



# IBM HR Summit

Be a part of the HR revolution.

BOSTON, MA | SEPTEMBER 6-8, 2016

## Innovative Cyber Talent Spotting in an Uncertain World

Major Harry Porteous - UK Ministry of Defence

# Scope

1. Cyber: The Problem
2. Cyber: The Solution
  - Unique challenges
  - How DCAT being used
3. Cyber: The Forward
  - Commercialisation
  - Validation
  - Report
  - Simulation (Gamified Attraction Assessment)
4. Q&A

*“An effective cyber capability is dependent on the quality of its people”.*



# CYBER: The Problem

# Nature of Cyberspace (Highlights)

- Virtual & Created by Humans
- Continuum of National Functions
  - Blurring Military, Criminal & Espionage
  - Crossover with National Security
- Global / Pervasive
  - Not Just Internet
  - Asymmetry



The image is a screenshot of a BBC News website article. At the top, the BBC logo is on the left, and navigation links for 'Sign in', 'News', 'Sport', 'Weather', 'iPlayer', 'TV', and 'Radio' are on the right. Below this is a red header with the word 'NEWS' in white. Underneath the header is a secondary navigation bar with links for 'Home', 'UK', 'World', 'Business', 'Politics', 'Tech', 'Science', 'Health', 'Education', and 'Entertainment'. The article is in the 'Technology' section, indicated by a red underline. The main headline is 'South Korea hit by cyber attacks' in bold black text. Below the headline is a sub-headline '4 March 2011 | Technology' with a small clock icon. The article text begins with 'South Korea has been hit by a series of cyber attacks which have targeted some of the country's leading websites.' This is followed by a paragraph: 'Government ministries, the National Assembly, the military headquarters, US Forces in Korea and major banks were among those hit.' To the right of this text is a photograph of the National Assembly in South Korea, showing a large hall with many people seated at desks. Below the photo is a caption: 'The National Assembly website was among high profile targets'. The final paragraph of the article states: 'It is believed that the attackers injected malware into two peer-to-peer file-sharing websites.'



# The Telegraph

Home Video News World Sport Finance Comment Culture Travel Life Women  
USA Asia China Europe Middle East Australasia Africa South America Central Asia  
France Francois Hollande Germany Angela Merkel Russia Vladimir Putin Greece Spa

HOME » NEWS » WORLD NEWS » EUROPE » FRANCE

## French fighter planes grounded by computer virus

French fighter planes were unable to take off after military computers were infected by a computer virus, an intelligence magazine claims.

f t p in ↻ Email



French fighter jets were unable to take off after military computers were attacked by a virus. Photo: AFP

Print this article

France  
News » World News » Europe »

Related Part

The best way to money over

In France



Waterloo Commemor

## THE TIMES Defence

News Opinion Business Money Sport Life Arts Puzzles Papers

Welcome to your preview of The Times

## Cyberattack could cripple £6bn aircraft carriers



Deborah Haynes Defence Editor  
Published at 12:01AM, February 12 2015

Britain's £6 billion aircraft carriers could be rendered useless by a cyberattack because of their reliance on ageing software, a report warns today.

The Royal Navy and its international allies must "fundamentally rethink" how they use technology on expensive warships such as the

