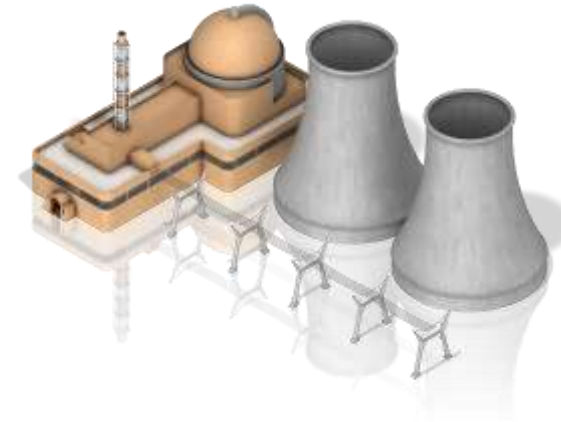


Addressing Advanced Reactor Technical Issues



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Slide 1

Advanced Reactor Industry Challenges

- Over 40 Advanced Reactor Vendors with 1.6 Billion in Private Capital
 - However, most of the vendors are start-ups
- Many technical hurdles are common to these vendors
- Government Agencies and National Labs are looking to support the industry but industry needs to provide guidance
- There is a new sense of urgency needed to accelerate the development of

What's Needed

- A Vendor Neutral, Industry Driven Approach
- Determine common needs from AR Vendors
- Understand Current State of Technology
- Speaks with one voice to represent the Industry
- Understand the need for Urgency and Agility

Advanced Reactor Technology Council

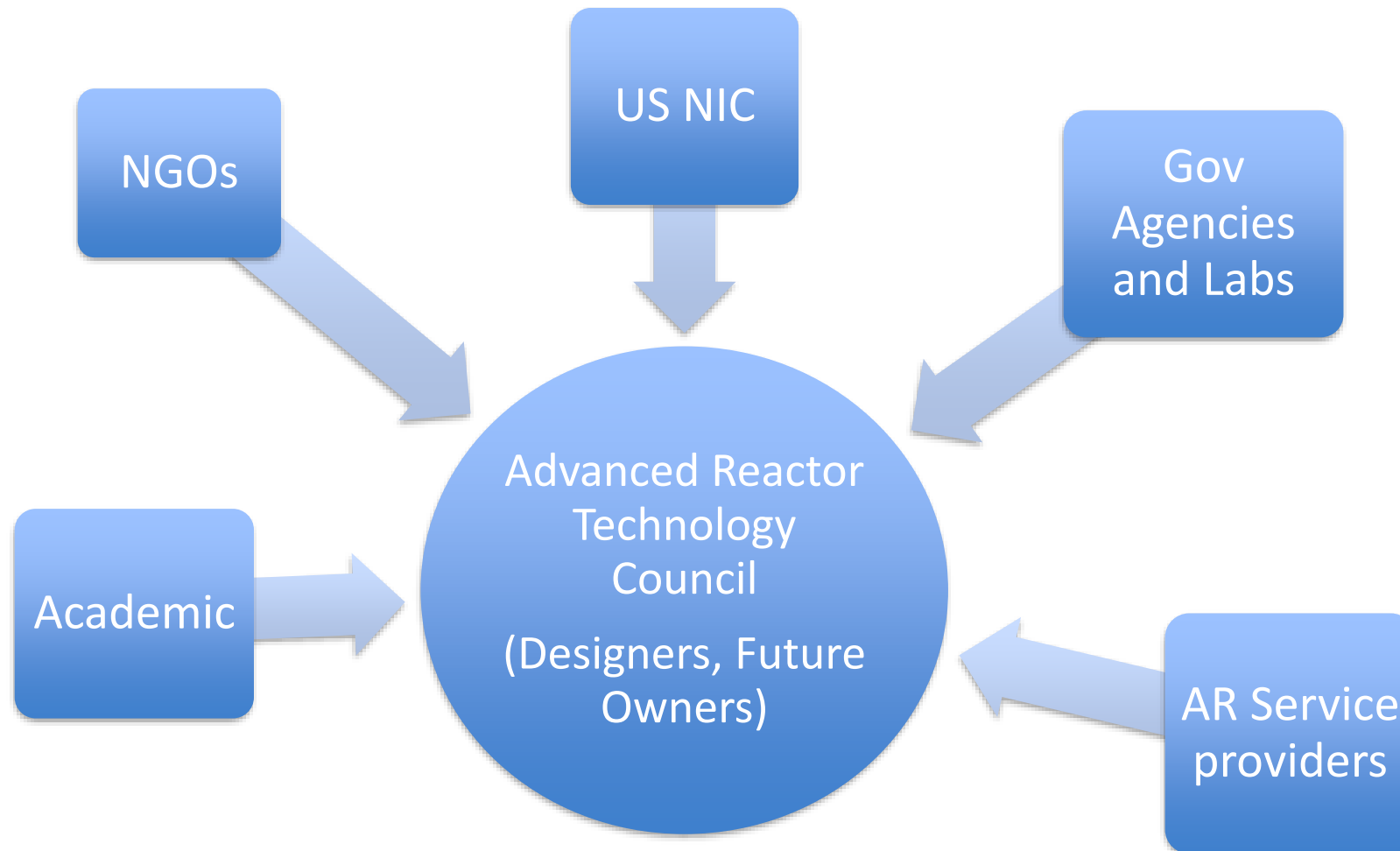
- Advanced Reactor Technology Council (ARTC)
- Formed under the auspices of the United States Nuclear Infrastructure Council (NIC) and its AR Task Force
 - neutral
 - pro-industry
- The organization Members
 - advanced reactor vendors
 - Utilities (Future Owners)

Advanced Reactor Technology Council

- Responsive to the sense of **urgency** needed by the AR designers
- Provide **smart, agile** development that other organizations may not match
- A single entity representing the common technical needs of the Advanced Reactor industry
 - Reduce the cost of these technologies for individual vendors
 - Increasing the speed of development.

• **Global Scope**

Relationship with the Industry



Technology Challenges

- Focus on specific short term and long term industry needs
- Modeling and Simulation
- Materials
- Fuel
-

Modeling and Simulation

- Need modern validated modeling tools to support new non-light water reactors:
 - Design
 - Validation
 - Evaluation (Support Regulator Process)
- Cost estimates for development and validation estimated between \$50M and \$100M US
- There is commonality in the specification of such tools between AR designs
- Existing tools may be brought into a modern context
 - Improved architectures
 - Coupling of codes to broaden scope
 - Modern user interfaces to facilitate practical
- Over the 40 years of light water reactor design and deployment, many M&S tools were developed and Validated

Modeling and Simulation

Lets get started

- Initial Phase
 - Industry Needs Analysis
 - Current Technology Inventory (labs, etc.)
 - Requirements Specification and Research Results*
 - High Level Design, ROM Estimate and Project Plan

* Real Deliverables

Call for Members

- Need to Drive Solutions to Common Technical Issues
- Pooling Resources and Agile Approach will Speed Development
- A Unified Voice with the Industry's Sense of Urgency

Thanks you

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