

# The Chart Page

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## The Twenty Most Critical Technologies and Major Long-Term Goals for the S&T Program

Goal	Strategically relocatable targets	Force projection/rapid deployment	Defense against ballistic missiles	On-demand space asset deployments	Antisubmarine warfare	Worldwide, all-weather C <sup>3</sup> /surveillance	Signature management	Close combat/air defense	Brilliant weapons	Reduced support requirements	Personnel reduction	Affordable/producible weapon systems
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### High-Priority, Most Pervasive Technologies

Composite materials	●	●	●	●	●	●	●	●	●	●	●	●
Computational fluid dynamics				●	●			●				●
Data fusion	●		●	●	●	●				●	●	
Passive sensors	●		●		●	●		●	●			
Photonics						●			●			●
Semiconductor materials and microelectronic circuits	●	●	●	●	●	●	●	●	●	●	●	●
Signal processing	●		●	●	●	●			●		●	
Software producibility	●	●	●	●	●	●	●	●	●	●	●	●

### Enabling Technologies

Air-breathing propulsion		●		●			●	●		●		●
Machine intelligence and robotics				●				●	●	●	●	●
Parallel computer architecture				●		●			●	●		
Sensitive radars	●		●		●	●		●	●			
Signature control	●		●		●		●					
Simulation and modeling		●				●		●		●	●	●
Weapon system environment	●	●	●		●			●	●			

### Emerging Technologies

Biotechnology materials and processes										●	●	●
High-energy-density materials			●	●				●		●	●	●
Hypervelocity projectiles			●					●	●			●
Pulsed power			●					●				●
Superconductivity			●		●	●				●		

DoD annually identifies for Congress the technologies that are most essential to "the long-term qualitative superiority of US weapon systems." The Pentagon has grouped the technologies into three categories.

Source: The Department of Defense Critical Technologies Plan, 1990.