The Queen Elizabeth I could be vulnerable to cyberattack  
Getty Images

Post a comment

Print

Share via



Lizard Squad  
@LizardSquad

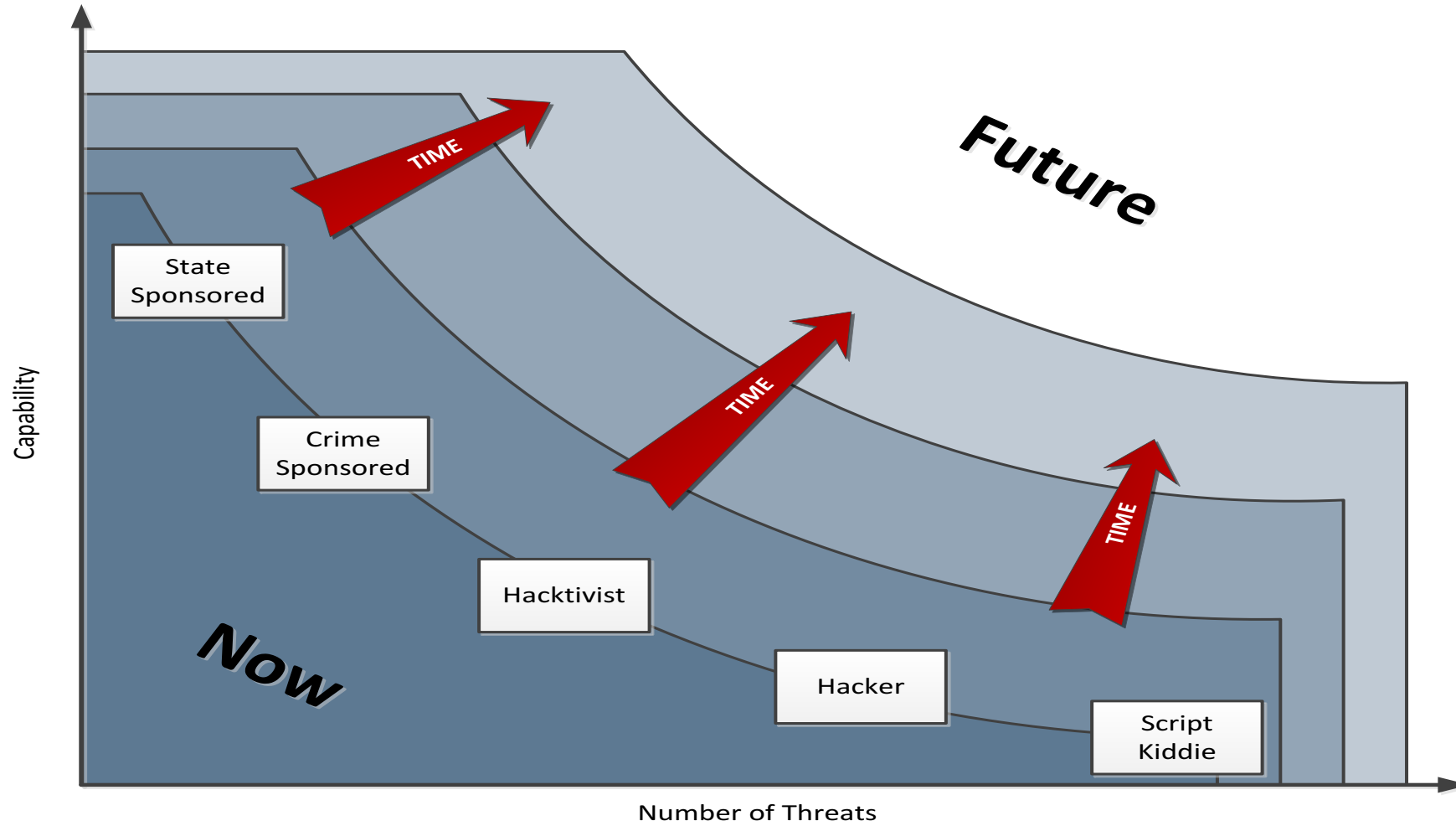
Follow

.@AmericanAir We have been receiving reports that @j\_smedley's plane #362 from DFW to SAN has explosives on-board, please look into this.

1:29 PM - 24 Aug 2014



# Threat



**GCHQ** Defence and security blog

## Britain plans cyber strike force - with help from GCHQ

- move announced ahead of Tory party conference
- officials and analysts puzzled
- claims about deterring enemies questioned



Defence Secretary Philip Hammond leaves 10 Downing Street in London after attending a cabinet meeting with the prime minister. Photograph: Stefan Rousseau/PA

**Richard Norton-Taylor**

Monday 30 September 2013 16.51 BST



## Speech

## Chancellor's speech to GCHQ on cyber security

From: [HM Treasury, Government Communications Headquarters and The Rt Hon George Osborne MP](#)  
Delivered on: 17 November 2015 (Original script, may differ from delivered version)  
Location: GCHQ  
First published: 17 November 2015  
Part of: [Spending Review and Autumn Statement 2015](#)

Chancellor lays out new plan for £1.9 billion cyber investment, and details seven more departments that have settled ahead of the Spending Review.



We are building our own offensive cyber capability – a dedicated ability to counter-attack in cyberspace.

We have built this capability through investing in a National Offensive Cyber Programme.

