

# INLAND NAVIGATION DESIGN CENTER

## STANDARDIZATION FOR NAVIGATION INFRASTRUCTURE

### Inland Waterways Users Board Meeting

July 19, 2017

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# USACE Priority: Standardization of Navigation Infrastructure

LTG Semonite issued charge on June 23, 2016 after site visit to Pittsburgh District

- Standardization of Lock and Dam infrastructure included in Campaign Plan – Transform Civil Works
- Focus on 100-year implementation to save future O&M
- Develop an Enterprise approach
- Integrate Asset Management Philosophy



# Standardization of Navigation Infrastructure Implementation

- Inland Navigation Design Center will lead and build a joint integrated team
- Establish a national standardization framework
- Senior Oversight Group (SOG) will provide a long-term focus
- Resource base
  - Joint effort by Engineering and Operations
  - Utilization of Subject Matter Expertise
  - Coordination with ERDC R&D



# Senior Oversight Group

INDC Director (Chair)	INDC Deputy Director
MVD Chief, Business Technical Division	LRD Chief, Business Technical Division
MVD Chief, Operations	LRD Chief, Operations
MVD Regional Maintenance PM	LRD Regional Maintenance PM
MVD Navigation Business Line Manager	LRD Navigation Business Line Manager
ERDC HQ Technical Director	SAD Rep
HQ AM Program Manager	NWD Rep
HQ Structural Engineer	SWD Rep
HQ Program Manager (Nav)	NAD Rep
IMTS Program Manager	PAO Rep



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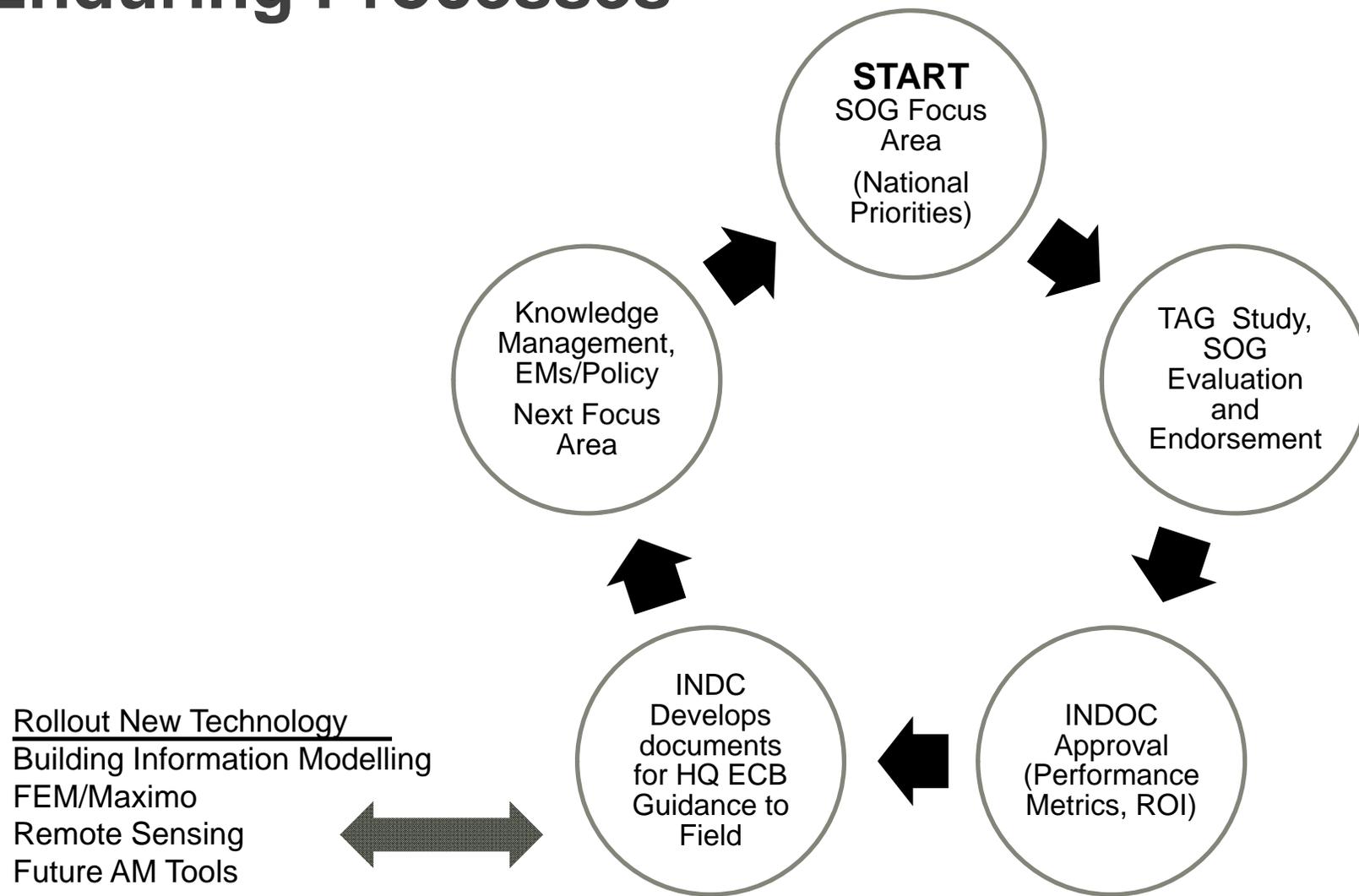


# SOG Roles and Responsibilities

- Advisory body to INDOC
- Enduring body for the future
- Assess Life Cycle Management – Return on investment
- Identify high value opportunities
- Endorse and recommend plans for standardization
- Scope for technical action teams
- Monitor progress and metrics
- Assess products/recommendation/conclusions for implementation
- Communication across USACE (PAO)



