

IBM Software

# UK Innovate 2010

The Rational Software Conference



Smarter software for a smarter planet.



IBM Software

**UK Innovate2010**

The Rational Software Conference

# Driving Organizational Transformation

Peter Eeles

Chief Architect for IT

IBM Rational Worldwide Solution Delivery

[peter.eeles@uk.ibm.com](mailto:peter.eeles@uk.ibm.com)

Smarter software for a smarter planet.



## Case Study

A large Scandinavian bank

2000+ developers

6 business units

Development teams are often geographically distributed



## Business Objectives

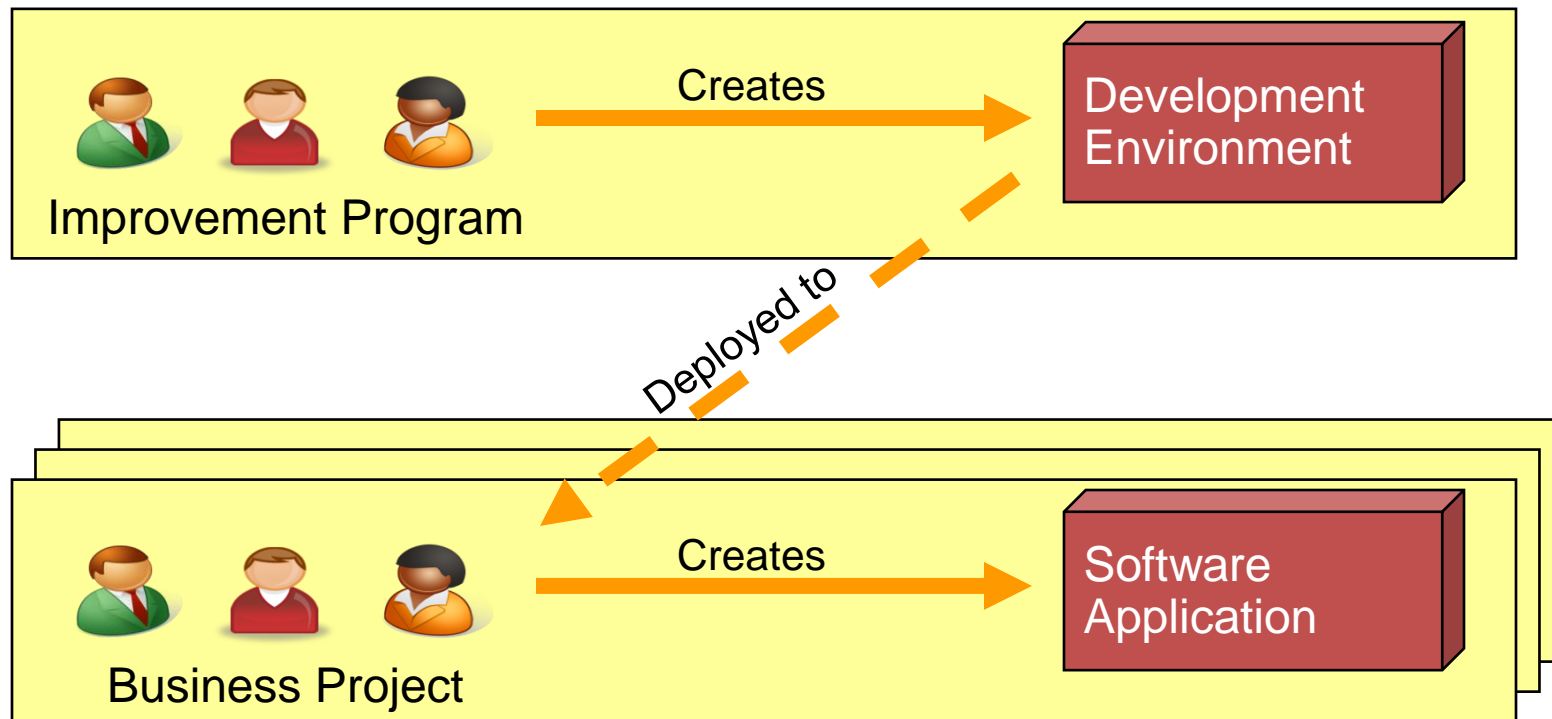
Name	Description	Goals
Time to market	Projects deliver faster than today	<ul style="list-style-type: none"><li>• Complete small projects within 7 months (average time to market is currently 14 months)</li><li>• Deliver a first increment (demo) on projects within 8 weeks from project initiation followed by subsequent increments (demos) at regular intervals of 2-4 weeks</li></ul>
Cost efficiency	Projects deliver with lower overall cost than today	<ul style="list-style-type: none"><li>• Increase the efficiency baseline (function points per FTE) by 10%</li></ul>
Quality	Systems exhibit the agreed level of quality	<ul style="list-style-type: none"><li>• Decrease the error baseline by 10%</li></ul>
Continuous optimisation	The development organisation is a learning organisation using common processes that are continuously updated	<ul style="list-style-type: none"><li>• Knowledge and experience is used to improve processes</li><li>• Processes are performed in a mature and professional way (i.e. consistently) in order to harvest the benefits of this</li></ul>



