TPF-5(523) BIM for Bridges and Structures Pooled Fund: Project Overview & Update

IHEEP Conference – FHWA DDSG

October 7, 2025

BIM FOR BRIDGES AND STRUCTURES
TPF-5(523)

01 Project Vision and Goals

Introductions

Presenter

Will Sharp, PE
HDR
TPF-5(523) Project Principal

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Executive Committee Owner Members

Jim Hauber
Iowa DOT
TPF-5(523) Study Champion

Brad Wagner
Michigan DOT
JTCEES Member

Cheryl Hersh Simmons
Utah DOT
JSTAN and JTCEES Member

Scott Westerfield
Mississippi DOT
JSTAN Member

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Iowa DOT
TPF-5(523) Study Lead

Thomas Hamski
Iowa DOT

Brenda Crudele
New York State DOT

Rick Brice
Washington State DOT

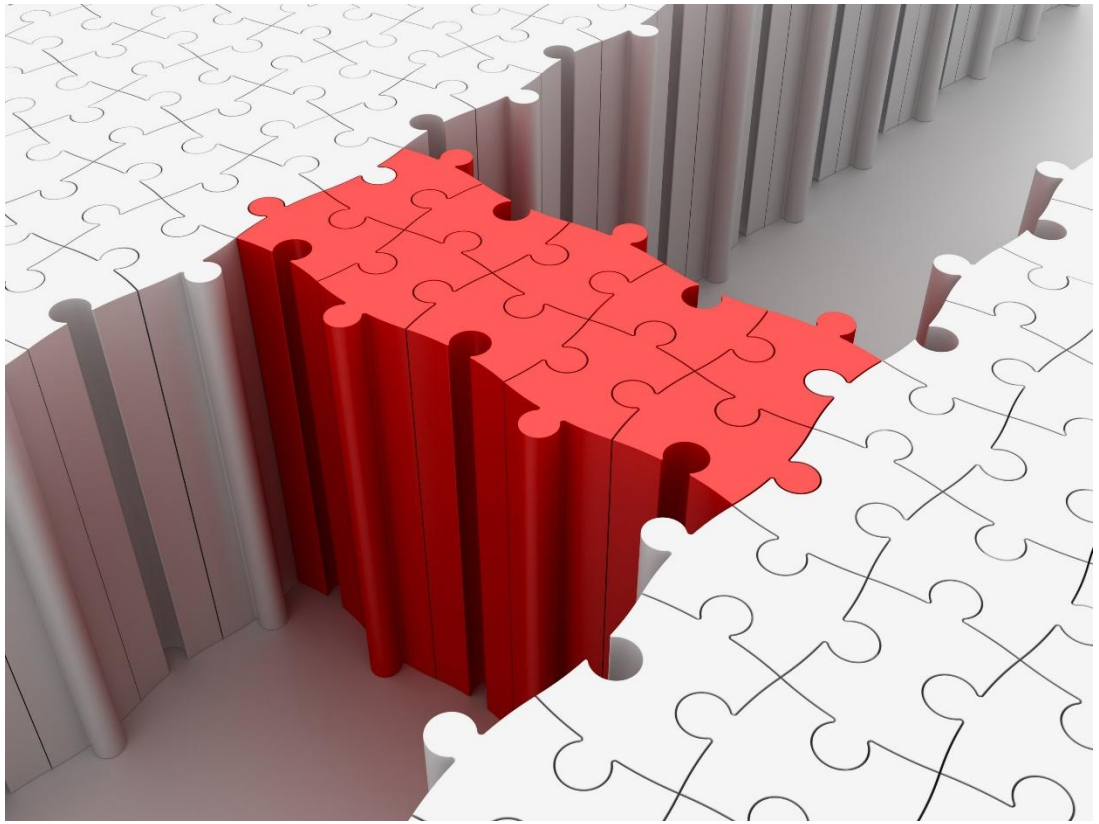
Linh Warren
FHWA Liaison

24 STATES PARTICIPATING

01 Alabama
02 California
03 Delaware
04 Florida
05 Georgia
06 Illinois
07 Indiana
08 Iowa
09 Michigan
10 Minnesota
11 Mississippi
12 Missouri
13 Montana
14 Nebraska
15 New York State
16 North Carolina
17 Ohio
18 Oklahoma
19 Pennsylvania
20 Texas
21 Utah
22 Vermont
23 Washington
24 Wisconsin
FHWA

TPF TRANSPORTATION POOLED FUND

BIM for Bridges & Structures



Problem to Solve

Designers, contractors, fabricators, and State DOT asset owners who want to use 3D models and digital technology cannot share information if they do not use the same brand of software

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The Vision

Enable consistent, reliable, repeatable open digital information exchanges for transportation agencies for bridge design, construction, and asset management

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BIM

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Solution

Develop AASHTO-endorsed data standards to facilitate digital workflows and share information in a non-proprietary format

These solutions will be:

1. *Adopted, deployed, and maintained by State Departments of Transportation*
2. *Implemented by technology providers**
3. *Accepted by industry to encourage use and drive innovation*

