

**GUIDE #18** 

# Smart Coastal Areas: A Guide for FLAGs





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## Table of content

Introduction	4
1. Sustainability	6
Untapped resources, new opportunities  Dealing with invasive species.  Water as a common resource in watersheds and coastal areas  Community renewable energies.	
2. Innovation	10
Supporting Blue Bioeconomy initiatives  Maritime clusters: Scaling up bioeconomy projects  Technological innovation as a driver for smart resource use  Factsheet i: How to organise a Hackathon and why?  3. Integration	11 12 <b>14</b>
Ensuring basic public services: health and transport Integration through 'Smart Hubs' and collaboration Remote working, one smart way of addressing depopulation Community broadband Bridging the digital divide.	
4. Collaboration	23
Smart partnerships Intergenerational relationships Cross-field collaboration Factsheet ii: Stakeholder mapping	24 25
5. Smart Financing	29
Microfinancing and credit unions  Approaches to crowdfunding  Community crowdfunding  Financial return crowdfunding  Developing a sustainable 'blended' financial model through FLAGs  Factsheet iii: Developing a successful crowdfunding campaign	31 32 32

## Introduction

## What is a smart coastal area?

"A smart coastal area is a vibrant community where sharing and supporting is the reflex. It is a place where shared values and local pride create solutions for development, service availability and financing. Smart partnerships, networks, and the sustainable use of resources are keys to this way of life."



Carl Dahlberg, Leader Bohuskust och Gränsbygd, SE



"A primary issue with coastal areas must be the provision, development, and access to smart finance. Barriers to financing for the micro and small enterprises in coastal areas remains a complex and difficult problem. A potential solution is the development of a 'blended financial model' for micro and small enterprises, which engages elements of loan financing, equity financing and crowdfunding (equity / loan or mezzanine). Such a mix should be flexible enough to assist coastal areas in overcoming the barriers to financial access and providing dynamic access to financial solutions."

Tony O'Rourke, Former Professor of Banking and Finance, UK

"First, smart areas try to minimise fossil fuel consumption. Mostly because fewer fuel expenses mean better profitability, but there is, of course, the environmental aspect, too. One efficient way to do this is cooperation between fishermen, especially when it comes to logistics. Secondly, areas must be smart in using resources. The old equation 'whole fish – fillets = waste' is no longer valid. We must achieve this: 'whole fish = fillets + pet food + medical compounds + compounds for cosmetics industry +...' Small coastal areas cannot do this alone; it is a task for the whole blue economy."



Markku Ahonen, FLAG Lapland, Fl



"A smart coastal area is a place where people and businesses work together to use know-how, resources and infrastructure in a new and innovative way. The focus is on reducing waste and environmental impact, and increasing quality, utilisation and value."

Vilhjálmur Jens Árnason, Project Manager at Icelandic Ocean Cluster, IS

The concepts of smart and sustainable, in terms of regional development, are not new. Since the introduction of the term'smart' by the EU in its Europe 2020 strategy¹ there has been an increased interest in how the concept, originally introduced to urban areas (i.e. Smart Cities²), can be re-focused and utilised in rural areas (i.e. Smart Villages³). Despite multiple definitions of the term smart, put plainly, the concept is centred on fostering new ideas and developing more strategic ways of thinking.⁴

Compared to inland areas, coastal areas have their own, and often unique, set of challenges. Furthermore, each coastal region is different and has its own specific needs and vision of development. As such, and as a result, how can a 'smart coastal area' be defined? Based on the experience and work related to Smart Cities and later, Smart Villages, common themes can be drawn upon which help to form an understanding of smart areas in general which can be aptly applied to coastal regions. These themes include:

- **Sustainability:** Smart coastal areas think in a sustainable way. They save energy, water, food, and natural, human and financial resources. They continue to prosper in an era of transition while reducing carbon footprints and waste.
- Innovation: Smart coastal areas encourage innovation, which is not only based on technology, but also on social capital. A smart coastal area encourages its governance, businesses and inhabitants, to come up with new ways of doing things; new ways of communicating, organising, sharing and producing to develop cohesion and dynamism through innovative services.
- **Integration:** Social inclusion is key. Smart coastal areas leave no one in their communities behind and provide the required services to achieve this. They enrich the lives of their communities through smarter ways of dealing with (and reducing) social divisions in education, gender, health, safety, and general well-being.
- **Collaboration:** In a smart coastal area, public services operate in an open environment. Smart coastal areas exchange their data and share projects making services more efficient and effective. They are typically user-focused and create economies of scale.<sup>5</sup>
- **Smart financing:** Smart local development is financed by a combination of the above. Local development projects are funded in a sustainable way, using new and innovative approaches which rely on collaboration and integration.

The aim of this guide is to give Fisheries Local Action Groups (FLAGs) an introduction to the concept of 'smart coastal areas' in the context of these five key themes, providing technical advice and practical examples of how they can encourage and support smarter initiatives in their areas. This guide is based on the experiences of FLAGs themselves, the existing initiatives across EU coastal areas – and outside the EU when particularly relevant – and on the discussions held at the FARNET seminar on the topic.

<sup>1</sup> European Commission (2010) 'Europe 2020: A strategy for smart, sustainable and inclusive growth'.

<sup>2</sup> For an overview, see Allwinkle, S. and Cruickshank, P. (2011) 'Creating smart-er cities: An overview', Journal of Urban Technology, 18(2), pp. 1-16.

<sup>3</sup> For an overview, see ENRD (2017) 'Smart Villages'.

<sup>4</sup> Naldi, L., et al. (2015) 'What is smart rural development?', Journal of Rural Studies, 40(2015), pp. 1-120.

<sup>5</sup> Adapted from the 'Brussels Smart City' Projects.

## 1. Sustainability

Companies and individuals are increasingly concerned about making the best use of natural resources, for both economic and ecological reasons. The smart use of by-catches, undervalued species, and the optimisation of production systems are central to improving the use of local resources in coastal areas, thereby ensuring their sustainability. This chapter demonstrates how 'smarter' thinking can lead to better and more sustainable solutions to local challenges related to the use of marine living and water resources.

## Untapped resources, new opportunities

Fish consumption in the EU remains centred around five main species – tuna, cod, salmon, Alaskan pollock, and shrimp – accounting for nearly half of all seafood consumed in 2016, leaving many species underutilised. Some Member States have recognised this issue and the potential of undervalued species in developing new products. Finland is one such example, as the Finnish Ministry of Agriculture and Forestry recently explained:

This country [Finland] has a great deal of potential when it comes to increasing the sustainable use of fish. Up to 50 million kilogrammes of undervalued fish could be caught sustainably each year. In recent years, food products made from traditionally underappreciated fish have begun to conquer the market.

The question remains: how can we deal with these underutilised species, turning them into value-added products? FLAGs can help in encouraging local initiatives aiming to address this question. In Finland, several FLAG areas have large stocks of cyprinids – such as bream and roach – and there is rising demand for these species. It is important, therefore, to find cost-effective options to increase their consumption while ensuring profitability for fishermen. For instance, the Lapland FLAG has been supporting a two-year project, launched by a fishermen's cooperative and the local municipality, to examine the economic value of minced cyprinid fish and identify whether there would be a viable market for the product. In parallel, fishermen are being trained to make minced fish from roach properly. Preliminary results showed that mincing fish for human consumption could be highly profitable, convincing the fishermen's cooperative to buy a machine for mincing roach and burbot<sup>8</sup> in greater quantities to meet and supply restaurant demand. Similarly, the East Finland FLAG is funding two cyprinids-related projects: the first aims to develop a local fishing industry around undervalued cyprinid fish products thanks to a deep-freezing innovative process; the second aims to establish business models to enhance the profitability of cyprinid fishing throughout the value chain.

<sup>6</sup> EUMOFA (2018) 'The EU fish market'.

<sup>7</sup> Finish Government and LUKE (2019) 'Roach and other cyprinid fish are an unexploited treasure in Finnish waters'.

<sup>8</sup> Burbot is a freshwater gadiform (cod-like) species, closely related to marine cod and ling.



## Two fish, one hook?

In many Finnish lakes, large cyprinid stocks negatively impact water quality. Therefore, improving the utilisation of the species has two main benefits: (1) it can help mitigate eutrophication as removing the fish also removes excess nutrients from the water and (2) value is created from underutilised species, developing a new market and source of income for fishermen.

### **Dealing with invasive species**

Due to global warming and other environmental factors, changes in the distribution of marine species have been observed. The distribution of some species has shifted north, meaning some warmer water species are decreasing in their endemic areas, and as a result, are being replaced by non-native invasive species.9 These new and invasive species are accounting for a rising proportion of catches in certain areas and can be detrimental to other endemic commercially valuable species and to the local marine ecosystem. As such, some fishing communities are now forced to adapt their fishing techniques and markets.

The Atlantic blue crab (callinectes sapidus) is one example of an invasive species causing ecological and economic damage in marine areas. The blue crab is native to the western coast of the Atlantic Ocean and is characterised by its voracity. In recent years, it has been detected in growing numbers across the Mediterranean coast. The La Safor FLAG is currently supporting a collaboration project between the local fishermen's association and scientists from the University of Valencia to (1) determine its occurrence, abundance, and ecological impact in the region, (2) develop control measures to limit the spread of this invasive species and (3) establish new market opportunities. In Chalastra, Greece, the Thessaloniki FLAG helped two entrepreneurs establish a succesful seafood conditioning and processing business which specialises in live blue crab. The crab are caught using traditional methods and supplied primarily to China and Asian communities across Europe. Through FLAG technical support and funding, local fishing communities can captitalise on invasive species, turning them into new sources of income.

#### Water as a common resource in watersheds and coastal areas

All EU Member States now use river basin management plans to protect and improve water quality in rivers, lakes, estuaries and coastal areas. As pollution is often carried downstream, collaborative efforts between inland and coastal areas are key to ensure ecological continuity and the good environmental status of coastal waters.

