

# Regional Partnership Plan

01.A4

**COUNTRY:**  
**IRELAND**



Erasmus+

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Prepared by Momentum, Ireland

## Preface

This publication has been produced under the Erasmus+ Frugal Innovation project 2017 - 2019. It aims to promote frugal innovation mindset and competencies across Europe. Frugal Innovation is both a mind set and a series of techniques that enables entrepreneurs to innovate despite resource constraints. The concept has emerged from developing markets, but, given the current climate of austerity and economic uncertainty across large parts of Europe, we too can benefit greatly by integrating Frugal Innovation to our entrepreneurship education and equipping new generations with new ways to innovate.

The Frugal Innovation Erasmus + project contributes to strengthening entrepreneurship skills by integrating the concept of Frugal Innovation into entrepreneurship teaching. It does this across 4 key deliverables (Intellectual Outputs) :-

- 1) Establishing 4 “Frugal Innovation Regional Partnerships” (Poland, Ireland, Hungary and Croatia) which work across the public, private and education sectors to explore frugal innovation in a regional context, exchange best pedagogic practices for how to teach frugal innovation skills and jointly promote frugal innovation teaching and practice via a Regional Partnership Plan (this document).
- 2) Develop 2 CLASSROOM CURRICULA, TEACHERS’ PACKS AND ASSESSMENT TOOLS to introduce effective Frugal Innovation teaching in classroom settings in the VET and HE sector
- 3) Develop an OPEN ONLINE TRAINING COURSE WITH SELF ASSESSMENT to widen access to frugal innovation for existing entrepreneurs and SME owners – [www.frugalinnovation.how](http://www.frugalinnovation.how)
- 4) Rigorously test and improve the resources with the target groups, then disseminate to maximize the uptake of the resources.

This document responds to IO1 and represents the **Regional Partnership Plan Ireland** sets out the formative assessment of frugal innovation in the current economic climate, knowledge and skills gap, policy recommendations and a strategic action plan in the North West and West region in Ireland.

## Why a Regional Partnership Plan approach ?

Our Regional Partnership approach provides an important platform to create and deepen ongoing relationships between diverse institutions working in vocational education and training in innovation and entrepreneurship. It nurtures a shared commitment to support the growth of the frugal innovation. In particular Regional Partnerships work to support and disseminate the project’s presence and reach within our region and fulfills the EU Commission thinking on regional partnership structures: -

*“Any public intervention aiming to further develop a sector calls for cross-sectoral fertilisation. This requires the development and testing of better business support instruments and policies that aim to facilitate cross-sectoral linkages and spill-overs. It implies fostering change amongst the sectors themselves while adding new skills and competencies.” - EU Commission*

This Strategic Partnership Plan can be utilized by academic actors, higher education policy makers as well as by business actors, organizations and chambers. It facilitates the creation of the conditions and organizational connections that are essential for the processes promoting frugal innovation.

Additional useful materials will be also produced in the framework of the Erasmus+ Frugal Innovation programme. These will be available free of charge on the following address: [www.frugalinnovation.how](http://www.frugalinnovation.how). We recommend that those who are interested in this topic visit our website to access our resources.

# 1 General overview

## 1.1 What is frugal innovation?

**All frugal innovations share 4 features – lean, simple, social and clean.  
– Charles Leadbeater**

Frugal innovation is both a mindset and a series of techniques that enables entrepreneurs to innovate despite resource constraints. The concept has emerged from developing countries but given the current climate of austerity and economic uncertainty across large parts of more developed countries (such as Europe), the phenomenon has gained an increasing attention in more advanced economies (Pisoni et al., 2018) and academic researches (Radjou – Prabhu, 2015). It is also referred to as resource-constrained innovation although it includes a wide range of interpretation (Pisoni et al., 2018). Research and literature reviews on the topic concluded that the terms of frugal innovation is often described with the following aspects:

**affordability, low-cost manufacturing, low-cost materials, design focusing on basic functionality and minimal features.**

According to Nesta, frugal innovation responds to limitations in resources, whether financial, material or institutional, and using a range of methods, turns these constraints into an advantage. (Source: <https://www.nesta.org.uk/feature/frugal-innovations/>). Interestingly, frugal innovation can yield more benefit for the society than traditional innovations, since frugal innovation does not necessarily need sophisticated labs and infrastructure, however relies on basic engineering skills (Mandal, 2014).

Beyond academic interpretations, frugal innovation is about people learning to get more value from limited resources and find creative ways to reuse what they already have. Frugal innovation can be low tech, a clever solution born in adversity, but it can also be about using high tech to make services more affordable and more accessible to more customers.

## 1.2 Why it is important?

Although the EU identified entrepreneurship as a key competence since 2006 and that is one of the most important aims of the Entrepreneurship Action Plan 2020, there is still a little focus on frugal innovation at vocational education and training level. Across Europe, enterprises, education and government funding bodies continuously rely on high-investment research and development activities. It is our objective to highlight that innovation can be stimulated with very little resources.

In order to better understand the current climate in Ireland to innovation, we conducted research that aims to understand the perception of frugal innovation among various groups (entrepreneurs, teachers etc). This study has two aims. Firstly, to identify common misunderstandings and the perception of frugal innovation in contrast to traditional (high-tech) innovation, secondly, to identify possible teaching practices that can be implemented into entrepreneurship education and innovation generation. The outcomes of our investigation will provide significant insights into the perception of frugal innovation in Ireland and will guide how we can respond to same with best fit teaching formats.

The results can contribute to the development of more effective teaching toolkits and seminars which can yield useful knowledge for learners and improve their problem-solving skills in case of resource constraints. Furthermore, the development of teacher resources will lead to more entrepreneurial higher education and will enhance innovation generation.

### 1.3 Target groups

The aim of Frugal Innovation is to bring together actors who have a need for and also the influence on the development of new ideas and implementation of frugal innovation concept in the region. By bringing them together, the actors get informed and involved, making it possible to exploit synergies stemming from that exchange. Through such partnerships, regions can benefit from the multiplier impact of cooperation and collaboration through sharing knowledge and best practice and convert this into wider innovation and action plans at regional level.

The Regional Partnership Plan clearly identifies the stakeholders that play essential role in the promotion of frugal innovation.

- **SMEs / entrepreneurs:** They personally transfer the competences and motivations learned to apply more frugal innovation approaches in their business. They can also provide an important input in the development of the teaching toolkit created for the teachers.
- **Key institutions (e.g. Chamber of Commerce, enterprise centres etc.):** Involvement of such organizations can enhance the efficiency of implementing frugal innovation mindset in the region and achieving maximum reach to SMEs. Typically they are involved in supporting teaching and innovation skills of their SME members, thus their involvement offers a good starting point for better understand the current economic climate.
- **Local governmental and municipal actors:** Boosting innovation thinking among the key stakeholders is a priority in most regions for governmental and municipal institutions, and thus very often accompanied by publicly funded programmes.
- **VET and Higher education actors (teaching staff, management, students):** They have the greatest influence on the those studying in VET/higher education, hence their engagement during the project completion is essential. Fostering frugal innovation mindset at the VET and university level can be executed with the involvement of teaching staff and the commitment of the management. The teachers can demonstrate the relevance of frugal innovation at the courses and students can utilize it in their working lives. Furthermore, students can contribute to economic development and social issues by developing new ideas aiming to fulfill social needs.