** Software vendors, in-house software developers, etc.*

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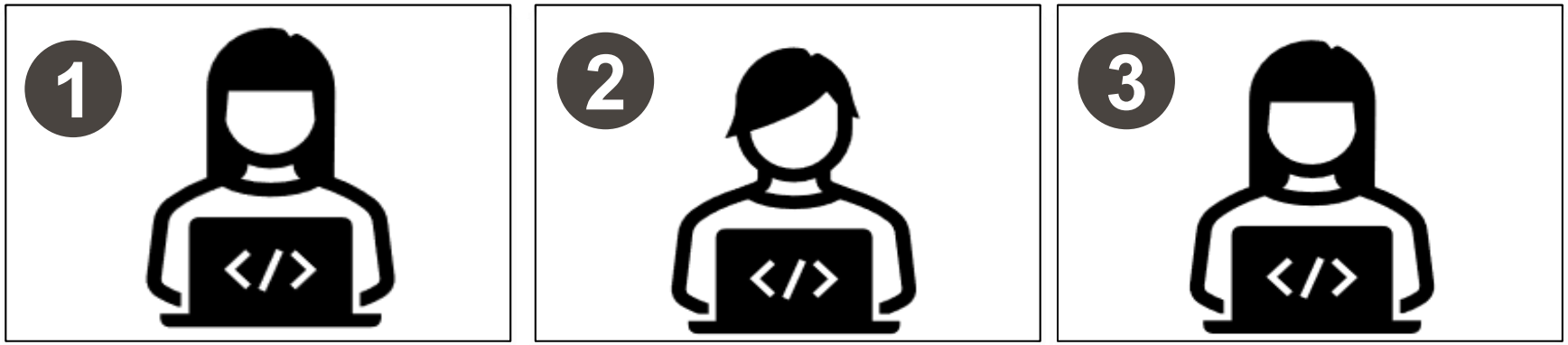
Data Exchanges using Open Standards



ENGINEER
Creates Model using Software of Choice

ENGINEER
Exports Model IFC Files for Owner

OWNER
Advertises Project Model openBIM

CONTRACTOR
Imports Model openBIM Files

CONTRACTOR
Exports Model openBIM Files

OWNER
Imports openBIM for Asset Management

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02 Project Activities

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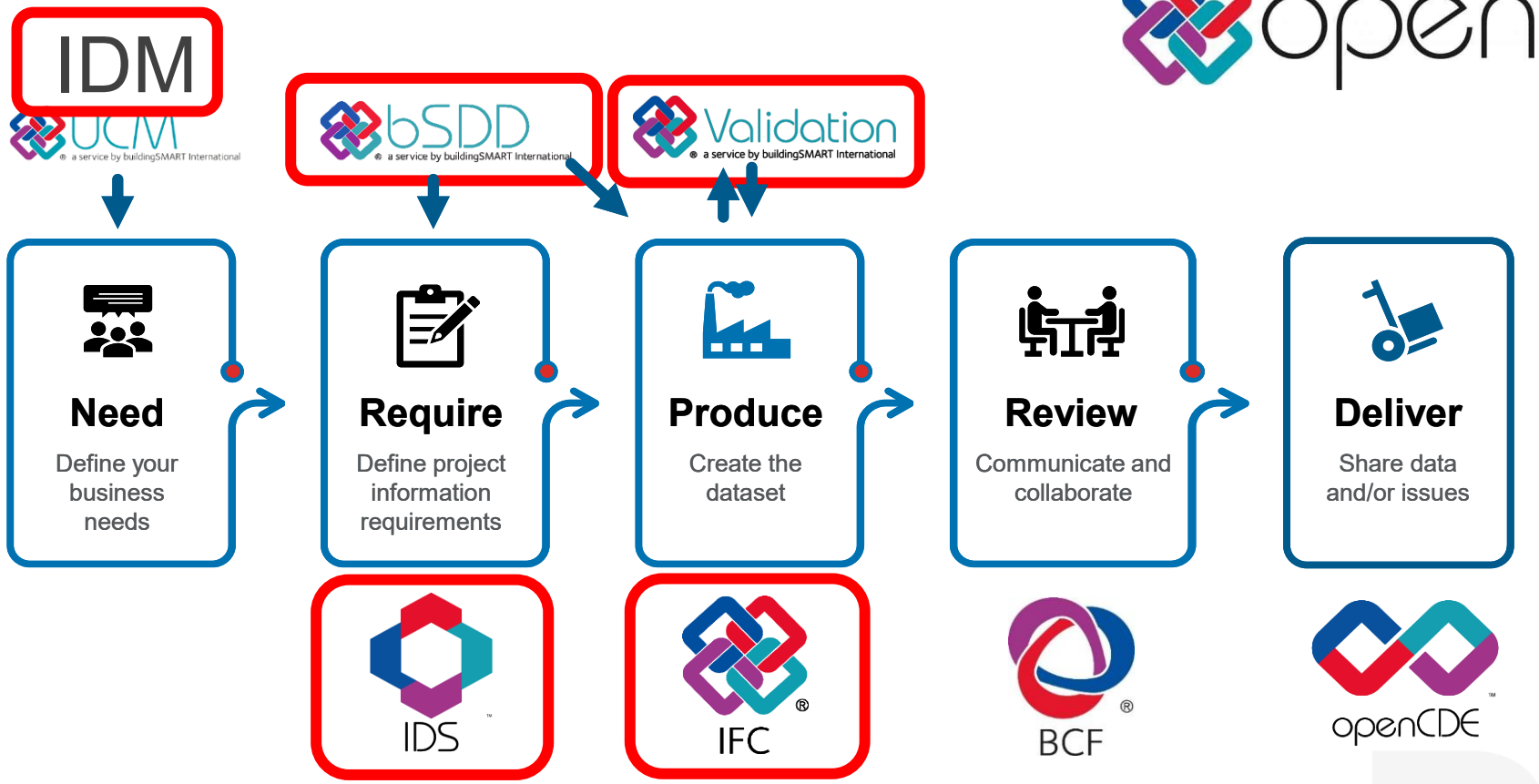
openBIM®



