

Innovation & Investment WG Meeting  
Diving into the European Single Market  
Tools for SMEs  
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# Assessing the Investment Potential of SMEs Emerging from EU R&I Programmes

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# Purpose, scope and objective

- Boost the investment readiness of FP7/H2020 SMEs.
- Ensure that assessed SMEs identify the key issues required to access private funding.
- Improve FP7/H2020 SMEs capacity to access to finance.
- Put forward recommendations to identify policy measures for potential improvement.



Increase market uptake of European R&D

# Introduction to "Action 10"

- Action 10 was carried out by an Independent Investment Expert Group (IIEG) as a follow-on of Action 9 "Assessing the Investment Potential of Emerging from Phase 1 and Phase 2 of the SME Instrument" in 2016.
- **31 experts** were chosen to undertake investment readiness assessments of SMEs, based on their expertise and knowledge of venture capital and private markets.
- **173 SMEs** accepted to participate from a larger pool of SMEs participating in collaborative projects under FP7 and Horizon 2020.
- The **selection criteria** were based either on the participation of SMEs as **project coordinators** or on the **ratio of their financial contribution** to the EC contribution to the project **being > 15%**.
- Some **top performing innovation radar** projects were also included in the analysis, while **SME Instrument beneficiaries were excluded**, as they were already covered in Action 9.

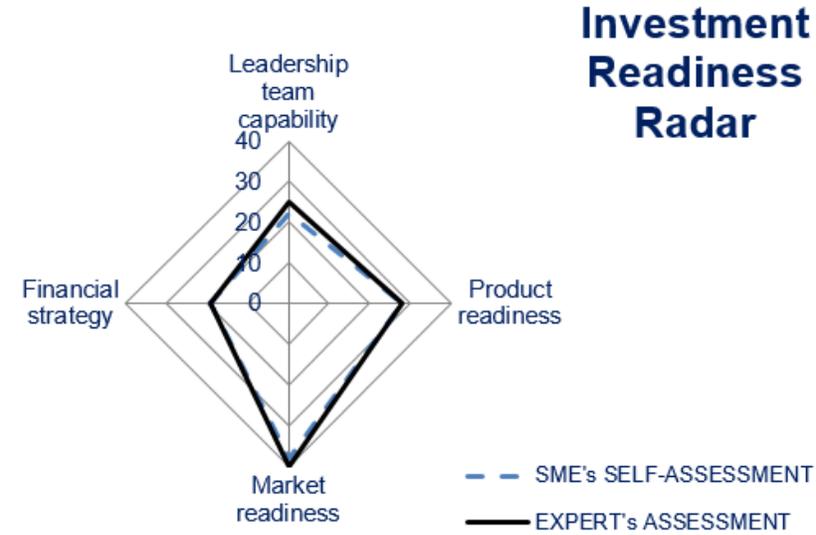
# Methodology

- 2,218 SMEs were invited to take part in the action.
- Those interested in participating responded to the invitation filling out and sending a first basic questionnaire.
- Experts were assigned to the participating SMEs considering sector and geographical area.
- Experts contacted SMEs to perform a face-to-face investment readiness assessment based on a IR questionnaire.
- According to the results of the assessment, the experts produced an enabling plan for each SME (roadmap to become IR).

# Investment readiness level assessment

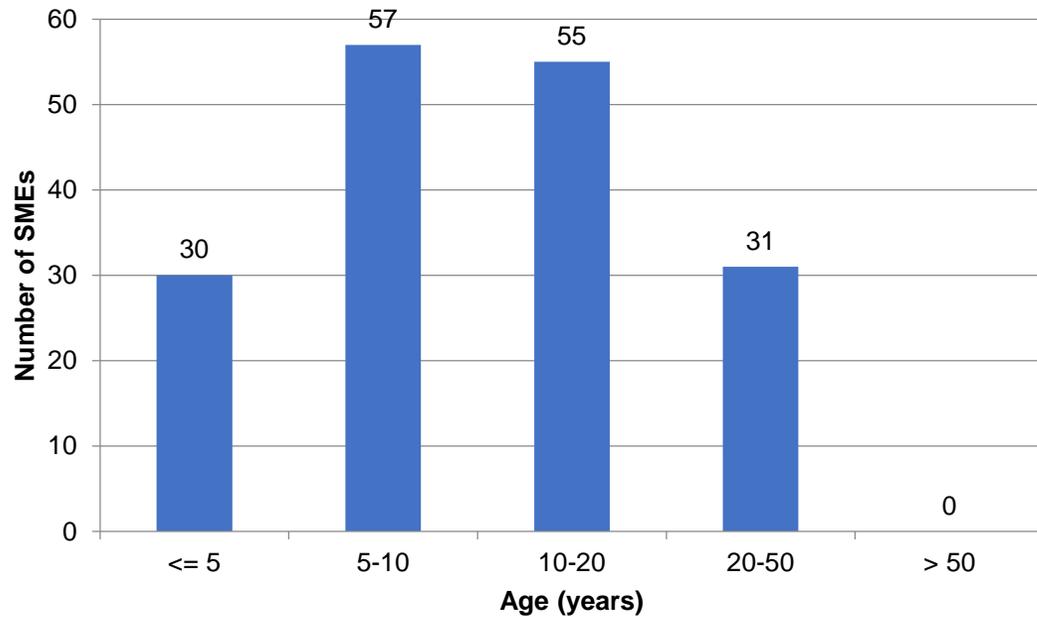
## Key parameters:

1. General information
- 2. Leadership team capability**
- 3. Product readiness**
- 4. Market readiness**
- 5. Financials and exit strategy**
6. Impact Assessment

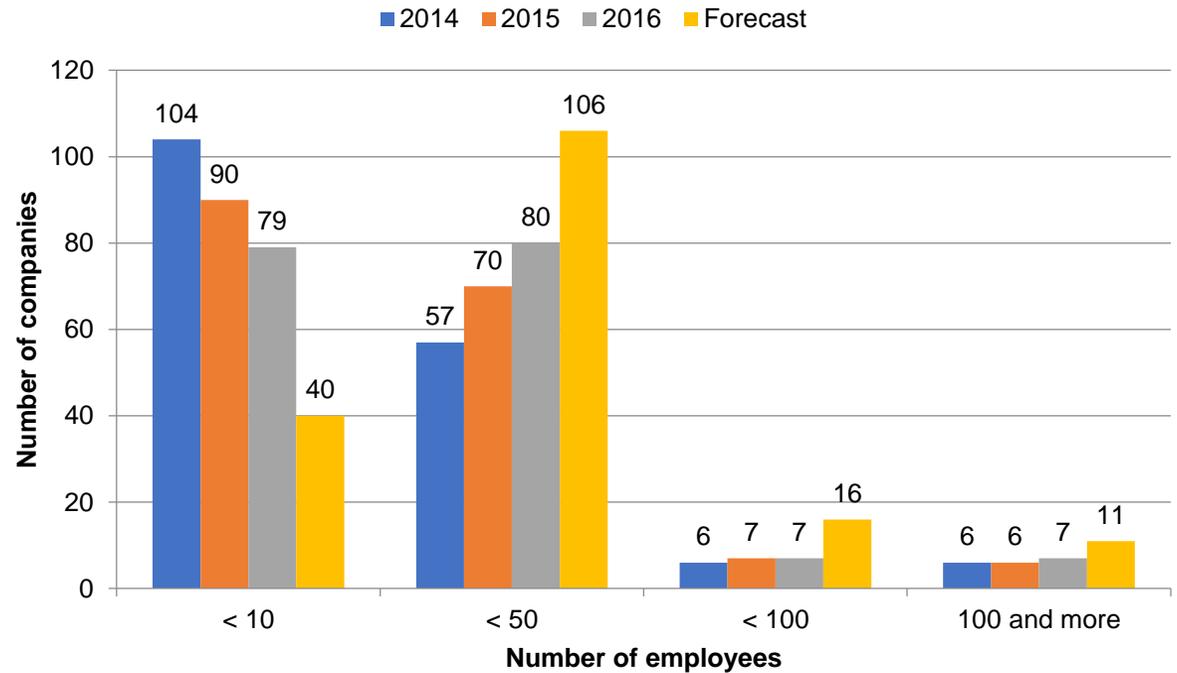


<b>Thresholds/ Investment Readiness Lights</b>	
below 60 %	<b>not ready</b>
above 60 % up to 85 %	<b>almost ready</b>
85 % and above	<b>investment ready</b>

