



circular ocean



Eco-innovation and Port systems related to *used* fishing nets, ropes and components

18th April 2018

NTNU

Alesund, Norway

Professor Martin Charter

Director

The Centre for Sustainable Design

UCA

UK

FNRCs

Fishing nets, ropes and
components







SUMMARY OF THE FINDINGS OF PORT-RELATED FEASIBILITY STUDIES RELATED TO THE COLLECTION AND RECYCLING OF WASTE FISHING NETS AND ROPES IN GREENLAND, IRELAND, NORWAY AND SCOTLAND

Professor Martin Charter

Director

The Centre for Sustainable Design @

University for the Creative Arts

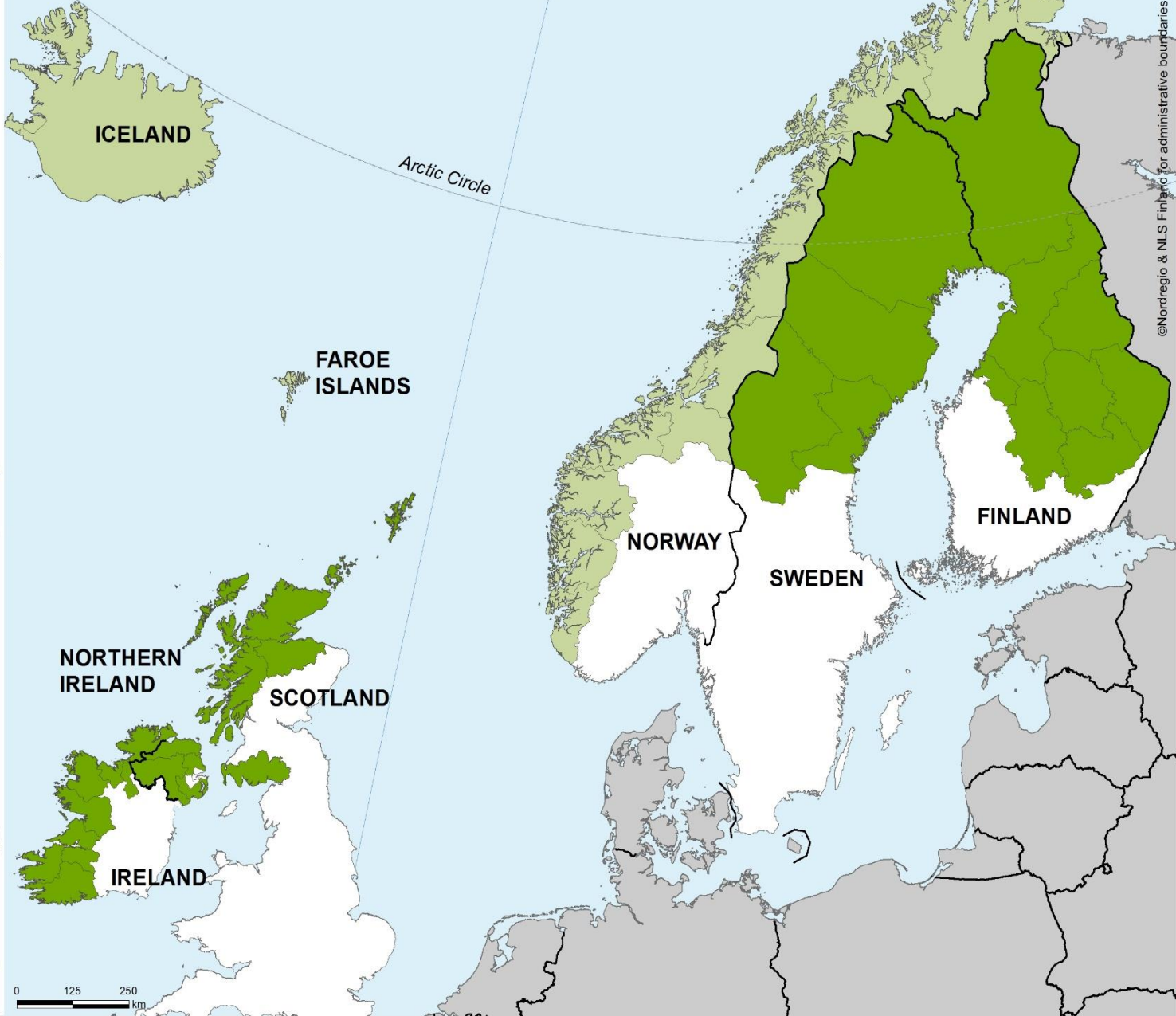
UK

November 2017

Regions belonging, entirely or partially, to the Northern Periphery and Arctic Programme area