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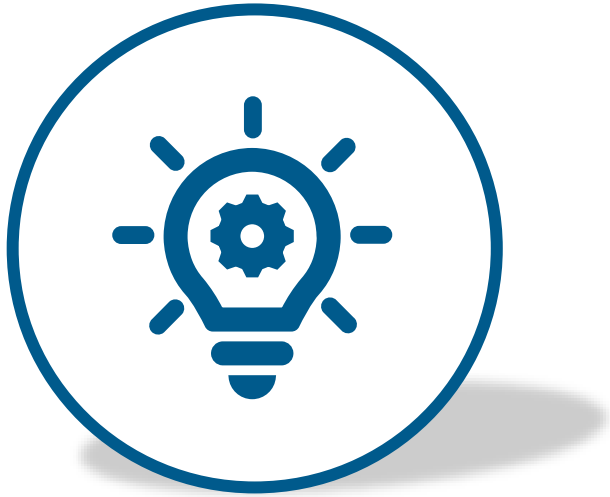
BIM for Bridges Pooled Funds Summary

	TPF-5(372) – Phase 1 BIM for Bridges & Structures (2018-2024)	TPF-5(523) – Phase II BIM for Bridges & Structures (2024-2028)
Goal	Develop AASHTO-endorsed openBIM national data standards for "Design to Construction Exchange" for conventional bridge types	Develop AASHTO-endorsed openBIM national data standards for "Fabrication Detail Exchange" and up to two additional exchanges for conventional bridge types
Focus	Conventional, workhorse bridges, design-bid-build	Conventional, workhorse bridges, design-bid-build
Selected Data Exchanges	**1** Construction Contract Model	**3 – 4 planned** Related to As-Built Model
Create & Publish AASHTO-Endorsed IDM	✓	✓ **(planned)**
Develop IDS	✓	✓ **(planned)**
Develop Data Dictionary Content & Publish via bsDD Service	✓	✓ **(planned)**
Engagement with Industry Stakeholders	**Limited**	**More Robust**

Phase II: Key Focus Areas



Data Standards Development

State DOT Pilot Project Support

External Stakeholder Collaboration

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External Stakeholder Collaboration

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TPF-5(523) Industry Collaboration Needs

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TPF-5(523) Industry Collaboration Needs

- Long-term commitment
- Consistent personnel
- Fewer meetings
- More strategic and vision oriented
- One champion from each industry group

- Potential short-term commitment
- Personnel dependent on work tasks
- Frequent meetings
- More technical and detail-oriented
- Multiple representatives from industry groups and State DOTs

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TPF-5(523) Industry Collaboration Needs

- Identify industry opportunities and challenges at national level
- Coordinate IAG with FHWA Digital Delivery Stakeholder Group, led by NIBS
- Coordinate with other National Digital Delivery Efforts (FHWA, TPFs, AASHTO Committees, …)
- Support open data standard development under BIM for Bridges

DENIZ MUSTAFA
Director | Highway & Transportation Leadership

ALLISON KLEIN

MATT RIEFFER

BRANDON CHAVEL

GREG CLAUSON

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TPF-5(523) Industry Collaboration Needs

- Participation from industry via NSBA and NCBC plus TPF DOT reps
- 2 focus areas: steel bridges, concrete bridges
- To support development of the next data exchanges selected by the TPF members

15-18 Members

- Bi-weekly meetings
- ~2 hours/meeting + “homework”
- ~8 hours per month
- Up to 6-month commitment

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Engaging with Technology Providers

24 Participating software developers/vendors

propeller

ProMiles

esri

Eriksson software

SOLIBRI
A NEMETSCHEK COMPANY

AASHTO
AASHTOWare™
SOLUTIONS

ALLPLAN
A NEMETSCHEK COMPANY

BridgeSight Software™

OPENBrIM

AUTODESK

BLUEBEAM
A NEMETSCHEK COMPANY

Bentley

infotech

HIGH STEEL STRUCTURES LLC
An Affiliate of High Industries Inc.

iENGINEERING

THE HARD CODE

Jaud IT GmbH

Catenda

Kiewit

Trimble

Michael Baker
INTERNATIONAL

LUSAS

WSDOT

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03 Q&A