

# OpenHydro

OERA R&D conference | May 21st 2014

## Agenda

### 1. Tidal

### 2. R&D

- Turbine Research
- Installation Research
- Optimization Research

### 3. Commercial Development

### 4. OpenHydro and DCNS : Road to Industrialization

## Agenda

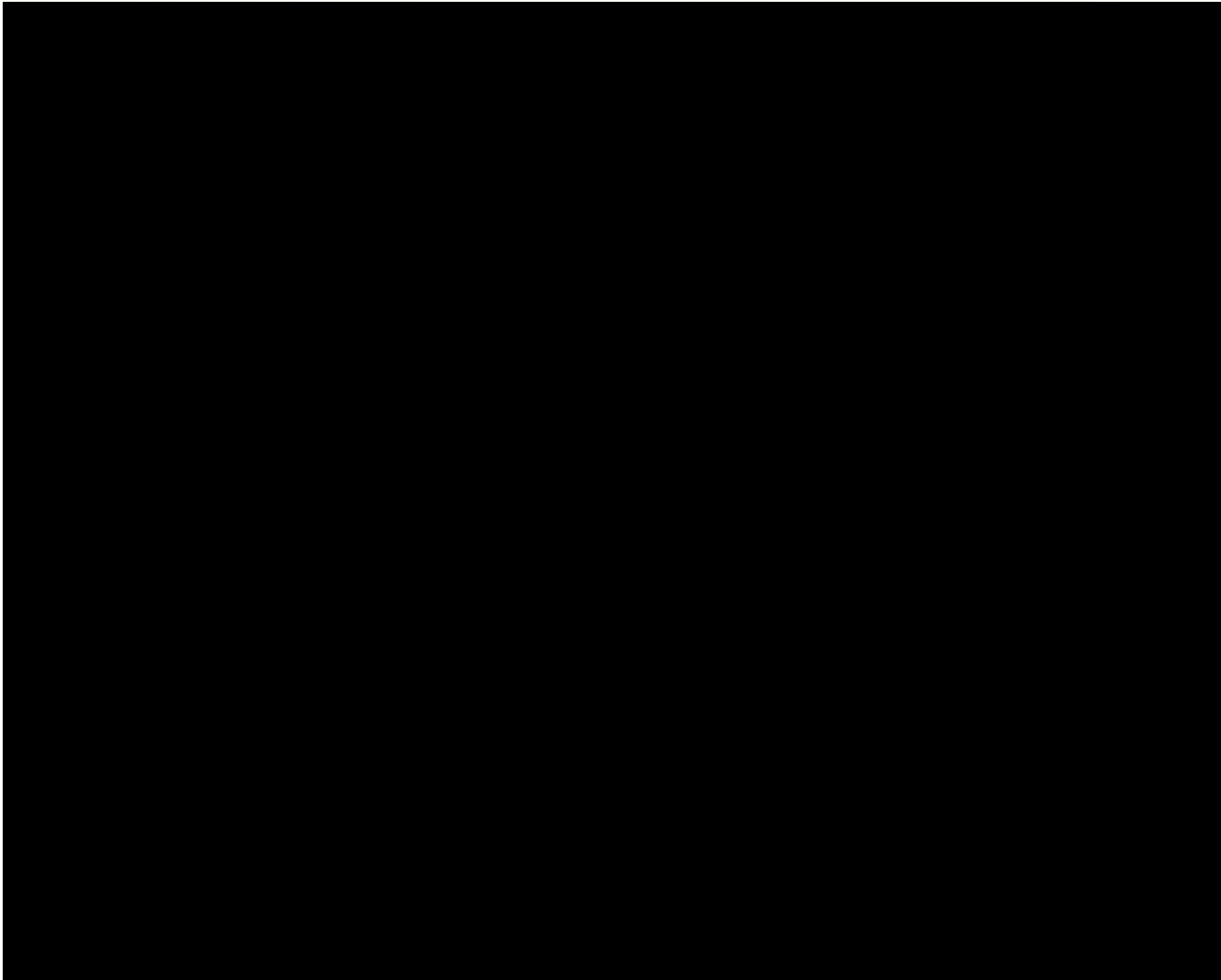
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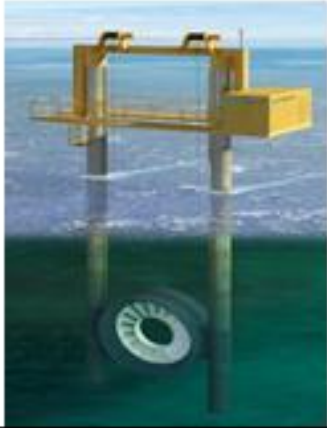
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2. R&D :
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## Turbine Testing

