



# *Structural Health and Usage Monitoring For Naval Aviation Weapon Systems*

*State College, PA*

*April 12, 2007*

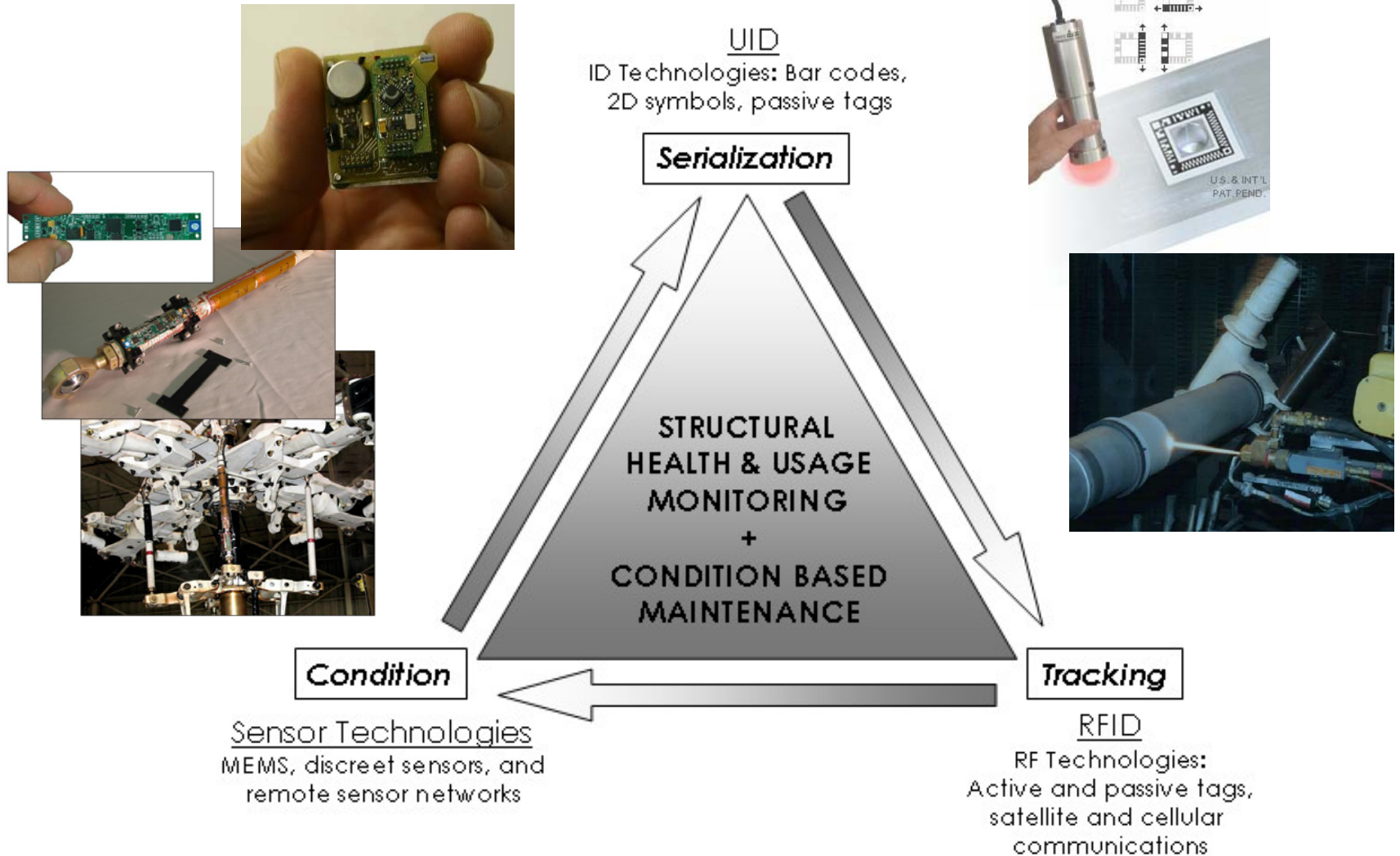


