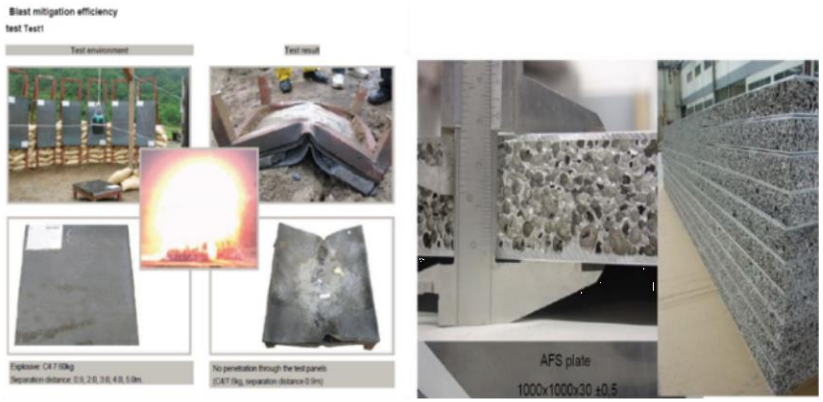
Aluminum Foam Energy Absorption

(IM, Safety, Reduce O&M Costs, Asymmetric Warfare)



Metal Foam for Blast Protection and IM for Sympathetic Detonation

Saves Lives

Technology

- Replicate the explosives test to verify and validate properties. Instrument to give data to US DoD Modeling and Simulation Community.
- Utilize in Sympathetic Detonation testing and determine JIMTP and IM compliance. Create solutions and deploy immediately

Justification for OSD Funding

- Simple to implement, relatively cheap to acquire, improved relations with South Korea, can be used across DoD and US Government buildings that require blast protection. (NAVY, Garry Shields and other government agencies are interested)
- ONLY solution found to date that solves blast and Class V protection requirements for Sympathetic detonation.

- BONUS: possible EM protection and lightening the load, lower logistics costs, neutral buoyancy, fireproof, heat dissipating, IR temp matching and heatsink all data to pass on to other programs for utilization and additional innovation.

Current Technology

- No commercially available solution exists that is affordable and mass produced. Many have drawbacks such as mass, toxicity or cost. No solution exists for SD under IM compliance laws

Impact of New Technology

- Protecting our munitions and soldiers from effects of Blast
- Easy to install, little to no specialized equipment needed

- Current TRL 8 Expected TRL 8
- Country of Origin: South Korea
- Country in Use with: South Korea (infrastructure and embassies), Afghanistan (Korean Military Base) Canada, NASA (limited in satellite use, hard to procure due to import restrictions)

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Primary Component: US ARMY

Secondary Component: NAVY/Marine Corps, Air Force

Transition Strategy: Ready to test, have material on hand in labs. Purchase additional material from South Korea, start using in easy to implement solutions for packaging, and FOBS for immediate protection. If successful, get data out to other departments for additional uses of the Foamtech products.

Financial Information ($K):	FY18	FY19	Total
OSD-CTO Funding Request	200K+100	300K	600K
Cost Share	200K	300K	500K

Cost Avoidance / ROI: 1 Billion USD in estimated fuel saving over the next 10 years. Saving of solider lives and materiel and other asset. Successful data and implementation would result in Fuel costs saving of around $2 billion year providing a >1250X ROI.