

Engaging with DARPA

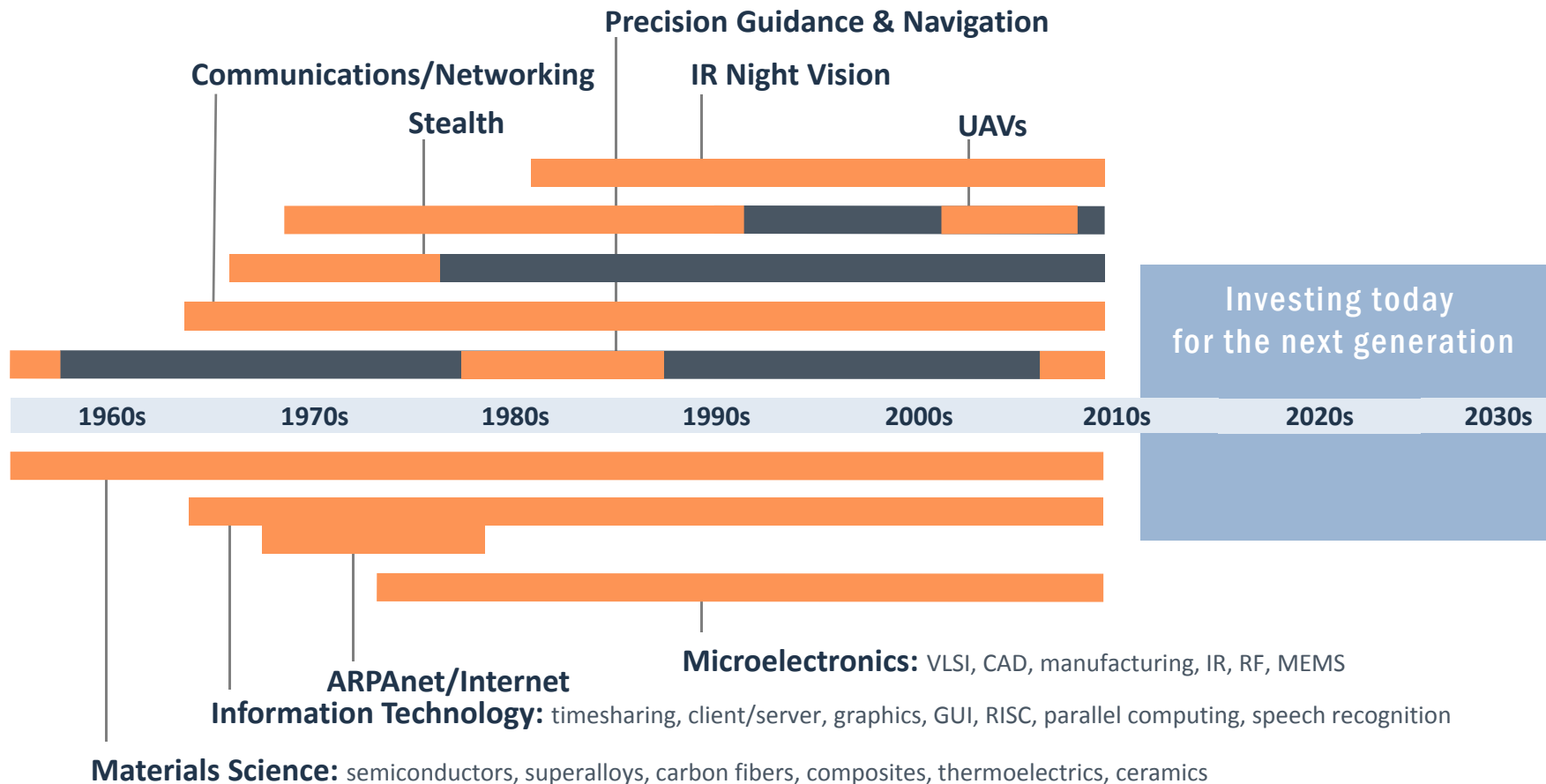
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DARPA's Mission: Breakthrough Technologies For National Security



These new capabilities require a healthy ecosystem across Service S&T, universities, and industry