-  National Boundary
-  in EU Member States
-  Outside the EU

Northern Periphery and Arctic Programme Area 2014 – 2020



SVALBARD



GREENLAND

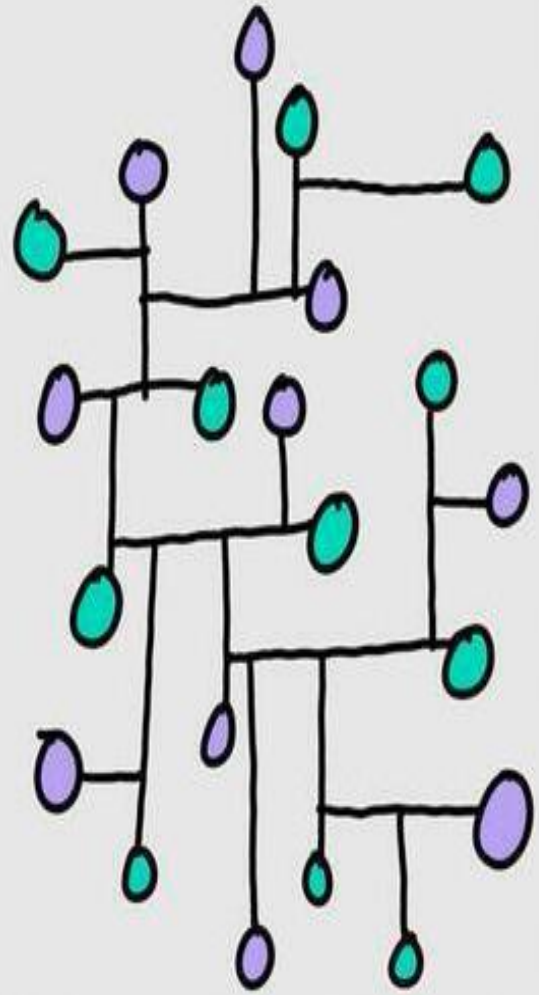




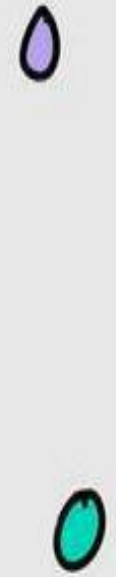
information:



knowledge:



Wisdom:



awarded for ex
gion of
ance of outstanding
legis. abbr. Legislation; legisla
create or pass laws. (ləj'ī-slāt') v. -latē
legislation. [Back-formation from LEGISLATOR.]
leg·is·late (ləj'ī-slā'tiv) adj. To create or bring
or process of legislating; lawmaking. 2. A propo
law or group of laws. (ləj'ī-slā'shən) n. Abbr. leg, legis
leg·is·la·tion (ləj'ī-slā'tiv) adj. Abbr. leg, legis
relating to the enactment of laws. 2. Resulting from
by legislation. 3. Having the power to create laws
legislate. 4. Of or relating to a legislature. -legislā
legislative body of a government; a legislature. -leg
leg·is·lā·tor (ləj'ī-slā'tər) n. One that creates
member of a legislative body.
from Latin legis lātor: legis + lātor, proposer
propose, legis
lātor / ē-

