

Defense 2020- Digitalized Battlefield

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Social



Mobile



Analytics



Big Data



Cloud



IoT



Automation

Atos

Our vision

Digital Shockwaves in Business **will deeply affect** end to end production and service processes in **all sectors of the economy**.

The Digital Shockwaves **will interact and interfere:**

Sometimes **reinforcing** their impact and sometimes **cancelling** each other out. Some will impact certain industries more than others. Some will bring **positive effects**, others will bring **potential threats**.

It's essential **anticipating** and **responding** to their impact for a given business context.



The evolving nature of warfare demands different thinking



Platform-as-a-Service

“

The changing character of conflict demands agility in an increasingly complex and anarchic battlespace.

”

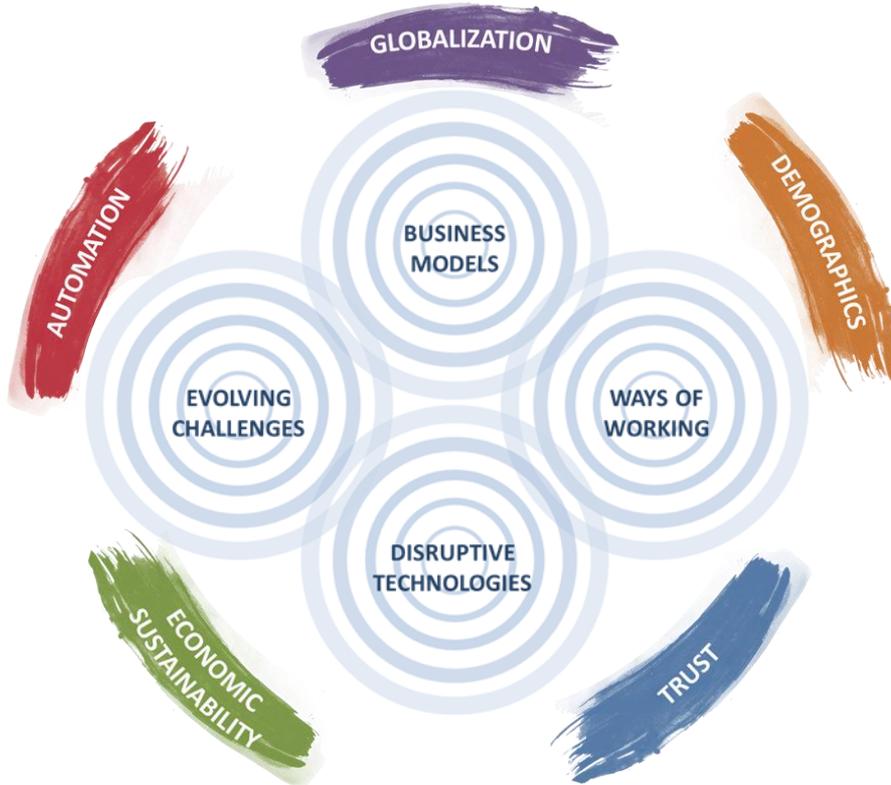
Gen. Sir Richard Barrons



Digital Technologies are a force multiplier for Warfare in the information age.



Digital Disruption: An Atos Scientific Community Perspective



Business Models – through new sources of business value and partnership, driven by data and connectivity.

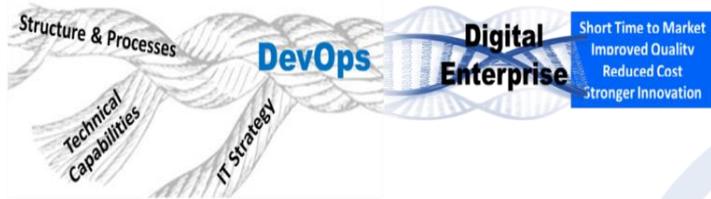
Ways of working – resulting from changes in Business processes and the very nature of work.

Disruptive Technologies – the developments that bring revolutionary changes to the “art of the possible” not just evolution.

Evolving Challenges – familiar challenges that need to be addressed with different perspectives as a result of the emergence of new influences.