Some FLAGs have already contributed to the setup of collective actions to improve water quality and to ensure a management system which encompasses both the catchment basin and the coastal area. A good example is Cuan Beo, a community-based organisation established with the support of the West FLAG (Ireland), aimed at improving the quality of life, environment, economy the Galway Bay area preserving its of cultural heritage. Cuan Beo set about addressing the South Galway Bay's water quality issues by re-establishing the connection between land and sea communities, building cohesion and understanding, and thus ensuring the protection of the region's marine resources. Through Cuan Beo's engagement with the Local Authorities Waters Programme, the organisation was successful in obtaining priority status under the Water Framework Directive for two rivers that flow into South Galway Bay. More information on the project can be found here.

ICES (2017). 'Substantial changes in fish distribution identified by ICES'; Kaimuddin, A.H. (2016) 'Climate change impacts on fish species distribution. Approach using GIS, models and climate evolution scenario'; Perry et al. (2005) 'Climate Change and Distribution Shifts in Marine Fishes', Science, 308(5730), pp. 1912-1915.

Other coastal communities facing similar water quality issues around Europe can replicate this approach. For example, with the support of the Auray and Vannes FLAG, the association "CAP 2000" in South Brittany brought together fishermen, shellfish producers and farmers with the aim of improving water quality and the overall sustainability of coastal primary activities. Likewise, a former Swedish FLAG (Kustlinjen) project, focused on the Nyköping River, successfully demonstrated how effective partnerships can be used to implement a shared river basin management plan (more information here). Typically, other coordinated actions between catchment basins and coastal areas which can be initiated by FLAGs are:

- > The collection of aquatic litter (such as plastic and waste which are dumped into upstream parts of rivers and end up in the sea or littering coastal areas).
- > Awareness raising campaigns about aquatic biodiversity and ecological continuity.
- > The facilitation of working groups on connecting inland and coastal areas through river networks, catchment basins and water bodies.

### In Focus – Water Information System for Europe (WISE)



WISE (Water Information System for Europe), the European information gateway for water issues is based on a partnership between the European Commission (DG Environment, Joint Research Centre and Eurostat) and the European Environment Agency. WISE was launched as a general public web-

based service providing water-related information (interactive maps, graphs, and indicators linked with water quality and environmental status), covering inland and marine waters. This web-portal can be used both as a practical tool and an online EU database to guide the collective reflection on water resource management in FLAG areas.

## Community renewable energies

Coastal areas, thanks to their proximity to the sea or large water bodies, benefit from specific environmental conditions (i.e. wind, waves, tides and the amount of natural light), making them prime locations for the development of renewable energy sources. The technological requirements for capitalising on renewable energy sources can vary and often depends on the maturity of the industry. For example, solar and wind technologies tend to be more advanced than other renewable sectors, meaning they are not only more reliable but also more affordable, placing them within reach of most coastal communities.

Several community renewable energy projects are being developed across Europe, varying from small-scale projects (aimed at infrastructure and fitting small buildings or boats with solar panels to improve energy self-sufficiency, to large-scale endeavours aimed at providing energy to a whole community. On Bere Island (South West Ireland), local fishermen were restricted to landing their catch during daylight hours as this remote landing site had no lighting. The FLAG put local fishermen in touch with a local electrical engineer to discuss their specific requirements. The engineer designed a solar battery powered light system independent of the mains connection that led to improved safety and working conditions for the fishermen and extended their working hours.

The Eastern Asturias FLAG has supported the cofradía (fishing organisation) of Bustio to finance two projects with the aim of making its land-based operations 100% self-sufficient in renewable energy. The first one, implemented in 2014, consisted of solar panels connected to the national energy network. However, without the capacity to store energy, the solar panels could only supply the energy needed at certain times of the day. In order to achieve total energy autonomy, in 2017, the cofradía decided to add storage batteries, allowing surplus energy to be collected and used when needed. This second project also included wind turbines and a biodiesel generator to cover production downturns when there is a lack of wind and sun.

The main objectives of renewable energy projects are to:

- > reduce the cost of energy locally,
- > improve energy self-sufficiency,
- > increase reliability of energy availability (being at the end of the grid, remote areas suffer more often from power shortages) and
- > create/retain jobs/revenues locally. Indeed, the set-up of these schemes can benefit the local workforce for maintenance of the project while in some cases, community energy projects were even able to generate an income for the local community by selling surplus production to the national grid.

Though complexity will vary between different setups, it is often linked to the scale of the project. While developing a small project aimed at reducing energy consumption for individual buildings or projects is relatively straightforward and affordable for most FLAGs, developing a renewable energy scheme aimed at ensuring energy self-sufficiency for the whole community remains a complex undertaking. As with any collective endeavours, these community schemes require strong coordination at local level, with project leaders drawn from the community with the ability to combine a variety of skills:

- > technical, to ensure a minimum understanding of the technical requirements/options and
- > human, to mobilise the whole community behind the projects and help overcome likely resistance from part of the community.

The NIMBY ('Not in my backyard') syndrome is a common issue faced by this type of project and is associated with most people agreeing to the principles of a project, as long as it does not happen in their 'backyard' (i.e. as long as they are not directly affected by it). Participative/bottom-up approaches (such as CLLD) are key to communities adopting such projects and reducing the NIMBY effect, as reported by the initiators of the Samso Island renewable energy scheme in Denmark.

With regards to financing, community renewable energy schemes are likely to be on a larger scale than average FLAG projects. The substantial investments required are likely to have to come from other funding sources, with the FLAG acting as a catalyst. FLAGs can coordinate such schemes by financing pre-studies, facilitating community engagement, supporting project leaders, and in identifying financial backers. For these larger scale projects, multiple sources of funding may have to be used (see 5: Smart Financing for a blended financing model aimed at helping FLAGs identify potential funding sources).

Large-scale community renewable energy schemes are complex and require high levels of engagement with many fractions of an area's population. This inherent complexity, however, can be turned into an opportunity, contributing to, or starting, new and dynamic local developments. In the case of the above-mentioned Samso Island, the community renewable energy scheme started a wider motion and drive to improve the overall sustainability of the island (which now aims to be fossil fuel free by 2030) giving a new impetus to the island's organic and local food production sectors.

Different platforms exist to support community renewables projects, both at national and EU level. Community Energy Scotland is an example of the former, while Clean Energy for EU islands focuses on supporting Europe's island communities wanting to transition to clean energies.

## 2. Innovation

In 2012, the European Commission's 'Blue Growth' initiative highlighted the role of coastal areas and seas as drivers of innovation for the Blue Economy.10 In addition, in 2018, the European Commission put forward an action plan to develop a sustainable and circular bioeconomy in Europe.<sup>11</sup> Merging these concepts, 'Blue Bioeconomy' refers to activities which revolve around the sustainable exploitation of marine resources including fishing, aquaculture, processing, energy production. As private-public partnerships gathering local stakeholders from various sectors (fishing, research and development, education, processing, etc.), FLAGs are well placed to foster and develop blue innovation.

#### In Focus - BlueBio COFUND

The main objective of the BlueBio COFUND is to establish a coordinated research and development funding scheme of €30 million to support the development of the Blue Bioeconomy in Europe. The goal is to identify new and improve existing ways of bringing bio-based products and services on the market with an added-value. Participating countries in the BlueBio COFUND are Belgium, Croatia, Denmark, Estonia, Finland, Germany, Greece, Iceland, Ireland, Italy, Malta, Norway, Portugal, Romania, Spain and Sweden. See the introduction movie to the BlueBio COFUND here.

## **Supporting Blue Bioeconomy initiatives**



Throughout Europe, FLAGs have already actively contributed to the development of the Blue Bioeconomy. The Galician Mariña-Ortegal FLAG has supported the creation of the Reef Water Coral Farm, Europe's first commercial coral farm which produces approximately 5 000 corals annually and attracts visitors and school trips from the region. The business has grown rapidly and the founders now work full-time on the farm.

Seaweed is another fast-growing sector of the Blue Bioeconomy and many FLAGs are supporting initiatives in this field. For instance, to reduce its area's dependency on fish processing the Costa da Morte FLAG (Galicia) has assisted the creation of the start-up company Carbiotech which cultivates microalgae on land for oil extraction, used as a pharmaceutical-grade nutrient (omega-3) for human consumption. The FLAG also helped

put this company in contact with local fishermen and shellfish gatherers to identify and collect micro-algae which will then be grown to maturity in a specially designed plant.

In Ireland, Blath na Mara is a company that hand harvests wild seaweed on the unspoilt shores of Inis Mór, an island on the Irish Atlantic coast. Its main product is organic dried, milled or whole seaweed which it markets wholesale. The West FLAG (Ireland) provided funding and expertise in a variety of areas, including enterprise and marketing. This has allowed for the upgrading of the existing premises and processing facility, which will in turn increase the quality of Blath na Mara's product range while

<sup>10</sup> European Commission (2012) 'Blue Growth: Opportunities for marine and maritime sustainable growth'.

<sup>11</sup> European Commission (2018)'A sustainable Bioeconomy for Europe: Updated Bioeconomy Strategy'.

providing scope for new product development. It has also encouraged this family company to grow a new phase of the business, focusing on food and educational tourism for seaweed on the Aran Islands.

### In Focus - TOPBALAT project

Many Horizon 2020 (H2020) projects are currently supporting Blue Economy initiatives, such as the H2020 TOPBALAT project. This innovative project aims to develop a robust sea cucumber value chain. The first phase of the project will see the development and standardisation of a sea cucumber fishing method, along with a new generation of processing line. In the second phase of the development, The Topbalat team will aid interested companies in Europe in starting the utilisation of local sea cucumber species.<sup>12</sup>

### Maritime clusters: Scaling up bioeconomy projects

A successful way to foster innovation is to gather companies from different branches of the same sector in one location to form what is often referred to as a 'cluster'. The proximity and activities generated between businesses and organisations (shared offices spaces, training sessions, workshops, social events and study visits) encourages interaction and breaks the 'silo' mentality. Each business (or organisation) shares their specific expertise, generating new business opportunities.

In Iceland's maritime sector, this method is embodied by the Iceland Ocean Cluster. This cluster led to the development of the appropriately named 'Incredible Fish Value Machine' (Figure 1). The 'machine' increased the use of fish biomass from 20% (mostly as food for human consumption) to 80%, with the scales, bones, guts and other non-edible parts of fish turned into profitable products.

