



Science & Technology Program

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Karen Lane
Chief Technology Officer, AIR-4.0T



Background

Process Improvement

Naval Aviation Enterprise (NAE) Board of Directors directed a study to address S&T Process Shortfalls identified by 2006 Naval Studies Board

- ◆ Enterprise-wide Lean Six Sigma project initiated with specific goals
 - Produce prioritized NAE S&T objectives linked to warfighter capability gaps
 - Exploit technology push
 - Produce an NAE S&T roadmap that looks out 30-40 years
 - Increase visibility into S&T investments and business processes supporting the NAE S&T roadmap
 - Increase transition success
- ◆ Participation from S&T, requirements, acquisition and warfighting communities
- ◆ Project addressed multiple sub-processes
 - S&T Objectives Development
 - S&T Investment Planning
 - S&T Project Execution
- ◆ NAE Board of Directors approved implementation of new process under leadership of NAVAIR Chief Technology Officer at 24 Aug 07 project out-brief
- ◆ S&T Program Defined – Implementation In Progress



Framework Science & Technology Program

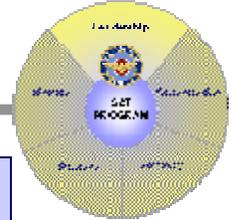
S&T Program framework integrates and aligns core activities to the Naval Aviation Enterprise Vision, S&T Objectives and S&T Investment Strategy

- ◆ Leadership
 - Chief Technology Officer (CTO)
- ◆ Organization
 - NAE S&T Organization
 - T-Codes/S&T Liaison/Operations
- ◆ Strategy
 - S&T Objectives (STOs)
 - Align – Invest - Measure
- ◆ Process
 - STO Development
 - Investment Strategy
 - Proposal Management
 - Project Execution
- ◆ Metrics for S&T Success
 - S&T Progression/Transition/Deployment/Knowledge
 - S&T Portfolio Health Assessment





Leadership Chief Technology Officer (CTO)



CTO engages internally and externally to develop an S&T Program that responds to capability needs with innovative technology solutions

External Focus

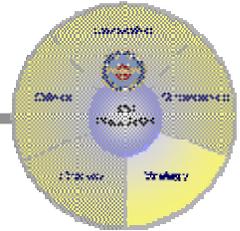
- Maintains knowledge of Naval Aviation needs through strong ties to the war-fighting community
- Continually seeks innovative technology solutions to warfighter needs, while being a champion for innovative ideas that do not address a specific need
- Fosters relationships with potential technology providers (DoD, Industry, Academia, etc.)
- Supports ASN(RDA), CNR and other Enterprise CTOs in planning and executing an effective Navy S&T Program

Internal Focus

- Primary advisor to AIR-00, NAE BOD and PEOs for technology issues & investments
- Advisor to AIR-00 & AIR-4.0 issues related to S&T workforce & infrastructure, including workforce revitalization efforts
- Monitors health of S&T portfolio and progress toward delivery of capability through the use of approved metrics & processes



Strategy Science & Technology Program



**S&T Program Strategy Elements
ALIGN - INVEST - MEASURE**

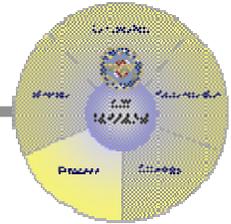
- ◆ Align
 - Naval Aviation Vision
 - S&T Objectives (STOs)
- ◆ Invest
 - Balance Near, Mid, Far Term
 - Technology “Push” Opportunities
- ◆ Measure
 - S&T Portfolio Performance
 - Overall Health
 - Progress Toward Objectives
 - S&T Project Performance
 - Technology Progression
 - Technology Transition
 - Technology Deployment
 - People
 - Knowledge Base

