

Development of International Standards and Certification schemes for Marine Energy Technologies

Deliverable D1.2.1

Combined report on workshops in the Netherlands, the United Kingdom, France, Belgium and at Ocean Energy Europe.

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1. Attendance

In the Netherlands 21 people attended the workshop.	See report
In the United Kingdom 24 people attended the workshop.	See report
In the France 27 people attended the workshop.	See report
In the Belgium 14 people attended the workshop.	See report
At Ocean Energy Europe 26 people attended the workshop.	See report
In total the workshops were attended by 112 people from stakeholders from around the scope, averaging 22 people per meeting while 10-20 people per meeting were anticipated.	

The following stakeholder groups were identified and present:

NL:

- End Users, (Project developers, financiers, insurers)
- Technology developers (OEM), (developers of the technology under review)
- Services providers, Consultants
- Test Laboratories, (including test tanks, flumes, circulation tanks, wave tanks and open water sites)
- Certification Bodies
- National member bodies, to IEC(RE)
- Research & development
- National authorities

2. Meeting location

Meetings were held in the Netherlands, the United Kingdom, France, Belgium and at Ocean Energy Europe in Nantes over the summer of 2017 and early autumn and took half a day till a full day.

3. Workshops

The workshops were based on a standard format:

3.1. Objective

(From Application form) The workshops are part of building relationships with end-users of certification products and understanding their needs for certification. Through the networks of each partner and observers we will invite banks, project developers, insurers and maritime regulators, [but also test laboratories, classification bodies and technology developers with an interest]. Focus per country on projects: Brouwersdam, G-TTC and Oosterschelde (NL), Mermaid Offshore (Be), Isle of Wight and Portlands Bill (UK) and Raz Blanchard and Race of Alderney (Fr). Co-host with a national conference if possible.

3.2. National priorities

Each country has its own priorities with respect to the involvement of stakeholders in IEC and IECRE. Below notes these priorities prior to the workshops:

Eg Belgium is not yet a member of IEC/IECRE. Focus on involving the National Member body BEC and key members from industry and R&D to establish a Belgium mirror group for IEC.

France has only recently joint and is still working on expanding the member base. BV is most active. AFNOR is not yet very involved. Proposed that BV takes the lead, with IFREMER in organising the workshop, with view to expand member base.

UK is most established and has a strong mirror group. The BSI is closely involved through secretariat role of Danny Peacock from BSI. Priority: to involve financiers, insurers, project developers

Netherlands has had a small mirror group over the past 4 years. In 2017 started to increase member-base via the DMEC initiative (subsidised memberships for 5 organisations). Priority on involving test laboratories and financial stakeholders.

3.3. Format of workshop

A morning or afternoon (4 hours) dedicated workshop with invited participants and interested parties that have an interest in certification. Finishing with a networking moment (lunch or drinks).

Proposed title: Risk reduction of Marine energy projects through internationally accredited testing and certification under the IECRE system

Invitation Targeted emailing to list of most relevant stakeholders by Workshop Host, group mailings via each partners' lists of contacts, mailings via National Member bodies (NEC, BEC, AFNOR, BSI), National Associations (EWA, FMC, PL, EMF, MOR UK/RenewableUK), European (OEE) and International (IEA-OES and IEC), postings on LinkedIn, MET-Certified website, Twitter

Location: At National Member Body offices (NEC, BEC, AFNOR, BSI) or at location of member Classification Body of Test Laboratory in the 2SEAS region or Amsterdam, Brussels, Paris or London.

Number of participants per workshop: Between 10 and 20 participants per workshop expected.

Hosts:

NEC/DMEC in Netherlands hosted at NEC

POM/BEC in Belgium hosted at BEC in Brussels?

BV/IFREMER in France hosted at AFNOR or BV or IFREMER?

EMEC in UK with input from PTEC, DNV and LR hosted at BSI, DNV-GL or LR or Scottish House

Workshop Hosts:

Martijn Geertzen and Peter Scheijgrond in NL

Martijn Geertzen in Belgium

Laura Mae in France

John Griffiths in UK

A draft invitation was drawn up.