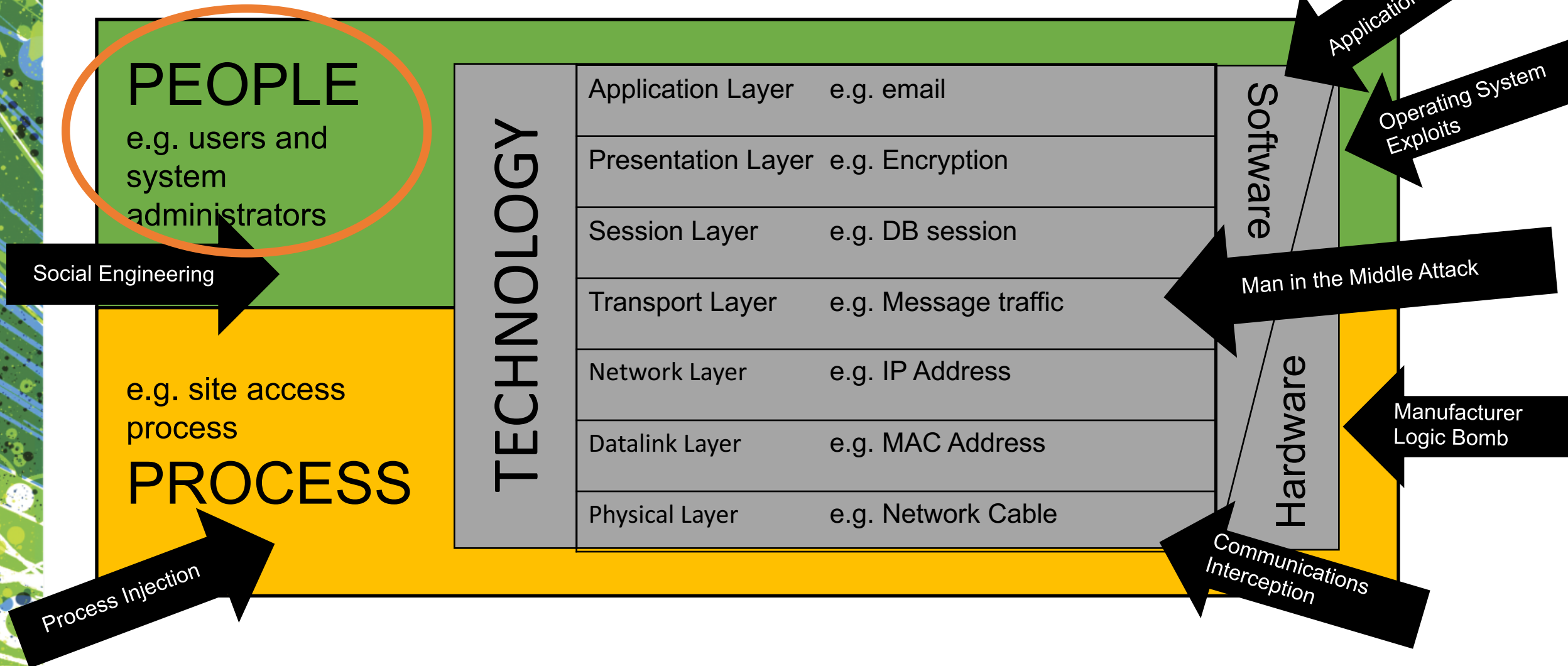
The Programme is a partnership between the Ministry of Defence and GCHQ, harnessing the skills and talents of both organisations to deliver the tools, techniques and tradecraft required for the UK to establish a world class capability.

# Adjusting to New Forms of Warfare





# Cyberspace



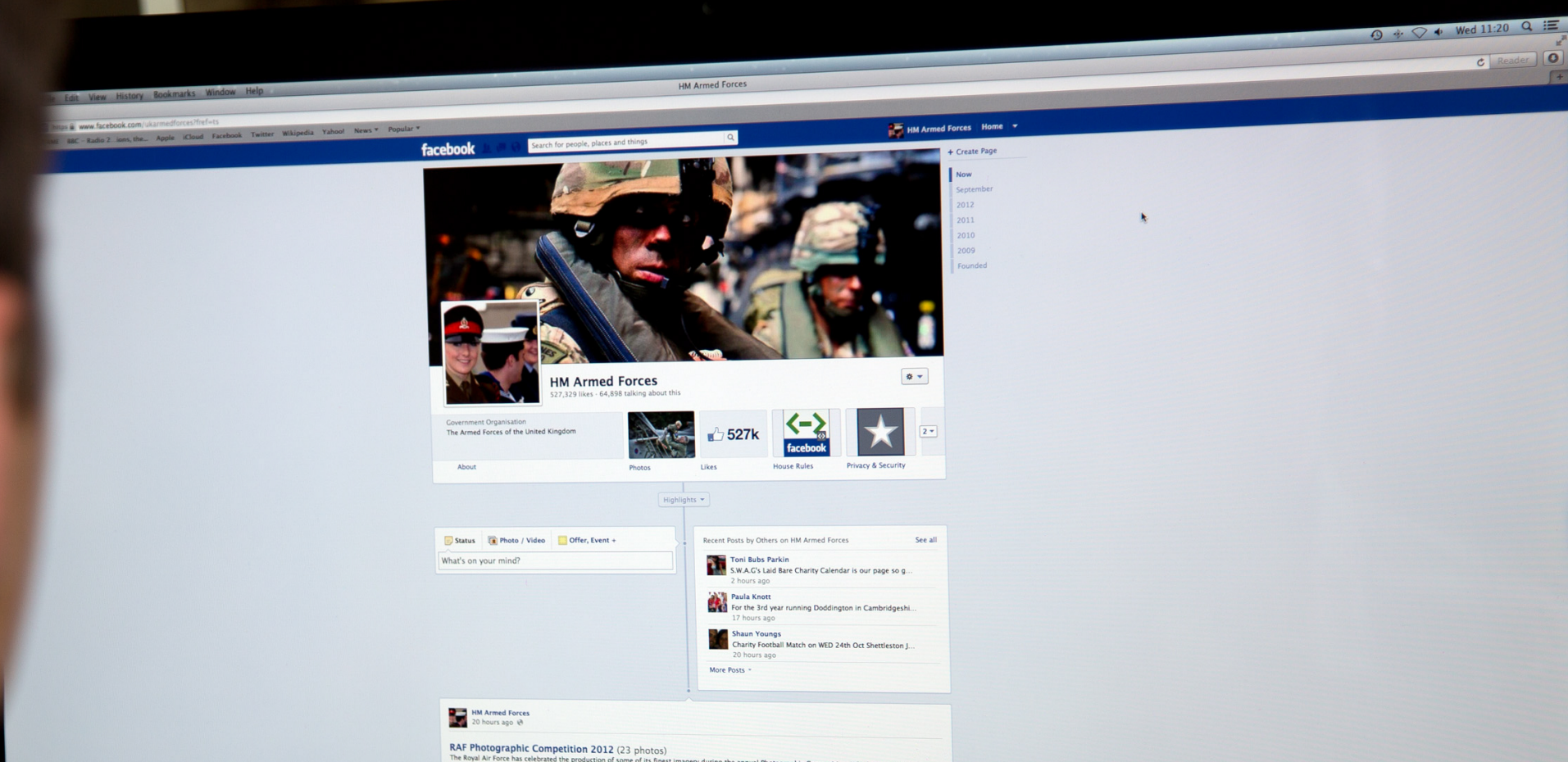
# “The People Problem”