“Agile Adoption Programme” initiated



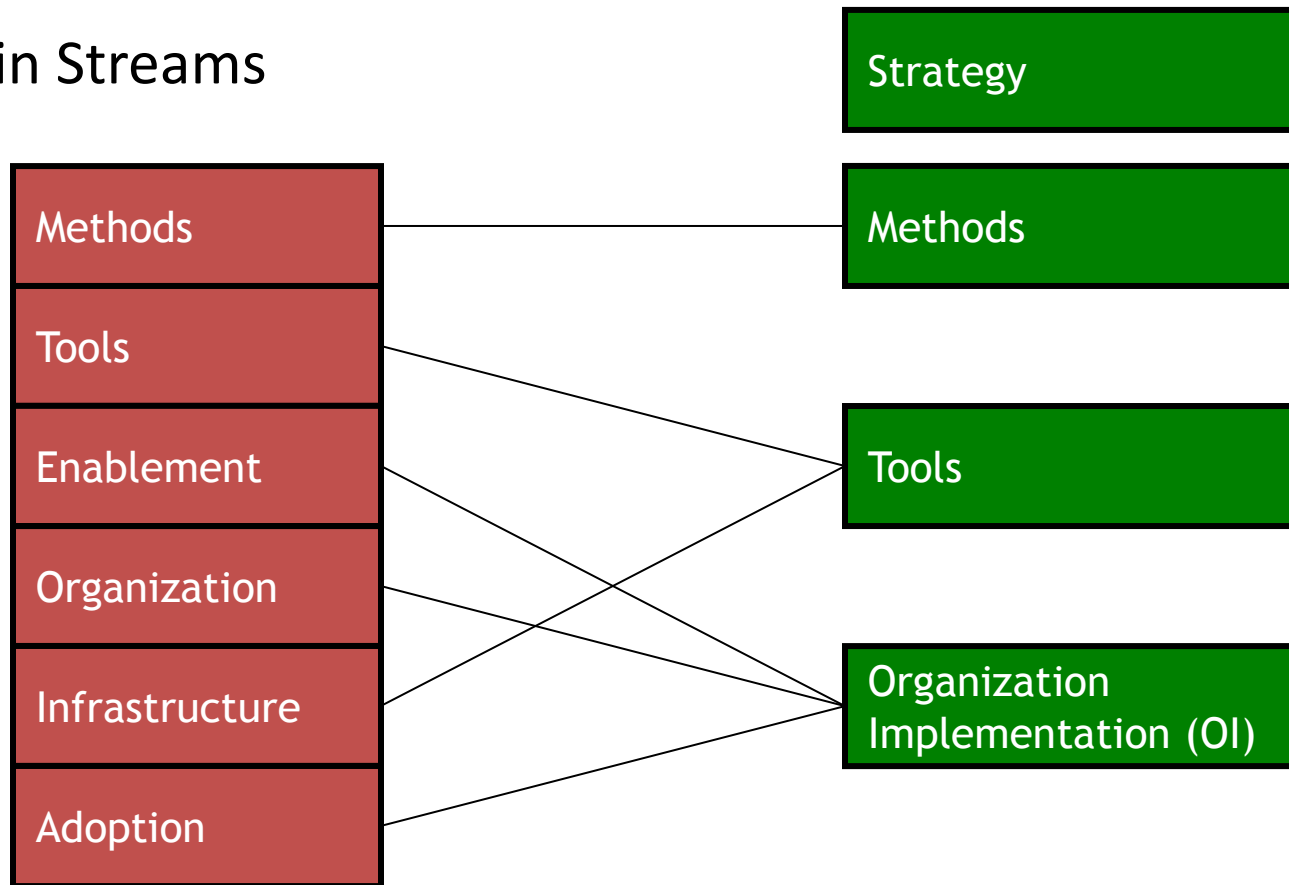
# Putting a Development Environment in Context



