

DoD Corrosion Prevention and Control

Program Policy Overview and Status

Alternative Fuels Workshop

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Why I Am Here

- Almost all fuels require:
 - Production systems
 - Transfer systems
 - Storage systems
 - Delivery systems
- Many of these systems are vulnerable to corrosion and its effects due to:
 - Material selection
 - System design
 - Production methods
 - Inadequate treatment, detection and maintenance methods
- Corrosion prevention and control is a vital part of any new system development
- DoD leads Government agencies in corrosion prevention and control of infrastructure and warfighting equipment



Agenda

- The Law
- The Response
- DoD Corrosion Organization
- Specific Approaches
- Strategies
- Directions



Congressional Response to Corrosion Problem

Members of Congress

- Reviewed Transportation Department study
- Noted severe, pervasive corrosion during 2002 Pacific Rim tour
- Subsequently enacted corrosion control legislation because –

DOD Cost of Corrosion

- Estimated at **\$10B to \$20B,** and as high as **\$40B per year**
- Where most dollars go toward
 - Detection and assessment of corrosion
 - Treatment to prevent or retard added effects
 - Repair of damaged equipment or facilities



The Law

***Public Law 107-314 Sec: 1067 [portions codified in 10 U.S.C. 2228]:
Prevention and mitigation of corrosion of military infrastructure and
equipment requires that:***

- **DoD designate a responsible official or organization**
- **DoD develop a long-term corrosion strategy to include**
 - Expansion of emphasis on corrosion prevention & mitigation
 - Uniform application of requirements and criteria for the testing and certification of new corrosion prevention technologies within common materiel, infrastructure, or operational groupings
 - Implementation of programs to collect and share information on corrosion within the DoD
 - Establishment of a coordinated R&D program with transition plans

Strategy to include policy guidance & assessment of funding and personnel resources required



DoD Response to Congressional Mandate

- Response to the law
 - Developed organization
 - Developed strategy
 - Reported to Congress
- Assembled corrosion forum
 - Organized overarching corrosion program IPT
 - Established WIPTs (focus groups)
- Developed and published a strategic plan
- Interacted with the Government Accountability Office (GAO)

