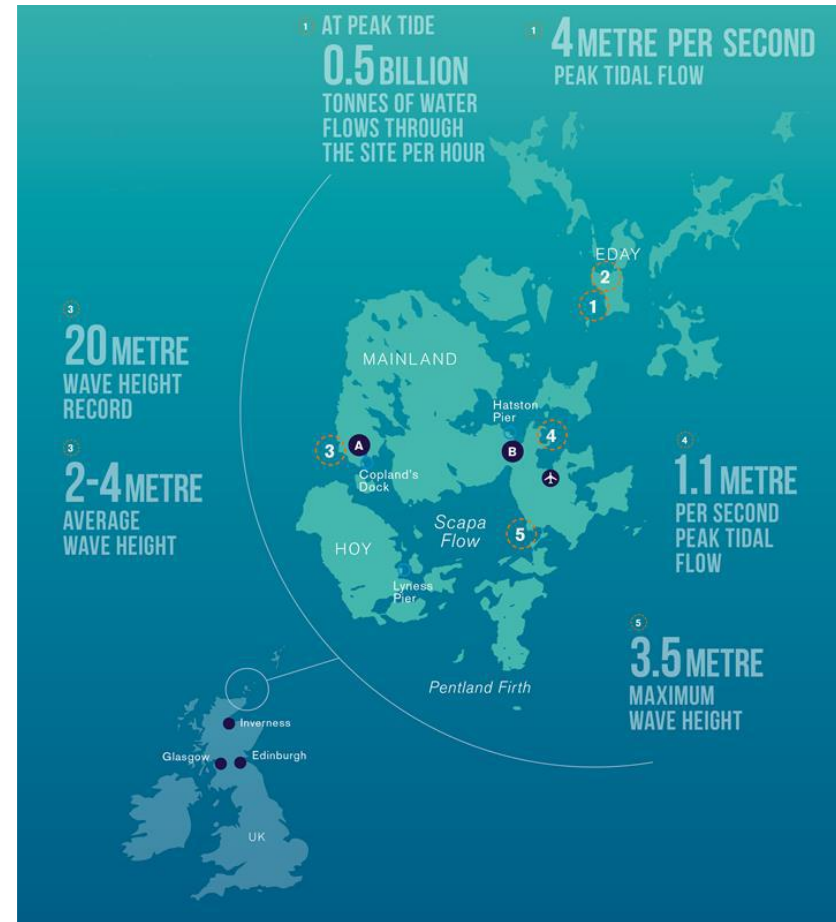


EMEC & the role of test labs in the use of standards

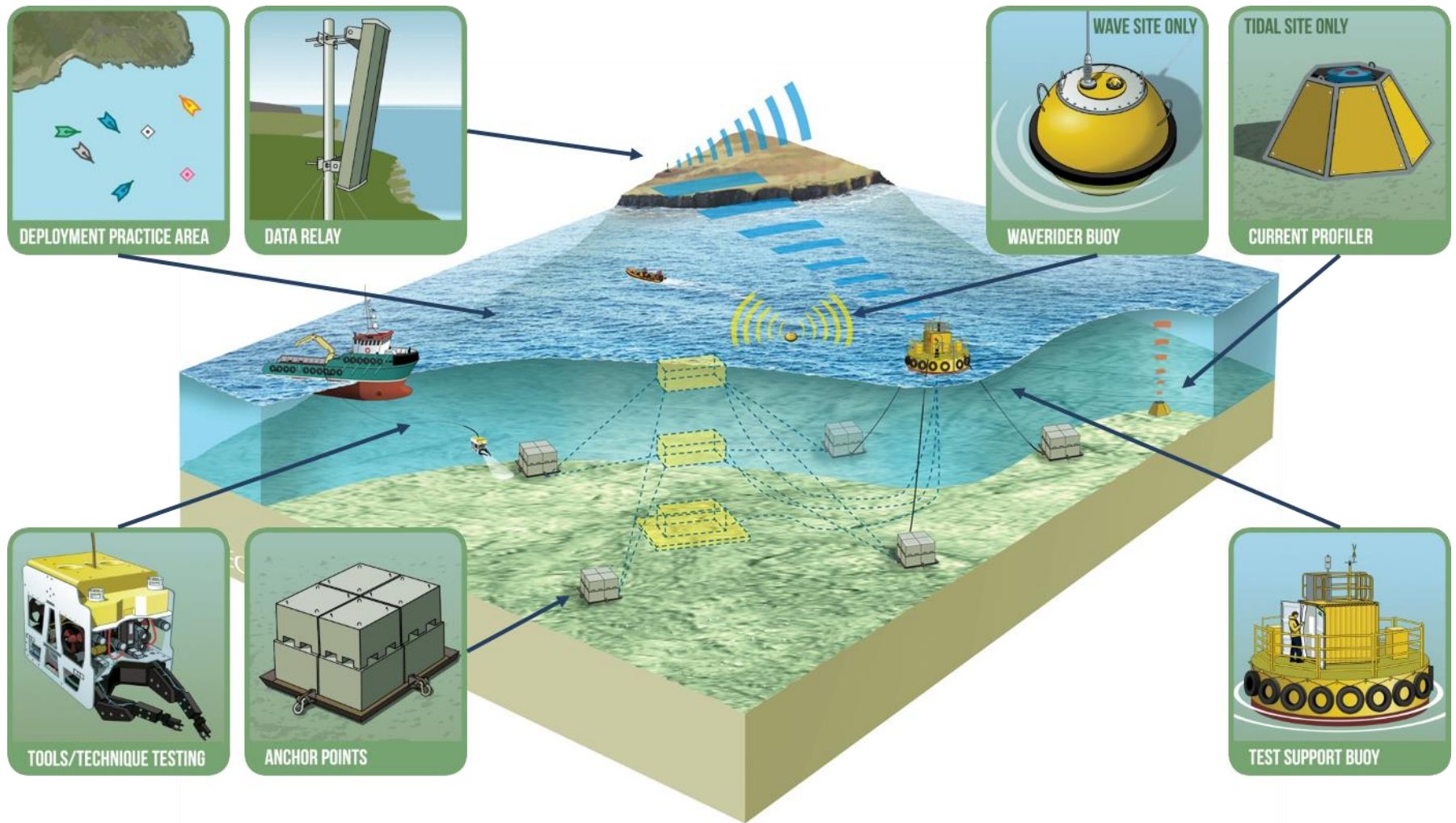
Caroline Lourie
Technical Manager

EMEC overview

- Founded in 2003 in Orkney
 - Offices in Stromness & Kirkwall
- Approx. £39 million of funding
 - Grant funded and commercial projects
- EMEC is the only accredited wave and tidal test centre for marine renewable energy in the world
 - (ISO/IEC 17025) accredited test laboratory
 - (ISO/IEC 17020) accredited inspection body
- More marine energy devices have been tested at EMEC than at any other single site in the world

