A Path Forward in BIM:

A Road Map for Implementation To Support MILCON Transformation and Civil Works Projects within the U.S. Army Corps of Engineers

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Outline

- **USACE Missions Overview**
- **Why USACE is going BIM**
- **What USACE is doing with BIM**
  - Military Programs
  - Civil Works
- **Where USACE is going with BIM**
  - The Road Map
  - The challenge to industry


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In Support of the Army and the Nation

The U.S. *Army* Corps of Engineers

USACE Army Missions

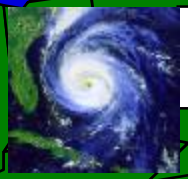
627 Shallow Draft Harbors

¼ of Nation's Hydropower Production

383 Major Lakes & Reservoirs 376 M Visitors/yr

299 Deep Draft Harbors

11,000 miles Inland Waterways



Emergency Operations

400 miles Coastal Structures

4340 Recreation Areas

276 Locks

$500M Annual Dredging Costs

8500 Miles of Levees

11.7 Million Acres Public Lands

Environmental Stewardship

Regulatory Responsibilities

- ü *US Ports & Waterways convey > 2B Tons Commerce*
- ü *Foreign Trade alone Creates > $160 B Tax Revenues*
- ü *Cumulative Flood Damage Prevention >$419 B*

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Military Programs

"To provide engineering, construction, environmental management and real estate services for the Army, Air Force, other assigned U.S. Government agencies, and foreign governments."

Army

U.S. Government Agencies

Air Force

Foreign Govt's Worldwide

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Why BIM?

- **BIM Supports USACE Strategic Organizational Goals**
- **BIM Effectively Supports MILCON Transformation**
  - BIM benefits in design and construction
  - Goal to accrue O&M benefits
- **BIM Integrates With Current Applications and Programs**

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USACE BIM Examples

- **Fort Lewis Barracks, Seattle District**

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USACE BIM Examples

- **Information Technology Laboratory, Engineer Research and Development Center**