# More than Methods and Tools

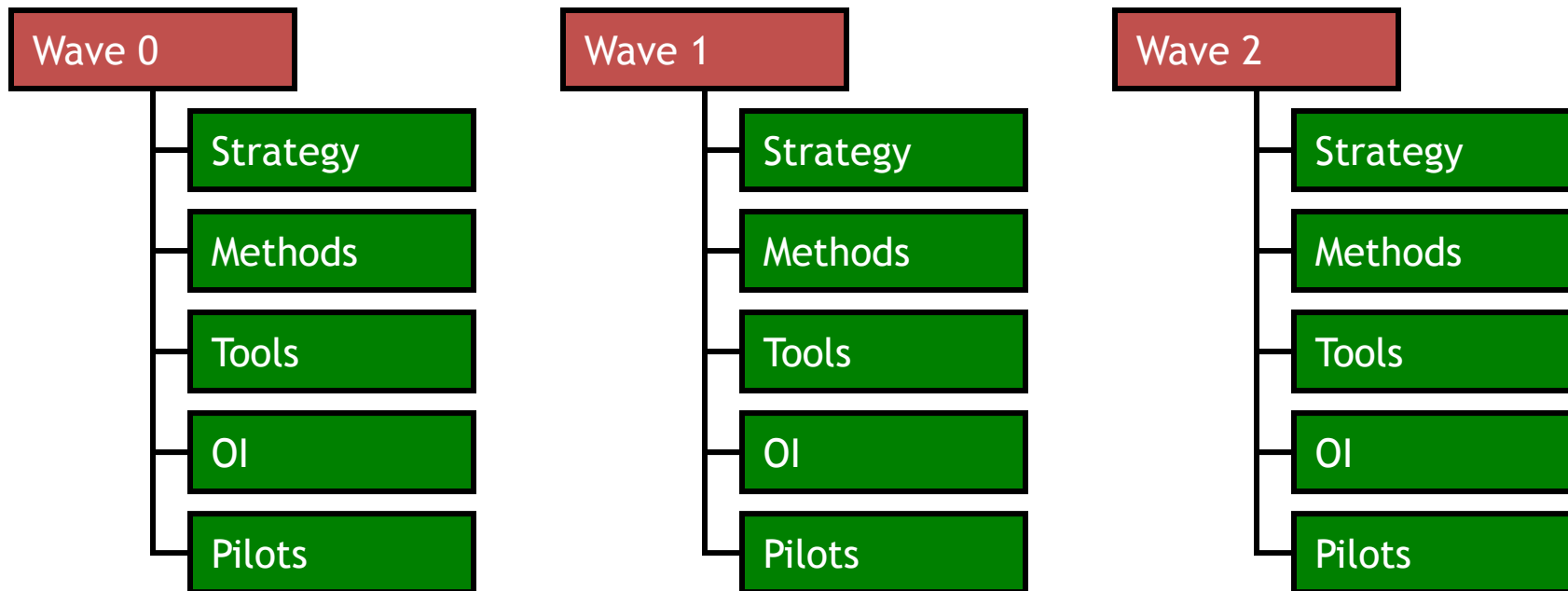
Solution Context (functionality, qualities, constraints)	
<b>Method</b>	Roles, work products, tasks, processes Standards, guidelines, checklists etc. Method deployment topology
<b>Tools</b>	Tools and integrations Tool configurations and install scripts Tool deployment topology
<b>Enablement</b>	Training curriculum and courses Mentoring materials Enablement deployment topology
<b>Organization</b>	Definition of organizational roles and units Techniques for driving org. change Organization deployment topology
<b>Infrastructure</b>	Summary of locations, nodes, connectivity
<b>Adoption</b>	Adoption plan Definition of environment metrics

