



Accelerate software delivery to optimize  
business outcomes

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Chief Software Economist  
*IBM Software, Rational*

IBM Software

**Innovate2012**

The Premier Event for Software and Systems Innovation

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## CEOs believe technology-driven business models are key to innovation and growth

**“The biggest risk we face is technological. If we fail to anticipate a huge technology step, we might go out of business.”**

Industrial Products CEO

**“Today’s connected economy is full of ambiguity, and the skills required to navigate that ambiguity are collaboration, creativity, and communication.”**

Healthcare CEO

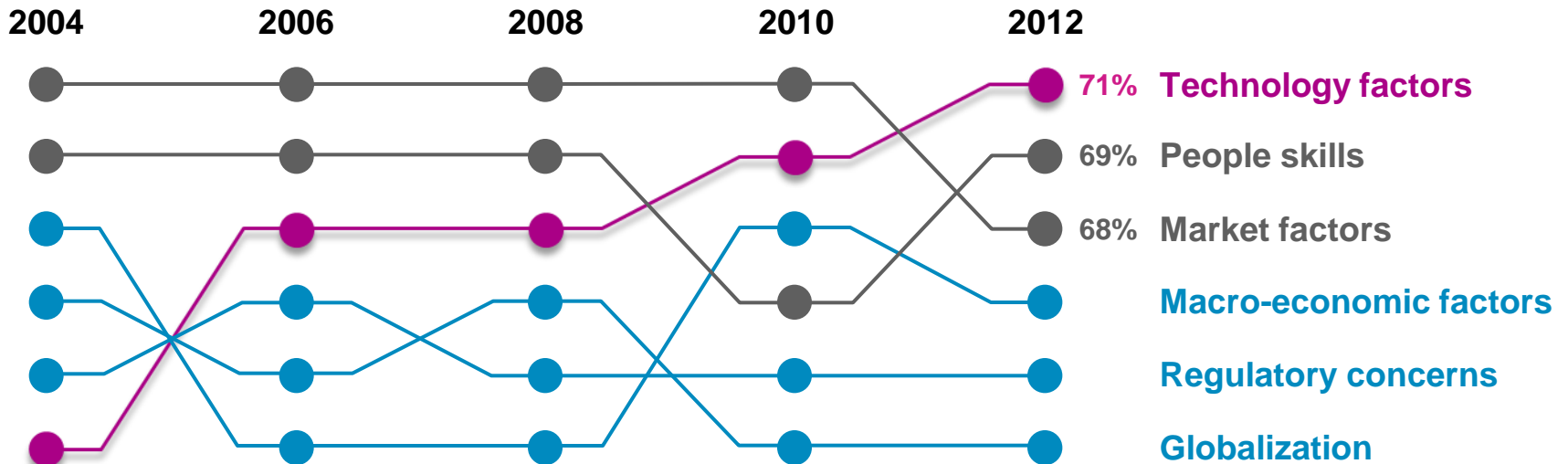


**“To innovate, we need to take in insights across industries and knowledge from many different people.”**

Electronics CEO

# Technology has never been more important to business

*For the first time, CEOs identify technology as the most important external force impacting their organizations*



Value creation in every industry is driven by software  
*Software innovation is becoming synonymous with business innovation*



### Software-driven Mobile Banking

- Most widely used banking channel by 2020, if not sooner

### New Surgical Robotic System

- Powered by 1.4 million lines of code
- 3-6 weeks mitral valve procedure recoveries compared to 3-6 months
- Less invasive, breastbone stays intact

# There has never been a better time to be a developer!

- Globalization
- Consumerization of technology
- Cloud, mobile, big data, social business
- Increasing complexity, systems of systems



**Software developers make all this innovation possible.**

***A great opportunity, a great responsibility***

***We must accelerate delivery or become irrelevant***

# The Secret of accelerating software delivery

## More Speed and Agility

- Compelling user experience
- Rapid iterations
- Continuous delivery



## Better Control

- Regulatory compliance
- End-to-end security
- Financial predictability

## Accelerated delivery demands a quid pro quo

### Engineering Practitioners

- Design, create, test
- Reuse knowledge, best practices
- Resolve the hard things first
- Minimize overhead

