X
- Optical Counter-Countermeasures: X X
- Psychological Operations: X

### MANUFACTURING & FABRICATION TECHNOLOGY
- Advanced Fabrication and Processing: X X X
- Bearings: X X
- Computer Aided Design, Manufacturing, Engineering: X
- Test and Maintenance: X
- Metrology: X X
- Non Destructive Inspection and Evaluation: X X
- Production Equipment: X X
- Robotics: X X X

### MATERIALS TECHNOLOGY
- Armor and Anti-Armor Materials: X X
- Biomaterials: X X
- Electrical Materials: X X
- Magnetic Materials: X X
- Optical Materials: X X
- Signature Control Materials: X
- Structural Materials, High Strength & High Temperature: X X
- Special Function Materials: X X

### MARINE SYSTEMS TECHNOLOGY
- Ocean Salvage and Deep-Sea Implant: X
- Propulsors and Propulsion Systems: X X
- Signature Control and Survivability: X X
- Subsurface and Deep Submergence Vehicles: X X

### NUCLEAR SYSTEMS TECHNOLOGY
- Fissile Materials Enrichment: X X
- Fission Reactors: X X X
- Inertial Confinement Fusion: X X
- Nuclear Materials Processing: X X X
- Nuclear Related Materials: X X
- Nuclear Weapons: X X X

### POWER SYSTEMS TECHNOLOGY
- High Density Conventional Systems: X X
- Magnetohydrodynamics: X
- Mobile Electric Platform Power: X X
- Pulsed and High Power Systems: X X
- Superconductive Power Applications: X

### SENSORS AND LASERS TECHNOLOGY
- Acoustic Sensors, Air and Terrestrial Platform: X X
- Acoustic Sensors, Marine, Active Sonar: X X
- Acoustic Sensors, Marine, Passive Sonar: X X
- Acoustic Sensors, Marine Platform: X X
- Electro-Optical Sensors: X X
- Gravity Meters and Gravity Gradiometers: X X
- Lasers: X X
- Magnetometers and Magnetic Gradiometers: X X
- Obscurants: X
- Radar: X X
### 1996 DOD MCTL MASTER LOCATOR

#### SIGNATURE CONTROL TECHNOLOGY
- X
- X
- X

#### SPACE SYSTEMS TECHNOLOGY

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<th>PART X</th>
<th>PART I</th>
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<tbody>
<tr>
<td>Astronics</td>
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<tr>
<td>Electronics and Computers</td>
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<td>Launch Vehicles for Space Systems</td>
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<td>Optronics</td>
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<td>Power and Thermal Management</td>
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<td>Propulsion for Space Systems</td>
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<td>Signature Control and Survivability</td>
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<td>Structures for Space</td>
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#### WEAPONS EFFECTS AND COUNTERMEASURES

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<td>Induced Shock Waves From Detonation</td>
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<td>Induced Shock Waves From Penetrating Weapons</td>
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<td>Simulation of Pulsed Power Weapons Effects</td>
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