



# Second Generation Search & Rescue Aviation Programme (UKSAR2G) Industry Day

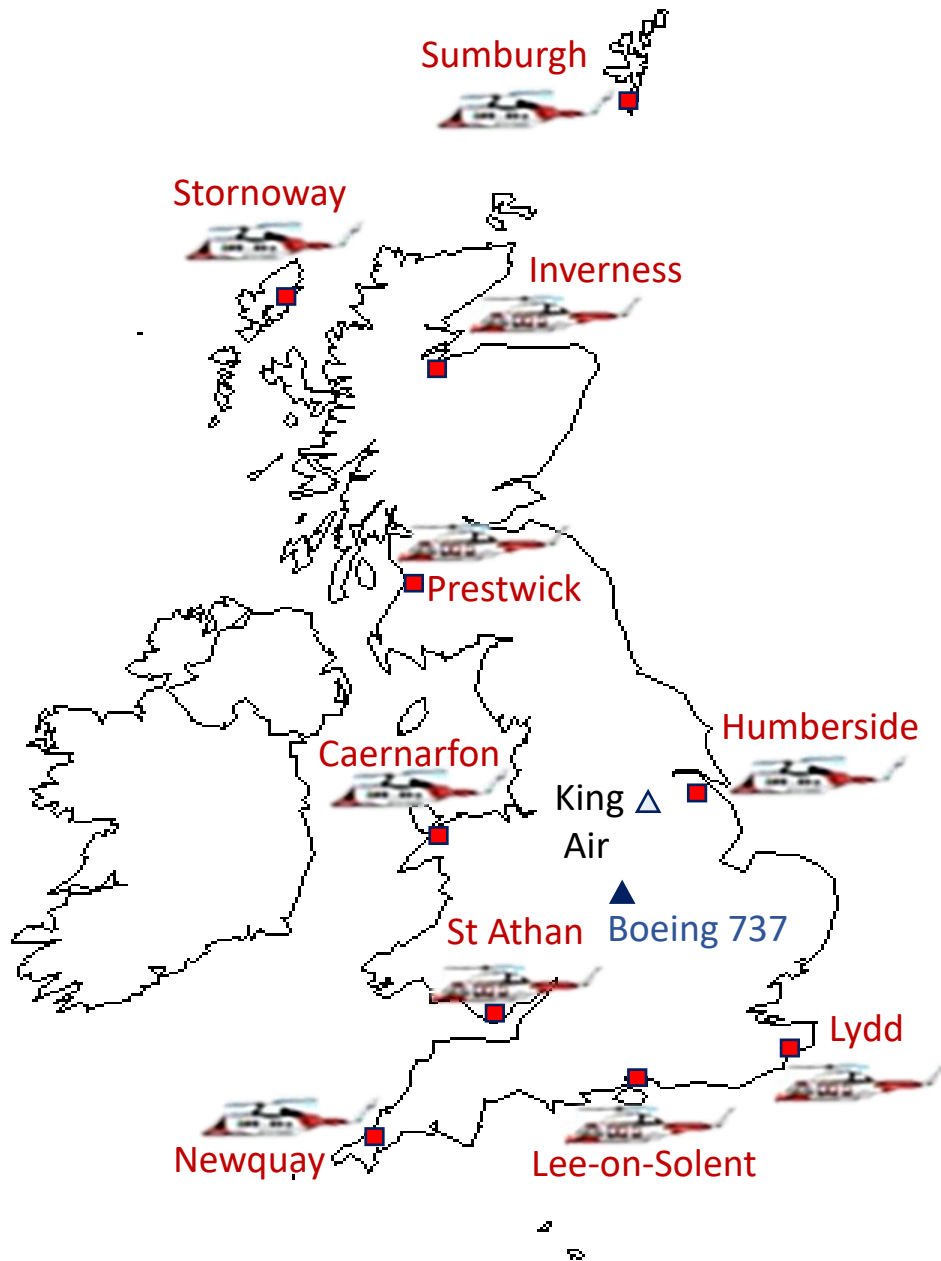


Maritime and  
Coastguard Agency

Safer Lives, Safer Ships, Cleaner Seas

# Disclaimer

- MCA is providing its **current** strategy on various aspects of the proposed procurement and current information
- **However**, MCA reserves the right to amend and update its strategy and all information at any time before the formal launch of a procurement process
- MCA has no liability for the accuracy, adequacy or completeness of any information
- MCA has no liability for any costs or expenses of any party
- MCA reserves the right to keep a record of any queries and to circulate such queries to interested parties



# Presentation includes:

1. Business Case, with:
  - Background
  - Programme Objectives
  - Considerations
  - Economic case
2. Commercial strategy
3. Data Modelling
4. Technical Requirements
5. Programme Plan and Timeline