# Deliver in Streams



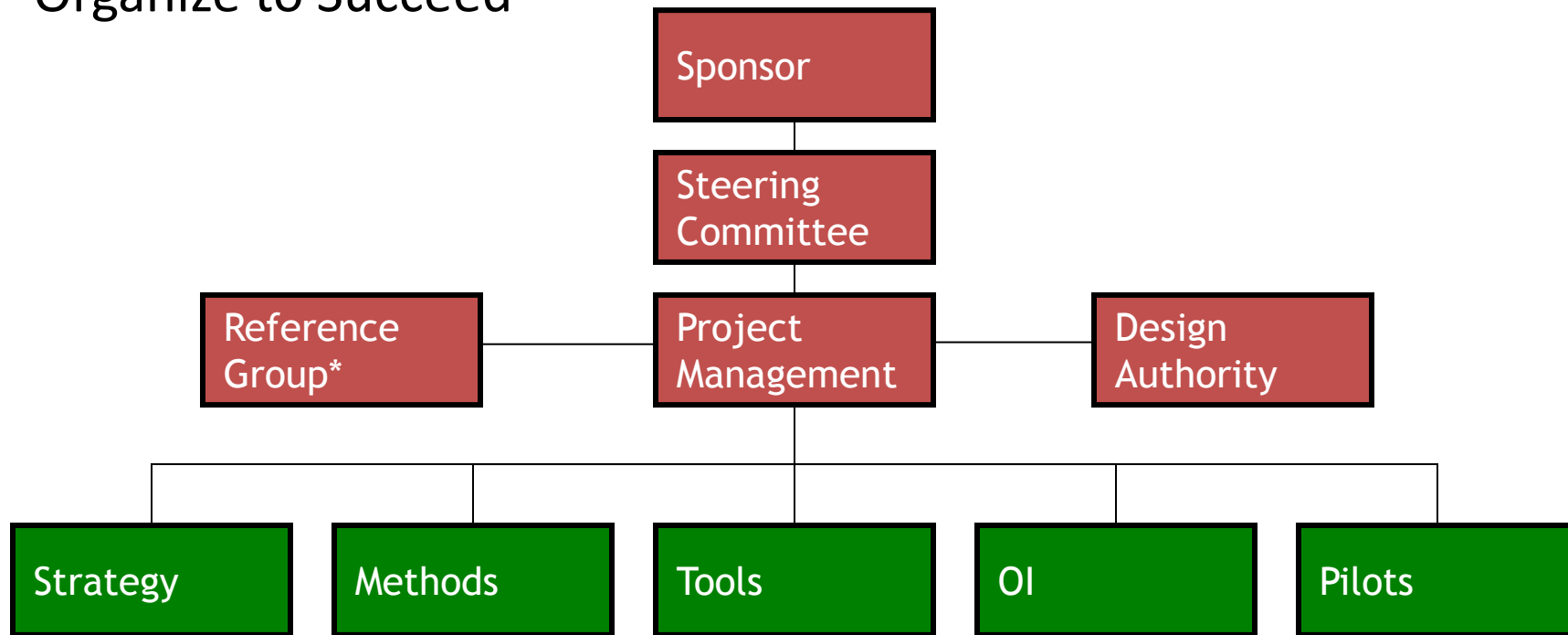
# Adopt Incrementally

Organize as a sequence of waves of change