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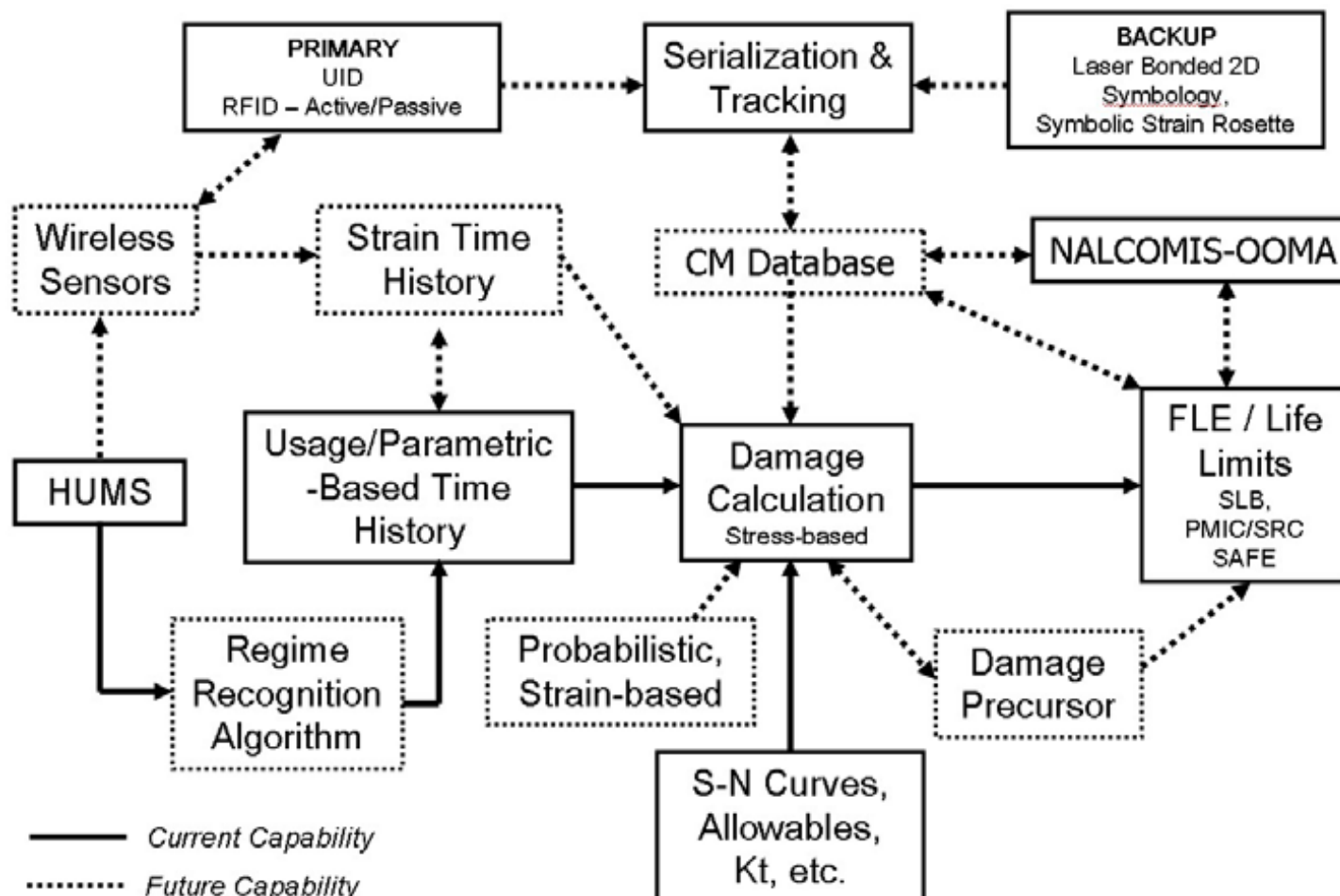
# *Naval Aviation Weapon Systems*