## 2 Assessment of frugal innovation in the current economic climate

### 2.1 Workshop & Qualitative research – Awareness of frugal innovation

As a subject area, frugal innovation in its very early days in Ireland. In order to gain better insights from relevant stakeholders we organized a one-day in-person meeting on 25<sup>th</sup> July 2018 with 15 representatives of non-profit organizations (VET and Chamber of Commerce) and SMEs. Our goal was to introduce them the concept of frugal innovation and perform certain tasks to determine the barriers that could hinder frugal innovation teaching.

The workshop was structured across 5 key areas.

At the beginning of the workshop (one-day in-person meeting) some internationally known frugal innovations we introduced to the participants:

- **Mitti Cool**, a clay fridge without electricity (*infrastructural barrier frugal innovation*)
- **Foldscope**, a microscope that is made from paper and a single lens (*a cost barrier frugal innovation*).
- **Nokia 1100** was developed for developing countries and reduced unnecessary features of the product. (*a cost barrier frugal innovation*)

- 1 Welcome and Introductions, what do we want to achieve?
- 2 What do you know about frugal innovation ? What is the value of frugal innovation in our region as we emerge from recession?
- 3 Knowledge/skills gaps regarding non technological innovation & education in our region
- 4 Recommendations for innovative pedagogical approaches to better teaching of frugal innovation
- 5 The steps to develop a Frugal Innovation Strategic Action Plan for our Region

Then, some “frugal innovation” solutions in Ireland were introduced. We applied three rules during the identification:

- (1) the solution must be **cheaper** than available other products;
- (2) the solution has to **meet social needs**;
- (3) the solution has to **overcome infrastructural constraints**.

The examples of significance in Ireland were identified as:-

- Ryanair - transformed air travel in Europe by introducing a low-cost, no frills means of flying
- ECO Zero-Waste Market, Cork<sup>1</sup> - Minimal Waste Groceries
- Kollect<sup>2</sup> is a young Irish Start-up. They are working to disrupt the waste disposal market and create alternative waste solutions that give people more flexibility and save money. Waste solutions for the 21st century.
- Six Log Solutions<sup>3</sup> is introducing a more affordable hydrogen peroxide decontamination system to Ireland.

And in our region - The Magiflo patented rainwater gutter system <http://magiflo.com/about-magiflo/>

The participants found frugal innovation a very interesting topic, and one they had not thought about as a recognised innovation driver.

<sup>1</sup> <https://yaycork.ie/irelands-first-zero-waste-grocery-store-is-opening-in-cork/>

<sup>2</sup> <https://bincollection.kollect.ie/about-kollect/>

The attendees felt that frugal innovation was increasingly important in Ireland due to the impact of the recession. They highlighted that the need for eco and sustainable innovation is driving many of Ireland's popular frugal innovations. Sustainable manufacturing is demanding new equipment and processes and a change of company culture and mindset to change the way they think about products, technologies, processes, and business models. Some drivers –

- Viewing Compliance as Opportunity - Environmental regulations drive innovation e.g. A plastic bag tax levied in Ireland in 2002 led to a 95% reduction in plastic bag litter and a business opportunity for cotton shopping bags
- Making Value Chains Sustainable – for example Food Cloud <https://food.cloud/> FoodCloud makes the redistribution of surplus food as easy as possible, matching businesses with too much food, with charities in their community that have too little, tackling food waste and food poverty in the process<sup>4</sup>.



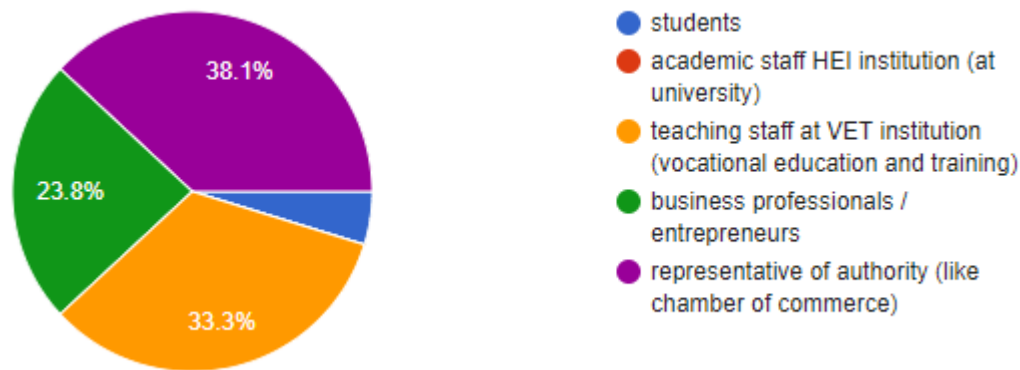
Based on the results of the workshop we concluded:-

- there is a strong need for Irish SMEs to develop their competitive advantage through frugal focused design-driven innovation approaches to business practices. The tools and techniques should teach participants how to:
  - Reconsider their product/ service value offering from a frugal perspective.
  - Explore potential solutions to provide additional user value.
  - Develop a coherent and complimentary value offering which takes into account both product and service processes.
- The frugal innovation mindset is important and needs to be tailored to the European context where the infrastructure is well developed, and inhabitants do not face strong financial constraints to buy anything.
- Frugal innovation and social innovation has similar characteristics.

## 2.2 Online survey – Perception of frugal innovation

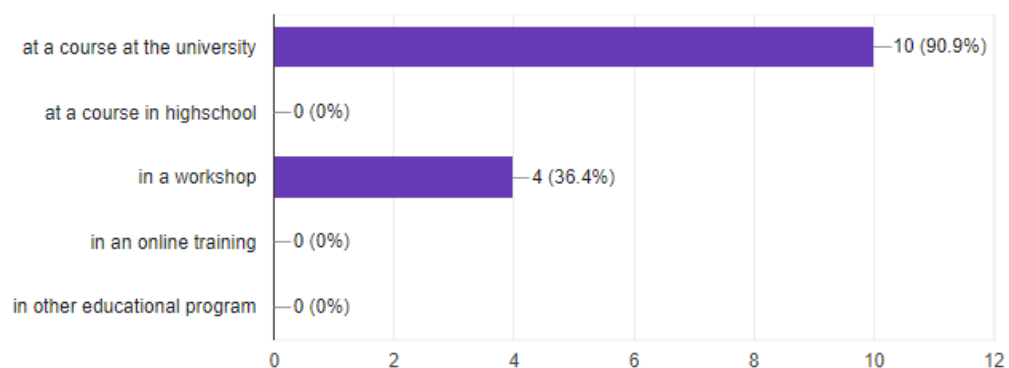
An online survey was carried out to reach wider audience and collect responses to investigate the awareness of frugal innovation in our region. The respondent were spread across our target groups:-

<sup>4</sup> <http://socialentrepreneurs.ie/awardees/foodcloud-iseult-ward-aobheann-obrien/>