- Higher Voluntary Outflow (VO) rate from cyber roles
- Conventional military posting mechanisms presents challenges
- Very high level of technical competence requires significant training – need individuals to be capable ‘right off the bat’

# The Requirement

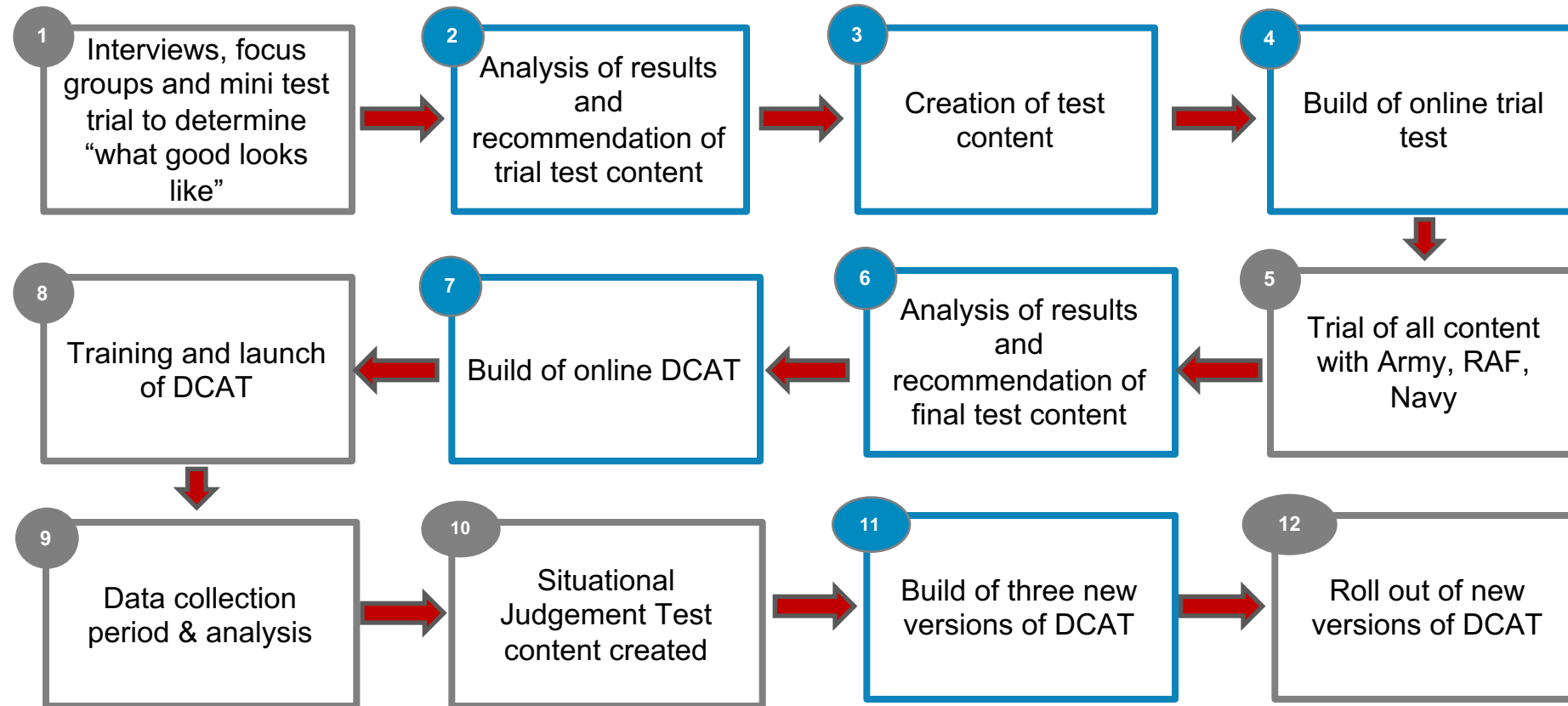
- To Seek 'latent' ability not pre-existing knowledge
- Recruitment
  - Select the very best from a wide pool across Defence
  - Objective standard for employment in a Joint Cyber Unit
  - Support existing Jt and sS selection processes
  - Manage talent in our workforce better
- Training
  - Find higher quality individuals with greater learning capacity
- Retention
  - Long term workforce management strategy; recruiting the most passionate encourages excellence