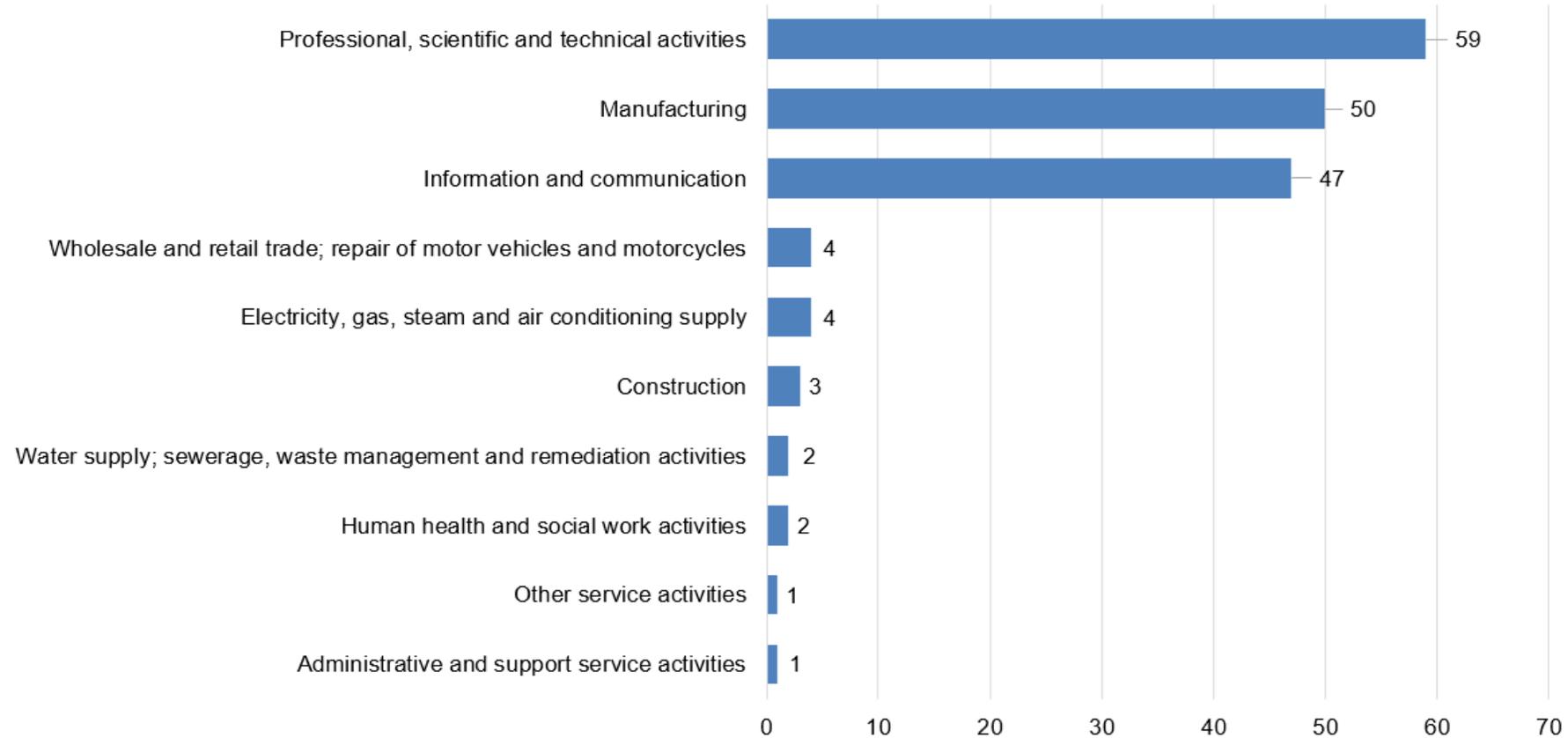
# Participants by age and employees



Average = 13,2  
Max = 43



# Participants by sector (NACE code)



# Classification of SMEs: Case 1A, Case 1B, Case 2

Companies are grouped into the following sub-categories based on expert's assessment and the roles they have played as part of the EU funded programmes:

- SMEs have been classified based on market driven SMEs (referred to as Case 1) with either
  - high growth and/or scale up potential (**Case 1A**) or
  - low to moderate growth potential (**Case 1B**).
- This analysis has also identified SMEs that provide support to other consortium partners in these EC programmes (referred to as **Case 2**).