**Embrace Measurement**

**The Speed  
Of Trust**

### Governance Stakeholders

- Achieve predictable outcomes
- Manage risk, steer
- Ensure compliance
- Improve software economics
- Visibility and transparency

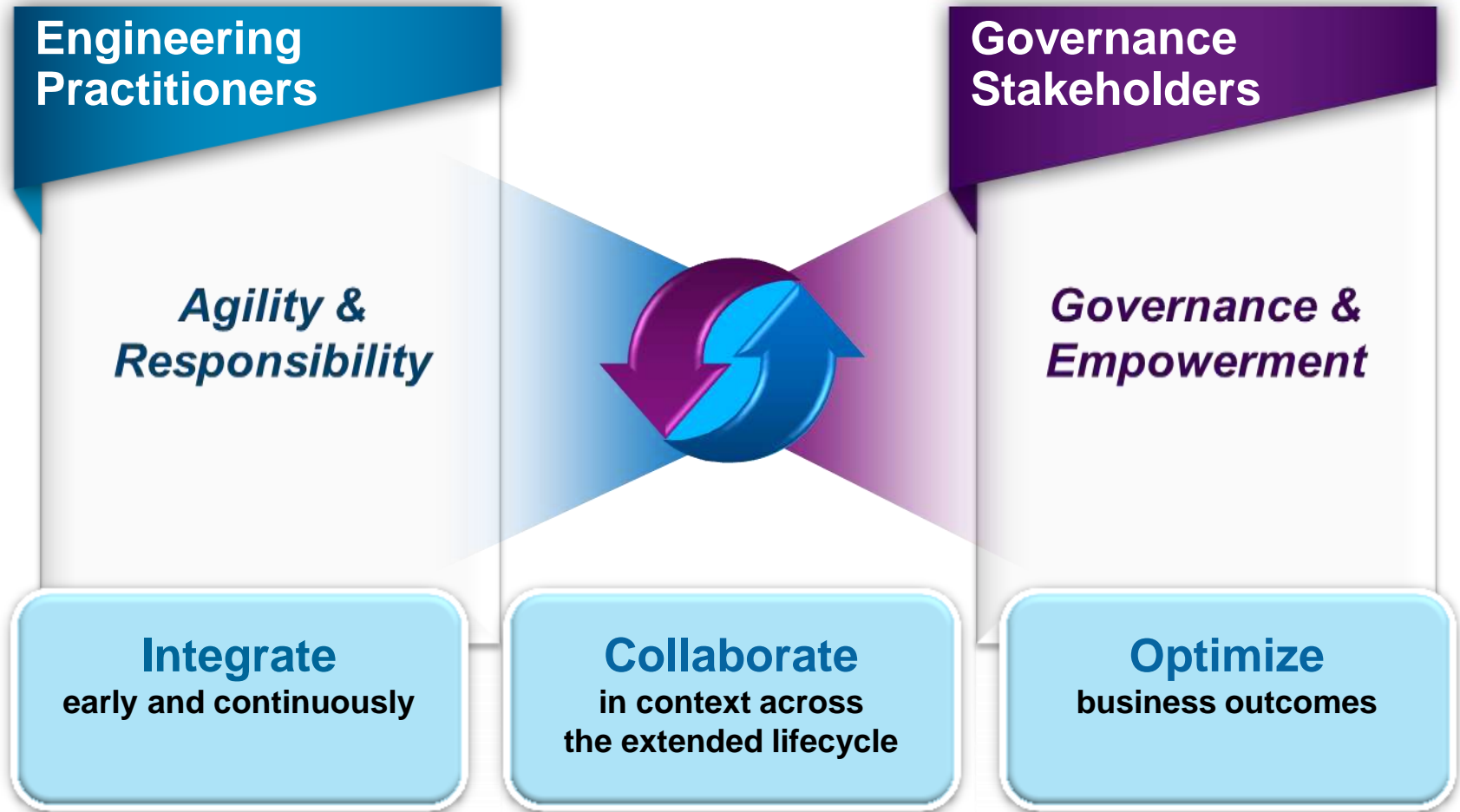
**Enable Agility**

# Foundational Practices for Software-driven Innovation





# Succeeding