



IBM Software Group

Leveraging resources from Business Project Management to Development Agile structures

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Rational. software



Modernizing and making mainframe development more effective –
taking it to the next level with agile methods

Agenda

- The Current IT Environment
- Challenges
- Approaches, Solutions and Techniques



Businesses are facing an unprecedented rate of change

Meet increasingly unique customer needs

Enable business agility while doing more with less

Make better decisions

Exploit globalization

React to market shifts

Manage regulatory mandates

Execute with reduced risk and cost

Achieve precision in desired business outcomes

Excel at quality

Seize business opportunities

Deliver innovation to differentiate products

Successful businesses will be those that effectively deliver innovation while controlling cost and risk



The Symptom



Change is the new norm



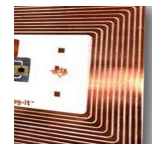
There are **1 billion** camera phones in use today



IBM Sequoia Super Computer...
It would take the **entire population of the earth**, about six billion, each of us working a handheld calculator at the rate of one second per calculation, **more than 320 years** to do what Sequoia can do in one day.

“8 of 10 CEOs see significant change ahead”
- 2008 IBM CEO Survey

The **internet of people** is over one billion strong. The **internet of things** is almost one trillion.



By 2010, there will be **30 billion RFID tags** in circulation

Soon there will be over **2 billion people** on the web



China sends more text messages **in a week** than the U.S. does in **1 year**



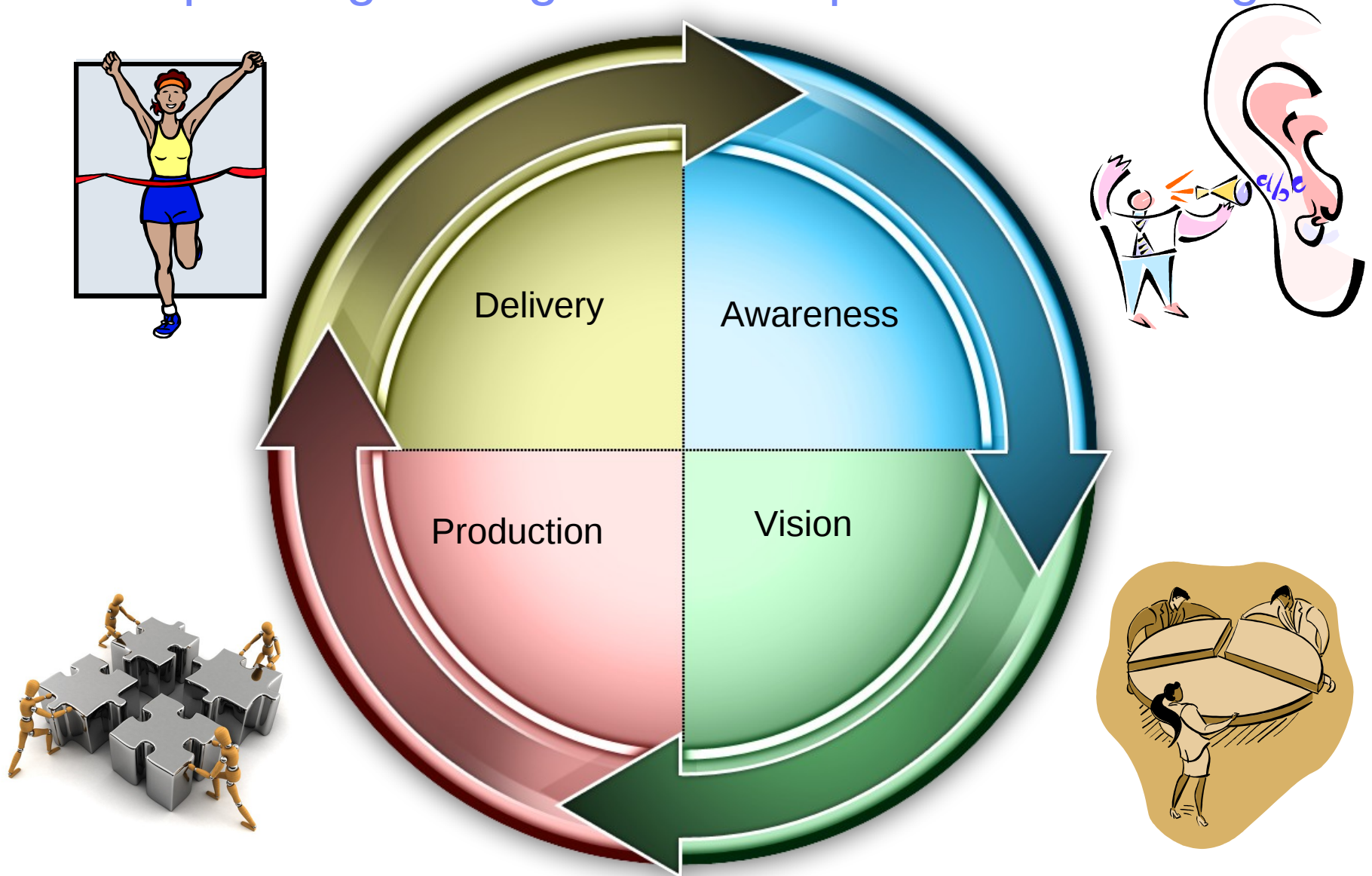
Is your IT infrastructure flexible enough?