DARPA's role: pivotal early investments that change what's possible



DARPA Technical Offices





Seedlings vs. Programs



Seedlings

- Usually submitted through DSO Office-Wide BAA
- Small short duration (6-9 months) projects
- Move concepts from “disbelief” to “mere doubt”
- May lead to the next generation of program ideas

Programs

- Proposals solicited through specific DSO program BAAs
- Often multi-year, multi-disciplinary efforts
- Technology development to move from “possibility” to “capability”



Three Ways to Engage with DARPA

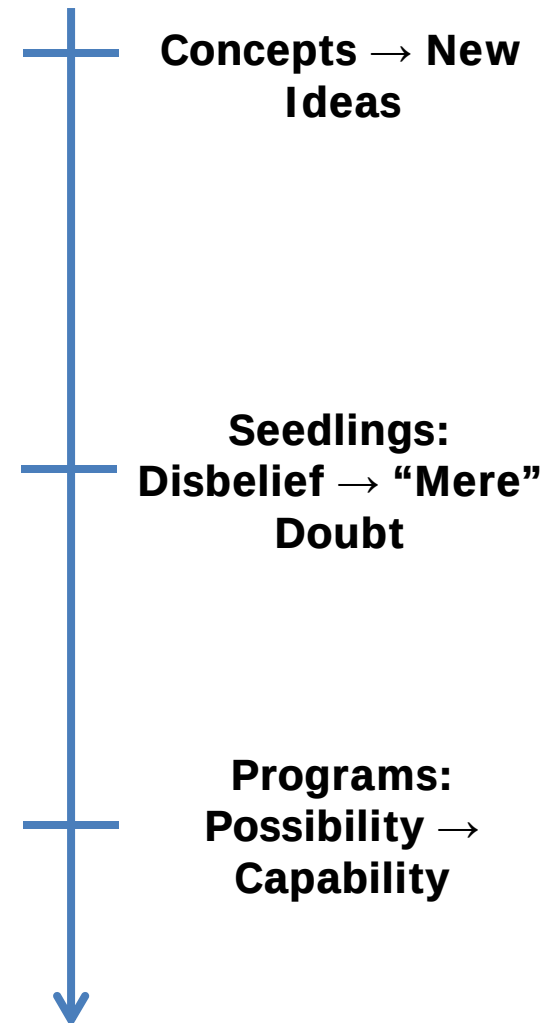


Talk to a Program Manager (PM)

- Email/phone/face to face throughout the year

Submit ideas to an Office-Wide BAA (DSO's is BAA-15-39)

