Bridging the gap to commercialisation of wave energy technology using pre-commercial procurement



### Information Day 13 July 2021



## Programme

Welcome & Introduction

Donagh Cagney, Ocean Energy Europe (OEE)

## The Challenge

Endika Aldaiturriaga Garcia, Basque Energy Agency (EVE)

- The EuropeWave Pre-Commercial Procurement Tim Hurst, Wave Energy Scotland (WES)
- The Application Process Ruairi Maclver, Wave Energy Scotland (WES)
- Questions?
- Conclusion & Next Steps
   Donagh Cagney, Ocean Energy Europe (OEE)





## Bridging the gap to commercialisation of wave energy technology using pre-commercial procurement

Duration: 65 months (01/01/2021 to 31/05/2026) **PCP Budget:** €19,600,000 **Total Budget:** €22,702,112

Programme: H2020-EU.3.3.2. [Low-cost, low-carbon energy supply]



**Topic:** LC-SC3-JA-3-2019 [European Pre-Commercial Procurement Programme for Wave Energy Research & Development]

Wave Energy Scotland (WES)

> **Ocean Energy** Europe (OEE)

Ente Vasco de la Energía (EVE)

> **Buyers Group** Consortium Partner



**ENERGIAREN EUSKAL ERAKUNDEA** ENTE VASCO DE LA ENERGÍA





This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 883751.

### **EuropeWave Consortium**







A Scottish Government funded initiative to develop wave energy technology

The Basque Government's Energy Agency, responsible for delivering energy policy The voice of the ocean energy sector – the sector's industry association in Europe







## **Overarching Challenge**

The design, development, and demonstration of cost-effective wave energy converter systems for electrical power production that can survive in the harsh and unpredictable ocean environment







### **EuropeWave PCP Challenge**

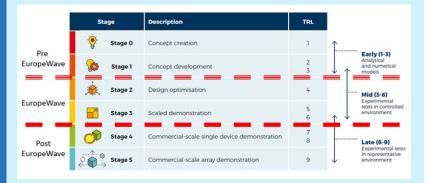
To advance promising wave energy converter systems to a point from which they can be developed to commercial exploitation through other national/regional programmes and/or private sector investment.



### **EuropeWave PCP Challenge**

### Technology development stages

The IEA's "International Evaluation and Guidance Framework for Ocean Energy Technology" presents a framework for technology evaluation and guidance of engineering activity throughout the technology development.





## **EuropeWave PCP Challenge**

### Technology development stages

At each stage, a collection of engineering activities is proposed, focused on the Framework's nine key evaluation areas





### **Prior Development**

The required minimum state of prior development corresponds to the **completion of the IEA Framework's Stage 1 activities** for the nine evaluation areas.

A key purpose of the Framework's Stage 1 is to explore and investigate several device configurations to identify the characteristics of a preferred concept design, and to obtain an **estimation of power performance through initial physical model testing**.

### Innovation

Proposed concepts for EuropeWave PCP should be **new designs that will enable progress beyond the current state-of-the-art, or significant adaptations to existing designs**.

Where the proposed concept design could be perceived as having already achieved or exceeded the state of development anticipated in the final phase of the EuropeWave PCP, the innovative aspect(s) must represent a significant adaptation to the current design.



### Laboratory Testing

Scaled physical model testing of the design for the wave energy converter system during Phase 1 and Phase 2 must be undertaken at the wave basin facilities at IH Cantabria in Spain or FloWave in Scotland.

In Phase 1, projects are required to test a scaled physical model of the wave energy converter system in a set of mandatory wave conditions, covering regular waves and defined long-crested and short-crested sea-states, in a tank testing programme to evaluate performance characteristics.

## Phase 1 performance testing will be validated by an independent and accredited third party, to be organised by the tenderer. This activity may be provided by the tank facility within their scope of services.

The scope of the independent review activities should include the preparation of a report providing an objective assessment of the test campaign, covering the quality of the model and measured data, the uncertainties in the measured data, and the compliance of the test methodology relative to recognised guidelines



TD02- The Challenge Section 2.4

### Phase 3 Open-Water deployments

In Phase 3 of the EuropeWave PCP, prototype representations of three designs will be deployed at the open-water facilities of BiMEP and EMEC for a demonstration and operational testing programme of 12-month duration.

The proposed concept designs must be suited to the environmental conditions and be capable of operating (and surviving) in all seasons at the BiMEP and EMEC test sites. Key information about the test facilities at BiMEP and EMEC is provided in Annex B of TD02.