# CYBER: The Solution

# Test Creation Process





# 1. Defence Cyber Aptitude Test (“DCAT”) Overview

- **AIM:**

- Identify the best personnel with the right aptitude, skills and competencies to succeed in Cyber roles.

Section	Objective
Realistic Job Preview	Give a realistic expectation of role
Error Identification	ability to identify errors quickly and correctly
Attention to Detail	Measures ability to identify errors quickly and correctly
Numerical	Measures how well candidate reasons with numbers
Verbal	Measures how well candidate reasons with words and sentences
Behavioural	Measures personal characteristics and preferences

## 2. Defence Cyber Aptitude Test: Non Behavioural (“DCAT-NB”)

- **AIM:**
  - Identify the best personnel with the right aptitude, skills and competencies to succeed in Cyber roles.

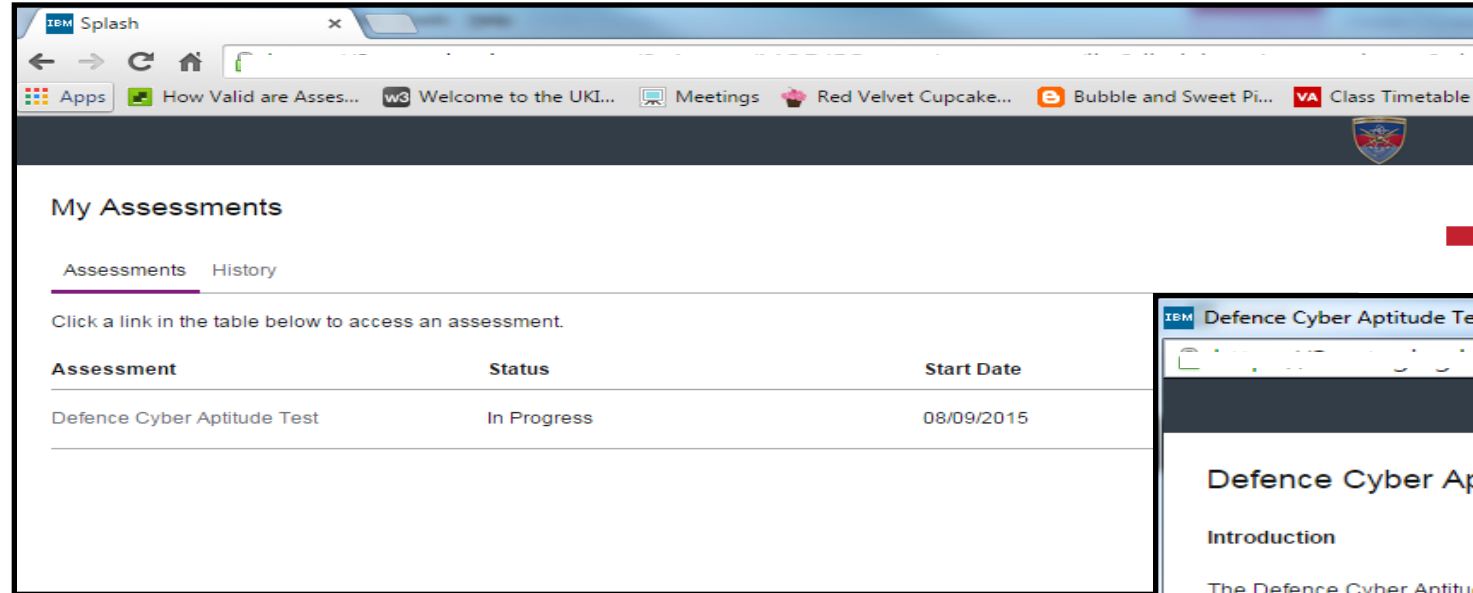
Section	Objective
Realistic Job Preview	Give a realistic expectation of role
Error Identification	Measures ability to identify errors quickly and correctly
Attention to Detail	Measures ability to identify errors quickly and correctly
Numerical	Measures how well candidate reasons with numbers
Verbal	Measures how well candidate reasons with words and sentences