The draft programme of the workshop was set:

9:30 Welcome with coffee

10:00 Opening, introduction

10:15 Latest developments in the field of standardization under IEC TC114

10:45 Latest developments in the field of certification under IEC RE Marine Energy sector

11:15 market demands on standards and certification:

- Who is doing what? (Timing of your projects).
- When do you expect a need for IEC standards and IECRE certificates
- How can you participate and contribute to IEC and IECRE
- What is expected of certification

12:00 Lunch

4. Workshop Presentations

Presentations in all workshops were based on the same base presentation and format.

[See presentation](#)

This is a presentation roughly in line with the agenda:

- roll call and introduction
- MET-CERTIFIED
- Standardisation
- Certification
- How to participate
- Workshop on the need and barriers in standardisation and certification

5. Results of discussions and workshops:

1. Comments made:

The IEC system of standardisation is a responsive, interactive dynamic system, which means Technical specifications are not set in stone. They are up for regular maintenance cycles (very 5 years) and will include feedback from this project.

Revolving subsidies: subsidise, but let successful projects pay back their subsidies when the can/are successful.

Bankability. Three issues are the **financial support schemes**, the **Weighted Average Cost of Capital & standardisation/certification**.

One should consider the **Operational Date** before going into standardisation and certification.

In the marine sector, a ship is **financed only if the vessel has a Classification certificate** and if the bank trusts the certification body.

Expertise coming from **certification process/body** is important if it is useful.

2. Barriers

It can be hard to **justify** the time and expense to seniors if the output isn't clear.

At the moment the output **isn't a certificate to a standard** so it's harder to explain the benefit/**justify**.

It's not always clear **what will be involved** and the level of commitment required.

Certification makes the technology much **too expensive**.

Costs of system of standardisation and certification are **too high** in relation to the amount of projects foreseen.

The existing **Technical Specifications don't feed into one another**, the resource assessment does not give specific outputs such as the AEP or load cases for the design calculations.

It's not clear which TS and specifications to use. There are **industry standards, IEC MEC technical specifications and standards from other industries**. Researching all three takes time. They potentially aren't consistent. When borrowing standards from other industries its time consuming, and it isn't always clear to establish the limitations/risks.

Insurers are reluctant to accept **non-standardised tests**. (3 different tests lead to three different results)

Time-consuming

Difficult to find out how to participate and to find the right people and right committees.

Lack of Experience, the industry at the now is at the stage of beginning to gain experience and ensure a repeatable approach.

Oil and Gas Crisis puts pressure on the investments in innovation in new technologies.

Wind failures overshadow Marine Energy.

The tidal market is much smaller than for example wind, so the **ability to earn back the costs** for the system (IEC) is **limited**.

At the present, there are no **standard solutions for insuring MRE assets** due to exclusions on classical policies.

It is a challenge to develop a **single standard covering different turbine designs**.

It is difficult to engage with **end users** due to the cost and resource required to read and implement standards.

Challenging to keep referring back to standards when the **devices keep changing** and there are new iterations of the device.

Volatility/ loss experience and lack of activity could lower insurance appetite for these risks, focusing on others more predictable marine insurances until such time as proven and reliable developers/devices can be considered.

The technology is currently **uninsurable and unbankable**.

Time and money are very scarce resources for a pre-revenue tidal technology developer. If involvement with standardisation and certification will not help to get our device proven and generate revenue or new investment? then it is unlikely to get any attention.

Client demands do not include specification of certification/standards at present.

No regulatory requirement.

The high level of uncertainties makes the certification process very complicated for new technologies.

Do the IEC standards matter to progress?

Data is a big barrier. There is a lot of effort which has been put into the design and manufacturing side. There doesn't seem to be an effective feedback loop once installed, so we aren't getting the lessons learned from it. To improve the process we need to gain better access to information from the industry to put back into new devices. Like to see standards being kept live and improved as the industry gains lessons learned.

If certification is the **lowest common denominator**, it may not be **credible or reliable**.

You **can't call the IEC** and ask questions and get answers.

It can be difficult for developers to pick **which existing standards to select** as there are many of them and it is time intensive to select relevant ones.

Took two years to define load cases of tidal turbine.