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USACE BIM Examples

- **Army Reserve Center, Louisville District**

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USACE BIM Examples

- **Iraq Prison, Gulf Region Division**

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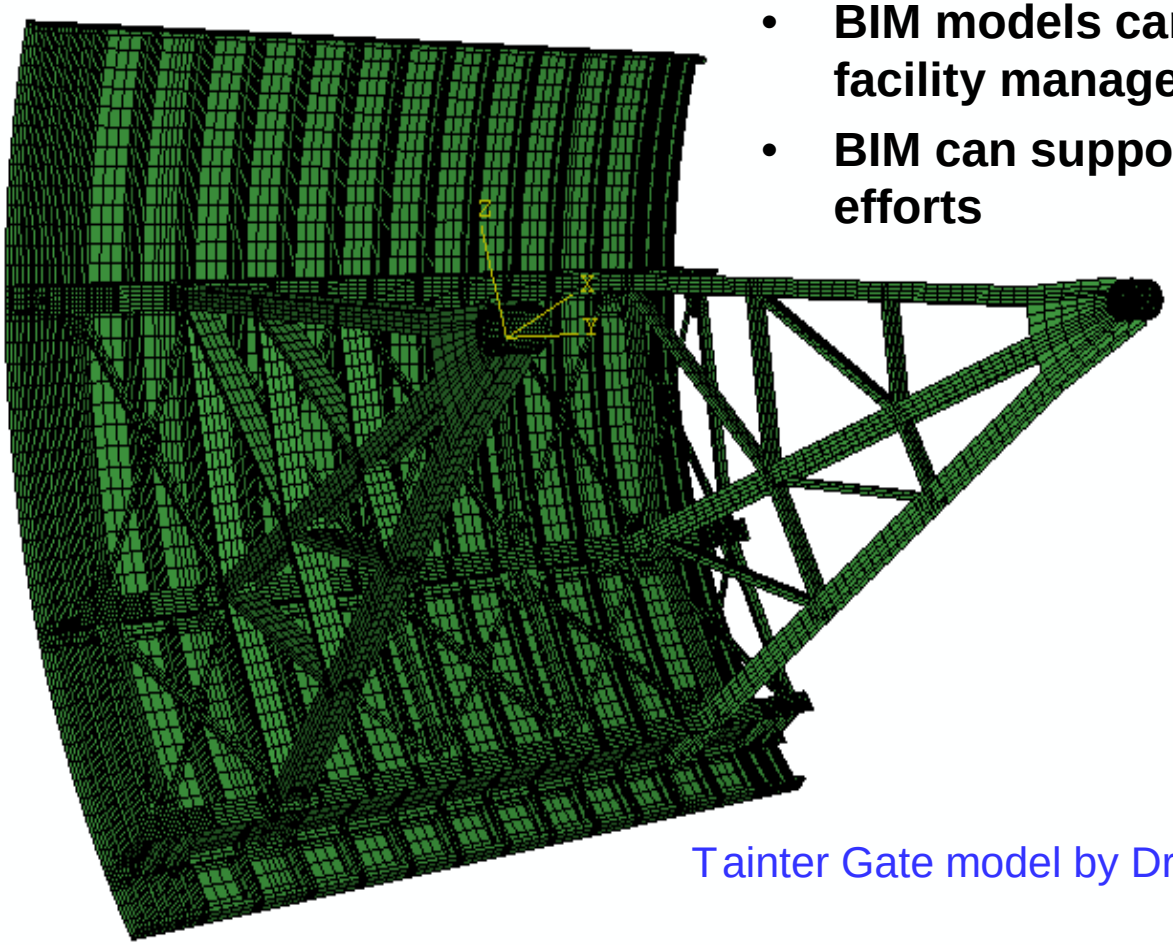
BIM in Civil Works



- **BIM models can feed computer-aided facility management systems**
- **BIM can support asset management efforts**

Tainter Gate model by Dr. G.A. Rivieros, P.E., ERDC-ITL

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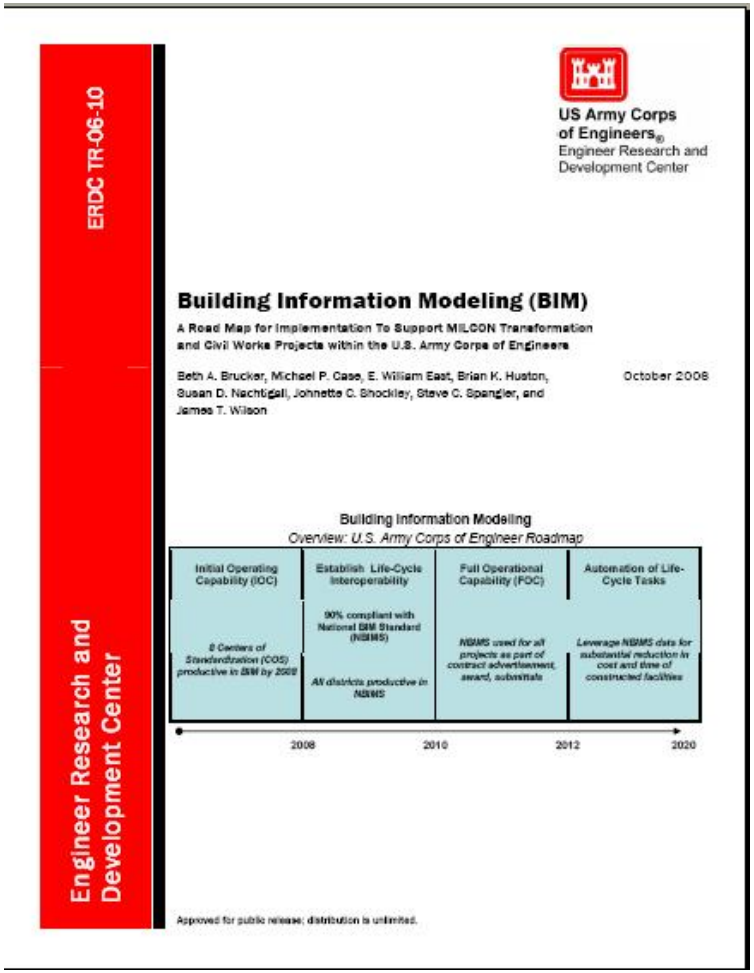
BIM Road Map Approach