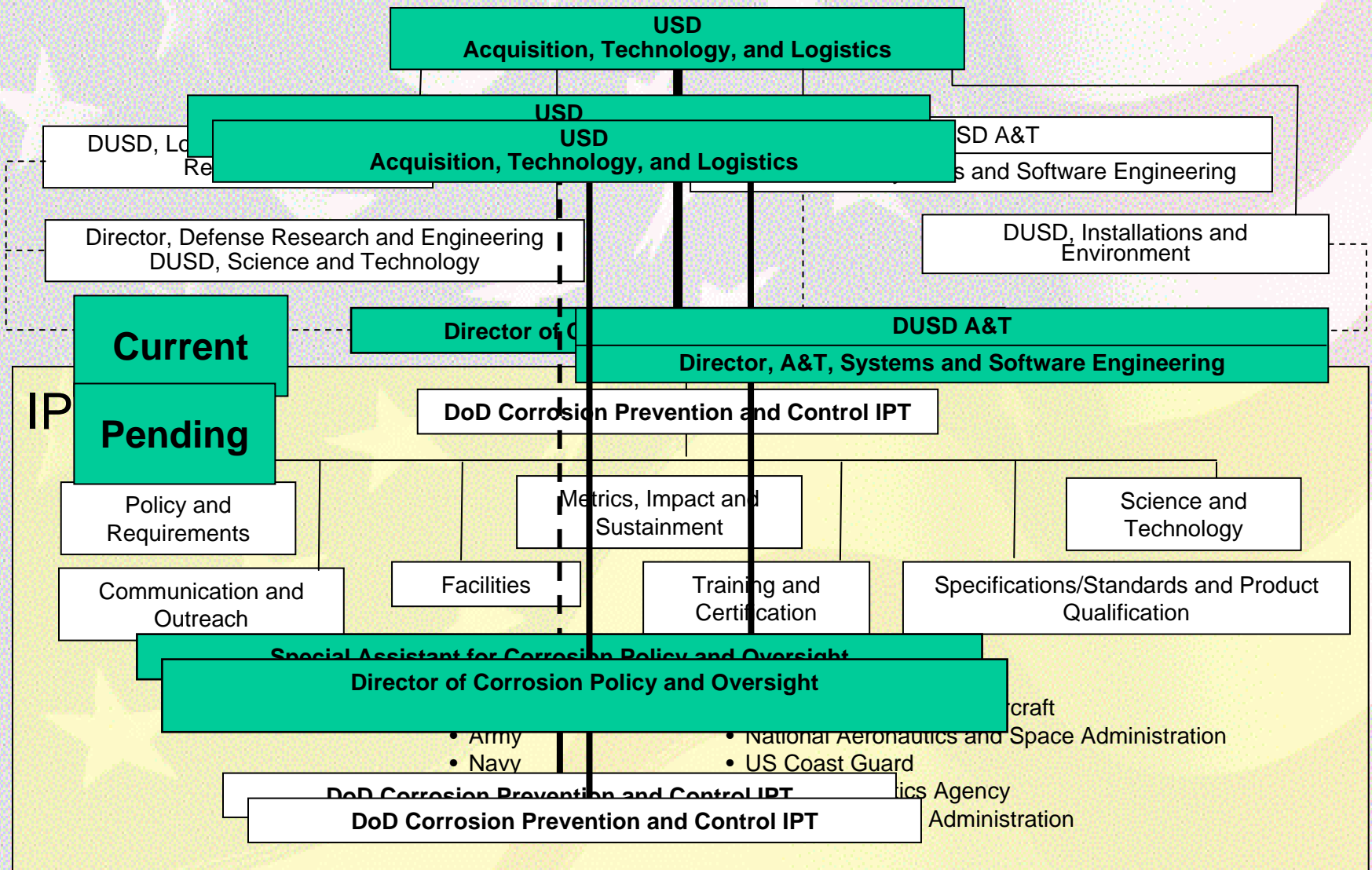


Pending Revision to Law

- Retains the requirements of the basic law
- Makes the following changes
 - Eliminates DoD Corrosion Executive
 - Elevates SA/CPO to Director CPO
 - Assigns Corrosion Executive duties to DCPO
 - DCPO becomes direct report to USD(AT&L)
 - Requires annual financial reporting
 - Codifies ongoing CPO activities



DoD Corrosion Organization



IPT Structure

- Corrosion Prevention and Control IPT (CPCIPT)
 - Provide strategic review and advice
 - Develop and recommend policy guidance
- Working IPTs (WIPTs)
 - Policy and requirements
 - Impact, metrics and sustainment
 - Science and technology
 - Communication and outreach
 - Training and Doctrine
 - Facilities
 - Specifications and standards



Specific Approaches to CPCP Success

- Policy changes – transcend traditional methods
- Strategic plan – develop and implement
- Specifications, standards and qualification processes – update and standardize
- Research projects – submit, select and execute
- Communication and outreach – change culture
- Training and certification – improve competence
- Infrastructure – equal emphasis as equipment
- Strategic partnerships – leverage networks
- Cost of corrosion baseline study – quantify problem