Naval Aviation S&T Portfolio



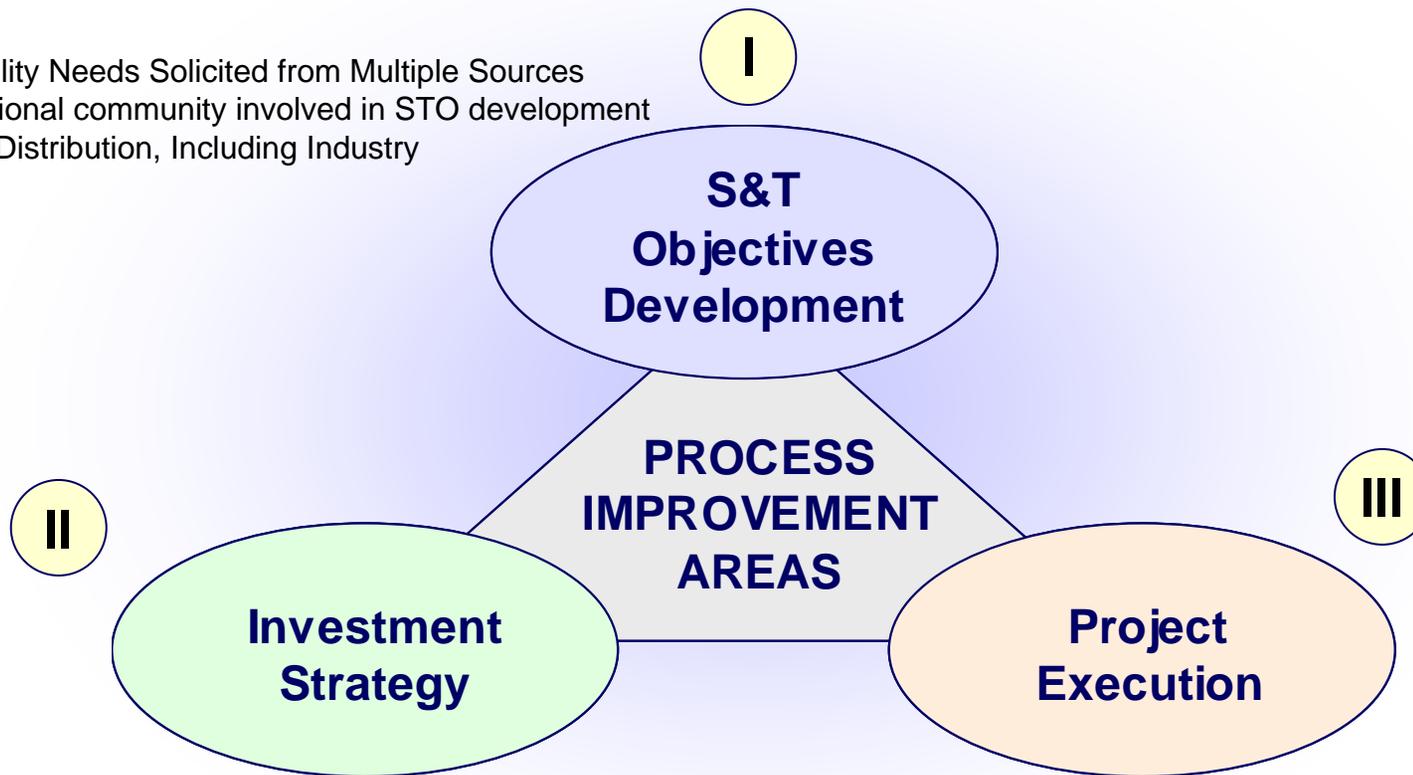


Process Principal Process Improvements



AIRSpeed Projects
Three Projects Executed to Mitigate S&T Process Shortfalls

- Capability Needs Solicited from Multiple Sources
- Operational community involved in STO development
- Broad Distribution, Including Industry

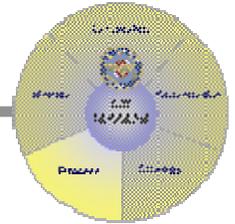


- Roundtables & Industry Days
- STO Roadmaps to Support Strategy Development
- Broad Distribution, Including Industry

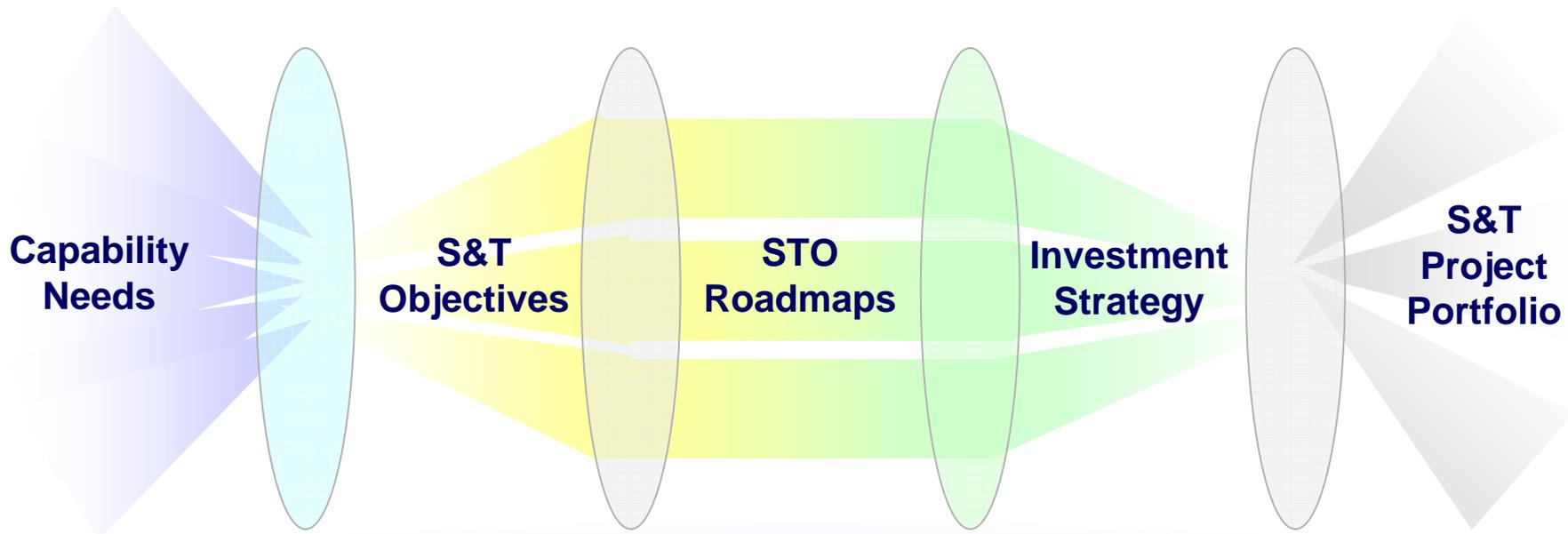
- S&T Portfolio Health Assessment
- S&T Project Performance Definitions and Metrics