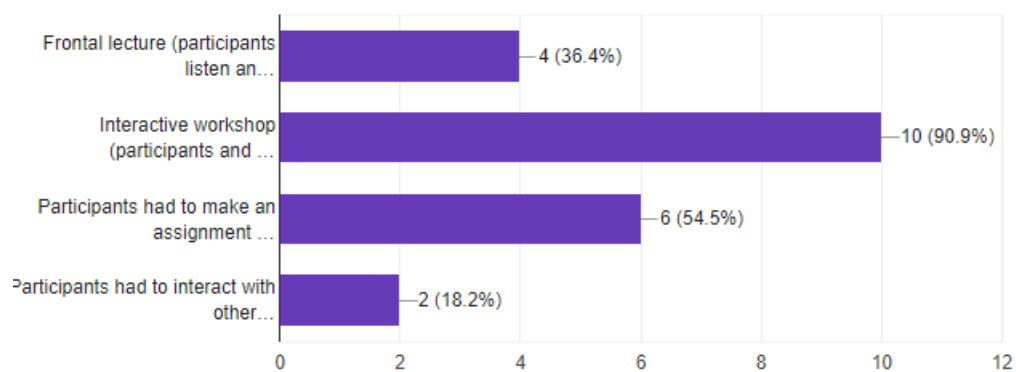


According to 62% of our respondents were involved in teaching innovation and 66% had heard about frugal innovation, a very strong awareness level.

We asked participants what kind of innovation education they had participated in.

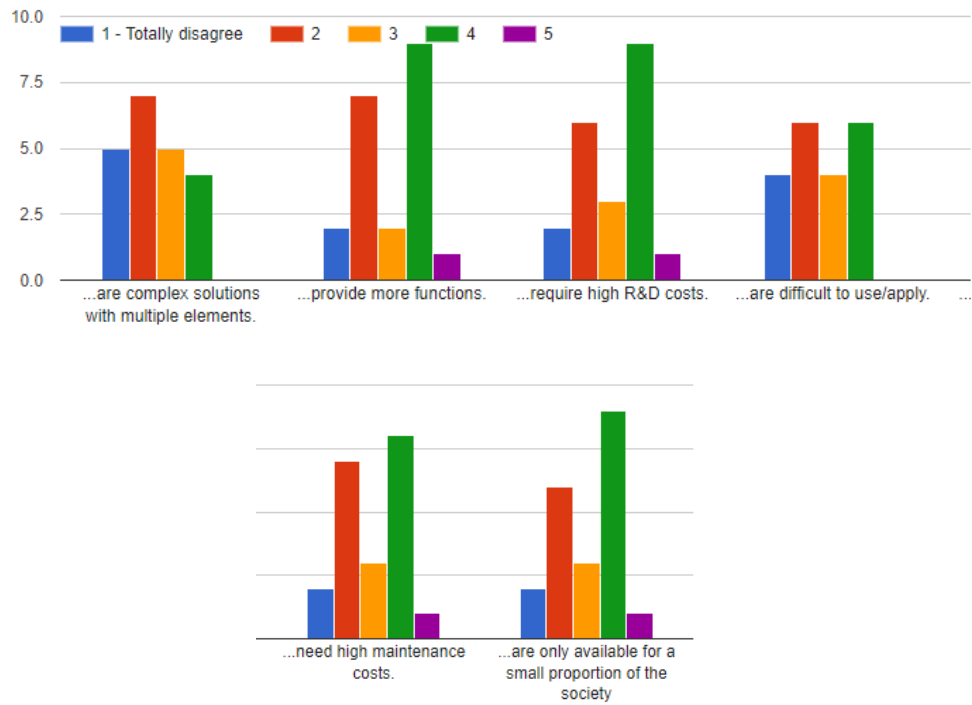


In terms of the teaching method that was used, the following responses were forthcoming: -

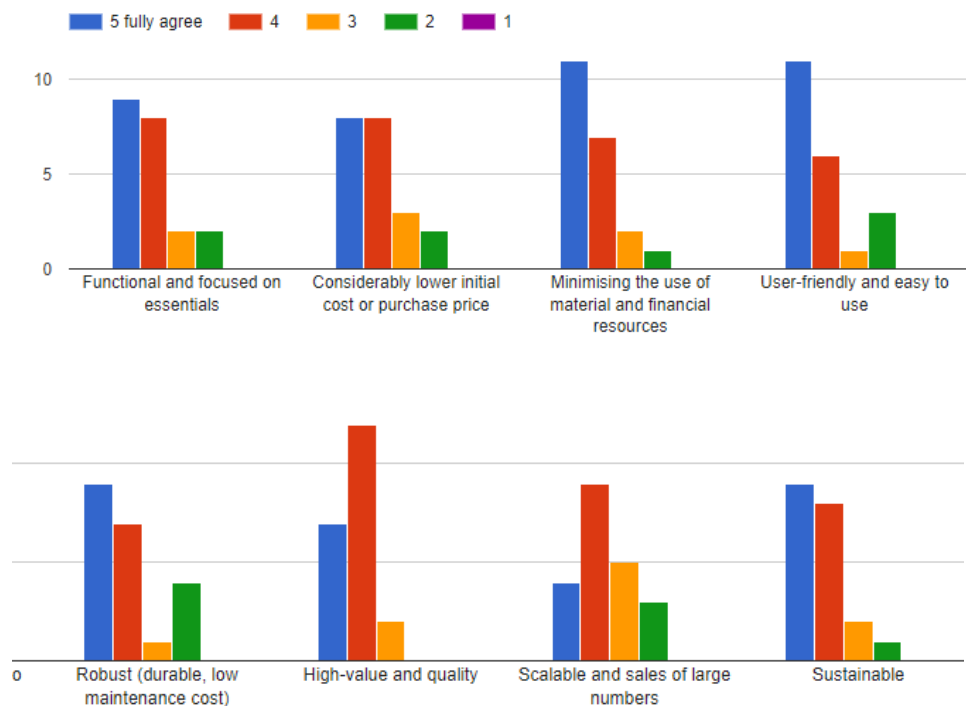


We asked respondents to agree/disagree across characteristics of innovation statements:





Although people believe that innovations are complex solutions, provide more functions than existing alternatives and represent high value and quality, innovations are usually difficult to apply and associated with high initial costs and price. And then, we asked respondents to what extent can the following attributes be associated with innovation (even if it is a kind of product, process, marketing or organizational innovation)?



