

# FLC National Advisory Council

Presentation to the

SE/MW Regional Meeting  
September 2018

Dick Paul, NAC Vice Chair

# NAC

- **Mission:**

- Provide independent advice to the FLC Executive Board (EB) on topics of interest mutually identified/agreed upon by the FLC chair and the NAC chair
- Foster relationships between the federal laboratories and external entities involved in technology transfer, particularly industry
- Perform other duties as requested by the FLC EB

- **Membership:**

- 8-12 individuals from industry, academia, state & local government, and other appropriate entities

# NAC Members

- Ric Trotta (Chair) Industry
- Dick Paul (Vice Chair) Federal laboratory (AF), industry
- Michelle Atchison Academia, industry
- Robert Heard Venture capital
- Dick Jacobsen Academia
- David Koegel Federal government (DOE)
- Kathleen Robertson Industry
- Jim Zarzycki Federal laboratory (Army)

# NAC Activities

- Continuing

- Ad hoc member of EB (NAC chair)
- Lab Director of the Year Award
- Program Committee member
- Regional meeting support

- Special projects

- Technology Focus Area (TFA) report (requested by FLC chair)
- Support of ongoing TFAs (Water & Energy)
- Planning assistance for Autonomous Systems TFA
- International T2 study (ongoing)
- Academic T2 handbook (ongoing)

# Technology Focus Areas

- Purpose:
  - Increase awareness of the FLC and the federal laboratories as developers of technologies that can contribute to meeting critical societal needs, and
  - Enhance the transfer of those technologies to industry and others for commercialization and introduction into the marketplace
- TFA Topic Criteria:
  - Is associated with substantial economic, security, or societal needs (food, water, energy, security, etc.), and for which federally developed technologies can offer potential solutions
  - Has relevant technologies being developed in federal laboratories across multiple federal agencies and laboratories, and
  - Offers opportunities for collaboration with industry (especially) and academia

# Key Findings from NAC TFA Study

- The executive summary reflects seven key findings that address:
  - Validating TFA value
  - Creating a sustainable end-to-end process
  - Involving industry on a proactive basis via “bridgers”
  - Aligning FLC elements in TFA planning and execution
  - Creating multi-year TFA lifecycles that involve more front-end planning
  - Incorporating a TFA communications strategy/plan
  - Recognizing importance of FLC leadership and EB commitment

# Industry Bridge Organizations (“Bridgers”)

- Entities that are member based and facilitate their members in pursuing objectives of common interest (e.g., training, research, sector-wide planning, outreach, best practice sharing, etc.)
- Examples: trade associations, regional technology development organizations, SBA cluster initiatives, or any other group that seeks to accelerate the commercialization of technology to members of an industry
- Rationale for IBOs: provides FLC with a mechanism to connect with multiple industries aligned around a common sector/interest
  - Efficient and scalable
  - Avoids perception of favoritism

# Examples of Bridgers

- Water TFA
  - The Water Council, Milwaukee, WI
  - Non-profit organization with 200 member companies—small and medium-sized businesses to global corporations (A.O. Smith, Kohler, others)
  - Drives economic, technology, and talent development to support global water industry
  - “Move, meter, measure, manage, monitor” fresh-water initiatives
  - FLC involvement:
    - Data base connection (FLC-B and Global Water Port)
    - TWC panel at 2018 FLC Annual Meeting in Philly
    - NAC member (Jim Zarzycki) invited to join TWC Board of Directors

# Ongoing Activity with The Water Council

- TWC has identified the water technologies of most interest to TWC members
  - TWC senior staff contacted each Tier 1 industrial member
  - Follow-up calls conducted with senior managers and technical staff
  - Result: list of highest-priority technologies on next slide
- Brooke Pyne and Jim Zarzycki discussing potential “next steps”, e.g.:
  - Use FLC Business to search for technologies in the federal labs
  - Create portfolio of relevant lab technologies
  - Sponsor an event (e.g., tech showcase) for dialog with TWC members
- Event could be a focus of the 2019 MW-SE Regional Meeting in Milwaukee (home of The Water Council)

# TWC Tier 1 Companies “Technology Needs”

- Filtration (point of use)
- Alternative Disinfection
- Energy Harvesting (small hydrodynamic generator)
- Battery technology (long life in wet environment)
- General energy efficiency
- Materials (hygienic coatings)
- AI, IIOT, and Data Analytics
- Telemetry and communications
- Sensors
  - Disinfection byproducts
  - PFAS
  - Heavy metals
  - Microbiological
  - Nitrogen species
  - Phosphorus
  - Long lasting for traditional analytes like pH, turbidity, pressure, flow

# Examples of Bridgers (continued)

- Energy TFA
  - Mid-West Energy Research Consortium (M-WERC), Milwaukee, WI
  - Non-profit organization with over 90 members & partners
  - Develops industry roadmaps for energy, power, & control technologies
  - Maps tough problems in energy sector to technology pipelines
  - FLC involvement:
    - Made presentations in each other's workshops/webinars
    - M-WERC CEO attended Industry Day at 2018 national meeting in Philly
    - Jim Zarzycki is the NAC liaison

# Autonomous Systems (AS) TFA

- Selected by FLC EB as the next TFA with kickoff in 2019
  - EB also approved 2019 budget to hire a full-time TFA P
- NAC support of AS TFA to date:
  - Supporting the macro planning process
  - Supporting regions as desired in planning/executing AS TFA activities
  - Helping to identify AS sub-topics as means of wider and more focused involvement by both federal labs and industry
  - Identifying candidate industry bridge organizations (see next slide)

# Potential AS IBOs (“Bridgers”)

- 22 candidate organizations identified by FLC region
  - Far West: 5
  - Mid-Continent: 5
  - Mid-West: 2
  - Southeast: 2
  - Mid-Atlantic: 6
  - Northeast: 2
- At least 2 of above are at national level:
  - UAVSA (Unmanned Autonomous Vehicle Systems Association)
  - AUVSI (Association for Unmanned Vehicle Systems International)
- Preliminary contact underway

# Summary

- NAC is available to support FLC chair, EB, committees, and RCs as desired
- Major initiative is currently TFA support
- Will be glad to assist in locating industry and other external contacts to extent possible for FLC events
  - Example: NAC member (Robert Heard) assisted MC and FW Regional Coordinators in gaining state/city sponsorship and bringing industry members to the August 2018 regional meeting in Oklahoma City
  - NAC members currently assigned to support various regions on an ongoing basis