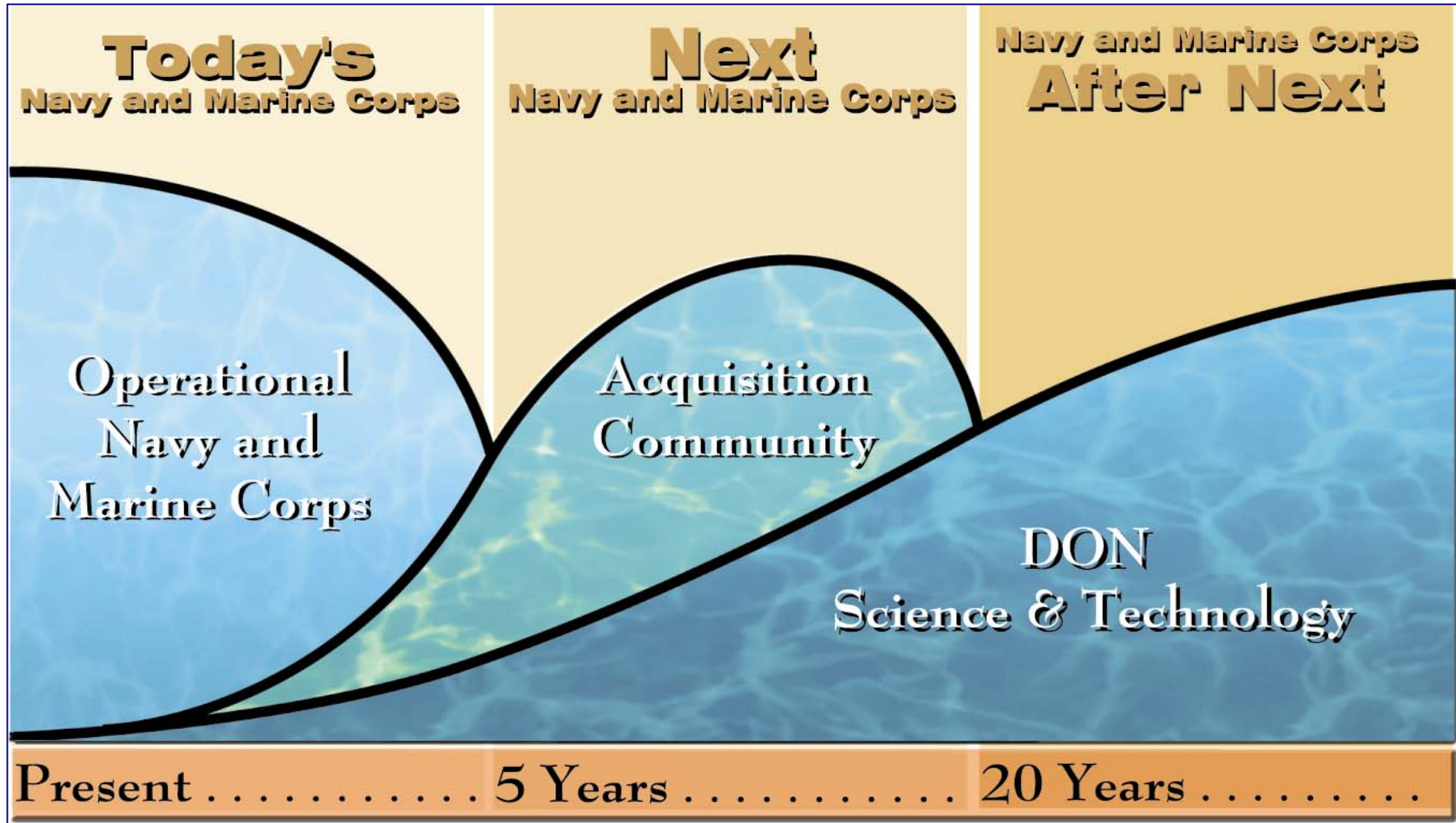
# Structural Health and Usage Monitoring (SHUM)