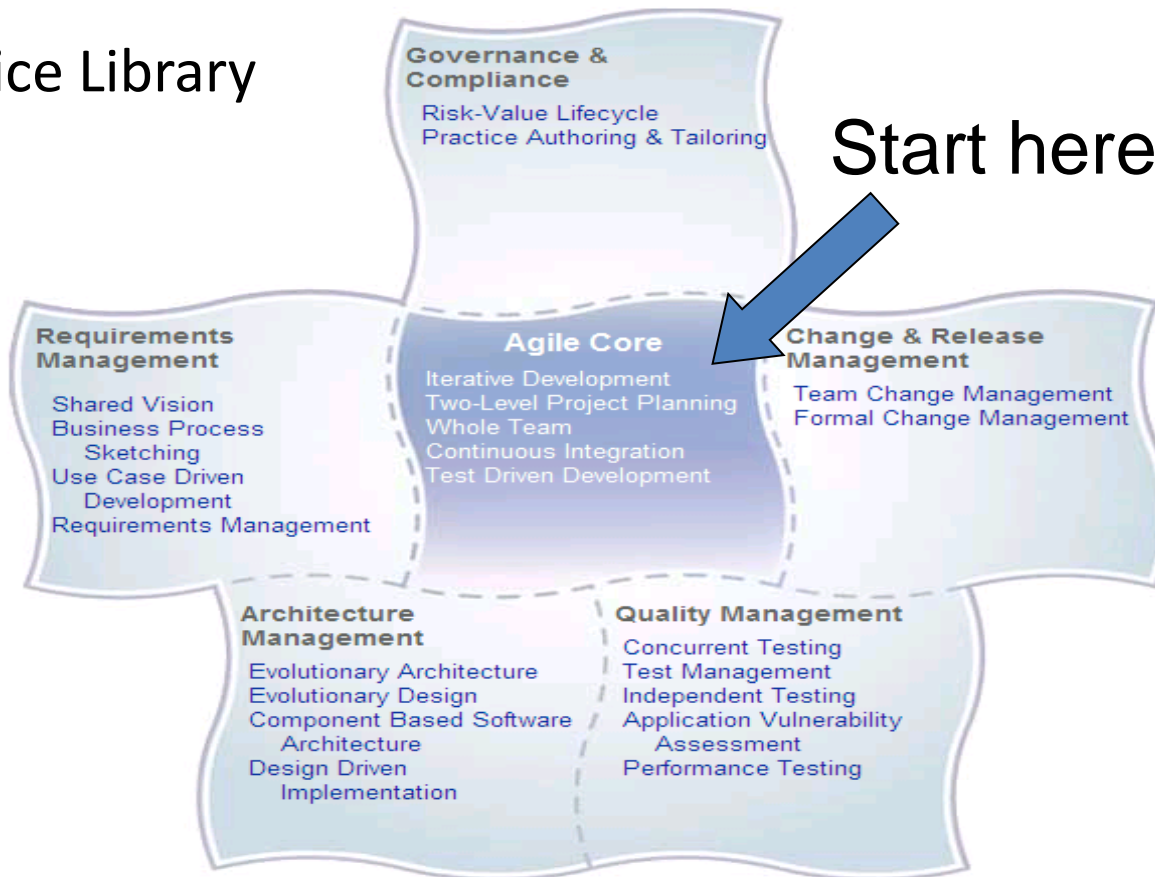
# Organize to Succeed



\* "Network of agile practitioners"