# 3. Defence Cyber Aptitude Test: Intelligence Analysis (“DCAT-IA”)

- **AIM:**
  - Identify the best personnel with the right aptitude, skills and competencies to succeed in Cyber Intelligence Analysis roles.

Section	Objective
Intelligence Analysis Situational Judgement Test	Give a realistic expectation of role
Error Identification	Measures ability to identify errors quickly and correctly
Attention to Detail	Measures ability to identify errors quickly and correctly
Numerical	Measures how well candidate reasons with numbers
Verbal	Measures how well candidate reasons with words and sentences
Behavioural	Measures personal characteristics and preferences

# Candidate Experience



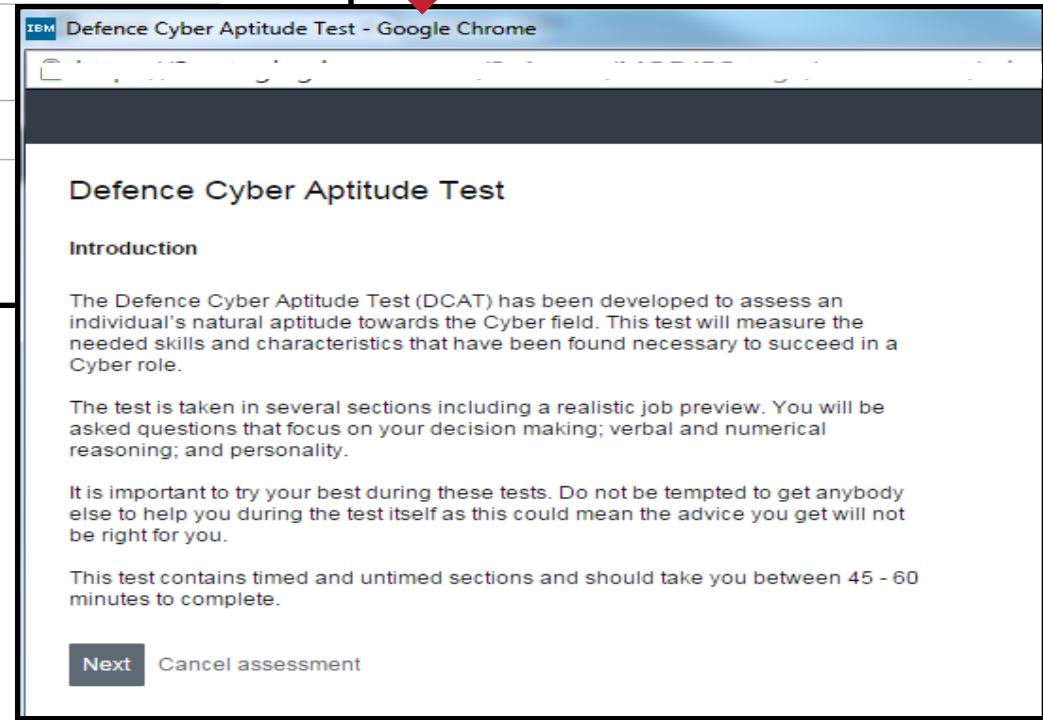
IBM Splash

My Assessments

Assessments History

Click a link in the table below to access an assessment.

Assessment	Status	Start Date
Defence Cyber Aptitude Test	In Progress	08/09/2015



IBM Defence Cyber Aptitude Test - Google Chrome

## Defence Cyber Aptitude Test

### Introduction

The Defence Cyber Aptitude Test (DCAT) has been developed to assess an individual's natural aptitude towards the Cyber field. This test will measure the needed skills and characteristics that have been found necessary to succeed in a Cyber role.

The test is taken in several sections including a realistic job preview. You will be asked questions that focus on your decision making; verbal and numerical reasoning; and personality.

It is important to try your best during these tests. Do not be tempted to get anybody else to help you during the test itself as this could mean the advice you get will not be right for you.

This test contains timed and untimed sections and should take you between 45 - 60 minutes to complete.