# Classification of SMEs: Innovation cycles - short, medium and long

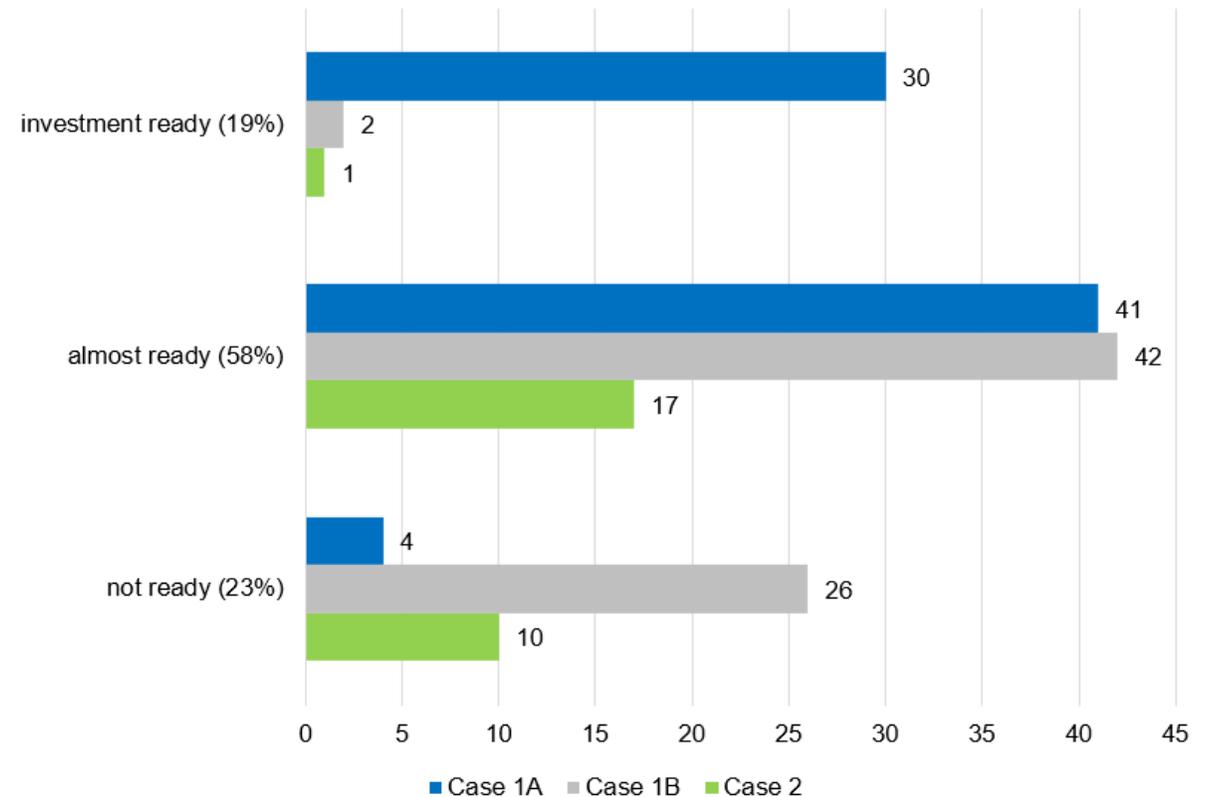
At the heart of this investment readiness analysis is the identification and study of SME's against innovation cycles they belong to:

- **Short Innovation Cycle (SIC)** (e.g. ICT sector), typically 1-4 years from proof of concept to commercialisation.
- **Medium Innovation Cycle (MIC)** (e.g. manufacturing, food, environment sectors), typically 4-8 years from proof of concept to commercialisation.
- **Long Innovation Cycle (LIC)** (e.g. biotech, health, space, transport, nanotech sectors), typically 6-12 years from proof of concept to commercialisation.

# Investment readiness Action 10/Action 9 and by case

- 1 out of 5 Action 10 beneficiaries are investment-ready.
- Case 1 companies (market-driven SMEs) represent 97% of investment ready SMEs.
- Case 1A (high growth potential SMEs) represents the 91% of all the investment ready SMEs.

Investment readiness level	Action 10		Action 9	
	SMEs	%	SMEs	%
investment ready	33	19%	45	26%
almost ready	100	58%	90	52%
not ready	40	23%	12	7%
<b>Total</b>	<b>173</b>		<b>147</b>	



## Key findings supporting the recommendations

- MIC and LIC companies **are deemed as riskier for private investors** as captured in the Enabling Plans by experts.
- Most **MIC and LIC** SMEs rely on **substantial grant funding for product development** and early market development, and it can take several years before SMEs are able to generate revenue.
- MIC and LIC SMEs routinely **underestimate the challenges around scale up of processes and products** to full commercial scale. This is attributable to their underestimation of the time, effort and resources needed for scale-up.
- **VC, business angels and strategic investors are the most recommended types of financing** by experts for MIC and LIC SMEs evaluated as either ready or almost-ready.

# Key findings supporting the recommendations

- Non-ready SMEs have significant **shortcomings** in the areas of market readiness and financial strategy and planning mainly. Particular issues include:
  - Lack of advisory groups/Boards **to guide their development.**
  - **Insufficient contact with potential customers** and supply chains.
  - **Lack of understanding of market segments**, routes to market and a go-to-market strategy, value propositions.
  - **Lack of clear revenue model**, revenue streams and poor cash flow management.
- These companies **need to secure non-dilutive grants** to further engage with the market through **market demonstration activities**, and subsequently plan to secure business angel funding, which would also come with some level of guidance and mentoring from experienced angel investors.
- 50% of ready and almost-ready SMEs seek **between 1 and 5 M€**. 20% seek more than 5 M€.