There is a cost barrier to using **certification at lower TRLs** when the emphasis is on experimentation and rapid prototyping

Aspects of the **200 standard are too difficult** e.g. instrumentation lining up, data coming in from everything at the same time for periods required was too costly

Cost of review: direct cost to pay plus the indirect cost: such as making sure suppliers submit documents and comply

Costs are going to be **high** for the first device

Prefer cost relative to the size of the project: there's **not a sliding scale**, its almost a fixed cost for the certification

Scaled certification which is scaled to the risk of the project would be great.

Descriptive: have they completed the **milestones** rather than checking it has been **done correctly**.

Lack of involved customers.

Tanks have yet to see what their role in certification is.

Insurers look at insuring material damage not performance. Due to the lack of experience or comfort around this there is quite **high excesses**.

Time spent on **modelling**.

There is still **significant variation in designs** and so standardisation of designs is going to be hard to do.

A significant number of failures occur during **marine operations** - these are high risk also because of the cost and developers have historically not considered marine operations in their design - but there are **no guidelines or certification for this**.

The wind industry has the SCADA system, which has some **standardised protocols on data collection and reporting**, marine renewables **does not have this** yet

There is **uncertainty** as to whether the **physical tests form part of the certification scheme**.

The **62600-103** for wave energy testing is **still in draft and not yet published** and the **validation of numerical models is out of scope**.

Not any **applicability for certification of tank testing**. Alternative test programme: power production tests and survival (loading) tests.

TSs are not that useful at the moment so aren't used.

3. Needs

Use the **reputation and testing and certification of other projects and organisations** like Marinet to avoid double efforts.

Consider **real-time** software vs design predictions.

One person **representing** more partners. Pay per company not by person.

Get **updates from bureaus**.

Need for **support from certification body**.

At the moment **not all nations are represented**. What routes are there for the Italian supply chain get involved and have a voice?

Participate in mirror committees and meet more often.

Clarify how to **get involved**.

Certification of standards studies dialogue with **suppliers**.

Turbulence is not covered by the existing standards. This clearly has an impact on both the performance and design and needs to be included. Aspects of turbulence the standards should comment on include definitions and metrics to be captured during resourced assessment and performance assessment. Their impact on the device performance and how to account for it in design calculations.

Also **scaling** of turbulence for tank testing.

how to **simulate the power take-off system for scaled devices?**

how to use the results of a **reduce scale** to a 1:1 scale?

The approach needs to be **simplified**, with less documents and confusion, that is clear on what to use and when. This would encourage growth and enable learnings. Less documents. Simplify processes and documents

Clarity on **timeframes**

At the moment it's not clear what the **time frame** is for these TSs to become standards. What should the expectation be?

We are still working in a novel environment so there is a need for a **technology qualification**.

Insurers need standards for certification of Technology and Resource

Standards and certification make it **easier to get insurance and finance**

Insurers and banks need certificates.

Design certificate and power curve certification is fundamental to show to **insurers & investors**.

Summary of the MRE **insurability and bankability** problematic as follows:

Once the project feasibility has been confirmed the project development process should focus on the **financing** options, the specific requirements and the identification of the most appropriate sources of funding for this kind of specific project. The project risks shall be understood and a risk mitigation strategy shall be designed. Clear and comprehensive information on these aspects (project objectives, project feasibility, project risks and risk mitigation strategy) should be provided to potential financiers as soon as they become available.

The project development process should clarify the extent of the required **insurance** during the construction phase covered by plant suppliers, construction and installation contractors, as well as during the operating phase. Insurance costs should be included in the project life costing estimates.

Government funding is needed to kickstart the industry (**launching customer: proof of concept**)

Lobby for the **same national certification processes**.

Bring the process down to small steps principle to prototype.

It's important for an **OEM** that results are **independently verifiable and accepted**.

OEMs need verifiable **certification in TRL 8-9**.

Ideally **certification is aligned with typical QA/QC systems**

Certification for prototypes of one-offs.

Need for **testing and certification on fish friendliness**. How do you measure fish friendliness and how many mortality of fish is considered acceptable?

