

SPAWAR



**Systems Center
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Succeeding with DARPA/MTO: *Tips from an ex-Program Manager*

Steve Pappert
SSC Pacific, Code 72100
stephen.pappert@navy.mil

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SSC Pacific ... on Point and at the Center of C4ISR



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Background

**...Asked to share some insights on DARPA useful for
*potential performers & government support activities***

Credentials:

- **5 years as DARPA/MTO Program Manager (2003-2008)**
- **20 years in government R&D laboratory**
 - Supported long line of past DARPA/MTO PMs (1985-2001)
- **2 years running a small telecommunications start-up company (2001-2003)**



Dr. Stephen A. Pappert

Succeeding With MTO

It's All About ...

“Knowing & Anticipating the Needs of the Customer”

Discussion Topics

- **Bullish on MTO**
- **Know Your Customer (Business 101)**
- **Tips for:**
 - Supporting/Enabling the DARPA Program Manager
 - Approaching DARPA With Your Ideas
 - Developing Successful DARPA Proposals
- **The Importance of Technology Thrust Area Champions**

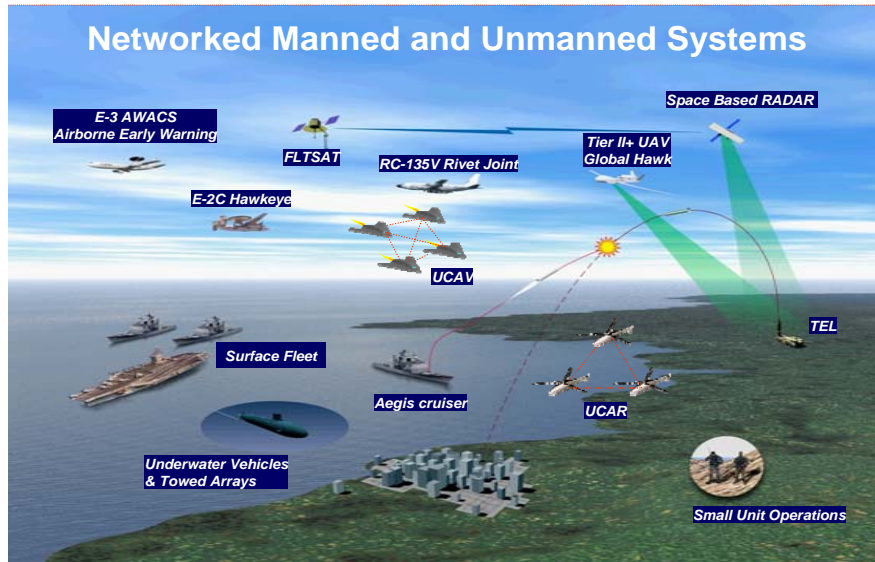
All from my MTO-Centric Perspective



MTO Prospectus

Well Positioned Moving Forward – STRONG BUY

Military Continues To Push Towards Network Centric Operations/Warfare



See Anything... From Anywhere... At Anytime...

**PERSISTENT, STANDOFF
SURVEILLANCE**

AND

Real-Time Global Information Distribution

**SENSOR TO SHOOTER
INFORMATION GRID**

**We are still a ways from
reaching this NCW holy grail**

Continued push for:

- Bigger communications pipes
- Higher resolution long range surveillance
- DC to daylight persistent (100% POI) situational awareness

Next generation MTO electronic, photonic & MEMs technologies hold the key to achieving this DoD vision

Know Your Customer

DARPA's Business Model

DARPA is the ***Venture Capitalists of the DoD*** driven by a herd of entrepreneurial ***Program Managers*** from industry, government & academia

- **DARPA Strategy:**

- Flexibility & ability to quickly exploit emerging situations is highest priority
- Emphasize high technical risk and high focus investments
- An investment firm, not R&D lab
- Continuity provided by industry, other government agencies, and customer

