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# A Proposal for Improving the Transition of Technology to Naval Ships

**ASNE Intelligent Ships Symposium  
May 25-26, 2011  
Philadelphia, PA**

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Approved for Public Release



# Disclaimer

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The views expressed herein are the personal opinion of the author and are not necessarily the official views of the Department of Defense or any military department thereof.



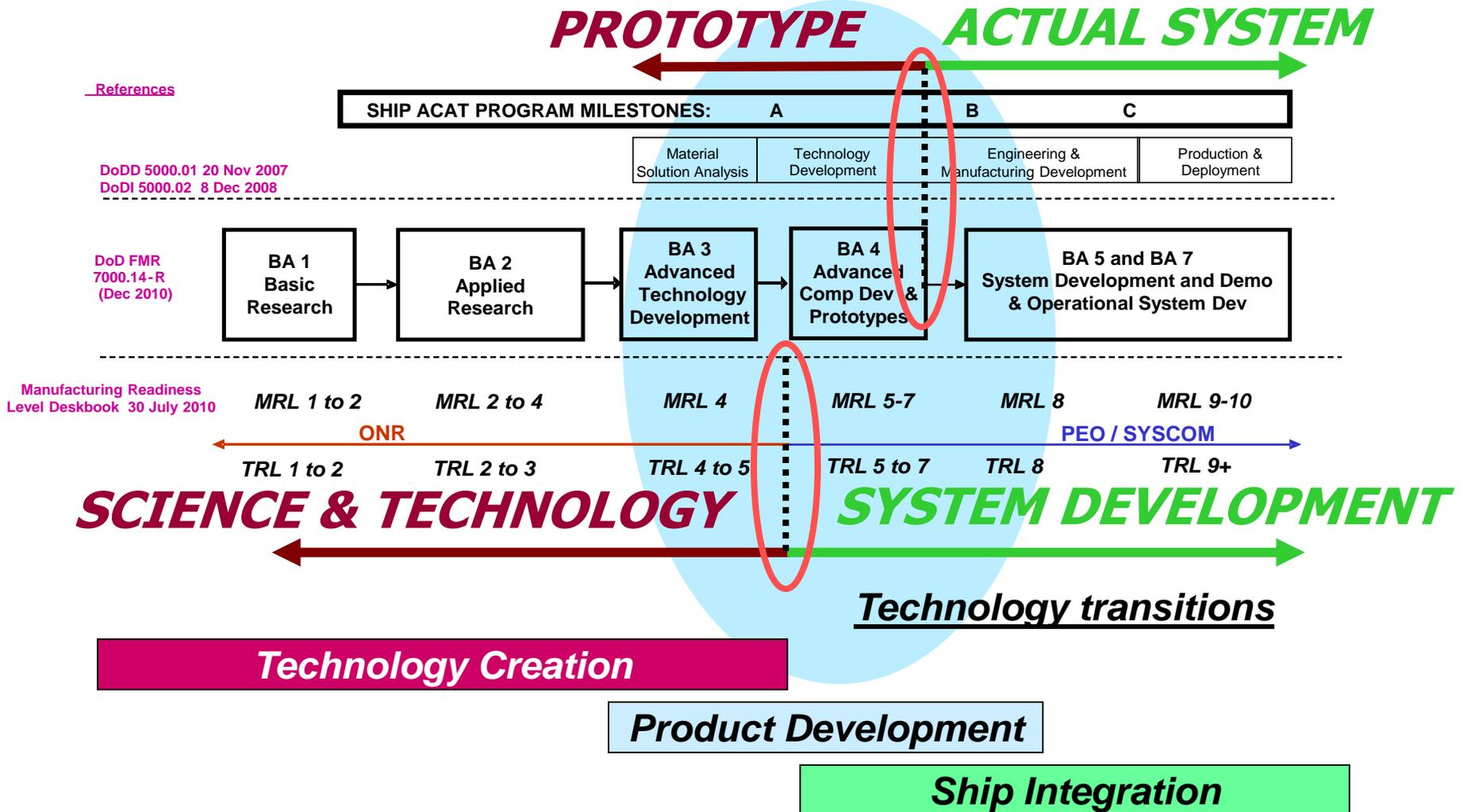
# Technology

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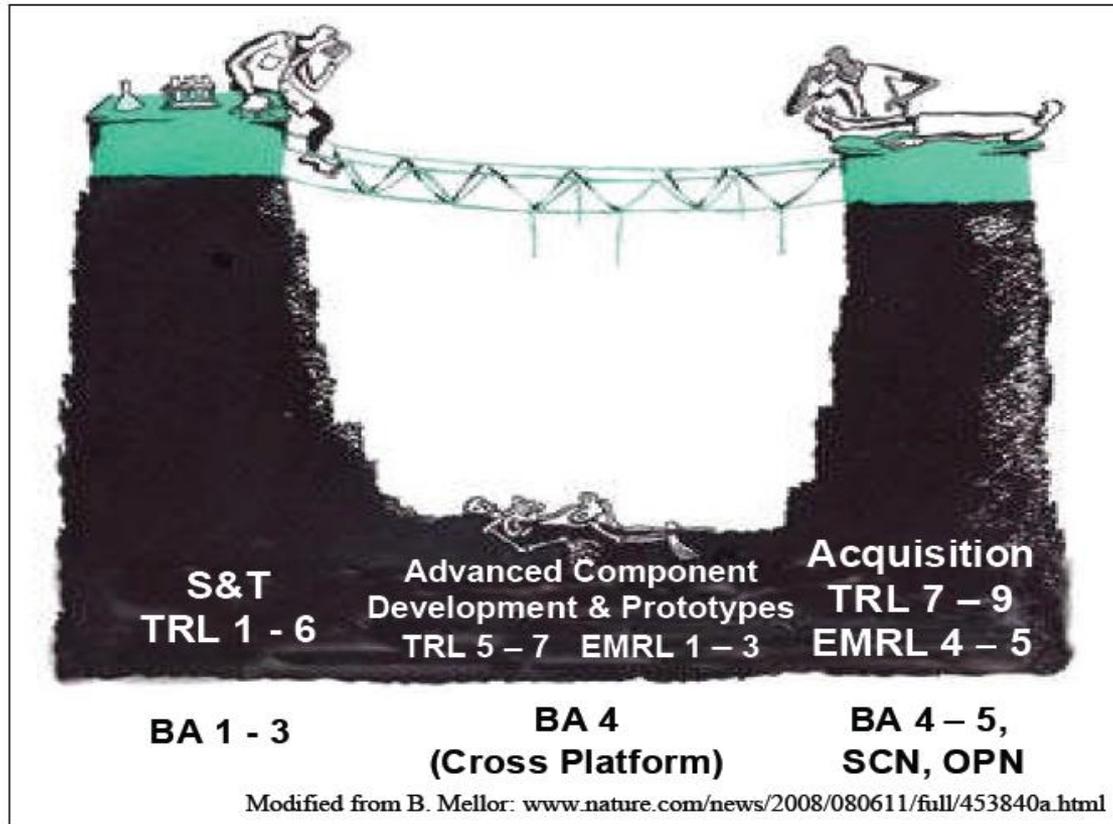
“The practical application of knowledge especially in a particular area”

