Pursuing Complex and Innovative Facilities Solutions Through OTAs

Moderator: Jonathan Petry, AIA, LEED AP BD+C, OSD

Speakers:

- Stephanie Kline — Army
- Timothy Sullivan, Ph.D., P.E. — Air Force
- Karthik Bharat — Navy
- Sam Valencia — Defense Innovation Unit (DIU)

May 15, 2024, 10:30 a.m.

HOUSEKEEPING ITEMS

- Take Note of Exits
- Silence Your Mobile Devices
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MODERATOR

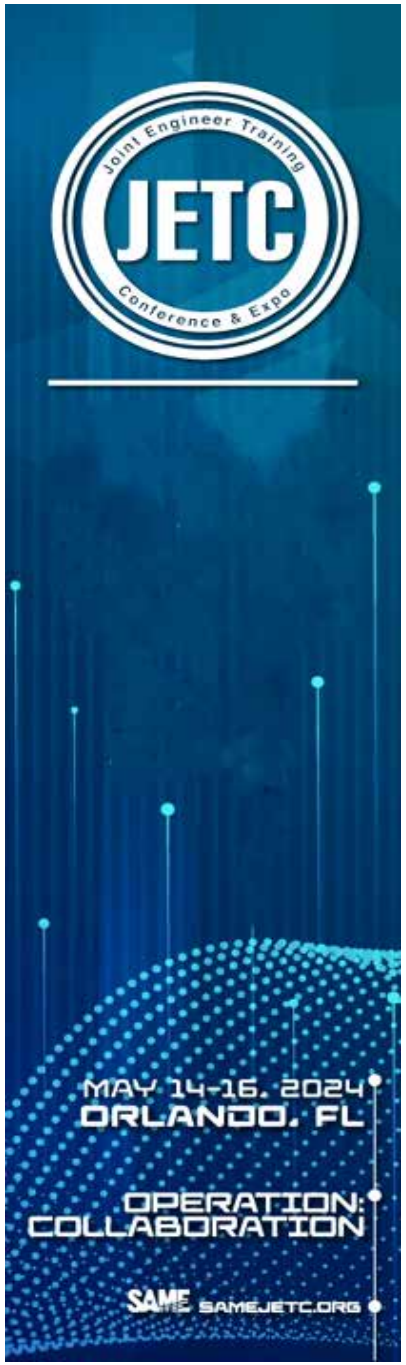
Jonathan Petry

OSD

Architect

Fun Facts

- Team: Kansas City Current
- Vacation Spot: Philmont, NM
- Did you Know: You travel ~19 million km a day with respect to the center of the Milky Way.
- Hobbies: Backpacking, Cycling, Reading, and Lego



Stephanie Kline

Army

Program Manager, Sustainability and Resiliency

Fun Facts

- Team: Washington Nationals
- Vacation Spot: Jackson Hole, WY
- Did you Know: I adopt senior dogs
- Hobbies: Impressing strangers at conferences with my fun facts

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SPEAKER

Tim Sullivan

AFCEC
Interim Director, Facilities Engineering

Fun Facts

- Team: Cal Golden Bears
- Vacation Spots: Staycations
- Did you Know I am an avid baker
- Hobbies: Football road trips; cooking; swimming

JETC
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SPEAKER

Karthik Bharat

NAVFAC

MILCON Program Director
Lead for Sustainable Buildings

Fun Facts

- Team: Team Caitlin Clark
- Vacation Spot: Anywhere sunny next to water
- Did you Know: All ideas, whether good, bad, or ugly, contribute to the innovation process.
- Hobbies: Golf, Learning Emerging Science & Technology Dev.

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SPEAKER

Sam Valencia

DIU
Program Manager
Energy Portfolio

Fun Facts

- Team: USC Trojans
- Vacation Spot: Under water
- Did you Know: The world needs more nerds 🤓
- Hobbies: languages, Sci-Fi