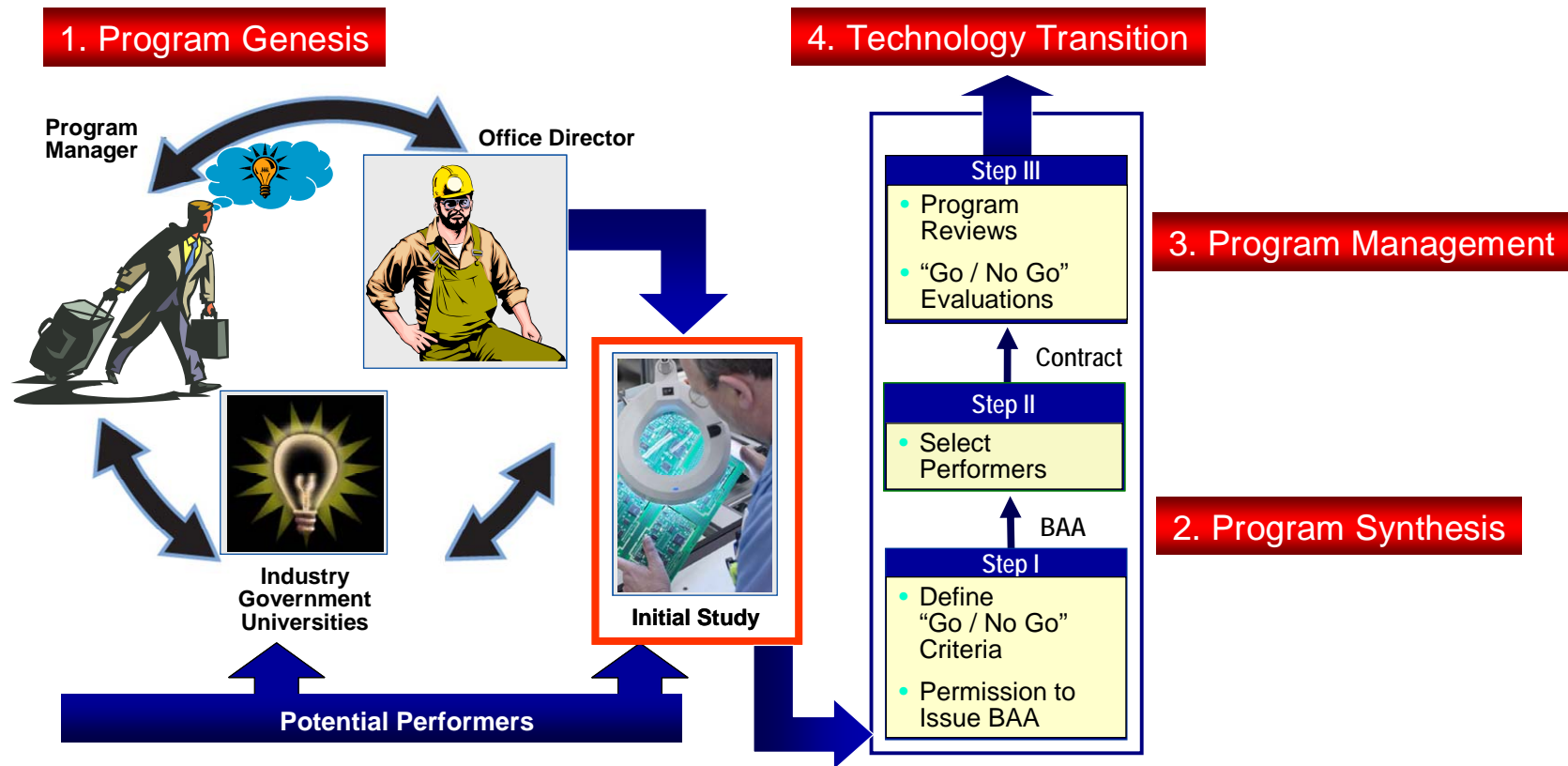
- **DARPA Operations:**

- Flat and small organization
- Constant rotation of programs, program managers, directors, and priorities
- Small internal contracting shop
- NOT DRIVEN BY FORMAL MILITARY REQUIREMENTS

- The DARPA Program Manager is the Customer -

The DARPA Program Manager

PM JOB DESCRIPTION: Develop, Sell, Execute & Transition novel technical ideas that radically improve/enable a wide range of military systems/capabilities

