

Testing For The Next Century

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GLOBAL PRODUCT DATA INTEROPERABILITY SUMMIT 2017



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Why

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- Long test cycles
 - Majority of testing was manual
 - No centralized team or ability to move resources easily
 - Different standards and practices across applications and teams
 - Adoption of Test Driven Design, Agile, and other methodologies was inconsistent
 - . . .
-
- A new suite of systems is on the horizon
 - IoT
 - Digital Twin
 - Digital Thread

Validation and Testing Service

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- **Boeing has leveraged ITIL to drive the creation of a new Validation and Testing Service that supports both external and internal customers. This new organization has grown over the last three years to include a team of over 50 professional testers that will support over 4,000 applications.**
- **The Validation and Testing Service has also been able to increase work throughput while reducing the cost of testing internally to Boeing.**

ITIL Service Transition Timeline

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2014 – 2015
Transform Organization

2016
Focus & Mature

Production Operations – Strategic Focus

Deliver Value to the Business faster through continuous delivery by:

- Reducing the cycle-time to deploy critical and robust Services to the Business
- Championing production operational readiness

Production Operations Transformation Initiatives

Services Plan | Continuous Delivery | Reducing Technical Debt

Product Systems Operations Transformation

Investing in the Business

- Providing Increased Business Capacity
- Resources aligned to the highest priorities
- New Development work for our Team
- Change focused on Business Value

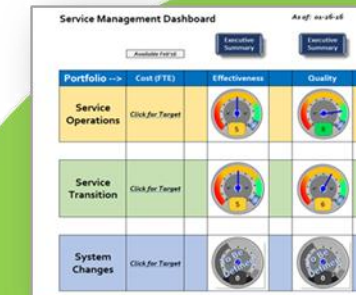
Increased investment in Ourselves

- Reducing Technical Debt
- Continuous Service Improvement

Services Delivery

- Dedicated Team Focused on Delivering Functionally Excellent Services
- Efficiencies through Standard Practices
- Knowledge & Skills Continuously Developed
- System Change constricted to break/fix

Transforming Product Systems Work



Intensify Focus On Service Delivery



Continued Investment in Ourselves

IT Strategy

Home > About IT

- Develop People & Leadership**
Attract, develop and retain a world-class IT team. Recognize and reward an open and inclusive culture. Establish a safe, diverse, engaged and high performing team. Invest in our future for technical and leadership excellence.
- Run for IT Business**
Provide secure, resilient and scalable solutions. Deliver integrated, well-engineered end-to-end services. Ensure first time quality in all that we do. Align IT Services with business outcomes.
- Protect & Secure the Business**
Develop flexible and appropriate risk based scores for data. Implement robust integrated network defense. Integrate security best practices into every IT life cycle. Optimize technology to monitor and protect the environment.
- Drive Business Value**
Enable business results by delivering innovative solutions. Earn business partner trust with uncompromising customer focus. Ensure competitiveness through ongoing productivity improvements.

