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Concept Study

NTIAR

(Non Traditional Institute for Applied Research)

2010

Prepared for

**Naval Sea Systems Command
(NAVSEA)**

July 2010

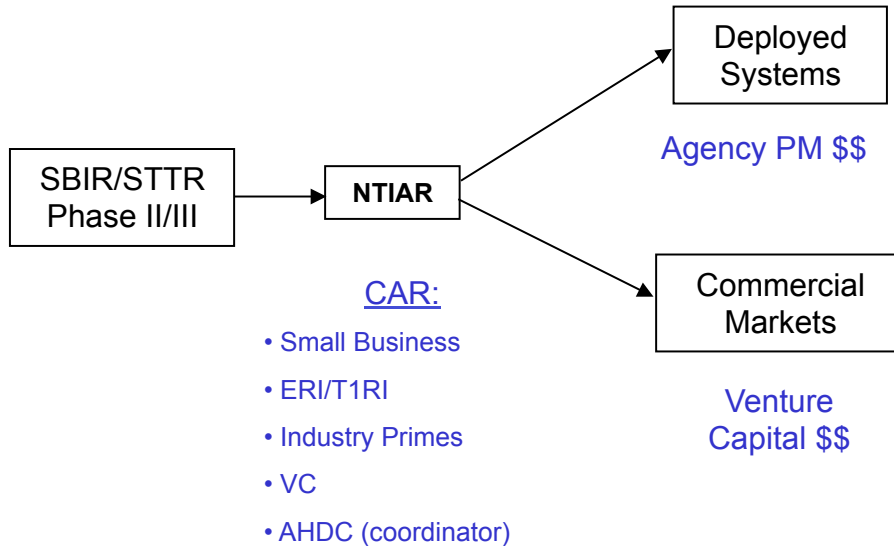
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NTIAR

(Non Traditional Institute for Applied Research)

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CAR: Coalition for Applied Research (CAR) is constituted by stakeholders who share a common interest in broadening the base of America's continued preeminence in science and technology. Coalition partners will staff NTIAR with expertise and infrastructure and provide opportunities for students and faculty at the host institution to participate in the development of new and innovative technologies.

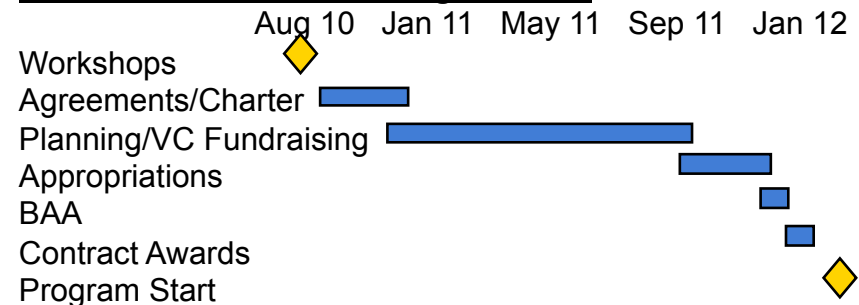
Broader Impact: The applied research activities necessary for transitioning emerging technologies into practical applications coupled with internship programs linked to undergraduate and graduate curricula at the host institution will provide the training ground for future scientific and technological work force.

Goal: To rapidly transition emerging technologies from the demonstration stage to deployed systems applications and commercial markets while at the same time broadening the base of production of America's future workforce in science, technology, engineering and mathematics (STEM).

Objective: To establish the hub of a network of Non Traditional Centers of Excellence (NTCE) dedicated to the transitioning of emerging technologies from the demonstration stages to applications that are deployable in defense and homeland security systems as well commercial markets.

Approach: 1. Identify promising SBIR/STTR candidate technologies; 2. CAR; 3. Plan NTIAR Facilities; 4. Raise VC funding and federal appropriations; 5. Erect shared infrastructure for NTIAR; 6. Implement NTIAR Program.

Tasks and Schedule for Program Start:



Start-Up Funding Budget: \$20M

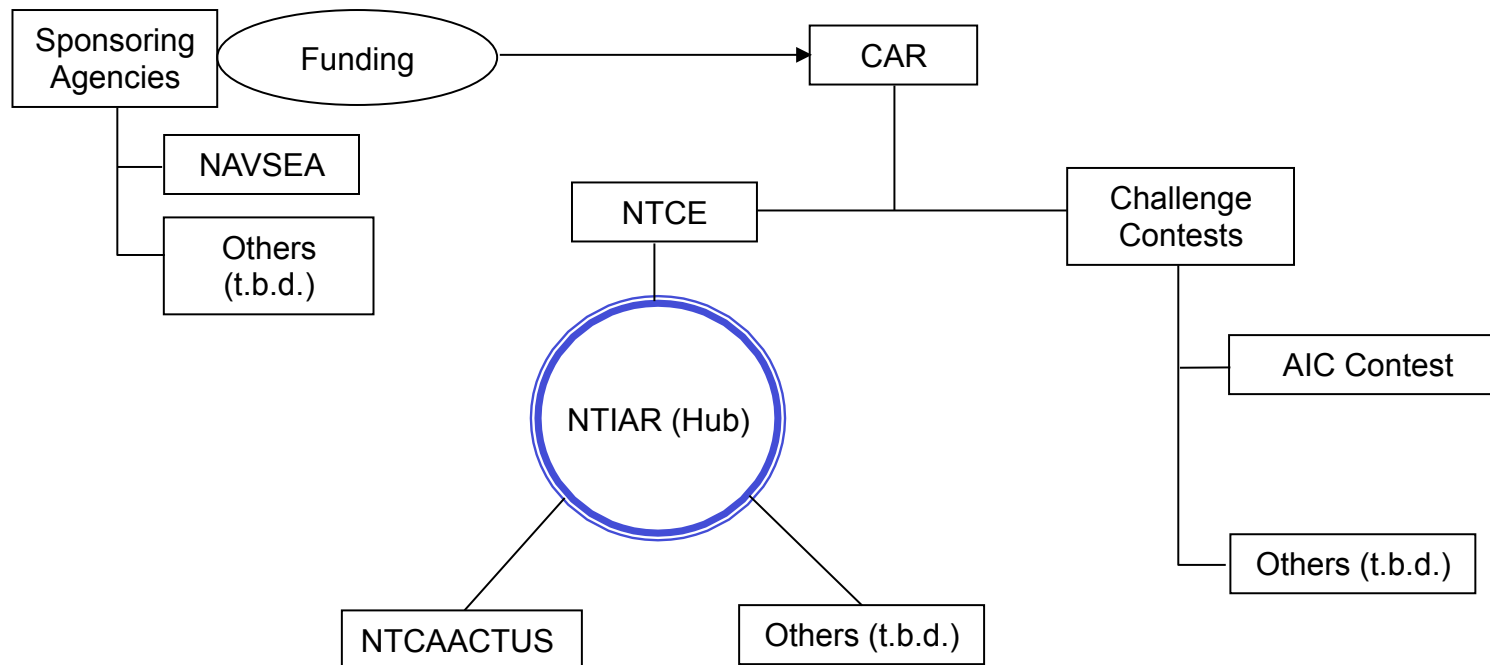
Start-Up Funding Sources: Government/Industry/VC/Other

sensitive)