- Phased approach
- Clearly states goals in adopting BIM
- Communicates intentions to industry
- Provide advice and lessons-learned in BIM adoption
- Anticipate technology, but plan to adjust to technology and industry risk
- Seek input and review by BIM Communities of Practice
- Living Document - Revise plan as technology matures



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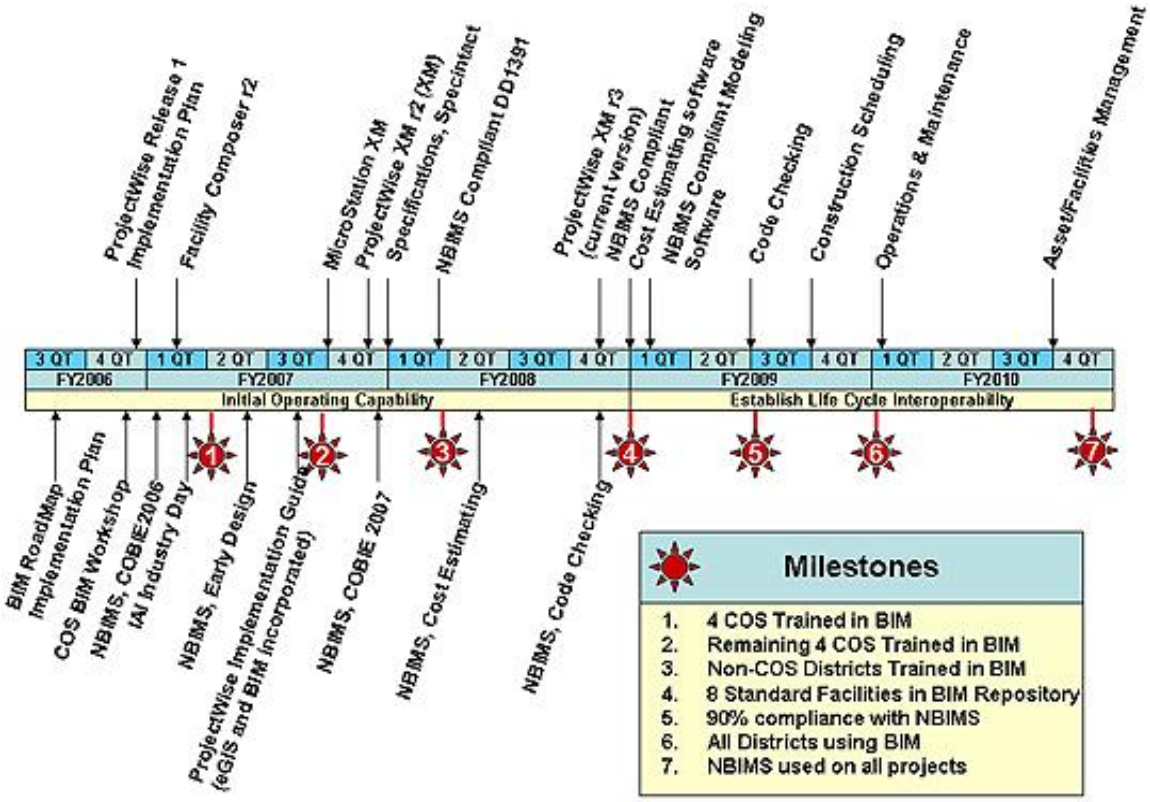
USACE BIM Road Map

