Critical Chain - Challenger 3 Tank

Tim Stacey, Senior PM Challenger 3 Programme
Rene Nibbelke, Head of PM Strategy
Andy Watt, Managing Director Goldratt UK

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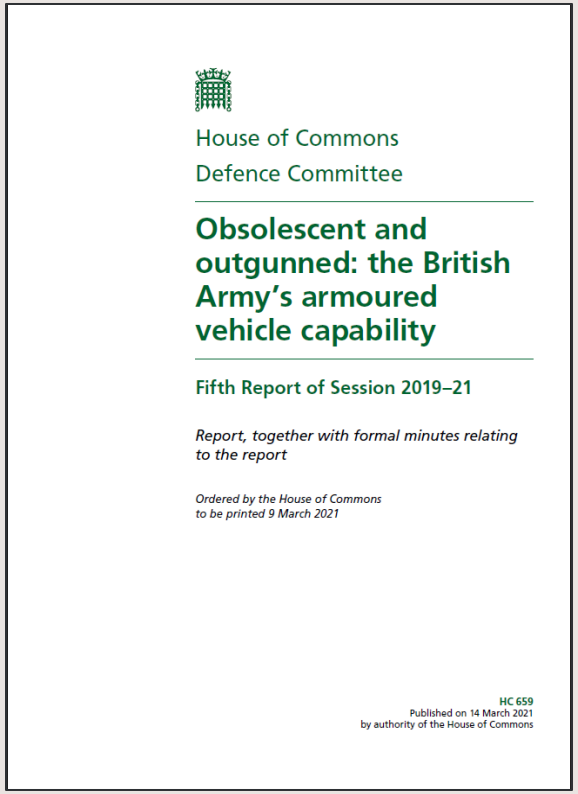
Context of the Programme – “the need for speed!”

- Challenger 2
  - Entered service in 1998
  - Proven battle winning capability
- Strong political focus on armoured vehicle programmes
  - Select committee report at same time as contract award
- Challenger 3 Mission
  1. Deliver the most capable main battle tank in NATO
  2. Give the British Army credible hard power as an integral part of the UK’s national defence posture, and the NATO alliance
  3. Give the British Army a step-change in capability
  4. Re-establish main battle tank engineering and manufacturing in the UK



House of Commons
Defence Committee

Obsolescent and outgunned: the British Army’s armoured vehicle capability

Fifth Report of Session 2019–21

Report, together with formal minutes relating to the report

Ordered by the House of Commons to be printed 9 March 2021

HC 659
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You don’t need tanks unless you want to win.

Challenges

- RBSL formed in July 2019
  - Rheinmetall BAE Systems Land is a Joint venture
  - Strong Heritage in Armoured Vehicles
- New growing business
  - Multi site working (Telford, Washington and Bristol)
  - Two major new programmes
  - Aggressive programme timelines
- £800m programme for 148 upgraded tanks to mobilise and deliver
  - Last contract of this scale was over 10 years ago
  - Supply chain across UK and Europe to mobilise

Our challenge is to deliver a complex high profile military vehicle programme quicker than anyone has done before.

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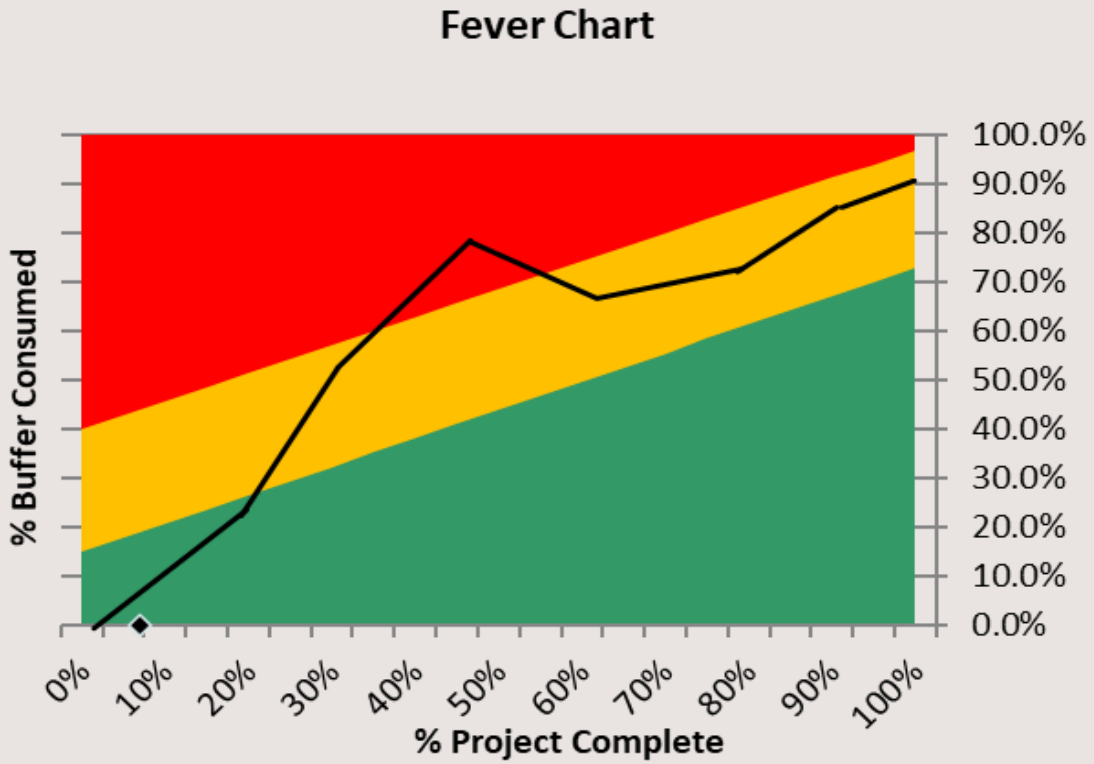
Exploring new ways of working