in the new development reality



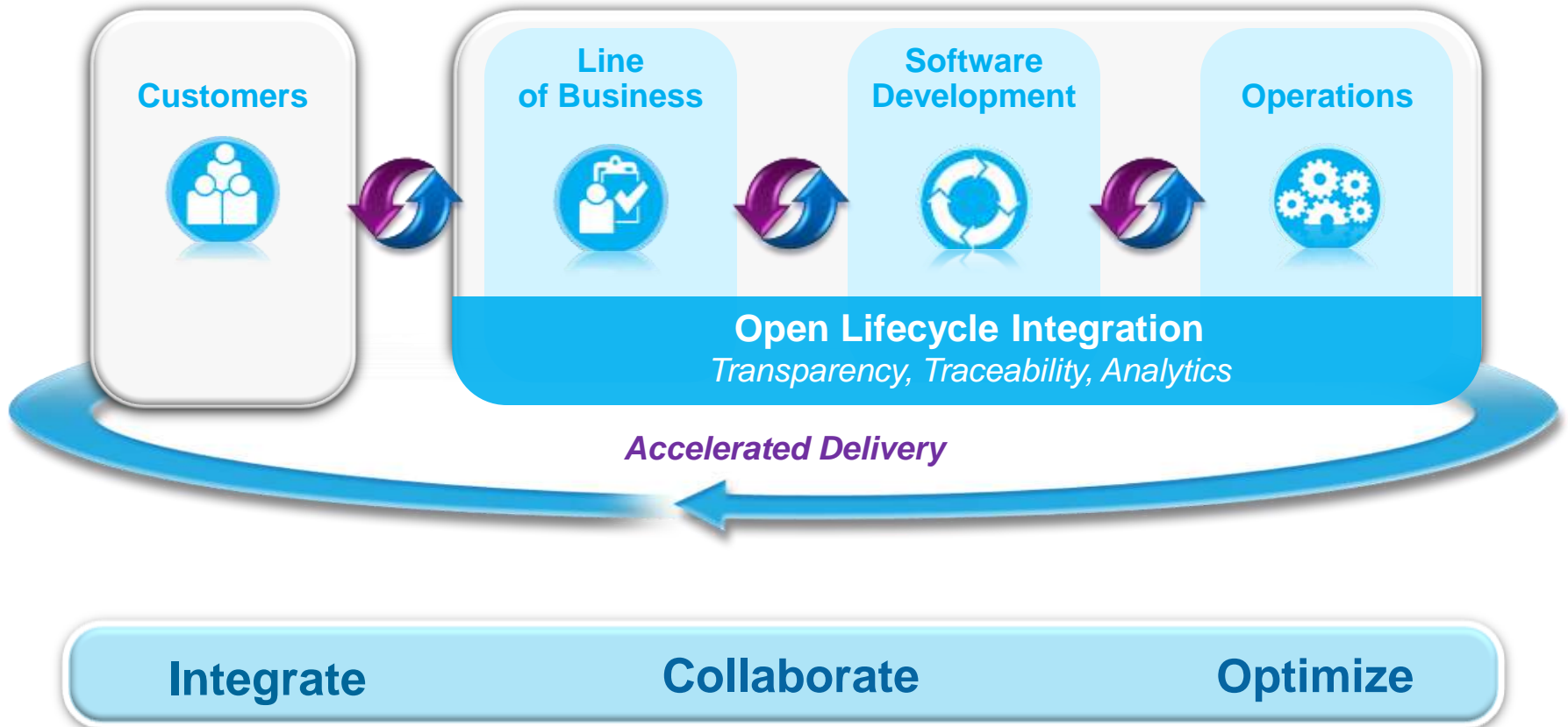
# Inhibitors to accelerated delivery for IT organizations



## INHIBITORS

- 1 Slow feedback between Customers *and* Line of Business
- 2 Ineffective iteration between Line of Business *and* Development
- 3 Inefficient linkage between Development *and* Operations

