



Provision of Marine Connectors and Cables, and Marine Mooring ropes for Met Office Odas Buoys.

Introduction to the Met Office (Authority)

As a world leader in providing weather and climate services, we employ more than 1,700 people at 60 locations throughout the world. We are a Trading Fund within DSIT the Department for Science Innovation and Technology, operating under set targets and returning a dividend.

Recognised as one of the world's most accurate forecasters, we use more than 10 million weather observations, an advanced atmospheric model and a high-performance supercomputer to create 3,000 tailored forecasts and briefings every day. These are delivered to a huge range of customers from the Government to businesses, the general public, armed forces, and other organisations.

As a foremost weather and climate service, we play a key role on the international stage by providing vital services, advancing global understanding through research and being an important participant in projects and organisations.

We are at the forefront of climate change research, playing a key role in helping determine the worldwide response to climate change. Our involvement in global collaborative projects includes advising the Intergovernmental Panel on Climate Change (IPCC) and our tailored advice and services help decision-makers and businesses across public and private sectors to manage risks and opportunities associated with a changing climate.

Further information about the Met Office is available on the following website:

<http://www.metoffice.gov.uk>

Market Sounding Approach and Timeline

The Met Office wishes to explore the marketplace and undertake early market engagement with potential suppliers who could align themselves with the Met Office's strategic ambitions to deliver the best and most cost-effective Marine Connectors and Cables, and Marine Mooring ropes for Met Office Odas Buoys. Service Providers with specific experience of providing either supplying Marine Connectors and Cables or Marine Mooring ropes for Odas Buoys are invited to express their interest on the Met Office eTendering portal. Where upon details of the opportunity to engage in further discussions will be provided.

Marine Connectors and Cables, and Marine Mooring ropes for Met Office Odas Buoys indicative timetable. (The indicative timetable is the same for both contract)

- Contract a) Marine Connectors and Cables
- Contract b) Marine Mooring ropes for Odas Buoys



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Stage	Timeline
Early Market Engagement	4 th September – 16 th September
Tender exercise	End September – End October
Contract award	Mid November
Contract Mobilisation	TBC
Contract commences	End November 2024

Introduction to Met Office Observations Marine Programme

The Met Office Observations Programme provides the essential meteorological observations that underpin all Met Office activities. The data collected across our upper air and surface networks are used in numerous ways, including to initialise numerical models for weather and ocean prediction, verify our forecasts, maintain our climate record and provide evidence of climate change, whilst also supporting our weather and climate related consultancy services.

The Observations programme as a whole has over 160 staff working at locations across the United Kingdom and Europe. This programme covers all activities related to the provision of observational expertise and data including:

- Working with internal and external customers to understand their requirements.
- Conducting innovative, world class research into new and improved observational techniques.
- Designing and managing operational solutions to observing.
- Liaising with international organisations, other national met services, private data providers and the public to obtain the data needed.
- Working with others in the Met Office and elsewhere to help them use the data for maximum benefit.

The Observations Marine Engineering team are based in Southampton at the National Oceanography Centre. The team is responsible for the deployment and maintenance of the moored buoy network around the UK and at Brittany (Bretagne). They also operate automatic weather stations located along the English Channel on Trinity House operated Light Vessels. Alongside these activities, the team also provide Ship Automatic weather stations (Ship AWS) for the Voluntary Observing Ship (VOS) Network.

Background information for the requirement

Since the late 1980's the Met Office has operated a network of marine automatic weather stations around the UK. Observations from the network, particularly from the moored buoys



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to the west of the British Isles, provide early warning of severe weather conditions. Each system reports air pressure, air and sea temperature, humidity, wind speed and direction, significant wave height and average wave period every hour. The meteorological data gathered from these buoys goes to support calibration and verification of our forecast models. In addition, this data is made available under contract to a number of external customers/users. Moored buoys are generally regarded as providing the highest quality observations of a wide range of marine meteorological variables and the data is also used to provide information on the climatology of oceanic areas, 'ground truth' reference data for satellite calibration/validation and estimates of surface fluxes. Met Office Marine Systems maintain a network of 10 offshore deep water moored buoys in the North Atlantic Ocean, fitted with automatic weather observation systems to provide weather observations for climate monitoring and weather forecast modelling.

Please note we are looking for 2 separate contracts:

- Contract a) Marine Connectors and Cables
- Contract b) Marine Mooring ropes for Odas Buoys

These contracts will be zero-commitment agreements lasting for 3 years, with an option to extend for an additional year. We would like the flexibility to initiate orders under these contracts as needed.