# Perception of SMEs on EU grants

## MIC and LIC

- Have accelerated knowledge transfer, access to partners and bridges from research to market.
- Have aided/supported mobilisation of private investments via equity financing.
- Have explored alternative applications for their technologies.

## SIC

- Possibility to hire qualified workforce and access to international customers and stakeholders.
- Very low level perception that EU grants are a means to mobilise private investment.

# Key findings from Case 1A SMEs (high growth potential SMEs)

- Readiness:
  - Case 1A are the 91% of all the investment ready SMEs.
  - 95% of Case 1A are investment ready or almost ready.
- **Belong to multiple sectors** such as health, security, nanotech, food. Only 17% of ICT SMEs are Case 1A.
- Higher average **number of patents** (applications and granted) in comparison with Case 1B (almost twice).

Strengths	Shortcomings
<ul style="list-style-type: none"><li>- marketable product/innovation with potential for disruption.</li><li>- highly complementary and experienced management teams.</li><li>- in-depth understanding of target market and potential customers.</li><li>- well validated business model.</li></ul>	<ul style="list-style-type: none"><li>- lack of sales and marketing resources.</li><li>- strategies for attracting investors.</li><li>- lack of robust plans for capital utilisation</li></ul>

Experts have recommended to **prepare investor information package** and **define a strategy for negotiating with investors.**

## Key recommendations to the European Commission (1/2)

- Continue to provide **substantial grant funding** to innovative SMEs, especially in **MIC and LIC**.
- Implement **SME support actions in parallel** with R&I framework programmes that prepare SMEs to become **commercialisation ready**, attract investment and the connection with growth programmes such as COSME.
- **Identify and provide enhanced support**, and continued funding to Case 1A (high growth and/or scale-up potential) SMEs.

## Key recommendations to the European Commission (2/2)

- Provide structured support mechanisms to help **MIC and LIC SMEs to access and utilise physical infrastructures** for product and process innovation, development, testing, integration and scale-up.
- Support **patient venture capital** provision (through EIB schemes or other) for MIC and LIC SMEs to address **the 1-5 M€ gap**.
- **Increase the number of funding sources** for SMEs (grants, private capital, debt financing and blended finance).