# Enduring Processes



# GUIDING PRINCIPLES PLANNING FOR THE NEXT 100 YEARS

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Enhances navigation system performance

- Consistency in facility usage for customers
- Reduce Life-Cycle Costs
- Improve Sustainability
- Reduce inventory and storage requirements
- Optimize components for reliability and ease of replacement
- Efficient contracting
- Standardize repair by eliminating site specific designs
- Reduce training needs

Leverage Technology

- BIM (Building Information Model)
- Focus R&D efforts



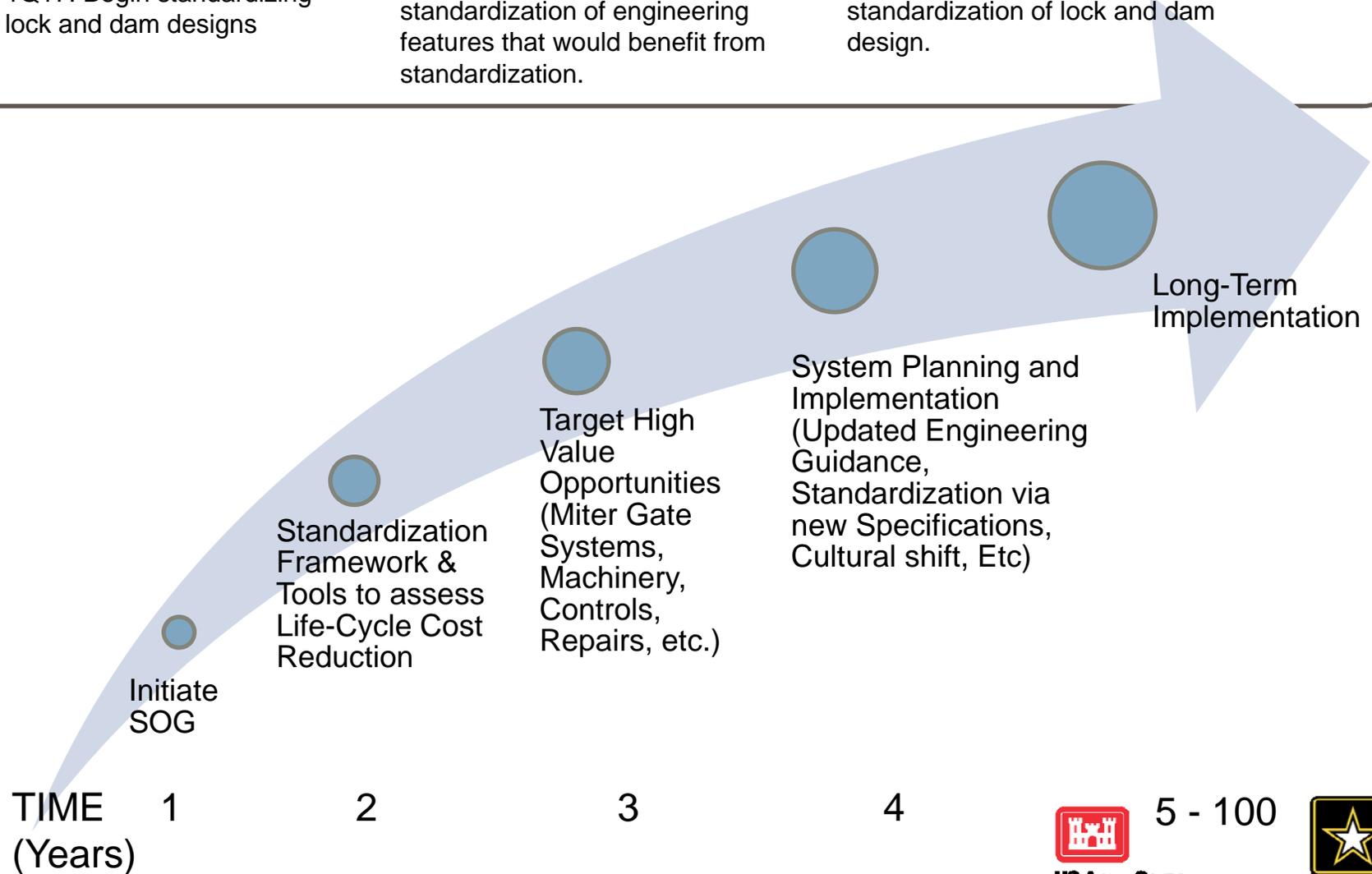
# Implementation Path

## Priority Action 2a.1 – Delivery Quality Water Resources Solutions and Services

1Q17: Begin standardizing lock and dam designs

4Q18: Implementation plan for standardization of engineering features that would benefit from standardization.

4Q19: Achieve target 50% standardization of lock and dam design.



# Implementation Considerations (INDC/SOG/INDOC to develop)

- Determine life-cycle management system
- Determine most common problems across navigation system
- How and what to standardize - by river, geographic area, MSC, by component, etc.
- Determine applications for repair, inspection, evaluation, design, and knowledge management
- Balance innovation with standardization



# Ongoing Standardization Efforts

- Standardize miter gate anchorage inspection, risk analysis and repair guidelines – **New start**
- Interchangeable bolted components for miter gates on the Upper Mississippi River Locks - **In progress**
- Uniform bulkhead slots and bulkheads for the Upper Ohio River – **In progress**
- Use interchangeable bolted components on upper miter gates for the Illinois Waterway - **In progress**
- Sustainability and Standardization study for selected mechanical and electrical components – **In Progress**
- Interchangeable lock bulkheads on Upper Mississippi River and Illinois Waterway - **Completed**



# Questions?