# Accelerated delivery for IT organizations



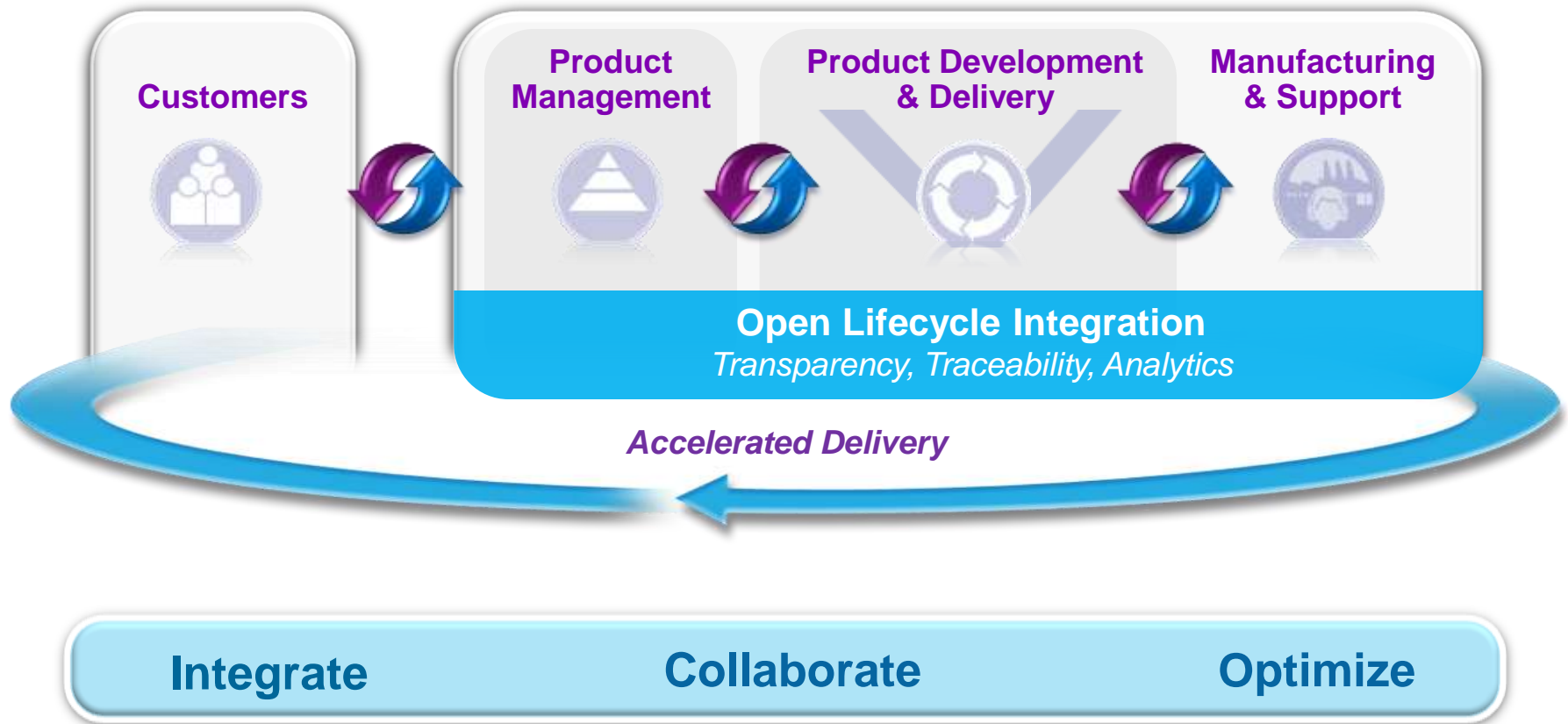
# Inhibitors to accelerated delivery for product & systems organizations



## INHIBITORS

- 1 Poor end-to-end customer requirements visibility
- 2 Diverse perspectives among engineering disciplines
- 3 Complex network of stakeholders and actors