# Related EC Initiatives

- InvestHorizon 2.0
- European Innovation Council

**Thank you**

# Additional information

# Investment readiness - general characteristics

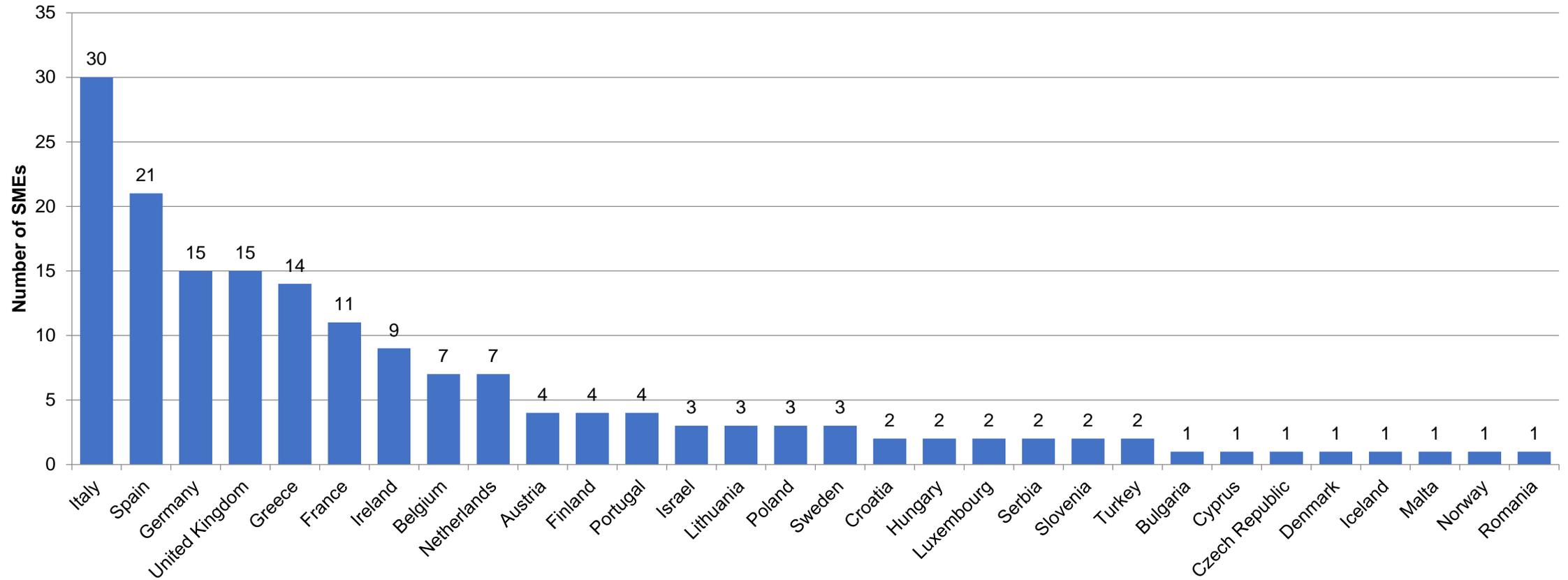
IRL	Number of SMEs	Age of the company in years (average)	Staff headcount 2016 (average)		Revenue in million Euro 2016 (average)		Current status of innovation (TRL) average	Total amount of grant income received since 2012 (average)	
			< 10	> 10	< 2	> 2		< 100.000 Eur	> 100.000 Eur
investment ready	33 (19%)	12,5	< 10	10 (30%)	< 2	25 (76%)	7	< 100.000 Eur	1 (3%)
			< 50	20 (61%)	< 10	6 (18%)		100.000 - 500.000 Eur	2 (6%)
			< 100	1 (3%)	< 50	2 (6%)		500.001 - 1.000.000 Eur	21 (64%)
			100 and more	2 (6%)				1.000.001 - 5.000.000 Eur	3 (9%)
								> 5.000.000 Eur	6 (18%)
almost ready	100 (58%)	16	< 10	45 (45%)	< 2	71 (71%)	6,71	< 100.000 Eur	7 (7%)
			< 50	47 (47%)	< 10	25 (25%)		100.000 - 500.000 Eur	4 (4%)
			< 100	4 (4%)	< 50	4 (4%)		500.001 - 1.000.000 Eur	29 (29%)
			100 and more	4 (4%)				1.000.001 - 5.000.000 Eur	28 (28%)
								> 5.000.000 Eur	32 (32%)
not ready	40 (23%)	16,5	< 10	24 (60%)	< 2	34 (85%)	6,2	< 100.000 Eur	4 (10%)
			< 50	13 (33%)	< 10	5 (13%)		100.000 - 500.000 Eur	2 (5%)
			< 100	2 (5%)	< 50	1 (3%)		500.001 - 1.000.000 Eur	7 (18%)
			100 and more	1 (3%)				1.000.001 - 5.000.000 Eur	15 (38%)
								> 5.000.000 Eur	12 (30%)