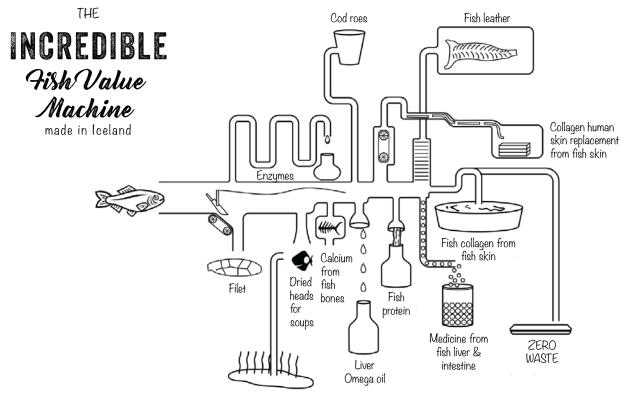


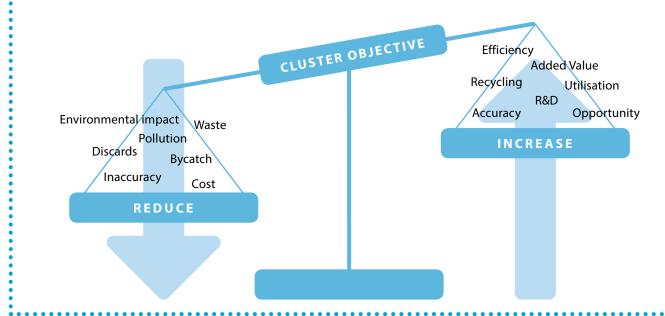
Figure 1: The Incredible Fish Value Machine<sup>13</sup>

<sup>12</sup> Topbalat (2019) 'Aurora Seafood'.

<sup>13</sup> Iceland Ocean Cluster (2016) 'Introducing "The Incredible Fish Value Machine".

#### In Focus - Iceland Ocean Cluster

The Iceland Ocean Cluster's (IOC) mission is to create value and discover new opportunities by connecting entrepreneurs, businesses, authorities and academia from the marine sector. To serve this mission the Iceland Ocean Cluster provides a range of services (incubation of start-ups, consulting, research and development, networking, network representation, business tours, etc.). Moreover, IOC invests in new marine spin-offs and projects. The research supported by the IOC focuses on seafood, by-product use, marine biotech and other marine topics. In 2019, 75 companies (140 people) were using the 3 000m² facilities of the IOC House. One of the success stories supported by the IOC is linked to the cod industry in Iceland. In 1981, approximately 55% of the body of the fish was utilised. Today, this figure is up to 75-80% and a target is set to 100% utilisation thanks to the 'Incredible Fish Value Machine from Iceland'. With utilisation of this magnitude, the value for each cod can reach up to around €8 000.



## Technological innovation as a driver for smart resource use

As discussed above, value chain optimisation and the improvement of production systems allow for a more strategic use of fisheries resources. In this sense, new technologies can help by working on the quality, traceability and sustainability of the various parts of the supply chain.

FLAGs can facilitate the integration of new technological tools into fishing communities by: financing IT training session to help fishermen better organise their work collectively; supporting the development of a digital tool for organising direct sales of seafood products; or by promoting the use of hardware and software applications for the labelling, traceability and marketing of fish.



Two Breton (FR) FLAGs (Cornouaille and Brest) are helping a young IT developer to launch MonPêcheur, a digital tool for organising direct sales of seafood products. Direct sales by fishermen are currently limited in Brittany and the sector needs re-structuring. MonPêcheur aims to map out and create a reference of fishermen interested in selling their product directly, providing them with an online sales platform. Through this easy to use platform, fishermen will be able to inform prospective consumers about the species and volume available as well as the location, price and time of sales, therefore boosting direct sales in the area. Beyond the financing of the app, the FLAG also played an important role in bringing the project

promoter into contact with the seafood sector players and convincing part of the sector that direct sales development was an opportunity rather than a threat. The arguments put forward were that any initiative that promoted local fish product consump-

tion was positive in a seafood market, which is currently heavily dominated by imported seafood. In addition, given the restrictions in place in terms of direct sales (maximum of 100 kg/day per fisherman), the volumes involved were limited and likely to represent not more than 5% of all Brittany landings.

Thanks to new technologies, seafood traceability and marketing have been highly improved over the past decade. Awareness-raising and training of practitioners (fishermen) to improve the tracking of their production from vessel to consumer is one of the actions FLAGs can support to improve the sustainable use of resources while bridging the digital divide in fisheries communities.



For instance, the Sun and Blue FLAG (Sicily, IT) has supported the development of an innovative and reliable IT system for the management of seafood product traceability and selling. The easy to use system, called T-FISH, is an integrated hardware-software solution, that provides fishermen with tools for the labelling, compiling and transmission of data. Fishermen can also use the information for marketing purposes by sharing data on the species caught on the portal even before landing.

IT systems and mobile applications can also be useful for improving organisation and production. In collaboration with the local producers organisation, the Ria de Arousa FLAG helped a local IT company to develop the Xesmar platform. The platform is aimed at improving day-to-day management, control, planning and exploitation of local marine resources. Xesmar is already used by shellfish gatherers from three organisations (Cofradías de Cambados, de Vilanova and de Vilaxoan). Thanks to the app, shellfish gatherers have easy direct access to information such as weather conditions, water quality, days of fishing closures for toxins and common organisational meetings.



Another example is the 'Mobile Village Shop' supported by the Tirschenreuth FLAG in Germany. The idea behind the project is to combine a traditional mobile shop, in the form of a small delivery truck, with a digital platform that allows for consumers to order local food products online. This creates short food supply chains that include fish farmers' products. Through the platform, customers can also follow the progress of the mobile shop in real time. Beyond their direct attributes, digital applications and new technologies bring the additional benefit of reducing the use of resources such as paper, printers and energy, while also contributing to strengthening the links between the fisheries sector and other stakeholders involved in the development of the coastal area.

## Factsheet i:

## How to organise a Hackathon and why?

Originally, a hackathon was a sprint-like event in which computer programmers and developers came together to collaborate intensively for a limited period of time on software projects. The concept has since then been transferred to other sectors to stimulate open innovation in varied contexts. A Hackathon is different from any other event because it:

- > Is limited and fixed in duration (usually 14 to 72 hours), often including overnight stay on location by participants.
- > Involves of a variety of partners that are invited to co-create content.
- > Focuses on solving concrete issues.
- > Is based on teams gathering multi sectorial expertise.
- > Generates clear outputs responding to pre-identified issues.

The factsheet provides a step-by-step methodology to setting up a Hackathon and shares the experience of two FLAGs (Brest and Cote d'Opale, France) who were involved in the organisation of a Hackathon event.

### **Pre-Hackathon**

- 1. Define the main objectives of your Hackathon. While the general objective of any hackathon is to foster innovation, it is best to frame the innovation you are looking to generate, for example, maritime/coastal development.
- 2. Identify potential partners in your area. To do this, create an inventory of the partners, detailing their interest in taking part in a Hackathon. Partners are important for: help with mobilising participants; providing financing (sponsorship) and resources (venue or other in-kind contributions); acting as experts. Partners are also likely to keep working on the project after the event.

### Florence Sergent, Littoral Opale FLAG Manager:

"Partners are key to the success of these types of events. They are there to become part of the event and not just to provide financial support. Partners should co-create the event and should develop ownership of the initiative."

**3.** Support your identified partners in proposing a challenge which meets their direct concerns or, more generally, a challenge that would address an issue in your FLAG area.

### **Florence Sergent:**

"A challenge allows you to test an issue and confront it with the fresh eyes of new stakeholders".

### Luce Demangeon, Brest FLAG Manager:

"The key to success is gathering a diverse group of motivated partners motivated who believe in the added value of this type of event."

- 4. Once you have established a list of partners and associated challenges, define the detailed agenda and logistical arrangements of the Hackathon: its overall progress, the 'masterclass' sessions (aimed at providing technical content related to the challenges), coaching sessions (supporting teams in their problem solving approach), meals, accommodation and working spaces etc. Keep in mind that this is commonly a nonstop 48-hour event, so you need to 'take care' of your participants (provide spaces for eating, resting and sleeping).
- 5. Establish a communication plan around your Hackathon ideally at least 4-6 months in advance. Use all types of media to promote the Hackathon its objective, its partners, and its methodology (agenda, tutorial session and coaching).
- 6. Establish a small steering committee that meets once a month and a wider circle of partners with whom it is important to share the progress of the project. Listen to their proposals for developing the event and take them into account.

### **Luce Demangeon:**

"Consider calling your hackathon-type event by another name! Not everyone knows what it means, and in some FLAG areas, this might undermine participation. Furthermore, the Hackathon partners have to communicate as much as possible about the event and their associated challenges to reach a very diverse audience".

## **During the Hackathon**

- 1. Ensure that each challenge has at least one group of participants. The mobilisation of teams around each challenge is crucial for the success of your event. Participants typically form groups of about 2-5 individuals to work on the proposed challenge they have registered for before the event starts.
- 2. Clearly display the schedules of the masterclass and coaching sessions. Such training workshops are useful for participants in order to frame challenges, putting them into context and providing thematic or methodological knowledge.
- 3. Ensuring that those who proposed the challenges (partners) are clearly "visible/identifiable' and available should participants need to clarify some points or ask questions related to the challenge.
- 4. At the end of the event, organise a closing round table with partners and invited experts on a specific topic related to the main theme of the Hackathon, for example, on 'innovation and local development'. It is important to use this opportunity to brainstorm and cement lasting partnerships between local actors.
- 5. Bring together a balanced jury (reflecting on your territory and partners) to deliberate on project ideas that meet the proposed challenges.
- 6. Offer rewards to participants (e.g. special prizes for the winners of each challenge).

TIP



Use the Hackathon as an opportunity to showcase and share traditional seafood products/meals from your area with participants.

### **Luce Demangeon:**

"Young participants (e.g. local students) brought curiosity and creativity to the discussions. Their IT skills and deep interest for the topic have opened new perspectives on the operational implementation of a complex subject (harbour litter in this case)."