# Navy SHUM Roadmap



# ***Towards The Navy - after Next***



# The Way Ahead for Naval S&T

## Today's Navy and Marine Corps

SEA TRIALS QRP  
TTI RTT B&P  
TECH SOLUTIONS  
DFOB WRAP TIPS  
CTMA DOD Corrosion  
QRF

## Next Navy and Marine Corps

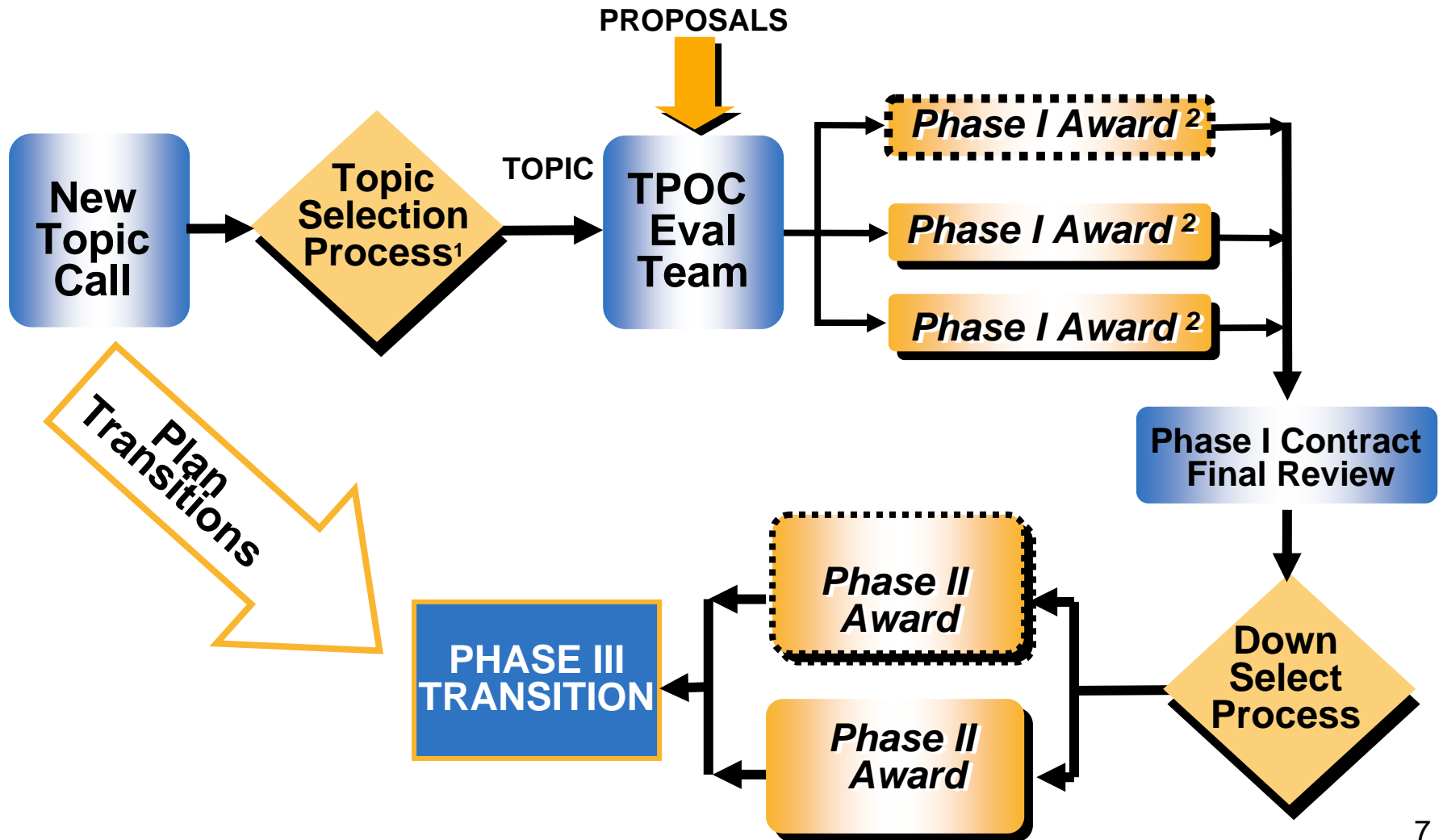
FNC SBIR STTR  
ACTD PA  
CRADA JASPO  
NICOP FCT  
NTCI CWP  
OPLOG IMTTP  
WCM MANTECH  
ESTCP SERDP  
CRAD

## Navy and Marine Corps After Next

Discovery & Invention (D&I)  
INP ILIR IAR  
DACP DEA NPCP  
NRTC PIP IRAD

Present ..... 5 Years ..... 20 Years .....

