

Critical Offshore Connector Safety Forum

National Materials and Manufacturing Board
National Academy of Engineering

Jim Lancaster, NMMB Director
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President Lincoln signed a congressional charter forming the National Academy of Sciences in 1863 to "investigate, examine, experiment, and report upon any subject of science."

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National Materials and
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National Materials and Manufacturing Board Mission

In recognition of the increasing importance of materials science to innovations in engineering and manufacturing, National Materials and Manufacturing Board (NMMB) is to provide independent assessments of the current state of materials and manufacturing research- including at the atomic, molecular, and nano scales - and the applications of new and existing materials in innovative ways, including pilot-scale and large-scale manufacturing, the design of new devices, and disposal.

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Summary of Academies Activities

- **Consensus Studies**
 - Typically – 18-24 month ad hoc projects
 - Variations: fast track studies, letter reports
- **Convening Activities**
 - Workshop, Meeting of Experts, Focus Sessions
- **Continuing Activities**
 - Board or Standing Committee
 - Roundtable

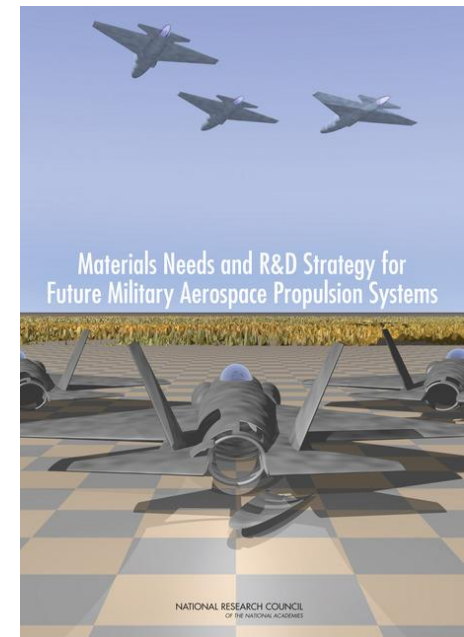
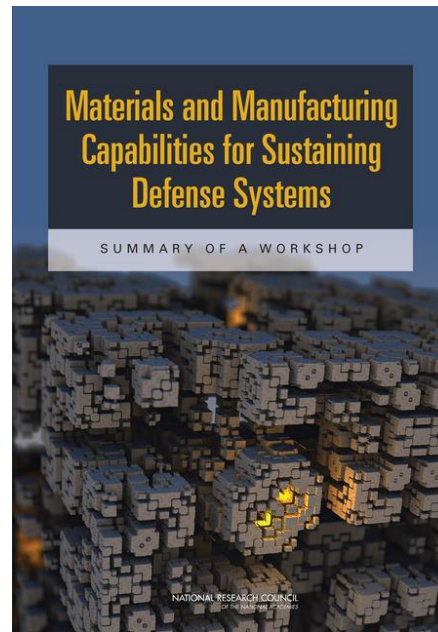
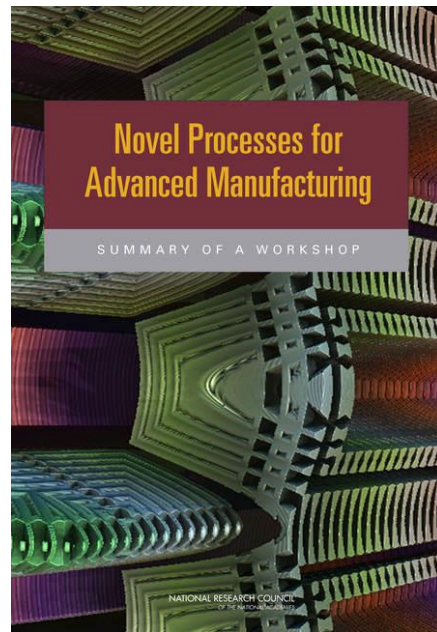
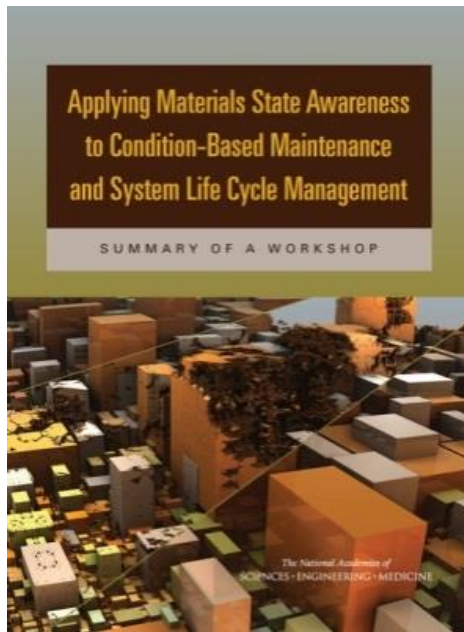
Convening Activity - Workshops

- Conference or symposium - invited individuals meet to discuss topics of mutual interest and to share their expertise.
- Many possible purposes –provide input for consensus study, frame a future study.
- Requires an approved planning committee.
- Several product options – workshop report, workshop summary, workshop proceeding.