“The message for IT is clear; business needs and expects greater agility from IT. A new approach to IT delivery models and sourcing options is required that allows IT organizations to be more responsive to the needs of the business.”

– Gartner, October 14, 2008, “Changing the Cost Structure of IT Will Become a Business Imperative for Most CIOs”

Encompassing Change is a Competitive Advantage



Encompassing Change is a Competitive Advantage



Accommodating Change

In your product allows you to

- Innovate
- Respond to market forces
- Satisfy demand

In your process allows you to

- Improve productivity
- Empower your work force

agile

An ideology supported by a pool of techniques.

Rapid Iteration

Continuity

Availability

Collaboration

Empowerment

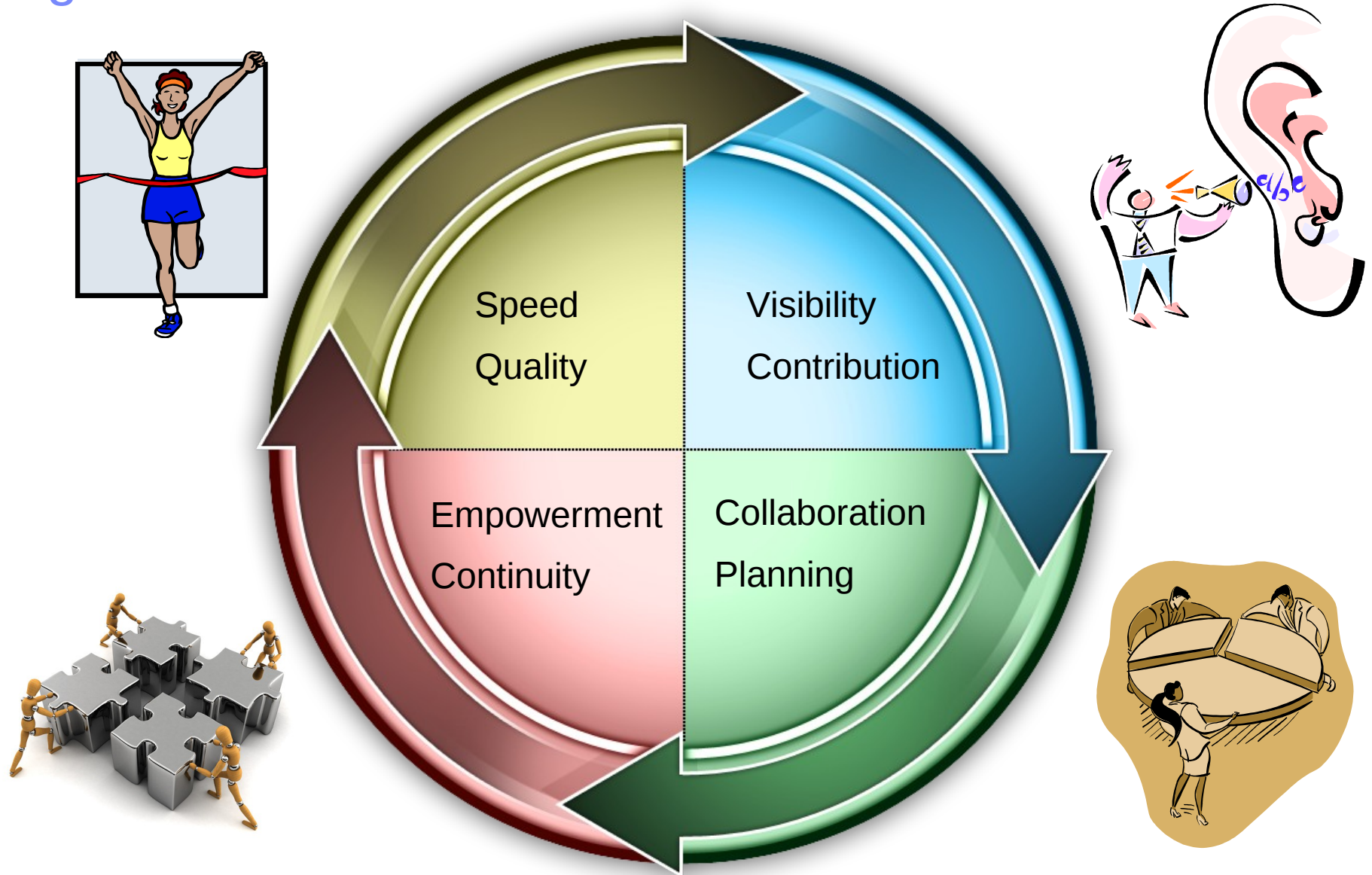
Accommodate Change

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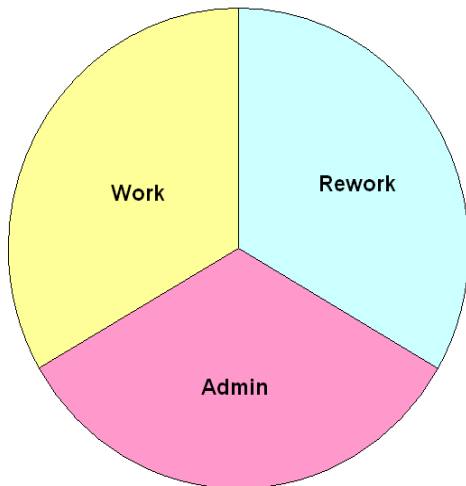
Can be applied to **ANYTHING**