# Investment readiness by call and country

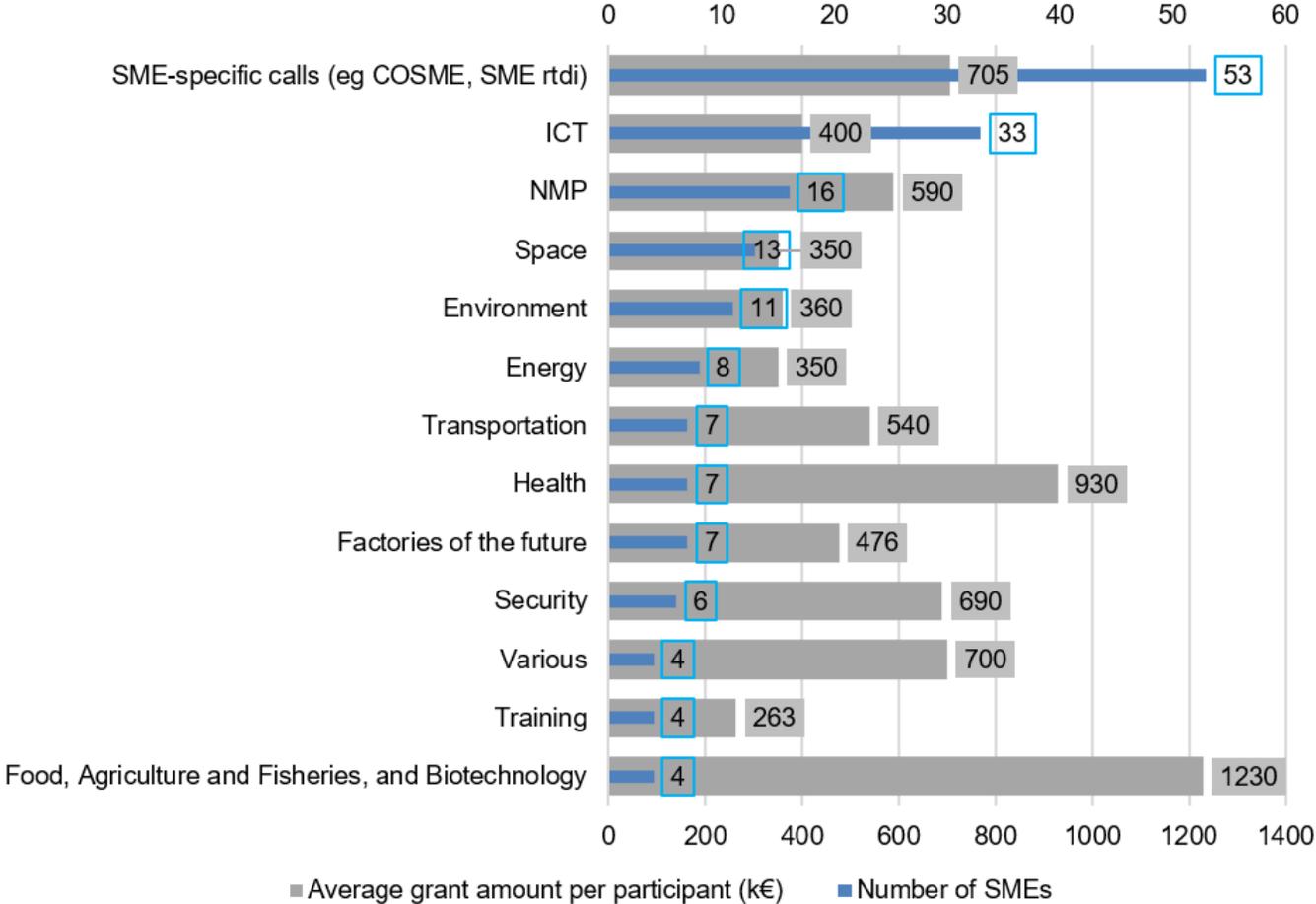
	investment ready	almost ready	not ready	total companies
Energy	25%	50%	25%	8
Environment	9%	45%	45%	11
Factories of the future	14%	57%	29%	7
Food, Agriculture and Fisheries, and Biotechnology	50%	50%	0%	4
Health	57%	43%	0%	7
ICT	30%	39%	30%	33
NMP	31%	56%	13%	16
Security	0%	83%	17%	6
SME Innovation	0%	83%	17%	6
H2020-SMEINST-1	25%	50%	25%	4
H2020-SMEINST-2	25%	75%	0%	8
SME rtdi	12%	50%	38%	34
SMEs Cosme	0%	100%	0%	1
Space	0%	85%	15%	13
Training	0%	100%	0%	4
Transportation	14%	71%	14%	7
Various	0%	100%	0%	4
<b>Total</b>				<b>173</b>

	Number of companies	Investment ready	almost ready	not ready
Italy	30	0%	70%	30%
Spain	21	14%	62%	24%
Germany	15	40%	40%	20%
United Kingdom	15	27%	40%	33%
Greece	14	14%	71%	14%
France	11	9%	91%	0%
Ireland	9	0%	100%	0%
Belgium	7	43%	29%	29%
Netherlands	7	43%	29%	29%
Austria	4	25%	50%	25%
Finland	4	25%	75%	0%
Portugal	4	50%	25%	25%
Israel	3	0%	67%	33%
Lithuania	3	33%	33%	33%
Poland	3	0%	67%	33%
Sweden	3	33%	67%	0%
Croatia	2	50%	0%	50%
Hungary	2	0%	50%	50%
Luxembourg	2	0%	100%	0%
Serbia	2	0%	100%	0%
Slovenia	2	50%	0%	50%
Turkey	2	0%	50%	50%
Bulgaria	1	0%	0%	100%
Cyprus	1	0%	100%	0%
Czech Republic	1	0%	0%	100%
Denmark	1	100%	0%	0%
Iceland	1	0%	100%	0%
Malta	1	100%	0%	0%
Norway	1	100%	0%	0%
Romania	1	0%	0%	100%
<b>Total</b>	<b>173</b>			