- ❑ Turbine testing at EMEC since 2006.
- ❑ Grid connection since 2008 - first tidal energy onto UK grid.
- ❑ Environmental monitoring.





**2006**

**2008**

**2009**

**2011**

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### 1. Tidal

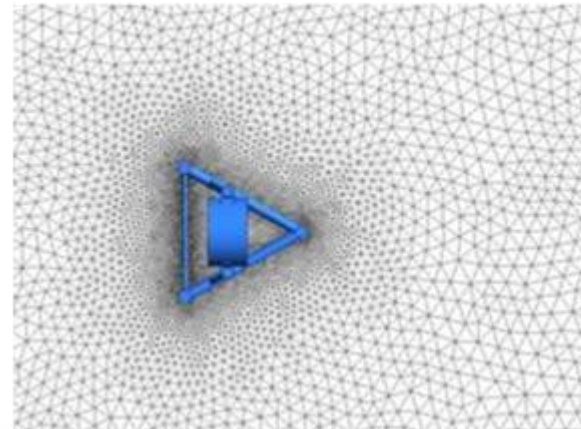
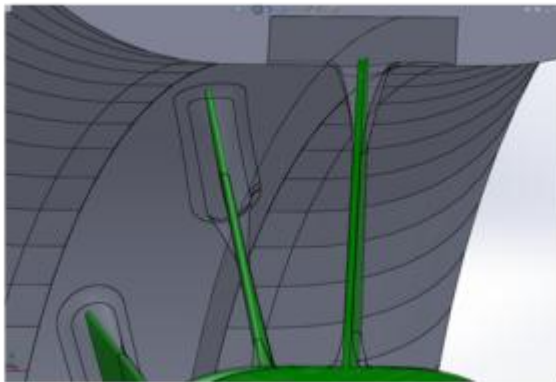
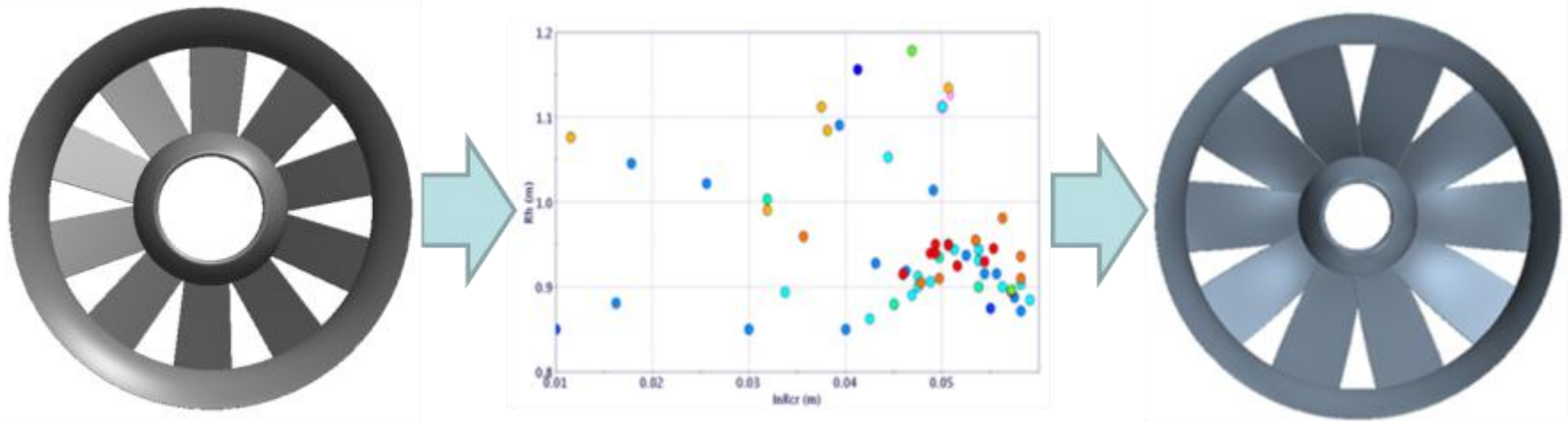
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- Turbine Research
- Installation Research
- **Optimization Research**