Merriam-Webster Dictionary

# Technology Transition



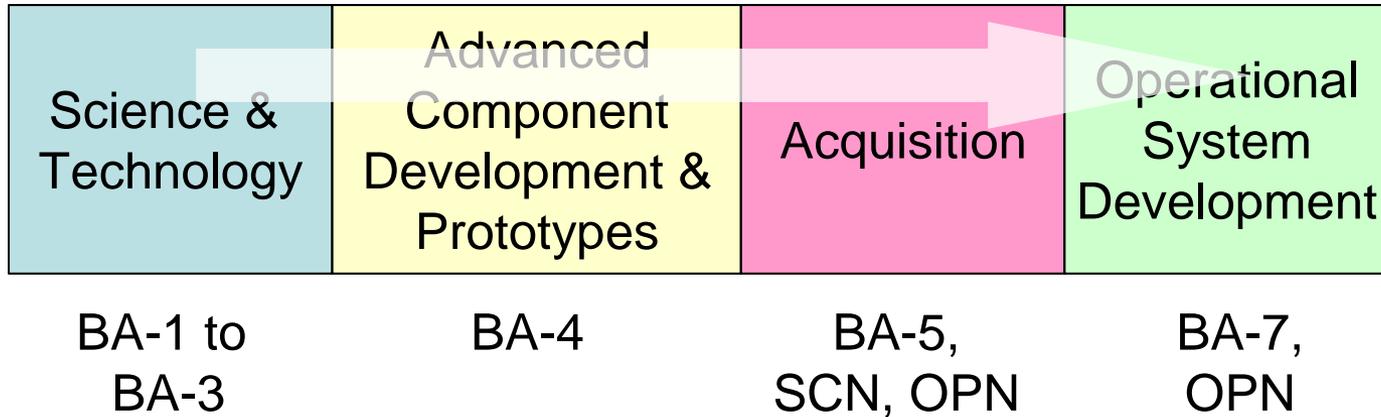
# The R&D Valley of Death



CNR  
 ONR  
 Academia /  
 Industry R&D

OPNAV  
 PEO / PMS  
 Industry

# Traditional Technology Transition Model



- BA-3 “owned” by ONR  
BA-4 “owned” by ship acquisition program.
- Extremely difficult to line up the end of an S&T effort with the beginning of BA-4 efforts.
- Resource Sponsor, Program Office, and contractors often change in transition from BA3 to BA4.
- Often leads to lack of commonality across ship classes