Ways of Working

A Revolution in Organisations, Jobs and tools



DevOps in large organizations

Interactive & Dynamic Media

WAYS OF WORKING

Augmented Interactive Reality

Wearables



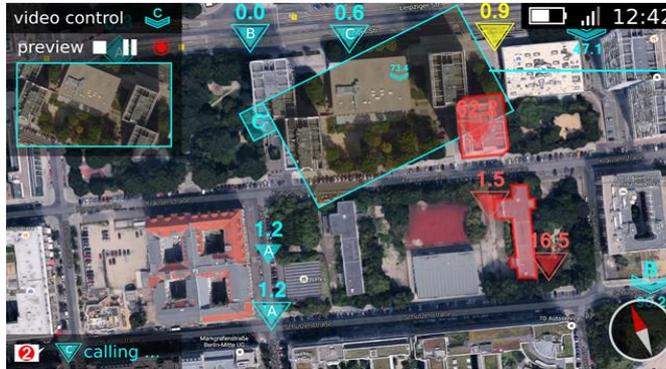
Ways of Working

A Revolution in Organisations, Jobs and tools



Battle Management Systems on mobile devices using 2D view of situational awareness will further develop into 3D interactive world models with service-orientated interaction capabilities (e.g. communication, video streaming, etc.).

Harmonization and interoperability of TF applied BMS systems must guarantee local data exchange of blue and red dots.

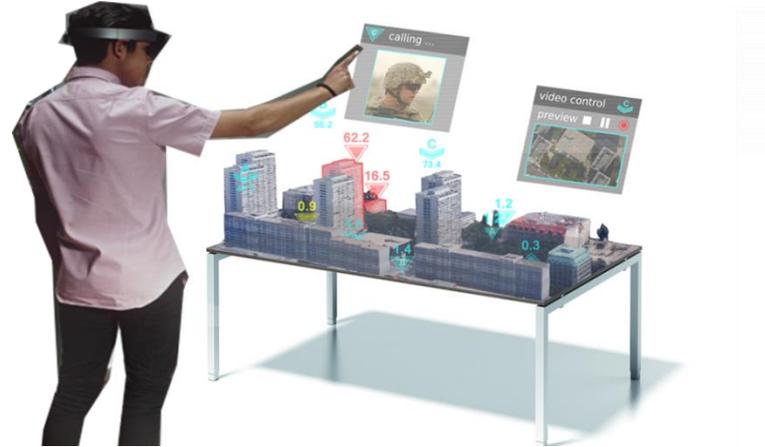


Live Video stream of UAV mapped on 3D world as graphical texture

Ways of Working

A Revolution in Organisations, Jobs and tools

Smart Glass technologies will provide holographic interactive 3D world models which are deployed to share planning and commanding in real time.



Business Models

New approaches in collaboration and value exchange

UK MoD – Defence as a Platform:

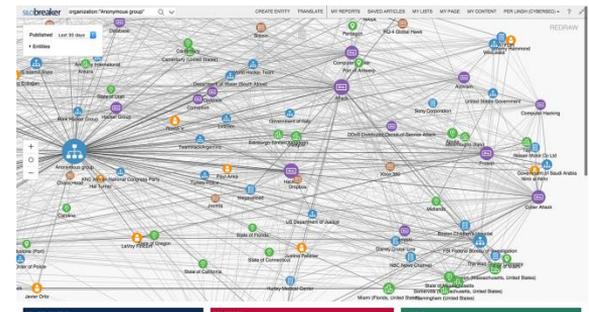
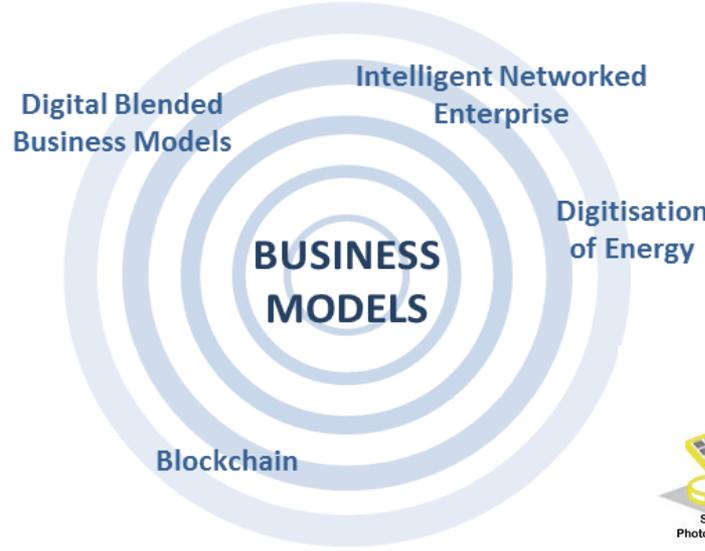


Why a new framework?