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Organization



Notes:

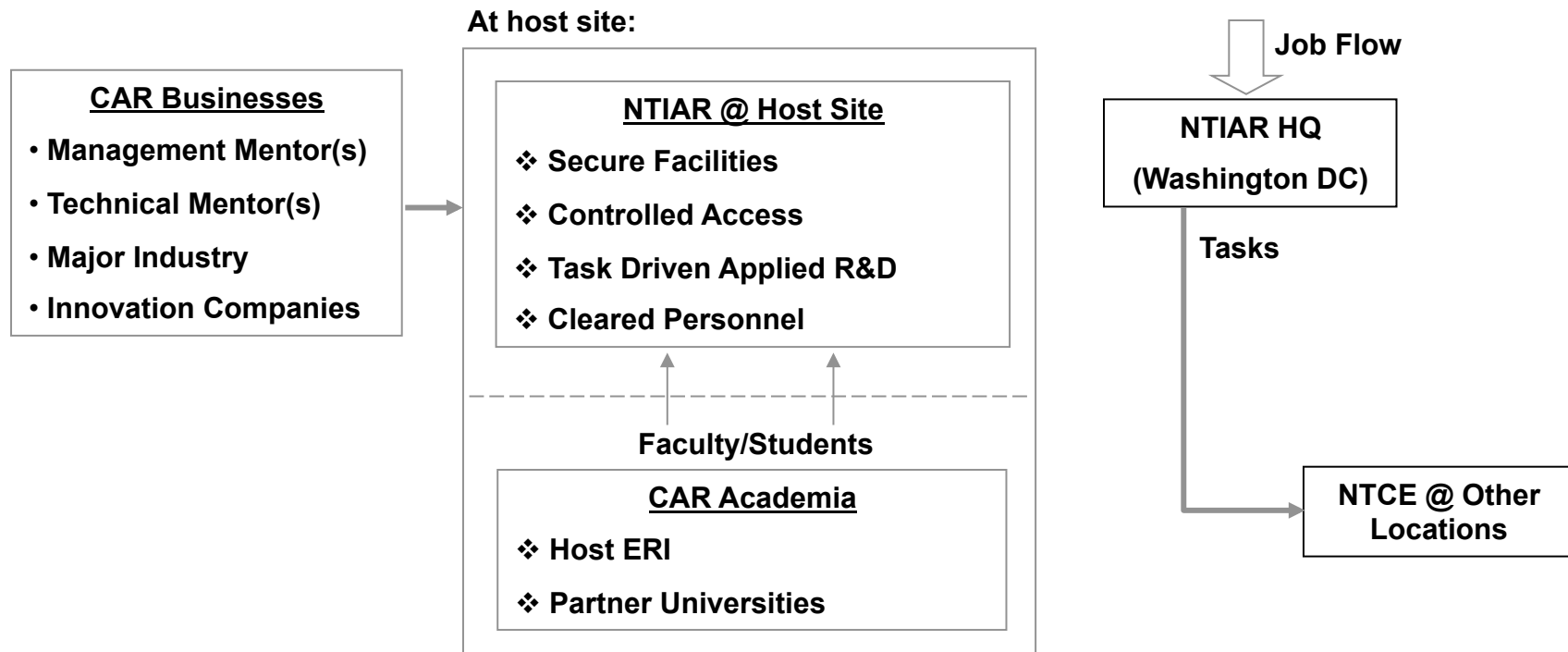
CAR – Coalition for Applied Research (see backup charts); NTCE – Non Traditional Centers of Excellence; NTIAR – Non Traditional Institute for Applied Research (Washington DC) (this proposal); NTCAACTUS – Non Traditional Center for Advanced Anti-Corrosion Technologies for Undersea Applications (Hawaii); AIC – Applied Innovation Challenge (in progress).

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NTIAR Relationships



- ✓ Co-location of NTIAR at Host ERI
- ✓ Contract to Host ERI for Space and Services
- ✓ CAR Coordinates Participation of Coalition Members
- ✓ NTIAR hires Faculty and Students as Members of Professional Staff

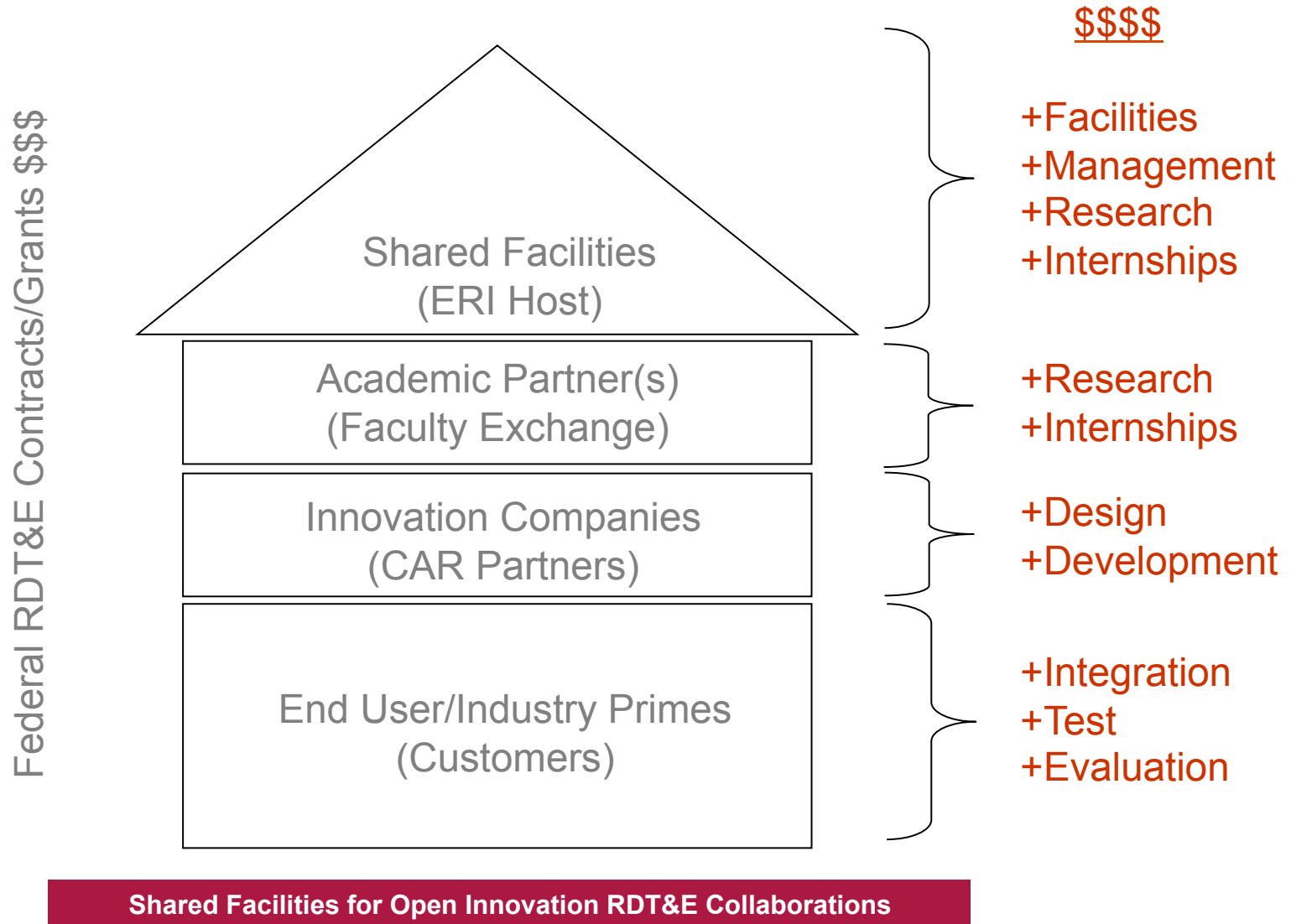
Delivering Cutting Edge Technologies while Expediting Outreach and Workforce Development

