Behavioural Analytics

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Let’s start with some context…

- The Defence Science and Technology Laboratory (Dstl) exists to maximise the impact of Science and Technology for the defence and security of the UK.

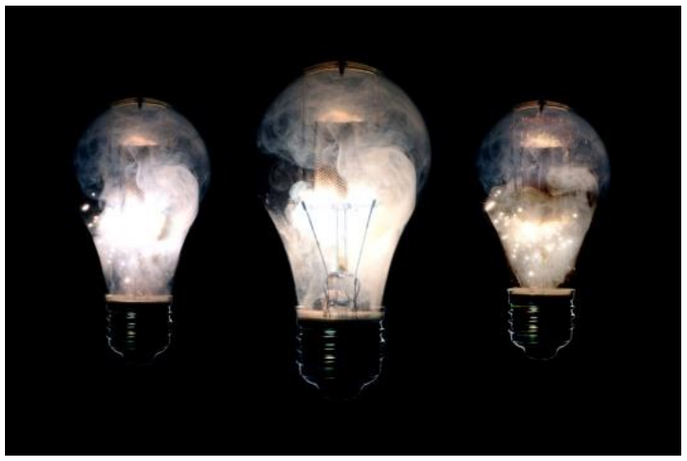
- Dstl manages and delivers the majority of the Defence Science and Technology Programme, owned by the Ministry of Defence’s Chief Scientific Adviser (CSA).