Consensus Study

- Task developed in collaboration with study's sponsor;
- Carried out by volunteers with requisite expertise, lack of conflicts of interest;
- Information gathered from many sources in public meetings; deliberations take place in private;
- Committee works independently to come to consensus on questions raised;
- All reports undergo independent external review by second group of experts; reviewer comments addressed by the committee prior to final report release.

Recent NMMB Workshop Summaries



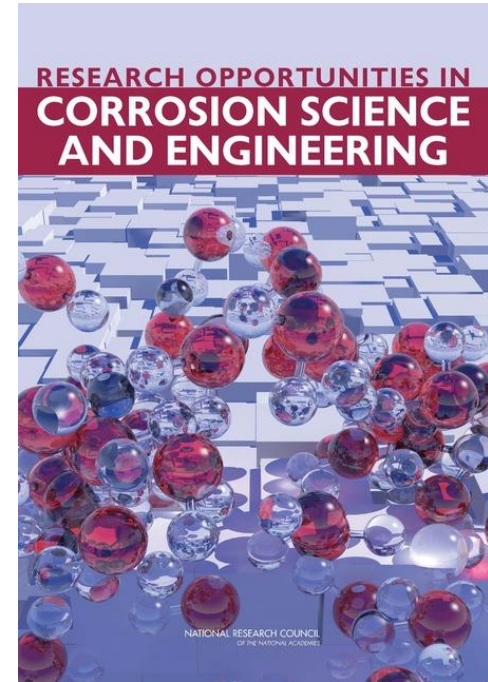
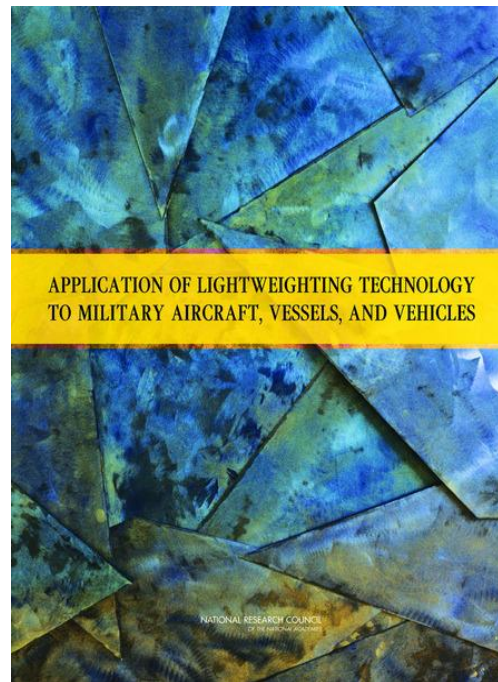
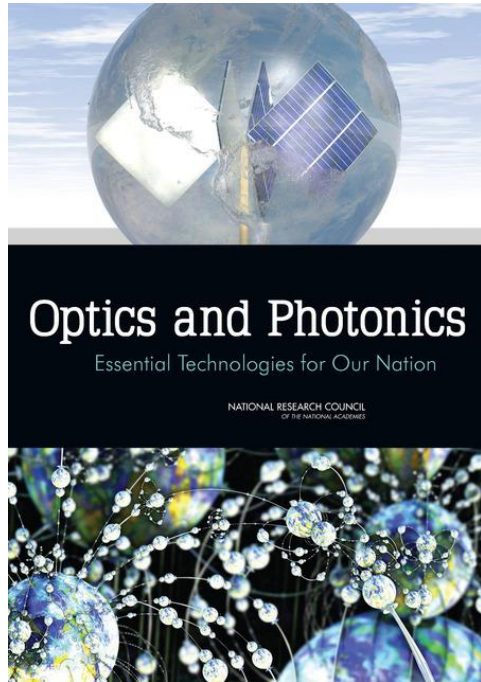
Applying Materials State Awareness to Condition-Based Maintenance and System Life Cycle Management (2016)

Novel Processes for Advanced Manufacturing (2013)

Materials and Manufacturing Capabilities for Sustaining Defense Systems (2013)

Materials Needs and R&D Strategy for Future Military Aerospace Propulsion Systems (2012)

Recent NMMB Reports



Optics and Photonics: Essential Technologies for Our Nation (2012)

*Application of Lightweighting Technology to Military Aircraft, Vessels,
and Vehicles (2011)*

Research Opportunities in Corrosion Science and Engineering (2009)

Thank you for your Attention

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