Flawlessly delivering global IT solutions

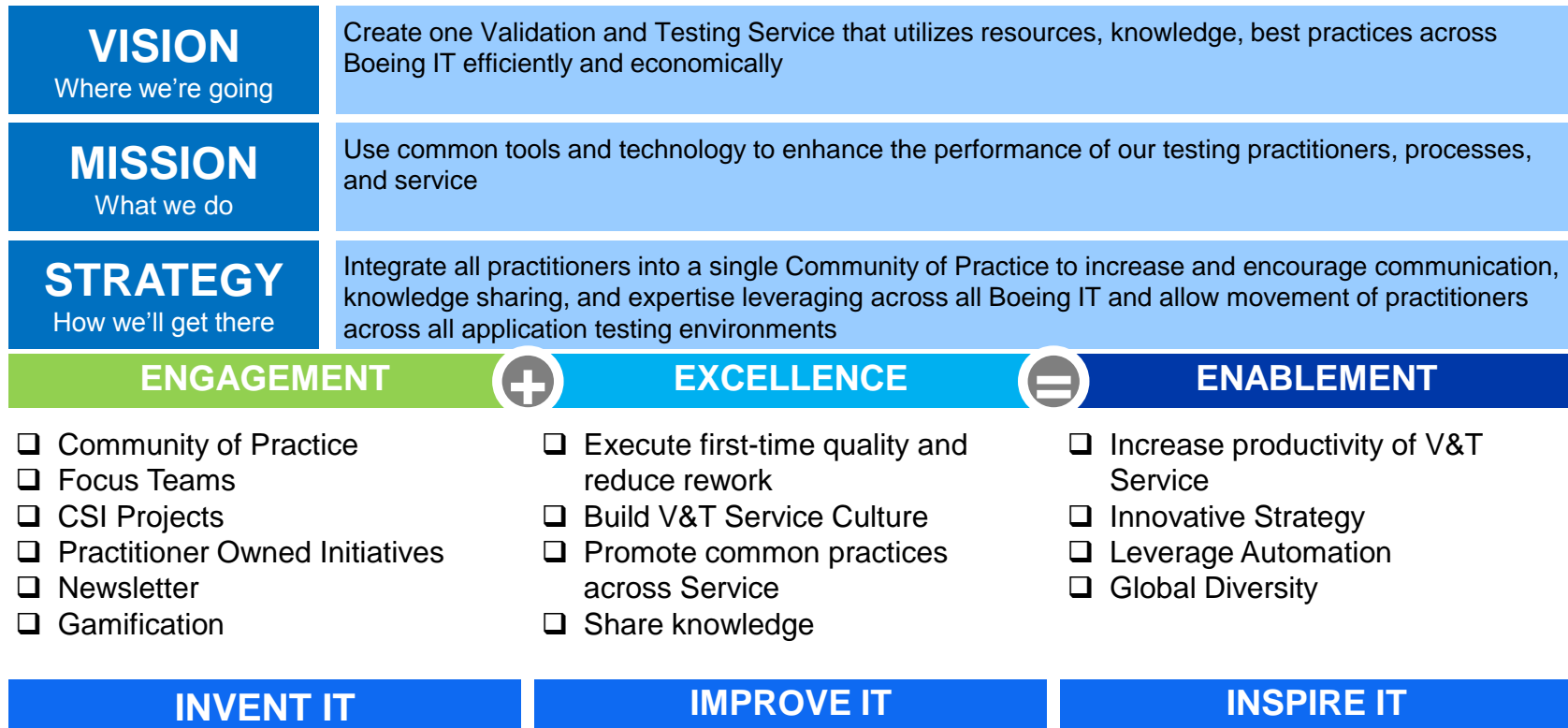
IT Run Partnership



People Engagement & Alignment

Vision, Mission and Strategy

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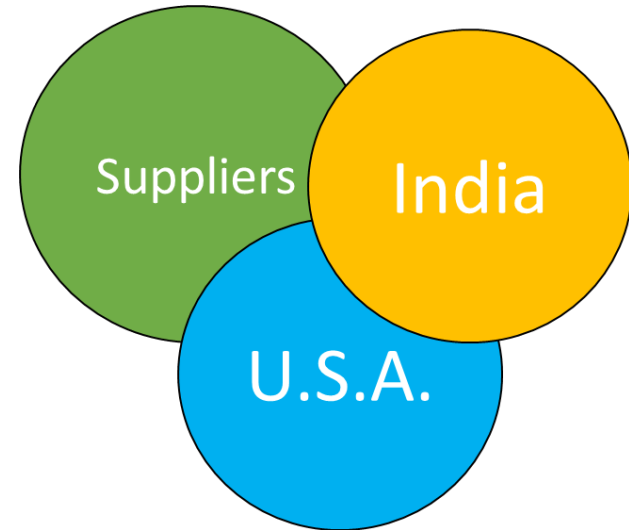