# Accelerated delivery for product and systems organizations



## IBM client successes



**30 – 35%**

production  
increase

*with no  
additional staff*



**77%**

quality issue  
reduction

*by leveraging  
agile testing*



**100%**

on-time  
deliveries

*with 25% increase  
in team satisfaction*

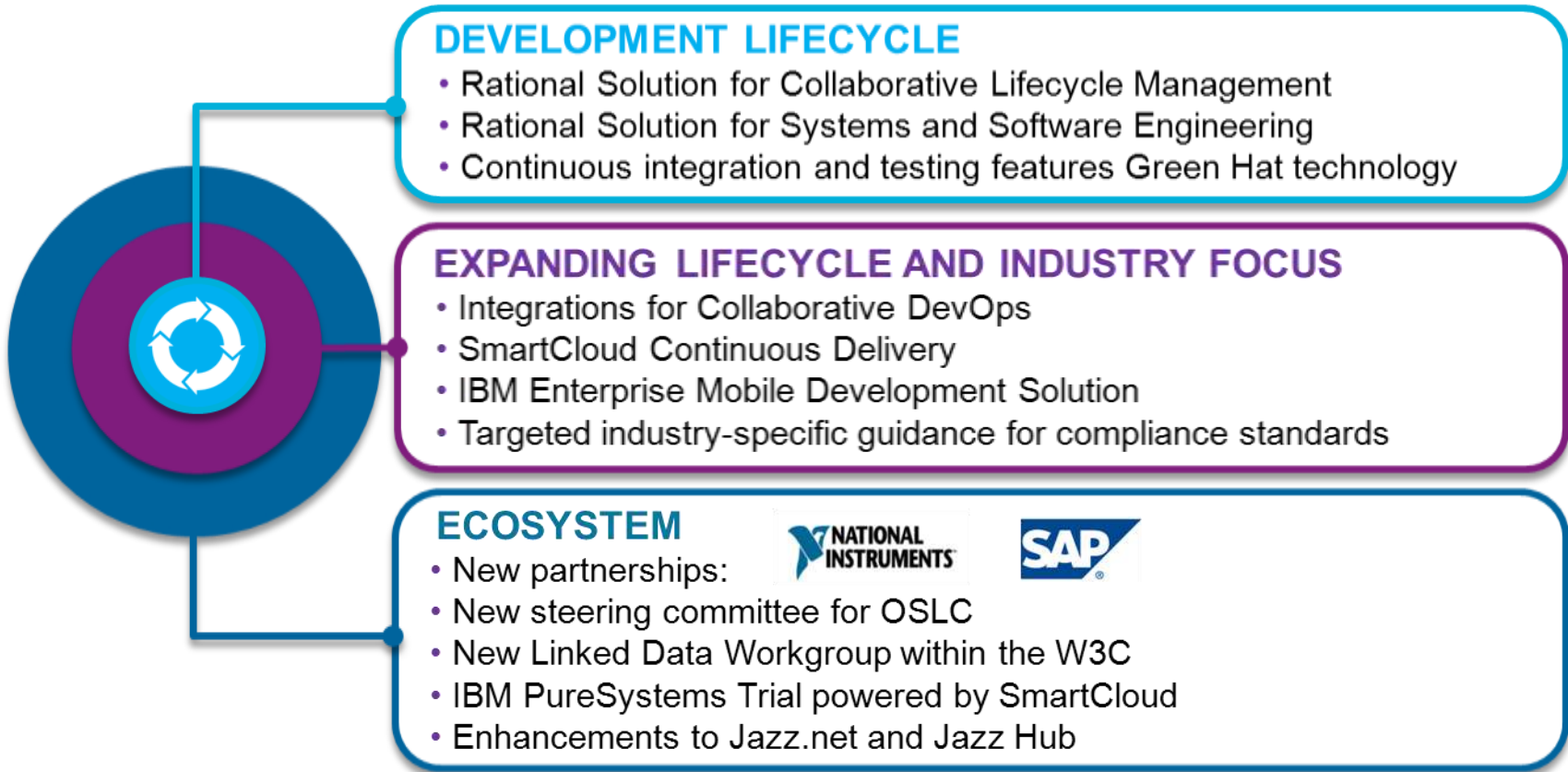


**40%**

reduced  
time-to-market

*for signaling  
systems products*

# New capabilities from IBM to enable agility with governance



## High impact initiatives to accelerate delivery today

### IT organizations

1. Elaborate user experience earlier in lifecycle
2. Link requirements management to test
3. Make integration, test and deployment continuous
4. Scale agile to enterprise with governance and metrics