Agile

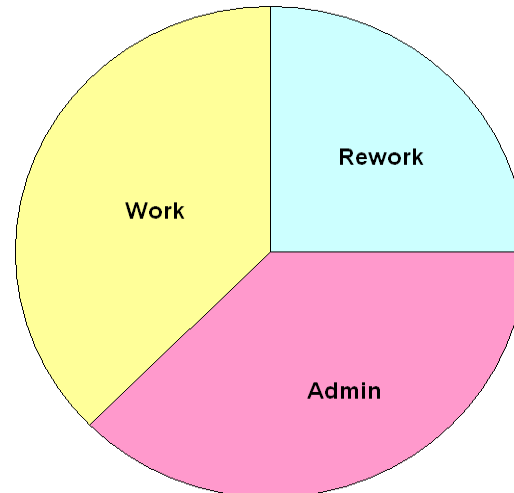


Process Improvement

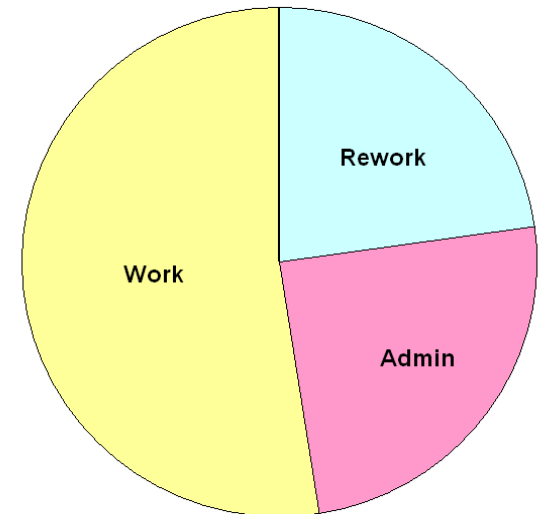
- Use Agile techniques to do iterative Process Improvement
- Use Tools and Automation to maximize the benefit
 - ▶ Enablement
 - ▶ Expert Advice and Empowerment
 - ▶ Compliance, Audit, Enforcement and Reproducibility
 - ▶ Minimize Administration



