



# The Naval Aviation Technology Integration Program

*Ensuring the Successful Transition of Innovative Maintenance Technologies into the Hands of the Fleet*

The Naval Aviation Technology Integration Program (NATIP) was established by the Lead Maintenance Technology Center for the Environment (LMTCE) to speed the transition of innovative maintenance technologies (materials and processes) out of the Naval Air Systems Command's (NAVAIR) laboratories and into the hands of the Fleet.

In particular, NATIP offers a roadmap to guide the successful integration of maintenance technologies across the NAVAIR community. NATIP will insure that stakeholder/users appreciate the seamless integration of approved technologies into the NAVAIR community, thereby improving Fleet readiness and maximizing return on NAVAIR's investments.

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**HVOF being applied to Landing Gear**  
HVOF thermal spray coating process being applied to main landing gear component



**HVOF on Dynamic Components**  
HVOF alternatives being demonstrated on various helicopter dynamic components

## Why NATIP Is Needed?

**NATIP is needed because many technologies coming out of NAVAIR laboratories often fall short of the expectations that Fleet personnel had for those technologies.**

**In many cases, the technology suppliers provided a product they thought was adequate only to find out it was not user friendly or cumbersome to use.**

**In some cases, technologies completely missed the mark—did not address the Fleet’s environmental and operational requirements. NATIP was established to address these types of shortfalls. NATIP’s standard operating procedure enhances the degree of effectiveness of new technology implementation from the test and evaluation phase through the user level by providing programmatic oversight for all phases of the technology insertion process.**

## The NATIP Roadmap

In support of the NAVAIR vision “to provide cost-wise readiness and dominant maritime combat power to make a great Navy/Marine Corps team better”, NATIP leverages the LMTCE’s engineering and other areas of expertise to ensure that the ultimate user of the technology (the Fleet) plays an integral part in identifying technology needs and integrating successful technologies into the NAVAIR community. (See the following figures, “The Acquisition Support Process” and “Customer Interaction with the Acquisition Support Process.”)

### NATIP will accomplish the following objectives:

- 1 DETERMINE CORPORATE NEEDS.**  
NATIP will determine NAVAIR corporate needs by mapping technologies to user requirements submitted through the NAVAIR Technology Needs Survey and identifying state-of-the-art commercial off-the shelf technologies that will satisfy the need within the planned timeframe.
- 2 CONDUCT GAP ANALYSES.**  
NATIP will conduct technology gap analyses by reviewing environmental regulations, NAVAIR Technology Needs/Requirements, and emerging opportunities from research and development programs within the NAVAIR maintenance community. This will minimize the duplication of projects and/or identify where new projects should be initiated.
- 3 TRACK PROGRESS OF TECHNOLOGY DEVELOPMENT.**  
NATIP will track the progress of technologies through various research and development programs, mitigate the environmental, safety, and health risks, and utilize a technology strategy that defines performance base exit criteria to effectively identify successful Research, Development, Technology and Engineering (RDT&E) alternatives to user generated needs. This will ensure timely and quality transition of the technology to the stakeholder.



#### HVOF on Prop Hubs

Validation of HVOF on Propeller Hub Components has completed



#### Nonchromate Pretreatment

Promising pretreatment alternatives are being demonstrated in real-time scenarios



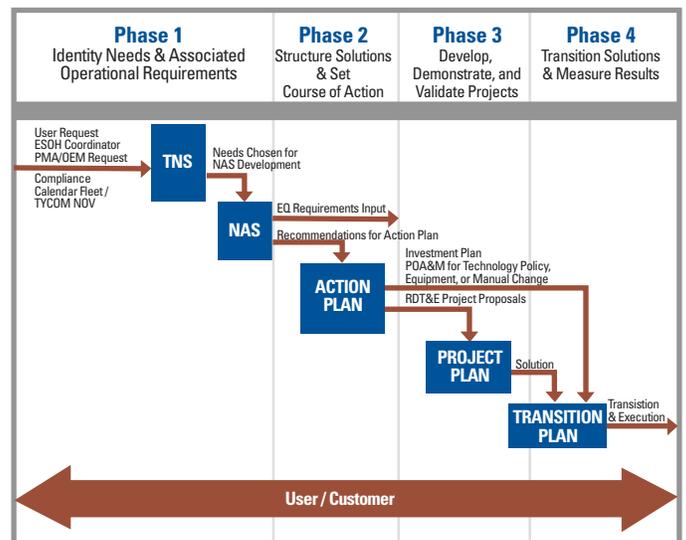
#### Cadmium Alternatives

Validation of Cadmium alternatives for high-strength steel structural components is underway