# Background

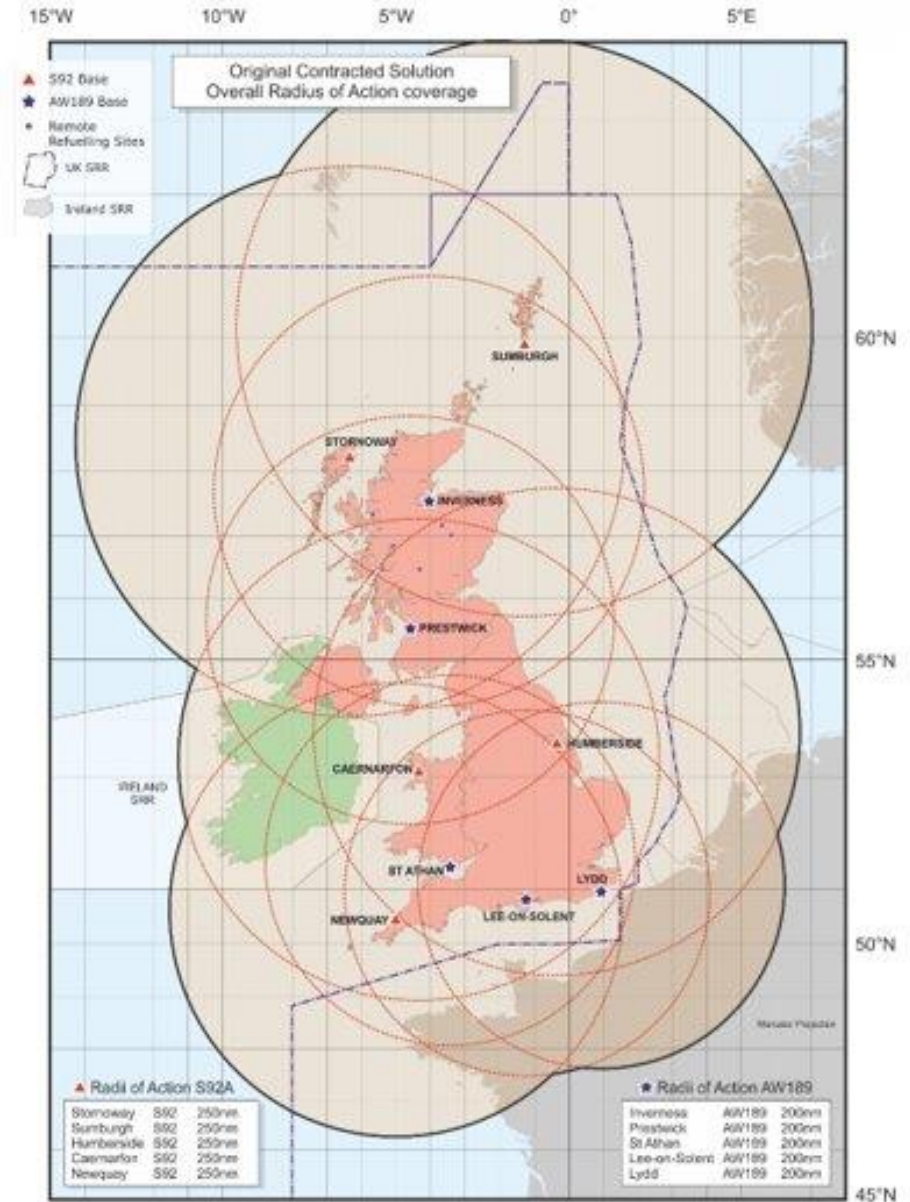
The Maritime & Coastguard Agency (MCA) is the largest operator of Government aviation outside of the MoD since becoming the sole operator of the UK Search and Rescue helicopter service (UKSARH) in 2015.

The UKSARH service operates from 10 coastal bases, covering over 2 million square miles of the UK Search and Rescue Region using two models of helicopters, the Leonardo AW189 and the Sikorsky S-92. The service is currently provided under contract to Bristow Helicopters.

Between contract initiation and December 2019, Coastguard helicopters have flown over 10,500 missions, rescuing 4,494 people.

In addition the MCA operates two King Air B-200 aircraft, providing pan-government aerial surveillance (ASV) capabilities. This service is currently provided under contract to 2Excel.

The UKSARH contract with Bristow will expire between 2024 and 2026, having been extended in late 2019, and the ASV contract expires in 2024.



# Background

This will always be a Programme that primarily supports Her Majesty's Coastguard in the live saving work it does.

MCA partnership with other parts of Government and the public sector has increased substantially over the past 5 years, particularly with the National Police Air Service and National Health Service.

Over half of search and rescue helicopter taskings are in support of other Emergency services, with Police missions accounting for over 30% of all taskings.

The MCA's ASV aircraft works on behalf of Border Force and also on behalf of the Marine Management Organisation, to support its fisheries protection role.

The MCA's aircraft are the only state-operated aircraft that operate across the UK at short notice to move.