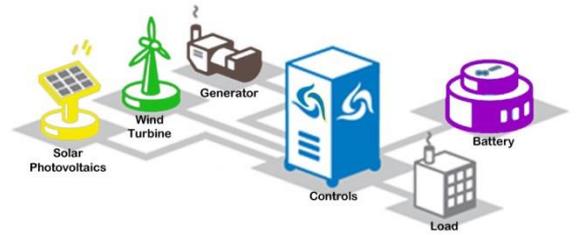


¹ <https://www.gov.uk/government/publications/2010-to-2015-government-policy-government-buying/>

- Contracted suppliers with Defence Standards
- Ready to buy
- Software Licences, Services & Hardware Rented
- Pick and mix of services to support customer needs
- Defence Design Implemented & Evergreen
- Technical Services ready to call off

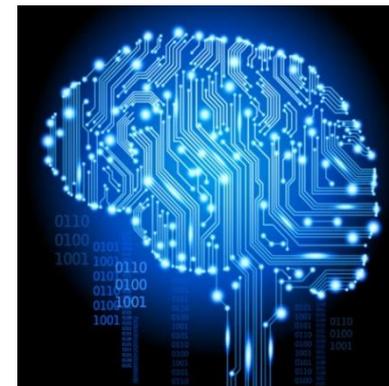
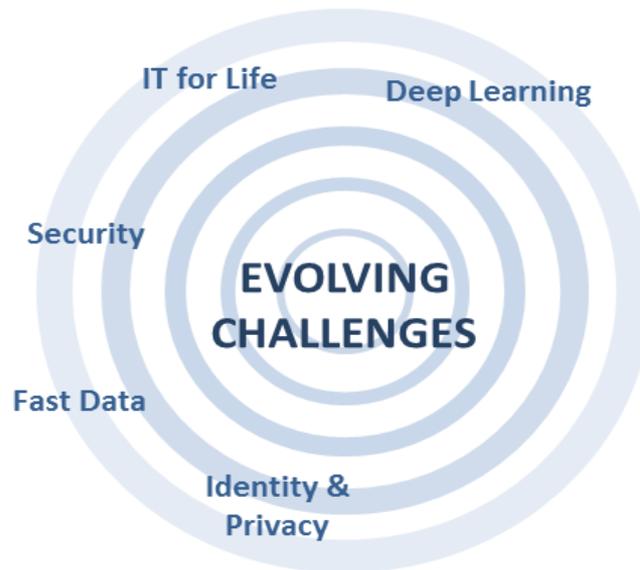


Anonymous attacks expose organisations to other risks
 17 March 2015 10:30
 Report attacks on the Government Communications and Information Security Centre (GC&ISC), and the North Atlantic Treaty Organisation (NATO).