The main objectives of the Phase 3 testing programme are:

- to validate the design's power capture and conversion capability through operational data recorded during sustained periods of operation in the energy producing sea-states;
- · to demonstrate the effectiveness of survival strategies;
- · to demonstrate achievable levels of availability.



### Phase 3 Open-Water deployments: Allocation Mechanism

#### Two prototypes will be deployed at BiMEP and one prototype will be deployed at EMEC.

The allocation of deployment location will take place following completion of the call-off competition (phase gate) for entry to Phase 3.

It is anticipated that the allocation will be based on the outcome of the phase gate evaluation process, i.e. the ranking following evaluation of the offers for Phase 3, and the contractors' stated preferred locations.

The highest ranked contractor will be offered their preferred location. The second ranked contractor will then be offered their preferred location (if available) or the alternative. Finally, the third ranked contractor will be offered the remaining location.



TD02- The Challenge Section 2.6, 2.7 & 3.0

### **Design Process Requirements**

- Certification Strategy
- Adherence to Standards
- Participation in Design Reviews

### **Commercial Requirements**

A short to mid-term plan shall be developed, setting out the measures that will be undertaken to continue the development of the design of the wave energy converter system towards a commercial application after the conclusion of the EuropeWave PCP.

### **Functional Requirements**

A series of functional requirements for Phase 3 prototype have been identified and condensed under Section 3 of TD02.



## **EuropeWave PCP Programme Overview**

TD02- The Challenge Section 4.1

### Phase 1 Objectives

The core objectives for Phase 1 of the EuropeWave PCP are to:

- Optimise the concept engineering design for the EuropeWave requirements.
- Benchmark performance.
- Estimate the Phase 3 power performance capability.
- Evidence that the WEC system is on track to provide an attractive commercial offering.

A set of mandatory development tasks and outputs have been identified in TD02 Sections 4.1.3 and 4.1.5. The tenderers should consider the necessity and justification of the constituent activities for Phase 1 scope of work in their proposals.



## **EuropeWave PCP Programme Overview**

TD02- The Challenge Section 4.1

### Phase 1 Target Outcomes

Upon completion of Phase 1, projects are expected to be able to

- **Evidence that the proposed WEC system is conceptually suitable** for the Phase 3 deployment in the operational environment(s) at BiMEP and EMEC.
- **Estimate the device performance** at the Phase 3 test sites using physical modelling data obtained from testing campaigns and numerical simulations validated against physical modelling data.
- **Provide clarity on the long-term impacts** that the proposed WEC system offers.
- Identify key risks associated with the Phase 3 deployment, and support these with credible mitigation proposals.
- Pass the PDR with a thoroughly defined conceptual design for the Phase 3 prototype that will be built and tested.



## **EuropeWave PCP Programme Overview**

TD02- The Challenge Sections 4.2 & 4.3

### Phase 2 (FEED and modelling)

Continue design development work through the front-end-engineering design (FEED) of a scale prototype device intended for open-water trials during Phase 3.

Design work will be supported by numerical and further physical test campaigns of the complete WEC and constituent subsystems at facilities in the Member States.

### Phase 3 (Open-water deployment)

Finalise the design of their WEC system, before proceeding to fabrication, assembly, commissioning and installation at the open-water test sites of either BiMEP or EMEC.

The prototype will be operated over a period of time expected to be no less than 12 months (including time for inspections, maintenance, etc.).

Phase 3 will conclude with recovery of the prototype systems to the quayside, and assessment, interpretation and reporting of the outcomes and learning.

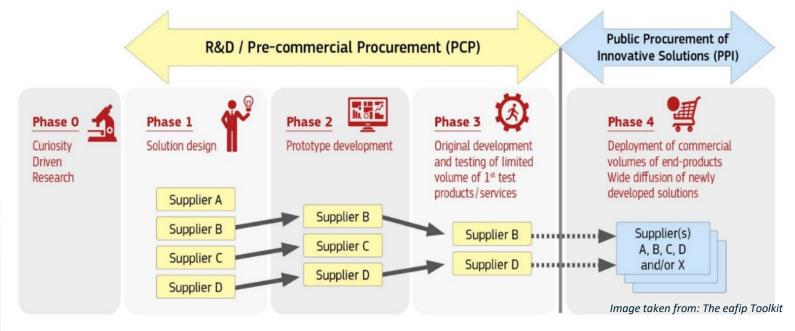


## **EuropeWave Pre-Commercial Procurement**



## **Pre-commercial Procurement (PCP)**

## **Competitive development in phases**



... identifies solutions that offer the best value for money



## **EuropeWave PCP**

PCP budget: €19,600,000 (inc VAT<sup>†</sup>) Duration: 53 months

#### Phase 1 Concept Development

Phase budget: €2,450,000 (inc VAT<sup>†</sup>) Call-off contracts: 7 Contract budget: up to €350,000 (inc VAT<sup>†</sup>) Duration: 7 months Phase 2 Design / modelling