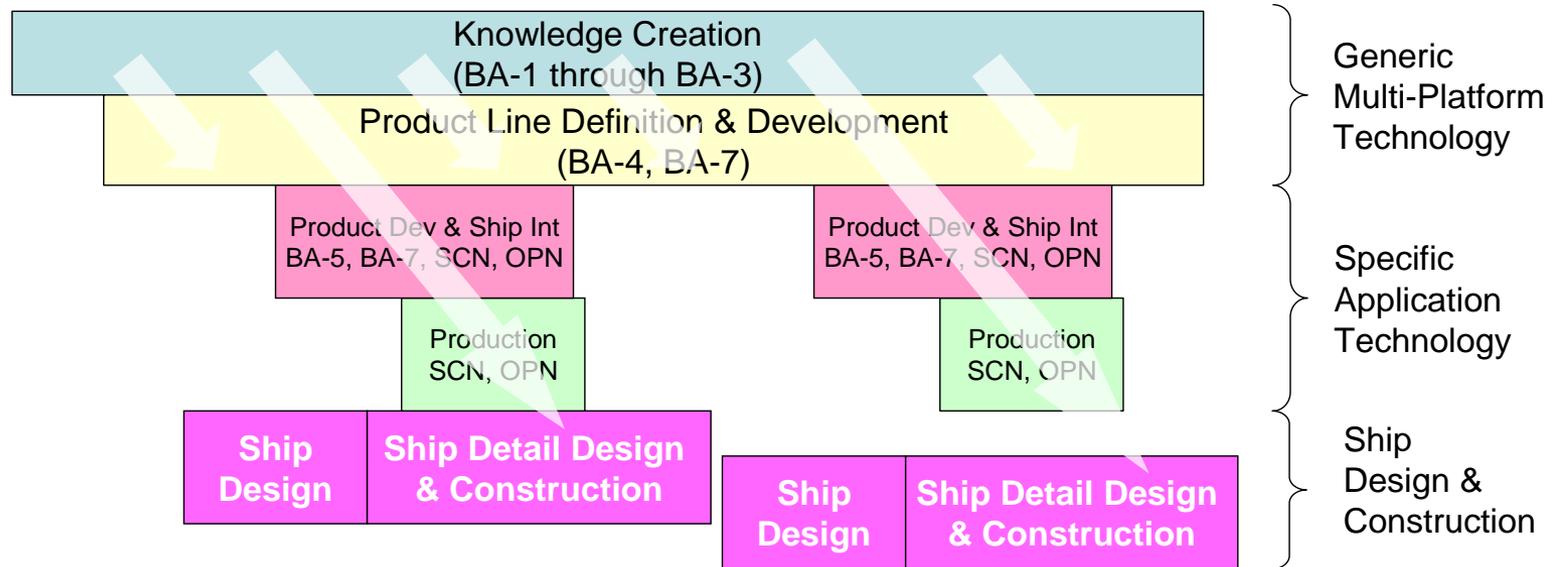


# Recommendations

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- Establish Non-acquisition Program Offices for implementing product line development
  - Reduce technology insertion risk (mature technology to TRL 7) before technology is integrated into an acquisition program.
- Modify the DOD Financial Management Regulations to split BA4 into BA4A and BA4B. BA4A would be dedicated to product line development while BA4B would be dedicated to product development.
  - Clearly make visible the lack of funding of early BA4 technology transition Funding
- Assign OPNAV N091 as the resource sponsor for Product Line Development (BA4A) in addition to S&T (BA1 to BA3).

# Product Line Technology Transition Model



- Product Lines (Managed by Product Line non-acquisition Program)
  - Provide capability to create and produce specific applications when needed.
  - Promote Commonality across Ship classes.
  - Decouple S&T from specific ship applications
    - Eliminate churn in aligning S&T and ship acquisition programs.
    - Product Line Development provides feedback to S&T
  - Capture knowledge in Specifications, Standards, Handbooks, Design Data Sheets, Rules, etc.
- Technology Development Roadmaps facilitate communication

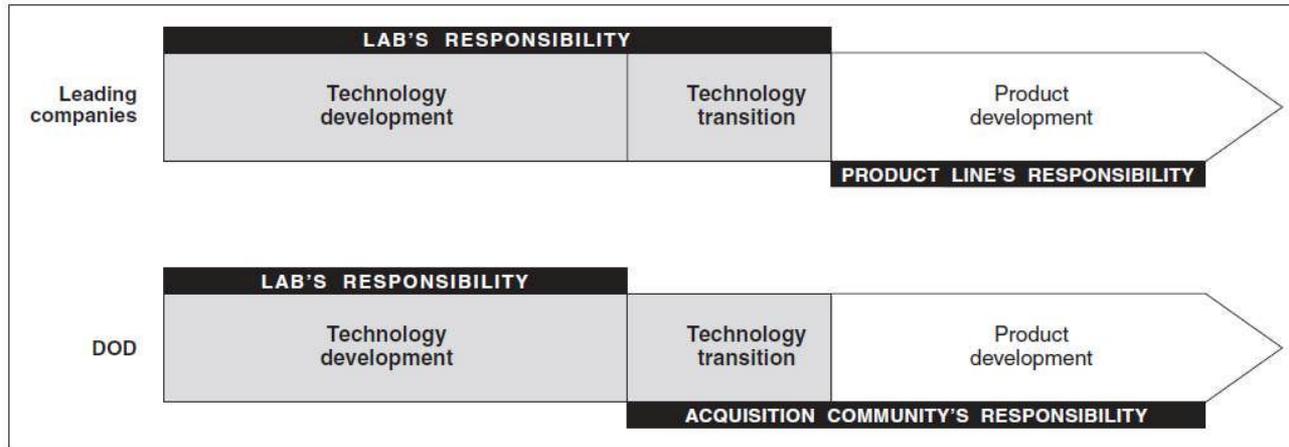


# Split BA4 funding Line

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- BA4A
  - Managed by Non-acquisition Program Office.
  - Fund the development of Product Lines that apply across the fleet.
  - Outcome is the capability for the Government to specify and for industry to create and produce specific applications for specific ship classes when needed.
  - Capture knowledge in Specifications, Standards, Handbooks, Design Data Sheets, Rules, etc.
- BA4B
  - Managed by Ship Acquisition Program Offices
  - Fund first-articles, and associated testing from the Product Line
  - Outcome is qualified equipment for installation on a ship.
  - Capture knowledge in ship specification language (and feedback to Specifications, Standards, Handbooks, Design Data Sheets, Rules, etc.)

