

# Boosting Innovation through standards and certification

Deliverable D1.2.1

*Exploring the IEC technical specification and certification schemes for marine energy convertors, covering tidal and river stream, wave energy and OTEC*

Report on workshop held in San Jose as part of PAMEC 2020  
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# 1. Attendance

We had 22 participants mainly from Costa Rica (8), Mexico (7), US (3) and some individuals from Colombia, Chile

Peter	Scheijgrond	DMEC, NL	Test facility
Carrie	Schmaus	US Department of Energy, WPTO, US	Government
Gabriel	García Medina	Pacific Northwest National Laboratory, US	Research Institute
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Diego Eduardo	Galván Pozos	CICESE, Mexico	Research Institute
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Mateo	Roldan Carvajal	National University of Colombia	University
Dernis	Mediavilla	Energía Marina SpA - MERIC, Chile	Test facility
Alessandra	Salgado	International Renewable Energy Agency	Intergovernmental Organisation

## 2. Meeting location

Faculty of Engineering, University of Costa Rica, San Jose

Meeting Schedule Start: 15:30 - 18:00



*Group photo of participants of 2 workshops held in parallel at Faculty of Engineering, University of Costa Rica, San Jose*

## 3. Agenda

15:30 Welcome & introductions

15:45 What are IEC TC 114 technical specifications for marine energy convertors and how does certification work under IEC RE

16:00 break

16:15 The value of Certification (interactive group session)

16:45 Your role in certification (interactive group session)

17:15 IEC Young Professionals Programme

17:45 wrap up & summary

18:00 close

## 4. Introduction & motivation

The workshop started with a roll call and short introductions, categorizing each participant in terms of Technology Developer, Test Lab, Certification Body, National Member Body, End-User to quickly start understanding their position and potential in certification services.



*Categorizing participants according to their role in certification.*

The main objectives of this workshop are:

1. Building relationships with end-users of certification products and understanding their needs for certification.
2. Increase involvement from Latin Americas and support countries to join IEC TC114 and IECRE related activities through membership or active application of the system
3. Increase involvement from service providers, such as researchers, test facilities and certification bodies to start applying the system in their work

## 5. MET-Certified Presentations

See separate Powerpoint presentation

### 5.1. MET-CERTIFIED, IEC TC114 Standards and IECRE certification.

See presentation



*Peter Scheijgrond from DMEC explaining how IEC TC114 works and certification under IECRE*

## 5.2. Getting involved, Young Professional Programme

See presentation.



*Carrie Schmaus from US Department of Energy sharing her experience of being part of the IEC Young Professionals programme*

The next IEC Young Professionals Workshop will be held in Stockholm, Sweden from 5 - 9 October 2020 in parallel with IEC's General Meeting.

Those who are interested in the programme are encouraged to contact any of us or their National Member Bodies and apply asap via [https://www.iec.ch/members\\_experts/ypp/programme/](https://www.iec.ch/members_experts/ypp/programme/)

## 6. Break-out sessions

### 6.1. Pros and cons of certification

After the break, the participants were divided into two groups. One group discussed and collect strong arguments against applying certification in the development of marine renewables and the other group discussed benefits of certification.



*Two groups discussing the pros and cons of applying certification*

#### Cons of Certification:

- Cost (compared to other priorities in the business, startups have competing priorities with limited funding)
- Not a standard/ IEC subject to change
- Favours technologically advanced countries and thus increases gap between rich/poor countries
- Does not consider local conditions
- Does not guarantee financial benefits or loans
- The standards certification process takes too long
- Standards lag behind technological development
- No standard yet for salinity gradients
- Risk cost

#### Pros of Certification:

- Allows for comparison of devices using the same metrics
- Safer investments for banks and generally easier to obtain funding
- Derisk (less risky) partnerships
- Quality assurance from any country
- Allows for global trade
- Customer/ end user confidence
- Provides baseline for testing
- Provides researchers with abaseline to improve upon
- Saves developers time ( = money)

The results from each group were shared and discussed. We concluded that certification is not a matter of “if” but “when”.

## 6.2. Your role in certification

In the final break-out session, pairs of participants discussed:

- How they could apply standards or certification in their work
- What they would need to do
- Their first next action

After about 20 minutes we shared the feedback of each person.

Some highlights:

IRENA intends to promote the use of IEC certification in a future publication

Mateo from University of Colombia would like to propose a standard be developed for Salinity Gradient resource assessment. A new technical standard requires a minimum three member bodies and with interest from Columbia and Mexico it is likely that Netherlands would be interested improving standards participation.

Several Mexican students involved in wave and tidal project could consult the resource assessment standards

MERIC, Chile would like to try (again) to become member of TC114 and see how MERIC can start developing services around certification

The two students from the University of Costa Rica expressed interest in reaching out to INTECO to support Costa Rica’s involvement in TC114.



Peter, Carrie, Nathan and Gabe offer to work with Dominican Republic (via INDOCAL), Costa Rica (INTECO), Chile (INN), Colombia (ICONTEC) and Mexico (DGN) to get them become members or observers of IEC TC114. Chile, Colombia and Mexico are already IEC-members, so to become Observers will be relatively simple.

## 7. Post-workshop visit of iMARES facilities

After the workshop, participants of the 2 parallel workshops were invited to view the new facilities of iMARES (La Unidad de Ingeniería Marítima de Ríos y Estuarios): a state-of-the-art wave tank and wave and currents flume. The research at iMARES aims to improve the quality of design of coastal works and support the management of marine and coastal ecosystems. Among its main functions are: determination of wave conditions and extraordinary flows, flood zones, erosion danger and sediment transport. The facilities lend themselves perfectly for testing models of offshore renewable energy systems such as (floating) offshore wind turbines, wave energy systems, tidal turbines and offshore floating solar.