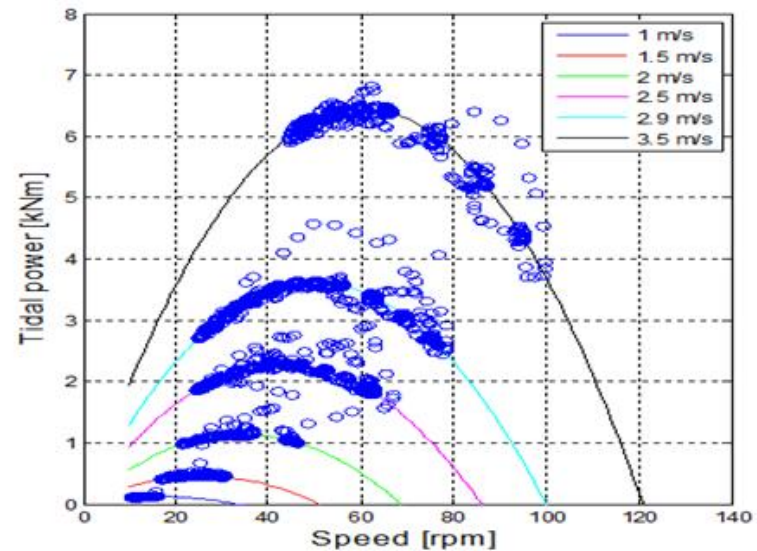
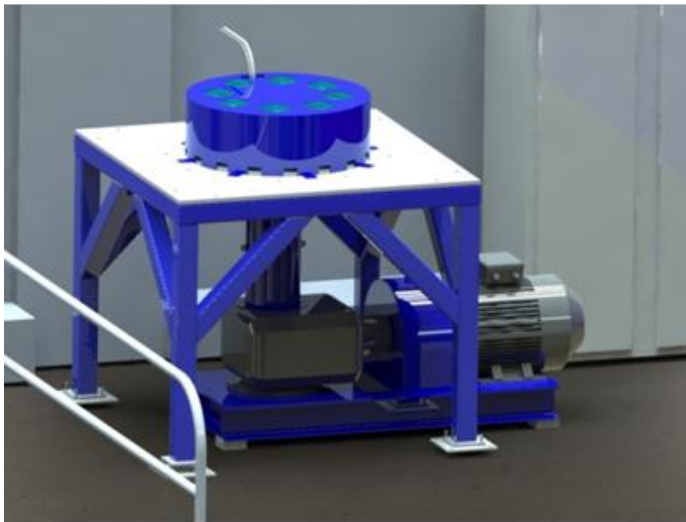
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