- 4 **DETERMINE APPROPRIATE FUNDING ORGANIZATION.**  
NATIP will determine the appropriate funding organization for potential solutions at various technology maturity levels. NATIP Program Managers will establish appropriate partnerships with other organizations and Services to leverage existing development and validation efforts, and provide stakeholders/users with clear understanding of their responsibility for planning, programming, and budgeting for the successful transition of approved and authorized technologies.
- 5 **DEVELOP AND EXECUTE TECHNOLOGY TRANSITION PLANS.**  
NATIP will develop and execute technology transition plans to ensure proper management of technology integration efforts, maintain control of contract vehicles for technology integration, solution identification, demonstration, and validation, and obtain end user and stakeholder buy-in on approved technologies to ensure customer satisfaction.

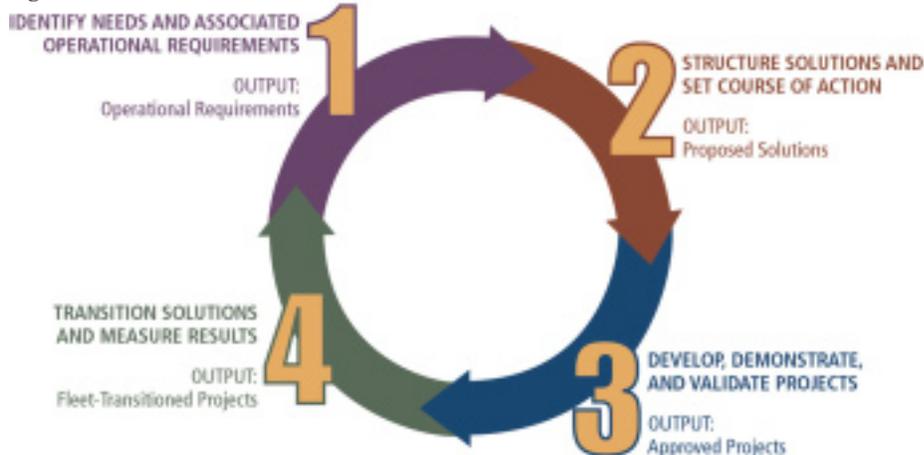
### CUSTOMER INTERACTION WITH THE ACQUISITION SUPPORT PROCESS

Figure 2



### THE ACQUISITION SUPPORT PROCESS

Figure 1



## The Benefits of NATIP

Through NATIP, a structured approach for integrating innovative maintenance technologies into the hands of the Fleet is accomplished by:

- 1 Mandating user/stakeholder buy-in and participation throughout the transition process,
- 2 Engaging Fleet Service Teams (FST) to participate in demonstration projects,
- 3 Empowering depots to be technology integration point for validation efforts,
- 4 Assuring engineering approval of new maintenance technologies,
- 5 Reducing risk by assuring Naval Aviation technology development addresses Fleet readiness problems in a timely manner,
- 6 Maximizing technology development, integration, and return on investment through the technology strategy using performance base exit criteria, and
- 7 Integrating funding from various sources into a single technology insertion program.

## NATIP Project Information

NATIP maintains a website that houses proposals, project information, stakeholders, principal investigators, implementation strategy, and project timelines.

Below are the FY04/05 projects where the NATIP managers are concentrating their energies on transitioning into the hands of aviation maintenance personnel:

- Non Ozone Depleting Substance Contact Cleaner
- Plastic Media Blasting Type VIII Approval
- High Velocity Oxygen Fuel (HVOF) Guidance Document
- Thin Film Sulfuric Acid Anodizing
- Aluminum-Manganese as a Cadmium Plating Alternative
- Zinc-Nickel as a Cadmium Brush Replacement (125/250)
- Non-Chromated Post Treatments
- F404 Drive Shaft Cleaning
- Aircraft Marking and Stenciling

*For more information on these and other NATIP projects and the NAVAIR environmental program, visit [www.enviro-navair.navy.mil](http://www.enviro-navair.navy.mil). A user password is required to obtain access to detailed NATIP program information and can be obtained by contacting the NATIP Program Manager (see below).*



[www.enviro-navair.navy.mil](http://www.enviro-navair.navy.mil)

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