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Non Traditional Centers of Excellence (NTCE) Concept



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NTIAR within University Research Park

Owners:

- Developer
- Venture Capital
- Host Institution
- AHDC (Promoter/Manager)



- Management
- Technical Staff
- Host Institution Adjunct Research Faculty/Staff
- Student-Interns

Customers:

- Federal Agencies
- Industry Primes
- Commercial
- SBIR/STTR Phase II/III

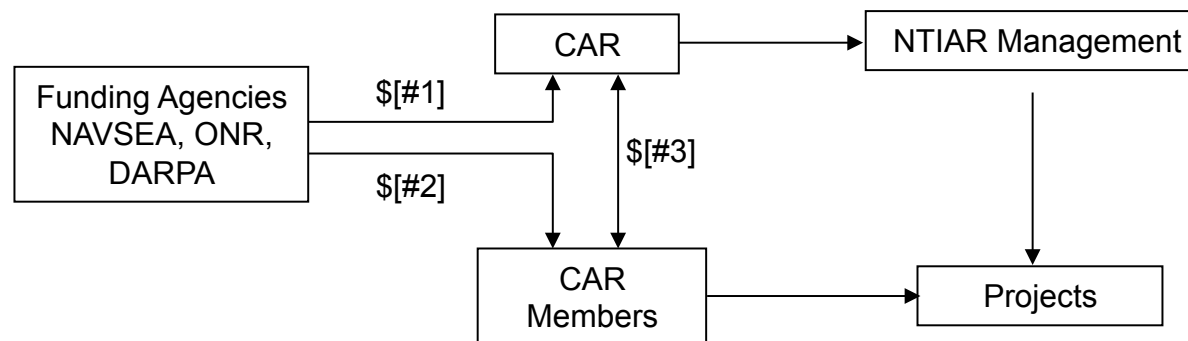
- Industry Prime Technical Partners
- Small Business Technical Partners



- Federal Agencies Technical Partners
- State/Local Government Technical Partners

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NTIAR Funding Strategy



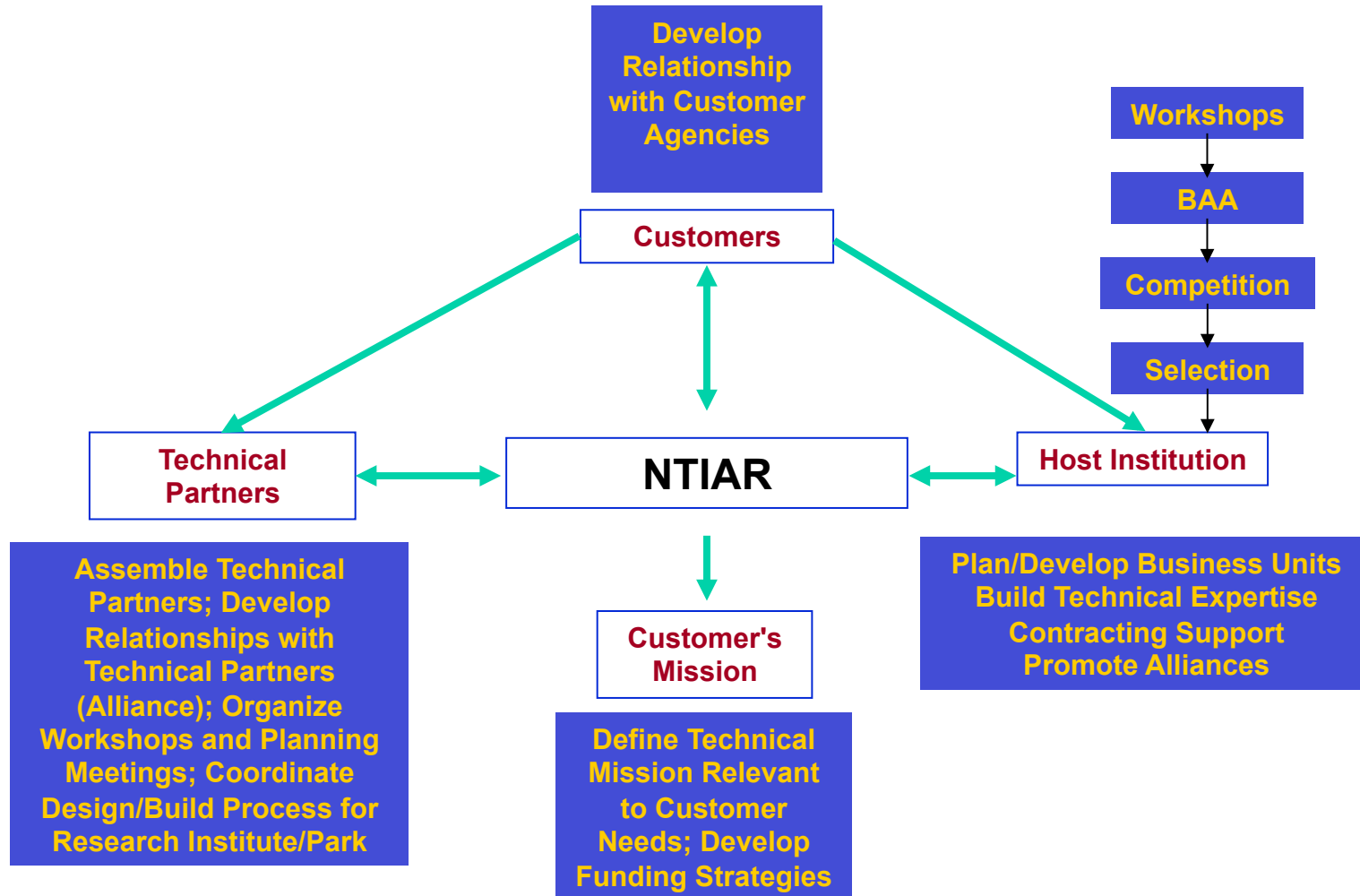
- \$[#1] In partnership with its members, CAR will compete for direct contracts from funding agencies as the opportunities arise;
- \$[#2] On their own or in partnership with other CAR members, CAR members will compete for [or may already be under] direct contracts from funding agencies;
- \$[#3] CAR and its members could be funded via subcontracts or consulting agreements with each other [e.g. EOY\$ Redirect to CAR via its Members];
- CAR will have the primary responsibility of managing NTIAR;
- CAR members participating in NTIAR will be collocated at shared facilities hosted by one or more Emerging Research Institutions.

