The Rules of Flow
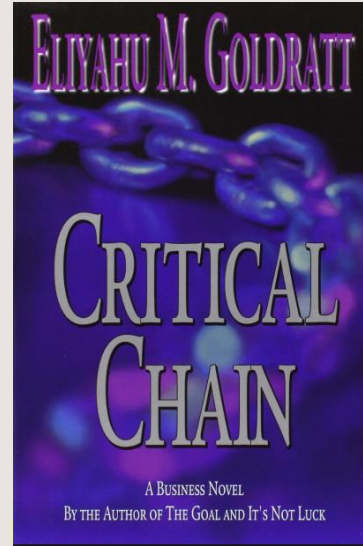
10 Simple Rules to Improve Flow through Systems
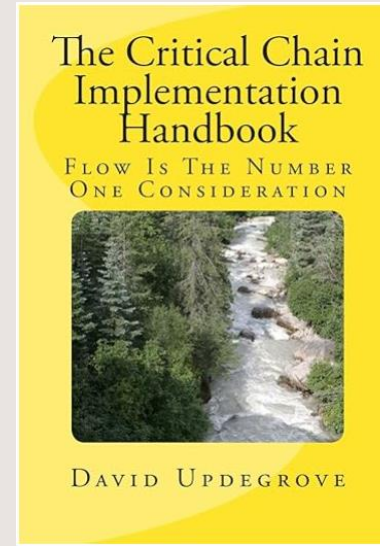
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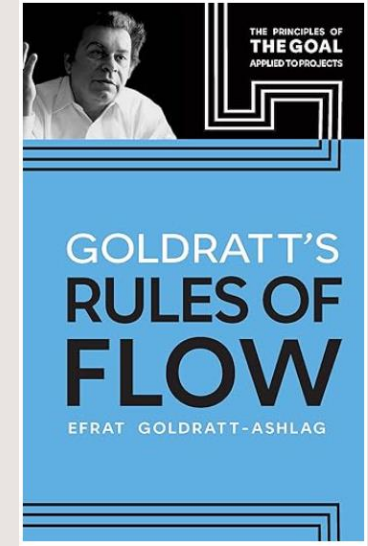# A brief History of Systems and Flow
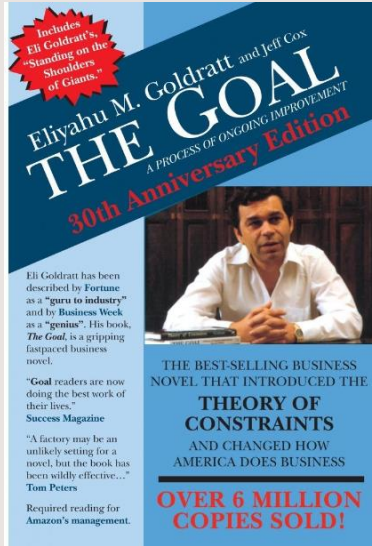
Systems Thinking, Constraints, Bottlenecks & Buffers

Practical application to Project Management

"Flow is the No.1 Consideration"

Simple Rules to accelerate Flow through Systems

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Rule 1 – Reduce the Work In Progress (WIP)

Proactively *reduce* the number of live projects and tasks that are allowed to be worked on

Actions

For projects/work packages:
- Prioritise the projects.
- **Freeze** enough of the lowest priority projects – (usually those responsible for *at least 25%* of the load).

- Ensure no activity by resources on frozen projects.

For tasks and resources:
- Prioritise the tasks.

- Limit the number of open tasks for any one person to be one single task.

Actual time tasks should take:

| A | B | C |

Our perception of multi-tasking:

| A | B | C | A | B | C | A | B | C |

The reality of multi-tasking:

| A | B | C | A | B | C | A | B | C |

TIME

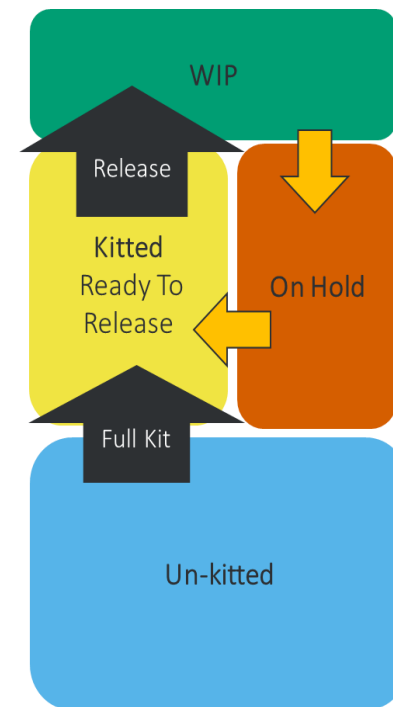### Benefits

Drives a '**Focus and Finish**' mentality:
- Resources can focus on a single activity at a time through to completion.

- Blockages to (key) tasks are not lost in the mix of many open tasks and can be spotted and addressed immediately.

- Less work being passed on 'incomplete'.

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Rule 2 – Complete Full Kits (for everything…)

Only release tasks to resources when they have *everything* they require to complete the task.

Focus on enabling 'Full Kit' well ahead of time.

Actions

- Identify the key Full Kit points in the project and produce Full Kit checklists for each.

- Appoint Full Kit Manager(s) to coordinate, audit and control the completion of Full Kits.

- Ensure teams are relentlessly completing missing Full Kit items (*before* the gate and/or key task is reached).

- Put any work without Full Kit compliance on hold. Prevent these tasks from being released.

- **Restrict people from working on any task without a completed Full Kit.**

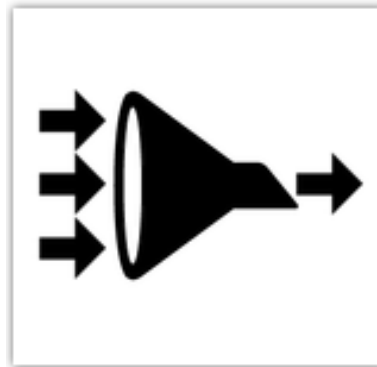

3. Benefits

Reduces the disruptions to flow:
- Resources can work on a single activity through to completion, with all needed inputs available.

- Blockages to (key) tasks are identified and resolved before they affect the task and the project.

- Fewer delays to tasks (and projects).

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Rule 3 – Release to Capacity

Release tasks in the correct sequence and priority to maintain the *optimal* level of Work In Progress

Actions

- Put a Release Gate in place to schedule in what comes out.

- Introduce a one-in-one-out policy for task release to resources.

- Regularly review and maintain the priority and sequence of unreleased tasks.

- Ensure activities are not started before they are required (or Full Kitted).

3. Benefits

Starvation is prevented and an (ever changing) optimal level of work in progress is maintained.

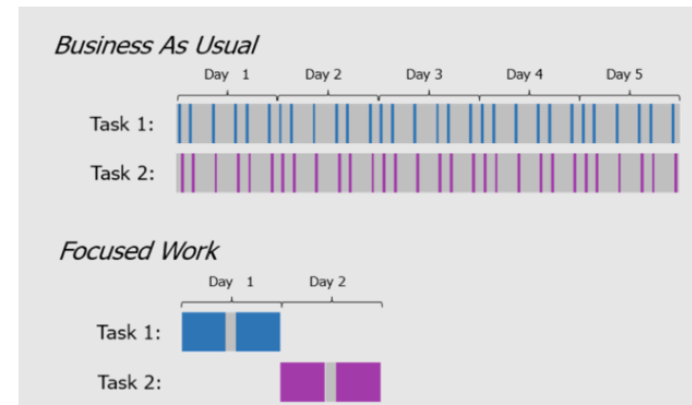*Protects* the 'Focus and Finish' mentality:
- Resources can focus on a single activity at a time through to completion.

- Blockages to (key) tasks are not lost in the mix of many open tasks and can be spotted and addressed immediately.

- Less work being passed on 'incomplete'.

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Rule 4 - Reduce Multi-tasking

Minimise interruptions for people to allow them to *'focus upon and finish'* each task as quickly as possible

Actions

- Reserve 'protected working time' in diaries to ensure both project workers and everyone else knows when interruptions are to be avoided.

- Reserve 'interruptible time' too and let colleagues know when you will be available to field queries etc.