# Programme Objectives

- The programme will build on the data modelled from the current SAR programme to inform a **market-led tailored solution**, ensuring the **most appropriate assets at the most suitable locations** nationwide to meet the MCA's commitments.
- It will **incorporate the existing aerial surveillance (ASV) contract** on behalf of wider Government, which provides for border control, fishery and anti-pollution protective measures, or police and counter-terrorism services.
- The programme will continue to **utilise any spare capacity** in providing assistance to the NHS and other Government search and rescue services, where necessary and appropriate, and it is expected that the **Aeronautical Rescue Coordination Centre (ARCC) will continue as the tasking authority**.
- The future service will **continue to work under the Civil Aviation Authority's CAP999** regulatory framework with **potential to expand the scope** to include operations currently undertaken on a “best endeavours” basis and **innovation in aviation technology**, such as Unmanned Aerial Vehicles (UAVs).

# Considerations



A Post-Implementation Review of UKSARH, a Market Readiness Review, Tailored Conversations with other Government aviation service providers and 3-dimensional modelling of SAR data were carried out in 2019 and continue in 2020.

These highlight several key considerations for UKSAR2G:

- A market-led, tailored solution, focussing more on outcomes and effects, led by more sophisticated data models and technical assurances.
- Procuring along capability-based requirements, stimulating competition and spreading risk by encouraging new and different corporate entities to bid.
- Formally recognise that MCA provides a high level of cross-Government support on a 'best endeavours' basis, UKSAR2G's procurement will provide assets suitable for broader SAR, security and surveillance services in addition to core HMCG tasks.
- Utilise innovation and emerging technologies, such as unmanned aerial vehicles to conduct searches.



# Economic Case

UKSAR2G is predicted, with high confidence, to deliver a positive benefit-cost ratio (BCR), indicating the programme is very high value for money.



The **largest benefit** of UKSAR2G is the **significant number of lives the service will save**. Using the Department for Transport Value of a Prevented Fatality (£2m per casualty) and the budgetary ceiling of UKSAR2G in 2019 prices (£143m), **72 lives would need to be saved per annum for this procurement to be worthwhile**. This is just 4% of the average number of people rescued per annum over the past 3 years.

There are other benefits to UKSAR2G; **support to other Government departments** (e.g. border security) **environmental protection**, satisfaction of **UK SAR and pollution obligations** and sunk costs not wasted (utilising outputs of projects such as 3D Modelling), all of which can be done more effectively with the deployment of a **tailored and innovative solution**.



# Commercial Strategy

## Output Specification:

- MCA plan to award a fully serviced contract encompassing base locations, assets, personnel, training, innovation and equipment.
- MCA will **not** prescribe asset types, equipment, bases, base locations, staff numbers, roles or training, but will instead specify outcomes and effects to be delivered.
- MCA will specify the outcomes and capability to be delivered, based upon models of data that will be made clear to market well in advance of procurement.
- The service and performance criteria will be based on effects, including time on task, utilisation of the most suitable asset and response time.



# Commercial Strategy

## Three Lot Structure:

- MCA expects to let the UKSAR2G contract as three lots, based on findings from a data model of UKSAR responses in recent years as well as an intention to open the procurement to greater competition.
- Interested parties will be invited to **bid for any or all these lots**, although the assessment criteria for each lot will vary.
- Integration of a seamless UKSAR2G service between different operators will be a clear requirement throughout procurement and pre-mobilisation.
- MCA will not preclude small and medium sized enterprises from bidding so will accept bids from collaborative arrangements between operators, original equipment manufacturers and others.
- A form of procurement dialogue will be used, either Competitive Dialogue or Competitive Procedure with Negotiation.