### **Post-Hackathon**

- 1. Follow-up on the different project ideas, especially the ones that have partners that were particularly interested. It is essential to show continuity to the event, both to the partners and to the groups of participants who contributed.
- 2. Raise awareness of the FLAG board members about the project ideas born during the Hackathon and inviting Hackathon project promoters to present their project mock-up at future FLAG meetings.
- 3. Communicate intensively about the Hackathon outputs in the months following the event. Do not, however, expect a Hackathon to solve all your problems, rather think of a Hackathon as "a pitstop on a long journey to solve your problems" and as a way to mobilise different partners and raise awareness on specific issues.

#### **Florence Sergent:**

"A Hackathon event is a breath of motivation inspired by local actors, from all generations and sectors. A hackathon is a time for sharing, and co-constructing."



Bear in mind, however, that while a Hackathon can be organised locally, they can also be time and resource consuming. An option is to join an existing Hackathon organised by someone else. Often Hackathons take the form of wider, international structures spanning different countries or even continents. An example of this is the Ocean Hackathon, a yearly event organised by the Campus Mondial de la Mer and Technopôle Brest-Iroise aimed at developing new products and services based on ocean data. The Brest FLAG, France, managed to get a circular economy

challenge (as one of 12 challenges) on the agenda of the 2018 edition of the event. Here, a group of engineering students, supported by researchers and experts from France, Canada, Ireland, the UK and Belgium worked around the clock on the FLAG's challenge 'Circular solutions to port waste'. See the Ocean Hackathon video here.

### **Luce Demangeon:**

"Our participation opened up a wide range of possible interactions between the Ocean Hackathon team and the FLAG: testing of emerging projects, co-construction of the future strategy, the involvement of new stakeholders on major issues..."

### A Hackathon in numbers:

- > A typical Hackathon might include up to 40 partners, 122 participants, 14 teams, 24 coaches, 15 jury members, and 2 masterclasses.
- > Human resources: 1 full time equivalent (two part-time staff) for 4 months prior to the event plus a team of 2 to 3 full-time organisers during the event.
- > Financing sources: Region Hauts de France, Local Development Economic Agency (FLAG accountable body), sponsorships, local bank.
- > Approximate budget: €20 000 to €25 000 of direct costs (excluding any in-kind contributions made by the various partners and staff wages).

### In Focus – The 4th edition of 'Weekend Innovation – Mer et littoral'

The 4th edition of Weekend Innovation – Mer et littoral took place in Boulogne-sur-Mer (France), on 14-16 March 2019. This edition was financially supported by the Region 'Hauts-de-France' while the accountable body of the Littoral Opale FLAG) was in charge of the organisation.



The FLAG manager was instrumental in putting together the partnership needed to make this event a success. The Hackathon gathered around 120 participants who were organised into 14 teams to tackle 13 proposed challenges. Notably, the local FLAG proposed the challenge 'reveal and value industrial waste sources', the local fishing committee proposed the challenge 'improving cohabitation between maritime users', and the local fishmongers union put forward the challenge 'attract new talents and facilitate their settlement in the area'.

Throughout the weekend, several masterclasses were offered to participants in order to enhance their technical tools/skills to address the challenges, including masterclasses on digital technology, innovative financing and geographical information systems (GIS). The ideas selected by the jury are presented here, but the Hackathon allowed the emergence of other ideas; notably the development of a social enterprise that trains the long-term unemployed to map, collect, sort, and valorise industrial waste generated by the seafood processing industry of Boulogne-sur-mer. Due to the geographical concentration of the industry hub, electric vehicles supported by a digital app assist in collecting the waste.

## 3. Integration

Communities that manage to integrate their inhabitants are stronger and more resilient. Integration is, however, difficult without the ability to provide adequate public services. Finding new ways to maintain these services at local level is, therefore, crucial, and different options to do so are discussed in this Chapter. Public budgets and associated services are usually dictated by the size of the local population. New technologies and new ways of working offer possible solutions to combating the out-migration of young people from rural regions, as well as attracting new residents through the improved quality of life 'smart coastal areas can offer.

## Ensuring basic public services: health and transport

Many coastal areas, mostly those in decline, struggle to maintain essential social services (e.g. transport, medical centres, and social housing), and the infrastructure essential to achieving a high quality of life and social inclusion. The level of public services offered at local level usually correlates with the number of inhabitants, so fighting depopulation is also a fight to maintain services. Population sizes in coastal areas often presents strong seasonality patterns, with many areas seeing their population inflate by factors of 5 or 10 during the summer period. This rise in population is usually accompanied by a better provision of public services, public transport being a typical example. Lengthening the tourist season or spreading it across the year can help to maintain a higher level of public services. For example, in Finland, some coastal communities cater for different tourist markets by offering a variety of activities such as ice-fishing, cooking classes, boat trips and fish festivals, which means the touristic season spans all seasons. When essential services cannot be provided directly in the territory, new technologies can offer interesting new avenues to answering the needs of the local population as shown by the example from Culatra Island, Portugal (see below).

### Virtual medical consultation services for the fishing communities, Culatra Island, PT



Workers in small-scale fisheries experience higher than average health problems due to industry-related issues, such as working conditions (i.e. wet and physically demanding environments, and anti-social working hours), and periods of unemployment. These health problems often remain untreated, partially due to the difficulty of getting access to medical facilities in remote coastal areas. To tackle this problem, on the island of Culatra, the **Sotavento Algarve FLAG** has encouraged a collaboration between a mainland medical clinic (International Clinic, Olhão), the Town Hall of Sé and São Pedro, and the Culatra Island Residents Association. They all came together to develop a remote emergency consultation service. Community members seeking medical advice can now go to the telemedicine clinic in Culatra, where they are received by a resident nurse. They then enter the International Clinic of Olhão virtually, where a doctor performs a telemedicine consultation through a videoconference.

## Integration through 'Smart Hubs' and collaboration

Despite the loss of public services and the decline of local fishing sectors, small harbours in coastal areas remain at the heart of many coastal communities. Such harbours have the potential and space to be transformed into more sustainable, vibrant, and attractive community centres, offering new facilities, used for a wide range of activities. FLAGs can encourage the regeneration and shared use of harbour premises, turning them into 'smart hubs' which stimulate cooperation, growth and innovation.

Furthermore, FLAGs can foster partnerships by integrating marine activities and infrastructure into the local community's day-to-day life. The Hästholmen Harbour and its local community are a prime example of this. Situated in the south of Sweden, the management and operation of the harbour rely on a collaboration comprised of a local real estate company, several representatives from the Hästholmen village community and various other associations and stakeholders. This 'smart partnership' works together, actively seeking project funding with the support of FLAG Vättern. To date, the following projects have been implemented thanks to EU funding:

- > The establishment of a plan for the re-development of the port.
- > The installation of a ramp with a warming device (combatting the effects of frost).
- > The construction of a building for cleaning fish for non-commercial fishermen.
- > The restoration of traditional boat houses.
- > The organisation of a crayfish cooking competition.

Another example is the Courtmacsherry cooperative community shop which aptly illustrates how a community can come together and cooperate, keeping services close by and accessible in one place. The last convenience shop in Courtmacsherry, which is situated on the southwest coast of Ireland, closed in August 2015, despite the area having a rich tradition in commerce. The closure of the shop left a deep void in the community and a decline in local services. To combat this decline and the wider problems of rural isolation, the local community established a new community shop.

The start-up of the shop was initially funded by the sale of shares to the community totalling €34000 and was further supported by a grant of around €10000 from the FLAG South (Ireland). The cooperative, which is wholly staffed by a panel of 30 volunteers, runs several operations including a convenience store selling locally produced artisan food and artefacts; a tourism office; an exhibition room; and a second-hand bookstore. The community shop has become the central hub of the village, providing the much-needed services required for sustaining and growing the area's tourism markets (coastal hill walking, marine life enthusiasts, water sports, sea angling and general day trips). Since the establishment of the shop, local businesses such as hotels, bars, restaurants and marine activity providers have all seen an increase in turnover and growth.

### Motorfabrikken Marstal, DK

The Marstal Engine Factory (Motorfabrikken Marstal) is a historical building at the heart of Marstal harbour in the Llsæ FLAG area. Once a maritime engine factory, the building is now a multipurpose facility focused on nurturing innovation.

The project consists of three main parts. Firstly, the building is used to exhibit old and restored engines with workshop facilities for young inventors and engineers. Secondly, the factory is now used as a hub for local entrepreneurs and start-up businesses. The hub includes a coffee house and open plan spaces for collaboration. Finally, the main hanger is also used as a conference hall for seminars and events. The three areas combined bring the local community together, offering services and encouraging integration and collaboration.

### Remote working, one smart way of addressing depopulation

As previously mentioned, many coastal communities face the challenges associated with depopulation. Although some young inhabitants of remote regions would like to stay in their home areas, employment opportunities often require them to move away to find work in larger urban areas. Nevertheless, during the last decade, remote working (or teleworking) — professionals working remotely from home, from other locations (e.g. shared working spaces) or on the road — has become increasingly common which could help tackle the issue.

According to data collected in 2010 by the European Foundation for the Improvement of Living and Working Conditions (Eurofound, 2017), around 20% of workers across Europe identified that they mainly work at home, on client sites, on sites outside the factory or office, and/or on the road. Interestingly, the prevalence of remote work varies noticeably across EU Member States, being relatively widespread in Scandinavia but less prominent in Eastern Europe, Greece and Italy (Figure 2).

