

Idea to In-Service (I2I) V&V Process

Harry Bilicki, ANG-E72

Wanda Lopez-LaBarbera, ANG-E72



FAA

I2I V&V Process

Purpose

- Provide a method/framework to enable effective and efficient V&V across applicable I2I touch points throughout the lifecycle
- Ensure that the work products continue to align with the agency's overall goals and evolving vision as a program moves through the lifecycle

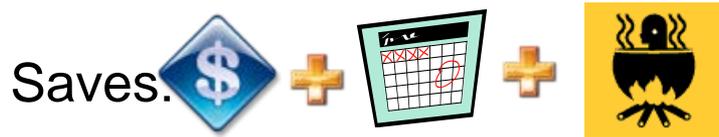
Objective

- Incorporate V&V into the overall I2I process

V&V Concepts

Why V&V?

1. Quality products
2. Early problem prevention, detection, and resolution



What is V&V

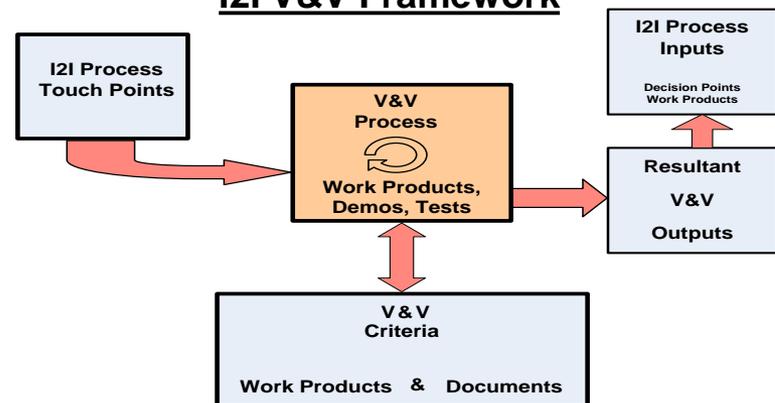
Verification- Ensures that selected work products meet their specified requirements

Validation- Demonstrates whether a product will fulfill its specified purpose

How to do V&V

- Focus on key work products
- V&V against reliable criteria
(Standards, plans/concepts, requirements, previous work products)
- Used as a basis for key decisions