# Commercial Strategy



## Potential Three Lot Structure:

### **Lot One**

Fast, urgent, short-range  
rescue and response to short  
notice to respond

### **Lot Two**

High endurance, long-range  
rescue and response at longer  
notice to respond

### **Lot Three**

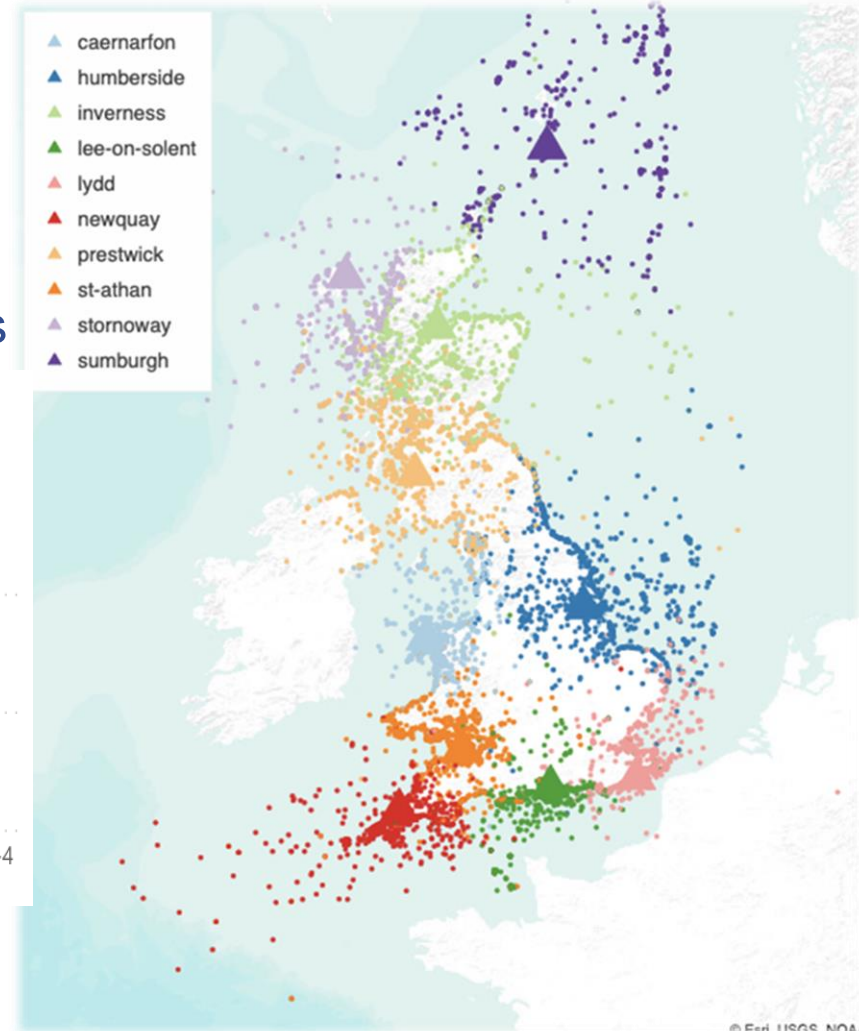
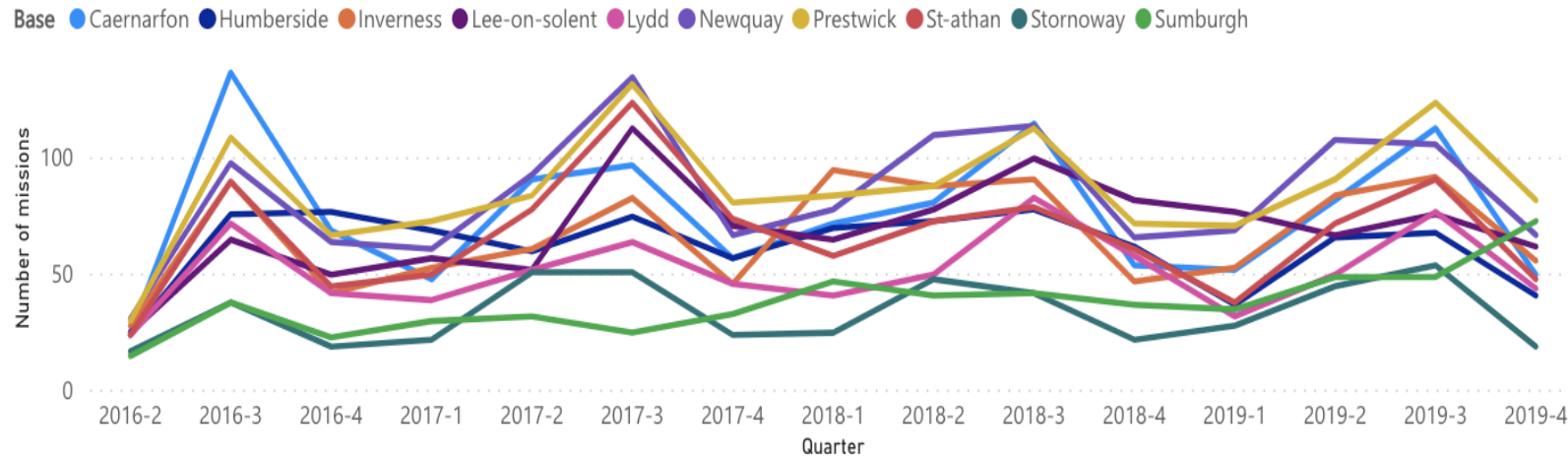
Fixed-wing and potentially UAV,  
rapid search only, surveillance  
and pollution response



# Data Modelling

- The MCA is currently undertaking a detailed analysis of historic taskings under its current SAR contract.
- Upon completion, an interactive tool will be available for prospective bidders to test various options to fulfil the requirements

Number of missions over time by base





# Data Modelling

## Purpose:

To analyse data surrounding SAR-H activity, providing detailed insights into the range, breadth and quantity of incidents involving UK SAR helicopters.

## Method:

This will be delivered through two 4-month projects producing two key outputs:

1. Operational Activity Insights
2. Operational Simulation Modelling Tool

## Assurance:

The model will be externally assured, as with any model supporting a programme of this size.