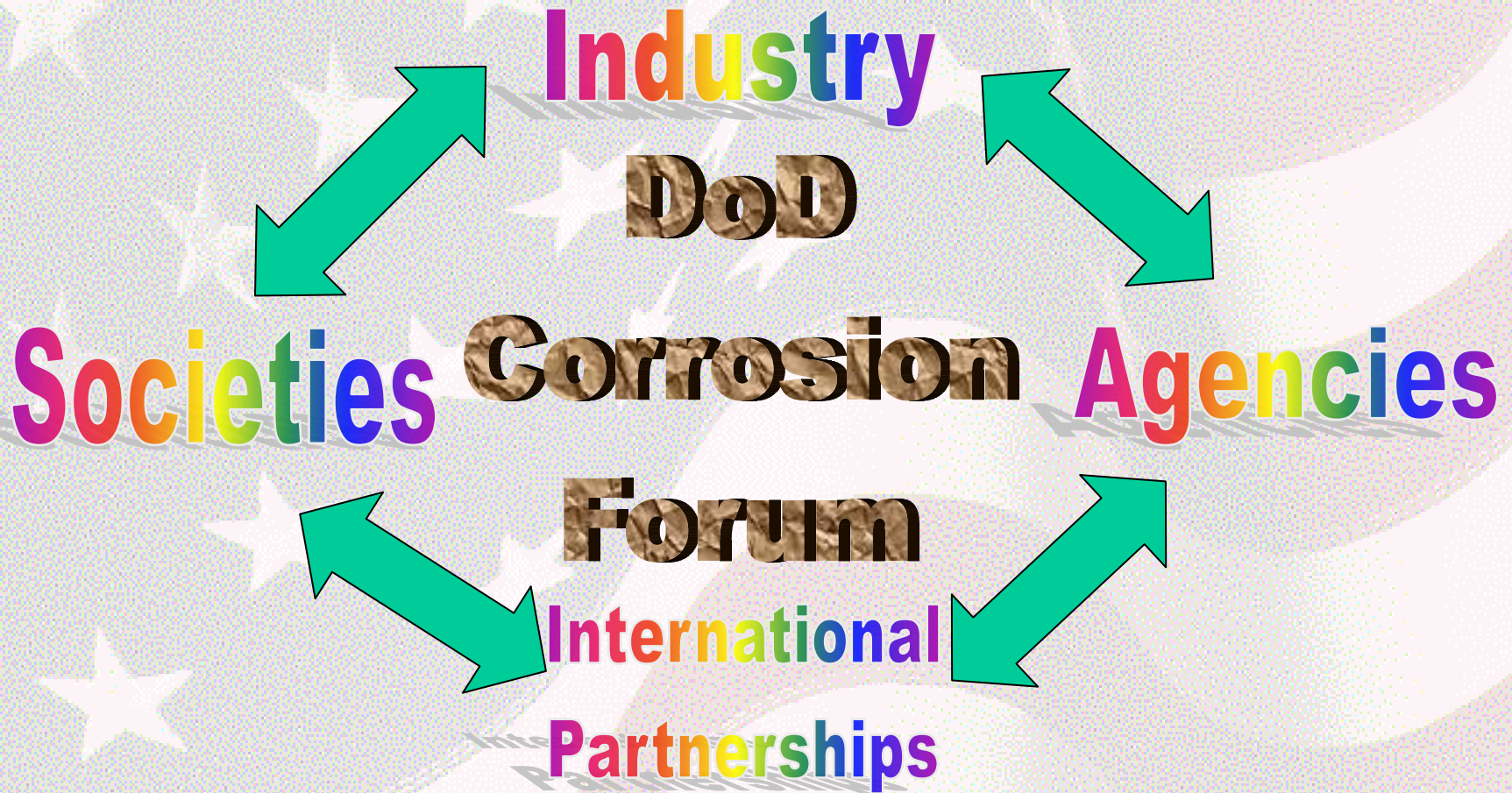


Transcending - Updated Strategies

- **Overarching strategy:** transcend traditional control methods, organizations, management and funding approaches
- **Attack corrosion early** in acquisition or construction
- **Focus** life-cycle corrosion research and development **efforts** on **four primary areas**
 - Materials and manufacturing processes that **prevent or reduce** the incidence and effects of **corrosion**
 - **Detection** of corrosion in fielded systems and facilities **and prognosis** of the expected growth, potential impact and predicted effects
 - Coatings, treatments and other **applications to prevent, arrest or retard corrosion**
 - **Repair processes** that restore materials to an acceptable level of structural integrity and functionality
- Publish **direction and guidance** regarding corrosion prevention and mitigation **policies and strategies at all DoD and Service levels**



Sharing Problems and Solutions



New Directions

- Education and training
 - Corrosion Engineering Degree at University of Akron
 - Advanced Corrosion Training Video and Continuous Learning Module – including 1 hour training video
 - Initiation of virtual corrosion gaming video
- Outreach and culture change
 - 2007 Tri-Service Corrosion Conference in Denver in December
 - Implement Phase 3 of supplier online product qualification process
 - Premier Outreach and Communication corrosion effort public video
 - Moved CPC Web-site to **www.CorrDefense.gov**
- International Initiatives
 - Australasia, UK, France, Germany cooperative efforts
 - Australasian Conference and World Congress on Corrosion



Summary

- Congressional interest very high – recent disasters amplifying interest
- CPC program implements modern strategies that produce
 - significant reduction in corrosion incidence and impact
 - better education and understanding
 - cultural changes
 - international interest and cooperation
- Combined efforts of industry, government, academia and user community essential to combat corrosion
- Partnership between DoT and DoD on alternative fuels corrosion prevention and control can strengthen both programs