Funding Flow Paths to Match the Colors of Funds

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AHDC Roles



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BACK-UP CHARTS

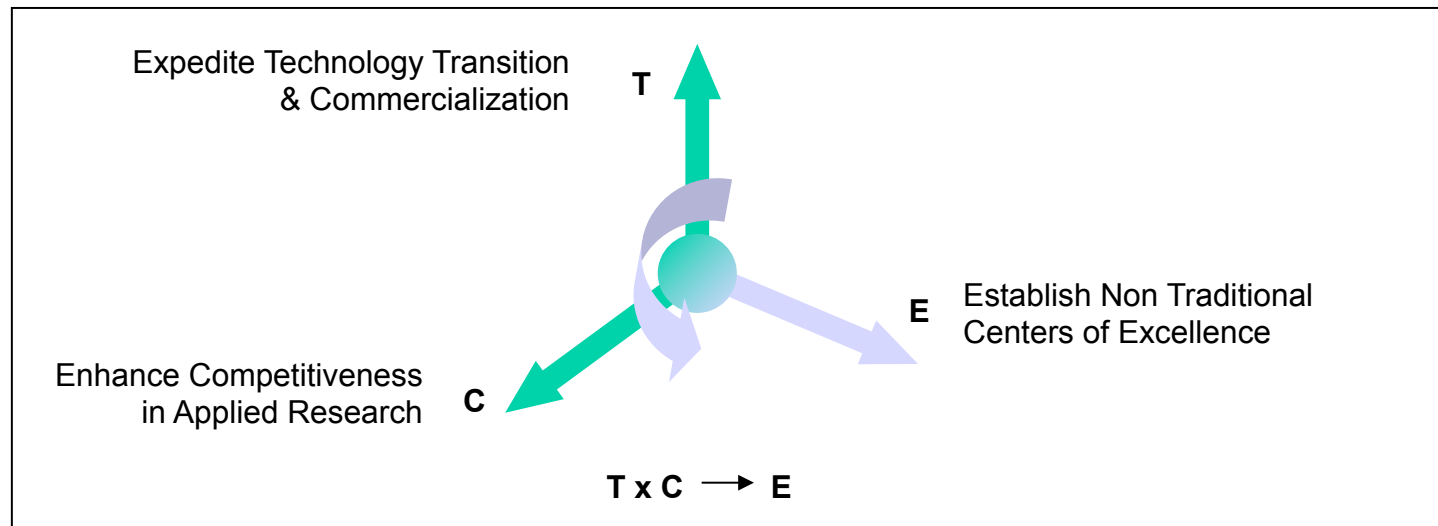
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About CAR (1): Goals

The Coalition for Applied Research (CAR) is a non profit business partnership among seven categories of member entities including: Emerging Research Institutions (ERI), Tier-1 Research Institutions (T1RI), University Affiliated Research Centers (UARC), Small Business, Tier-1 Industry Suppliers (T1S), Major Industry Prime Contractors (MIPC), and Other Applied Research organizations that share a common commitment to three simultaneous goals:

- (1) To expedite the transition of new scientific discovery and invention to mission deployment and other commercial applications;
- (2) To enhance the applied research competitiveness of its members in support of the United States Government;
- (3) To Establish Non Traditional Centers of Excellence in emerging advanced technology disciplines at Emerging Research Institutions.



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About CAR (2): Memberships & Benefits

Emerging Research Institutions (ERI) – Universities and other academic institutions that are accredited to grant undergraduate and graduate degrees in Science, Technology, Engineering and Mathematics (STEM), but are yet to develop and grow significant applied research business activities. **Benefit:** Opportunities to develop and grow applied research business activities and to host non traditional centers of excellence; Increased Federal funding for the institution.

Tier-1 Research Institutions (T1RI) - Universities and other academic institutions that are accredited to grant undergraduate and graduate degrees in Science, Technology, Engineering and Mathematics (STEM), and have also developed significant applied research business activities. **Benefit:** Opportunities to transition new discovery and invention to mission deployment and commercial applications; Increased Federal and Commercial revenues.

University Affiliated Research Centers (UARC) – Government sponsored research centers affiliated with major Universities. **Benefit:** Opportunities to transition new discovery and invention to mission deployment and commercial applications; Increased revenues.

Small Business – Including SBIR/STTR companies, Disadvantaged Small Business (DSB) and Women Owned Small Business (WOSB). **Benefit:** Opportunities to grow applied research business; Increased revenues.

Tier-1 Industry Suppliers (T1S) – Suppliers of subsystems and systems engineering services to major industry prime contractors. **Benefit:** Access to new technologies and workforce.

Major Industry Prime Contractors (MIPC) – Fortune 500 developers and builders of major systems and subsystems for mission applications. **Benefit:** Access to new technologies and workforce; Risk reduction.