The ocean energy sector has a lot of **SMEs**, especially in wave. Resources are scarce (especially financial and HR), which results in a strong focus on technology development. Most of the times test protocols are proprietary, which raises the question: "If they claim it works, to which standard are they referring to?". You need an independent set of criteria, which standards provide. In the oil & gas industry, project developers first show the certification, then the technology. In ocean energy, project developers mainly focus on technology. The industry will have to take the next step **from technology development to certification**.

Traceability and validity of certificates are important, especially for complex project with several sub-contractors. IMO is applicable to ships, for wind GWO & STCW, additional working at height and/or HUET, BOSIET, OPITO). Cost of track & tracing certificates is small compared to the danger of not being able to work offshore due to an expired certificate.

Is there an applicable **standard for the installation** (instead type or project certificate or O&M surveillance)?

BEC (Belgian National Committee) is open to host a test meeting to find common ground, to explore possibilities and facilitate memberships (TC 114 is the low hanging fruit), if there is a clear (insight on) the industry driven demand. BEC requires at least **2 companies to join** (no specific requirements, as BEC judges that if the company sees joining as relevant, BEC then considers this company to be relevant). Cost price might be high initially (financial & manhours), but might pay off as currently the standards are being developed. Thus the advantage is twofold: providing input on the development of these standards, which is by definition a consensus mechanism, but also gaining first mover insight about these standards before they are officially published.

For **BEC** a mirror commission of IEC-RE is an option, but Marine Energy is considered too small to carry this (financial) burden: wind and PV should be considered as well. Belgium is currently not a member body, but certification bodies, test laboratories or OEMs/technology developers are very welcome.

Wake should be considered.

How to consider **wake** effects?

Plants/arrays should be considered.

certification of tidal turbine **arrays** (**wake** effects etc.),

Design Tools could be developed by Research Centres.

Floating requirements should be considered.

Certification should be **affordable**

River resource assessment is more complicated (than at sea). Associated TC114 standards will be useful.

Certification of the **power curve assessment & design** is necessary for commercial and financial purpose.

The **power curve certification** is also fundamental to compare technologies.

Useful to get the support from a **third party to review the design**.

There is a need of certification for **customer trust**

Need for certification to be **credible for clients & customers**

It is complicated to convince **clients, customers**, of your technology if you don't have certificates.

Need to have **general rules** to follow

clear procedures to follow for manufacturing.

For **O&G** platforms, existing standards exist from O&G for some components, no standards for other parts (**cold pipe**).

In most of the cases, when engineers are coming from **oil&gas** sector they ask for certification (ISO, COFREAC,...). That's why this is applied in **MRE sector**.

the need for a **test site in a protected area for 1:1 tests**, in particular for mechanical and electrical tests.

how to **test** in **conditions** which are representative of real conditions (turbulence, current,...)

Standardise **TRL 2-4**.

Balance of effort/expense required versus commercial requirement for certification.

The lack of clarity in regards to specific requirements such as **safety and environmental performance**.

Specific classes for site characterisation should be developed for the tidal industry as it is required for funding.

Certification needs to be **relevant** to the stage of development:

- **Primary load path** for prototype devices, more about damage to others.
- Important to include it **early in the process** so that if you impose these later in the development plan they do not have a negative impact.

A direct practical issue for the marine energy industry is **umbilical's and connectors**. Information is being learnt in this and could be usefully captured.

Corrosion is a key issue for the marine energy industry, it is an industry specific issue that has a material impact on survivability of the device.

Looking at **development of wind energy industry** and how many standards were produced, and then **comparing** this with marine energy industry.

There is a **limit to the veracity and accuracy** of how far a certification body should delve

Classes for the level of detail a certification body goes into.

Conditional certification: certification limited to operations under certain circumstances: Needs to be certified for first prototype.

Awareness of how you can **meet Technical specifications at low cost**. Expensive thing is when you have done a design or prototype and then retrofit the certificate

All technical papers to be free (like DNV) then we can feed back.

Need to get **acceptance of the scheme:** insurers/investors need to have confidence in it

Feels it is a catch 22 situation, standards/certifications need to be used to be proven to be useful but won't be used until they are proven. **Encouragement, involvement and money** is needed to get end users onboard.

Funding, time and easy access

Good, comprehensive and relevant standards and guidelines.

Volume of enquiries, strength of designs in all water scenarios may improve appetite for business.