Process S&T Objectives Roadmaps



Roadmaps link investments to S&T Objectives and produce a project portfolio aligned to capability needs

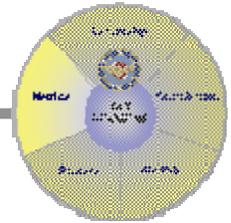


Capability Needs → S&T Objectives → STO Roadmaps → Investment Strategy → S&T Project Portfolio

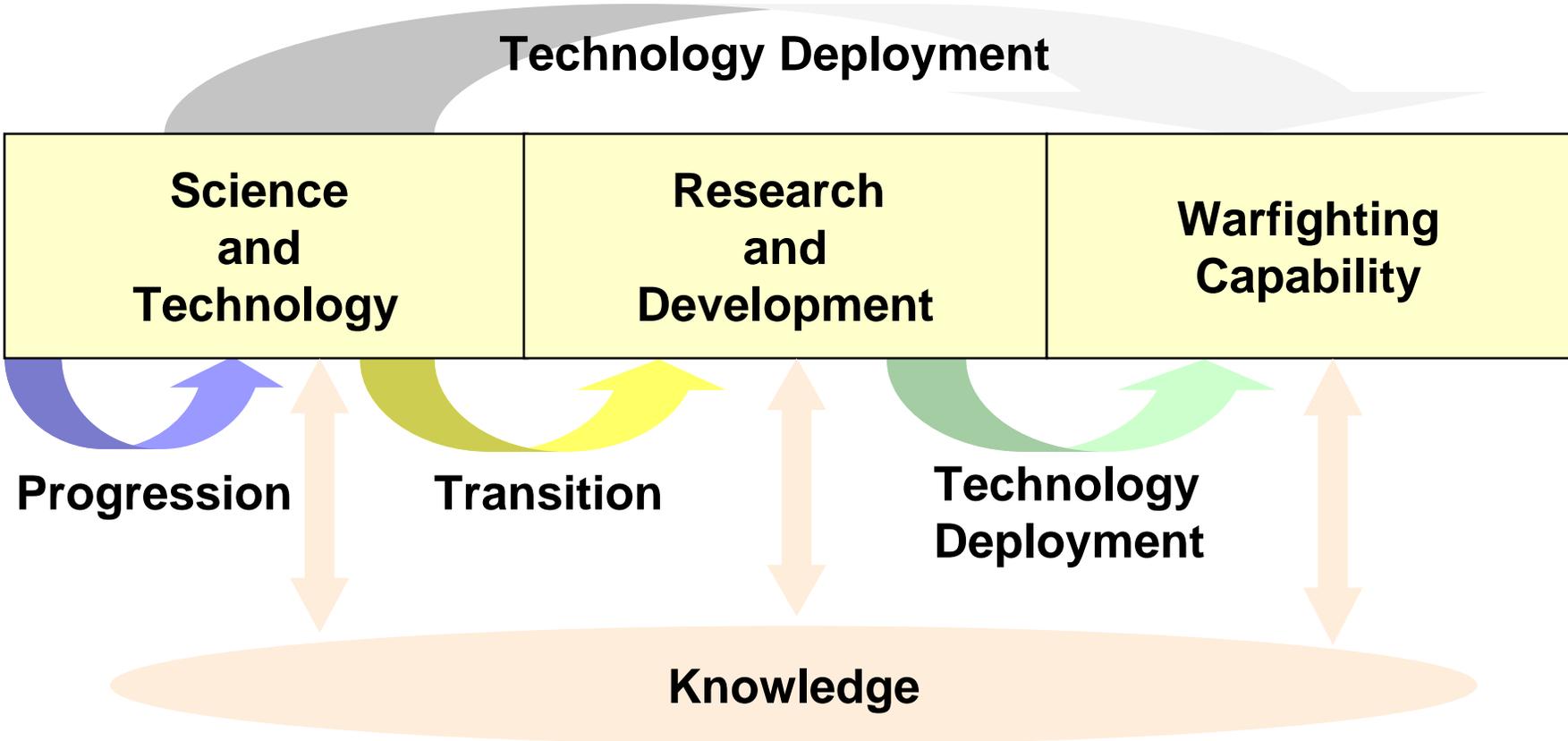
ALIGN - INVEST - MEASURE



Metrics S&T Continuum



Metrics for S&T* Project Success
The achievement of project objectives that results in Progression, Transition, Technology Deployment, or Increase in Knowledge

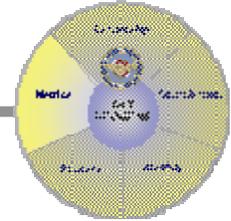


* S&T Budget Activity 6.1-6.3 "plus" RTT, SBIR/STTR, MANTECH, ACTDs/JCTDs, Other S&T Initiatives (transition oriented)

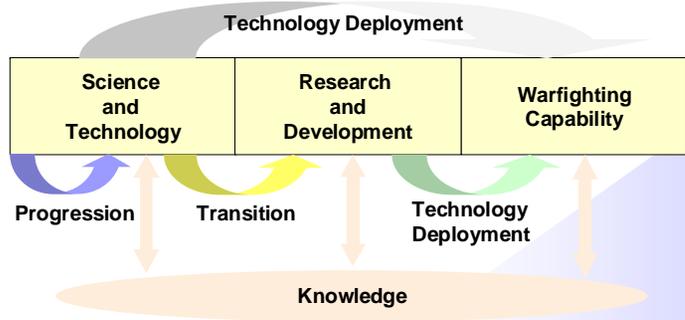


Metrics

S&T Project Performance



S&T Project Metrics
Metrics developed to measure results along the S&T continuum



**S&T PROJECT SUCCESS
 Performance Metrics**

Metric	
Progression and Increased Knowledge	Project progresses to a higher TRL or Phase
	Project results in refereed papers
	Project results in presentations
	Project results in patents/licenses
	Project results in government reports
	Project results in citations
Transition	Evidence of application of knowledge gain to new/existing S&T efforts
	Project moves into an acquisition program of record
	Industry incorporates technology into product via patent licensing
	Industry incorporates technology into product via work for private party agreements
	Industry incorporates technology into product via Cooperative Research and Development Agreements (CRADAs)
	Government customer takes delivery, and funds future life cycle support, of capability