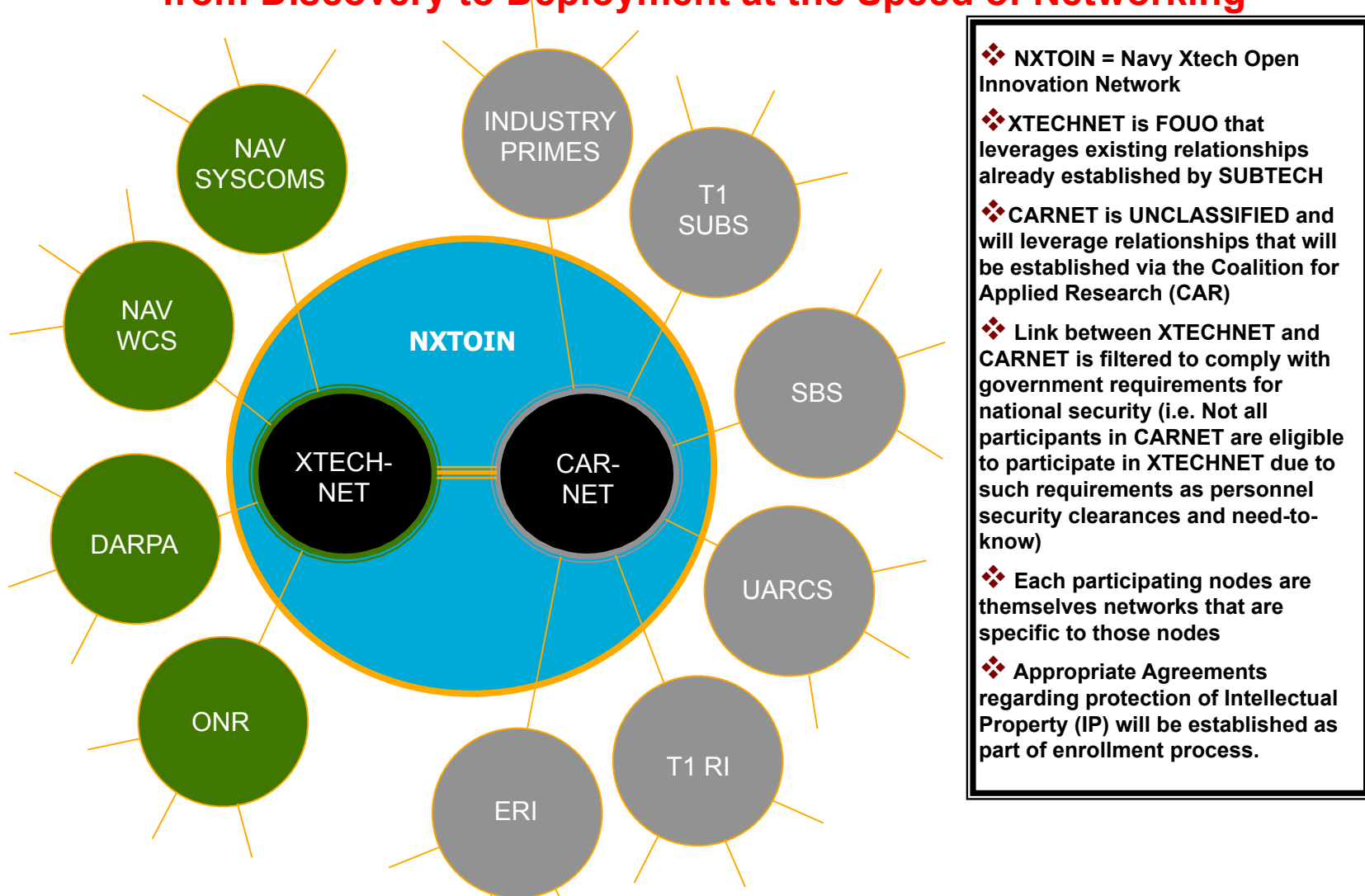
Other Applied Research Organizations – Federally Funded R&D Centers and other Non Profit Research and Development Corporations. **Benefit:** Increased Business Opportunities.

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About CAR (3): Open Innovation Network

- from Discovery to Deployment at the Speed of Networking



❖ NXTOIN = Navy Xtech Open Innovation Network

❖ XTECHNET is FOUO that leverages existing relationships already established by SUBTECH

❖ CARNET is UNCLASSIFIED and will leverage relationships that will be established via the Coalition for Applied Research (CAR)

❖ Link between XTECHNET and CARNET is filtered to comply with government requirements for national security (i.e. Not all participants in CARNET are eligible to participate in XTECHNET due to such requirements as personnel security clearances and need-to-know)

❖ Each participating nodes are themselves networks that are specific to those nodes

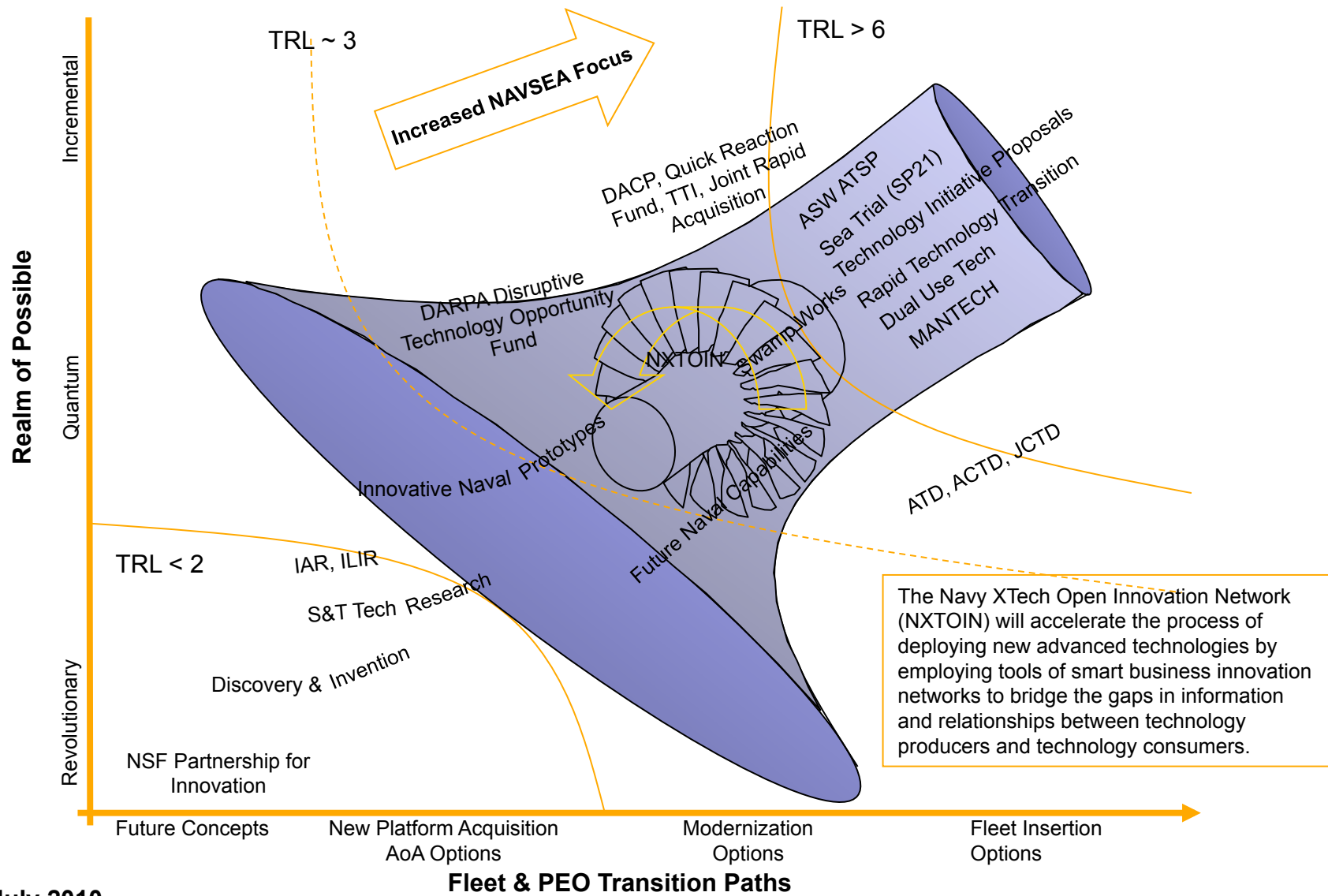
❖ Appropriate Agreements regarding protection of Intellectual Property (IP) will be established as part of enrollment process.