99%



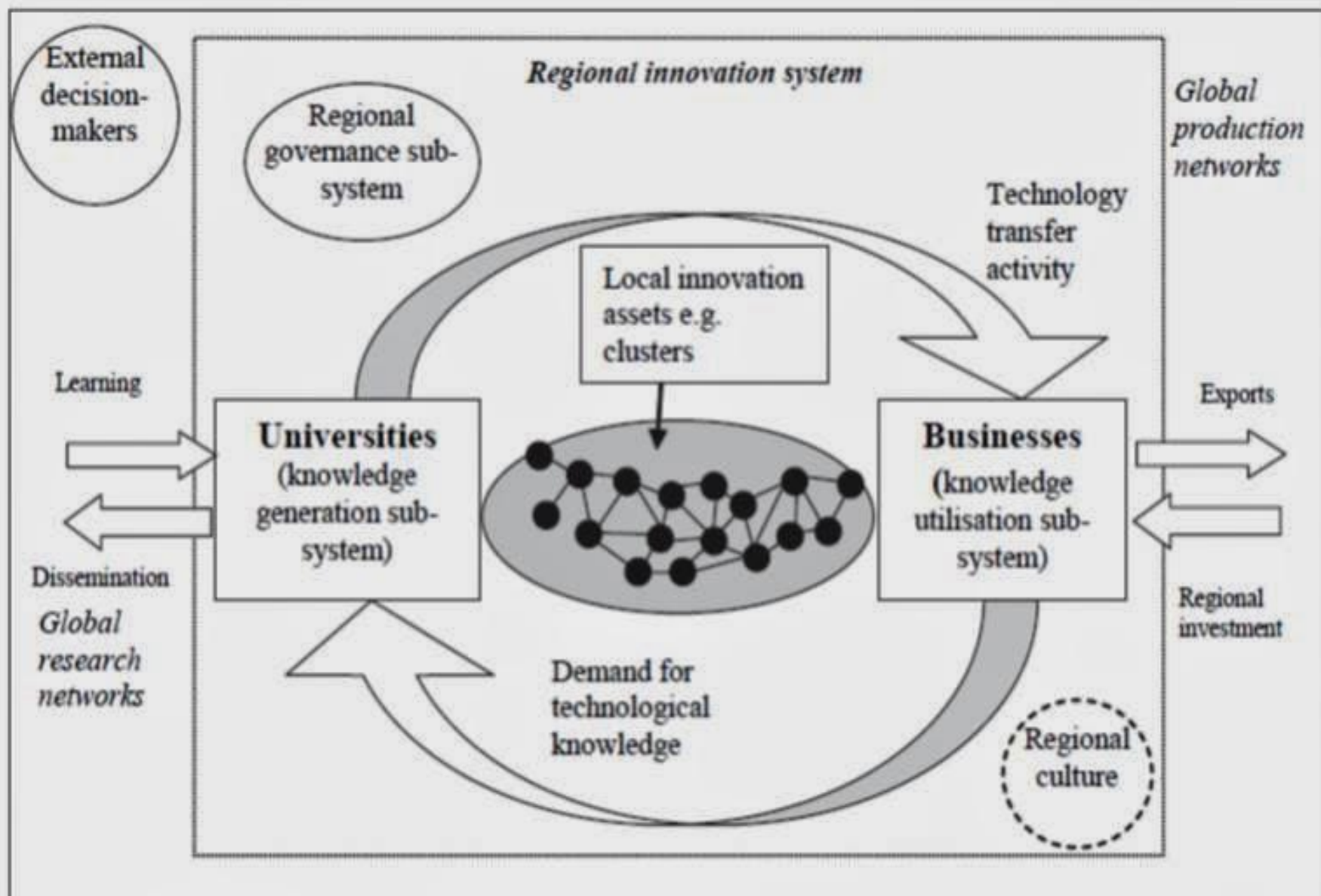






WASTE MANAGEMENT

AN IDEAL-TYPE REGIONAL INNOVATION SYSTEM



Source: in OECD (2008) after Cooke & Piccaluga, 2004¹⁰



ECO-INNOVATE!