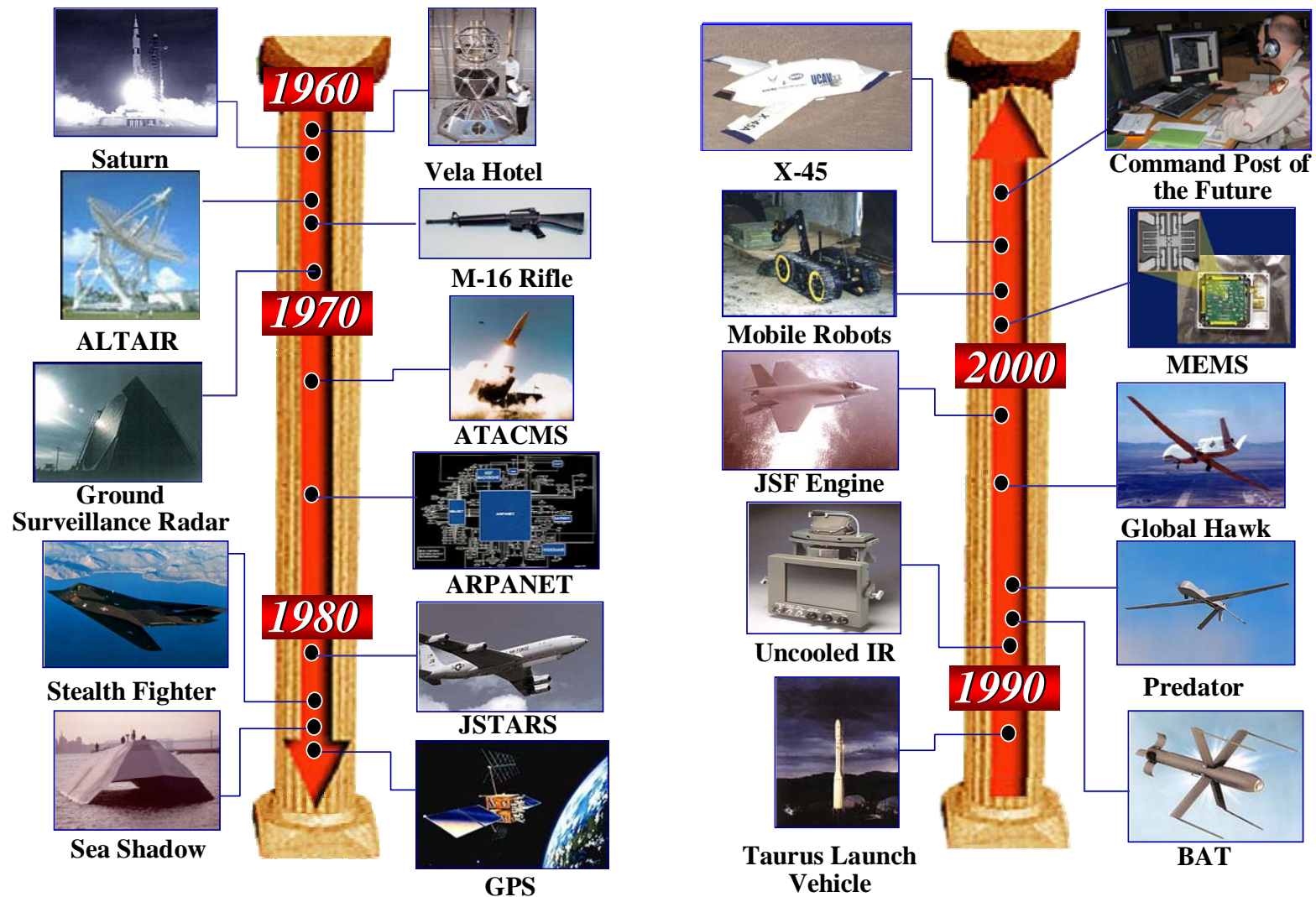


The Program Manager is an unconstrained virtual CEO
- Your goal is to be part of his virtual "Company" -



The *DARPA PM* Thinks Big!