We asked respondents to describe “frugal innovation” in their own words. The responses show a good level of understanding of its basic principles of frugal innovation: -

*Innovating in a resource efficient way. Interesting approach that can be applied in Ireland to the long term unemployed and young entrepreneurs with very little cash*

*Lean and smart approaches to innovation - the principle of more with less*

*Introducing products and services that meet a niche for lower cost innovative approaches*

*Rely on smarter, leaner, faster approaches - often more effective !*

*I have only heard of it in Asia and not in a European context, hence I am very interested in your approach*

*innovation that responds to market opportunities that require cheaper, faster, better products or services*

*For us, frugal means reducing the complexity and cost of products or services*

*Cheaper iterations in response to market opportunities*

*Smart, cheap solutions to people's biggest problems*

*To get more value from limited resources and find creative ways to bring leaner and sustainable products to the marketplace*

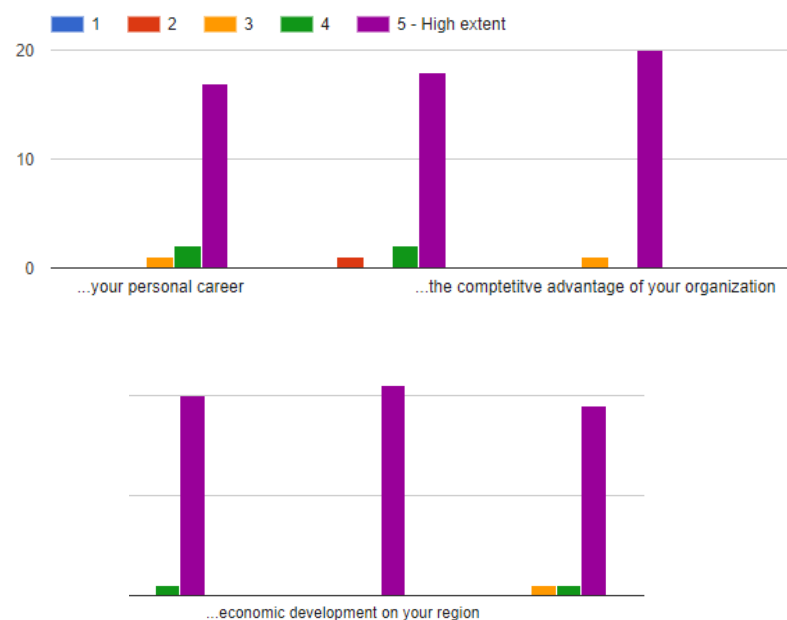
*Resourceful entrepreneurship and invention*

*A clever solution born in adversity*

*Doing more with less*

*It's about it's about making things better with less*

We asked respondent's opinion to consider the extent to which frugal innovation 'thinking' could contribute to key statements..



Although expressing positive attitude towards a concept is promising, we also wanted to investigate the intention of participants to learn more about frugal innovation if they are offered to attend to a free online study course. Very interestingly, 100% expressed a desire to avail of the courses – this correlates to the 100% of our respondents who advised they find the subject of frugal innovation interesting.

### 3 Knowledge and skill gap

In this section we provide a brief overview of the innovation skills and gaps in Ireland.

Our region is a border region with Northern Ireland. Priority actions in our region at the moment are mostly focused on are preparing for Brexit, stimulating regional development and boosting innovation, productivity and competitiveness. Frugal Innovation fits very well with this agenda. The Irish Government places tremendous worth and value on Innovation. Their Innovation 2020 plan was developed to keep the recovery going by rebuilding a sustainable economy that can support full employment. Innovation has been central to securing the recovery to date. It has supported growth in the numbers at work with 135,000 more people in employment since 2012 and has seen unemployment fall from a peak of over 15% in that year to 8.9% in October 2015.

This period has also seen Ireland continue to improve in international innovation rankings, most recently climbing from 10th place in 2013 to 8th place in 2015 in the EU Innovation Union Scoreboard.



#### Geography and Population

- *Relatively central location with significant regional population*
- *Rural region with third-most rural population*
- *Out-migration of younger working age group, leading to large diaspora*
- *Recent population growth, due largely to net migration*

#### Education Skills

- *High levels of third level participation*
- *Very low levels of graduate employment / retention – e.g. Roscommon has the lowest employment graduate population in the country, at only 20% of the size of its graduate population.*
- *Skills availability in agri/veterinary, engineering and manufacturing*
- *Skills gaps in ICT, science, technical skills and languages.*

#### Labour Force and Employment

- *High levels of employment in public services/health sector*
- *Farming/agriculture still relatively important to local economy*
- *One third of workforce travel outside the county to their workplace*
- *Job losses in traditional sectors*

#### Size and Scale of Enterprise Sector

- *Low levels of entrepreneurship*
- *Enterprise sector dominated by micro-enterprises serving local markets -*
- *High dependency on traditional sectors with low-growth – e.g. Roscommon has the smallest share of its enterprises in the knowledge intensive services sectors in the region. Just 15.1% of its enterprises are in the Information and Communications, Professional, Scientific and Technical services sectors. This is less than half the average for the rest of the state (32.4%).*
- *Small proportion of companies competing in export markets*
- *High vacancy rate amongst commercial properties*
- *Emerging pockets of knowledge-based industry*
- *Higher levels of knowledge enterprises in neighbouring regions, with potential for spill-over*

### Enterprise and Innovation Enablers

- *No specialist enterprise/innovation infrastructure in the county*
- *Opportunities for growth in emerging knowledge sectors*
- *Opportunities to support traditional sectors through focused resources to foster growth, including collaborative approaches.*

Innovation 2020 is Ireland's five year strategy on research and development, science and technology and sets out the roadmap for continuing progress towards the goal of making Ireland a Global Innovation Leader, driving a strong sustainable economy and a better society. The annual European Innovation Scoreboard (EIS) provides a comparative assessment of the research and innovation performance of the EU Member States and selected third countries. In the 2018 EIS, launched in June, Ireland's innovation performance has improved with Ireland moving up one place to 9th overall in the EU. Ireland is once again identified as a "Strong Innovator", just behind Germany and Belgium and ahead of Austria, France and Slovenia in this category. Ireland has performed particularly well across a number of EIS indicators, placing first in three out of the ten "innovation dimensions": Innovators, Employment impacts and Sales impacts. Ireland does not fare so well on the public investment in R&D and the intellectual assets indicators. Ireland has also retained its position in the Global Innovation Index 2018, ranking 10th out of 126 countries assessed.

Over the next two years, the EU's overall innovation performance is expected to improve by 6%. However, our region faces challenges. While our region, - Border, Midland and Western is a Strong Innovator, innovation performance has decreased over time. Comprising 13 counties, the Border, Midland and Western region accounts for 47% of the land area of Ireland, 26% of the population (1.25m people, 2016) and 17.5% of GDP (2014). The region is predominantly rural with a low population density, but also has some small, medium and larger sized towns. The BMW region has innovation deficits and is less entrepreneurial than the Southern and Eastern (S&E) region. There is only one university, and five Institutes of Technology with relatively low research capacity. The situation has improved markedly since the crisis as this mostly rural region has seen a steady decrease in unemployment from 16.5% in 2012 to 9.2% in 2016 (Eurostat 2017).

The table on the right shows the normalised scores per indicator and relative results compared to the country and the EU. The table also shows the RII in 2017 compared to that of the country and the EU in 2017, the RII in 2017 compared to that of the EU in 2011, and performance change over time.

