Changing the Way We Organize Around Value

A Northrop Grumman Case Study

Saahil Panikar – Project & Team

Lindy Quick – Northrop Grumman

Introduction to the Speakers

Saahil Panikar, Principal

Project & Team

Enterprise Solution Delivery of
Large Cyber-Physical Systems
Lean Portfolio Management
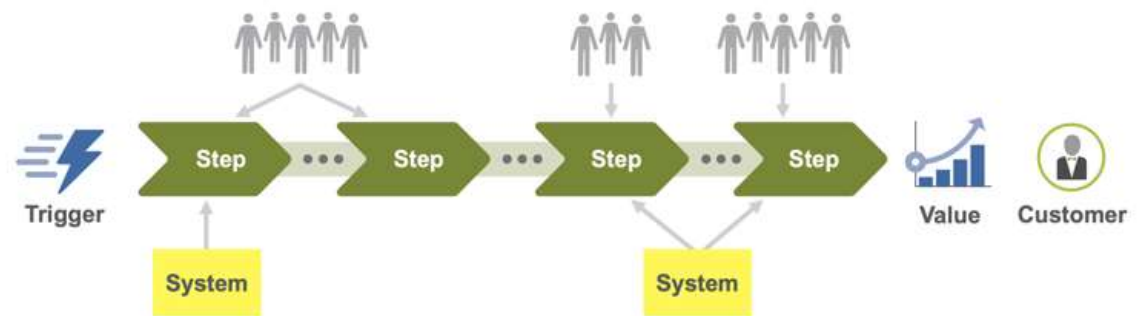
**Lindy Quick, Agile
Transformation Coach**
Northrop Grumman

Culture Transformation
Lean Portfolio Management
Agile Product Delivery

What is a Value Stream

Operational Value Stream - Sequence of Activities needed to deliver a product or service to a customer

Development Value Stream - Sequence of Activities needed to convert a business hypothesis to a digitally enabled solution

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Your Value Stream Is The Reason You Exist

Northrop Grumman Call to Action

Call for Agility

- 2020 Q1 Earnings Call "Kathy has been clear over the past year about driving increased efficiencies, strong performance around the business, being an agile Company that moves quickly and reduces bureaucracy." – Dave Keffer

Call for Digital Transformation

- "Northrop Grumman is leading the way in partnering with our customers on their digital transformation. We are designing, testing and deploying capabilities faster to respond to current and emerging needs...to deliver integrated digital capabilities across our portfolio of new and legacy programs."

Freakishly Large; Freakishly Complex

- MBSE

- Business Agility

- Hardware Agility

- Manufacturing

Plus Familiar Challenges:

