



Integrity ★ Service ★ Excellence

From Science & Technology to Acquisition

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Changing Landscape



New Bio Developments

- Genomics, proteomics
- Neuroscience
- Microbiome

Warfighter Demand

- Cyber, RPA, OE...
- Areas we didn't have 15+ years ago
- Extreme cognitive & physical environments
- A2AD operations



New Tech Development

- Human-machine teaming and autonomy
- LVC immersive environments
- Robotics

Affordability & Sustainment

(Cost of healthcare, personnel, energy)

- Exponential growth
- Unsustainable

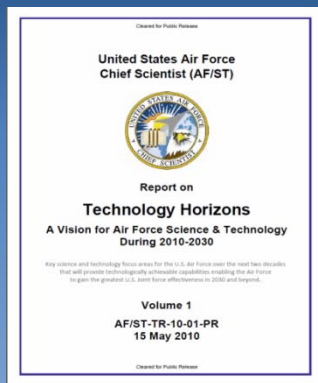




AF S&T Vision Key Documents & Studies

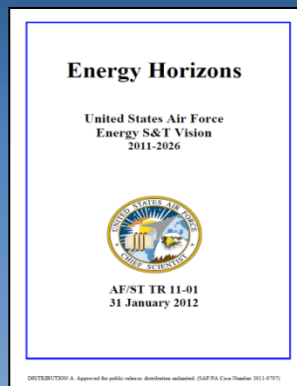


Tech Horizons



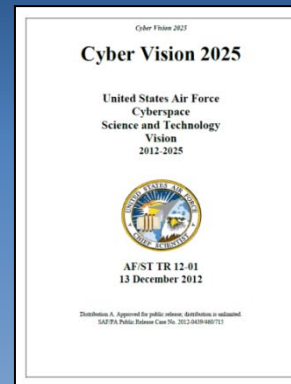
- Single greatest finding is the need for gaining capability increases, manpower efficiencies, and cost reductions through:
- Far greater use of autonomous systems
 - Human performance augmentation

Energy Horizons



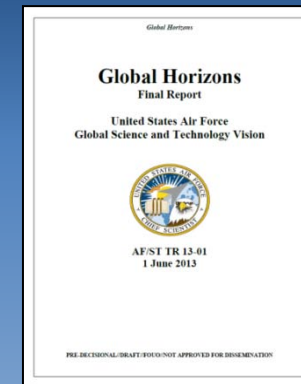
- Maximizing distributed, interactive flight simulators to:
- Decrease the training costs of live operations
 - Enable safe training in contested, congested conditions
 - Enhances readiness

Cyber Vision 2025



- Assured cyberspace advantage by focusing on:
- Mission assurance
 - Resiliency and agility
 - Human-machine integration
 - Trust

Global Horizons



- Key game changers for the AF resulting from significant global trends in technology advancements:
- Personalized health & performance via mobile technologies
 - Personalized learning
 - Flexible autonomy



Personalized Health and Performance Game Changer

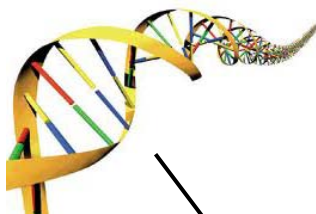


**HS and ASBREM COIs
Cross-cutting
Strategic Vector**

**New Personalized Airman
Health and Performance**

**Seamless En Route Care
Precision Care via Genomics
Pharma/nutraceuticals for**

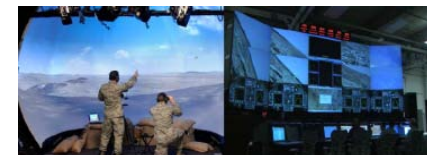
**Genetic Models
of Performance**



**Creative
Destruction**



**Personalized
Learning**

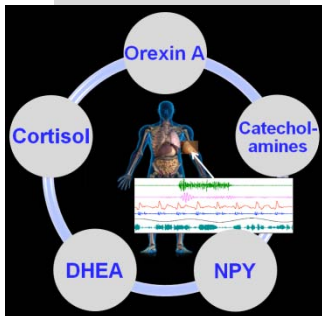


**Super
Convergence**

**Assessment from
Integrated**



**Biomarkers and
Cognitive
Performance**



**Novel Micro
Sensing Devices**

Lab on a Chip



**Old "One Solution
Fits Many"**

**Wearable
Sensors & Apps**