Our Role

Supply sensitive and specialist services

Provide advice, analysis and assurance

Delivery and capability agent of the MOD S&T research programme



Manage and exploit knowledge

Act as a trusted interface with industry/academia

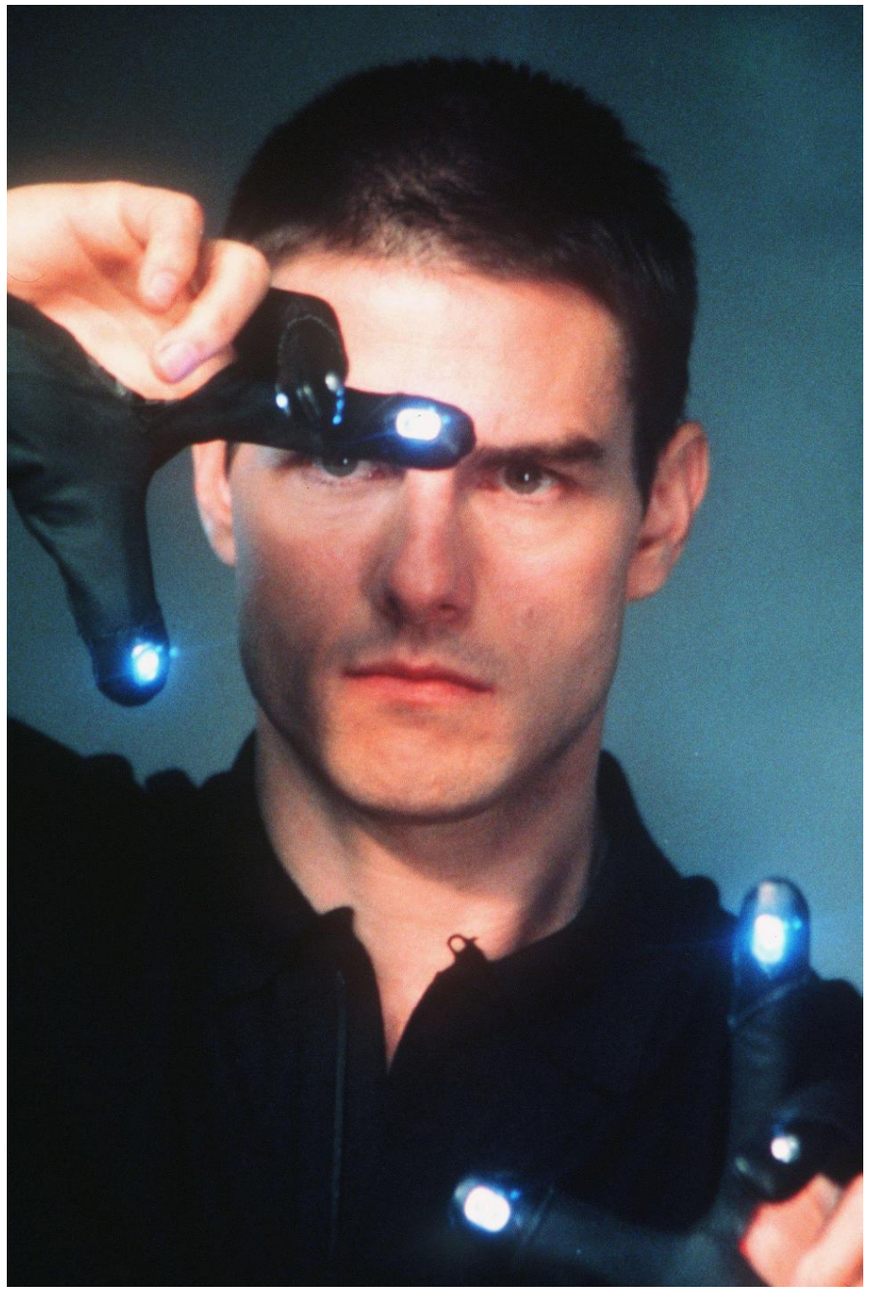
Champion and develop S&T skills

Advancing Science so it becomes useful

…supporting the development of external S&T

What do we mean by ‘Behavioural Analytics’?

“Context specific insights into the ‘how’ and ‘why’ of individual, group and population behaviour enabling predictions about how they are likely to act in the future.”



Why are we interested in Behavioural Analytics?

The Influence Programme

Develops enhanced and novel concepts, tools and techniques, underpinned by behavioural science, to modernise information and outreach.

~ £18M over 4 years

The programme's work includes generating insights to enable exploitation of information and intelligence to understand the identities, interests, motivations of individuals, groups and networks.

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Exploitation for Influence

High TRL
Addresses immediate stakeholder needs

Novel Influence Research

Low TRL
Addresses long term requirements

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The Defence and Security Accelerator (DASA)

- The Accelerator focuses on innovations which can provide advantage to defence and national security to protect the UK from its adversaries.
- It funds the development of suppliers' innovative ideas and helps take Accelerator-funded projects towards market.
- It opens up defence and security challenges to the widest possible audience of providers, including those new to defence and small and medium-sized enterprises.
- It is formed of personnel from the Ministry of Defence, the Defence Science and Technology Laboratory, Defence Equipment and Support and the Home Office.

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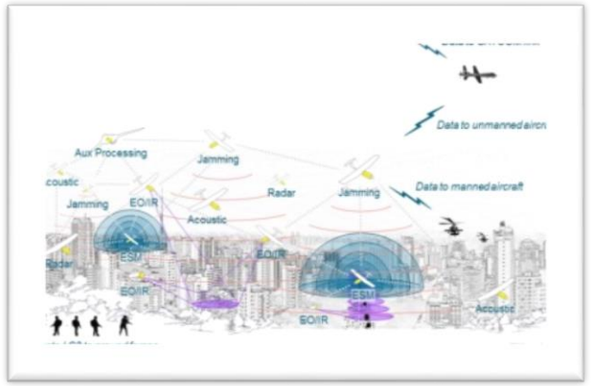