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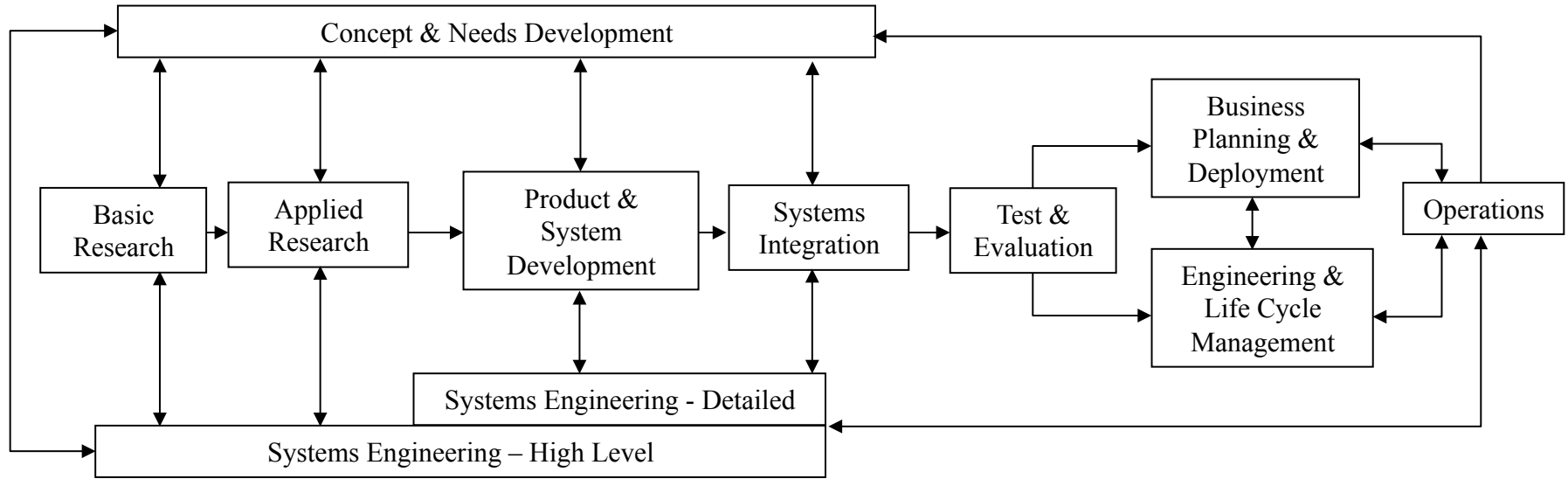
Navy Xtech Open Innovation Network (NXTOIN)



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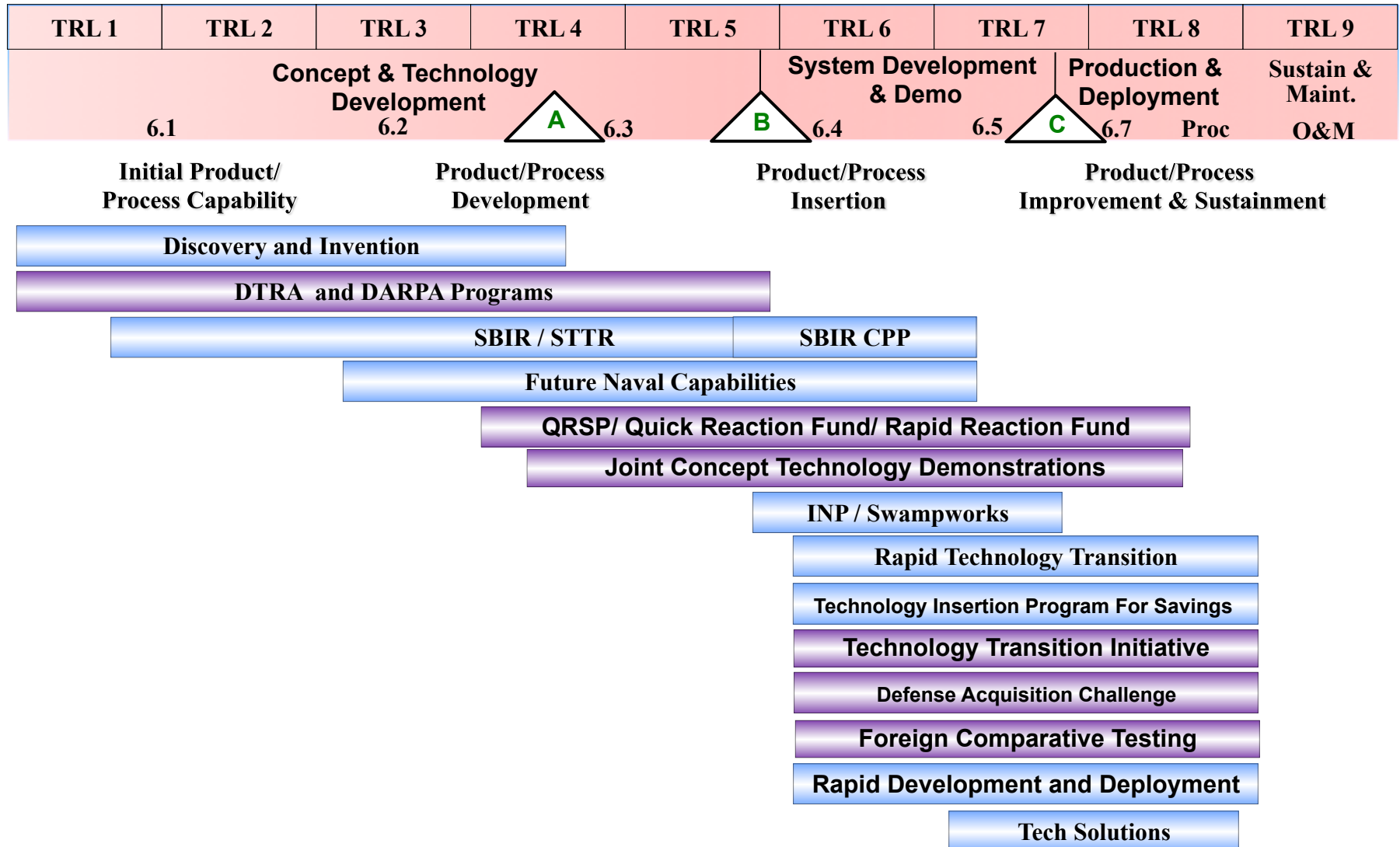
Block Diagram for Use-Directed Applied Research