- Technology
- Software Agility

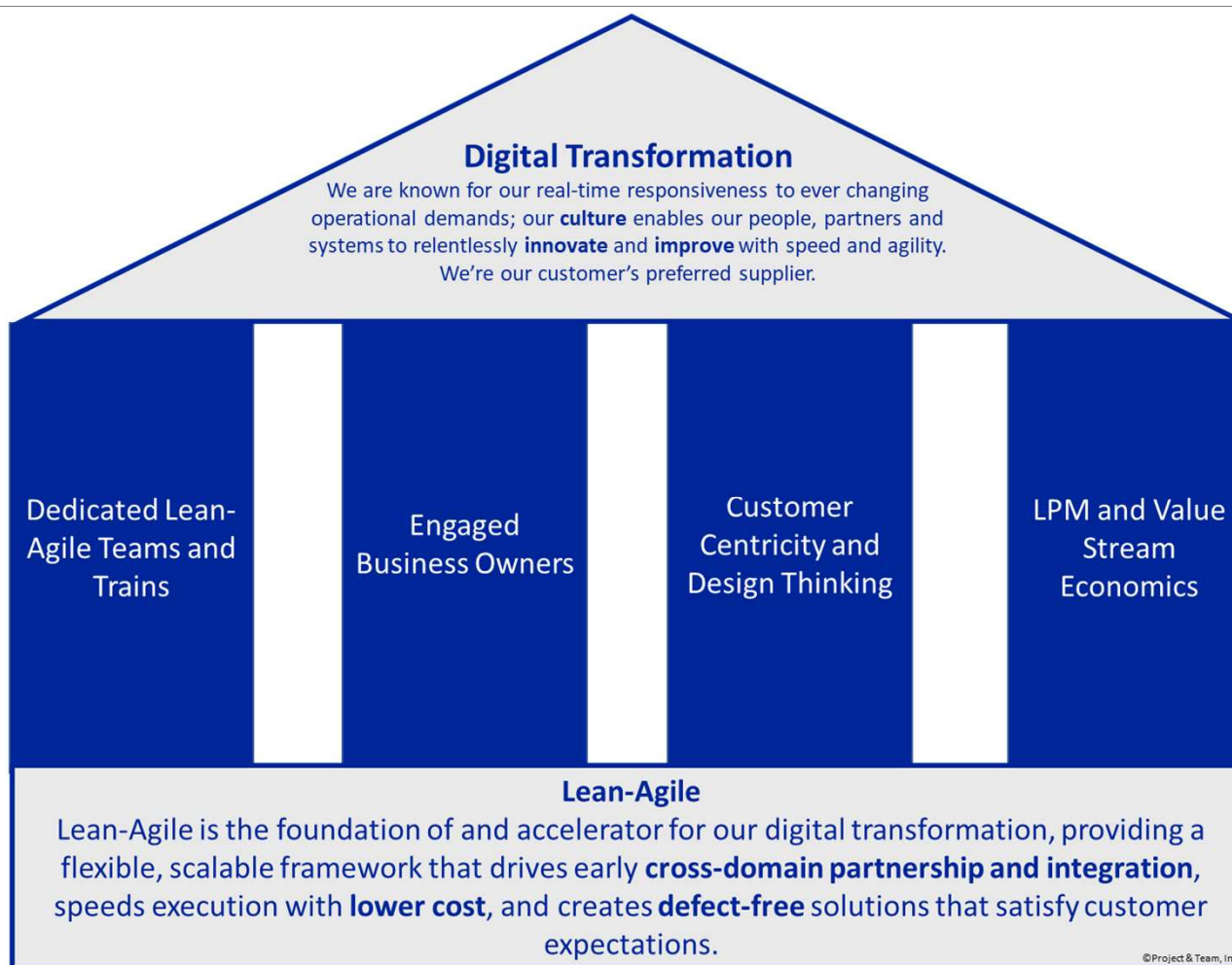# Northrop Grumman Structural Challenges

— Multi-Year Funding

— Federally Tied Funding

— Teams With A Purpose (Not Long-Lived)

Aha Moment!
Digital Thread

- A **Digital Thread** is an extensible, configurable, multi-directional integration of authoritative technical data, software, and information throughout a system's life cycle, enabling the capture of decision making information and knowledge. With our customers and end user in mind, the digital thread provides the framework for continuous feedback and incremental opportunities to build, refine and verify in a Lean-Agile framework.

Digital Transformation
We are known for our real-time responsiveness to ever changing operational demands; our **culture** enables our people, partners and systems to relentlessly **innovate** and **improve** with speed and agility. We're our customer's preferred supplier.

Dedicated Lean-Agile Teams and Trains

Engaged Business Owners

Customer Centricity and Design Thinking

LPM and Value Stream Economics

Lean-Agile
Lean-Agile is the foundation of and accelerator for our digital transformation, providing a flexible, scalable framework that drives early **cross-domain partnership and integration**, speeds execution with **lower cost**, and creates **defect-free** solutions that satisfy customer expectations.

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What Happened Next

Program A

Before: Long lead times with many complex dependencies

After: Time for hardware deployment went from months to days

"Wow, until this planning event with all of our people, we had no idea we would have missed our dates due to these dependencies"

Program B

Before: Uncontrolled, inconsistent development with low predictability and short-lived teams

After: Long-lived teams and train with regular, consistent delivery acting as an exemplar driving Digital Transformation

"The time we spent understanding our architectural runway really paid off and we are executing so much faster now"

Program C

Before: 6 months behind $2M overrun

After: Recovered 6 weeks in 3 months with 500k

"We have been working on this for 6 months and until [we] mapped out the business process we didn't know how to talk about the work"