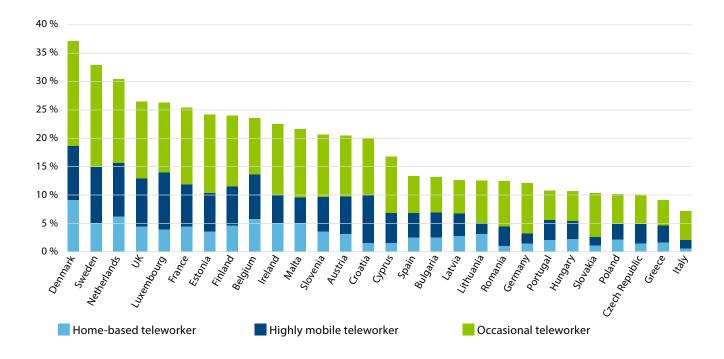


Figure 2: Rate of remote working in the EU (data for EU 28, by type, 2015)

The ability to telework is partly restricted by the nature of the work being undertaken. It is a feasible option for those who can work independently and with relatively high digital skills, and is more prevalent among white-collar workers (i.e. professional, managerial or administrative roles). It is less viable, however, for more practical jobs which are bound to a specific physical workplace, including fishing vessels or processing factories, for example. As such, teleworking is less frequent in the production and transformation sectors but is a viable option for the financial and services sectors.<sup>15</sup>

Remote working arrangements create a 'win-win' situation for employers and employees based on the flexibility and autonomy they offer. Table 1 provides an overview of the benefits and challenges of remote working for employees and employers. In order for remote working to succeed, four critical challenges involving remote working need to be addressed: (1) finding the right work-life balance, (2) overcoming workplace isolation, (3) compensating for the lack of face-to-face communication, and (4) compensating for the lack of visibility. Advice on management techniques that can be used to tackle these challenges can be found in Mulki et al (2009).

Table 1: Benefits and challenges of remote working

	Employees	Employers
Benefits	<ul> <li>&gt; Time and money saved on commuting.</li> <li>&gt; More flexibility and autonomy.</li> <li>&gt; Being able to deal with family responsibilities.</li> </ul>	<ul> <li>Increased productivity (greater job satisfaction and lower absenteeism of employees).</li> <li>Lower real estate cost.</li> </ul>
Challenges	<ul><li>Workplace isolation.</li><li>Sense that opportunities for advancement are more limited.</li></ul>	<ul> <li>Loss of organisational synergy.</li> <li>Concern about data security.</li> <li>Loss of management control over remote employees.</li> </ul>

FLAGs can encourage remote working arrangements in some cases. For example, in Denmark, FLAG Thy-Mors has supported the establishment of Cowork Klitmøller, a co-working centre in a small coastal town. The project leaders define their goals as increasing the number of new companies and growing tourism; creating a work-life balance thanks to its unique location close to the sea and nature, developing a flexible and modern co-working space, and establishing comfortable tourist accommodation. This example underlines the fact that, by their nature, coastal areas have a unique selling point as hosts for remote working hubs ensuring an enhanced quality of life.

'Grow Remote' is a rapidly growing community movement that has emerged in recent months in Ireland. It encourages people living in rural (or coastal) areas to take advantage of career opportunities offered by working remotely. Started by a group of community developers in rural areas who all have experience of remote working, Grow Remote supports the building of so-called 'Chapters' where the inhabitants of rural areas can come together locally to identify opportunities for remote working.

As of early 2019, Grow Remote had established 43 locally led 'Chapters' or hubs in four different countries. In Ireland, it includes three remote islands (Arranmore, Achill, and Valentia). On Arranmore Island, which has a community of 465 people, a digital hub was built with the aim of stimulating employment. Moreover, sessions are organised where groups of seasonal workers achieve certification in remote working and can now access a wealth of career opportunities directly from the island's digital hub.

Overall, the underlying key actions needed to effectively integrate all actors of rural and coastal communities into the development of their area are to promote and ensure (1) networking possibilities – connecting communities, small businesses, and local authorities –, (2) training and capacity building initiatives for a wide range of skills and needs – this ties into networking and the two elements work best in parallel, (3) the use of community facilities, and (4) tools for the strategic planning for villages and towns.<sup>16</sup>



Look at ways of incorporating other local development objectives into a crowdfunding campaign. For example, places on a training course and/or educational materials could be offered as a pledge reward. Promotional space on any resulting publication could be offered for business pledges to a project, promoting cooperation and developing strategic partnerships.

<sup>16</sup> Kearney, S. (2019) 'Smart Services' [Presentation at FARNET Smart Coastal Areas seminar], Bantry, 2-4 April.

## **Community broadband**

Reliable access to technology (i.e. good connectivity, service coverage, and broadband speed) is fundamental to achieving social integration through the provision of digital services and/or remote working arrangements. Compared to cities, internet connectivity can often represent a significant issue in more isolated areas. Sparsely populated communities face market barriers to accessing broadband as private companies are not always willing to make the investment required to link areas to the existing infrastructure.<sup>17</sup> Therefore, inhabitants and public authorities need to cooperate to improve the connectivity of remote areas. Both cable and wireless broadband solutions can be considered, depending on regional specifications.

In Greece, a private IT company and the General Secretariat for Telecommunications and Post (GSTP) worked together on establishing a broadband infrastructure network, covering poorly connected rural areas throughout the country. The funding required for the network was a mix of EU grant funding<sup>18</sup>, national and regional funds and private investments. In such public-private partnerships, the public sector usually contributes the largest part of the project funding, while the private entities are responsible for more technical operations.

Similarly, in Sweden, local non-profit associations, encouraged and supported by the public sector, carried out the building of broadband infrastructure in the countryside. The 'Broadband Fibre' project involved 11 villages groups throughout the municipality of Bräcke, leading to around 300 new connections to the broadband network in this rural municipality for a total cost of approximately €1M (receiving around 50% of public funding from EU and national and regional sources).

Both examples illustrate the importance of building smart – often public-private – partnerships to achieve community integration (see Chapter Four: Collaboration).

## Bridging the digital divide

Having a good broadband connection and access in remote areas is futile if the local population lacks the skills to use it. The social capital needed for regeneration in coastal areas can be ensured by reducing divisions in digital literacy, skills, competencies and their associated economic and cultural opportunities. Bridging the digital divide in remote areas can, for instance, be achieved by organising flexible information days, training sessions and workshops on digital technologies.

In coastal areas, this can include cross-generational student-fishermen training initiatives on IT/fisheries knowledge; an idea developed by participants of the FARNET Seminar on Smart Coastal Areas. The idea revolves around the development of a programme where the technological skills and interests of young people can be transferred to local fishermen who, in turn, would share their knowledge of the local environment and the area's fisheries sector. Such initiatives would create mutually beneficial learning exchanges, fostering trust and understanding, replacing the classic one-way relationships with a unilateral flow of knowledge.

In addition, as explained in Chapter Two: Innovation, simple digital tools can be developed and used to boost the local coastal socio-economy, such as work organisation apps (see XESMAR), digital diaries of landings, fish traceability tools (see T-Fish), apps for direct sales (see the Mobile Village Shop), using social media professionally, as well as mobile banking, postal services and health care systems. This can lead to engaging citizens and empowering the community to participate in the efforts to revitalise the area.

<sup>17</sup> ENRD (2016) 'Smart and competitive rural areas'.

<sup>18</sup> European Agricultural Fund for Rural Development (EAFRD).

## 4. Collaboration

One of the primary focuses of FLAGs is the creation of socio-economic links between local stakeholders from multiple sectors. While creating 'win-win' situations through the development of smarter partnerships, improved communication channels and sectoral integration can be difficult. FLAGs can act as a catalyst to the process, nurturing and increasing cooperation. In particular, FLAGs can foster intergenerational collaboration (e.g. fishers going to schools to raise awareness about the occupation and industry, with young people helping and training on the use of social media in return). They can also encourage cross-field collaboration (i.e. scientists, industry members, local community and local authorities working together [e.g. collecting mutually beneficial data]) or through the creation of partnerships that have the potential to improve the socio-economic conditions in coastal areas. This Chapter aims to provide practical examples of such partnerships, offering guidance and tools on how to achieve 'smarter' collaboration in coastal areas.

### Solidarity Purchasing Group (GAS), IT

Improving the inclusion of fishing communities within the industry's supply chain is often based on strong local collaboration. In Italy, Solidarity Purchasing Groups ('GAS' in Italian) are individuals and/or families who decided to come together and cooperate to support a different economic model through their purchases. It is a model that, on the one hand, respects the environment and workers' rights, and guarantees the payment of a fair price to producers. On the other hand, it promotes the development of both local and community-based economic supply chains, in which producers and consumers work together on the community's general well-being. With the support of the Blue Coast FLAG, Solidarity Purchasing Groups of the region of Abruzzo started working with fishermen to introduce fish into their portfolio of products. Encounters with producers and field trips have been organised to evaluate if a product and/or producer meets the groups' ethical purchasing criteria. 'FlaGas' (a collaboration between FLAGs and 'GAS') encourages smarter partnerships as they strive to increase income security; networking; environmental benefits through the improved awareness and responsibility of fishermen in the exploitation of marine resources; and cultural benefits (e.g. fish cleaning and filleting courses, exchanges of new and ancient recipes, events on the rediscovery of ancient professions such as net mending).

## **Smart partnerships**

The concepts of sustainability, innovation and social integration in the previous three chapters often rely on putting together stakeholders, tools, finance, and institutions in new ways. Collaboration is key to this change but how do we ensure that these partnerships are 'smart' and create 'win-win' situations for all the partners involved? How do we know that a new partnership will solve the issues they set out to address? To build a smart partnership, the following questions first need to be addressed:

**What** is needed or required from the partnership (e.g. jobs creation, the development of marine renewable energy, the creation and development of tourism)?

- > **Who** are your stakeholders going to be and why (e.g. the youth or elderly, the fishing sector, universities, NGOs, the scientific community)? A 'Stakeholder Mapping' exercise can be used to identify potential partners and determine how to communicate with them in order to develop a fruitful and sustainable partnership (see Factsheet ii: Stakeholder Mapping).
- **How** will it be done? What actions are required and who is going to run them (e.g. best practice review, cooperation, surveys, information days)?

'Reciprocity' (i.e. creating a 'win-win' situation) and 'trust' are also crucial to the development and maintaining of smart partnerships. To ensure trust, three elements are important: (1) selecting smart partners, (2) putting a smart governance framework in place, and (3) transparency. Together, these concepts define the word 'SMART' as illustrated in Figure 3.<sup>19</sup>

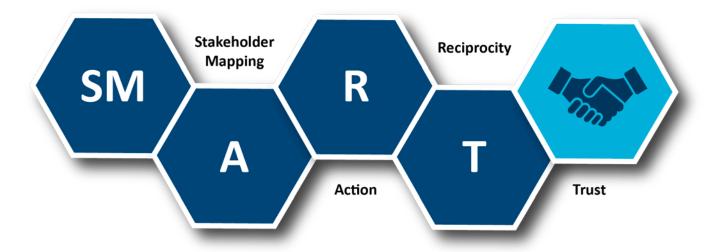


Figure 3: Building SMART partnerships

## Intergenerational relationships

Young people need to understand the importance of the fisheries sector in their region and the need to protect its marine environment. In addition, understanding the sector may attract young workers into the industry. Older generations would also benefit from a 'fresh' take on the sector's development. In this sense, educational programmes and workshops can help build relationships that trigger intergenerational transfers of knowledge.