RDT&E Funding Categories: 6.1-Basic Research; 6.2-Applied Research; 6.3-Advanced Technology Development; 6.4-Demonstration and Validation; 6.5-Engineering and Manufacturing Development; 6.6-Management and Support; 6.7-Operational Systems Development

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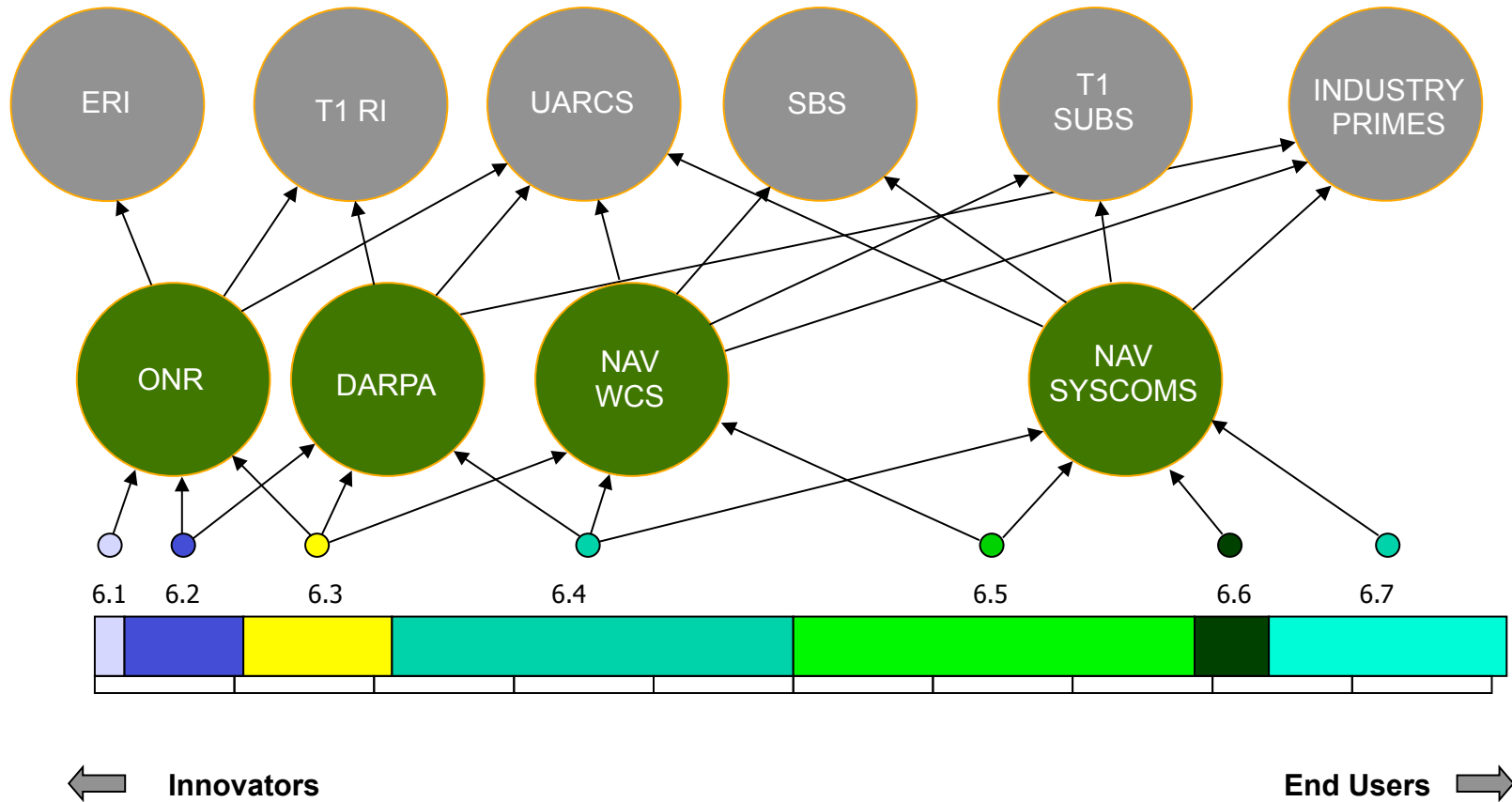
RDT&E Funding Overview



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Traditional Funding of Federally Funded Applied Research