Before

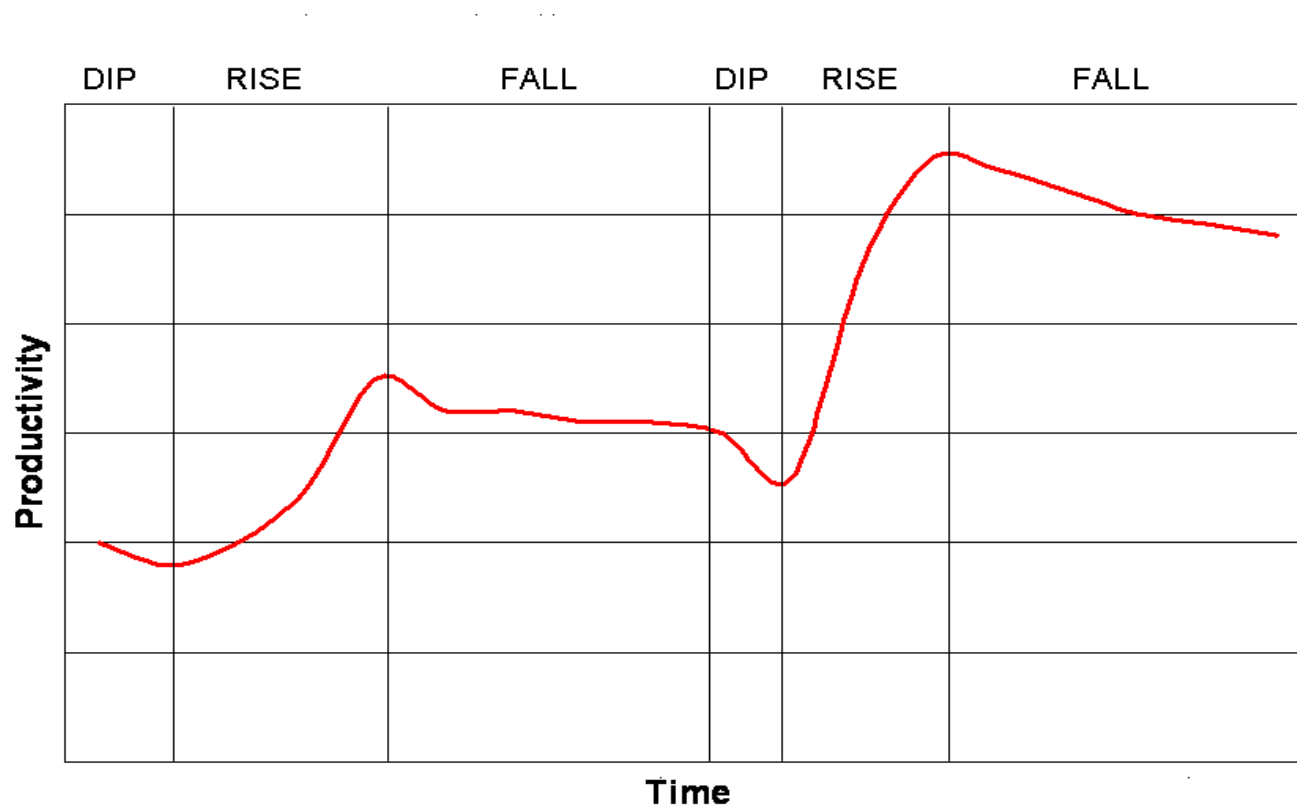


No Automation

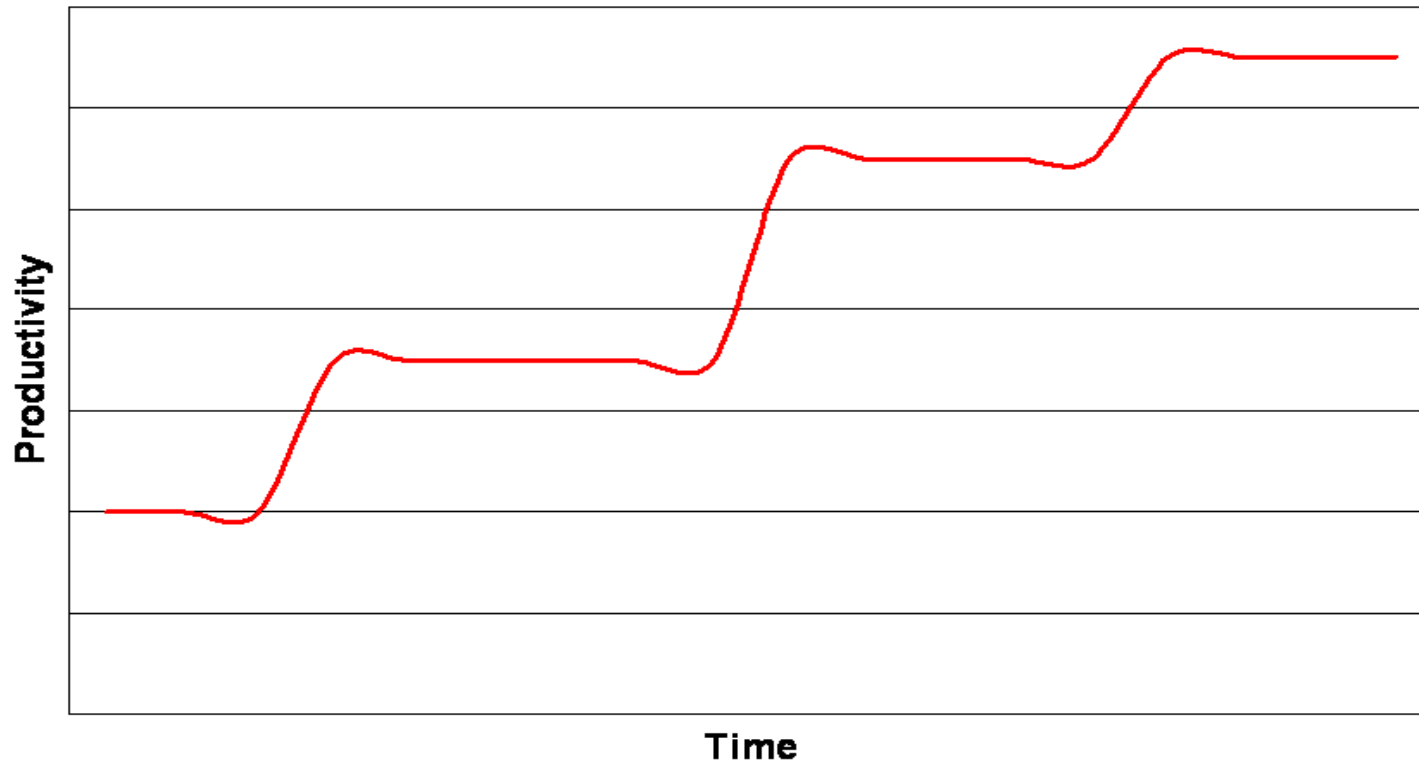


Automation

Process Improvement - Manual

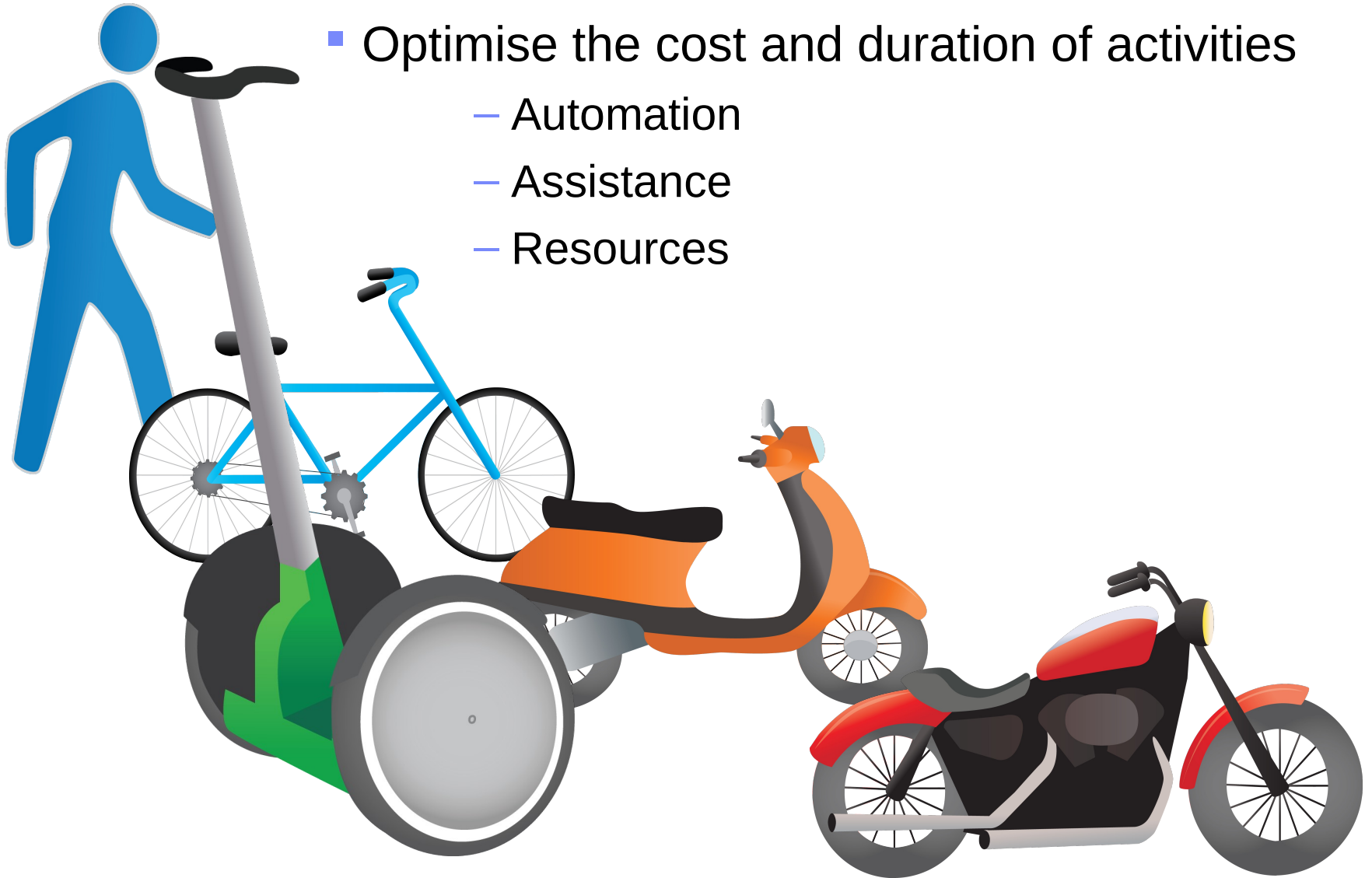


Process Improvement – with Automation

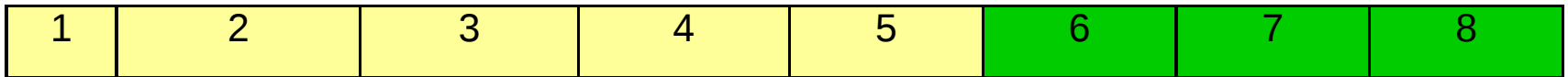
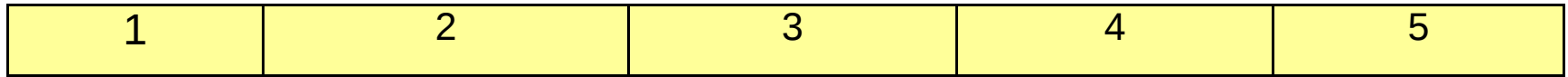


Functional Improvement

- Optimise the cost and duration of activities
 - Automation