# IBM Practice Library



A version of these practices is available in OpenUP



# Practices by Priority

## Foundation

Iterative Development

Two-Level Planning

Team Change Management

Shared Vision

Continuous Integration

Whole Team

## High

Risk-Value Lifecycle

Test-driven development

Use case-driven development

## Medium

Evolutionary Architecture

Concurrent Testing

## Low

Business Process Sketching

Evolutionary Design

## Ultra Low

Process authoring and Tailoring

Requirements Management

Formal Change Management

Component Based Software Architecture

Design Driven Implementation

Test Management

Independent Testing

Application Vulnerability Assessment

Performance Testing

Agile Core



# What's in a Practice?

Key concepts

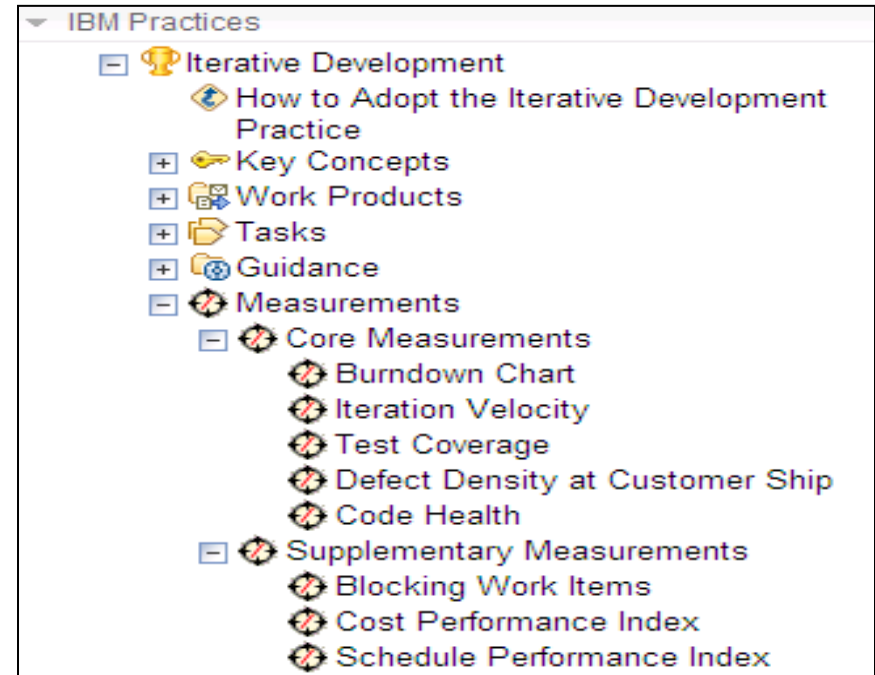
Work products

Tasks

Guidance

Measurements

Tool mentors



## Initial Metrics

	<b>Efficiency Metrics</b>	<b>Control Metrics</b>
<b>Cycle time reduction</b>	<ul style="list-style-type: none"><li>• Time spent from project initiation to delivery of first increment</li><li>• Time spent from project initiation to project closure</li></ul>	<ul style="list-style-type: none"><li>• Sprint velocity</li><li>• Blocking work items</li></ul>
<b>Quality</b>	<ul style="list-style-type: none"><li>• Defects (severity 1 and 2) in production per 100 FPs</li></ul>	<ul style="list-style-type: none"><li>• Defect trend</li></ul>
<b>Continuous optimisation</b>	<ul style="list-style-type: none"><li>• Process maturity level</li></ul>	<ul style="list-style-type: none"><li>• Adoption of agile practices</li></ul>
<b>Productivity</b>	<ul style="list-style-type: none"><li>• Function points per man year</li></ul>	<ul style="list-style-type: none"><li>• Sprint burndown chart</li><li>• Release burndown chart</li></ul>