Net Zero Goals and Challenges

Net-zero Emissions Buildings

- Design and construct to net-zero emissions as defined by the Federal BPS

Passive Design

- Optimize passive performance of buildings to use ambient energy sources

Electrification of Standard Building Operations

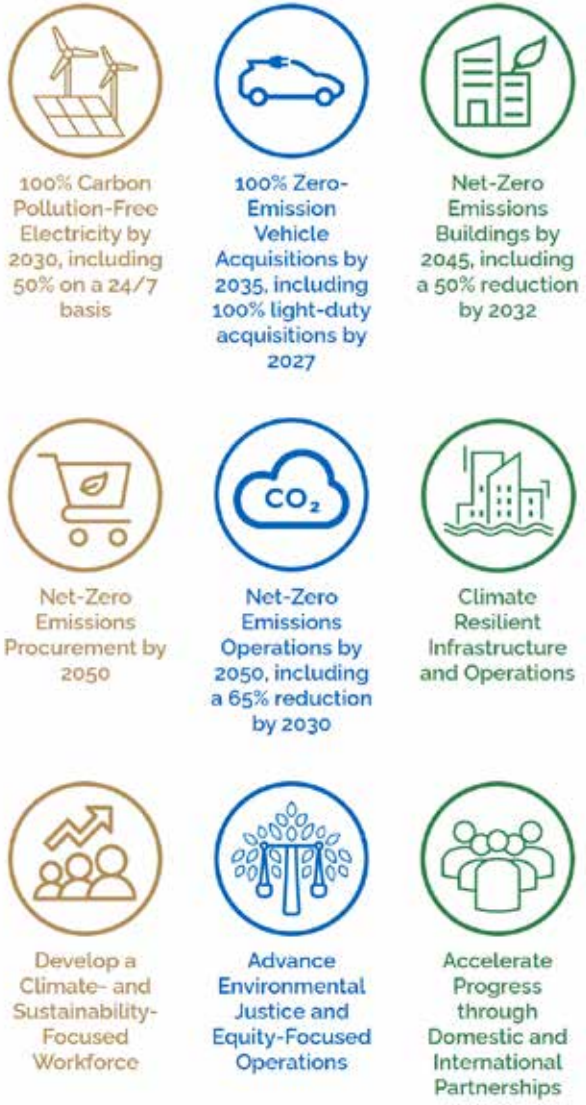
- Design and construct for full electrification of standard building operations

Energy Efficiency

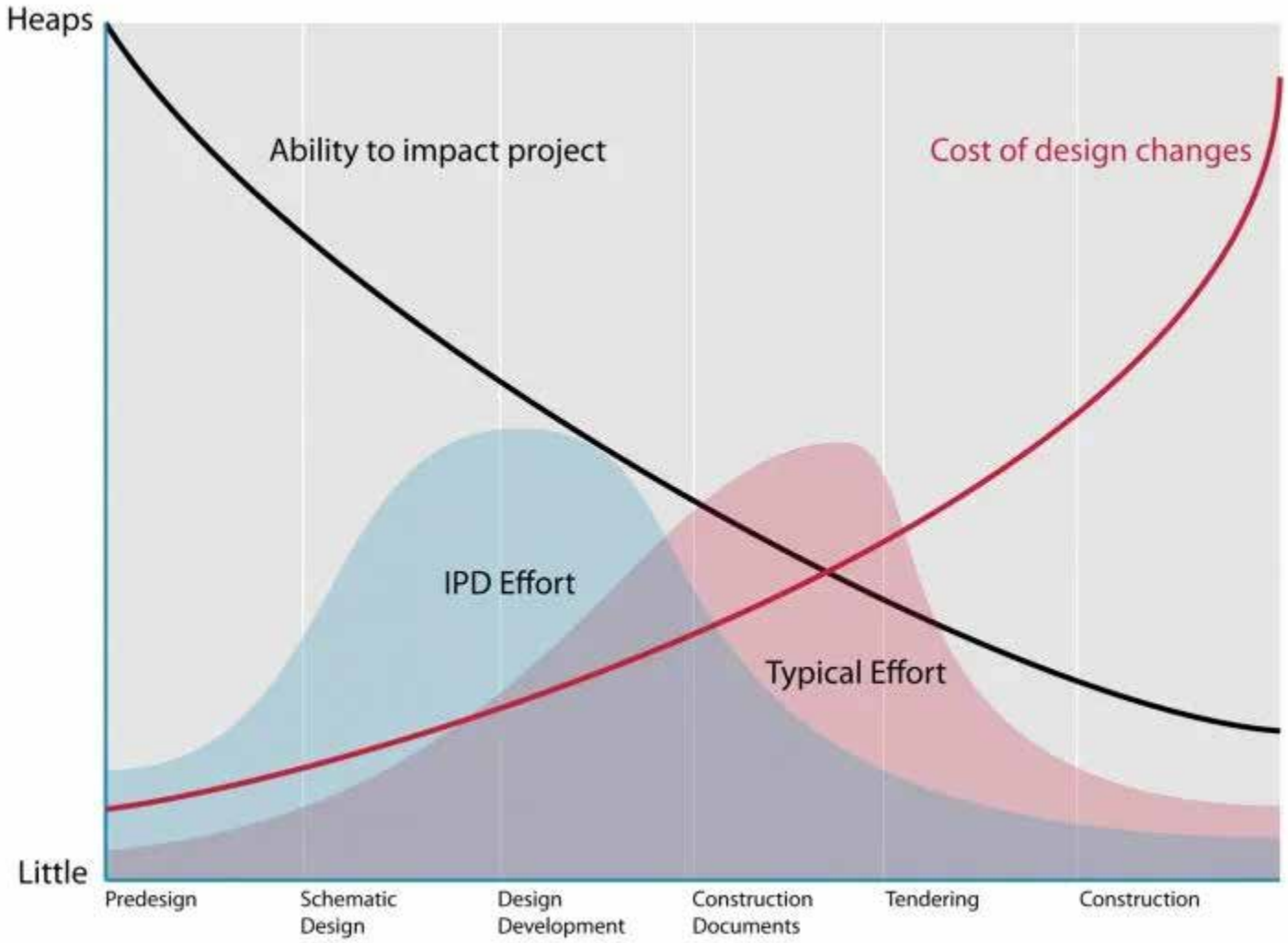
- Design the building to reduce 30% energy from ASHRAE 90.1-2022 baseline