Phase budget: €3,650,000 (inc VAT<sup>†</sup>)

Call-off contracts: 5

Contract budget: up to €730,000 (inc VAT<sup>†</sup>)

**Duration: 9 months** 

Phase 3 Open-sea deployment & testing programme

Phase budget: €13,500,000 (inc VAT<sup>†</sup>) Call-off contracts: 3 Contract budget: up to €4,500,000 (inc VAT<sup>†</sup>) Duration: 33 months

+ the applicable VAT rate is that in the country of the Lead Procurer



## H2020 Pre-commercial Procurement (PCP) Actions

IP ownership, access and licensing

Article 51(4), H2020 Rules for participation [Regulation 1290\_2013]

### **Results (i.e. foreground)**

The contractor generating results in the PCP shall own the attached IPR.

Contracting authorities shall enjoy at least

- royalty-free access rights to the results generated in the PCP for their own use
- the right to grant, or require the contractor to grant, non-exclusive licences to third parties to exploit the results under fair and reasonable conditions without any right to sub-license.

**Failure to commercially exploit** the results within a given period (**four years**) of the PCP ... the contractor shall **transfer ownership** of the results and the attached IPR **to the contracting authorities**.

[Further details in article 5 of the framework agreement, tender document TD03]



## H2020 Pre-commercial Procurement (PCP) Actions

IP ownership, access and licensing

Article 51(4), H2020 Rules for participation [Regulation 1290\_2013]

### Pre-existing rights (i.e. background)

Ownership of pre-existing rights remains unchanged.

The contracting authority and the contractor must **maintain a definitive list** of respective pre-existing rights used in the contract.

Both parties shall have the **right to access** to each other's **pre-existing rights** for the **exploitation of results** generated in the PCP and for using the results for their own purposes, under **fair and reasonable conditions** and on a **non-exclusive basis**.

[Further details in article 5 of the framework agreement, tender document TD03]



## H2020 Pre-commercial Procurement (PCP) Actions

### **Procurer's pre-existing rights**

Wave Energy Scotland maintains the patent rights to the Pelamis Wave Power 'Marine Connection System and Method' invention.

Contractors may request access to this background under licence.

[Further details in tender document TD01, §5.2]



### **Tender documents and declarations**

Administrative Section

- TD07 Form 1: General declaration (including all necessary Annexes)
- TD07 Form 2: Exclusion criteria declaration
- TD07 Form 3: Selection criteria declaration
- TD07 Form 4: Compliance criteria declaration (including Annex A)
- TD07 Form 5: Form of tender Phase 1

**Technical Section** 

TD05: Technical Offer (including Annexes)

**Financial Section** 

TD06: Financial Offer & Cost Breakdown



### Administrative Section ... Form 1: General declaration

A set of general statements including ...

"... fully aware of and accept the approach for allocating the open-sea test site for Phase 3"

Annex A: Consortium declaration (Power of Attorney)

Only relevant to a joint tender submission Separate declaration for each member of the group (consortium) Grants the nominated lead tenderer the power to act on behalf of the group (consortium)

#### Annex B: Subcontractor declaration

Separate declaration for each named subcontractor To indicate knowledge that it is a named party to the tender response

Annex C: Project team details [Excel]

To provide administrative details of proposed project team



# Administrative Section ... Form 2: Exclusion criteria declaration [§6.2, tender document TD01]

Relates to existence of grounds for exclusion: Tenderer declares for itself

- criminal convictions
- payment of taxes or social security contributions
- insolvency or professional misconduct
- conflict of interest

### Tenderer declares for itself and on behalf of its subcontractors

In a joint tender, each member of the group (consortium) must complete a declaration

#### Form 2 is a bespoke form of the European single procurement document (ESPD)



# Administrative Section ... Form 3: Selection criteria declaration [§6.3, tender document TD01]

A commitment to put in place, should the tender be successful and prior to signing the framework agreement and call-off contract for Phase 1

- **Insurance policies** with reputable insurance companies
- An **on-demand advance payment guarantee** from a reputable bank for the value of the mandatory pre-financing payment