A guide to eco-innovation
for SMEs and business coaches



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EMPANADA
VARIADAS

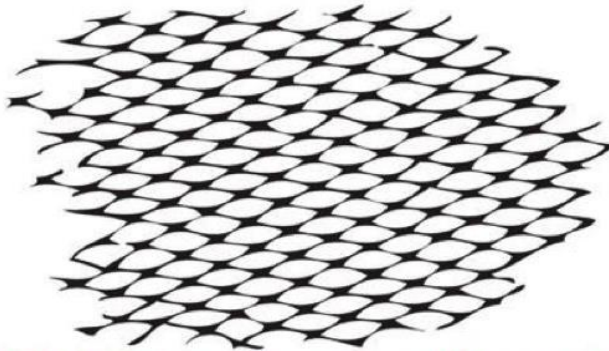


BUREO

SKATEBOARDS FOR PLASTIC-FREE OCEANS

Sea to Chair

Humanscale



Fishing nets are collected from the coast of Chile



Nets are recycled into pellets



Pellets are formed into premium chair components



Fishy
Filaments



CIRCULAR
MAKE
SPACES

IN REDISTRIBUTED
MANUFACTURING

COIN*labs*

A thoughtpiece to stimulate discussion

COINlab – creating value from ocean plastic waste

Circular Ocean Innovation Laboratory

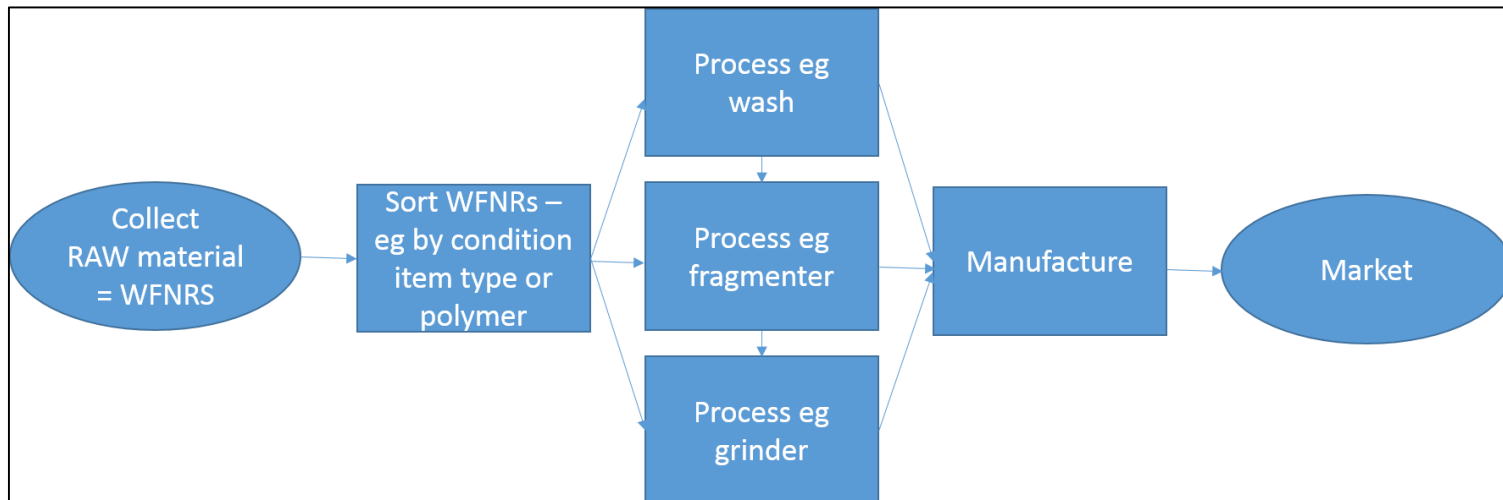
- A place/space that *enables* the design & development of products and/or services utilising WFNRCs as the *major* source of raw materials
- Labs must *aim* to be revenue generating to support the creation of wealth and jobs in the fishing communities that have a stake in the challenges and opportunities presented by WFNRCs
- Seed funding is likely to be required for set-up and early-stage of operation

COIN/lab: Scope

A COIN/lab could be:

- Solely concerned with ideation and iteration and/or prototyping to produce solutions for any stage of the processing of *waste* FNRCs;
- Focussed on processing *waste* FNRCs (eg washing, depolymerisation) to provide intermediate materials to feed higher tiers in B2B supply chains;
- A full manufacturing operation, taking *waste* FNRCs and delivering B2C/B2B/B2G products to market

Highly-simplified flow



COIN*lab*: Partners

The chosen scope of a COIN*lab*, will determine the types of partners that are best suited to collaborate. Examples might include:

- Community workshops/grassroots innovators (eg makerspaces, hackspaces, Fablabs, Repair Cafes) – 10 within 50km of named CO project ports and a further 20 between 50 and 200km from ports;
- Social businesses;
- Higher Education/research Institutions;
- Corporate – funding, intellectual input, knowledge of markets;
- Governmental organisations (local, national, international).

COIN*lab*: Place/Space

A COIN*lab* could be:

- In a dedicated/shared location
- Vacant premises/or those with underutilised space available or;
- Dispersed, in spoke and wheel arrangement – this arrangement might be suitable for ideation focussed COIN*labs*, with research spokes and a central point for management and collation of inputs and outputs. Similarly, this might be applicable to COIN*lab* collaboration and/or the manufacture of sub-components/materials



Northern Periphery and Arctic Programme
2014-2020



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Circular Ocean

The Centre for Sustainable Design® at University for the Creative Arts is a partner in Circular Ocean and have delivered a range of eco-innovation outputs in the project

[Background](#)

[Conference](#)

[Webinars](#)

[#Net_Hack_Challenge](#)

[Serious Game](#)

[Reports](#)

[Videos](#)

Circular Ocean is funded under the ERDF Interreg VB Northern Periphery and Arctic (NPA) Programme.