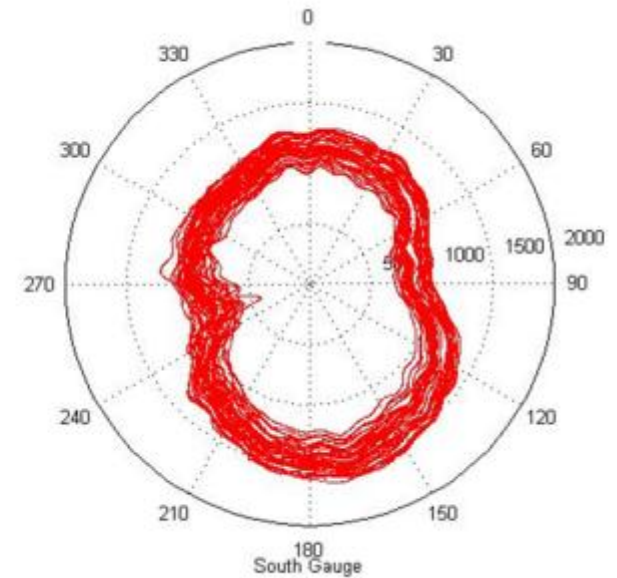
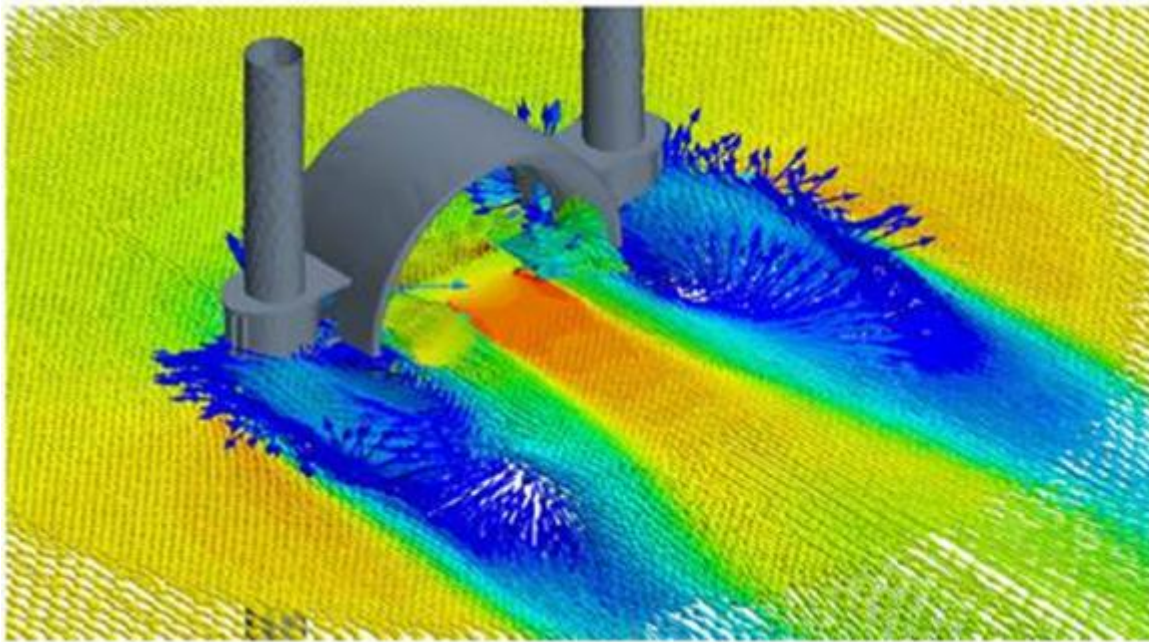
## Performance – Turbine Optimization