The Regional Innovation Scoreboard 2017 ranks the BMW region as 87th of 220 regions. However, performance has decreased by in the period since 2011 from a score of 106.9 to 104.2 relative to the EU average set at 100. This contrary to the general EU trend where 60% of regions have increased performance. The Regional Innovation Scoreboard 2017 classifies the BMW region as a Strong Innovator. The Strong

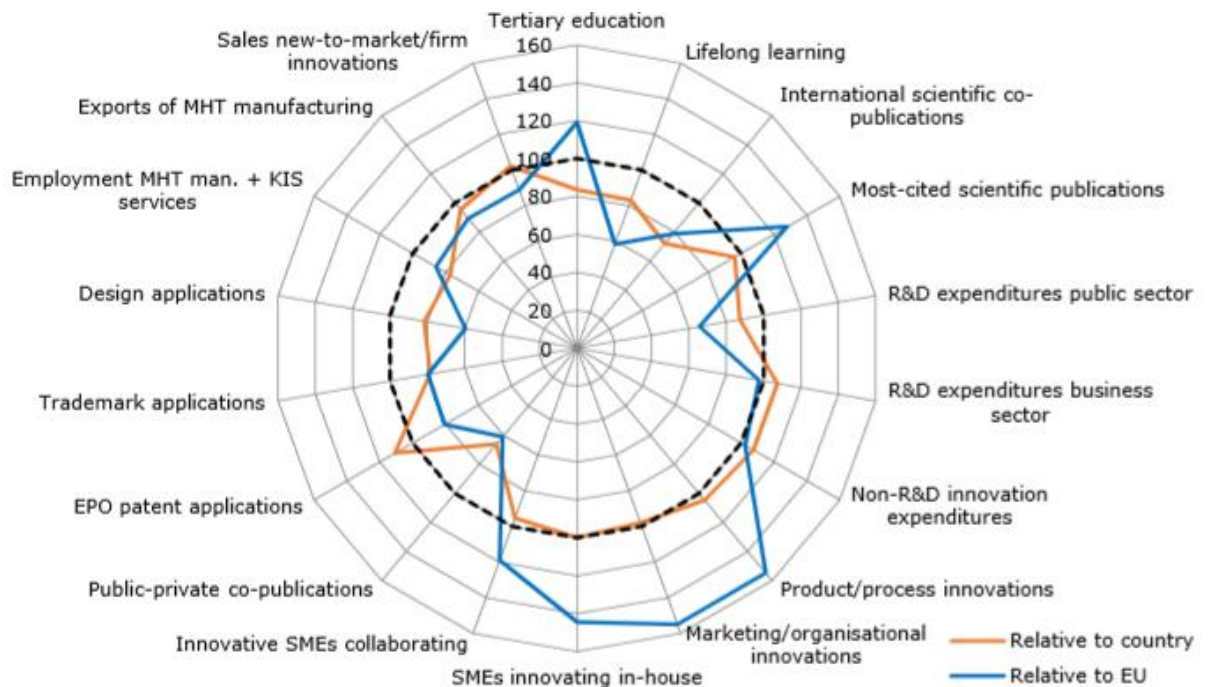
### Border, Midland and Western (IE01)

	Data	Normalised score	Relative to	
			IE	EU
Tertiary education	44.8	0.656	84	119
Lifelong learning	5.1	0.275	83	58
International scientific co-publications	649	0.328	72	79
Most-cited scientific publications	11.5	0.699	96	128
R&D expenditures public sector	0.32	0.359	87	66
R&D expenditures business sector	1.24	0.444	107	97
Non-R&D innovation expenditures	±	0.307	±	±
Product/process innovations	±	0.689	±	±
Marketing/ org. innovations	±	0.602	±	±
SMEs innovating in-house	±	0.660	±	±
Innovative SMEs collaborating	±	0.427	±	±
Public-private co-publications	40.8	0.181	66	61
EPO patent applications	2.87	0.314	111	81
Trademark applications	3.76	0.314	78	80
Design applications	0.40	0.311	82	60
Employment MHT manuf./KIS services	12.8	0.459	77	86
Exports of MHT manufacturing	48.0	0.564	95	89
Sales new-to-market/firm innovations	±	0.417	±	±
Average score	--	0.445	--	--
Country EIS-RIS correction factor	--	1.064	--	--
Regional Innovation Index 2017	--	0.473	--	--
RII 2017 (same year)	--	--	91.8	104.2
RII 2017 (cf. to EU 2011)	--	--	--	106.9
Regional Innovation Index 2011	--	0.489	--	--
RII 2011 (same year)	--	--	98.6	110.6
RII - change between 2011 and 2017	--	-3.6	--	--

± Relative-to-EU scores are not shown as these would allow recalculating confidential regional CIS data.

Innovators perform close to average (between 20% below or 20% above the EU average) on most indicators, except for Innovative SMEs collaborating with others (141%), SMEs innovating in-house (133%), EPO patent applications (131%), SMEs with marketing or organisational innovations (130%), Lifelong learning (129%), SMEs with product or process innovations (128%), and Business R&D expenditures (121%).

The radar graph below shows relative strengths compared to Ireland (red line) and the EU (blue line), highlighting relative strengths (e.g. Product & process innovations) and weaknesses (e.g. Public-private co-publications). The table below shows data highlighting possible structural differences. For instance, the region is less urban, with higher employment shares in manufacturing and agriculture, significantly lower GDP per capita and GDP per capita growth.



The latest GEM report (2013) notes a number of challenges in the Irish economy, including:

- The prevalence of early stage entrepreneurs in Ireland is at an all-time low
- The perception of opportunities for new business remains low
- There are difficulties reported with access to finance.

In addressing some of these challenges an Entrepreneurship Forum was established, which published its report on **Entrepreneurship in Ireland** in January 2014, highlighting the following six goals for a successful entrepreneurship policy:

- Strengthening the start-up community in Ireland
- Increasing the pipeline of entrepreneurs
- Energising job creation
- Continuing growth of the indigenous export sector
- Capitalising on Ireland's strengths in growth industries
- Using under-employed resources.

Innovation in our region is embedded in policy – the Regional Action Plan for Jobs North West sets out the key ambition in our area is to: Get more of the region's enterprises engaged in research, development and innovation to enable them to remain at the cutting edge of innovation and to achieve competitive advantage for the region as a strong knowledge economy

## **“Innovation requires Innovative People” – Innovation 2020 report**

‘Skills have become the global currency of the 21st century. Without proper investment in skills, people languish on the margins of society, technological progress does not translate into economic growth, and countries can no longer compete in an increasingly knowledge-based global society’.

## **Why is Frugal Innovation important ?**

The Irish economy is growing, unemployment is falling and the clouds of austerity are parting. But fresh data also paints a darker picture: a rising number of people are affected by grinding poverty. The findings are contained in the Central Statistics Office annual survey on income and living conditions in 2013 which showed how the economic downturn has turned lives upside down and lowered expectations for many. It shows that 1.4 million people – or 30 per cent of the population – experienced enforced deprivation during 2013, more than double the rate at the start of the downturn.

“Consistent poverty” is regarded as a more accurate measure of real deprivation. This includes people who are both living under the poverty threshold – which in 2013 was an after-tax income of €10,531 – and experiencing enforced deprivation. This shows just over 8 per cent of the population – almost 400,000 – were living in consistent poverty in 2013 – the rate in 2008 was 4.2 per cent. The worst poverty rates were felt by lone parents, the unemployed, those out of work through illness or disability, and children.