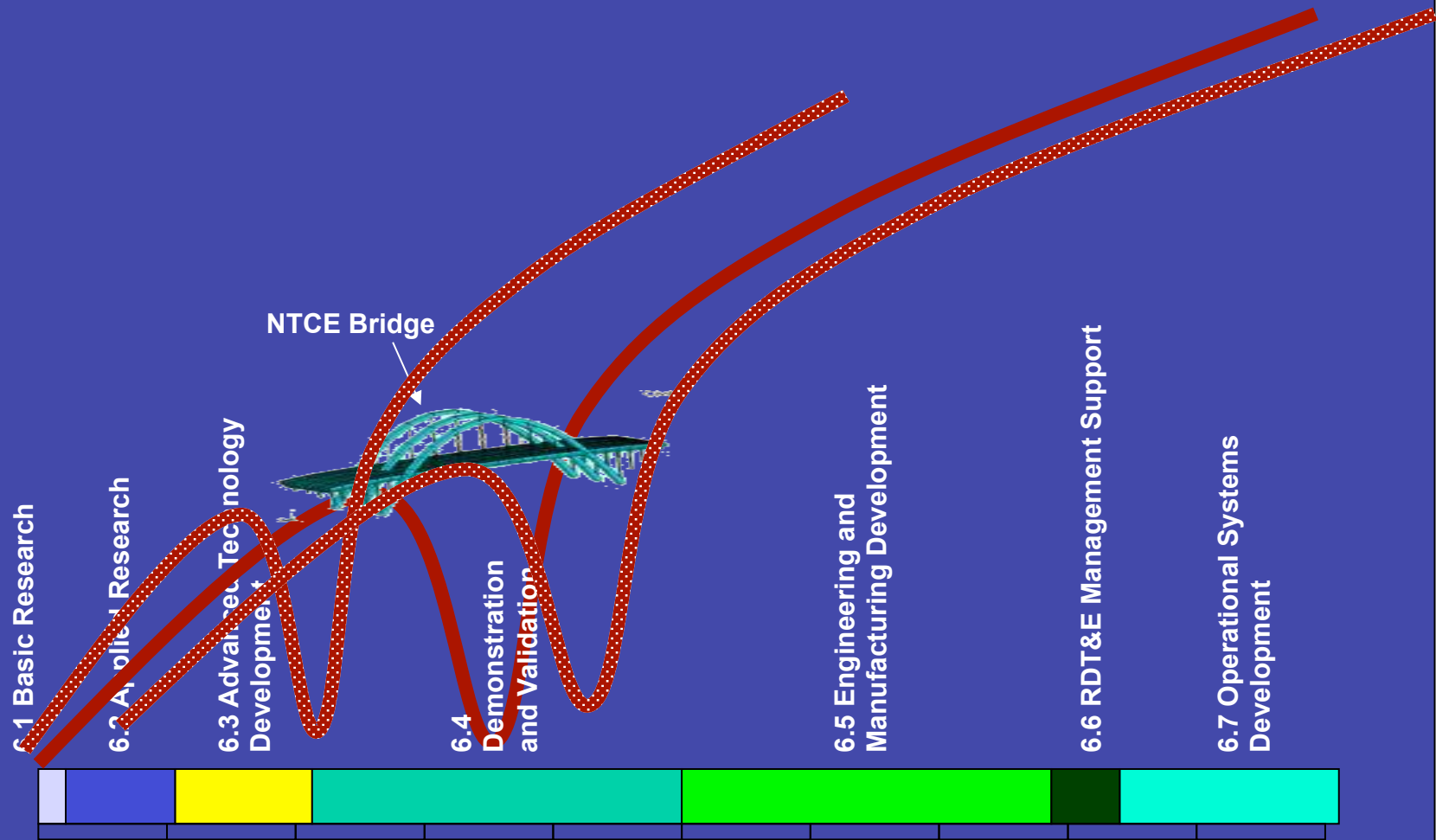


The disconnect between innovators and end users leads to the phenomenon of “Innovation Valleys of Death” (IVOD)

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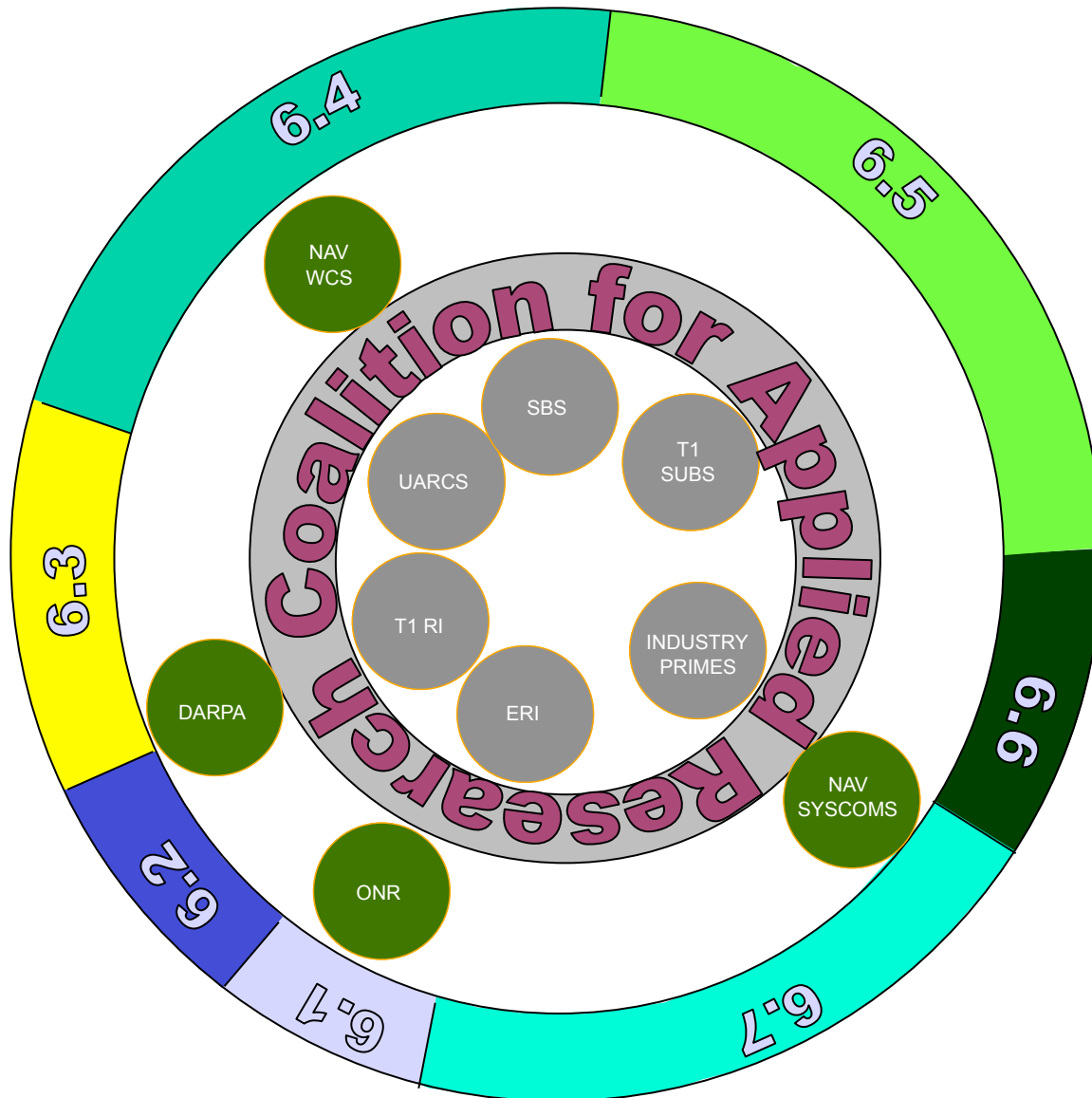
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Innovation Valleys of Death (IVOD)



Non Traditional Centers of Excellence (NTCE) Program will Expedite the transition of Emerging Innovative Technologies from the Laboratory to the Fleet using Open Innovation Frameworks

Non-Traditional Open Innovation Approach



- Connect innovators, end-users and every stakeholder in between to mitigate against the IVOD phenomenon
- Broaden participation of wider spectrum of technology producers in each RDT&E funding category
- Expedite transition of new emerging innovations to the end user

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Become a Member/Sponsor

For Membership/Sponsorship Inquiries, Please Contact:

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