ARCTIC TECHNOLOGY CENTRE



NTNU

Norwegian University of Science and Technology



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University for the Creative Arts

UK

November 2017



Circular Ocean
Report Type 04-2017

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Circular Ocean: Eco-innovation Guide for Start-ups, Entrepreneurs & Small and Medium-Sized Enterprises (SMEs)

**Professor Martin Charter, The Centre for Sustainable
Design ®, University for the Creative Arts
Søren Femmer Jensen, Co-Creative**

January 2018

Circular Ocean
Report Type 04-2017

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Products from Waste Fishing Nets

**Accessories, Clothing, Footwear,
Home Ware, Recreation**

**Martin Charter, Ros Carruthers
& Soren Femmer Jensen**

February 2018





Rhiannon Hunt & Martin Charter

Circular Ocean WP3.1:

Potential applications of 3D

Printing (3DP) in the recycling

of Fishing Nets & Ropes

(FNR's)



Northern Periphery and
Arctic Programme
2014-2020



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Circular Ocean: Eco-innovation for Start-ups and SMEs
Complimentary Webinar from Circular Ocean
9th April 2018 6:30 PM GMT

Are you interested in transforming used fishing nets, ropes and components (FNRCs) into new business opportunities?

In a 1-hour webinar, you will learn about the practical eco-innovation from Martin Charter, Professor of Innovation & Sustainability and Director, The Centre for Sustainable Design, University for the Creative Arts. Martin will bring his extensive experience of working with 600+ eco-innovative micro SMEs and start-ups, and the lessons learnt from Eco-innovate (2013 & 2016) [60,000+ downloads], Greener Marketing (1992 & 1999), Sustainable Solutions (2001) and Design for the Circular Economy (forthcoming 2018). This will be reinforced from recent 'state of the art' research completed in Circular Ocean into FNRC collection and recycling in ports, products and eco-innovation, and lessons learnt from mentoring start-ups.

Circular Ocean is funded by Northern Periphery & Arctic Programme (European Regional Development Fund) that is being organised between 2015-2018.

Practical eco-innovation advice will be given on developing products utilising FNRCs. This will include:

- Case studies
- Business models
- R&D
- Branding
- Marketing
- Crowdfunding

The webinar is targeted at those with new ideas, start-ups and companies with less than 250 employees based in NPA region (Norway, Sweden, Finland, Iceland west coast of Republic of Ireland, northern areas of Scotland, Northern Ireland (except for Belfast), Greenland and Faroe Islands).

To book your place email Ros on rcarruthers@uca.ac.uk



Northern Periphery and
Arctic Programme
2014-2020



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#Net_Hack Challenge

Open Innovation for the re-use of Fishing Nets and Ropes

640,000 tonnes of fishing nets and ropes are dumped into the ocean each year injuring and killing marine mammals and birds, and disrupting shipping

#Net_Hack Challenge is a unique process aimed at developing new solutions for the re-use of polymer fishing nets and ropes that incorporates an innovative event and online platform.

#Net_Hack Challenge brings together Design Teams to tackle real-life Challenges set by a range of experts in an open innovation format. The process has been developed by Circular Ocean partner, Professor Martin Charter from [The Centre for Sustainable Design](#)® at [University for the Creative Arts](#) and builds on a series of creative, fun and innovative processes derived from his unique [GreenThink](#) process.

#Net_Hack Challenge process aims to develop new concepts derived from waste polymer fishing nets and ropes that are then open-sourced for further development. New concepts that emerge from events are then added to a website platform where co-design and co-development is encouraged between global innovators and designers and/or the original Design Teams.

#Net-Hack_Challenge is part of the [Circular Ocean](#) project. Circular Ocean is funded by Northern Periphery & Arctic Programme (European Regional Development Fund) and is being organised between 2015-2018.