More recent statistics were shared at our workshop – reference [Ireland’s deprivation gap is large and has increased over time](#) 31st January 2018. A new study of 11 EU countries shows that Ireland has a significant and increasing gap in deprivation between vulnerable adults and other adults in society. The research, from the Economic and Social Research Institute, (published 31 January 2018), shows there is a significant and widening gap in the rate of persistent deprivation experienced by vulnerable adults, including lone parents and adults with a disability, and the rate experienced by other adults. Of the 11 EU countries studied, Ireland’s gap was the largest and increased the most during the study’s time frame of 2004-2015.

The research measured material deprivation across 11 EU countries: Ireland, the UK, Sweden, Finland, the Netherlands, Austria, Belgium, France, Italy, Spain and Greece. The research measured deprivation in three sets of two-year periods: the years of economic growth (2005-2006), recession (2008-2009) and recovery (2013-2014). This dynamic analysis, examining the situation of individuals over two years, made it possible to distinguish persistent deprivation from deprivation that was present in just one year.

- In Ireland, the persistent deprivation rate is 26 percentage points higher among lone parents and 14 percentage points higher for adults with a disability than for other adults. In the UK, the gap is 23 and 11 percentage points, respectively. Across the remaining nine countries, the average gap is 16 and 8 percentage points, respectively.
- In Ireland and the UK, the persistent deprivation gap between vulnerable adults and other adults increased significantly over time. This did not happen in the other nine countries.

**ALSO** participants shared other links of relevance – all contending that given poverty is so prevalent, frugal principles are very relevant.

[The Top 10 Need-to-Know Facts About Poverty in Ireland](#)

<https://borgenproject.org/top-10-facts-about-poverty-in-ireland/>

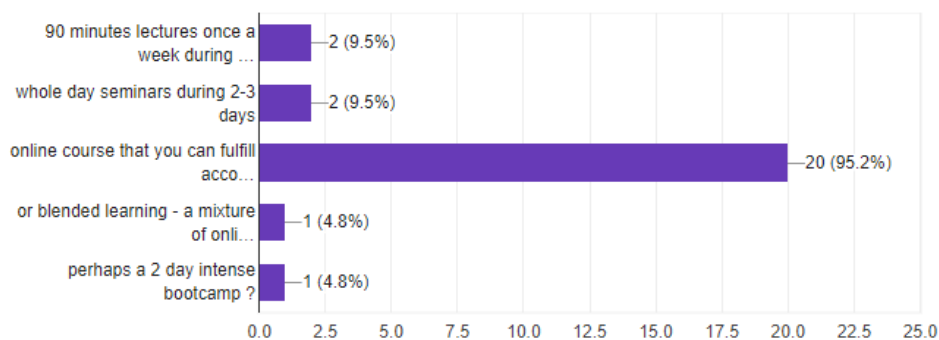
Innovation on Ireland is very hot topic but Frugal Innovation is not a topic that is being promoted. In the 23 page Innovation 2020 report, frugal innovation does not get a mention.



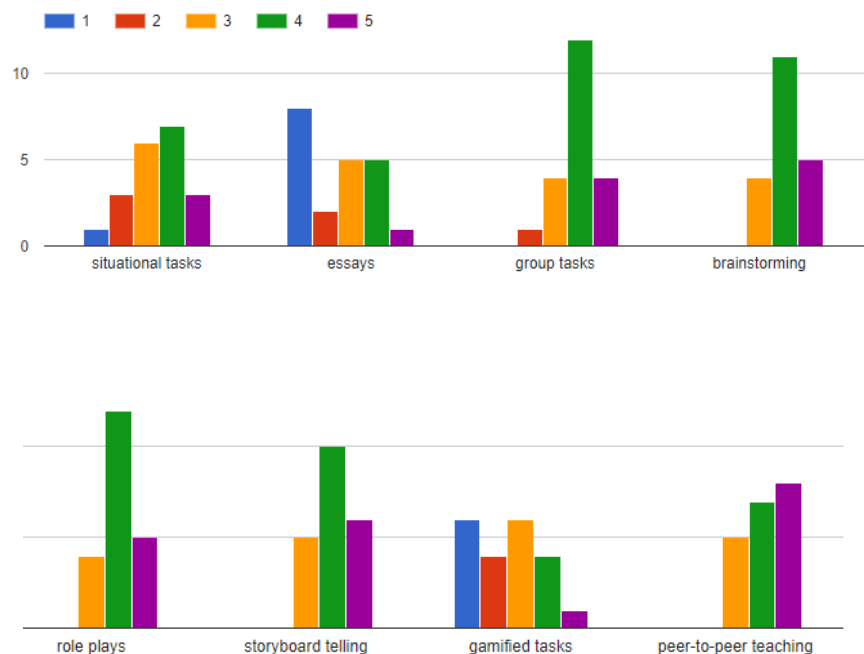
## 4 Recommendations for innovative pedagogical approaches

Previous sections provided a brief overview about the awareness and perception of innovation in general and frugal innovation which tend to determine the general opinion regarding the topic. Now, we provide insights into the pedagogical approaches that can enhance frugal innovation education. The results were gathered during our research.

Both research (one-day in-person meeting and online survey) provided significant insights into preferred pedagogical approaches in the region. The following subsections demonstrate the results of these researches. We asked respondents if they you decide to learn something new, what kind of teaching method would suit to their daily activities. Very clearly, online course is the overarching method at 95% of respondents.

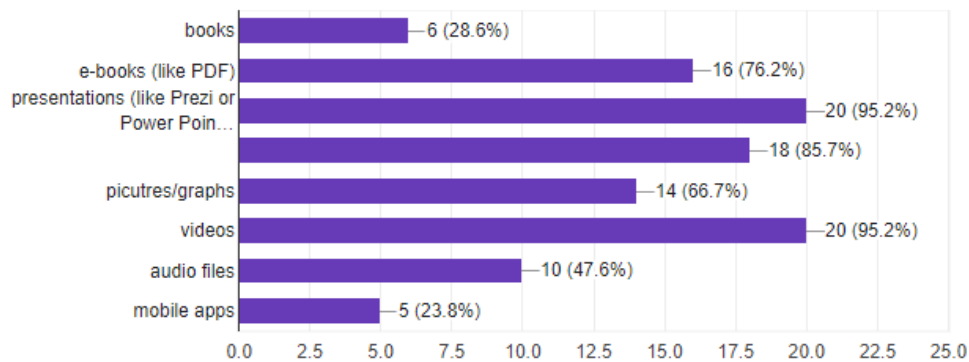


We then asked respondents to rate the following teaching and evaluation methods.



Respondents express a preference for a strong level on interaction, specifically groups tasks, brainstorming role play, storytelling, peer to peer teaching

We asked respondents to cite the learning resources that they usually prefer.



The preferred formats are presentations, notes prepared by the training organisation, videos, and e-books.