# Administrative Section ... Form 4: Compliance criteria declaration [§6.4, tender document TD01]

#### Declarations

- The tender is solely for the provision of R&D services
   [as defined in the EU R&D&I state aid framework]
- The principal R&D staff are located in, and at least 70% of the value of activities are performed in, the EU Member States and/or Associated Countries to Horizon 2020
- No double public funding
- Activities comply with ethical principles
- The tenderer is free to develop and commercialise the proposed technology [use Annex A to identify associated background]

A further compliance criterion is assessed as part of the evaluation of the technical offer [See §6.4.6 of tender document TD01]

 the suitability of the proposed concept design to the environmental conditions of the Phase 3 test sites





### Administrative Section ... Form 5: Form of Tender

[§7.5.5 & §9.2, tender document TD01]

The formal offer to provide the R&D services for Phase 1 set out in the technical offer (TD05) for the fixed price stated in the financial offer (TD06)

In signing the Form of Tender, the tenderer **accepts the terms and conditions** of the framework agreement (TD03) and call-off contract (TD04)



## **Award Criteria**

The award criteria will be assessed by examining

- the Technical Offer (tender document TD05 and its associated annexes) and
- the Financial Offer (tender document TD06)

Awards will be based on the **most economically advantageous tenders** determined by the best combined technical quality (technical offer) and price (financial offer) scores, using the ratio **85% technical quality** and **15% price**.



Grading uses a six-category scheme (0-5)

## Award Criteria

## Technical Offer [TD05]

Thresholds applied to ensure

- the credibility of the concept design
- a minimum stage of development has been achieved
- the innovations have the potential to improve the state of the art

Section	Sub-section	Threshold grade	Criteria weighting	Section weighting	
Technology	Technical description		2 (Fair)	10%	33%
	Prior development	Power performance	2 (Fair)	5%	
		Survivability	2 (Fair)	2%	
		Affordability	2 (Fair)	3%	
	Innovation		2 (Fair)	8%	
	Technology risk		-	5%	
Impact	Project impact		-	7%	19%
	Commercialisation	LCOE potential	-	7%	
		Business strategy	-	5%	
Programme	Project team		-	10%	25%
	Phase 1 scope of work	The activities proposed	-	7%	
		The outputs delivered	-	3%	
	Phase 2 and 3 outline		-	5%	
Project Management	Schedule		-	2%	8%
	Methodology		-	3%	
	Phase 1 risks		-	2%	
	Health, safety & environmental management		-	1%	



## **Award Criteria**

### **Evaluation**

The Technical Offer will be evaluated by a panel of at least five (5) assessors

- internal assessors ... at least one representative of each procurer in the buyers group
- external assessors ... at least three independent experts

Every assessor will be subject to

- conflict of interest checks
- a non-disclosure (confidentiality) agreement



## **Award Criteria**

## Financial Offer [TD06]

The financial offer must provide:

- A fixed price for carrying out the Phase 1 scope of work (not exceeding the Phase 1 contract budget value)
- A cost breakdown of Phase 1 activities by work package, organisation, category of R&D personnel and the place in which the activities will be performed
- The value of the mandatory pre-finance payment (between 10% and 25% of the fixed price for Phase 1)
- A proposed payment schedule for Phase 1



## Phase 1 payment schedule

No more than three payments (two interim and final)

A mandatory pre-finance payment (between 10% and 25% of the fixed price for Phase 1) paid on commencement, backed by on-demand advance payment guarantee

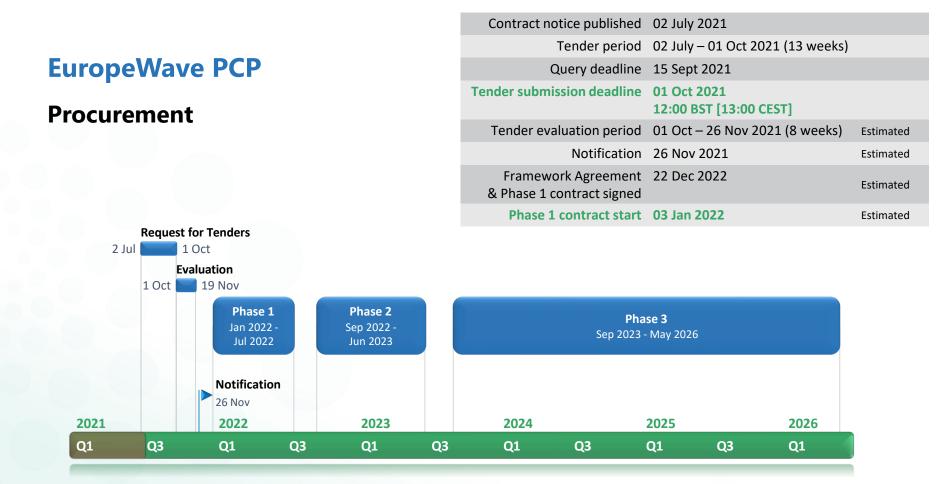
Further payments according to the schedule, subject to satisfactory completion of associated deliverables, until the full contract value has been paid