- Present visible 'do not disturb' indicators physically and digitally to colleagues.

- Prepare Full Kits ahead of each protected working time window to ensure work is completed.

- Escalate instances of interruptions to managers so that the instances can be addressed and reduced.

3. Benefits

Embeds a 'Focus and Finish' mentality:
- Resources can focus on a single activity at a time through to completion.

- Losses due to interruptions are removed and reduced.

- Team members are aware and are actively reducing instances of interruptions for themselves and others.

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Rule 5 – Actively show Servant Leadership

Ensure SME resources have visibility & availability, and ***actively support*** daily recovery actions
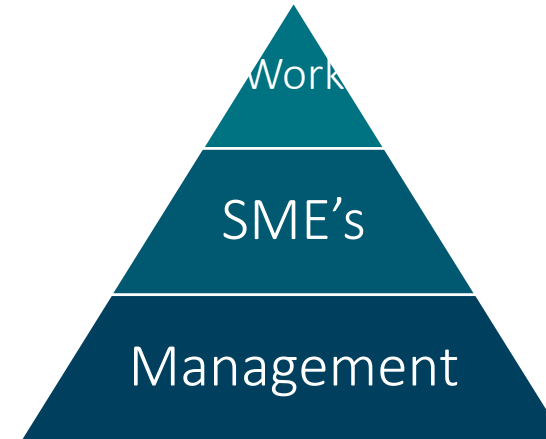
Actions

For expert resources:
- Identify the expert resources who are regularly needed to address escalations.

- Reassign all tasks that can be offloaded from these resources.
- Free up enough protective capacity and make daily slots available with the expert resources on project issues.

- In project planning – actively assign the lowest possible (suitably qualified and experienced) skill set to tasks, not the highest.

For management:
- Prioritise and protect enough capacity to be available daily.

- Switch focus to dealing with blockages to flow and supporting project recovery actions.

Work

SME's

Management

Benefits

- Blockages to flow are identified and escalated daily.

- Decisions and actions are taken in very short timeframes to remove blockages to flow.

- Resources are available to assist daily .

- Improvement in the overall flow dwarfs the local losses (when not putting the 'best' resource on each task).

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Rule 6 – Ensure Clear Definitions of 'Done'

All the tasks in the plan having a clearly defined criteria for *handover* and completion ('done').

Actions

- Create 'definition of done' statements for tasks and use them to make project plans more robust and realistic.

- Write task descriptions and tasks activities as outcomes or 'done statements'.

- Produce clear lists of what outputs are required for a task (to be marked as done) and make them part of the Full Kit for handover.

- Assign clear owners for the work. Both for completing and receiving.