## Power Conversion – Generator Test Rig/EMEC



## Site characterization – Validation



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## Commercial Project

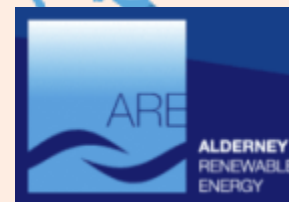
- Given the timescales involved, it is important to build a project pipeline in parallel with technology development.

## Project Pipeline

- Emera | Bay of Fundy
- EDF | Paimpol-Bréhat
- Bord Gáis | Tidal Ventures
- SSE | Brims Head
- ARE | Alderney
- EDF EN | Normandie Hydro
- SnoPUD | Admiralty Inlet



## Project Pipeline



please click  
image to close

- ❑ OpenHydro has a strong pipeline of project opportunities in multiple jurisdictions.



## Bay of Fundy



**2015**

**2 turbine array**

**4MW**

**Grid-connected**

**Local manufacturing**

**2020+**

**Commercial scale farm**

**300MW**

**Supplying over 75,000 homes**

**Up to 950 jobs**

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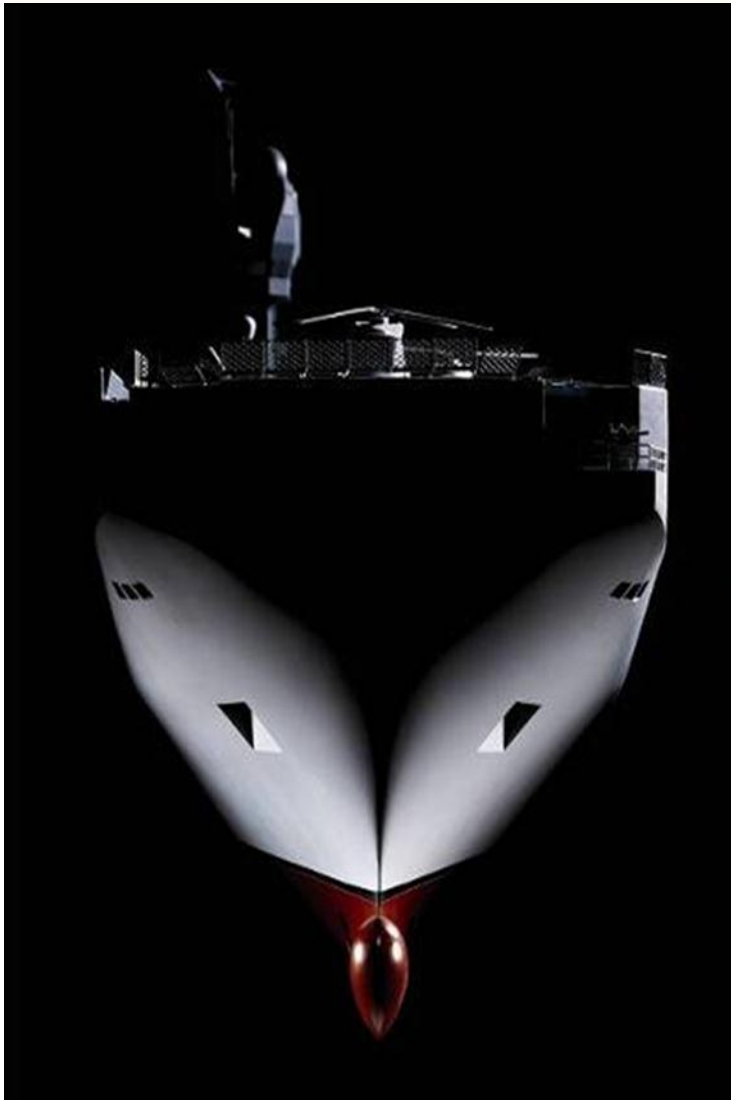
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## Local Manufacture

- ❑ OpenHydro plans on assembling commercial turbines close to the major tidal sites, this will result in significant industrial investment and job creation.
- ❑ For a facility producing 50 turbines/year OpenHydro assumes the creation of 950 jobs (direct and indirect).







**2,9** billion  
euros in  
revenue

**14** billion  
euros in **order**  
**book**

**13 200**  
employees

**1/3** of revenue  
from int'l sales &  
cooperation  
programmes



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