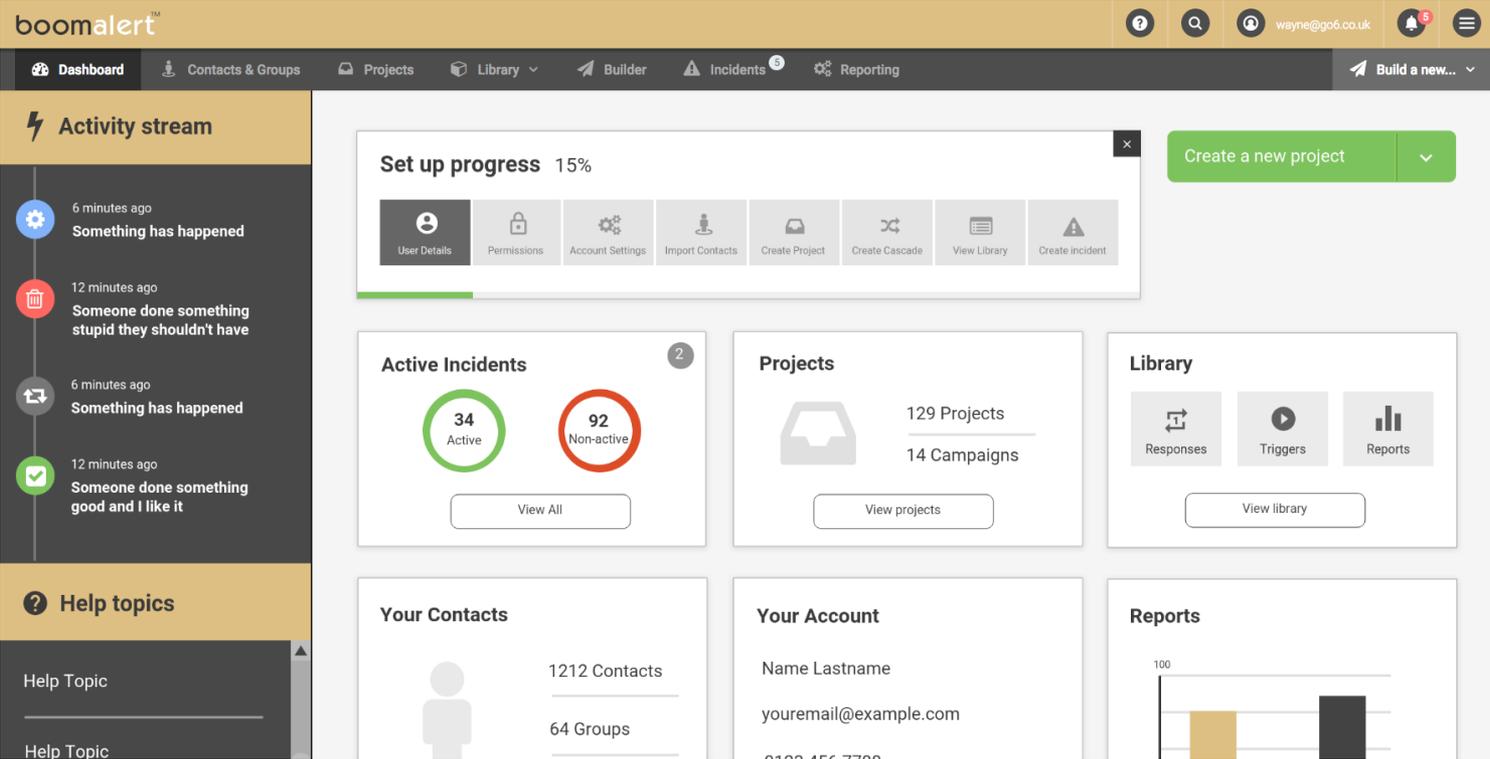


Evolving challenges

Continual investment is essential



Communication & Collaboration



The screenshot displays the boomalert™ dashboard interface. At the top, the navigation bar includes the boomalert™ logo, a search icon, a user profile icon for 'wayne@g06.co.uk', and a notification bell with a red '5'. Below the navigation bar, the main dashboard is divided into several sections:

- Activity stream:** A vertical list of events on the left side, including 'Something has happened' (6 minutes ago), 'Someone done something stupid they shouldn't have' (12 minutes ago), and 'Someone done something good and I like it' (12 minutes ago).
- Set up progress:** A progress bar showing 15% completion. Below it are buttons for 'User Details', 'Permissions', 'Account Settings', 'Import Contacts', 'Create Project', 'Create Cascade', 'View Library', and 'Create incident'. A green button 'Create a new project' is also present.
- Active Incidents:** A card showing 34 Active incidents (green circle) and 92 Non-active incidents (red circle). A 'View All' button is at the bottom.
- Projects:** A card showing 129 Projects and 14 Campaigns. A 'View projects' button is at the bottom.
- Library:** A card with buttons for 'Responses', 'Triggers', and 'Reports'. A 'View library' button is at the bottom.
- Your Contacts:** A card showing 1212 Contacts and 64 Groups. A person icon is on the left.
- Your Account:** A card showing 'Name Lastname', 'youremail@example.com', and a phone number '0122 456 7700'.
- Reports:** A card with a bar chart showing two bars, one yellow and one black, on a scale from 0 to 100.

The emergence OF SMART SERVICES

FROM DATA ...



**CONNECTION
AND CONTEXT**

IoT

Virtual Sensors

**Cyber Physical
Systems**

**Search Engines &
Social Media**



INSIGHT

Web of Systems

Analytics



LEARNING

Machine Learning

Cognitive Learning

... TO SMART SERVICES



**SMART SERVICE
REALISATION**

**Predictive becomes
Prescriptive**

Automation

**Augmented
Interactive Reality**

Platforms

Service Platforms
with distributed architectures will
become the core components of
Smart Services

Swarm Computing

THE NEXT EVOLUTION OF SMART SERVICES

Scaleable, collective intelligence

Big data analytics:

- **Predictive**
- **Prescriptive**

Deep learning

**Smart
Services**

**SWARM
COMPUTING**

**Service
Platforms**

Unlimited network capability

Cloud

Edge of Cloud (IoT)