Along the North Sea coast of Germany, the Competence Centre for Regional Learning of the University of Vechta, with the support of the local FLAG, developed three learning modules which can be used by schools for their classes of 10 to 15-year-olds. The aim of the project is to provide children and young people in the region with more information about the local fishing industry and to generate interest in its associated occupations. Three different venues are used for the learning experience: a fishing boat in a small harbour, a fisheries museum, and the Wadden Sea National Park House. More information on the project can be found here.

In Croatia, the Istarski Svoj FLAG supported the 'Sea from [an] early age' project which promotes the consumption of local seafood through educational partnerships. The objective is to increase consumption of fresh local seafood in educational institutions (e.g. schools) and promote healthier dietary habits from a young age.

<sup>19</sup> Cummins, V. (2019) 'Smart partnerships' [Presentation at FARNET Smart Coastal Areas Seminar], Bantry, 2-4 April.

### **Cross-field collaboration**

Partnerships between different types of stakeholders are another way to foster smart development. In Italy, 'Tarta-Tur', a combination of the Italian word for *turtle* (tartaruga) and the Latin word for *dolphin* (tursiops), is a conservation project bringing together industry members, scientists and other local actors aimed at preserving the local marine wildlife (turtles and dolphins) in a collaborative manner. The project involves four FLAGs across three Italian regions on the Northern Adriatic Coast and hopes that the historical lack of trust in the region between fishermen and the scientific community can be overcome, benefitting both the marine environment and local fishing communities.

Note: cross-field collaboration can also be encouraged through the creation of sectoral 'clusters' (see **Chapter Two: Innovation**), or 'smart hubs' (see **Chapter Three: Integration**).

## Factsheet ii:

## Stakeholder mapping

Without stakeholders, there would be no projects to develop and manage. Stakeholders are the parties with a vested interest in a project – both individuals and teams or organisations –; those who influence the project, as well as those who will be affected by it.<sup>20</sup>

Stakeholder mapping (or 'stakeholder analysis') is a collaborative process of research and discourse, drawing from multiple perspectives to determine a key list of stakeholders in a project.<sup>21</sup> Depending on the results of the analysis, a communication plan can be established to build fruitful and 'smart' partnerships that are essential to the success of the project. The analysis can be broken down into three main phases:

**Identifying**: listing relevant groups, organisations, and people.

Typically, the first step of a stakeholder analysis could be a brainstorming session with your project leaders and managers. This way, you can identify and list all the people that you can think of who may affect or be affected by the project while you are working on it, and after it's launched. At this stage, you can think broadly. The exclusion of some important groups may lead to future oppositions as a result of their lack of inclusion.<sup>22</sup>

However, it is often impractical to include every single stakeholders, and at some point, you will have to draw a line in order to move on with the actual process of engagement or consultation.<sup>23</sup> Stakeholder identification is an iterative process and should be repeated during the implementation of the project.

> Analysing and mapping: understanding stakeholder relationships, perspectives and interests.

Once you have identified the most relevant pool of stakeholders, you can begin to align them according to their level of interest and influence. This can be done using a simple grid chart, called an 'Interest-Influence' matrix. Depending on the stakeholders' ranking, the relationship that you will build with each of them and your communication strategy will vary (see Figure 4).

<sup>20</sup> Smartsheet (2019) 'What is stakeholder analysis and mapping and how do you do it effectively?'.

<sup>21</sup> BSR (2011) 'Stakeholder Mapping'.

<sup>22</sup> Glicken, J. (2000) 'Getting stakeholder participation 'right': A discussion of participatory processes and possible pitfalls', Environmental Science and Policy 3(6), pp.305-310.

<sup>23</sup> Reed, M., et al. (2009). 'Who's in and why? A typology of stakeholder analysis methods for natural resource management,' *Journal of Environmental Management*, 90(5), pp.1993-1949.

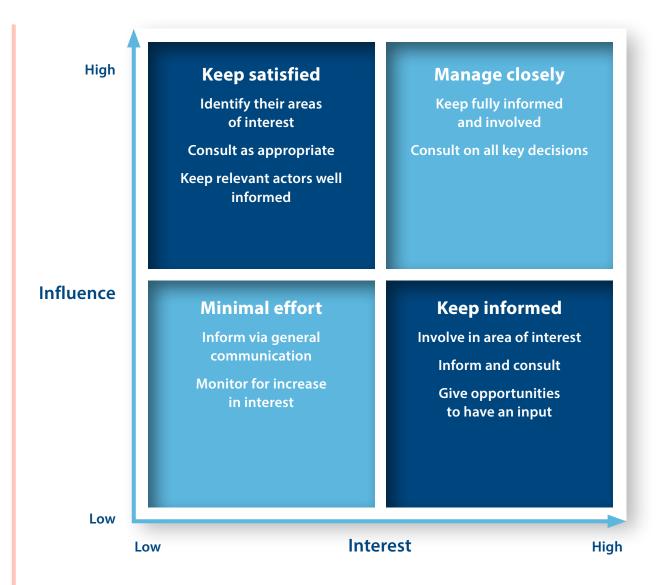


Figure 4: Interest-Influence Matrix

- > Managing stakeholders and developing a communication plan: dealing with the different types of stakeholders:
  - **High-influence**, **high-interest stakeholders** These are the most important stakeholders for the successful development of your project, as they have control over what happens. Hence, it is crucial to keep them fully informed and consult with them regularly, especially during decision-making processes.
  - **High-influence, low-interest stakeholders** These are the stakeholders who do not have an interest in your project, but who could have a significant influence on it. As part of your analysis, you will need to decide to what extent you will keep them involved through direct communication.
  - Low-influence, high-interest stakeholders In many cases, those directly affected by a project show high interest in any changes but have limited control over what eventually happens. It is important to keep this group involved, giving them an opportunity to have an input into the project.
  - Low-influence, low-interest stakeholders For this group, you might want to select only those who would benefit from regular communication and/or could contribute positively to the project. As they have low interest and low influence, you can minimise your efforts with this group.<sup>24</sup>

<sup>24</sup> Muff, K. (2014) The Collaboratory, Austin: Greenleaf Publishing.

Based on the results of your analysis, you will be able to develop an effective communication plan. Figure 5 provides an example table that could be used for this purpose. The process of stakeholder mapping is as important as the results, and the quality of the process depends heavily on the knowledge of the people participating. Moreover, a project is more likely to be successful if effective stakeholder analysis is done on an ongoing basis.<sup>25</sup>

Stakeholder	Interest/ Influence	Key interest	Communication channel	Frequency	Contact details	Comments

Figure 5: Stakeholder communication plan template

In the case of coastal communities and FLAGs, Figure 6 provides an overview of frequently represented groups of stakeholders, including members of the industry, government, academia and civil society, and their possible sphere of influence, i.e. project themes that they are more likely to be involved in.<sup>26</sup>

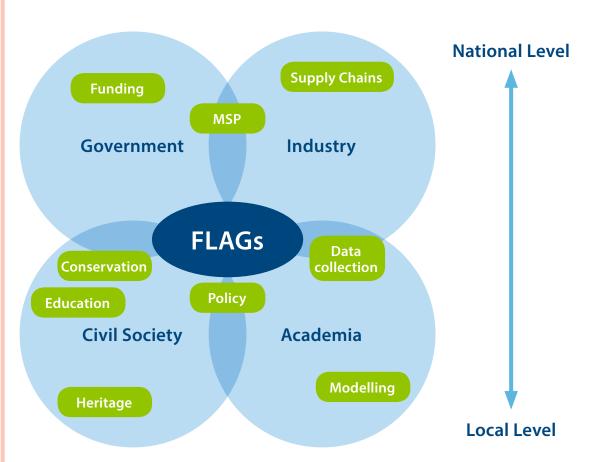


Figure 6: General stakeholder mapping for FLAGs and coastal communities

<sup>25</sup> Conservation International (2014) 'Stakeholder Mapping Guide'.

<sup>26</sup> Cummins, V. (2019) Smart partnerships [Presentation to the FARNET Smart Coastal Areas Seminar], Bantry, 2-4 April.

## 5. Smart Financing

As with most rural regions, coastal areas face significant challenges related to funding. Small-scale operators in coastal communities often lack the capital required for traditional models of finance, making development projects difficult. Conventional loans and public grants require private match funding or a deposit, which small-scale operators struggle to raise. Typically, privately led projects under the EMFF require an initial contribution of between 20 to 50% of the total grant request for an application to be considered. Moreover, like most public funds, the EMFF often operates on a reimbursement basis meaning that project promoters have to finance the project entirely before being reimbursed. For small-scale fishermen and operators in coastal communities, generating these funds is a substantial challenge, often holding up the local development process or acting as a barrier altogether. Addressing these challenges, this Chapter focuses on alternative models of financing and provides guidance on how FLAGs can support 'smarter' ways of funding in coastal areas through the previously discussed four themes of sustainability, innovation, integration, and collaboration. Alternative funding methods are explored before a 'blended' financing model for coastal development, through FLAGs, is introduced as a more reliable, sustainable and smarter way of approaching project funding.

### Financing through services, IE

We often see financing as a means of obtaining funds to pay for products and services. But what if the services are directly offered instead? A project by the North West FLAG (Ireland) used this approach to fund the renovation of a historical facility on Achill Island. The building once used by the basking shark fisheries of Keem Bay was turned into a multipurpose storage unit for local fishermen. To fund the project, the fishermen were asked to make both a financial contribution (for materials) and five hours of manual labour. The labour significantly reduced the financial cost of the project, making the renovation possible. Added to the benefits of the storage facility, the funding method gave the fishermen of Achill Island a sense of ownership and community, increasing the social capital of the area.