Program D

Before: Working in waterfall with numerous part-time individuals

After: Met all ART deliverables in Iteration 1 and aligned to dedicated team members

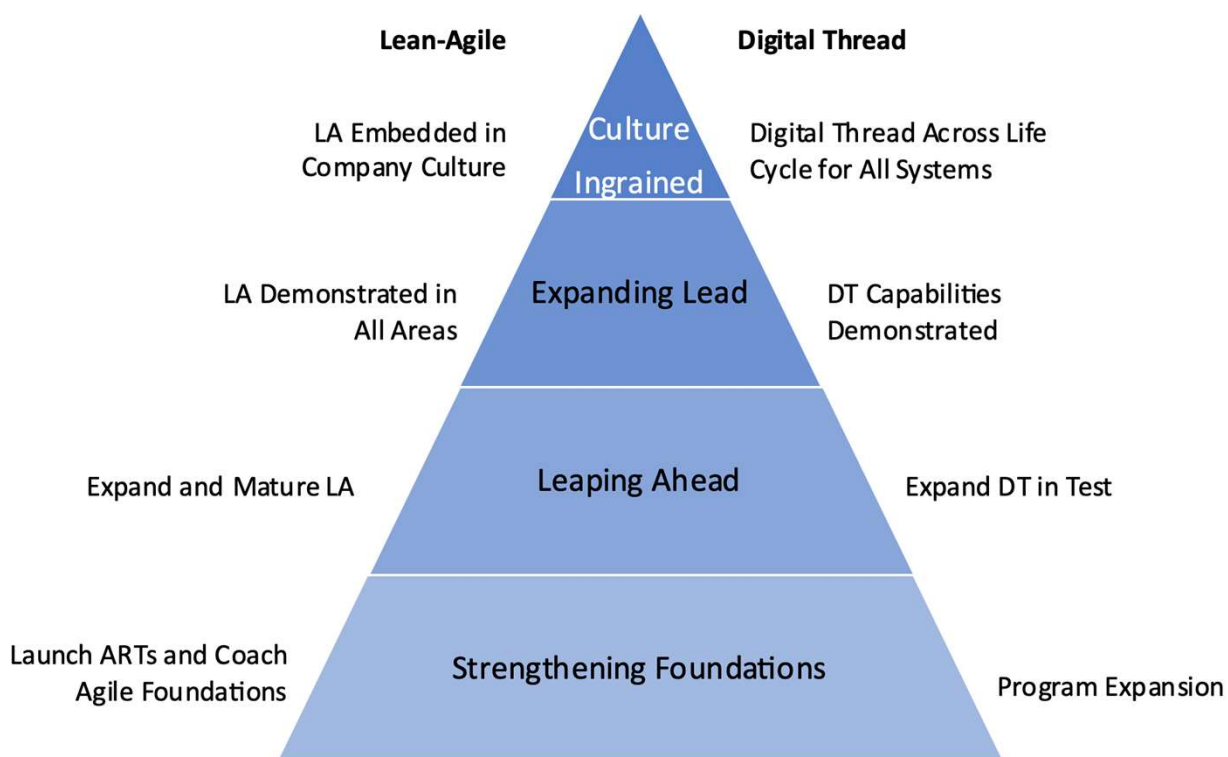*"That's incredible. We delivered in two weeks, what took three years previously"*

Where Are We Going

Continuing to apply Digital Thread Lessons/Business Agility to programs

Growing Agile and Digital Transformation culture

Lean-Agile   **Digital Thread**

LA Embedded in Company Culture — Culture Ingrained — Digital Thread Across Life Cycle for All Systems

LA Demonstrated in All Areas — Expanding Lead — DT Capabilities Demonstrated

Expand and Mature LA — Leaping Ahead — Expand DT in Test

Launch ARTs and Coach Agile Foundations — Strengthening Foundations — Program Expansion

Feedback Loops and The Help We're Looking For...

Thanks for the Inspiration

- Dr. Suzette Johnson
- Gene Kim
- Ken Pugh
- Jeff Shupack
- Cindy VanEpps
- Robin Yeman

Carry This Forward

- Find your Digital Threads
- Help us relentlessly improve
- Expand to other contexts