Marine Connectors and Cables

Met Office's Automatic Marine Observation Network currently consists of 10 Mobilis DB14000 series data buoys in the North Atlantic Ocean, 5 Trinity House operated Light Vessels in the English Channel and 60 Worldwide Voluntary Observation Ships. These systems are deployed for up to 2 years without servicing in harsh offshore marine environments.

Met Office Marine Systems require a cable and connector manufacturing solution to connect meteorological and oceanographic sensors and satellite communications equipment to the automatic weather stations that are survivable in offshore and underwater environments.

We are looking for Micro-Circular (MCIL and MCBH) style connections that are required for industry standard oceanographic sensor integration combined with PUR cable options.

The Connector series should be suitable for signal/data, power, ethernet and co-ax and will be deployed in offshore marine environments in 0-5m deployment depth.

We are also interested in options for termination of the free end of cables with industry standard connectors for connection to other meteorological sensors, either free issue or procured for us. Examples are M8 and M12 circular connectors.

Examples of cables required:

- 0.6m data cable assembly with End1 – 4 pin connector (female) End2 – open
- 2m data cable assembly with End1 – 4 pin connector (male) End2 – open
- 4m data cable assembly with End1 – 4 pin connector (male) End2 – open
- 4m data cable assembly with End1 – 4 pin connector (male) End2 – 4 pin connector (female)
- 4 pin bulkhead connector (female)
- 0.6m data cable assembly with End1 – 6 pin connector (female) End2 – open
- 2m data cable assembly with End1 – 6 pin connector (male) End2 – open



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- 4m data cable assembly with End1 – 6 pin connector (male) End2 – open
- 4m data cable assembly with End1 – 6 pin connector (male) End2 – 6 pin connector (female)
- 6 pin bulkhead connector (female)
- 0.6m 50ohm Coax cable with End1 - Coax Connector (female) End2 – open
- 4m 50ohm Coax cable with End1 - Coax Connector (male) End2 – open
- Coax cable Bulkhead Connector (female)
- 0.6m power cable with End 1 - 2 pin connector (female) End2 – open
- 3m power cable with End 1 - 2 pin connector (male) End2 - 2 pin connector (male)
- 0.6m power cable with End 1 - 3 pin connector (female) End2 – open
- 3m power cable with End 1 - 3 pin connector (male) End2 - 3 pin connector (male)
- Power cable Bulkhead Connector - 2 pin (female)
- Power cable Bulkhead Connector - 3 pin (female)

Marine Mooring Ropes for Met Office Odas Buoys

The current network of Mobilis DB14000 series data buoys are tethered to the seabed with inverse catenary rope moorings. These moorings are expected to survive for 6+ years. Mooring depths vary across sites from 750m to 4800m.

We are looking for synthetic rope options:

- Have at least 34 Metric Tonne Breaking strain
- The rope needs to be terminated at both ends with a closed thimble to protect the rope and to prevent the rope from slipping. A description of the thimble with a picture detailing the type proposed and options must be provided.
- The rope should have a separate core and braided or other outer layer
- Finished rope or rope assembly must be greater than 29mm and less than or equal to 40mm finished diameter
- Rope must be UV resistant
- Rope must have good abrasion resistance

Examples of rope requirements:

- 1100m of floating rope. Rope to be terminated with suitable closed tubular thimbles and master links.
- 1135m of sinking and 138m of floating rope as one continuous mooring line. Rope to be terminated with suitable closed tubular thimbles and master links. Outer braid colours to be different to differentiate rope properties.
- 360m of floating rope. Rope to be terminated with suitable closed tubular thimbles and master links.
- 350m of sinking and 138m of floating rope as one continuous mooring line. Rope to be terminated with suitable closed tubular thimbles and master links. Outer braid colours to be different to differentiate rope properties.
- 50m of floating rope. Rope to be terminated with suitable closed tubular thimbles and master links.
- PU encapsulation of thimbles (Optional Service)

Next Steps

Please provide a case study highlighting the following points:



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1. Experience with either supplying Marine Connectors and Cables, or Marine Mooring Ropes
2. Would your company be willing to enter into a zero-commitment contract? If not, could you please share the reasons behind your decision?

The deadline for submitting your response is **12:00 noon on the 16th September 2024** via email to Isabel.kumik@metoffice.gov.uk

Please note that the Met Office wishes to understand as varied a cross section of offerings as possible. It is important for suppliers to understand that no advantage is to be gained from being invited to the market sounding event.