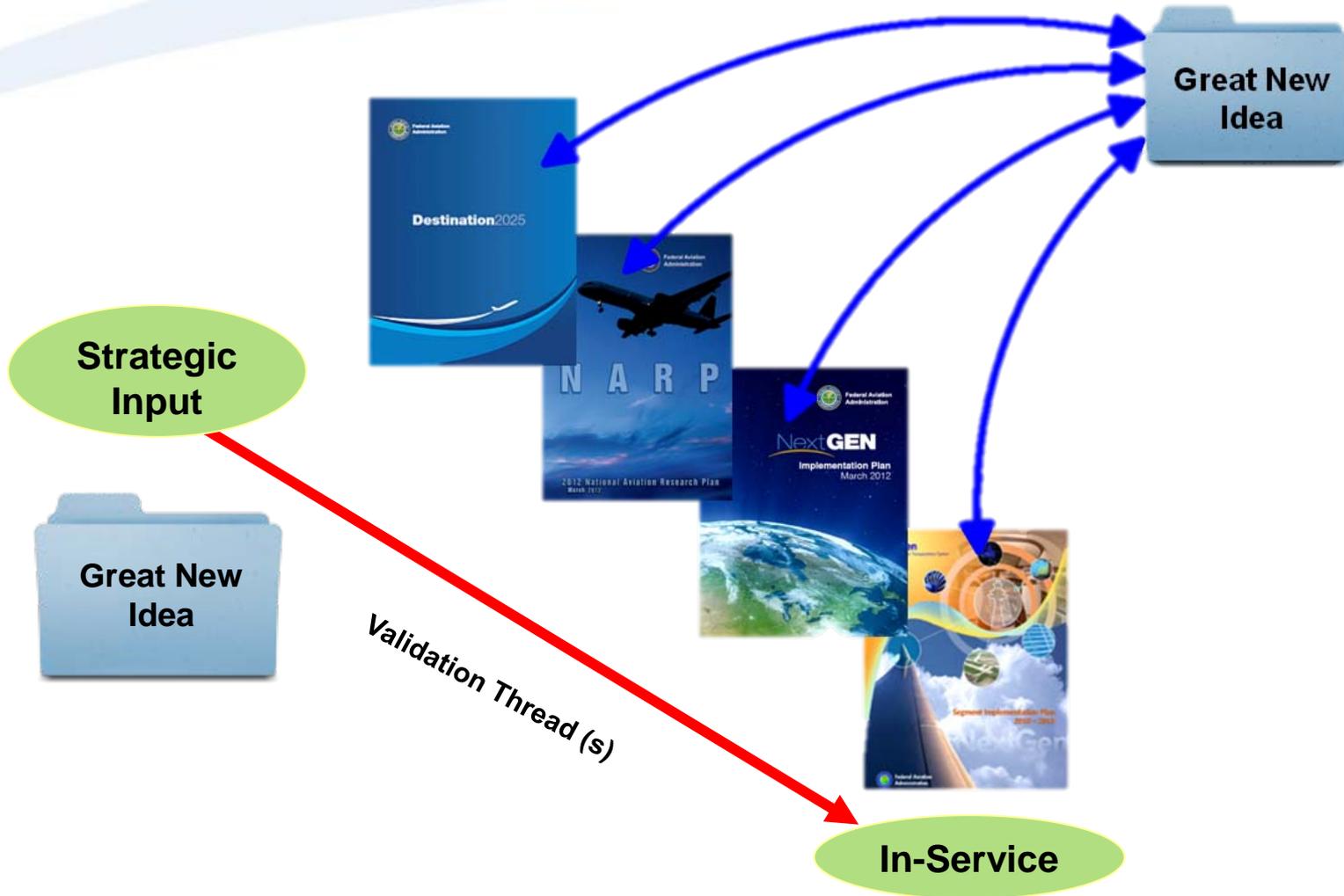
I2I V&V Framework



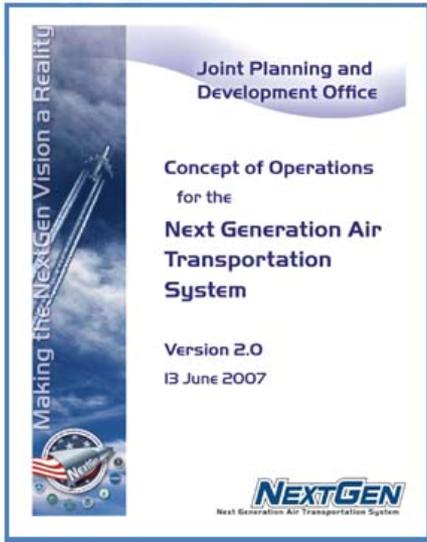
Baseline V&V



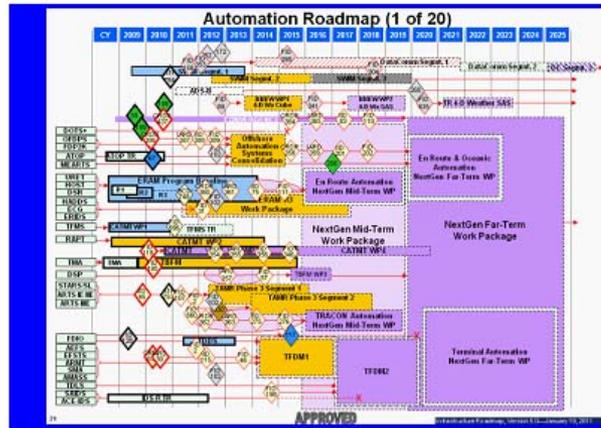
FAA Planning Documents