# NAVAIR SBIR PROCESS

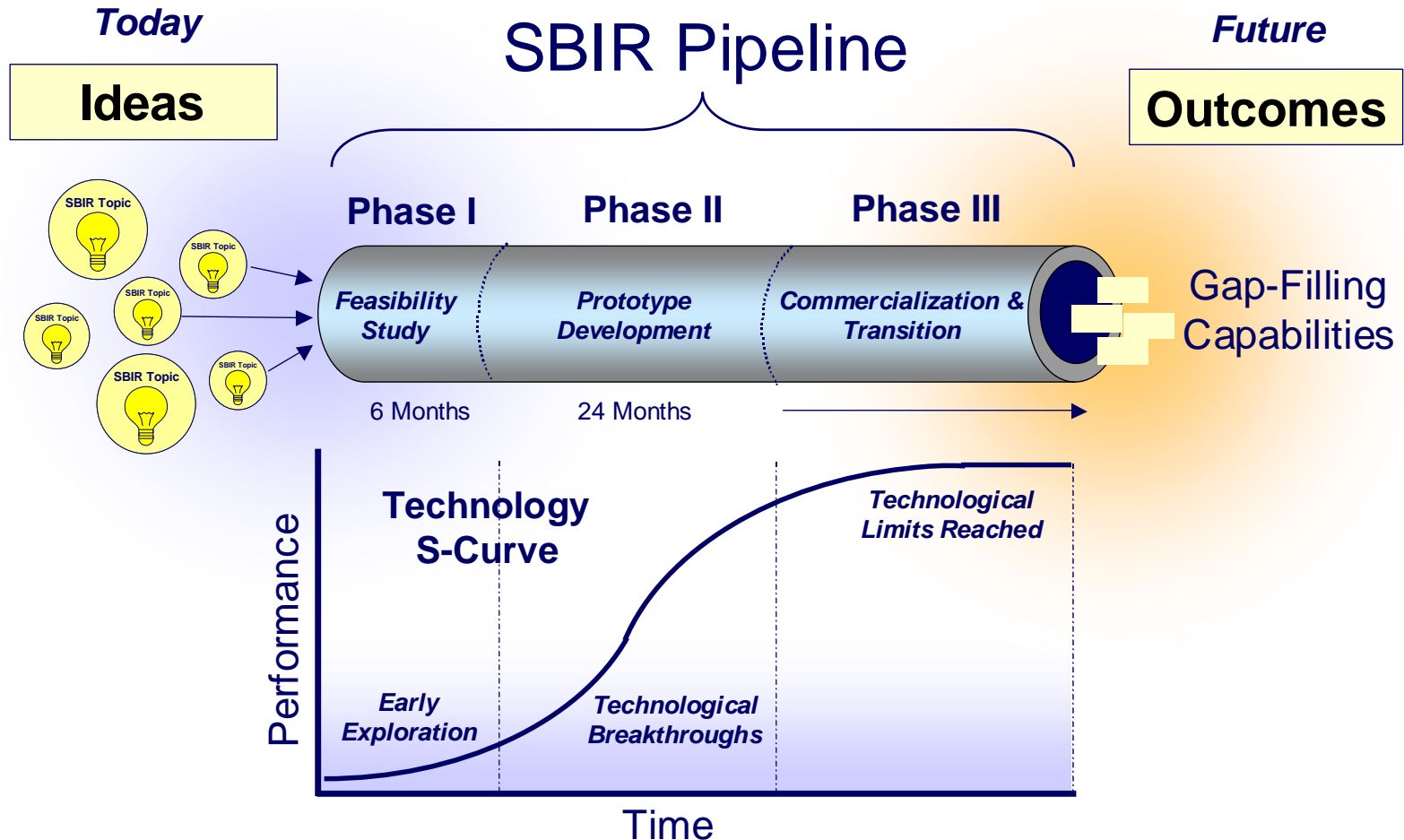


# *Proposed 07.2 & 07.3 SBIR Cluster Topics*

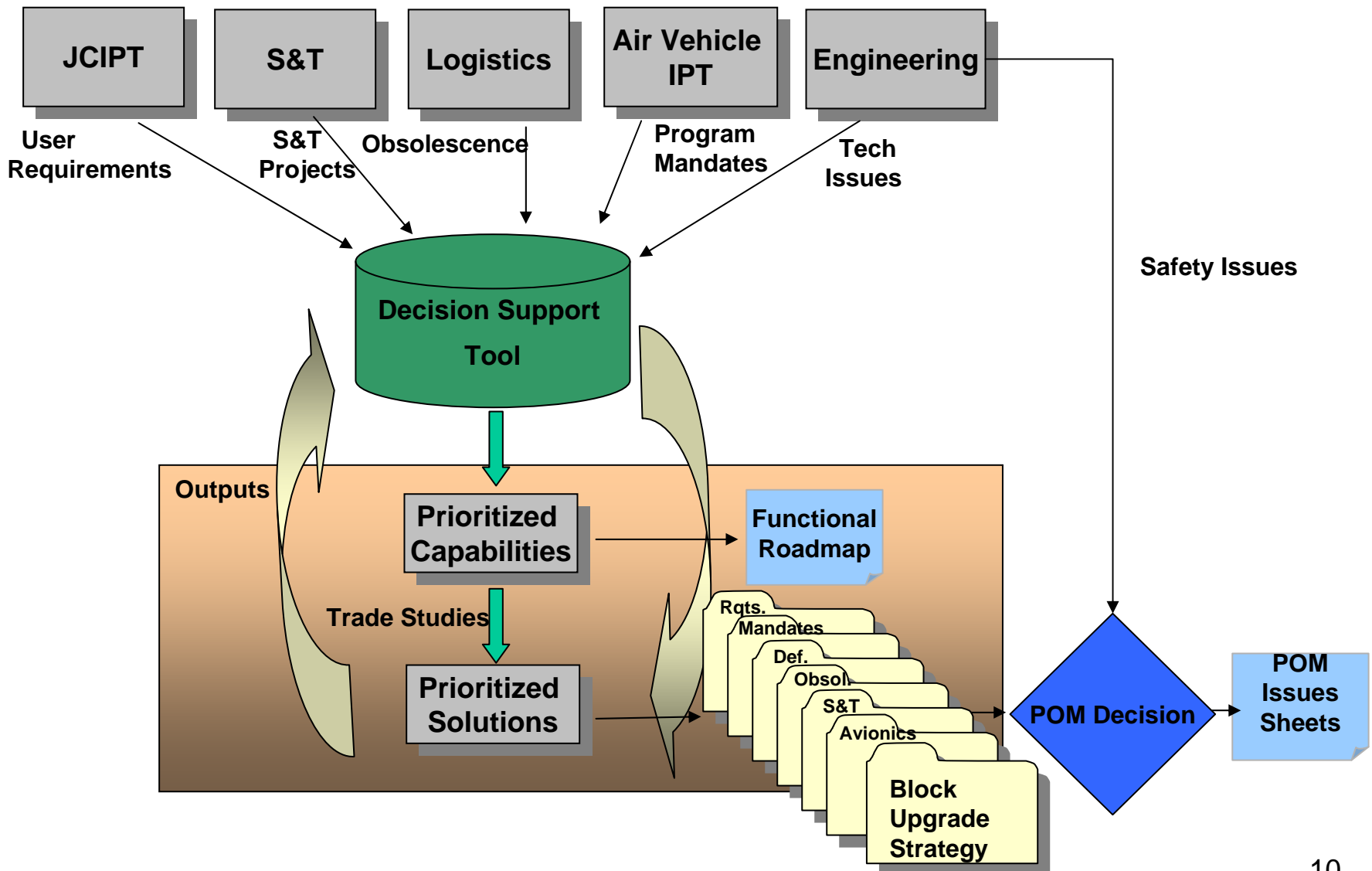
- **07.2 Composite Damage Detection and Repair**
- **07.2 Corrosion Resistant Materials for Naval Weapon Systems**
  
- **07.3 Early Detection of Corrosion Damages**
  - *A Miniature, Lightweight, Low Power, Multi-Sensor Package to Quantify the Corrosive Severity of Maritime Aircraft Operational Environments*
  - *Development of a Miniature, Vibro-Mechanical Energy Scavenging (Harvesting) Device for Powering Wireless Sensors*
  
  - *A Portable Corrosion Detector for inspecting Aircraft Structures with Complex Geometries*
  - *Miniature Corrosion Sensor Hub to Monitor Difficult-to-Access Aircraft Structure with Complex Geometry*
  
- **08.1 Prognostics (TBD)**

# SBIR “Pipeline”

Assured Transition from “Innovative Ideas” to “High Impact Outcomes” requires early focus and alignment towards “filling defined future capability gaps”



# PMA Strategic Process Overview



# Questions ?