 - Assistance
 - Resources



Functional Improvement



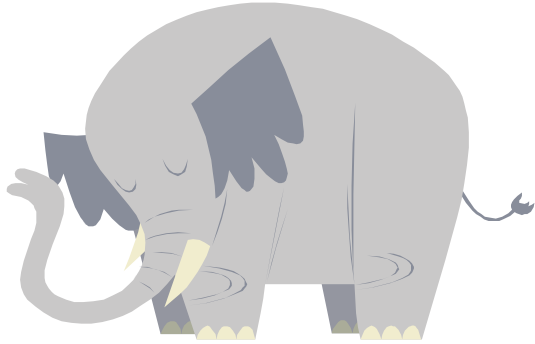
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Enterprise Challenges

Size



Legacy Applications



Cost



Standards, Legislation and Method



Separation

Agenda

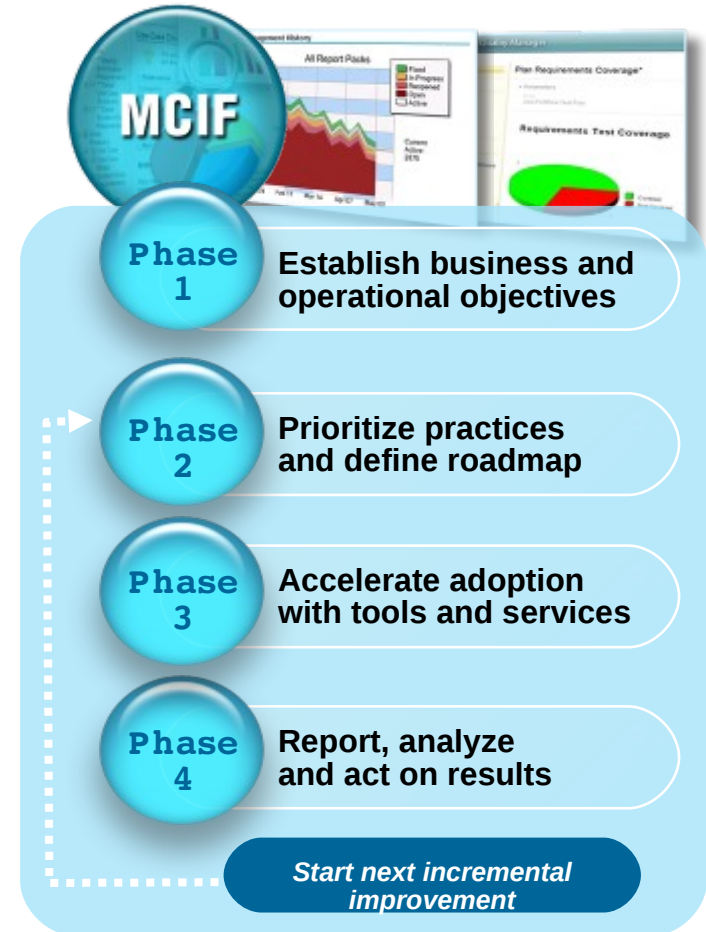
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Applying the right development practices

