



Communities of Interest and Guiding Visions

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Communities of Interest



Communities of Interest (COIs)

Advanced Electronics

Air Platforms

Autonomy

Biomedical (ASBREM)

Counter-IED

Counter-WMD

Cyber Security

Electronic Warfare /
Electronic Protection

Energy & Power
Technology

Engineered Resilient
Systems

Ground & Sea
Platforms

Human Systems

Command, Control, *
Comms, Computers,
and Intelligence (C4I)

Materials &
Manufacturing
Processes

Sensors &
Processing

Space

Weapons
Technologies



Communities of Interest



- Drive S&T portfolio management
- Develop a common picture of international S&T engagement in their area
- Better understands and documents the "successes" produced by the DoD S&T enterprise
- Develop cross-Component research roadmaps
- Interact with Industry and Academia to develop research roadmaps



GUIDING VISIONS



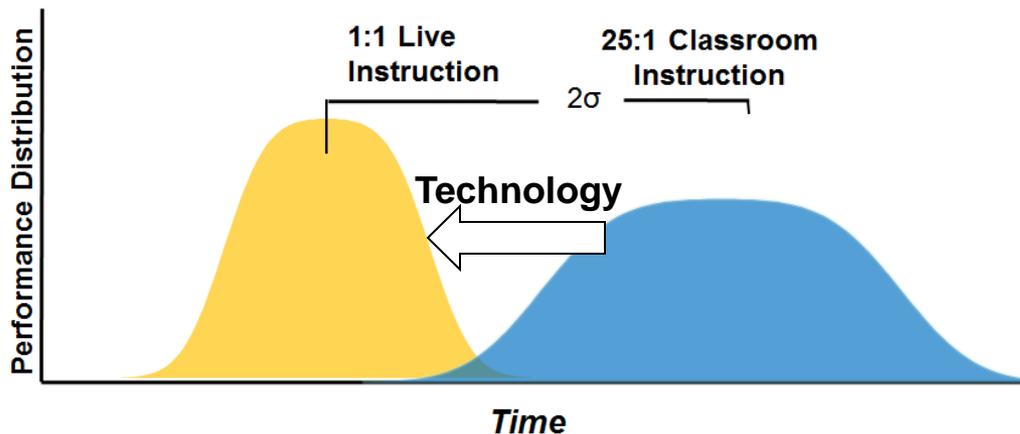
Individualized Training for Accelerating Expertise Development



Goal: Digital technologies that replicate the very best instructors' techniques

Individual instruction has significant benefits...but presently is cost prohibitive

Need to 'bottle' this instructor's expertise



Benefits: Reduce performance variability and quickly prepare to outperform adversaries



Autonomous Patient Life Support During Evacuation



Maintenance of *mobile* forward surgical capability on a large scale is logistically difficult to support



Alternative Approach

Infuse principals of autonomy into control of medical life support devices

- Attended care in manned vehicles
- Unattended care in unmanned vehicles

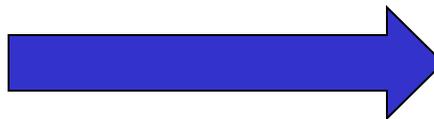




Restoration of Natural Movement



Challenge: *A whole-body solution that will allow humans to use prosthetic devices as naturally as their own limbs*





Questions?