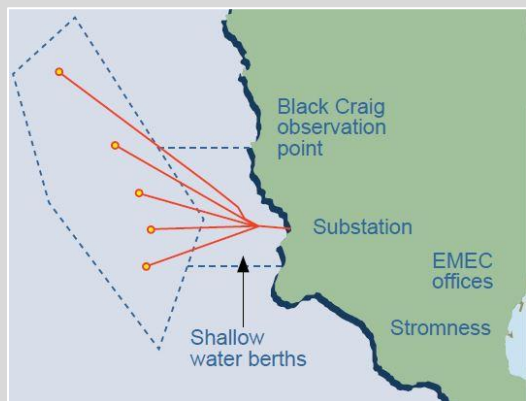


Scale test sites

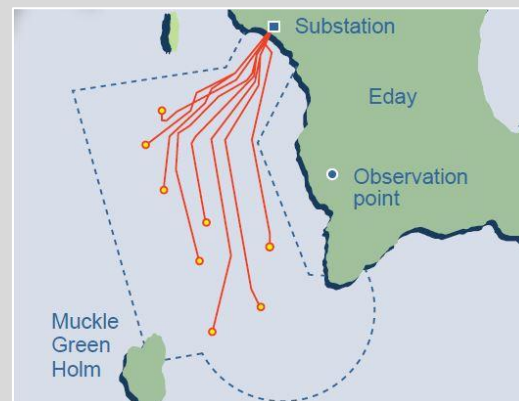


Grid-connected test sites for Wave and Tidal energy

Wave: Billia Croo



Tidal: Fall of Warness



Ocean energy demos

EMEC 
THE EUROPEAN MARINE ENERGY CENTRE LTD



35

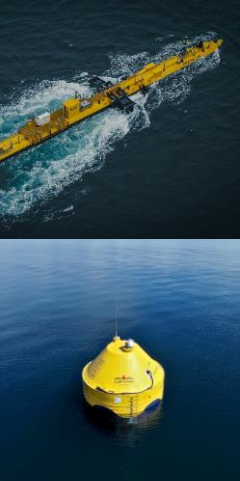
devices

22

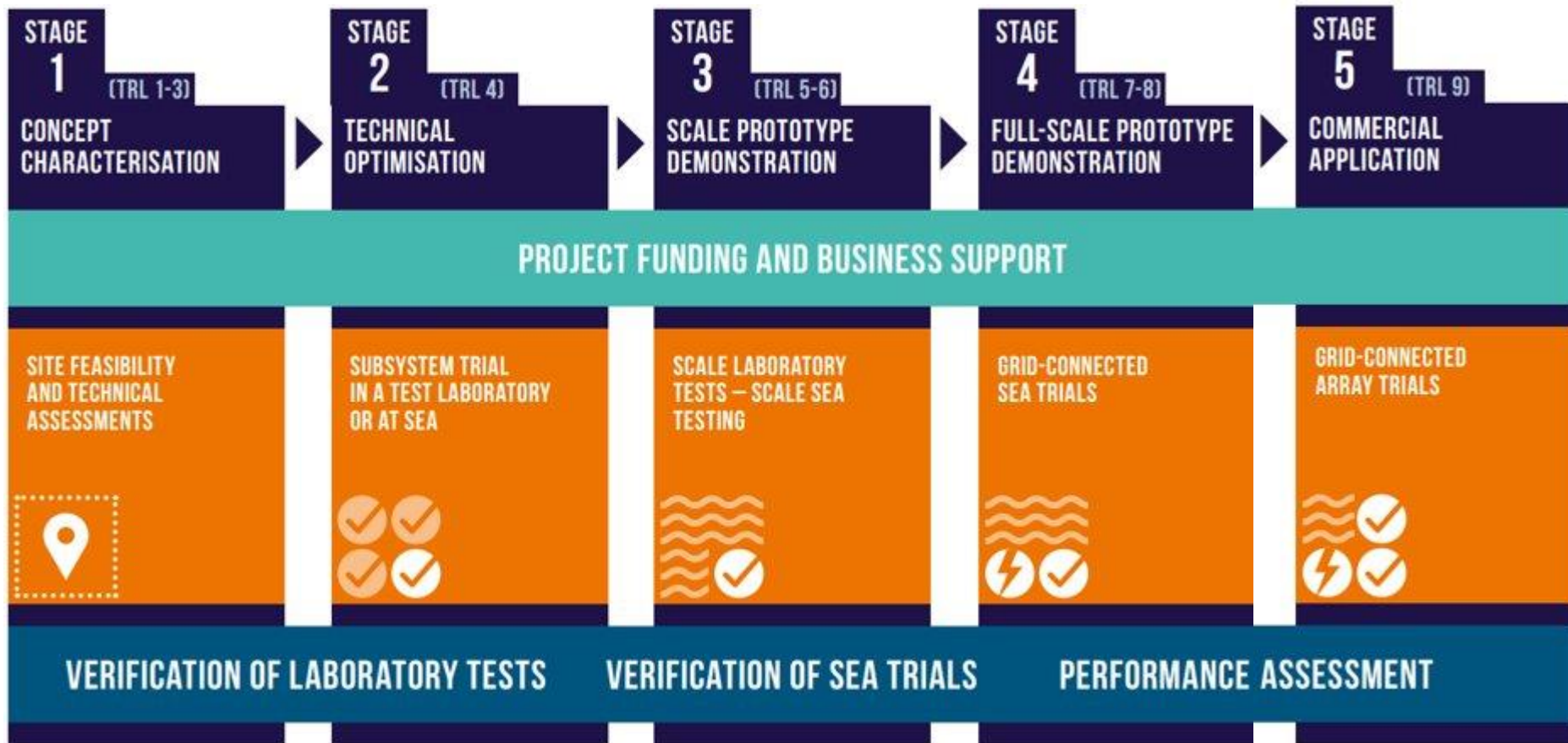
developers

11

countries



Developer Roadmap



TRL

Technology Readiness Levels (TRL)

TRL9 Operations

TRL8 Active Commissioning

TRL7 Inactive Commissioning

TRL6 Large Scale

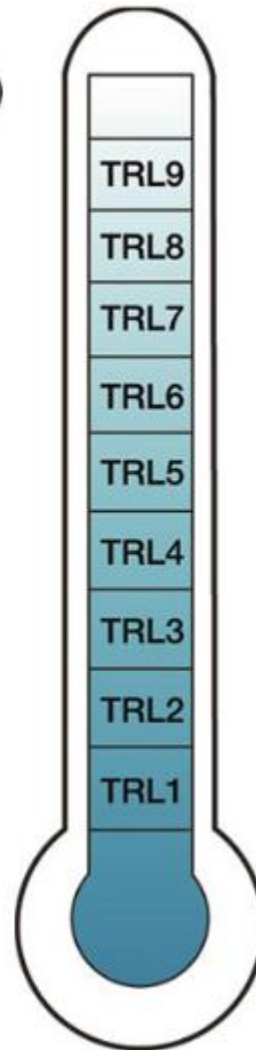
TRL5 Pilot Scale

TRL4 Bench Scale Research

TRL3 Proof of Concept

TRL2 Invention and Research

TRL1 Basic principles



- TRL important for investor confidence
- Grant funding may be targeted at specific TRL developers
- Also important:
 - Commercial Readiness level (how cost effective to produce at scale)
 - Technology Performance Level (reliability, survivability)

Accredited services

- MET-CERTIFIED (Interreg funded) development of IEC Standards for marine energy convertors
- EMEC is an Accredited Test Lab (ISO17025) and Inspection Body (ISO17020)
- RETL status from IECRE
- EMEC can provide accredited testing, inspection and power performance verification services
- Pathway to Certification

IEC/TS 62600 Parts (Technical Specifications)	Accredited Test (17025 Standard)		Accredited Inspection (17020 Standard)
	EMEC	Remote	Remote
-100 - WEC PPA	x	x	x
-200 - TEC PPA	x	x	x
-300 - REC PPA			x
-10 - Moorings			x
-103 - WEC tank testing			x
-202 - TEC tank testing			x
-101 - Wave Resource Assessment	x	x	x
-201 - Tidal Resource Assessment	x	x	x
-301 – River Resource Assessment			x



Standards & certification

- Technology certification is a key component to developing a mature industry, helping to attract investment.
- Awarded RETL status by IECRE
- Why bother?
 - Reduces technology risk
 - Improves performance and reliability
 - Promotes commercial investment
 - Provides benchmarks for market





Thank you

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