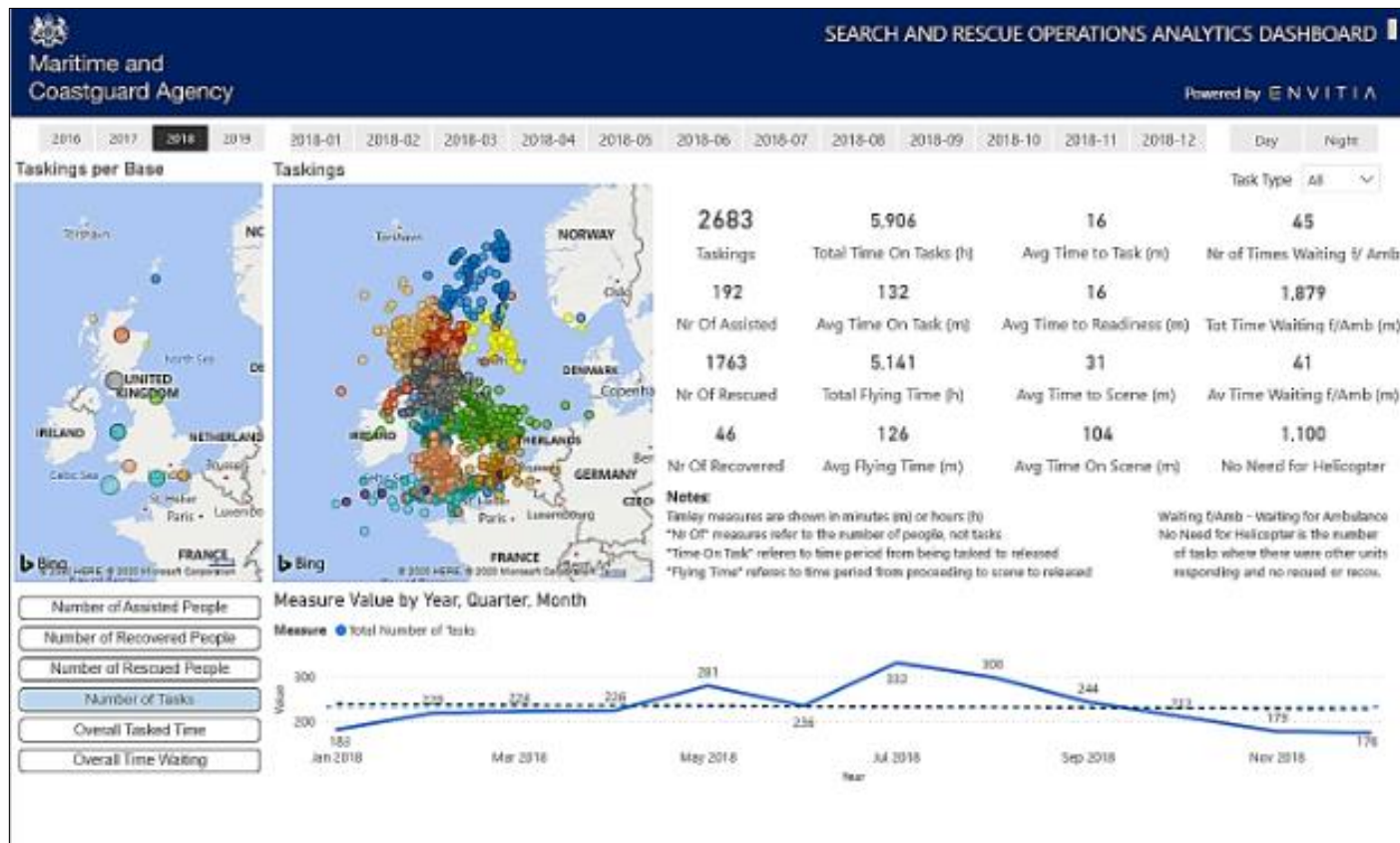
# Data Modelling

## Key Messages:

1. There were **9,422 tasks** which resulted in the rescue of **6,133 casualties**.
  - A median of 1 casualty conveyed in asset (if rescue occurred)
2. Of the 9,422 tasks, 3,971 tasks did not result in the conveyance of a casualty in a UKSARH asset.
3. **94% of tasks occurred within 150nm** of the closest base location
  - 2% occurred between 150 – 200nm
  - 4% occurred beyond 200nm
  - Tasks beyond 150nm includes incidents that required the second closest asset, typically transiting the coastline
4. A second asset at a base reduces the average response distance by 3nm.

# Data Modelling

## Operational Activity Insights:



Developed analytical knowledge and awareness of past operational activities to generate insights that will assist with future UKSAR2G procurement programme.

3.5 years data sets:

- ARCC Statistics
- HMCG Vision Report
- HMCG Operational Management System

Power BI visuals report

- .pbix files (requires Microsoft Power BI Pro or Enterprise licences)

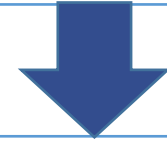
# Data Modelling

## Operational Simulation Modelling Tool

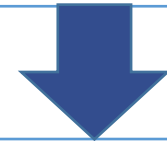
Potential bidders will be expected to:

Key	Description	Callsign	Base	Latitude	Longitude	Range	Cost-Off	Cost-On	Capacity
AV136	Dond 1	AV136	Aburdeen	57.223	2.190	50	0.00	0.00	25
AV135	R555	AV135	Cornwall	55.127	-7.376	50	0.00	0.00	15
AV139	H512	AV139	Humberside	53.547	0.321	50	0.00	0.00	15
AV133	R151	AV133	Inverness	57.543	-4.845	50	0.00	0.00	15
AV138	H170	AV138	Loe or Saint	50.019	1.220	50	0.00	0.00	15
AV134	R165	AV134	Lyth	55.056	0.918	50	0.00	0.00	15
AV137	H524	AV137	Norway	50.441	-4.556	50	0.00	0.00	15
AV132	R159	AV132	Shetland	55.518	-1.505	50	0.00	0.00	15
AV131	H127	AV131	St Athan	51.425	2.400	50	0.00	0.00	15
AV130	R545	AV130	Stornoway	55.216	-6.331	50	0.00	0.00	15
AV129	H500	AV129	Stranraer	55.001	-1.204	50	0.00	0.00	15

Use simulation application of define preferred asset distribution against MCA data sets



Simulation application triggers the creation of the simulation data



Users can view the results of the simulation in a specific set of dashboards

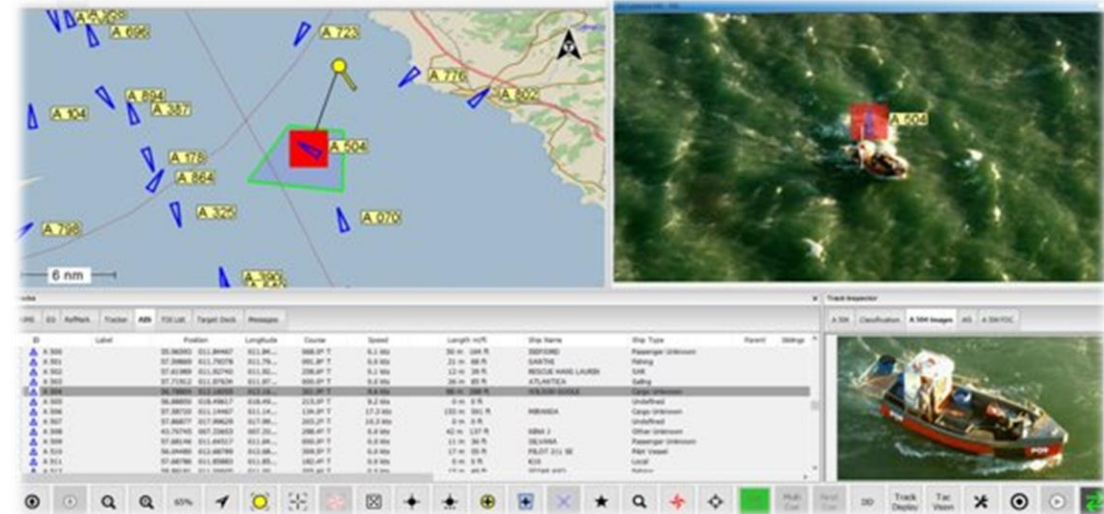
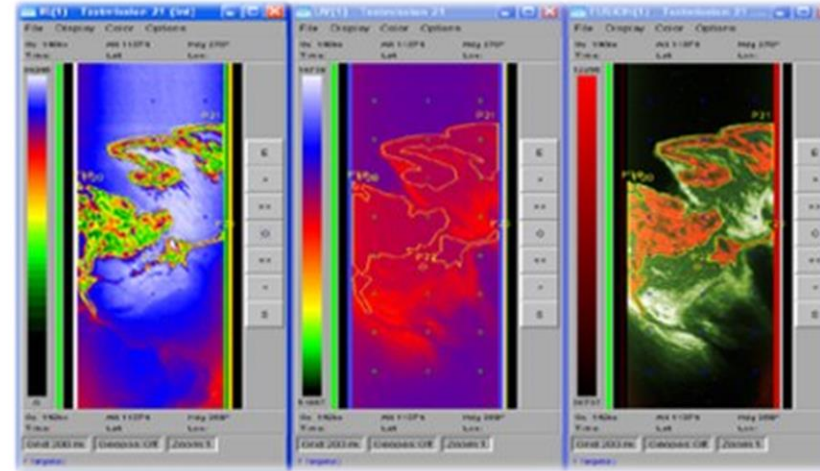


# Technical Requirements

- **Capability / Output based**
  - Encourage innovative solutions

## Responses

- Clear and concise
- Evidence, evidence, evidence
  - To support claims
  - Clearly referenced in response to requirement – hyperlink preferred