Many drones make light work

Synthetic biology

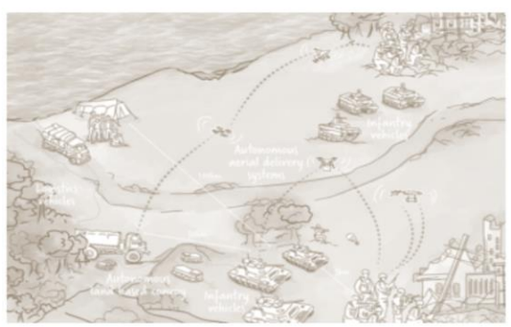
Improving crowd resilience

Future Aviation Security 1

1st innovation challenge

Autonomy in hazardous scene assessment

Beyond battery power



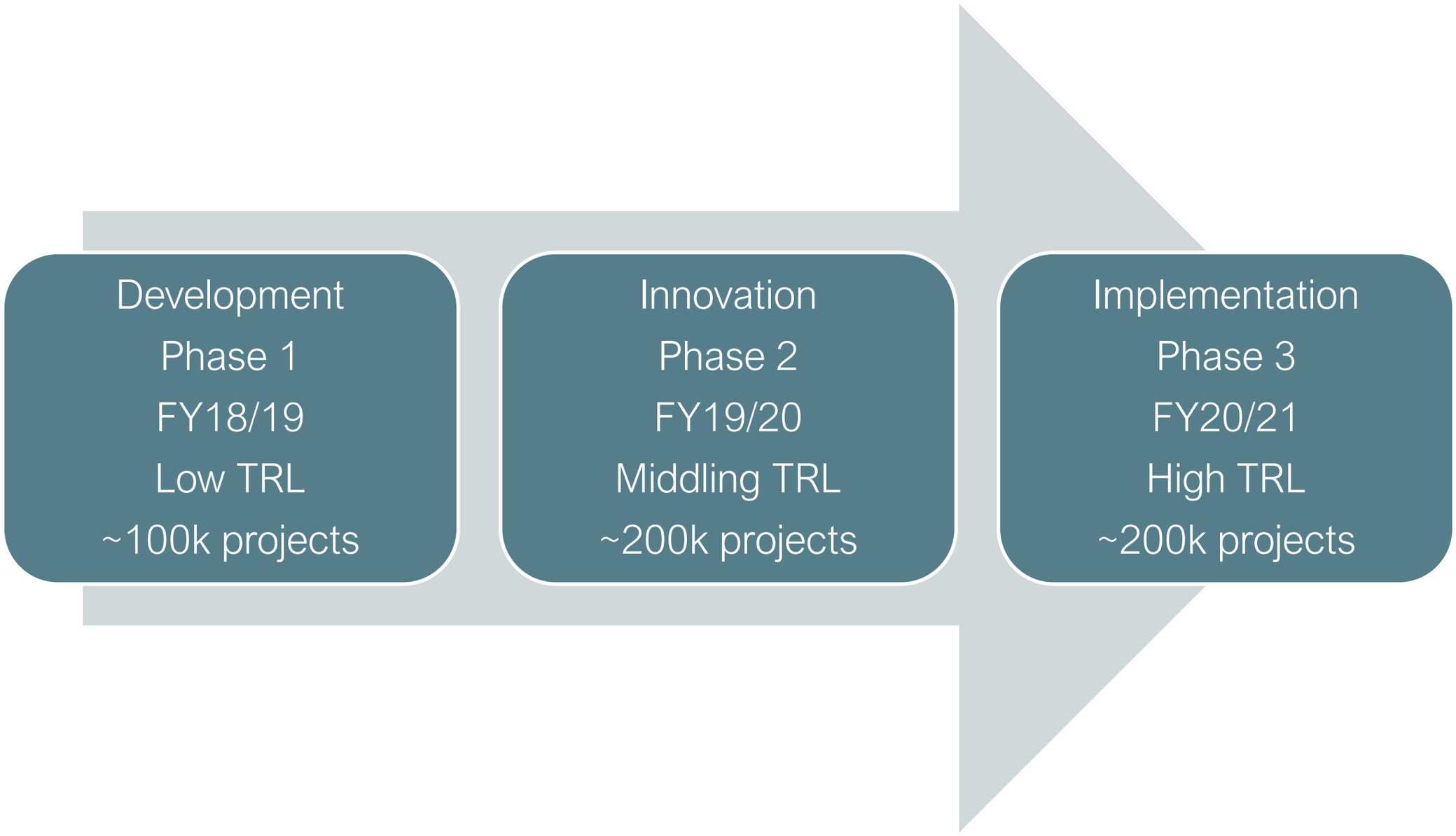
Autonomous last mile resupply

Future Aviation Security 2

New Challenge

Behavioural Analytics

Over £5 million of funding over a 26 month period, in a number of phases



Challenge Area 1:

How does observed data relate to behaviour?

In this challenge we are looking for solutions that will help:

- understand what variables or factors are of most interest
- identify descriptive factors, predictive factors, causal factors, clusters, correlations, mediators and moderators
- explore relationships between observed data and extant scientific theories, models and principles
- improve confidence levels in the relationships between data and behaviour (qualitatively and quantitatively)
- improve cross-cultural, and cross-generational application of theories, models and principles
- develop new theories, models and principles that underpin the relationship between data and behaviour

Challenge Area 2:

How can we harness new sources of data to reliably understand and forecast behaviour in a defence and security context?

In this challenge we are looking for solutions that will help:

- explore new data types (for example, haptics, audio, visual, physical, biological, psychological, social)
- explore innovative concepts (such as value creation mechanisms, redesigned discussion systems, synthetic enhancements)
- identify ways to combine different data sources to increase behavioural understanding, such as bio-psycho-social markers.
- suggest what innovative sources of data can support understanding at the individual, group and / or population levels; use a data driven approach to generate new behavioural insights.

Challenge Area 3:

What new methods and models can we develop to understand behaviour in a defence and security context?

In this challenge we are looking for solutions that will help:

- develop novel mathematical or statistical techniques that generate behavioural insight from big or disparate data sets
- explore ways for predicting or responding to inherently rare events where training data sets are small or of poor quality
- identify how to conduct intelligent prioritisation of risk and assessment of probability
- mix qualitative or quantitative and objective or subjective analytical methods to aid understanding
- explore novel validity and reliability markers or metrics for novel human datasets.

Challenge Area 4:

How can we help defence and security practitioners to understand the insights arising from Behaviour Analytics?