Manage, measure and improve your practices with a proven, repeatable approach

- Understand where you are at today, and establish a roadmap forward
- Define the simplest, leanest process that will meet your needs; choose the appropriate tools to support it, and implement the practices of highest value to you
- Accelerate and monitor the adoption of the process and tools
- Continuously assess the business and operational benefits and replicate best practices across your teams



Measured Capability Improvement Framework

Product Development

- In an Enterprise Environment
 - ▶ Take Guidance
 - ▶ Select Agile Techniques as appropriate
 - Collaboration
 - Stakeholder involvement
 - Visibility
 - ‘One Room’ or Co-location
 - Communication
 - Rapid Iteration
 - Task identification
 - Planning
 - Empowerment
 - ▶ Use Tooling to overcome challenges and shorten activities
 - Enablement (resources/cost/knowledge)
 - Location
 - Platform
 - Technology



Business Process Modelling

BPMN 2.0 - Business Process Model and Notation

<http://bpmb.de/poster>

Activities

- Task**: A task is a unit of work that can be performed. When needed, tasks can be performed in parallel or sequentially, or in a loop that can be infinite.
- Sub-process**: A sub-process is a unit of activities that may be performed in parallel or sequentially, or in a loop that can be infinite. It may be used to represent a complex activity in a higher-level process.
- Call activity**: A call activity is a container for a generic sub-process. It may be used to represent a sub-process in a higher-level process.

Activity Markers

- Exclusive Marker**: A marker that indicates that only one of the activities in the pool can be performed.
- Parallel Marker**: A marker that indicates that two or more activities in the pool can be performed in parallel.
- Event-based Marker**: A marker that indicates that an activity in the pool is triggered by an event.
- Complex Marker**: A marker that indicates that an activity in the pool is triggered by a complex event.
- Exclusive-OR Marker**: A marker that indicates that only one of the activities in the pool can be performed, and the activities are mutually exclusive.
- Parallel Marker**: A marker that indicates that two or more activities in the pool can be performed in parallel.
- Event-based Marker**: A marker that indicates that an activity in the pool is triggered by an event.
- Complex Marker**: A marker that indicates that an activity in the pool is triggered by a complex event.

Task Types

- Start Task**: A task that starts a process.
- Intermediate Task**: A task that is performed during the execution of a process.
- End Task**: A task that ends a process.
- Sub-process**: A task that contains other tasks.
- Call Task**: A task that calls another process.
- Event Task**: A task that is triggered by an event.
- Complex Task**: A task that is triggered by a complex event.
- Message Task**: A task that is triggered by a message.
- Timer Task**: A task that is triggered by a timer.
- Error Task**: A task that is triggered by an error.
- Exception Task**: A task that is triggered by an exception.

Gateways

- Exclusive Gateway**: When entering, a task or gateway flows to exactly one of the outgoing flows. The outgoing flows are mutually exclusive.
- Parallel Gateway**: A gateway that splits a single flow into two or more flows. The outgoing flows are performed in parallel.
- Event-based Gateway**: When entering, a task or gateway flows to exactly one of the outgoing flows. The outgoing flows are triggered by an event.
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Conversations

- Conversation**: A conversation is a set of activities that are performed in a specific order. It is used to model interactions between participants.
- Conversation Pool**: A pool that contains a conversation.
- Conversation Diagram**: A diagram that shows the interactions between participants in a conversation.

Choreographies

- Choreography**: A choreography is a set of activities that are performed in a specific order. It is used to model interactions between participants in a choreography.
- Choreography Pool**: A pool that contains a choreography.
- Choreography Diagram**: A diagram that shows the interactions between participants in a choreography.

Events

Event	Start	Intermediate	End
Start Event	Start Event		
Intermediate Event		Intermediate Event	
End Event			End Event

Collaboration Diagram

Swimlanes

- Pool**: A pool is a container for a process. It is used to model the activities of a participant.
- Lane**: A lane is a container for a task. It is used to model the activities of a participant in a pool.
- Swimlane**: A swimlane is a container for a pool or lane. It is used to model the activities of a participant in a collaboration.

Data

- Data Object**: A data object is a container for data. It is used to model the data that is used in a process.
- Data Store**: A data store is a container for data. It is used to model the data that is stored in a process.
- Data Input/Output**: A data input/output is a container for data. It is used to model the data that is input or output from a process.