Deployment of commercial devices. Type approval to simplify getting insurance.

Consensus building amongst 'peer' labs.

That getting involved will help us **deliver safer, more reliable and cost-effective solutions** faster than we would otherwise.

More input from devices in the water for longer periods.

More appropriate information that depends on **size, cost, location and stage of deployment.**

More detail on the standard requirements, and how they **stack up against good international industry practice** for marine renewables.

Quality standards and comprehensive standards.

Higher level of co-operation between technology developers and certification institutions.

A **better understanding** of how the OD's are put together and whether it is relevant for us to participate.

Quality of standards need to be **specific and technically correct.**

Need to **engage with IEC** - join a national mirror committee.

Insurers will want a **simpler process** in the future. Easy certification which has specific specifications but understands that not all developers will be able to comply with all and insurers will find other means to satisfy their needs.

Keep standards alive and improve as the industry gains lessons learned.

Higher level of **participation** into standards and **spreading knowledge** a lot better.

Add value at the **beginning of the design process in the certification bodies being involved** to make sure that the design does not break the laws of physics. This helps save money and it helps to secure investment.

Collectively **improving the track record of the industry** will help make insurance more available.

Tanks don't advise on how to develop technologies and so have some **independence**

Insurers require 3rd party verification but are happy for it to be someone they aren't familiar with as long as they are **recognised by the industry as credible.**

Insurers need **tests of at least 12 months - 8,000 running hours with a good recording.**

The wave & tidal industry need **insurers to be more specific** regarding what their **standard requirements** are.

We need **something to compare companies against.** This is an international sector so need the international standard to compare against.

Access to cheaper insurance and greater investor confidence and investment.

Access to global markets.

Clear and easy to understand deliverables.

It must be **relevant, effective, robust and clear.** A **minimum standard** designed to a multitude of varying applications may **not** be considered **credible or sufficient.**

Provide confidence to investors and insurers that the technology achieves a **minimum standard and quality**.

Deliver more **certainty** in technology development process in mapping results to **sea deployed performance**.

Fit for purpose design and installations (safety & power). Automatic 'CE' marking or equivalent recognition. **Marketing claim**.

Reduce development risks to an acceptable level.

Provide a standard by which something **complies and can be verified** against.

Need **process standards**.

Key design load cases.

A significant number of failures occur during **marine operations** - these are high risk also because of the cost and developers have historically not **considered marine operations in their design** - but there are no guidelines or certification for this.

The wind industry has the SCADA system, which has some **standardised protocols on data collection and reporting**, marine renewables does not have this yet.

Appreciate a **staged process**: small increases in confidence with each small increase in risk

4. Expectations

Participation means early access to **future data**.

The expectation is that using standards will **improve quality**

The expectation is that using standards will make it easier and cheaper to find **insurance and finance**.

The expectation is the more the specifications are used, the more they will **improve so continuous development** is important. The feedback routes need to be clear.

Certification really kicks in when the market is maturing.

The insurance companies would like to see **the certification of all aspects of a marine energy project**. Eg. **operational hours** for full-scale turbines in the water. Under -200 for Power Performance it states: "The test should take place over a minimum of a spring-neap cycle (15 days) [...] It is acceptable to record data on subsequent days with a maximum duration of the test period of 90 days." Question remains: how are operational hours included in the certificate issued? Is it part of a Type Certificate?

Typically a CB certifies the **design aspects** of marine energy converter. Also, they can issue statements of conformity that **tests performed** at Test Labs have been performed according to the relevant standard (eg. Performance of the turbine, loads measurements or power quality).

Standardisation and certification will always **follow** the developments and not lead.

A Test Report in prescribed scale tests issued by an accredited Test Lab can receive a Statement of Conformity by a Certification Body. In this way it can provide **initial assurance** to the End User (investor / project financier) before full type certification.

The vision of **insurers** on MRE projects: There is a priority on medium to long term projects, compared to short term projects involving a concentration of risks. Insurers can cover different project phases such as construction and operations with specific adaptations (compared to an offshore oil&gas project). There is a strong interest in certification because of its importance for liability and risk assessment. However, if certification undoubtedly helps, it cannot be sufficient. **Experience of people** remains a key element.