## Microfinancing and credit unions

Microfinance is a financial service targeted at small businesses or individuals who lack access to conventional banks and other financial services. Typically, microfinancing is the provision of small, more affordable, loans to socially marginalised individuals, allowing them to either become self-sufficient or to develop their business potential. Coastal areas, due to their location and infrastructure, can include socially marginalised communities and individuals. Fishermen and the owners of small businesses in coastal areas often lack a credit history or the collateral needed to secure conventional financial services, making business development and expansion difficult. Using microfinance, entrepreneurs and small businesses in coastal areas can kickstart ideas, nurture innovation and develop their existing businesses without relying on traditional financial systems. More broadly, microfinance is a way of promoting the economic development of coastal areas. It allows for the coastal communities to capitalise on opportunities, exploit resources and, ultimately, increase local employment.

FLAGs can play an important role in establishing the successful use of microfinance schemes in coastal areas. For example, the East Sardinia FLAG joined forces with a private credit company to establish a microcredit fund to respond to the financial needs and other related support initiatives in the areas fisheries sector. For years, the local fishermen had been impacted by an ongoing financial crisis. Due to the region's banking system being limited to a few operators, with strict constraints for attributing loans, fishermen, who are unable to provide a guarantee, are often rejected when applying for conventional credit. Through the scheme, the FLAG makes several microcredit applications a year helping start-ups, small businesses and cooperatives projects which would otherwise not have been possible.

The use of Credit Unions or collaboration with traditional banks and/or beneficiaries are other microfinance options available to FLAGs wanting to introduce smarter funding options to their areas. In Spain, for example, the Vigo – A Guarda FLAG collaborates with a national bank in providing project promotors with funding and better repayment terms. While this is not strictly a microfinance model, collaborations with the traditional banking system may be a viable avenue to quicker funding in coastal areas for FLAGs. Similarly, in Poland, the Mielno FLAG collaborates with both a local bank and the local government in simplifying and facilitating credit applications so that young fishermen can set up their own businesses in the area. Through the cooperation, the local government reduces the administrative burden of setting up a company, while the local bank relaxes its stringent credit approve systems for FLAG related projects.



When searching for a financial partner, it is crucial to find an intermediary who is willing to work with minimal third-party guarantees and who has the financial means available. This is more likely to be a public authority or an institution with the mission to support small enterprises.

The Cornwall and Isles of Scilly FLAG has developed a Credit Union scheme designed to assist those who cannot access grant funding for their projects without initial support (bridging loans). The Credit Union allows FLAG project beneficiaries access to the finances required to kick-start their projects before EMFF grants claims are paid. Many small-scale fishing and rural businesses do not have the capital to cash flow projects until their claims are paid, which can take up to 12 months. This prevents many projects from proceeding and can exclude several small businesses.

## Approaches to crowdfunding

Traditional avenues of financing are not always the answer. As mentioned, traditional financing systems requirements might be too rigid for small scale operators. Or the project may be short of time, meaning the funding is required sooner than a typical funding application timeframe allows. Crowdfunding is an alternative funding method that can help address these issues. In recent years it has become an increasingly used method of funding projects and is typically used by start-ups and small and medium-sized enterprises (SMEs) as an alternative to traditional credit financing. In 2015, the European Commission identified 510 crowd-funding platforms which raised capital funding in excess of €2 billion.<sup>27</sup> While there are several classifications of crowdfunding, the most commonly used definition in the business and scientific communities upholds that:

Crowdfunding is an open call, essentially through the Internet, for the provision of financial resources either in form of donation or in exchange for some form of reward and/or voting rights in order to support initiatives for specific purposes. 1/28

Alternative means of funding such as crowdfunding can also offer more than just finances. For example, if a project is launching a new service, crowdfunding through platforms such as Kickstarter<sup>29</sup> have the added benefit of generating pre-sales and awareness. While a project is still in its development stage, crowdfunding can act as an important market research tool; answering the question: does the target market or interest group value the project? As well as offering relatively quick access to funds, crowdfunding offers a unique and pre-emptive glimpse of a project's potential success before valuable resources are committed. As such, FLAGs can encourage project promoters to use crowdfunding as a way of obtaining early investment, but also as a way of conducting early market research, a key part of the research and development process (see Factsheet iii: Developing a successful crowdfunding campaign).

Generally crowdfunding can be categorised into two main forms: community crowd-funding which is largely donation based and involves a non-financial reward, and financial return crowd-funding, which is a means of obtaining early investment through peer-to-peer loans or the early sale of shares (see Figure 7).<sup>30</sup> Put plainly, community crowdfunding is associated with *donations* and financial return crowdfunding is associated with *lending*.

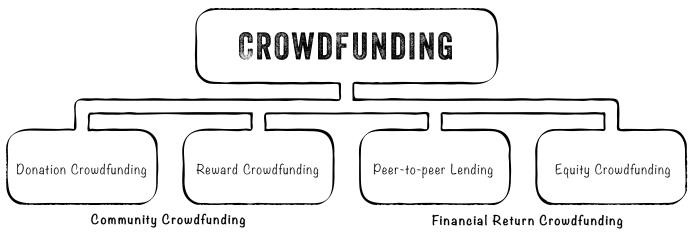


Figure 7: Drafting your potential crowdfunding options<sup>31</sup>

<sup>27</sup> European Commission (2015) 'Crowdfunding: Mapping EU markets and events study'.

<sup>28</sup> Lambert, T. et al (2011) 'Crowdfunding: Tapping the right crowd', Journal of Business Venturing, 29(5), pp. 585-609.

<sup>29</sup> Kickstarter is the world's largest funding platform for creative projects.

<sup>30</sup> Kirby, E. and Worner, S. (2014) 'Crowd-funding: An infant industry growing fast', IOSCO: Staff Working Paper 3.

<sup>31</sup> Adapted from Borello, E. *et al.* (2015) 'The funding gap and the role of financial return crowdfunding: Some evidence from European platforms', *Journal of Internet Banking and Commerce*, 20(1), pp. 1-20.

## **Community crowdfunding**

Crowdfunding is not limited to business ventures and can be used to fund community initiatives. For example, in the Cornwall and Isles of Scilly FLAG area, a crowdfunding campaign was successfully used to fund public access to life-saving coastal defibrillators. The project was funded by the coastal community through donations, often referred to as a form of 'community crowd-funding'. Furthermore, the project offered a reward for those who pledged money to the campaign. Members of the local community who donated a certain amount of money were enrolled in a coastal defibrillator training course, increasing the profile and social value of the project.

Community crowdfunding typically works on a reward basis, where contributions to the project are rewarded by offering something in return. This can be the early pre-sale of the product or service being funded, or something completely arbitrary. The offer of a reward provides contributors with an incentive to support the campaign, and rewards often come in a series of levels, which increase in value and scarcity.

### Stöd.me: local crowdfunding platform, SE

Stöd.me is a new crowdfunding platform developed in the Bohuskust FLAG area which specifically focuses on and supports the smart financing of local projects. The project exemplifies the concept of community crowdfunding, using an online communication platform to encourage a local network to support local NGOs, initiative, entrepreneurs, inventors and creatives on projects which meet a series of local requirements in the development of a 'functional digital region'. Stöd.me website.

## Financial return crowdfunding

The other main form of crowdfunding is offering contributors a financial return on their investment. Like traditional borrowing from a bank, this form of crowdfunding allows for the early sale of equity in a start-up business as a way of funding the initial costs of the business or project. However, it has the added benefit of the funding coming from many investors in small amounts through an online platform in the same way as community crowdfunding. This is particularly beneficial to fishermen and coastal communities who in many cases lack the credit history to obtain traditional forms of credit.

**Peer-to-peer crowdfunding** is a way of acquiring funding from peers who have a similar vested interest in a project – there is a good fit between the borrower and lender. Added to this, multiple peers can invest in projects with minimal risk as individual stakes are small. Due to the vested interest of the crowd in peer-to-peer lending, the interest repaid is often small and favourable to equivalent loans from traditional banks.

**Equity crowdfunding** follows a similar model to peer-to-peer lending with the added difference of shares in the proposed project being offered instead of a financial return on investments. This model is more typical when a project involves a new start-up business.

### In Focus - Fishtek, UK

Conservation pioneers, Fishtek, use equity-crowdfunding to raise capital to develop their range of cost-effective and easy-to-use battery powered transmitter that sends out warning sounds to harbour dolphins, whales and porpoises. The system protects the species, while at the same time reduces damage to lines and boats by up to 95%.

Fintek used ethical banking specialist, Triodos<sup>32</sup>, to raise €1.2M through the sale of 15% of the company equity. The company used a crowdfunding campaign to offer supporters the unique opportunity of investing in a new and exciting fisheries technology company, safe in the knowledge that they are also helping to tackle important environmental issues.

## Developing a sustainable 'blended' financial model through FLAGs

A solution for small-scale financing with specific application to ethical, responsible and sustainable local market development and tourism in FLAG areas may be an innovative 'blend' of investment, crowdfunding, and loan-based financing. Current models of traditional financing that rely on either public or private financing are becoming inadequate in terms of both sustainability and flexibility (OECD, 2018).<sup>33</sup> Instead, blended finance models which incorporates more than one source of funding can offer faster economic growth, while at the same time aligning stakeholders, particularly those in rural areas, in a more sustainable way through establishing common interests, objectives, and lasting relationships.<sup>34</sup>

Figure 8 illustrates how a blended finance model can be a viable alternative.<sup>35</sup> In such a model, community investment should act as a 'wrapper' around more traditional and commonplace funding practices. This community investment wrapper should act as a foundation on which to 'build' other funding opportunities and would raise funds from cooperatives, social enterprises, NGOs and/or credit unions. In other words, they play a supporting role in the overall funding of a project, increasing and optimising funding potentials. This funding wrapper could then be supported by a crowdfunding campaign before finally traditional methods of financing are adopted such as bank loans, institutional investments and grants from national or EU funds.



Figure 8: 'Blended' finance model for coastal community development through FLAGS

<sup>32</sup> **Triodos** is an ethical bank which finances progressive entrepreneurs with a mission of making money work for positive environmental, social and cultural change.