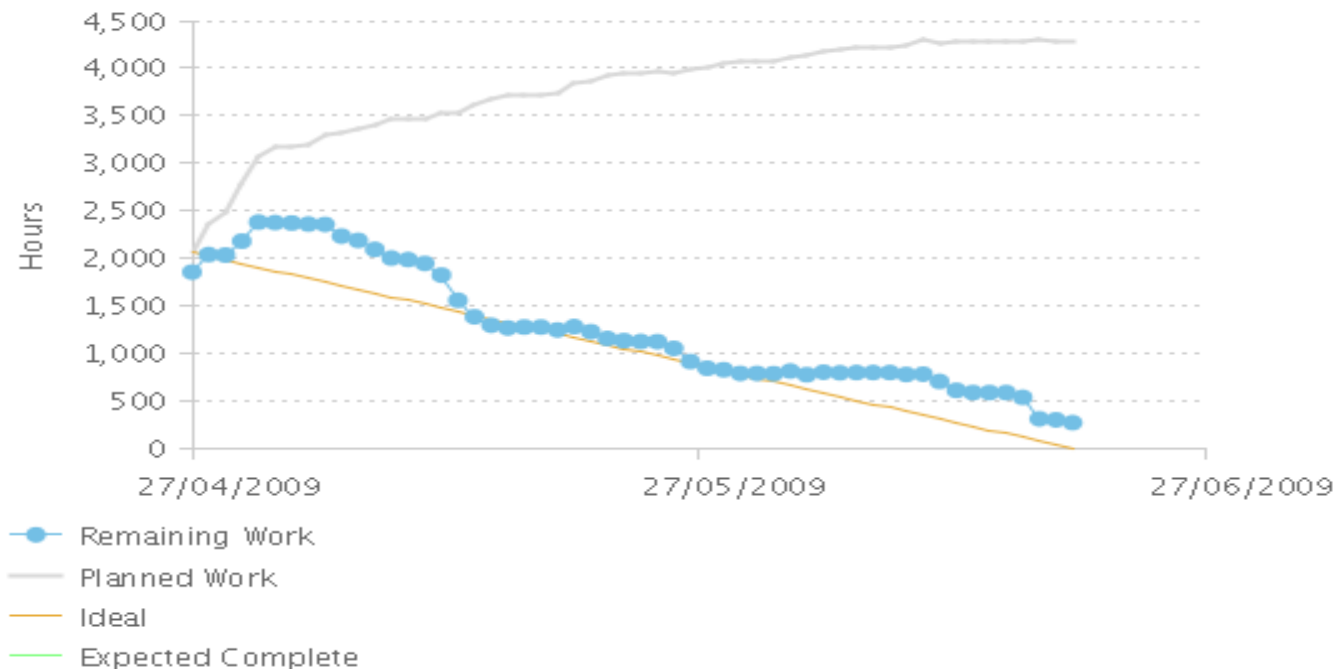


Category: Productivity

Metric: Sprint burndown chart

Objectives	A sprint burndown chart allows the progress of the sprint to be measured.
Baseline Metric	Slope of the chart. The number of remaining units (such as work items or hours) is shown on the Y-axis, together with the number of planned units, and time is shown on the X-axis. Ideally, the trend of remaining units should go down as time progresses.
Unit	Chart slope.
Responsibility	Project Manager
When to Measure	During project execution.
Manual/Automated	Automated in Rational Team Concert.
Data Repository	Available in Rational Team Concert.
Project Calculation	<ul style="list-style-type: none"><li>• Number of planned units during time I for the sprint.</li><li>• Number of actioned units during time I for the sprint.</li></ul>
Example	See over for chart.
Target	A trend of a decreasing number of remaining units over time.

# Sprint Burndown Example



Taken from RTC 2.0 project at jazz.net on 3<sup>rd</sup> December 2009



# Automation

	Automated	Manual
<b>Cycle time reduction</b>	<ul style="list-style-type: none"> <li>• Time spent from project initiation to delivery of first increment</li> <li>• Time spent from project initiation to project closure</li> <li>• Sprint velocity</li> <li>• Blocking work items</li> </ul>	
<b>Quality</b>	<ul style="list-style-type: none"> <li>• Defects (severity 1 and 2) in production per 100 FPs (<i>FP count is manual</i>)</li> <li>• Defect trend</li> </ul>	
<b>Continuous optimisation</b>		<ul style="list-style-type: none"> <li>• Process maturity level</li> <li>• Adoption of agile practices</li> </ul>
<b>Productivity</b>	<ul style="list-style-type: none"> <li>• Function points per man year (<i>FP count is manual</i>)</li> <li>• Sprint burndown chart</li> <li>• Release burndown chart</li> </ul>	





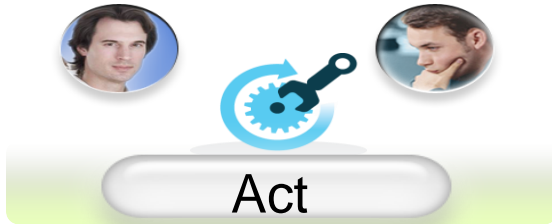
# Software & Systems Econometrics - Measured Improvement

*Where to start?*



Identify business goals and set priorities

- Executive Business Value Workshop (2-4 hours)
- Quick Diagnostics (1-2 days)
- Health Assessment (1-2 weeks)



Rapidly deploy tools and execute best practices

- Rapid Deployment Packages
- Software Delivery Platform



Monitor progress, decide on corrective actions and measure business value

- Self-Check
- Rational Insight





[www.ibm/software/rational](http://www.ibm/software/rational)

© Copyright IBM Corporation 2010. All rights reserved. The information contained in these materials is provided for informational purposes only, and is provided AS IS without warranty of any kind, express or implied. IBM shall not be responsible for any damages arising out of the use of, or otherwise related to, these materials. Nothing contained in these materials is intended to, nor shall have the effect of, creating any warranties or representations from IBM or its suppliers or licensors, or altering the terms and conditions of the applicable license agreement governing the use of IBM software. References in these materials to IBM products, programs, or services do not imply that they will be available in all countries in which IBM operates. Product release dates and/or capabilities referenced in these materials may change at any time at IBM's sole discretion based on market opportunities or other factors, and are not intended to be a commitment to future product or feature availability in any way. IBM, the IBM logo, Rational, the Rational logo, Telelogic, the Telelogic logo, and other IBM products and services are trademarks of the International Business Machines Corporation, in the United States, other countries or both. Other company, product, or service names may be trademarks or service marks of others.



IBM Software

# UK Innovate 2010

The Rational Software Conference



Smarter software for a smarter planet.