Certification can give **confidence** in the project and support the **investment decision**.

Certification is necessary to start the construction and in certain cases a **prototype certificate can be sufficient** to start a project (as tidal& current technologies which are not yet mature).

Certification gives credibility and confidence to the bankers who are not specialists of the sector but project feedback adds value for the investment.

The **cost of certification** depends on the model and the certification body. This represents only a small percentage of the total cost of the project.

The certificate is very useful and can protect **sub-contractors (liability limitation)**.

Subcontractors selection can be made easier and quicker with dedicated tidal standards and certificates.

For **resource assessment of a site**, a **collaborative project** can be beneficial. Several partners gather their knowledge, and the result can become the future standard.

Certification gives **access to finance** in order to put prototypes in the water and prove their performance.

Certification bodies add value through interpretation.

It isn't worth going into full certification **too early** as things are always changing. However, it is always a good idea to **keep an eye on what is required**.

Benefits of certification: maintain **consistent quality** and ensure **integrity of equipment** installed

Commercial **risk** is harder to certify as it is the responsibility of the designer - ie performance

Certification itself is not going to decide what is **insurable**

Felt that **3rd party verification can reduce costs and time**.

Not sure that our systems should be certified. Maybe key components in the primary load path. How does certification help with process and operational risks? Tick box for 'next' project. Way to prove to next customer that product delivers. But only if process is useful/cost effective.

The certification allows the **commercial exploitation** of technology.

Boost **confidence of investors**.

Drive cost down, easier finance, easier insurance and developer focus.

Investors are more likely to **fund a technology** that has followed **standards for design**.

There is still **significant variation in designs** and so standardisation of designs is going to be hard to do. (Note: this does not detract from the **standardisation of design processes**)

There is a driver to **use physical modelling** to validate numerical models as these are cheaper to run.

Certification is more useful when you are **risking your own money**

Major challenges in processing and manipulating data.

Get bits and pieces certified while installing a commercial prototype. Certification is also more likely in an array when you need to get finance.

Already **test certificates/warranty from component suppliers**

Marine operations is where the greater costs are so would rather spend money there than on e.g. resource assessment to a high degree of fidelity.

6. Evaluation

5 Event Feedback overview:

The workshops were rated 8 out of 10, with all parts of the presentations averaging an 8, with the organisation peaking at a 9.

All comments of the workshops were continuously assessed and if possible improvements were applied in the following workshops.

1. Please rate the following aspect of the workshop:

Session	1 Poor	2 Average	3 Good	4 Excellent	N/A
MET-CERTIFIED			3.2		
Standardisation			3.0		
Certification			3.1		
Discussions/Workshops			3.2		

Any comments:

No real outcomes of the discussions.

Maybe the possibility to **join the effort in a project providing certification at low rate** (working principle of Marinet II)

Liked the “Activity”, as long as we had to push ourselves in order to fulfil the **need of a certification**, which is not an issue you had to have thought before (depending on background).

No presence of CB;

Focus on tidal turbines, what about tidal kites?

Cold due to airco.

Lack of structure in presentation

Not enough time

More time

Elaborate with an **example** on how **certification** can be **applied**

Examples from wind might help to see interactions and time lines.

Durations

Not enough time to do a real workshop

Good mix of standpoints and speakers

Very clear presentations despite the technicality of the matter

Very open discussion

Need **more background on MET-Certified** introduction - objectives not clear

Good discussion arising from standards presentation

Would be good to hear **more about the companies involved in the project** (e.g. motivations for doing the project)

Steep learning curve

EU view of standardisation is that it will be mandatory.

2. Please rate the organisation and hospitality:

Logistics & hospitality	1 Poor	2 Average	3 Good	4 Excellent	N/A
Organisation				3.6	
Venue				3.3	
Catering				3.3	

The hospitality and organisation was very well appreciated

3. What were the two best things about the workshop:

Open discussion

Being able to **easily communicate** with people from different companies and therefore expertise

Networking

Project perspective

The **mix of stakeholders present**

The **flexibility of the workshop**

Interaction between participants

Illustrative presentations

Collaboration with members during the workshop

Information gathered about future meetings

Have **participant from every sectors**

Split the group to better exchange

Good exchange of the various stakeholder groups.