NAS Technical Documents



Con-Ops



Enterprise Architecture



NAS RD

Strategic Input

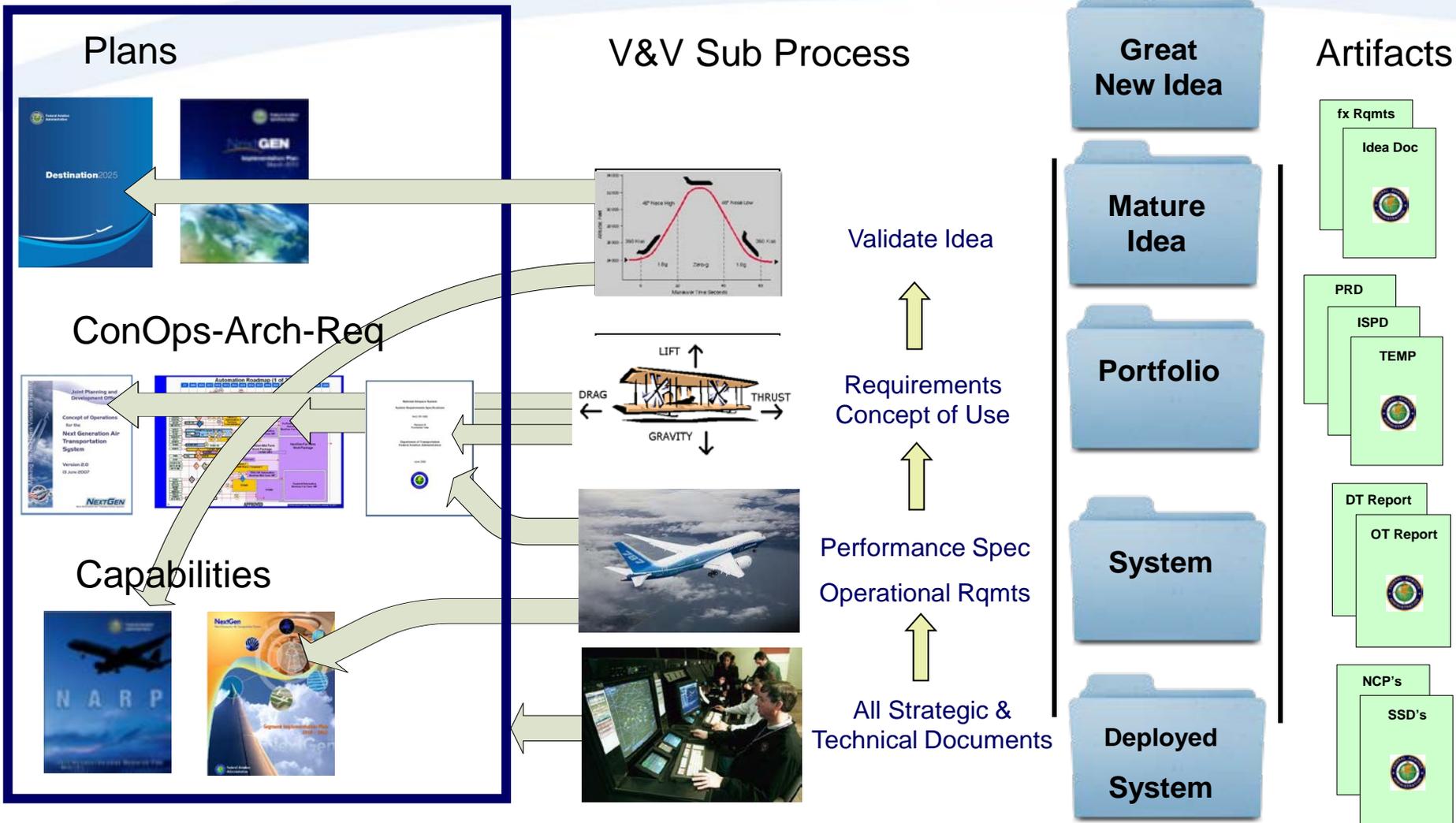
Great New Idea

Validation Thread (s)