Team Operation

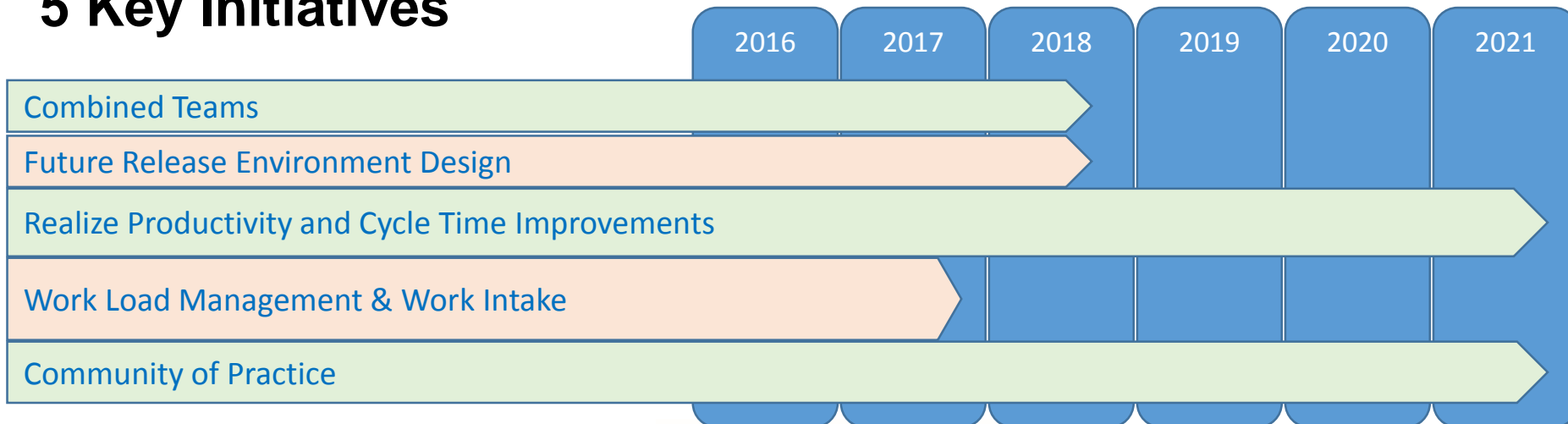
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Focus Teams

- Automation
- Integrated Test Management
- Cross Functional / Process
- Metrics
- Common Tools
- Communication



5 Key Initiatives



People Process Technology

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People

- Global Test Communication
- Global Teaming and Coordination
- Follow the Sun Test Support
- Test Subject Matter Experts
- Cross Training Methodology

Process

- Test Analysis and Authorization
- Test Planning and Coordination
- Test Environment Management
- Test Strategy and Standards
- Testing Best Practices and Processes

Technology

- Common Test Tools
- Common Test Environments
- Automated Testing
- Performance and Scalability Testing
- Common Metrics

By utilizing a clear vision, a centralized leadership model and a focus on the three themes of people, process and technology the Validation and Testing service has allowed Boeing to make strides with implementing software delivery best practices. including:

Gamification

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Problem to Solve:

- Hard time collecting status
- Teams not properly planning to meet schedule dates

Target:

- Engage Practitioners with Horse Race game to increase accuracy of status

Benefits:

- Increased visibility, communication participation and a greater understanding of where people are with Issues across teams.
- Focused attention on items that need help only.
- Increased number of teams meeting test schedule.
- Increased collaboration across integrated test efforts and teams
- Reward is focused on teams that stay on plan and finish on time with no Issue.
- Practitioners are proactively asking more questions to understand testing procedures.

2/8/2017 BP 27.4 IUT / IFT							
Start Block 1/20	Pulled from Release	Not Started	Held for	Issue	In Work	Waiting for Partners	Finish Line 03/8
ACT							IUT - N/A IFT - 0%
AI Corba							IUT - 15%
AI WPS							IUT - 15%
ARTS							IUT - 100% IFT - 0%
AURORA							IUT - 25%
AutoFastener							IUT - 100% IFT - 0%
BEDS							IUT - 5%
BIDS			1				IUT - 15%



Conclusion

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The service model has also allowed the Validation and Testing Service to promote new methodologies across Boeing

- Automation
- DevOps
- Continuous Delivery
- Test Driven Design
- Agile
- Consolidated Metrics
- Capacity Planning
- Resource flexibility and cross training
- Global diversity

This model has also allowed the V&T service to modernize its testing efforts in preparation for future Boeing Systems

- IoT
- Digital Twin
- Digital Thread