

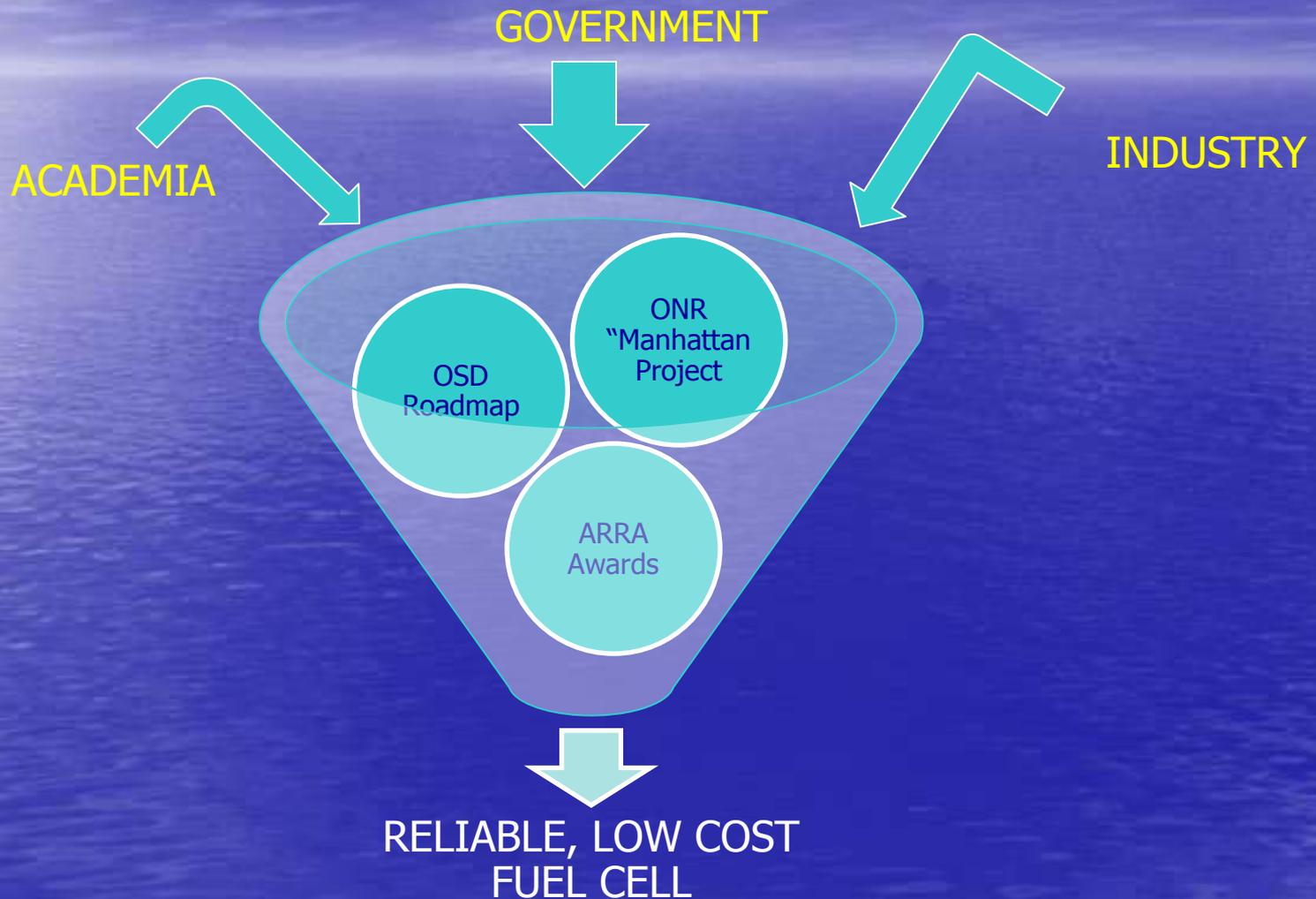
Fuel Cell Technology Working Group

FCTWG

FCTWVG

- Chartered by DoD Project Manager, Mobile Electric Power PM MMEP
- Multiple Government Agency Participation
- Tasks
 - Identify Military Requirements
 - Share information
 - Develop transition plans
 - Develop an investment strategy

Reaching a Critical Mass



Technology Road mapping Effort

- Part of the DoD Power Sources Technology Roadmap that was previously developed
 - Roadmap requested by the Manufacturing Technology (ManTech) Office at OSD
 - Focused on Batteries
 - Touched on small fuel cells
 - The “Power Sources Technology Roadmap” is available on a secure web site—for access:
 - Available to government employees and Companies with government contracts
 - Must fill out form
 - Contact jag@tiburonassociates for access form