- Addresses Short-term (FY08) and Long-term (FY12) goals
- Provides Implementation Guidance
- Addresses Military Transformation, Centers of Standardization, and Civil Works
- Address BIM in D-B and D-B-B
- Addresses O&M Requirements



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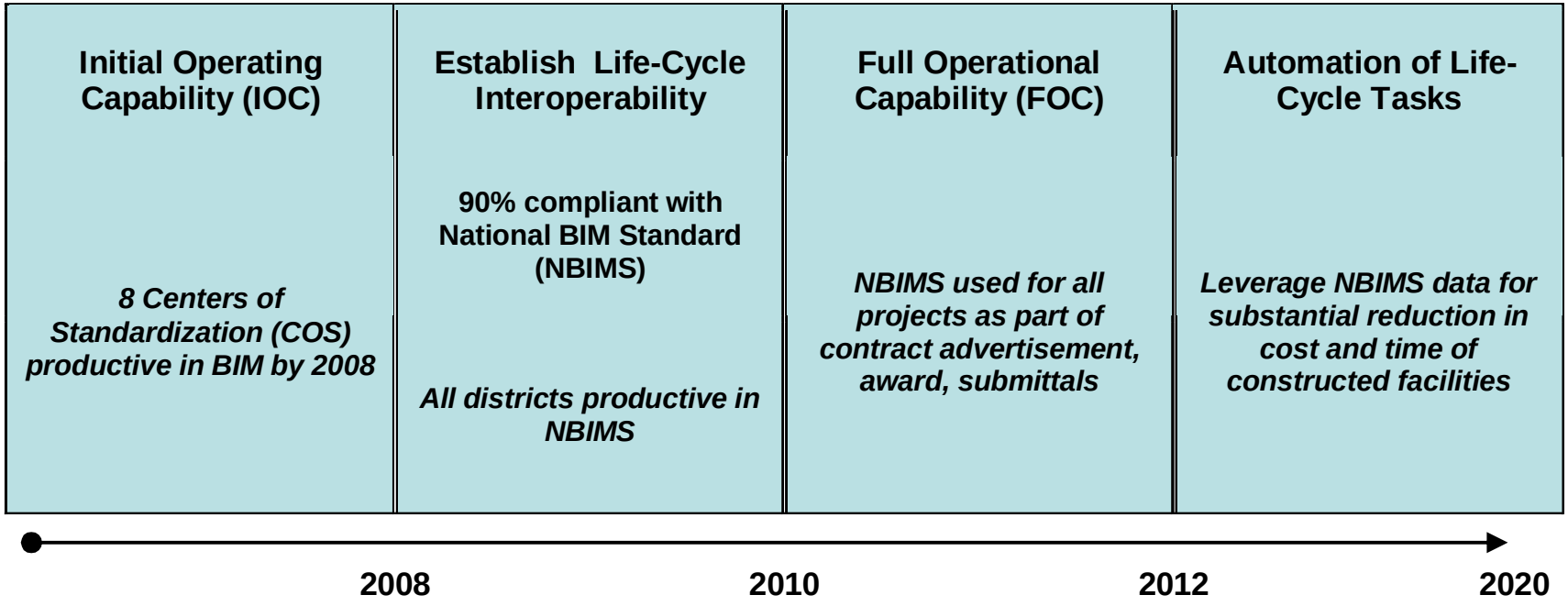
USACE BIM Road Map

Achieve a coordinated move towards BIM while managing technology and business process risks

Building Information Modeling

Overview: U.S. Army Corps of Engineer Roadmap



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USACE Challenge to Industry

- **We expect our design and construction contractors to develop BIM capabilities**
- **We expect software vendors to use Industry Standards (e.g. NBIMS) and achieve interoperability**
- **We expect BIM-based deliverables**