In this challenge we are looking for solutions that will help:

- identify innovative methods for rapid assimilation of complex objective and subjective data, including visualisation and other approaches
- explore cutting edge neuroscientific advances relevant to understanding human behaviour (for example, brain-computer interfaces)
- develop interactive information displays capable of enhancing cognitive performance specifically to achieve information advantage (inc. sense making, bias recognition and anticipatory or adaptive thinking)
- identify novel physical and / or psychological models to explain and improve information processing thresholds

How the competition process works – Phase 1

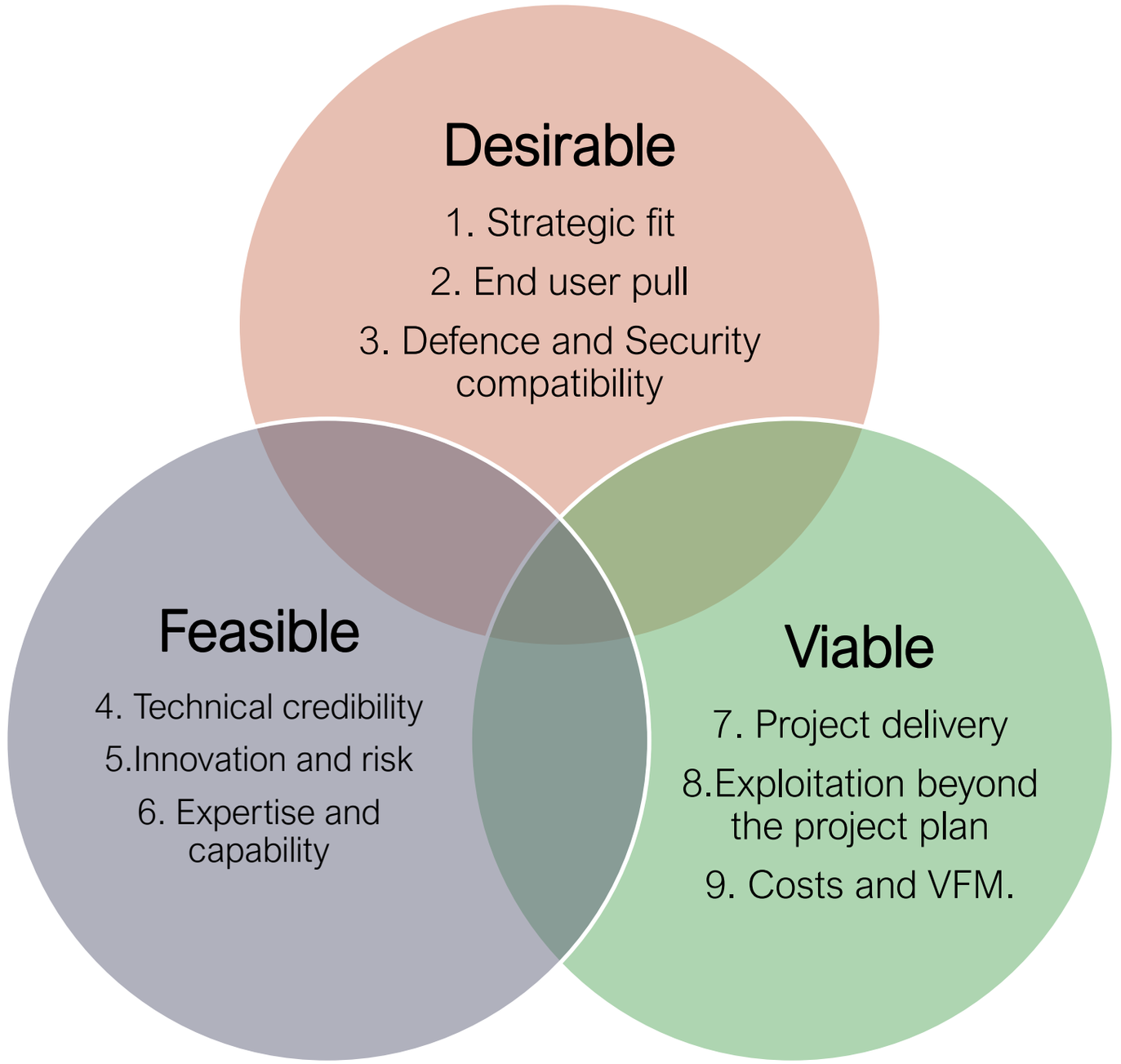
- Scoping day / Market Interest Day (September 13th GBR)
- Competition Launch (October 2018 online)
- Dial-in question and answer sessions (29th October & 31st October)
- Competition Close (5th December 2018)
- Decision Conference (17th January 2019)

How to submit ideas (Academia and Industry)

- You will need to register for an account here
- A bit of advice when completing your proposal
  - Remember to save as you go along
  - Please ensure you supply sufficient detail
  - You can copy and paste
  - There is no word limit, however please be aware assessors will only have a maximum of 90 minutes to assess your proposal fully

New Assessment Criteria

- Desirable – relevance to customer
- Feasible – innovation, novelty, S&T focus
- Viable – project and business viability



Read the full competition document here

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