Example payment sch	For information				
Payment ID	Date	Milestone ID	Value	Payment value (% of contract value) Individual Cumulative	
Pre-finance payment	Month 0		25%	25%	25%
P01	Month ##	M01	25%	25%	50%
P02	Month ##	M02	35%	35%	85%
P03	Month 7	M03	40%	15%	100%



# **The Application Process**







### Procurement

The procurement is being **managed through** the public procurement portal of Scotland, **Public Contracts Scotland** (PCS)

www.publiccontractsscotland.gov.uk



A **Contract Notice** (CN) for this procurement was published on PCS on 02 July 2021 with reference number **JUL420142** 

www.publiccontractsscotland.gov.uk/search/ show/search\_view.aspx?ID=JUL420142

The tender documentation pack is obtained by **registering an interest** in the CN **on PCS** 

Parties registering an interest receive automatic notification of all future correspondence relating to this procurement



### **Registering an interest**

#### Navigate to the contract notice ...

#### **View Notice**

Home > View Notice

Do you wish to record an interest in this notice? Do you require any additional documents? Record your interest now

#### Notice Details

Introduction Full Notice Text Further Info Contact Info Coding	
Title: Pre-Commercial Procurement: Design, develop, and demonstrate wave energy converter systems (EuropeWave PCP). Reference No: JUL420142	wave energy
OCID: ocds-r6ebe6-0000650423 Published by: Wave Energy Scotland Limited	SCOTLAND Print or Save this Notice
Publication Date: 02/07/2021 Deadline Date: 01/10/2021 Deadline Time: 12:00	Download PDF Download HTML



### **Registering an interest**

Navigate to the contract notice ...

#### **Register an Interest**

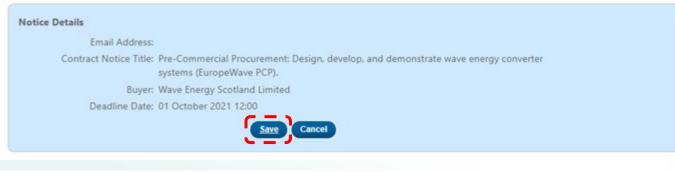
By recording an interest in the notice shown below you will be sent an email with the notice attached. The notice and any additional documents will be added to your supplier interest list.

You will be kept informed of any updates made to the notice on this site and receive notification of any communications from the notice publisher regarding the tender process.

Please Click the Save button to record an interest.

If there are any additional documents available with this notice you can download them from your supplier interest list. If there are no documents Please read the instructions within the notice on how to obtain the documentation.

#### Notice Details





### Submitting a tender response

Submissions are managed in the **Postbox Responses** workspace.

The PCS Postbox is an online facility for the electronic submission of tender responses in a secure environment.

#### Home Search Notices Search Buvers Suppliers Area Buvers Area Information & Support Log out Suppliers Area Welcome to your Supplier Control Panel . Please *click* a link in one of the appropriate sections to access the area of the site you require. Mv Notices Q Search Latest Notices Interest List Search for Buyers Notice Alerts Notice Reference Search Contracts Register Mv Account User Details A My Profile Change Password **Company Profile** Subscriptions Alert Profile Register to publish sub-contract opportunities Supplier Finder Profile SPD (Scotland) i Help System User Guides and Videos My Responses FAOs osthox Responses Contact Us Access PCS-Tender **eCertis**



### Submitting a tender response

### Postbox Response Workspace

Supplier Control Panel > Postbox Response Workspace

Your Postbox Response Workspace allows you to manage all of your responses to notices which have the postbox function activated and for which you have recorded an interest.

Notice Response List	Dispatched List		
Listed below are current	t notices which you have recorded an interest in and which have the postbox activated. Please select the appr	opriate response action to continue.	
1 records found. Jump	to page 1 🗸 of 1 🔽 Go		0000
Notice Details		Response Status	Response Action
	o <mark>curement: Design, develop, and demonstrate wave energy converter systems (EuropeWave PCP).</mark> inergy Scotland Limited 1 12:00	Not Created	Create

#### **Notice Response List tab**

All notices for which the Postbox option is available. Only shown until the submission deadline has passed.