*Blended learning, combining the best of online flexible learning with the interactive dynamic of the classroom*

*Online can be very effective when it is interactive and*

*It needs to be flexible and very very practical*

*Online is the way forward with some classroom content*

*Bite sized learning and peer group learning work well in our enterprise centre training course delivery*

*Depends on the learner group but peer to peer is very effective backed by lots of teacher resources that feature case studies*

*Succinct content enriched with storytelling practice available across many platforms and open source*

*Maximum use of digital tools, with strong teacher and peer involvement*

*Blended*

*I prefer blended teaching approaches - much better outcomes*

*Blended*

*A combination of all of the above !*

*Online and classroom combined*

*Mixing the best of classroom with convenience of online*

*Online*

*Flexible and bite sized - mix of technology and classroom and one to one coaching*

*Peer learning- lots of case studies and learner groups*

*Online with option of classroom*

*Blended*

*Blended learning gets the best results for us*

Blended learning is by far the most popular delivery format. All our 21 respondents expressed an interest in completing the free online course when available. We asked them why ...

*New content that I can introduce into my entrepreneurship training courses*

*New learning and case studies will be interesting for my work*

*Want to be more innovative in developing new products in a cost-effective way*

*As a local authority Enterprise Office this course is very interesting to our clients - we are working on a town regeneration of Mohill with sustainable enterprise a key theme. We are really interested in delivering your course to our clients.*

*Our food production tenants will be very interested in how to apply frugal innovation in their companies*

*To be able to share content as part of my micro enterprise entrepreneurship courses*

*To share the materials with our food company members across the West of Ireland*

*To have a European focused approach to this really important topic*

*Would be useful to share with our young people studying social innovation*

*To have new training that I can deliver to improve the innovation performance of our region*

*To be able to share smart, cheap solutions to innovating with our members*

There is a very strong welcome for this subject and course in Ireland and a strong indication it will be used in practice.

Our workshop gave more prevalence to blended learning and study groups as the most effective teaching methodologies.

- i) Blended learning to combine e-learning and mobile learning with traditional classroom methods so the value of networking to share knowledge can be maximized
- ii) A small **group** of people with a common interest (e.g. enterprises in the same sector, tenants in the same enterprise centre) who regularly meet to discuss the key frugal innovation learning they can implement in their businesses and their experiences of that implementation

Needs to be a very strong focus on case studies and insights into frugal innovation in different sectors for example

- innovation in health
- innovation in agri-food
- innovation in marine
- innovation in environment
- innovation in the digital society
- innovation in energy etc.

Our multi sector SMEs and enterprise development agencies workshop attendees brainstormed the specific skills and competences that will stimulate effective frugal innovation in our region. The attendees agreed the following for our region:

- new product/process development with scarce resources;
- new business model development – leaner, smarter approaches;
- new service delivery and customer interfaces – high street /estreet alignment in the retail sector;
- new service development – new ways of service delivery in traditional sectors that are being transformed by technology;
- tailored training in innovation management;
- innovation/technology audit.

Interesting link - <https://yourstory.com/2015/04/frugal-innovation/>

## 5 Strategic Action Plan

The Strategic Action Plan summarizes the necessary steps that should be carried out to implement frugal innovation mindset in any region. This plan can be adopted by any organization that decides to engage in frugal innovation promotion. The Strategic Action Plan consists of the following phases:

1. PHASE 1: Setting up the team
2. PHASE 2: Approaching potential partners for cooperation
3. PHASE 3: Engaging partners in cooperation
4. PHASE 4: The Action Plan
5. PHASE 5: Resources
6. PHASE 6: Monitoring the execution and sustainability

### PHASE 1: Setting up the team - Finding and Engaging Our Champions

By bringing together a public private alliance (partnership) of interested stakeholders with vested interests in frugal innovations, VET, HEI and economic development agencies, regions can benefit from the multiplier impact of cooperation and collaboration through sharing knowledge and best practice and convert this into wider innovation and action plans at regional level.

When trainers local authorities, innovative entrepreneurs and business development organisations come together, special things can happen. These stakeholders would typically represent groups that have a stake, interest or right in relation to innovation and entrepreneurship and/or related educational initiatives, and those that will be affected positively by project's activities.

The Irish partners of the Frugal Innovation project sought to utilise their extensive network contacts to be part of the creation of the Frugal Innovation Regional Partnership who:

- Can influence and make decisions about the development of frugal innovation as part of innovation and entrepreneurship stimulation in the region
- Is involved in training innovation and entrepreneurship
- Is involved in funding the business growth of innovative entrepreneurs



As in every project, there is a need for a coordinating team that is responsible for organizing all activities and delegate tasks within the participants. The coordinator team performs the following functions:

Functions	Tasks
<b>Account management lead</b>	<ul style="list-style-type: none"> <li>▪ Establishing and keeping contact with the stakeholders and members of the cooperation partners</li> <li>▪ Creating contact lists</li> <li>▪ Requesting stakeholders, making arrangements with them</li> <li>▪ Keeping ongoing contact; informing and getting feedback from the stakeholders</li> </ul>
<b>Education lead</b>	<ul style="list-style-type: none"> <li>▪ Educational organizational duties</li> <li>▪ Drawing up the related educational program (course, summer school, student competition, etc.)</li> <li>▪ Implementing frugal innovation mindset in the educational materials</li> <li>▪ Keeping contact with HEI and VET actors</li> </ul>
<b>Dissemination lead</b>	<ul style="list-style-type: none"> <li>▪ Communication activities</li> <li>▪ Promoting the project among relevant stakeholders</li> <li>▪ Informing local media about the milestones of the project</li> <li>▪ Producing dissemination materials (flyers, posters, etc.) with customized content targeting stakeholders from businesses and academia</li> </ul>

## PHASE 2: Approaching potential partners for cooperation

At the beginning, the team should prepare **a list of potential cooperation partners**. When compiling a potential partner list, it is more useful to start with a broader list because usually less stakeholder join the project than the expected. As the previous research highlighted, the target group is usually not familiar with the concept of frugal innovation, thus a wider audience should be approached. The following partners should be added to the list:

- Educational institutions (both HEI and VET institutions)
  - Management of the organization (deans, directors, heads of departments)
  - Teaching staff
  - Representatives of student organizations (student unions, student clubs)

- Representatives of start-up communities and organizations in the region
- Management of university spin-off companies
- Non-profit organizations
  - Representatives of the Chamber of Commerce in the region
  - Local authorities
- For-profit organizations
  - Entrepreneurs in contact with the university (especially those who have already been at the universities as lecturers and/or students)
  - Management of incubator houses and accelerator programs
- Actors of regional media

After drawing a list of potential partners the team should prepare an “**offer**” that clarifies the ways a partner can be involved in the implementation of the project. In the present formulation, “offer” refers to these opportunities and “ways to be involved” which can be offered to the partners. In order to define the offers, it is practical to divide the potential partners in the following categories:

#### Teaching staff:

- **Giving a lecture:** It is useful to involve teachers and professors with extensive knowledge in management, marketing and innovation in the program to extend the general innovation knowledge of students through short lectures.
- **Mentoring:** Similarly to professionals, teachers with theoretical experience can also give important feedback to students through direct interaction. It is particularly efficient if mentoring by an entrepreneur and a teacher is applied in combination.