Within Circular Ocean a number of #Net_Hack Challenges have been organised or are planned:

- [Farnham, UK \(26th – 27th October 2016\)](#)
- [Reykjavik, Iceland \(17th – 18th July 2017\)](#)
- [Farnham, UK \(16th November 2017\)](#)

For more information on the #Net_Hack Challenge contact mcharter@uca.ac.uk





Claire

Michelle

Christine

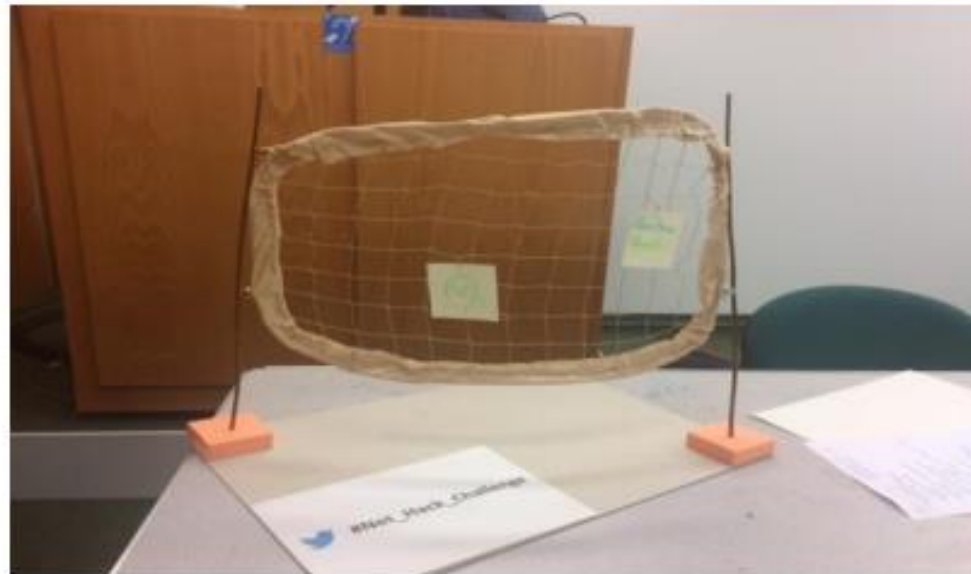
Product Name

Rainbow Panels: 3 in 1 Modula Net Display System for Schools

Product Concept

There six features of the concept: (i) net farmed with pop up system; (ii) freestanding display – with poles & (folding) stands; (iii) wall display – with either temporary or permanent fixings; (iv) ceiling display with pulley system; (v) pop-up 3D structures for role play; (vi) education pack focused on issues related to abandoned fishing nets

Product Visualisation



Circular Ocean
ChemHack solution
July 2017

ERI
Environmental Research Institute
North Highland College



Kenneth G. Boyd

Circular Ocean #ChemHack

**Towards a solution to remove anti-foulants
from waste fishing nets**

July 2017



Adapting the Scenario Exploration System to propose solutions to community issues

[HOME](#) » [REACHING OUT](#) » [ADAPTING THE SCENARIO EXPLORATION SYSTEM TO PROPOSE SOLUTIONS TO COMMUNITY ISSUES](#) [« PREVIOUS POST](#) [NEXT POST »](#)

After two years since its birth, the Scenario Exploration System is expanding its range of uses and is showing its adaptability.

The Circular Ocean project

On March 29, the [Circular Ocean project](#) invited us to a project consortium meeting held under the auspices of Macroom E, a wholly owned subsidiary of the Cork County Council, Ireland. This EU funded project is pursuing innovative and sustainable solutions for marine plastic waste, seeking to inspire enterprises and entrepreneurs to realise the hidden opportunities of discarded fishing nets and ropes in the Northern Periphery & Arctic region.

A crucial issue for the project is stakeholder engagement, and one of the main challenges in this respect is to engage constructively with the fishing community and other stakeholders. This is essential to secure the collection of waste fishing nets and to design sustainable solutions for the use and recycling of fishing nets and ropes.

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The Circular Ocean Innovation Competition 2018

The Circular Ocean Innovation Competition 2018 is open to submissions from individuals and/or multi-disciplinary teams of entrepreneurs, inventors, designers and students worldwide. Entrants are invited to submit ideas and solutions to one or more of 15 Challenges that have been developed in consultation with experts from the NPA region. These Challenges are sub-divided into 4 categories:

- Category 1 - Solutions that create new markets for used FNRC
- Category 2 - Solutions that transform specific FNRC materials
- Category 3 - Solutions that enable the FNRC reuse and recycling
- Category 4 - Solutions driven by smart machinery and technical innovations

Q&A

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