- Schedule and prepare task handovers. Ensure each handover provides accurate and reliable communication of task-relevant information to the receiving team/resource.
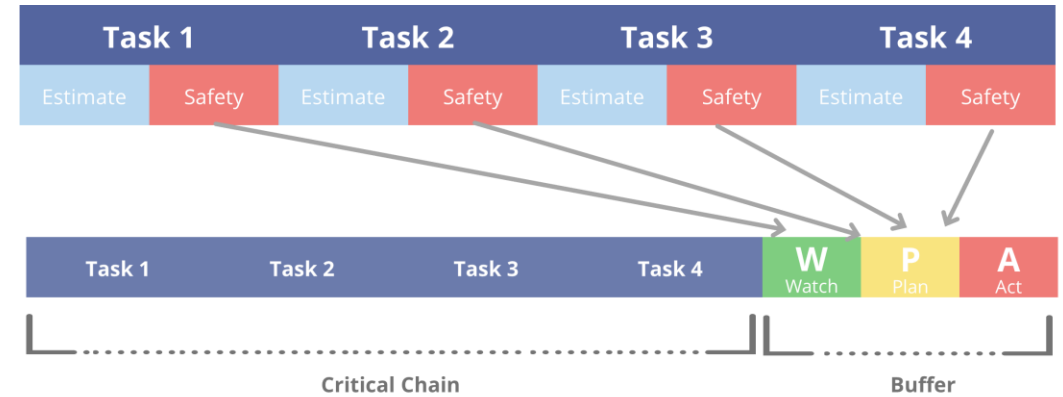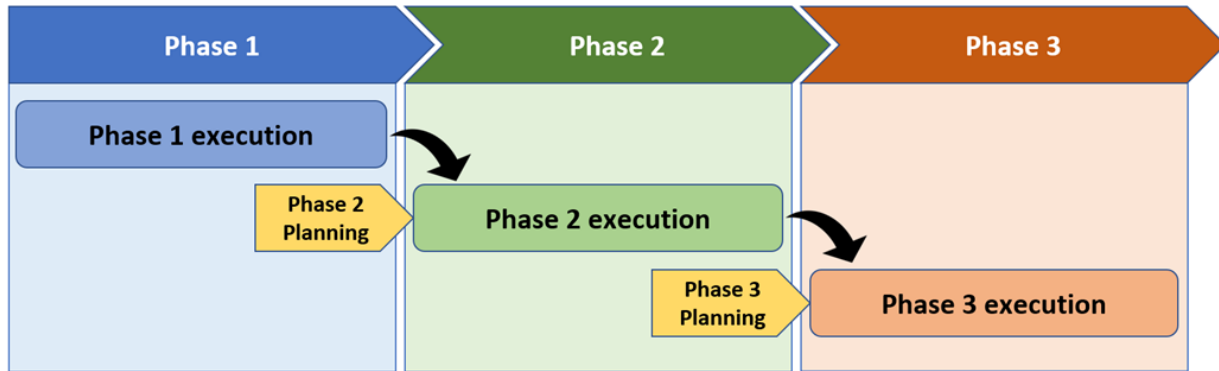
Benefits

- Provides a clear, concise, and shared understanding of what needs to be done.

- Avoids behaviour that wastes time during task execution.

- Drives delivery on-time. Having good control over handovers, no gaps in the delivery with fewer, and smaller delays.

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Rule 7 – Plan for Uncertainty

Focus on execution, not (re)planning, and position *visible buffers* to protect the plan from the uncertainty. All projects are planned in phases and *buffered* to manage overall flow. Re-planning is rare.
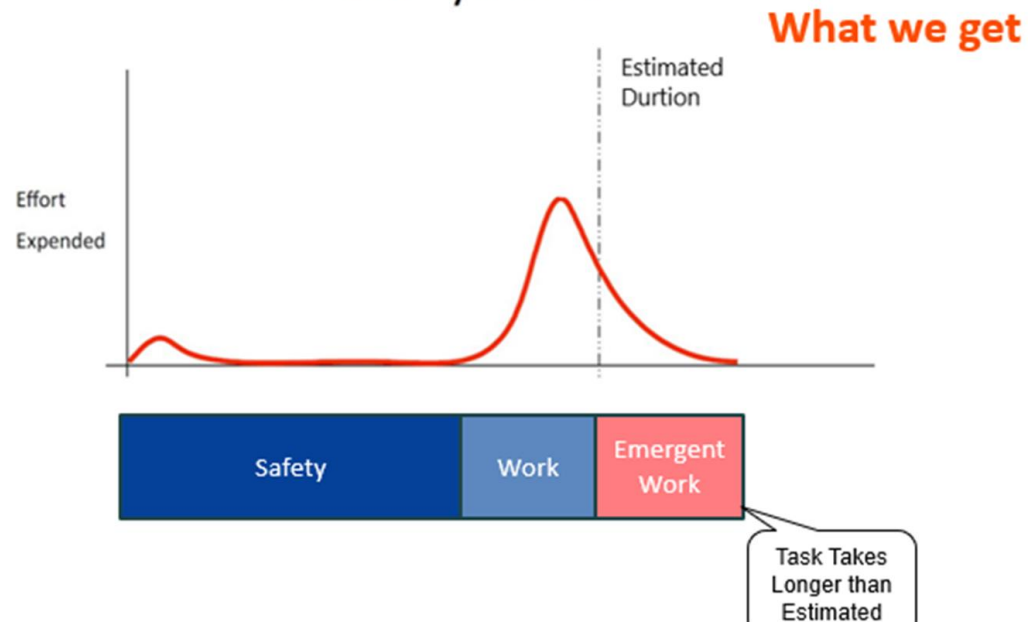
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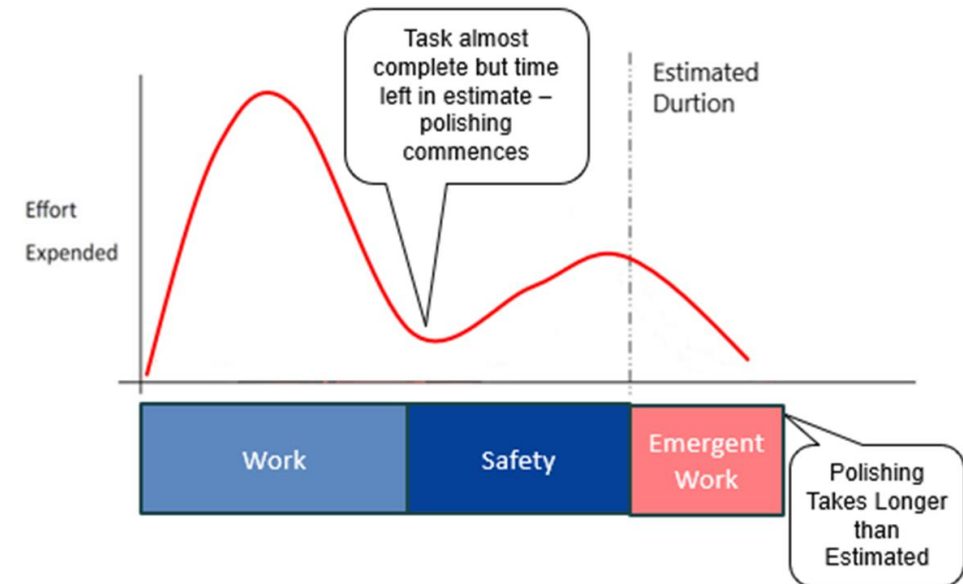
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Rule 7 – Plan for Uncertainty