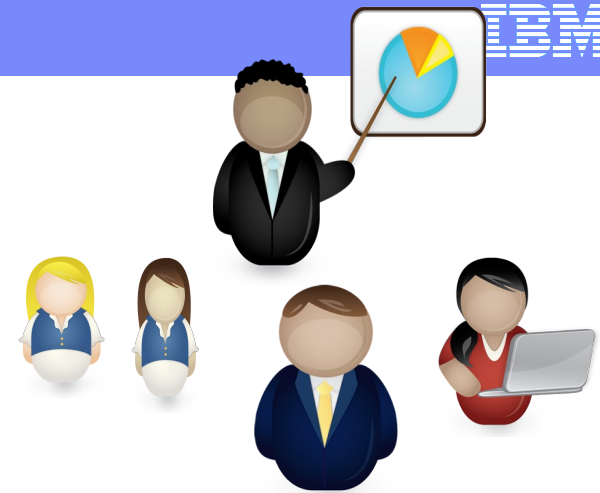
Basic Areas of Interest

■ Meetings

- ▶ Status meetings – collect status automatically and display it on dashboards
 - Eliminate a 1hr weekly meeting means 1 week per person per year recovered
 - Conservative cost of a developer £80,000 – recovers £2000 per year per developer

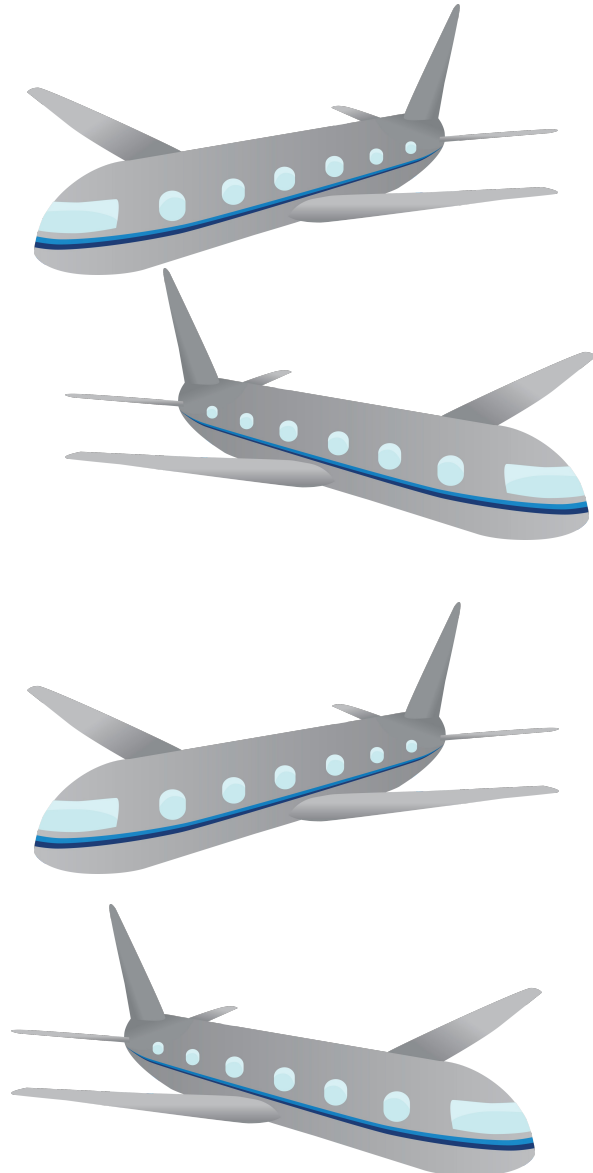
■ Reporting

- ▶ Preparing weekly/monthly status reports
 - eliminate 1hr of this effort per week recovers 1 week of project management time per year
 - Conservative cost of a Project/team leader £100,000 – recovers £2500 per year per person



Basic Areas of Interest

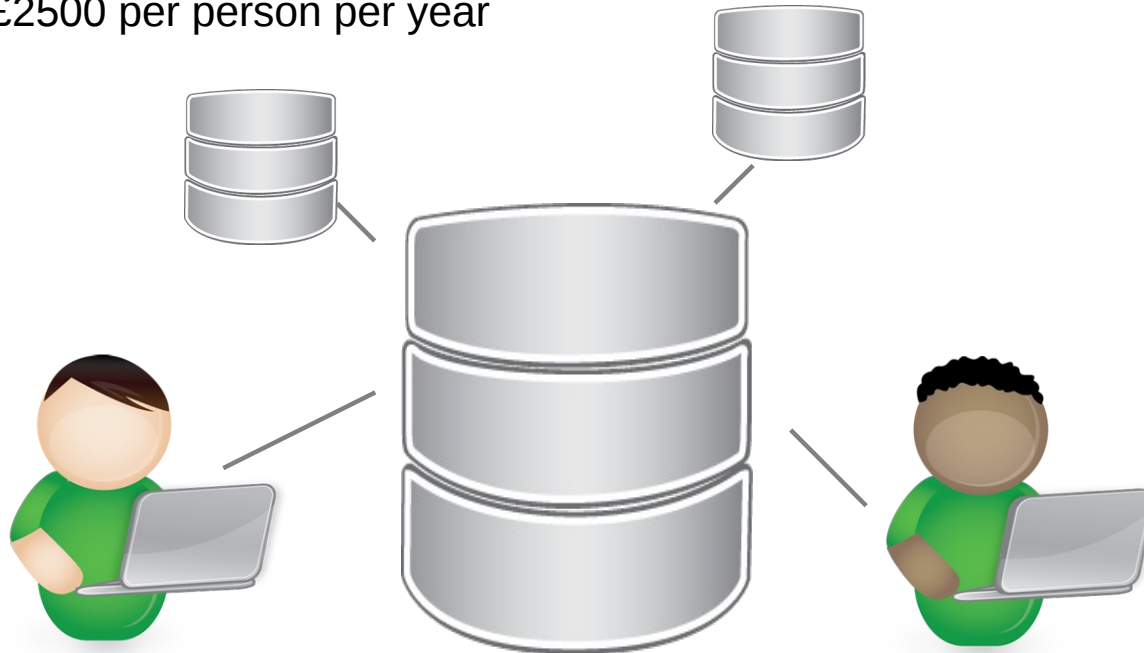
- Resource Allocation
 - ▶ Improved monitoring and control
 - Reduce risk
 - Enable more resources to be allocated
 - Controlled parallel development
 - Increase project staffing threshold