- BAE Systems Curiosity programme on Critical Chain
  - Building on experience in Australia
- Challenger 3 Team Engaged
  - Masterclasses
  - 1-2-1s with other companies, Boeing, Embraer and Mazda
  - Advice that CCPM ‘can’t make it worse’
- Goldratt[UK] engaged to support
  - Teaching and coaching support not do the work
  - Simple training – now in constant use within the team
- Regular senior reviews on progress

We decided to try CCPM on the basis of “Go before you know”

Critical Chain – A system of work based on the rules of flow
Treating time differently

- Behaviours
  - Realistic but challenging timescales – no multi-tasking.
- The time buffer
  - Have a single time buffer to protect the schedule, taken out of task safety of individual tasks
- Fever charts
  - Monitor the use of the buffer by 'late' Critical Chain/Path tasks
  - Daily updates on 'remaining duration'.

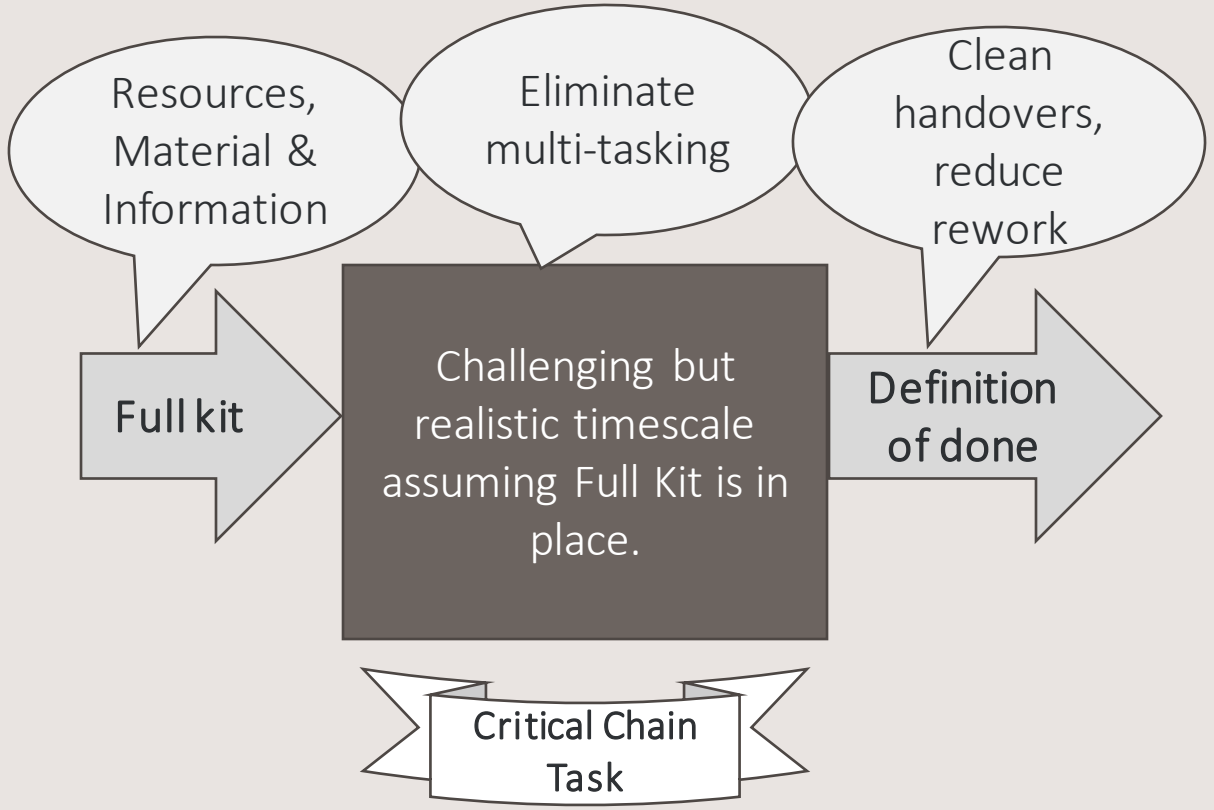


Red = Relentless leadership focus on recovery – no blaming

Critical Chain – A system of work based on the rules of flow

Tackling blockers to flow

- Our ideal behaviours that are enabled with Critical Chain
  - Collaborating teams
  - Focused work
  - Aligned work
  - Rapid identification and fixing of issues
  - Quick, High Quality Handovers etc.
- The rules of flow (not just buffer management, it needs the enablers)
  - Team have written, trained and reinforce them daily