[Next](#) [Cancel assessment](#)

# DCAT Administration

- DCAT administered as a SaaS through the Assess Platform
- JPA Competence

The screenshot displays the Oracle Applications interface for JPA Production R20, dated 02-Aug-2015. The main window shows the 'Unit Standard Qualifications Framework Details' for a competence named 'CYBER OPS|Cyber Aptitude|Joint'. The description is 'Authorised personnel who have been assessed as having Cyber Aptitude during DCAT'. The cluster is 'Normal Competence'. The valid date is set to '01.APR.2015'. The proficiency is set to 'Scale'. A behavioral indicator is provided: 'Defence Cyber Aptitude Test (DCAT): authorised by JFC personnel. Personnel that have successfully passed the DCAT: This indicates suitability for Cyber. Personnel are eligible to apply/be selected for a Cyber position within MOD. (For further information see DIN 1.10.Jun 14)'. A secondary window, 'Additional Competence Details', is open, showing fields for Specialist Pay Type, AIP Classification, AIP Award Date, AIP End Date, NERP Flag, Approval Competence Group, Legacy Auth ID, Additional Authorisation Criteria, Competence Sponsor Title (JFC Cyber Jt User SO1 Manpower and Training), Competence Sponsor Organisation (DC13), Competence Controller Title (DSFW Proj O RAF), and Competence Controller Organisation (HQ Air Command). Buttons for 'OK', 'Cancel', 'Clear', and 'Help' are visible at the bottom of the secondary window.

- DCAT Pass threshold
  - Continually monitored normative sample





CYBER:  
The Way  
Forward

# Future Challenges





Rolls-Royce®

BAE SYSTEMS



Ministry of Defence

## Creating an Enterprise Alliance - Concept Phase

Reference EAC/SA/RP/0031  
Context Enterprise Approach Concept Phase  
Title Defence Enterprise Value Proposition and Management Information System User Requirements  
Issue: 1.0





# An alliance based on skills and competencies

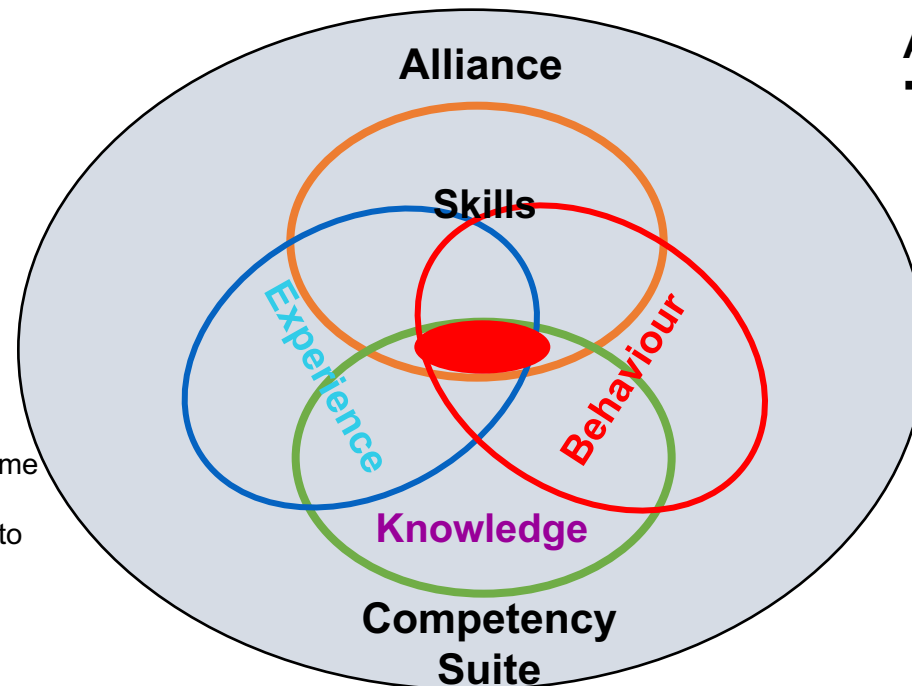
*The Attributes the organisation must acquire through its people to ensure it fulfils its confirmed purpose*

## Alliance skill:

- The level of capability (proficiency, technical capability and learned ability) to execute the required competency

## Alliance Experience:

- The degree to which the same or similar has been seen before allowing this history to be applied to the situation encountered. Perspectives brought from the past



## Alliance Behaviour:

- The behaviours, ways of working and degree of alignment required to build effective teams that deliver the purpose