# Assign CNR (OPNAV N091) as Resource Sponsor for BA4A

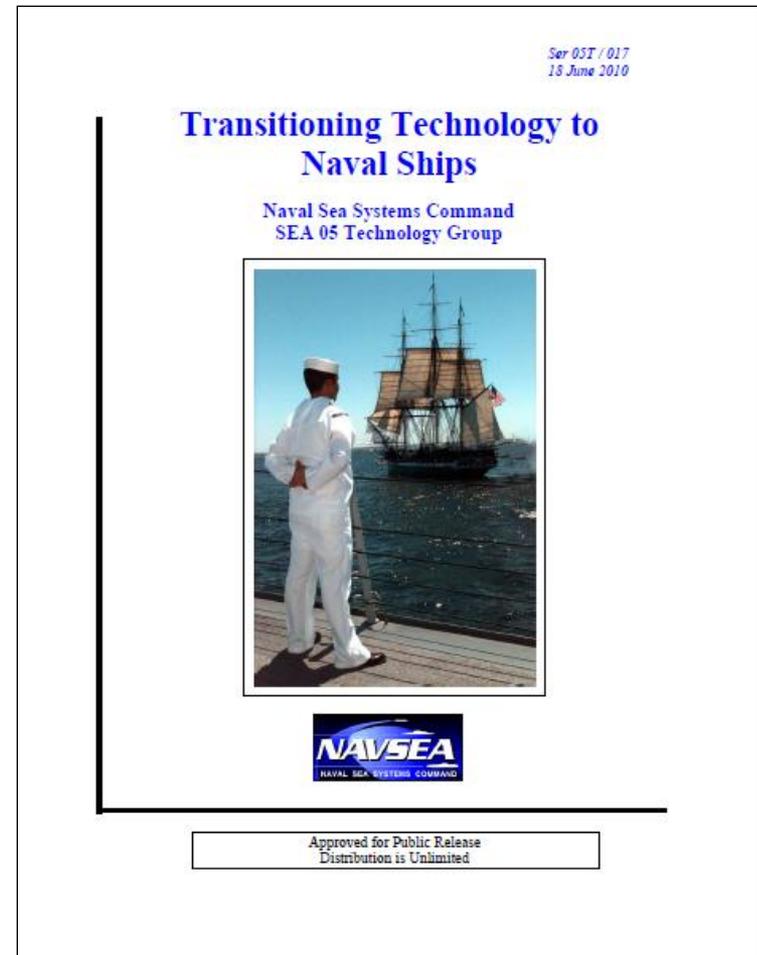


Government Accountability Office, "Stronger Practices Needed to Improve DOD Technology Transition Processes," GAO-06-883, September 2006

- Align with industry practice
- Provide continuity of resource sponsor as Program Management transitions from ONR to Non-acquisition Programs and production transitions from Academia / Industry R&D to Industry Product Development.
- Facilitate Technology Transition by enabling the resource sponsor to facilitate teaming among BA3 and BA4A activities.

# Summary

- Establish Non-acquisition Program Offices for implementing product line development
- Modify the DOD Financial Management Regulations to split BA4 into BA4A and BA4B. BA4A would be dedicated to product line development while BA4B would be dedicated to product development.
- Assign OPNAV N091 as the resource sponsor for Product Line Development (BA4A) in addition to S&T (BA1 to BA3).



<http://doerry.org/norbert/papers/20100618NAstransitioningTechnology-final.pdf>