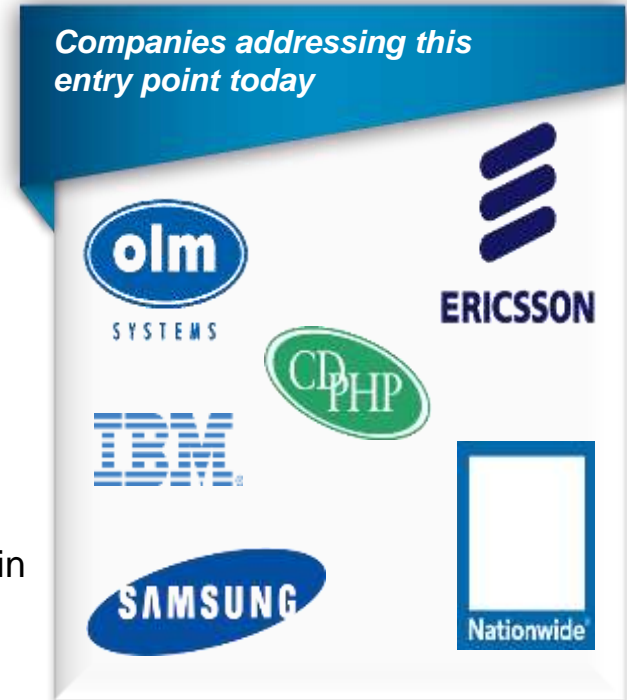
### Product and systems organizations

1. Implement cross-discipline systems engineering
2. Implement model-based systems engineering
3. Integrate tools and data to support common processes



## 4. Scale agile to enterprise with governance and metrics

- Challenge
  - Dynamic change competes with governance/ compliance
  - High number of constituencies complicates collaboration
- Solution
  - Automate and instrument project management, change management and test management
  - Leverage integrated platform for processes, measurements
  - Encompass the end-to-end lifecycle and entire software supply chain
- Benefit
  - Accelerated delivery cycles
  - Measured feedback control



### **Typical target**

50% more time on task by eliminating overhead activities  
(*progress reporting, documentation, change propagation, etc.*)



## Amir Gomroki

*Vice President, R&D Operations, IP and Broadband  
Ericsson*

## 2. Implement model-based systems engineering

- Challenge
  - Rising complexity of product and systems
  - Error-prone hand-offs between systems engineers and software engineers
- Solution
  - Shared models using standard visual languages
  - Rapid, automated cycles from models to code
  - Simulation and analysis to prove functionality and timing
- Benefit
  - Integration issues resolved earlier, lower cost of change
  - Architecturally significant errors discovered earlier in lifecycle



### **Typical target**

50% reduction rate of lifecycle scrap and rework  
*And reduction of critical defects to (nearly) zero*

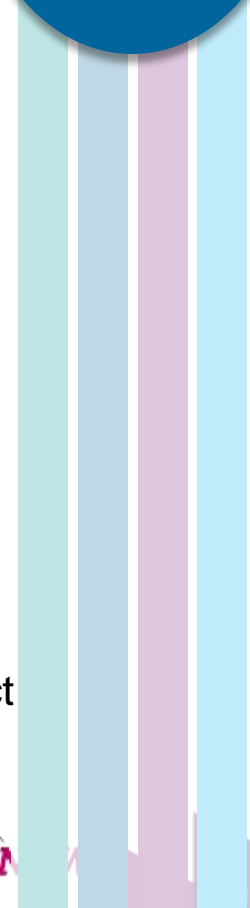
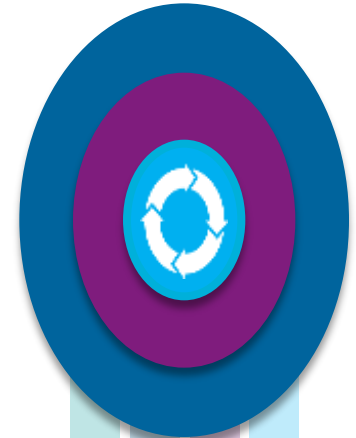


## Brian Wells

*Vice President of Corporate Engineering  
Raytheon*

## How to move forward

- Act now to transform your software and systems delivery
  - Integrate across the lifecycle
  - Collaborate across roles and organizations
  - Optimize the business outcomes of development
  
- Start today and leverage Innovate to the maximum
  - Learn from sessions – challenge speakers
  - Interact with peers, IBM SMEs, and business partners
  -
  
- *Call us in to help!*
  - We'll help to identify and measure expected benefits of accelerated product and service innovation and help identify appropriate next steps





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Asist and Rational, two of a kind

by Maurice Brouwers

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