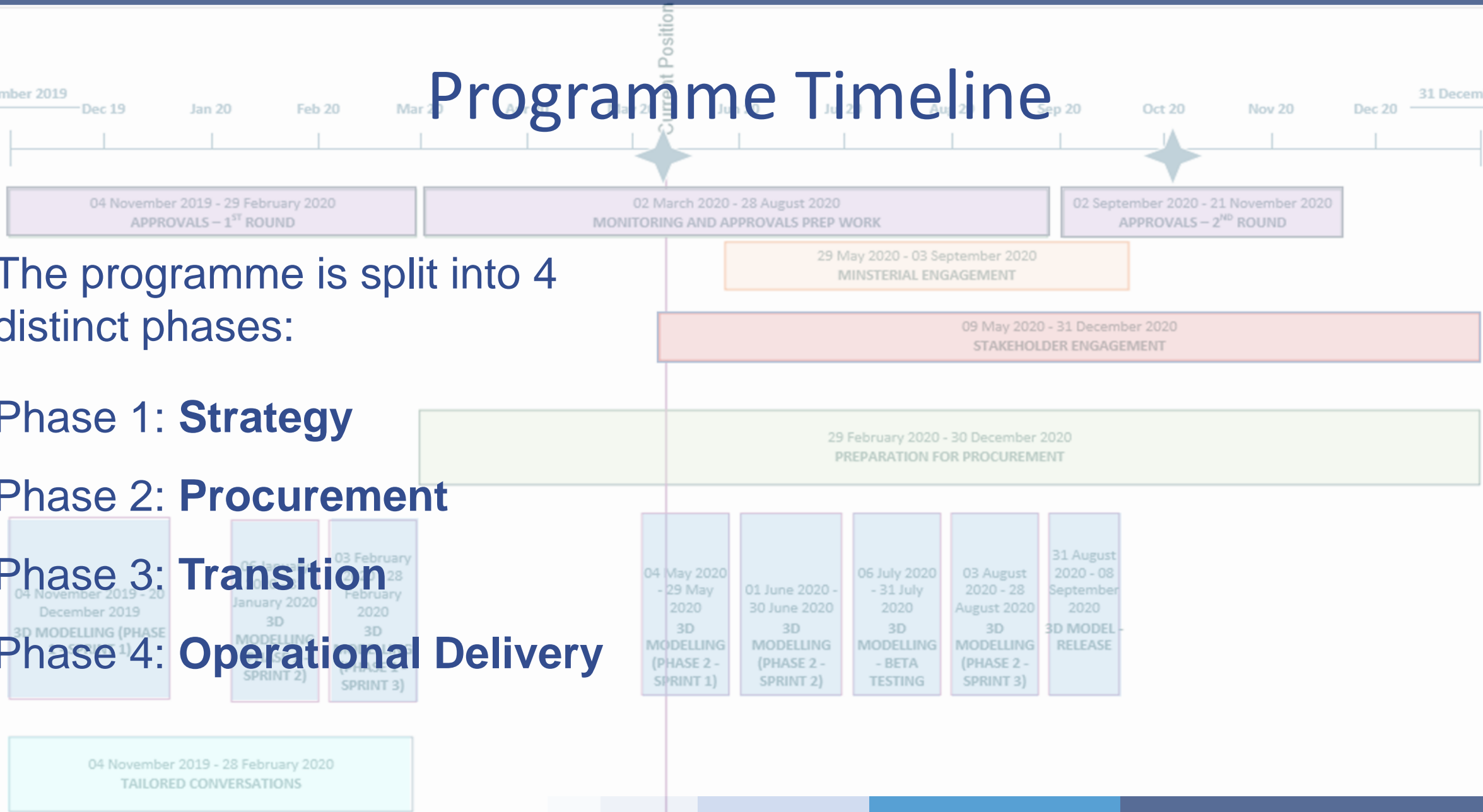
ID	Label	Station	Latitude	Course	Speed	Length (m)	Ship Name	Ship Type
A 700		55.9880	011.2440	011.24	0.0	30 m	BOAT	Passenger Intakes
A 701		57.2880	011.7070	011.70	0.0	21 m	SAR700	Patrol
A 702		57.6180	011.6790	011.68	0.0	12 m	BOAT	Other Intakes
A 703		57.7100	011.6760	011.67	0.0	36 m	ATLANTICA	Salvage
A 704		57.7680	011.2440	011.24	0.0	30 m	BOAT	Other Intakes
A 705		57.8870	011.2440	011.24	17.3	130 m	ARANDA	Cargo Intakes
A 706		57.8870	011.2440	011.24	20.0	130 m	ARANDA	Other Intakes
A 707		45.7470	007.2860	007.28	0.0	42 m	BOAT 2	Other Intakes
A 708		57.6800	011.4820	011.48	0.0	11 m	BOAT	Passenger Intakes
A 709		56.2480	011.6790	011.68	0.0	17 m	BOAT	Other Intakes
A 710		57.6870	011.6760	011.68	0.0	0 m	BOAT	Other Intakes
A 711		57.6870	011.6760	011.68	0.0	0 m	BOAT	Other Intakes
A 712		57.6870	011.6760	011.68	0.0	0 m	BOAT	Other Intakes

# Technical Requirements – Example Format \*

DOORS ID	UR No	Primary Text	Measure of effectiveness (threshold)	Measure of effectiveness (objective)	Supplier Solution	Remarks
235	1.4.	Limitations on System performance shall be communicated, immediately, to the Tasking Authority.	By phone or electronically	By phone and electronically		This shall include, but not limited to: <ul style="list-style-type: none"> <li>• Platform</li> <li>• Sensors</li> <li>• Personnel</li> <li>• Support equipment</li> <li>• Infrastructure</li> <li>• Climatic conditions</li> </ul> When informing the Tasking Authority, the Supplier shall state which, if any, tasks it can complete during this period of limitation.