#### Local SMEs and entrepreneurs:

- **Defining the problem:** The opportunities and challenges of local economic climate and market. Entrepreneurs should be involved in defining the central problem as well as in filtering the student venture ideas; moreover, they may be requested to define potential entrepreneurial ideas.
- **Sharing experience:** A teaching toolkit can be prepared for the purpose of a wider use of the educational activities carried out by the team, for which entrepreneurs may provide valuable input as well as feedbacks for already prepared teaching material.
- **Mentoring:** The most efficient way of transferring knowledge is having direct, personal interaction between the entrepreneurs and the student. Mentoring may refer to team work incorporated in an academic course, to supporting a team participating in a university competition, and even to giving advice to a start-up (student) firm.

#### Other stakeholders:

- **Dissemination:** It is an important element in the success of the program to raise the awareness of the program by the most stakeholders possible. In this respect, every stakeholder can contribute by advertising through their own communications channels. It is itself valuable information if they share the news about participating in the program on their online platforms.

After the offer is completed, that should be sent out to the contact lists prepared in the previous sections. The following aspects should be considered in sending out the call:



- **Segmented message:** As the partners in the team may have various, different motivations and interests, a one-size-fits-all general approach should be avoided. Instead, it is practical to send out the call by segments separated.
- **Personalized sending:** The importance of personalization has already been emphasized, according to which it is useful to register the name of the internal contact person who has a direct (personal) relationship with a given member of the contact list. Instead of using the central email address of the project, each contact **should receive messages or calls from this internal contact person.**
- **Brief content:** Although the program has a broad spectrum and numerous partnerships may be formed in the context of the team, it is still practical to announce only the most important message. It is enough to provide the details when it is clear who is actually involved in the project. Providing too long and complicated content, results in refusal without reading.
- **Monitoring the process:** Establishing contact may take place via email, as well as social media channels. Whatever channels are chosen, it is important to ensure ongoing monitoring (opening rate, clicking rate, etc.), and, where justified, resend the message (“reminder”). It is useful to put a link in the first message to be used by those interested, thereby separating uninterested people (who opened it but did not click on the link) from unaware people (who did not even open it).

### PHASE 3: Engaging partners in cooperation

Now, the potential partners are invited to join the project and hopefully we received all feedbacks who will join and who won't. Based on the feedbacks, the interested stakeholders should meet, thus a kick-off meeting should be organized. The following topics must be covered by the coordinator team in the meeting:

- The aim of the project
- Brief description / introduction of members
- Brief description / introduction of frugal innovation – the previous research highlighted that a short introduction and discussion of frugal innovation is necessary for deeper understanding of the concept
- Presentation of the possibilities of involvement in the program targeted at frugal innovation
- Collection of attendant feedback
- Dedicating tasks for partners

A needs assessment should be sent out to the attendants of the kick-off meeting (and the ones who cannot attend but express their interest), in which they indicate their expressions of interest and the form of involvement. As the offers are presented in detail in the kick-off meeting, every stakeholder is aware of how they can take an active role in the project. The evidence of this in Ireland is presented earlier in this report.

In order to record the ways of involvement approved it is practical to formally confirm an action plan.

### PHASE 4: The Action Plan

In Ireland, the vested stakeholders have agreed to implement the following actions:-

#### Action 1 Awareness Building

In Ireland, it is important to inform and influence policy-makers of the exciting opportunities presented through street food. Hence, an Information Powerpoint and a project brochure was prepared which was widely circulated to increase support and knowledge, to get the message out, clearly outlining

- What is frugal innovation?
- What we want to make happen?
- Who stands to benefit?
- What is our project's "unique selling proposition"?
- Why are we credible?

Awareness building actions will see us make numerous presentations at the highest possible level with a major emphasis on briefings to Government ministers and key regional decision makers and influencers. Entrepreneurs and teachers (at HEI and VET) also need to be informed about the Frugal Innovation project and the platform for application. We will use the following communications channels:

- Online interfaces (its website, Facebook page, Twitter channel)
- Online advertisement
- Encouraging the applied participants to share their own participation on their social portals
- Informing the management of each faculty through the central educational and/or marketing directorate
- Informing our target groups in person

#### **Action 2 Delivery of the Frugal Innovation classroom course**

We will deliver the course in our region in 2019, and annual thereafter, which may take various forms, for example:

- Part of an existing course
- Online course
- Workshop
- Competition (for students and/or entrepreneurs)
- Summer school
- International Week course

#### **Action 3 Host a powerful Multiplier event to launch the Frugal Innovation outcomes**

#### **PHASE 5: Resources**

Opportunities for funding Frugal Innovation in our region are numerous and can be outlined as:-

**Enterprise Ireland** plays a key role in supporting research and innovation in the North West. In addition to providing in-company research supports, Enterprise Ireland will promote outreach activities to industry, aimed at getting more companies engaged in collaborative research, development and innovation;

- through its Technology Gateways in Letterkenny and Dundalk, as part of the Enterprise Ireland funded Technology Gateway National Network which acts as an access point for enterprise in the Region, facilitate access to research resources and infrastructure across the State;
- operate a range of programmes, including Innovation Vouchers and Innovation Partnerships to help companies undertake collaborative research with third level researchers. The Innovation Vouchers initiative is open to all small and medium-sized limited companies registered in Ireland. Innovation Vouchers worth €5,000

are available to assist a company or companies to explore a business opportunity or problem with a registered knowledge provider.

<https://www.enterprise-ireland.com/en/research-innovation/companies/collaborate-with-companies-research-institutes/innovation-voucher.shortcut.html>

**Local Enterprise Offices** offer innovation vouchers, trading online vouchers, lean start and management development training.

- A 'LEAN for Micro' programme available nationwide to help small businesses become more efficient and competitive;
- A 'LEO Innovation and Investment Fund' pilot programme to support innovation in micro-enterprises and to help them become investor ready so that they can scale their businesses
- Targeted training on specific Brexit challenges, including financial aspects and capability building in innovation, competitiveness and opportunity diagnosis;

<https://www.localenterprise.ie/>

**Co-Innovate** is a five year €16.6 million project that aims to increase the numbers of small and medium enterprises (SMEs) involved in research and innovation across the border region of Ireland (Cavan, Donegal, Leitrim, Louth, Monaghan, Sligo), Northern Ireland and parts of western Scotland, from 22 per cent to 33 per cent over the next five years. [www.co-innovateprogramme.eu](http://www.co-innovateprogramme.eu)

**InterTradeIreland** will promote its Fusion programme in the region, which helps embed innovation capability in SMEs through the introduction of new product and process development opportunities and will also drive participation in its Challenge programme, which provides SMEs with the opportunity to learn how to develop a culture of innovation.

## PHASE 6 Monitoring the execution and sustainability

In the course of implementing the educational activities, an open and flexible attitude on the part of both the organizers and the participants is crucial. It is important to emphasize that there are no two identical programs, the outcome of a program changes in place and time, generally according to the specificities of the involved parties. This is the reason why the ongoing monitoring of the program is important.

The following measures may serve as a solution to the described challenges:

- Taking part in local events with the aim of promoting the program and frugal innovation mindset, as well as recruiting members.
- Joining other programs, projects and applications in the region where frugal innovation can be presented
- Promoting the educational elements using online media
- Including participants representation to the project to help strengthen the program