## Alliance

## Knowledge:

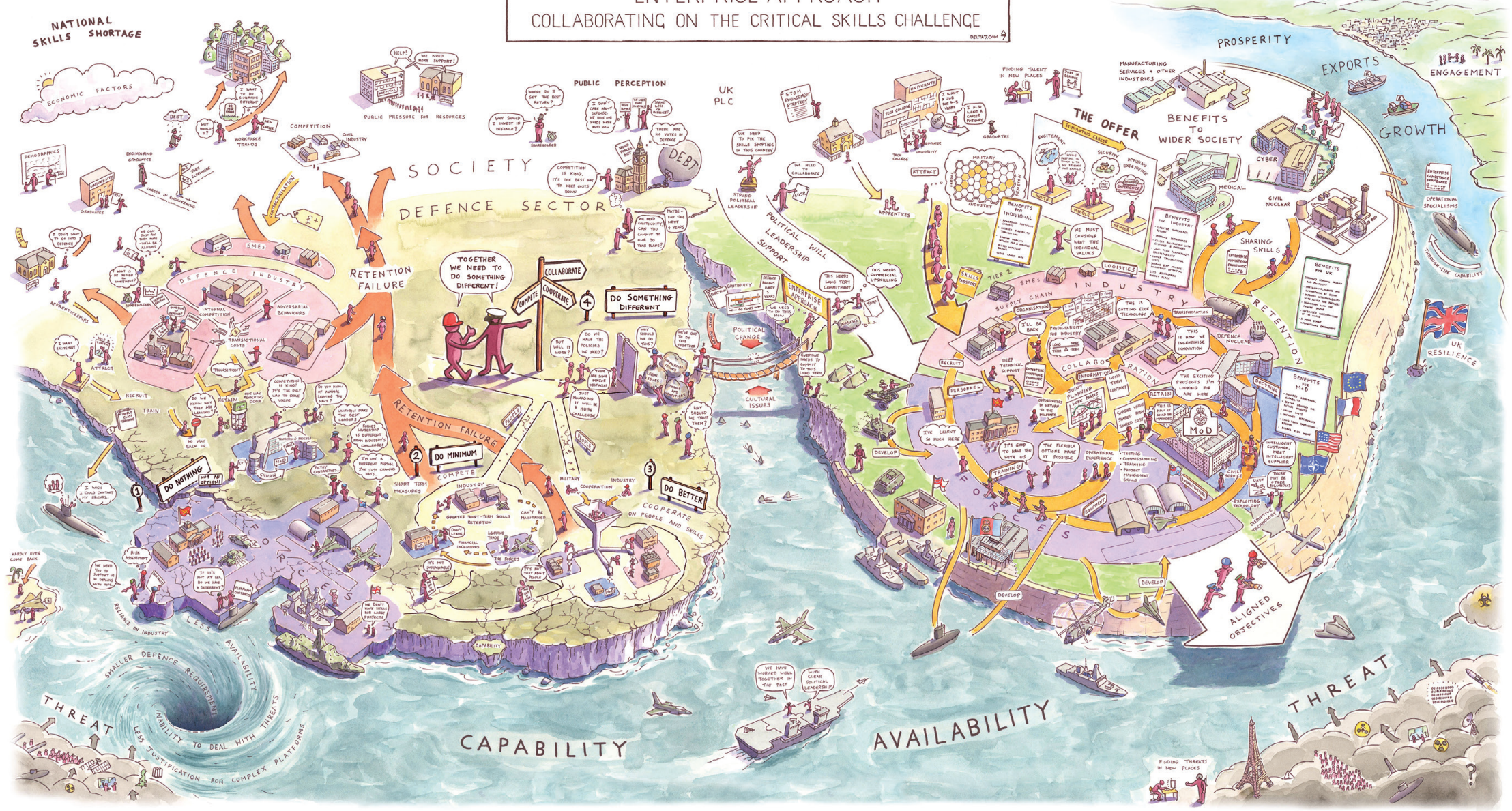
- The degree of facts and information drawn from the alliance partners relevant to the mission and purpose of the alliance



**The Target Operating Model will determine how each of these elements are manifested in the Alliance during the Assessment phase**



# ENTERPRISE APPROACH COLLABORATING ON THE CRITICAL SKILLS CHALLENGE

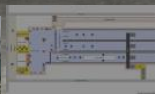
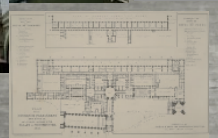
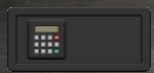




# DCAT Evolution

- FY15/16
  - Set up costs for test build only and use with individual licence quota.
  - Additional spend for:
    - Enhanced Cyber Intelligence Analysis Test (replaces RJP)
    - Develop Individual Report
    - Selectable Behavioural Test (removal allows DCAT to screen existing workforces)
- FY16/17
  - Develop 'non-fail' test for recruiting use at public awareness events
- Future:
  - Licenced sales through MOD Crown Commercial
    - MOD owns the bulk of the DCAT IPR
    - Potential sales to allies at our discretion
    - Commercial opportunity

TOTAL:











● TV ●





# IBM HR Summit

Be a part of the HR revolution.

BOSTON, MA | SEPTEMBER 6-8, 2016

## Questions?