Relentless focus on enabling flow

First phase Case Study - Subcontracts

The work

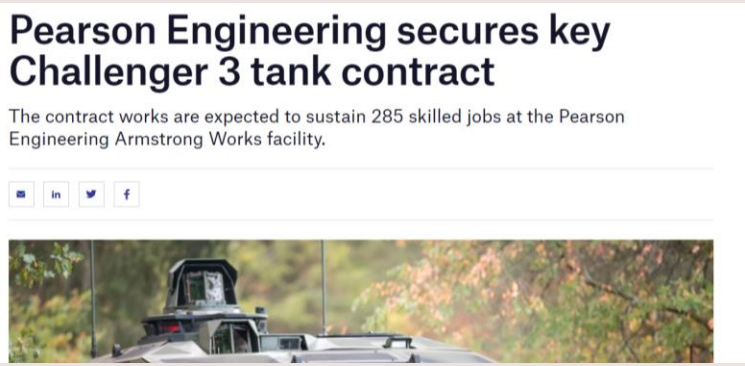
- £300m of sub contracts to place
- Conflicting priorities
- Constraint
- Trying to do everything at once
- Multiple dependencies

The solution

- Template plans
- Common definitions of done
- Daily calls
- Focused recovery actions
- Reduced the demand on the constraint areas

The results

- Sub contracts placed -twice as many in half the time
- Team confidence and coherence
- Enabled next phase of work



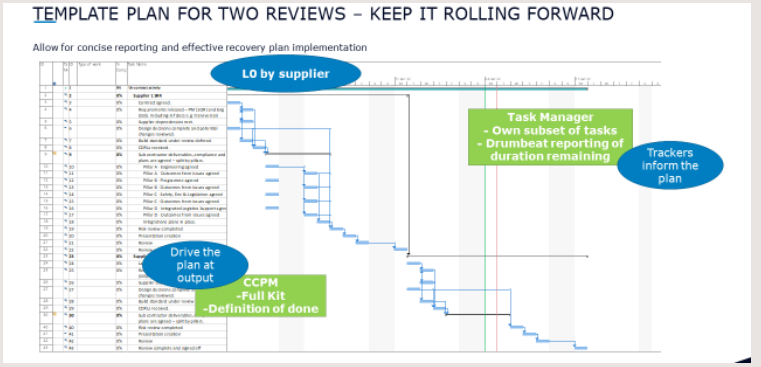
Second phase case study – Route to Critical Design Review

The work

- Complex
- Long lead
- Challenging

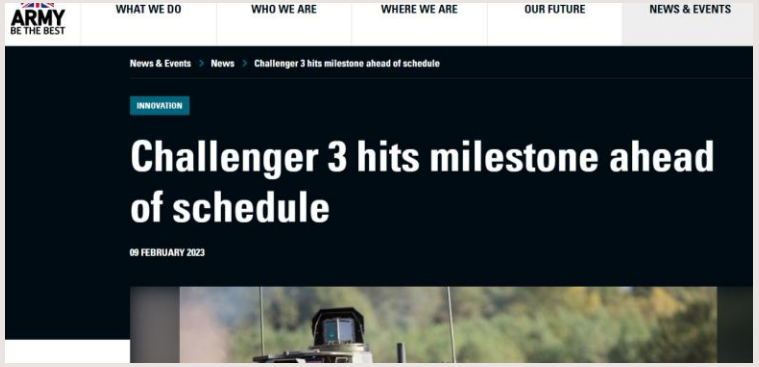
The solution

- Right to left planning
- Identification of critical chain
- Challenging of assumptions
- Prioritisation by buffer



The results

- Plans showed a path
- Team focused onto key work
- Prompt recovery on issues
- CDR delivered



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How we overcame layers of resistance

Layer of resistance	What we did to address resistance
Agreement of the problem	Agreed this as the first step • Embedded the approach of first we agree the problem with all parties
Direction of the solution e.g. some of the team keen on AGILE	Adopted a pilot approach Kept reviewing Aligned the CCPM and AGILE methods
Maintaining continuity	Weekly top down reviews on buffer and recovery Leadership sessions PM team adopted a lead and substitute approach for each plan
Historical approaches	Used junior PM team members to drive consistency
Resistance to a named method	Moved to Challenger System of Work

We continue to learn, adapt and move forward as a team

Questions and answers