- **Measure of Effectiveness**
  - **Threshold – minimum requirement level**
  - **Objective – aspirational level**
- **Technical evaluation**
  - **Assume no detailed knowledge of the evaluator**
  - **More than one person evaluating**
  - **Consensus meetings – each individual evaluator present – agreement of score**

# Programme Timeline



The programme is split into 4 distinct phases:

Phase 1: **Strategy**

Phase 2: **Procurement**

Phase 3: **Transition**

Phase 4: **Operational Delivery**

# Programme Timeline

## Phase 1: Strategy

MCA prepares for procurement:

- Preparation of invitation to tender, assessment criteria and associated documents
- Approvals to proceed to procurement through Government channels
- Information on the procurement process made available on the [UKSAR2G website](#)
- Development of 3D Modelling
- Series of Industry Engagement Events



# Programme Timeline

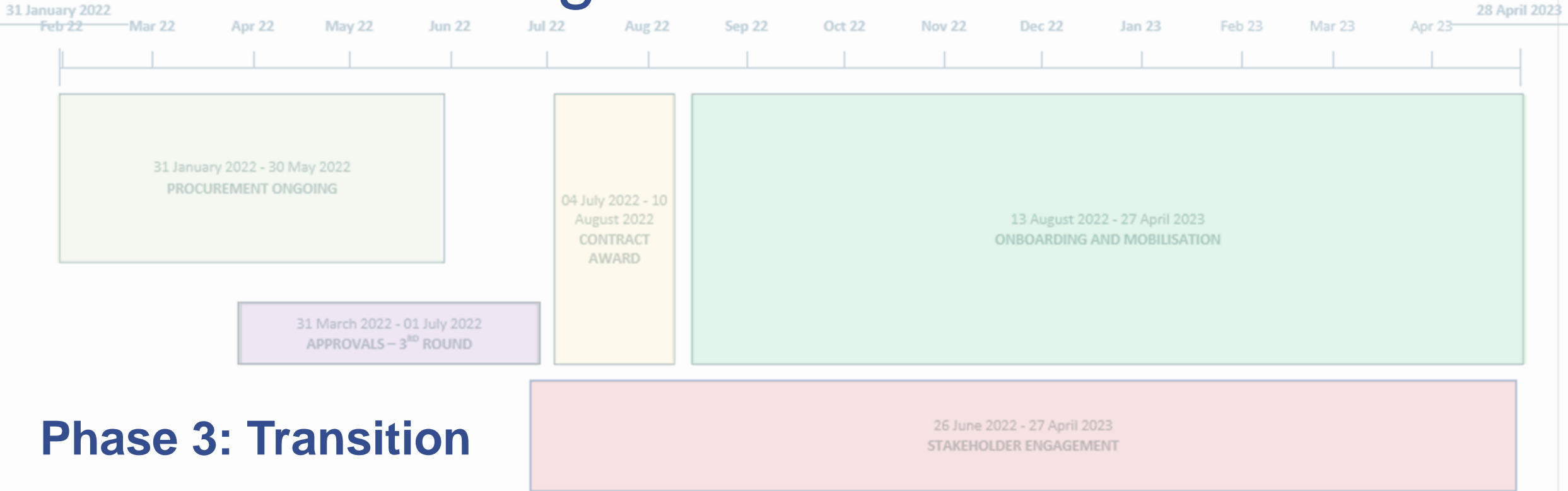
4 January 2021   Feb 21   Mar 21   Apr 21   May 21   Jun 21   Jul 21   Aug 21   Sep 21   Oct 21   Nov 21   Dec 21   Jan 22   28 January 2022

04 January 2021 - 27 January 2022  
PROCUREMENT ONGOING

## Phase 2: Procurement

- Procurement process:
  1. OJEU publication
  2. SQ/MOI process (down selection)
  3. Invitation to Tender
  4. Competitive Negotiation
  5. Final Selection
  6. Contract Award
- Before contract award, a final round of internal approvals is required
- MCA will be using JAGGAER to manage the procurement

# Programme Timeline



## Phase 3: Transition

- Planned phase-in of new contract and phase out of existing contracts
- Mobilisation period followed by transition period

# Programme Timeline



## Phase 4: Operational Delivery

Ongoing delivery of contract on behalf of HM Coastguard

# Summary

Ensure the continued safety of lives in the UK Search and Rescue Region through the provision of aviation search and rescue services on behalf of the Coastguard from 2024 - 2026 until 2034 - 2036 at the earliest.

Make better use of fixed planes in support of SAR, illegal fisheries, counter pollution activity and ultimately replace the separate Aerial Surveillance contract.

Provide an opportunity for new and innovative methods of search and rescue, including fixed wing and unmanned assets.

Work collaboratively with other agencies and Government departments and ensure the best asset tasked, with a greater focus on the needs of the end user.

Deliver a service that is robust, reliable and provides value for money to the taxpayer.





# Any Questions?