<sup>33</sup> OECD (2018) 'Blended finance principles: Unlocking commercial finance for the sustainable development goals'.

<sup>34</sup> Pereira, J. (2017) 'Blended finance: What it is, how it works and how it is used'.

<sup>35</sup> O'Rourke, T. (2019) 'Smart finance' [Presentation at FARNET Smart Coastal Areas seminar], Bantry, 2-4 April.

Using a blended funding model has benefits including reducing legal, accounting and administrative costs due to the infrastructure and support offered by the multiple institutions and funding platforms involved. Furthermore, financial institutions and external investors would be attracted by an investment vehicle that spreads risk, as they are investing in an already established group of institutions, each offering its own benefits, instead of just a fledgling standalone start-up team.

Figure 9 provides an illustrative breakdown of how this funding wrapper might be achieved in advance of approaching, and as a foundation to, institutional investors, taking out loans or making official grant funding applications. One option for FLAGs is to assist potential projects in implementing a funding wrapper before projects are selected. The North East Scotland FLAG uses this approach through a match funding scheme using the Crowdfunder platform.

40% 20% 40% **Community bond Equity crowdfunding Credit Union** through ethical funding on a fixed funding from the local municipality platforms term basis

Figure 9: Example breakdown of a community funding 'wrapper'



Community-based local financing system requires:

- > A local culture of self-reliance and self-sufficiency
- > Energetic and highly focused local actors
- > Appropriate and cooperative local infrastructure
- > Soft regulatory control at the outset

### **Crowdfunding FLAG top-ups, UK**

The North East Scotland FLAG encourages the use of a 'blended' approach project funding. The FLAG offers match funding of up to 50% of a project's Crowdfunder<sup>36</sup> target. This innovative scheme encourages project promoters to use crowdfunding before making an application for EMFF funding. Businesses, individuals and organisations can apply for extra funding through Crowdfunder, but their project must have reached 25% of its funding target to be considered. The scheme reassures the FLAG of the project's value, while also increasing the projects funding potential and appeal to external investors (see Factsheet iii: Developing a successful crowdfunding campaign).

A blended approach can also be used to match different financing sources with different stages of a project. Indeed, the preparatory phases of a project, which require limited amount of financing, but at the same time offer no immediate return on investment, can be best approached through grant schemes of community crowdfunding; while later phases requiring heavier investments can then be financed through more typical borrowing or equity schemes.

## Factsheet iii:

## Developing a successful crowdfunding campaign

FLAGs can play an important role in facilitating and guiding the use of alternative funding methods, such as crowdfunding in coastal communities This factsheet outlines the key steps of producing a successful crowdfunding campaign, which FLAGs can use in assisting local start-ups and facilitating projects in reaching their full funding potential.

## Keystep 1. Clearly define your project and tell your story

Crowdfunding campaigns can be categorised into three main stages (Figure 10). The first, and most important, step to suct cessfully crowdfunding a project is preparation in the pre-campaigning stage. Approximately two in three crowdfunding campaigns fail. Although the reasons for this vary, typical reasons for failure include a lack of early traction and awareness, a lacklustre or unappealing rewards scheme, and most prominently, the lack of a convincing story behind the campaign. Telling your project's story concisely, while also being engaging, is key to attracting your crowd of funders.



Look at ways of incorporating other local development objectives into a crowdfunding campaign. For example, places on a training course and/or educational materials could be offered as a pledge reward. Promotional space on any resulting publication could be offered for business pledges to a project, promoting cooperation and developing strategic partnerships.



Figure 10: Stages of a crowdfunding campaign<sup>37</sup>

<sup>37</sup> Adapted from Interreg (2019) 'Crowdfunding ABC'.

## **Keystep 2. Choose a platform**

Once you have a clearly defined project, it is then important to choose the right platform on which to launch your campaign. There are hundreds of crowdfunding platforms, each with a slightly different purpose and function. Some platforms operate on an 'all or nothing' basis – where a project will only be funded if it reaches its pre-defined funding. The US-based platform, Kickstarter, introduced this approach. If a project fails to meet its funding target, the contributions are returned to the crowd.

Some platforms allow you to keep the funds raised even if your pre-defined target is not reached. While most crowdfunding platforms are transnational, Figure 11 offers a list of country-specific platforms which you might want to consider. Choosing a platform which best fits your project is important and should be based on the stage of your start-up business or project (Figure 12).

Member State	Platform
Denmark	Booomerang
Finland	Invesdor
France	Ulule
	KissKissBankBank
Germany	Companisto
Italy	Derev
Spain	Goteo
Sweden	FundedByMe
UK	Crowdfunder
	Crowdcube
	Funding Circle
International	Kickstarter
	Indiegogo

Figure 11: Crowdfunding platforms by Member State

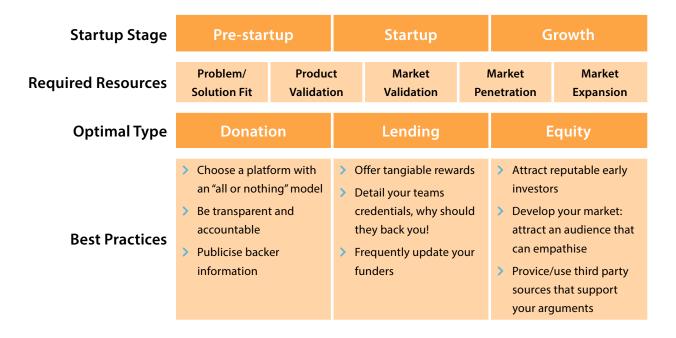


Figure 12: Crowdfunding selection criteria for start-up businesses

## **Keystep 3. Build a community of followers**

Communication is key. You can have the best product imaginable, the most innovative idea since sliced bread, but if no one knows about it, it might as well not exist. Building a community of followers ahead of your campaign launch is important for two main reasons. Firstly, the community you have built before your launch is your initial audience, which in turn, will be your initial interaction and feedback, from which you can build a conversation. Good content and engagement with your target market, in the age of social media, is critical to the success of any marketing strategy.

Secondly, the community you have built (your audience, market) will be your first early backers. According to Kickstarter<sup>38</sup>, 80% of crowdfunding campaigns which reach 20% of their funding target are subsequently fully funded. It is, therefore, important to reach 20% of your funding goal as early as possible. Data going back to 2009 suggest that early traction is key to success. Having a community of early adopters can give you this early backing, bringing you close to the critical 20% of your goal.

### Keystep 4. Promote your campaign

Once you have a strong community of early backers, it is now time to promote your campaign. At these critical stages of your campaign, it is important to communicate and promote your campaign effectively so that it reaches as many potential backers as possible. In terms of communications tools, you might want to consider the following:

**Advertising** – Once thought of as an expensive channel of communication, digital advertising is now more obtainable when funding is tight. Consider small images and infographics to be used on social media platforms such as Facebook, Instagram and Twitter. Through targeted advertising campaigns it is possible to reach your target audience efficiently.

**Personal Selling** – Nothing is more effective than getting out and speaking to people about your project in person. Identify key locations and individuals and approach them – you have already begun personal selling in the development of your community in step 3.



**Public Relations and Events** – Creating a positive reputation and public image for your start-up or project is paramount. Think of this as the positive side of your storytelling. Why are you undertaking your project? What problem is it addressing? If you can answer these two questions in a positive light, the chances are that others will echo this positivity, resulting is good public relations. Good public relations can lead to unpaid or 'earned' media in the form of press coverage. Put out regular press releases to local news outlets or to societies which might be interested in your story – the reach of this type of coverage can be huge. Events are also a fantastic way of generating publicity. Showcase your project at local festivals and markets or develop your own event entirely. There is an old saying in marketing: "advertising is what you pay for; publicity is what you pray for".

**Direct Marketing** – Often seen as a combination of advertising and personal selling, direct marketing involves you actively communicating with your target audience directly, e.g. by email ordering e-commerce or telephone selling, as opposed to using third parties, such as retailers or external companies. Essentially, it is advertising which requires the proactivity of personal selling.

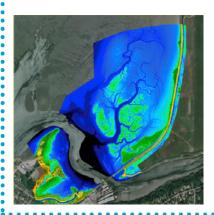
Sales Promotions – Offer a series of unique and limited promotions through your crowdfunding campaign to entice early adopters. It is important to note that any sales promotions should remain constant or you run the risk of 'cheapening' your offering by introducing dramatic price changes. Indeed, if your project is not product based, it is important not to offer too much in return for making a pledge or donation to your project. A good strategy is to use limited availability on your initial crowdfunding campaign offerings. This can be a reduced price or a limited reward for the first 100 backers of your project.<sup>39</sup>



Creating a video is one of the most engaging ways you can tell your story. Video content is versatile and can be used across all communications platforms. Contrary to popular belief, you do not need state of the art equipment to create a good promotional video – a smartphone and a free editing app creates good results. Remember to focus on:

- 1. Telling your story!
- 2. Set a consistent tone for your video and make it engaging.
- 3. Try to limit your video to 30 seconds.
- 4. Use infographics to reinforce key information.

### In Focus – Smart Shores, Canada



Smart Shores successfully used Kickstarter to fund the development of new technology for measuring pollution in coastal regions using biosensors and drones. The campaign is focused on the re-opening of the regions shellfish harvesting areas, closed since the 1970s due to water pollution.

Chapter Five of this guide illustrated the importance of alternative funding methf ods in terms of both generating and speeding up the funding process. The Smart Shores project exemplifies this. Firstly, the crowdfunding campaign was used to decide if a federal research grant should be awarded to the project. Secondly, due to the public awareness raised through the campaign, the research grant quadrupled the funding in value through public contributions. Project video

## **Keystep 5. Fulfil and update your community**

So, you have successfully developed and launched your campaign, and you have reached your funding goal. It is important that you don't stop here! Continue your ongoing conversation with your community, provide them with updates and, most importantly, fulfil your project. Regardless of the type of crowdfunding you have undertaken, contact your backers on your progress with regular updates. Most crowdfunding platforms offer a facility to do this internally, making it easy to upload videos and images documenting your projects journey. If you are developing a product, update your backers on the new product development process and expected delivery times. Quite often, people back a crowdfunding campaign to be part of a project and journey, as well as investing in the innovation a new product offers.