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Actions

- Size execution phases of between 3 to 6 months in duration, and plan subsequent phases in advance, before the current phase ends.

- Create simple, robust project plans for each phase (40-50 lines) and assign the *optimal* level of resources to tasks.

- Keep tasks at a level of granularity that enables reporting remaining duration daily

- Insert Buffers on the Critical Chain to protect the flow from uncertainty.
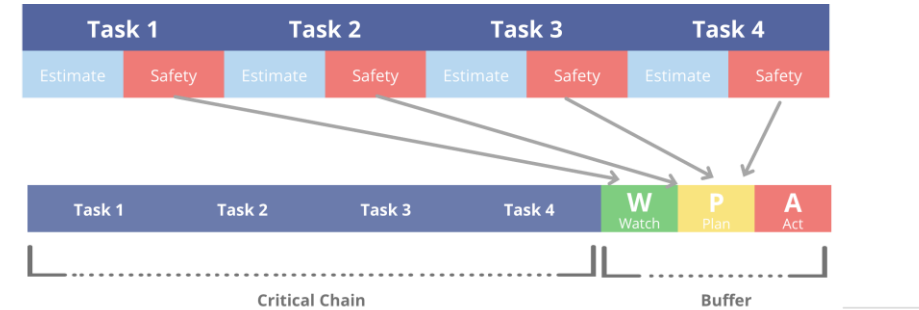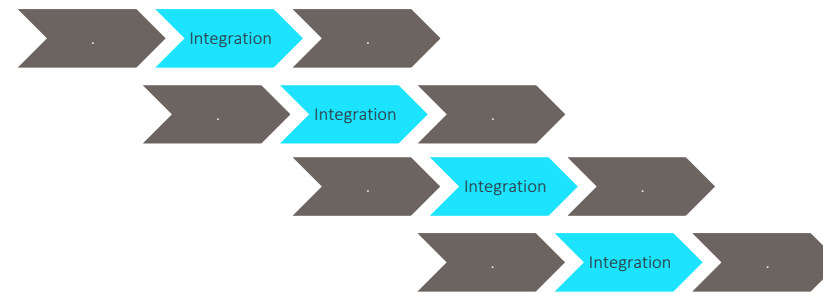

3. Benefits

- Higher confidence in project durations and delivery dates and significant reduction in instances of re-planning.