Having **split in working groups** for part of the workshop

Slide deck

Networking

The **group project** (it was maybe a bit too long)

the **catering**

Case studies

BV presence

Groups outputs

To interact and network with people from **different backgrounds**.

To learn more about the **certification process**

Good moderation (mentioned several times)

pleasant interaction (mentioned several times)

Good interaction (mentioned several times-

Good overview

Networking facilities;

Information sharing (mentioned several times)

Group size was just right, not to big, not to small.

Clear view of project goals.

Need for certification existing & relevant.

Many different stakeholders represented.

Explanation of the structure of standards & norms.

Good overview of the certification process and the MET-CERTIFIED project

Lively discussion

Certification process

Interaction

Getting to know the system of standardisation/certification

Diverse group of stakeholders

Good mix of presentations and discussion

Knowledge of certification

Quality of attendant

Interest of the topics

Good overview of certification scheme and purpose

Insurance point of view very interesting

Presentation on insurance

Broad and in depth discussions

Exchange between the participants

Stakeholders with different involvement

All actors involved at the same time

Clear explanation of the different topics

Declination of certification

Point of view of bankers

Sharing of information

Technical and financial precisions due to discussions

Overall, participants of the workshop have the feeling of clear presentations and a good overview of certification and standardization. The interest of the topics and the diversity and quality of attendants was the main strength. They also appreciate to have all actors involved in an MRE project at the same table and share information that could be useful for everyone.

Most common answers: • Effectiveness and value of the group discussions • Variety and quality of the attendees • Opportunity to feedback on IEC standards used so far • Hearing motivations of insurers in relation to certification • Realise what the main issues of the different companies in the sector • Improving understanding of standards and certifications

4. Which two things about the workshop would you change:

Shorter

More to the point

Being able to close the blinds as the PowerPoint was hard to read (too bright).

Have cards with our name in order to better identify different actors.

Wider representation from marine Energy (Wave for example)

As far as people are not coming from a “certification background”, I would explain the process with more detail using examples.

Include presentation or viewpoint of CB;

Seating in schoolstyle (desk for writing / taking note);

Include some test cases: brief historical examples of how standards were adapted to integrate new technologies in the past.

Better explanation of MET-CERTIFIED expected impacts.

No presence of CB;

Focus on tidal turbines, what about tidal kites?

Cold due to airco;

Lack of structure in presentation

Less dense information on the sheets

Some more time for a structural discussion on topics

A speaker of one of the companies involved

Make clear what expertise you want to add

Duration

Time control

More involvement of large Offshore companies

Maybe some practical feedback of certification work based on a real life case could be useful

More discussion about OTEC

Lack of communication about standards release

Summary of answers: • Discussions should be more structured • Provide more background information on the MET-Certified project • Provide a briefing note beforehand, including info on the standards • Include some examples of standard details in the slides

• Presentations were not always clear (many terms not explained e.g. WG, OD, IECRE) • Get more developers/engineers to attend to discuss the specific issues within the industry

• Would have been good to hear more about the organisations involved in the project, and what their experiences were

5. How would you rate the workshop overall? (please circle)

Rate from 1 to 5, with 5 being the best/highest score

1	2	3	4.0	5
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The workshops were highly appreciated

6. Do you have any other feedback you wish to add?

Would have been good to have a review of existing standards.

Is there any information of CB that can be shared?

Do contact me

Introductions took too long (45 min)

Extended introduction was a good idea, because it allowed people to talk freely without the context of the presentations and later you discover how everything falls into place

Next time prepare part of your Flip-Over scheme with categories, so that the introduction can go faster and people can see the context

Plan for the afternoon, not the morning. People will rush off to go to afternoon appointments. If you have people for the afternoon, they will stay on for networking.

3 hours is not enough to cover all.

Thanks to BV for organising

Not necessarily have a standard set of presentations - could not easily put our own stamp on proceedings.

• Time & money is a scarce resource for technology developers but we are willing to contribute in formats like workshops etc. if information is provided in advance and feedback can be gathered efficiently. I think we can contribute a lot to the effort of developing useful standards, but it needs to be well organised.