Technology Road mapping Effort

Purpose:

- Identify the priority technology needs of DoD power source systems:
 - Near term (1-3 years) Fuel Cells
 - Mid term (4-6 years) Fuel Cells
- Roadmap establishes a needed foundation for further planning of potential R&D projects

Goals of the Roadmap

- Strategic/high level overview of military power sources technology development
- Tool for comparing current and future military power source capabilities versus WarFighter requirements
- Identify a path for resolving shortfalls

Roadmap Content

- Fuel Cell Roadmap covers 3 ranges:
 - Section 6.1: Soldier-carried power and sensors & Man-portable power (1W-1kW) – Completed / Needs refreshing
 - Section 6.2: Mobile Power (1kW-100kW) - Next
 - Section 6.3: Stationary Systems (>100kW)
 - Section 6.4: Fuel Reforming

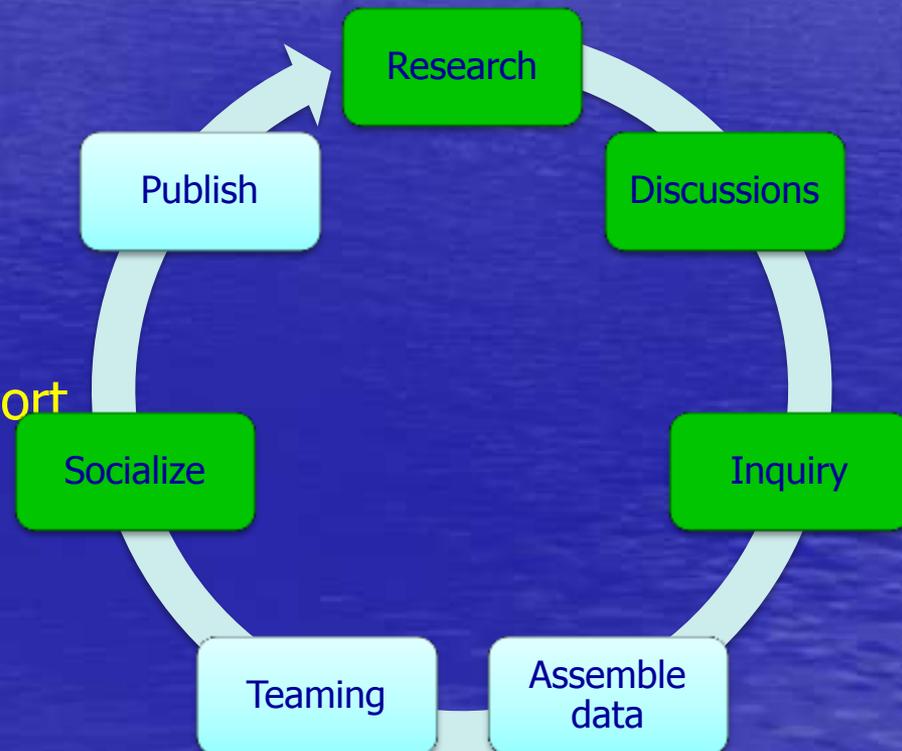


Roadmap Content (cont'd)

- The Roadmap addresses various Fuel Cell types as well as Reformers:
 - Direct Methanol Fuel Cells (DMFC)
 - Reformed Methanol Fuel Cells (RMFC)
 - Chemical Hydrides with PEM
 - Proton Exchange Membrane (PEM)
 - Solid Oxide Fuel Cells (SOFC)
 - Molten Carbonate Fuel Cell (MCFC)

The "Notional" Process

- Research: Perform literature search on current programs and vendors
 - What are the various power ranges and fuel cell types?
- Discussions: Discuss needs, barriers, etc with DoD/Industry experts
- Perform industry inquiry
 - Identify the key industry resources
- Assemble table and data
- Team with FCTWVG to generate report
- Socialize report for comments
- Publish report



Your Participation

- Keeps you abreast of roadmap initiatives
- Assures your technology is properly captured
- Expands the audience for your technology
- Identifies your technology in terms of military requirements
- May influence DoD Transition Plans
- May influence DoD Technology investment plans

Help Needed

Research

- Identify key Industry Fuel Cell developers and points of contact.

Discussions

- Provide inputs for Fuel Cell Types, Advantage and Disadvantages, Projected Applications.

- Define applications versus fuel cell type versus power range.

Inquiry

- Provide inputs to the parameter matrices considering fuel cell type, application, power ranges.

- Provide inputs for technology investments

Socialize

- Review the draft Fuel Cell Roadmap

If you can assist please provide a point of contact from your organization, organization name, what inputs you can provide

To Become a voice in the Process

Contact

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Questions?



Questions and Comments?