- Plans built to support *execution*.

- Shorter project plans overall, and better synchronisation between project resources.

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Rule 8 – Focus on the Constraint/Integration Point

Stagger the projects in the portfolio to *synchronise* bottleneck resources and ensure they are not overloaded.

Actions

- Focus on the bottleneck resource as an integration point.
- Agree a WIP limit for Integration – usually at least a 25% reduction in volume.

- For all projects, review the integration tasks and place these, in project priority order, on a timeline.

- Where the WIP limits are violated, stagger and smooth the projects out to the future until there is no WIP violation.

- Give these projects new, staggered due-dates based on the bottleneck capacity

- Only release projects according to the new staggered plan.

3. Benefits

- Resources in key areas are not overloaded and can focus on accelerating tasks which improve the output of the whole system.

- Multi-tasking is reduced.

- Flow and Throughput increases on all projects.

- *Prevents starvation* and maintains an optimal level of WIP

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Rule 9 – Focus on Remaining Duration

Report the remaining duration of all (open) project tasks every day, supporting fast recovery actions.

Actions

- Capture the remaining duration of all open tasks on each project each day.

- Compare remaining duration against work completed on the Critical Chain

- Use the buffer both as a shock absorber, and decision maker (fever chart)

- Watch – Plan – Act, as clear management behaviours/actions.

Fever Chart
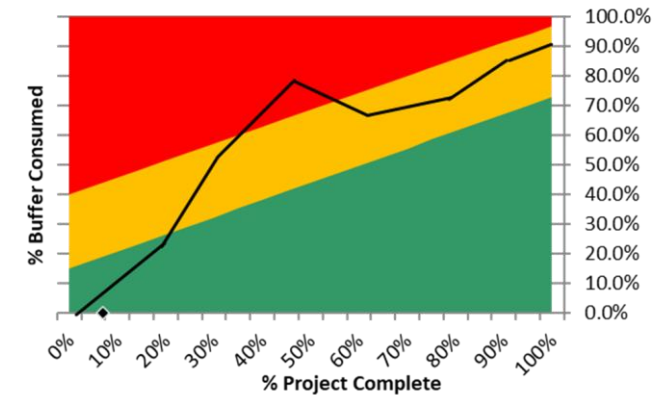
3. Benefits

- Clear, stable and robust priorities, and aligned priorities across all projects.

- Up to date information and visibility.

- Early warning of delays in execution.

- Corrective recovery actions taken in good time.

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Rule 10 – Measures drive behaviours

Replace local efficiency measures that do not support flow with global measures aligned to deliver the project on time

Actions

- Identify measures to stop because they are damaging flow, WIP and the on-time completion of projects.
  - Resource efficiency: Activity does not equal progress.
  - Local cycle times: Local performance does not equal global performance.
  - Cost measures: the aim is to increase output, not reduce costs.

- Introduce measures that promote flow and on-time completion of projects:
  - WIP levels and violations for tasks and projects.
  - Remaining durations daily adherence
  - Buffer status and recovery actions.
  - Full Kit compliance.
  - Throughput contribution & growth
  - Integration / Constraint performance.

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The 10 Rules of Flow

- Reduce WIP

- Complete Full Kits

- Release to Capacity

- Reduce Multi-tasking

- Show Servant Leadership

- Ensure Clear Definitions of Done

- Plan for Uncertainty

- Focus on the Constraint/Integration Point

- Focus on Remaining Duration

- Choose Measures that drive Behaviours

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The Rules of Flow – Overall benefits
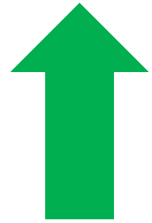
Quality

Delivery Performance

Capacity Unlocked

Lead/cycle time

Fire-fighting

Bad multi-tasking

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Example of benefits – Challenger 3 Tank upgrade

- Rheinmetall / BAE Systems JV, known as RBSL - £800M – 148 tanks

- Upgrading the British Army Battletank from Challenger 2 to Challenger 3 – to be fully digitised

- Critical Design Review ahead of schedule

- Initial gun and movement trials in Germany underway

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Thank you for listening

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