Basic Areas of Interest

- Information management

- A typical developer will spend several hours a week gathering updating and disseminating information in multiple systems and documents (release contents, application dependencies, test requirements etc...). consolidate the access to the information and provide visibility and traceability
 - Eliminate up to 50% of this time – a conservative 2 hours per week saves 2 weeks per person per year
 - Recover £2500 per person per year

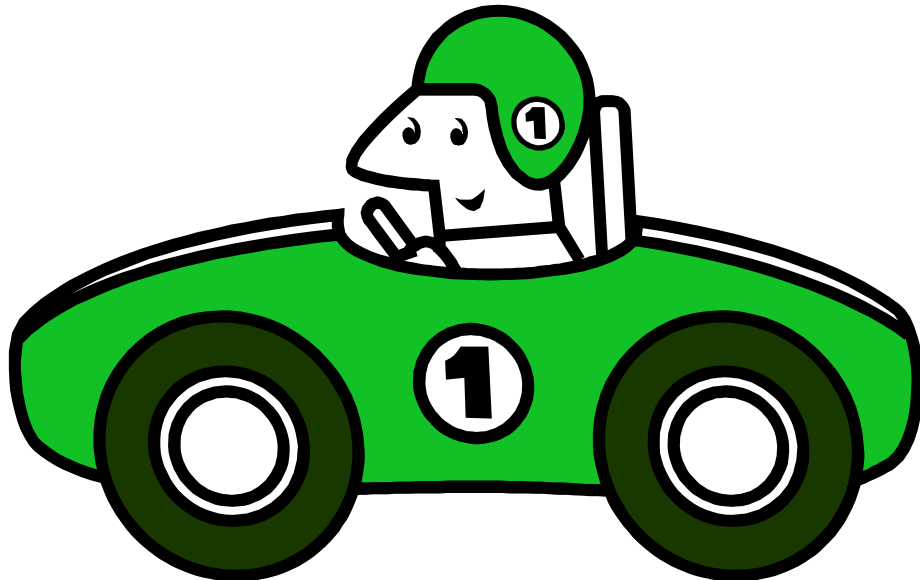
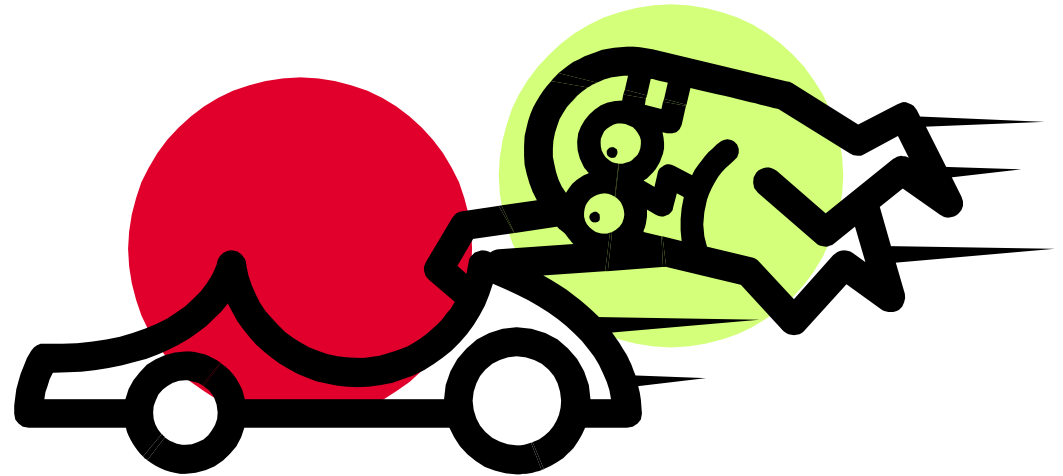


Task Optimisation

- Minimise actions and tools required to perform tasks
 - ▶ A typical developer may switch between multiple tools (Project planner, spreadsheet, bug tracking tool, editor, debugger,)
 - ▶ Information may be on deep unrelated screens requiring multiple key strokes to access
 - Providing information where it is needed can eliminate 50% of key strokes and screen/tool interactions
 - Simplifying user actions to perform regular tasks can easily save at least 1hr per week per developer
- Provide resources where needed
 - ▶ Developers typically have to wait for compile and testing resources
 - Eliminate the waiting by providing local accessible personal environments for compile and test
 - If a developer has to wait for 20 minutes for each compile to start and performs 3 compiles a day reducing that waiting time by 20% gains 1 hour per week
 - Eliminate 20% of the compiles with intelligent assistance(in-syntax checking etc)
 - Recovered time is 1hr per week

Make Agile work for you in your Enterprise

- Take Control
- Be selective
- Empowerment



- Iterative Improvement
- Embrace CHANGE
- Collaborate & Communicate