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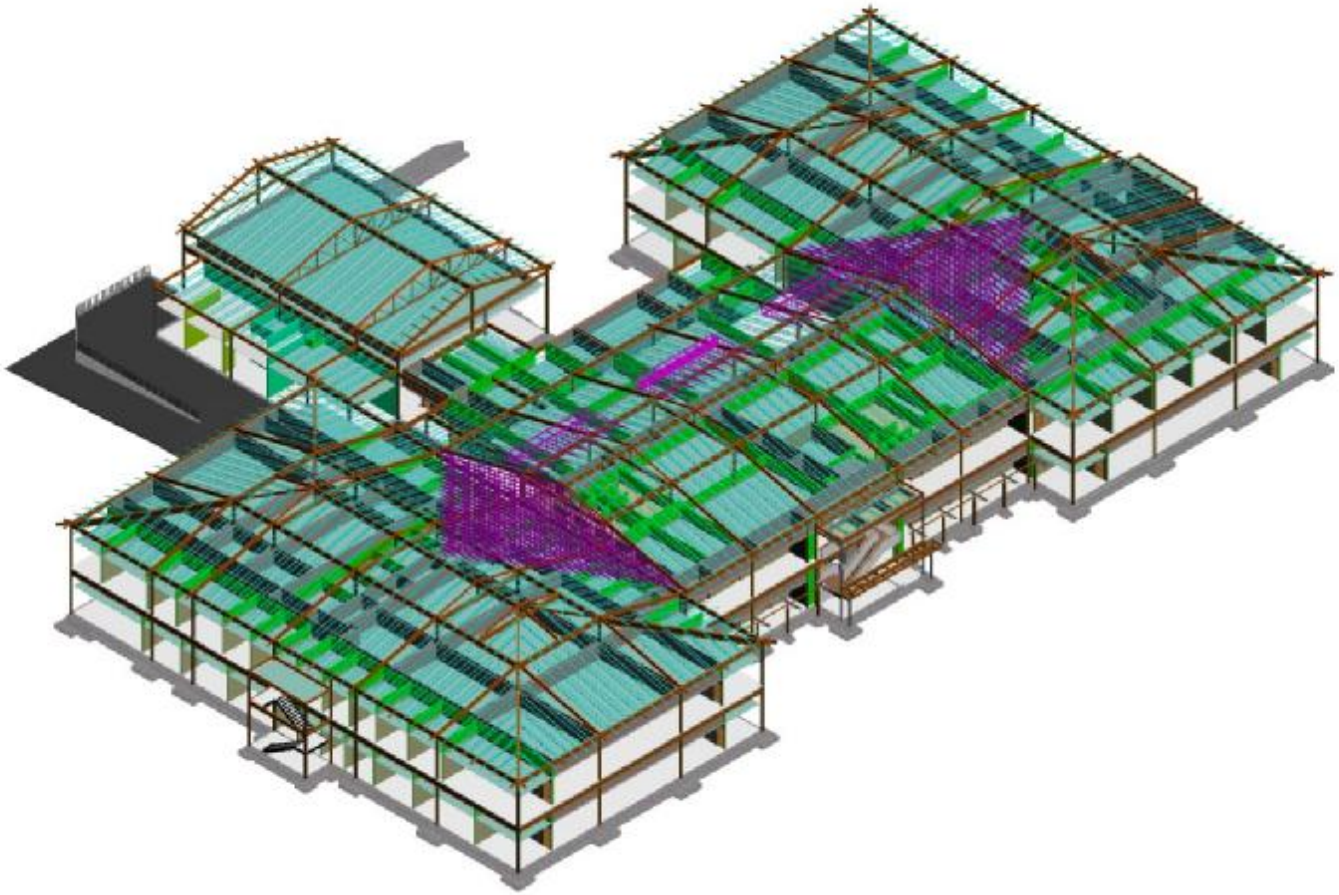
BIM POC



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