Amorphous and/or polymorphous
Self configurable – virtual/ temporary

**Unconstrained physical
boundaries**

Context sensitive

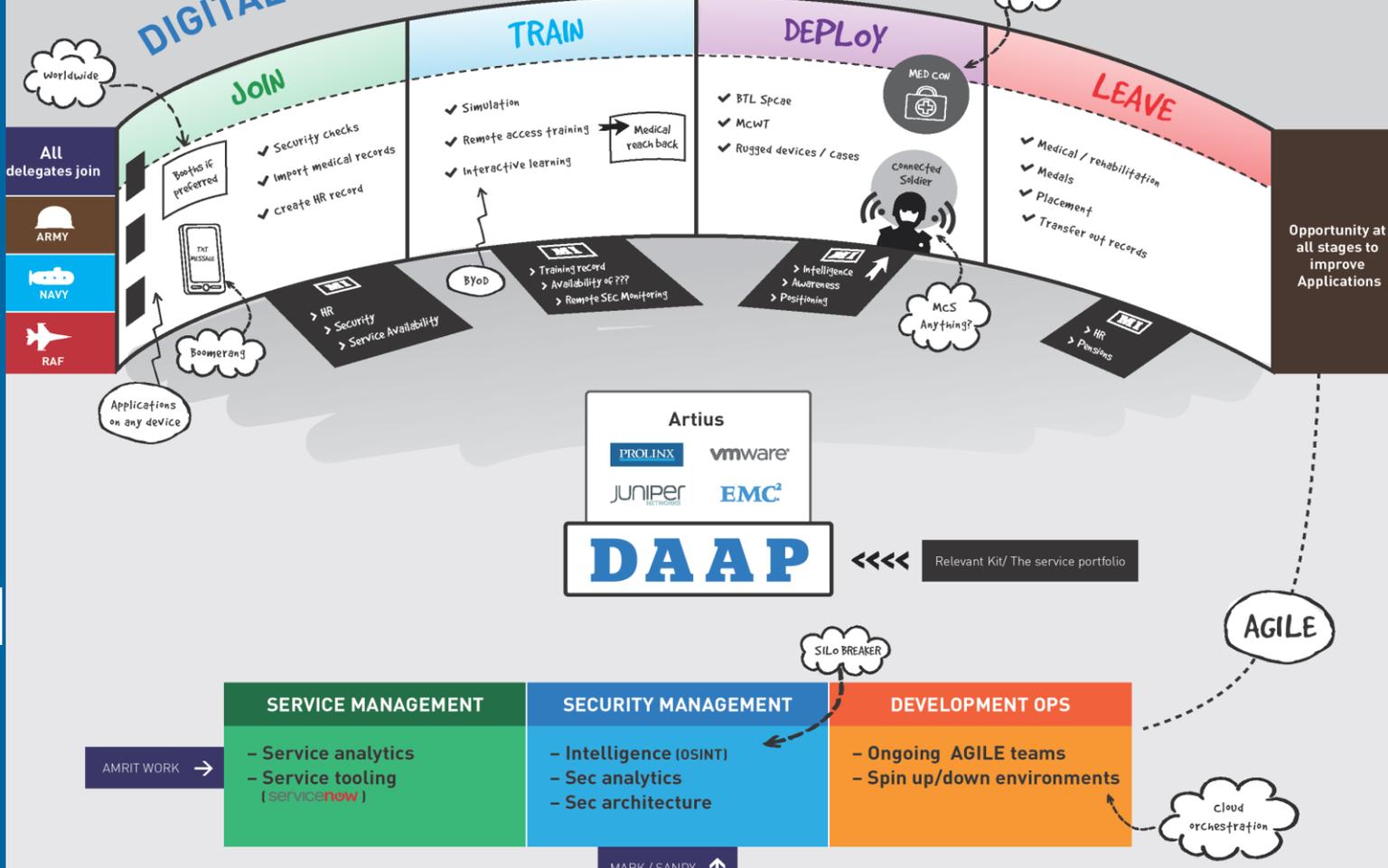
Swarms





Ministry of Defence

DIGITAL TRANSFORMATION USER JOURNEY



“if you know the enemy and know yourself you need not fear the results of a hundred battles”

Sun Tzu- Art of War

Digital Revolution

- Collaboration
- Information and capability augmentation
- Ubiquitous accessibility of valuable data
- Opening up new sources of potential information
- Flexible adaptation to status and context
- Faster and deeper insights through analytics

The Swarm effect in the battlefield
