The “Push” and “Pull” of Innovation

Edmond J. Russo, Jr., PhD, PE, D.CE, D.NE, D.WRE
Deputy District Engineer for Programs and Project Management
USACE, Galveston District (SWG)

USACE Innovation Summit
September 17, 2019
What is innovation?

- Application of *disruptive measures* to the traditional, which make *profound leap-ahead achievements* possible, for reaching *stretch goal life cycle systems performance objectives.*
- Results in *outcomes not otherwise currently imaginable and feasible* to act upon, pursuant to established or new decision rules.
- *Disruptive measures* are defined as:
  - Creatively re-purposed traditional;
  - Newly developed as available; and
  - Value-laden gap-closing future pursuits.
- Innovation ≠ Incremental improvement!
What are the major obstacles to innovation?

- Organizational leadership posture.
- Budget and time constraints.
- Workforce and/or stakeholder risk aversion.
- Understanding and valuing the benefits.
- Expectations/permission to innovate.
- Embrace and tireless pursuit of innovation.
What are the key factors that facilitate innovation?

- Shared vision value proposition and mandate for innovation and risk taking.
- Enterprise priorities and incentives in programming, technical guidance, and resourcing, to innovate.
- Catalysts: Strategy, championship, action plan, and high performing culture.
- Employee performance elements, standards, and incentives for innovation.

High performing culture → Espirit de Corps:
- Technical best
- “All in” every day
- Team player
- Innovate in everything

- DPM CW (21 JUN 17): Further Advancing Project Delivery Efficiency and Effectiveness of USACE CW
- DPM CW 2018-09 (3 MAY 18): Improving Efficiency and Effectiveness in USACE Civil Works Project Delivery
- DPM CW 2018-09 (16 JUL 18): Principals of BBA 18 Delivery
- ER 5-1-11, PDBP (31 JUL 18): The “what” of project delivery
- SemoNOTE #15 (1 AUG 18): PDBP Refresh
- DPM CW 2018-11 (14 SEP 18): Innovative delivery of BBA 18 projects
How can we measure innovation*?

• Improved product quality, resulting in increased achievement of project performance objectives.
• Reduced levels of effort, minimizing staffing and external acquisition needs.
• Lowered product development execution risks.
• Shortened timeframes to project delivery.
• Reduced project costs.
• Increased available spectrum and valuations of project benefits.

* Compared to traditional practices
How can R&D-push and user-pull be coordinated?

Tactical Means

- High Performing Culture
- Business Process Innovation
- Best-in-Class S&T

Operational Ways

- District-ERDC PDT Integration toward Innovation
- User-R&D Innovation Governance at All Levels Supported by Champion
- Select and Advance Pilot Demonstrations in Practice
- Innovation Mainstreaming into Practice Across Enterprise

Strategic Outcomes

- Improved Program Planning and Execution

Visionary End State

Leap ahead organizational capability, recognized by stakeholders, to deliver best-in-class products and services on commitments across all enterprise programs and business lines.

US Army Corps of Engineers • Engineer Research and Development Center
What are the key challenges and opportunities for USACE?

Challenges:
• More progress on policies and practices to promote innovation.
• Periods of feast (expedited delivery, little time to innovate) and famine (can’t afford innovation, just deliver basics).
• Lack of innovation champion in USACE, e.g., Innovation Center of Expertise (ICX).

Opportunities:
• Improved employee and organizational capabilities and achievement through encouragement to innovate.
• Greater rates of achieving project authorizations / appropriations using full spectrum of benefits (e.g., NED, RED, NER, and OSE).
• Increased USACE demonstration of V2N via CW IWRM, improving future conditions and opportunities to serve.