DARPA Accomplishments



BOTTOM LINE: The bigger you think, the more intrigued the PM will be with you

DARPA Program Development

What makes a DARPA Program: The Heilmeier Criteria

1. What are we trying to do? What is the problem we are trying to solve?
2. How is it done today, and what are the limitations of current practice?
3. What is new in our approach, and why do we think it will be successful?
What gives evidence that it will work?
4. Assuming we are successful, what difference does it make?
5. How long will it take, how much will it cost, and what are the mid-term and final exams?

Dr. George Heilmeier
DARPA Director, 1975-1977

- The earlier you get involved in helping the PM answer these basic questions, the better your chances of participating in any resulting Program
 - Can be lengthy process
 - Resulting program can be very different from starting point
 - No guarantees

DARPA Facts & Observations for Govies

Some DARPA Facts

- DARPA PMs have temporary appointments (4-6 yrs.)
- Currently a shortage of DARPA PMs
- DARPA has direct access to national technology leaders as advisors & performers
- DARPA PMs have excellent administrative & technical SETA support teams

Some DARPA Observations

- PMs primarily rewarded for selling & transitioning programs (always looking for help)
- Government labs typically engage PMs late in Program Development phase
- Government labs ideal for Program test, evaluation, demonstration and transition
- DARPA contracting office is very small (need government labs for contracting/CORing)
- DARPA PMs demand expedient and thorough contracting services (many options)

- **Government labs do play an important role in executing DARPA Programs**
- **A shared sense of urgency is critical to PM's satisfaction level**
- **Be responsive cheerleader for the Program**
 - Take as much project/program ownership as PM allows/desires
 - Help solicit stakeholder support & endorsements

If your government agency can't contract efficiently, nothing else matters

Tips for Approaching DARPA PMs for Technical Work

- **Do your homework and be prepared**

- Know the PMs background, programs and interests (www.darpa.mil)
- A bio slide of who you are, where you come from, and what you are offering is helpful
- Understand the business case for your new idea
- Make the PMs job as easy as possible (think thru Heilmeier questions)

- **Get to the main points quickly**

- Don't initially approach PM with dozen's of slides
- It is the new technical ideas or unique capability that will best capture the PMs attention

- **If you do generate interest, move forward quickly**

- Clearly understand move ahead plan and actions
- Expect lots of homework

- **Don't be offended if the PM is not interested**

- PM has many new ideas crossing his desk and he must filter quickly
- PM is time and bandwidth limited

Bottom line: If the PM believes you can help him sell a new program, or enhance an existing one, he will be interested

Tips for Preparing Successful DARPA Proposals

- **Read the BAA (over and over)**
 - GNG metrics, selection criteria, proposal format, specific guidance/instructions...
- **Understand rules for engaging PM throughout solicitation process**
- **Do your homework & know your competition**
 - Know the state-of-art and how your novel idea(s) extends and transforms it
- **Highlight your new scientific contributions**
 - It is the new technical ideas that are being funding
- **Team wisely**
 - Each team member role should be clearly described and their value added articulated
- **Use the abstract/white paper phase**
 - Best opportunity to gage the government's interest & improve your proposal
- **Generate high quality proposals**
 - Technical quality, thoroughness and accuracy; Professional quality (writing & graphics)
 - Costing

After everything else, remember that timing is everything
- You hopefully will win some, and you **will** lose some

Bottom line: The government can't save a flawed proposal no matter how good the idea is

Technology Thrust Area Champions At DARPA

- **DARPA needs Subject Matter Experts** (“unconstrained virtual CEOs”) to champion targeted thrust areas
- **The technical community must actively support these champions (PMs)**
- **If you think you can be that passionate, visionary champion for your technology area, please consider stepping forward** (you won't be sorry)

**Start crafting your vision and ideas and
join the DARPA/MTO Team!**

My DARPA Story As An Example:

*“The timing was right for me to come to DARPA in 2003 from a **personal & professional** perspective. I seized the **opportunity** to catalyze fundamental technology advances that hoped to **change conventional thinking** towards the use of photonics in RF systems, put a **compelling program roadmap** together to support this **vision**, and the **DARPA Director** decided to take a chance on me.”*

It Was An Unforgettable Career Experience!