Sustainable Materials and Products

- Evaluate the cradle-to-grave environmental impacts of design decisions



Impact of Integrated Project Delivery



FAR-BASED PROTOTYPING OR DIU

Buy what you can, build what you must

PURE COMMERCIAL TECHNOLOGY	MILITARY ADAPTED COMMERCIAL TECHNOLOGY	MILITARY UNIQUE SYSTEMS: VIABLE COMPETITION	MILITARY UNIQUE SYSTEMS: CONSTRAINED COMPETITION
• Purchased directly off the shelf from commercial supplier	• Leverages emerging commercial technologies • Developed and deployed on a rapid and routine basis	• Built to specific military needs • Higher production quantities • Constrained competition	• Low production quantities • High barriers to entry • Significant capital intensity requirements
Supplier: Commercial Businesses	**Supplier:** Commercial Businesses & Defense Specialists	**Supplier:** Defense Specialists	**Supplier:** Defense Specialists

Commercial-off-the-shelf technology

Tailored versions of what others buy

Things only militaries buy

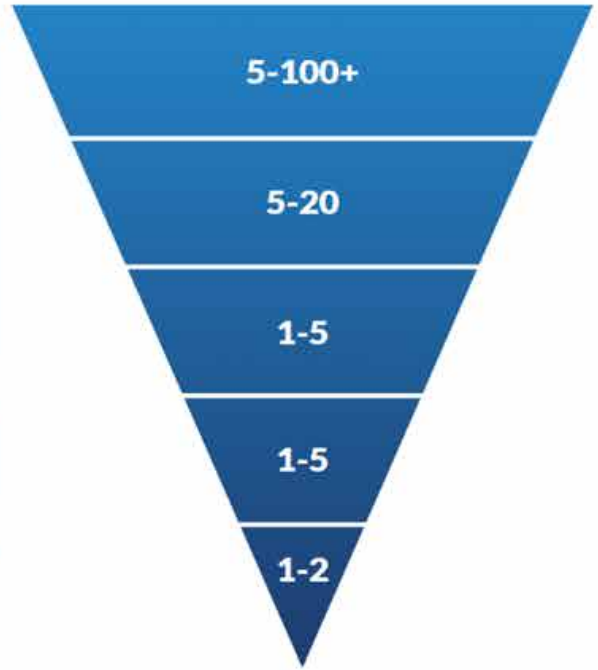
GSA — **DIU** — **FAR-BASED**

Chart adapted from: "Future Foundry: A New Strategic Approach to Military-Technical Advantage," Center for a New American Security (December 2016)

DIU's UNIQUE PROJECT LIFECYCLE - FAST & COMPETITIVE

Problem Curation & Diligence		• Receive, understand, and evaluate DoD partner **problem** • Confirm commercial market exists to address problem and conduct outreach • Build a coalition of US govt partners that have shared interests in this problem	
Commercial Solutions Opening (CSO)	**Phase 1**	• Solicit digital proposals in response to a problem statement	~10 business days
	Phase 2	• Evaluate proposals and invite a short list of bidders to pitch	60-90 days to contract award (goal)
	Phase 3	• Select contract awardee/s and negotiate prototype agreement	
Prototyping		• Execute prototype project **(OTA not FAR)**	12-24 months (36 for MILCON)
Transition		• **Vendor Benefit:** Award "Success Memo" to successful performers that allow them to sell their product to anyone in the US Govt without recompeting • **USG Govt Benefit:** Deliver and scale solution to transition partner/s	