Respond to DARPA program BAAs





How we think: The Heilmeier Catechism

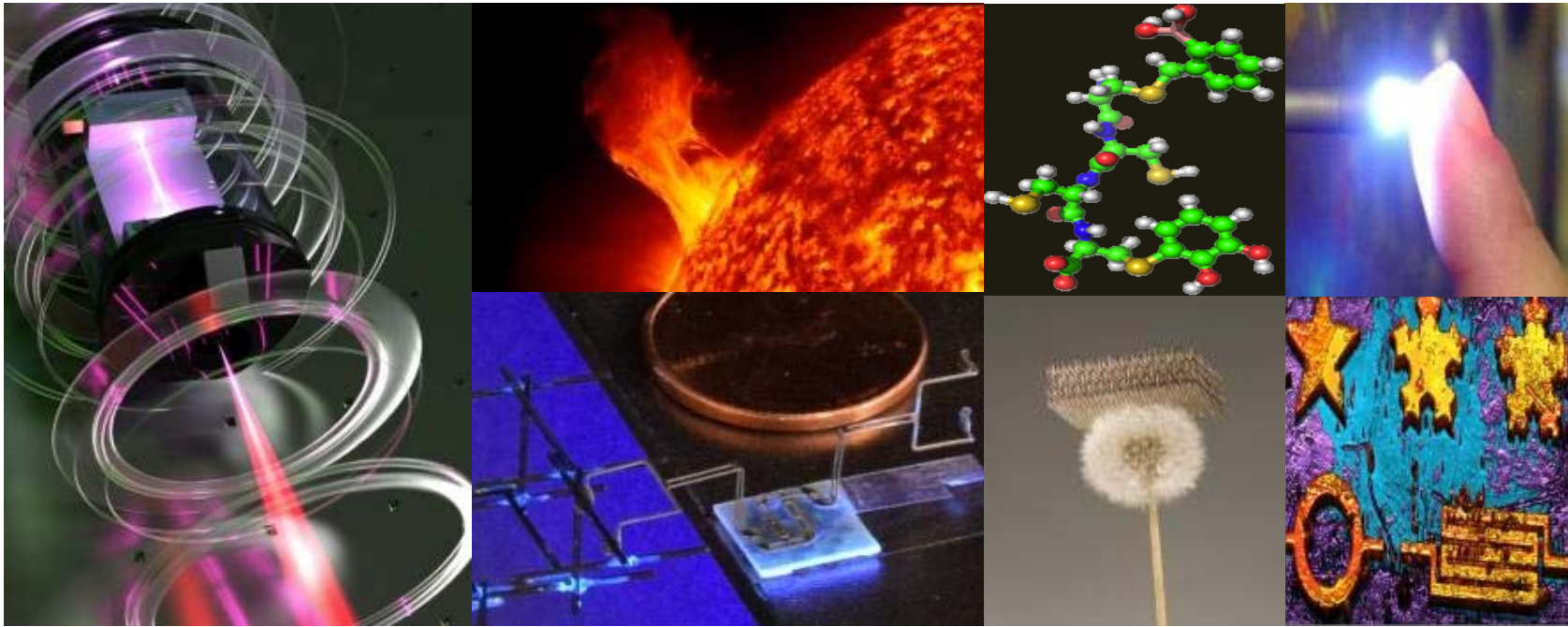


Important questions to consider when approaching DARPA with ideas:

- What are you trying to do? (no jargon!)
- How does this get done today?
- What is new about your approach?
- If you succeed, what difference do you think it will make?
- How long do you think it will take?
- Can your work transition (to the DoD or others)?
- How much will it cost?



DSO is “DARPA’s DARPA”



Accelerating breakthrough discoveries to create new enabling technologies for national security



Wide range of national security challenges: evolving nation states, shifting networks

Powerful, globally available technologies set a fast pace

Military systems' cost, pace, and inflexibility limit our operational capabilities