#### **Dispatched List tab ...**

Shows notices for which a tender response has been submitted.



### Submitting a tender response

### Postbox Response Workspace

Supplier Control Panel > Postbox Response Workspace

	Notice Details	Response Status	Response Action
0	Pre-Commercial Procurement: Design, develop, and demonstrate wave energy converter systems (EuropeWave PCP), Published By: Wave Energy Scotland Limited Deadline: 01/10/2021 12:00	Not Created	<u>Create</u>

#### **Response Status**

Not Created – a response has not been created Not Dispatched – a response has been created

but not submitted

Dispatched - a response has been submitted

#### **Response Actions**

Create - select to create a response

Edit/Dispatch - response exists but not submitted

Delete - response exists but not submitted

**Respond Again** – response has been submitted but you wish to create and submit a supplementary or replacement response

*View* – response exists but not submitted and the deadline for submissions has passed



### Submitting a tender response

### Tender response

- Contact details
- Supporting documentation ...
   add documents to the response
- Further comments
- Dispatch/ Save and Exit/ Cancel

	Crea	te Postbox Response	
Please complete the follo	ving sections listed below b	before submitting your response to the	ne postbox.
Contact Details	-	57 1	
Supporting Documentation	n		
Further Comments			
Save and Dispatch			
Required information.			
L Contact Details			
		the information you provided in you	r registration. If you wish to edit thes
details please do so be			
	North East Reprographics Ltd		Claire Smith
Department:		* Address Line 1:	
Address Line 2:			Aberdeen
Postal Code:	AB154ZT	Country:	United Kingdom (GB) 👻
Telephone:	+44 1224636999	Fax	
* Email Address:	cgruban@hotmail.co.uk		
2. Supporting Documenta	tion		
Document Sum		Upload a Document	
Individual File Size		Uploading Document Please v	vait
Total Available File S		* Description:	
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### Submitting a tender response

#### Tender response

Supporting documentation ...
 add documents to the response

* Description: Technical Offer (maximum 100 characters, you have 85 left)
(maximum 100 characters, you have <b>85</b> left)
* File Name: Choose file CompanyNacalOffer.docx

Document Summary	Upload a Document		
Individual File Size Limit: 10.00 MB Total Available File Space: 30.00 MB Documents Attached: 1 Used File Space: 97.08 KB Remaining File Space: 29.91 MB	* Description: (maximum 100 characters, * File Name: Choose file No file chosen Add	you have 100 left)	
Attached Documents			
File Name	Description	Created	File Size
CompanyName_TD05_TechnicalOffer.docx	Technical Offer	12/07/2021	97.08 KB
Delete			



### Submitting a tender response

### Tender response

Further comments

 Dispatch/ Save and Exit/ Cancel

	You have 4000 character
ave and Dispatch	
	lease select the <b>Dispatch</b> button to submit your response to the postbox, or select the <b>Save and Exit</b> button to save you Alternatively, you can select the <b>Cancel</b> button to return immediately to your response workspace without saving.
	Dispatch Save and Exit Cancel



View your response workspace.

# EuropeWave PCP Questions



# **EuropeWave PCP** Questions

An anonymized summary of the questions and answers from the information day will be published through the Public Contract Scotland (PCS) portal

www.publiccontractsscotland.gov.uk

and on the EuropeWave website

www.europewave.eu

Further queries may be submitted through the PCS portal's Q&A facility until 15 September 2021









# **Don't Forget!**

**Project Teams win tenders –** *NOT* individual organisations ...

EUROPEWAVE online brokerage platform – https://europewave.b2match.io/

Available until 03 August 2021





### **Don't Forget!**

### **Register your interest on the PCS portal PCS reference:** *JUL420142* www.publiccontractsscotland.gov.uk/search/ show/search\_view.aspx?ID=JUL420142

Slides & webinar recording will be available on the EuropeWave website (www.europewave.eu)

More questions? Submit on the PCS Q&A facility





# **Key Dates**

**15 September ... Deadline for submitting queries** 

01 October 12:00 BST [13:00 CEST] ... Tender submission deadline

Don't forget to dispatch







### EUROPEWAVE

Thank you!

This project has received funding from the European Union's Horizon 2020 research and Innovation programme under grant agreement 883751.