Approximate Number of Vendors Participating



Accelerating Commercial Technology for National Security

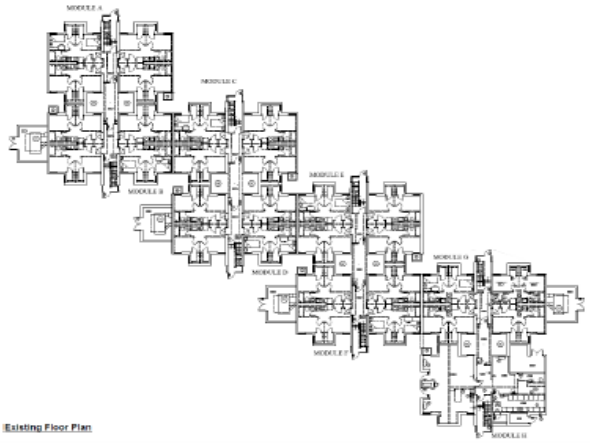
Army Projects

FY24 VOLAR Barracks

Fort Campbell, KY

Scope: 44,106 GSF

Execution Agent: DIU



FY25 Component Rebuild Shop

Letterkenny Army Depot, PA

Scope: 115,630 GSF

Execution Agent: USACE

Navy Projects

FY24 CDC

Little Creek, VA

Scope: 40,074 GSF

Execution Agent: DIU

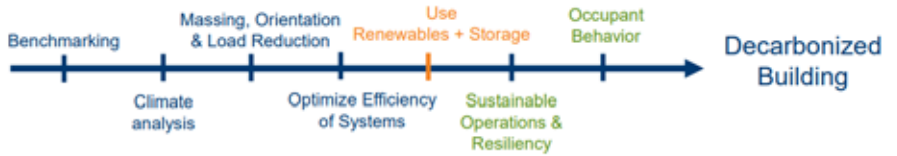
Notional building

FY25 F-35 Sustainment Facility

Cherry Point, NC

Scope: 248,000 GSF

Execution Agent: NAVFAC



Air Force Projects

FY24 Child Development Center

Hanscom AFB, MA

Scope: 36,770 ft^2; 262 children

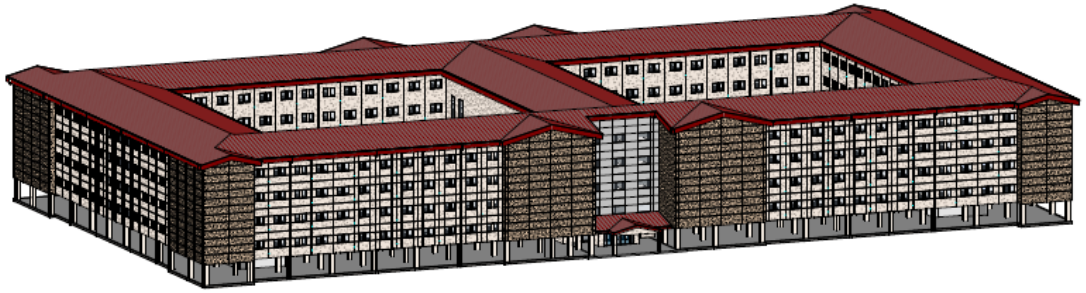
Execution Agent: AFCEC

FY25 Medical Education and Training Complex

JBSA-Lackland, TX

Scope: 1,200 beds

Execution Agent: USACE



What have we learned so far?

Army

- Projects are living labs for newest policies
- Training and education are key to ensure sustainability elements remain from design to occupancy

Air Force

- Looking for new technologies for Net Zero facilities
- Seeking new business practices for faster acquisition
- Early integration of design, construction, and operations teams is key to streamline communication

Navy

- The CSO process delivers the promise of integrated project delivery – where collaboration begins at RFP development. Earlier than ECI/IDAC.
- Incentives seems to be aligned for this pilot to build a trusted environment between the government and contractor to achieve the project objectives. Time will tell.
- The framework to scale this approach is not clear. If we were to scale this early integrated project delivery beyond IDAC/ECI approach, we would like some feedback on the contracting framework that would work for the DoD.

Looking Forward

Evolution of the Military Construction process.

- Looking for technical solutions on codes/criteria but also on the process overall and better partnerships,
- Meeting requirements within resource and process constraints
- More ECI / IDAC – more innovation earlier in the planning and design process.

Greater transparency with industry

- Share equity, risk, and rewards with all parties
- Enhance outcomes through greater industry diversity
- Openly collaborate, and incentivize contracts in accordance with the scale of efforts

More Opportunities

- More prototypes through the CSO process.
- More innovative ideas, especially for net zero buildings
- More solutions at the scale necessary to enhance mission resilience

THANK YOU

Please take a few minutes to complete a short survey about this session. Your feedback will help us improve future programming for JETC.

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- Dr. Tim Sullivan — timothy.sullivan.1@us.af.mil
- Sam Valencia — svalencia.ctr@diu.mil

Key Takeaways

Key Takeaways

- DOD is exploring novel technologies and streamlined processes for Military Construction
- OTA is a new acquisition strategy (to those of us working on the built environment)
- We intend to apply lessons learned to improve “traditional” construction projects/processes