Technology Deployment	Technology can be acquired/ procured through normal DoD procurement programs (e.g., Materials Spec, Qualified Product List)
	Technology is delivered to operational forces by Acquisition Program of Record
	Technology is delivered to operational forces by academia
	Technology is delivered to operational forces by industry
	Technology is delivered to operational forces by government (other than APOR)
	Technology in a product is procured from a General Schedule, Qualified Product List, or Commercial off the Shelf



The Way Ahead

S&T Program Maturation Continues Baselines - Process Pilots - Measurement

- ◆ Update S&T Objectives using new process (due Apr 08)
- ◆ Pilot Investment Strategy Process using select STOs from baseline document (due Apr 08)
 - SAE STO 1, Reduced Cost Turbine Engines
 - STR STO-1, Persistent capability to engage time critical targets
 - STR STO 4, Aircraft Survivability
 - STR STO 6, Electronic Attack
- ◆ Implement project assessment processes and metrics (throughout FY08)





Summary

- ◆ We are improving the way we plan and manage our S&T program
 - S&T Objectives jointly developed by warfighters and technologists
 - Roadmaps to guide investment strategy
 - Portfolio management enabled by common processes and metrics
 - Focus on transition of technologies to warfighting capability
- ◆ We are improving our internal coordination across PEOs and Warfare Centers through the use of a CTO led Integrated Program Team
- ◆ We are improving our outreach to Industry, Academia and other Government Agencies to strengthen partnerships and leverage investments
- ◆ Please join us in our efforts to improve the transition of innovative technologies to the warfighter



ALIGN - INVEST - MEASURE