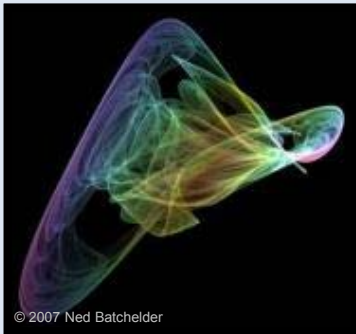
Accelerate discovery and development

Enable rapid, customized production of (nearly)
everything

Harness complexity through modeling and design

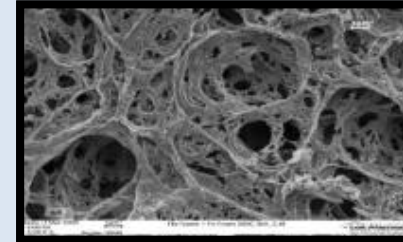


Focus Areas



Math, Modeling & Design

Physical Systems



Human-Machine Systems



Social Systems





DSO New Programs



Intense and Compact Neutron Sources (ICONS)	Advanced sources to move neutron imaging from facility to field	BAA release: 9/24/2014
Spectral Combs from Ultraviolet to Terahertz (SCOUT)	Advanced stand-off detection of trace chem/bio species in clutter	BAA release: 10/7/2014
Agnostic Compact Demilitarization of Chemical Agents (ACDC)	On-site agnostic chemical destruction capability using local resources to convert harmful agents with no hazardous output	BAA release: 12/10/2014
Enabling Quantification of Understanding in Physical Systems (EQUIPS)	Foundational mathematics to enable quantification of uncertainty in physical systems	BAA release: 12/18/2014
Fast Lightweight Autonomy (FLA)	Minimalistic algorithms for high-speed autonomous navigation in cluttered, unfamiliar environments	BAA release: 12/22/2014
Materials for Transduction (MATRIX)	Integrate transduction modeling, design and validation into unified R&D approach with applications focus	BAA release: 1/23/2015
Revolutionary Enhancement of Visibility by Exploiting Active Light-fields (REVEAL)	Comprehensive theoretical framework to enable maximum information extraction from complex scenes by using all photon pathways and leveraging light's multiple degrees of freedom	BAA release: 5/22/2015
Make-It	Automated chemical synthesizer that can produce, purify, characterize and scale a wide range of small molecules	BAA release: 6/9/2015
Tailorable Feedstock and Forming (TFF)	Rapid manufacturing of small aerospace composite parts at costs competitive with metal	BAA release: 9/11/2015
Complex Adaptive System Composition And Design Environment (CASCADE)	Design system of systems architectures for resilient response to unexpected situations	BAA release: 11/23/2015
Fundamental Limits of Detection (Detect)	Establish the first-principles limits of photon detection by developing new models, and by testing those models in proof-of-concept experiments	BAA release: 1/21/2016



We look forward to your ideas



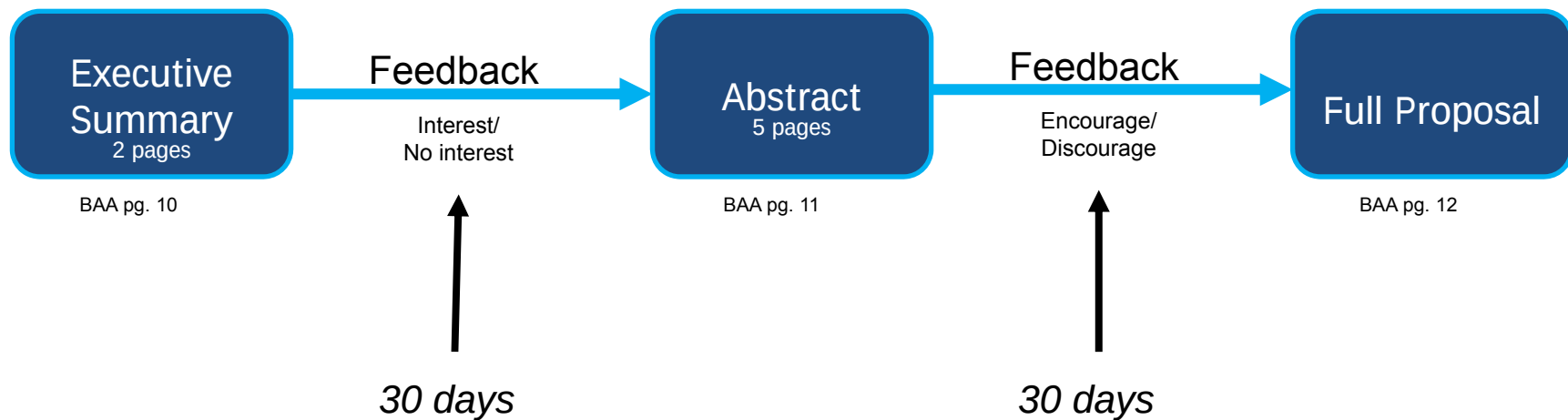
www.darpa.mil



Backups



DSO's Office-wide BAA Proposal Process



May still submit full proposal if you are discouraged, but you should strongly consider Government feedback before expending more resources

Optional templates for full proposals

Submit to the DARPA BAA Submission Website (<https://baa.darpa.mil>) or grants.gov, as applicable



Types of Programs



Foundations	Tools	Integrated Demonstrations
• Monitor and explore scientific frontiers across multiple disciplines to create new communities and capabilities • Mostly measurement and theory	• Exploit discoveries to develop tools • Translate capability from within a research community to outsiders • Increased focus on use cases and potential CONOPS	• Bring together multiple lines of research into a new capability, outside the laboratory • Often opportunistic, and/or driven by specific DoD needs



Important links



- E-mail questions about the BAA to DARPA-BAA-15-39@darpa.mil
- FAQs posted under the BAA at <http://www.darpa.mil/work-with-us/opportunities> (filter by “DSO”)
- Find PM bios and program information at <https://www.darpa.mil/about-us/offices/dso>