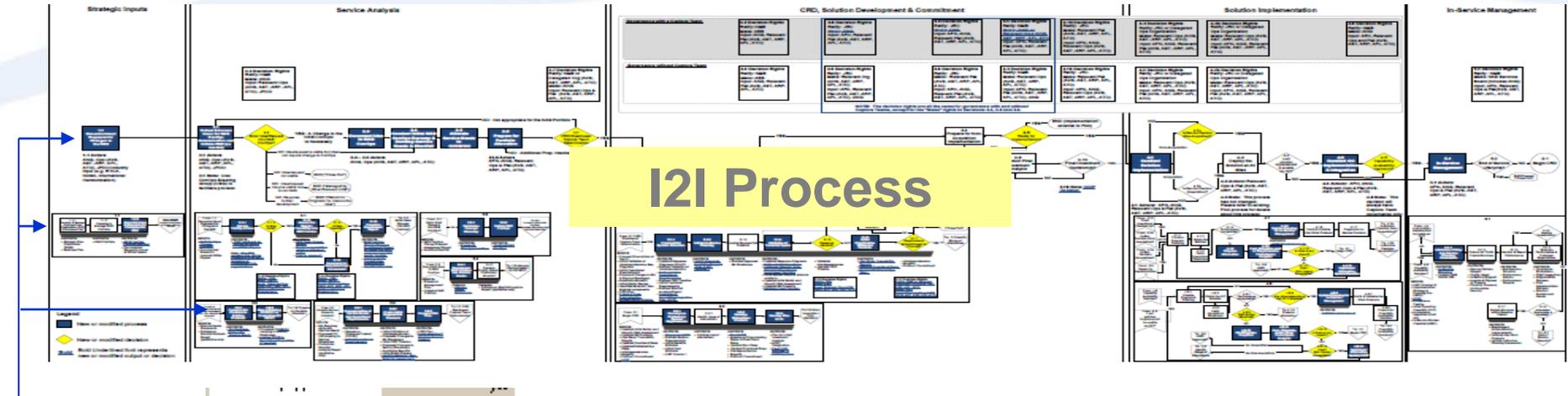
In-Service



V&V Concept for I2I Process - How it Works



Align I2I V&V Process with AMS Lifecycle



Touch Points

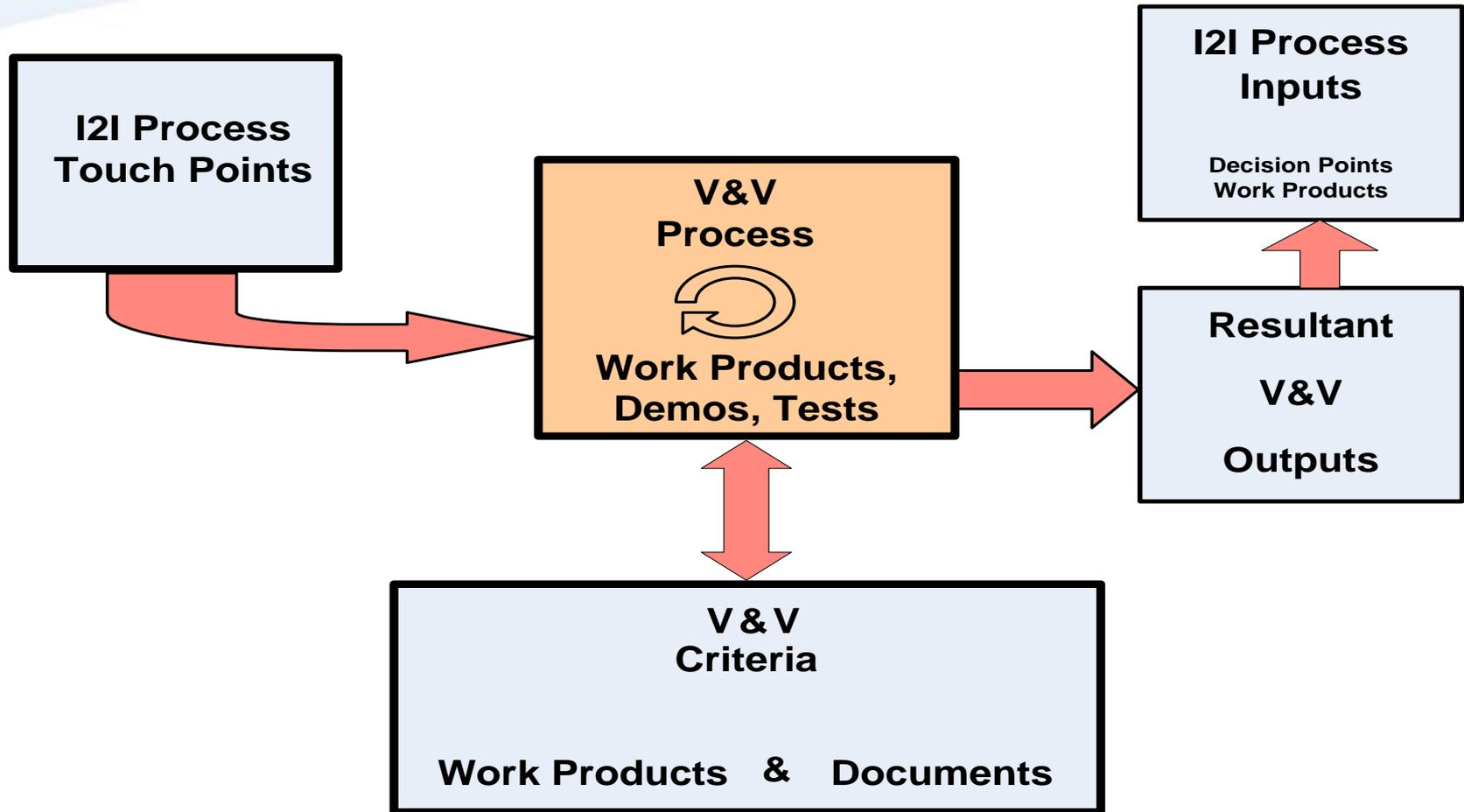
The table represents the V&V Process, structured as a grid with multiple columns and rows. A central yellow box labeled "V&V Process" is overlaid on the grid. The grid contains various symbols, including letters (A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z), numbers, and other characters, arranged in a complex pattern. The grid is divided into several vertical sections, likely representing different phases or components of the V&V process.



I2I V&V Summary

Lifecycle Phase	Touch Points	Work Products	New	Existing
Strategic Inputs	2	2	2	0
Service Analysis	5	5	3	4
CRD, Solution Development, and Commitment	5	13	1	12
Solution Implementation	1	6	0	6
In-Service Management	1	5	0	5
TOTAL:	14	31	6	27

How We Developed the I2I V&V Framework



Example: One Touch Point for Service Analysis

V&V I2I Process Touch Points and V&V Activity

Decomposition of Service Needs into Operational Requirements, 2.6.1

- Validate initial Operational Requirements against the NAS Requirements Document, EA, NAS ConOps, and the Service Needs Statement

V&V Criteria Documents

- ✦ NAS Requirements Document
- ✦ EA
- ✦ NAS ConOps
- ✦ Service Needs Statement

Resultant V&V Output

- ✦ Validated Initial Operational Requirements
- ✦ V&V Record

I2I V&V Summary

- A disciplined V&V process is essential to ensure quality work products in the I2I process
- A detailed I2I V&V process was developed and approved to assess work products against established criteria

Perform V&V early and incrementally to limit the impact of issue/defects throughout the lifecycle

Questions?