# Participants by country



# Participants by group of calls

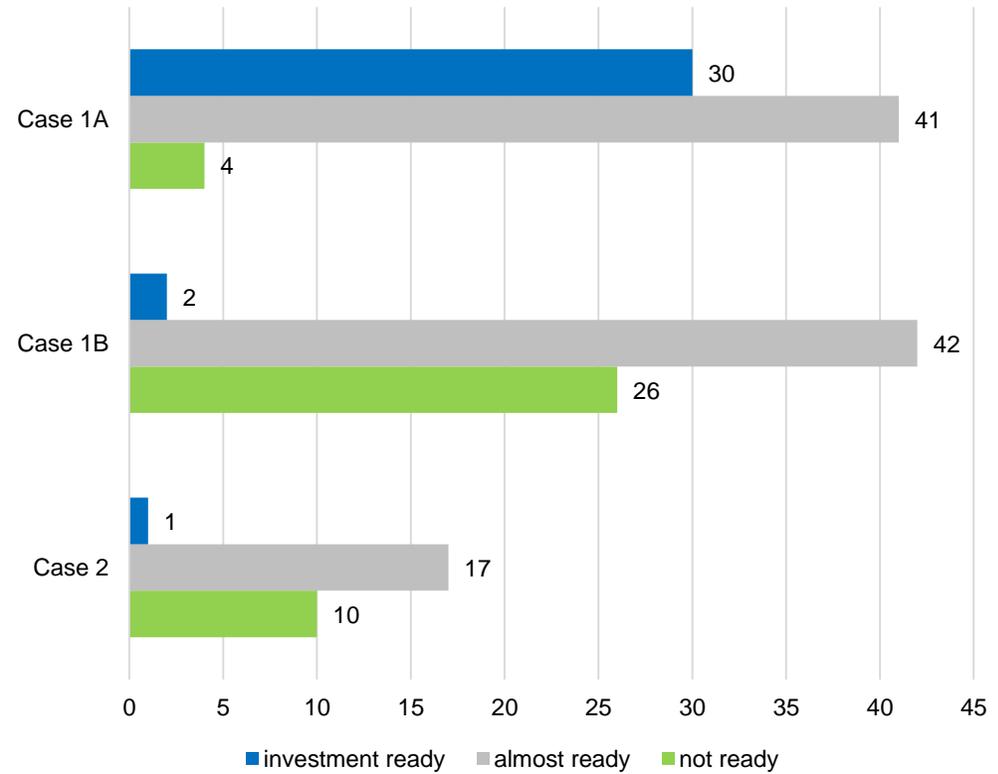
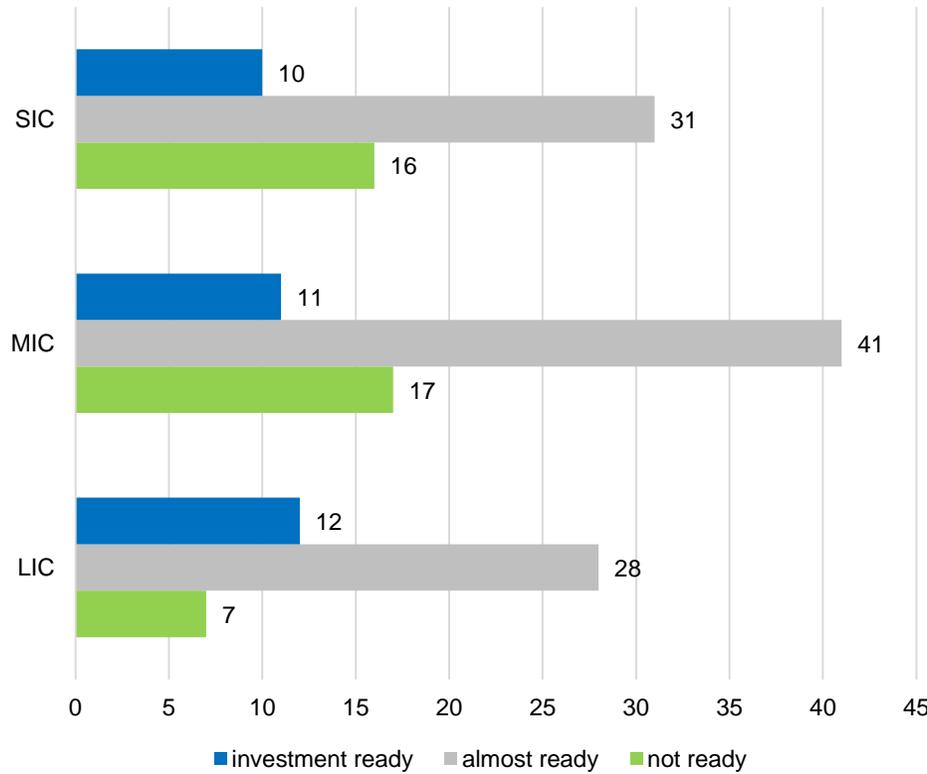


# Classification of SMEs: Innovation cycles - short, medium and long

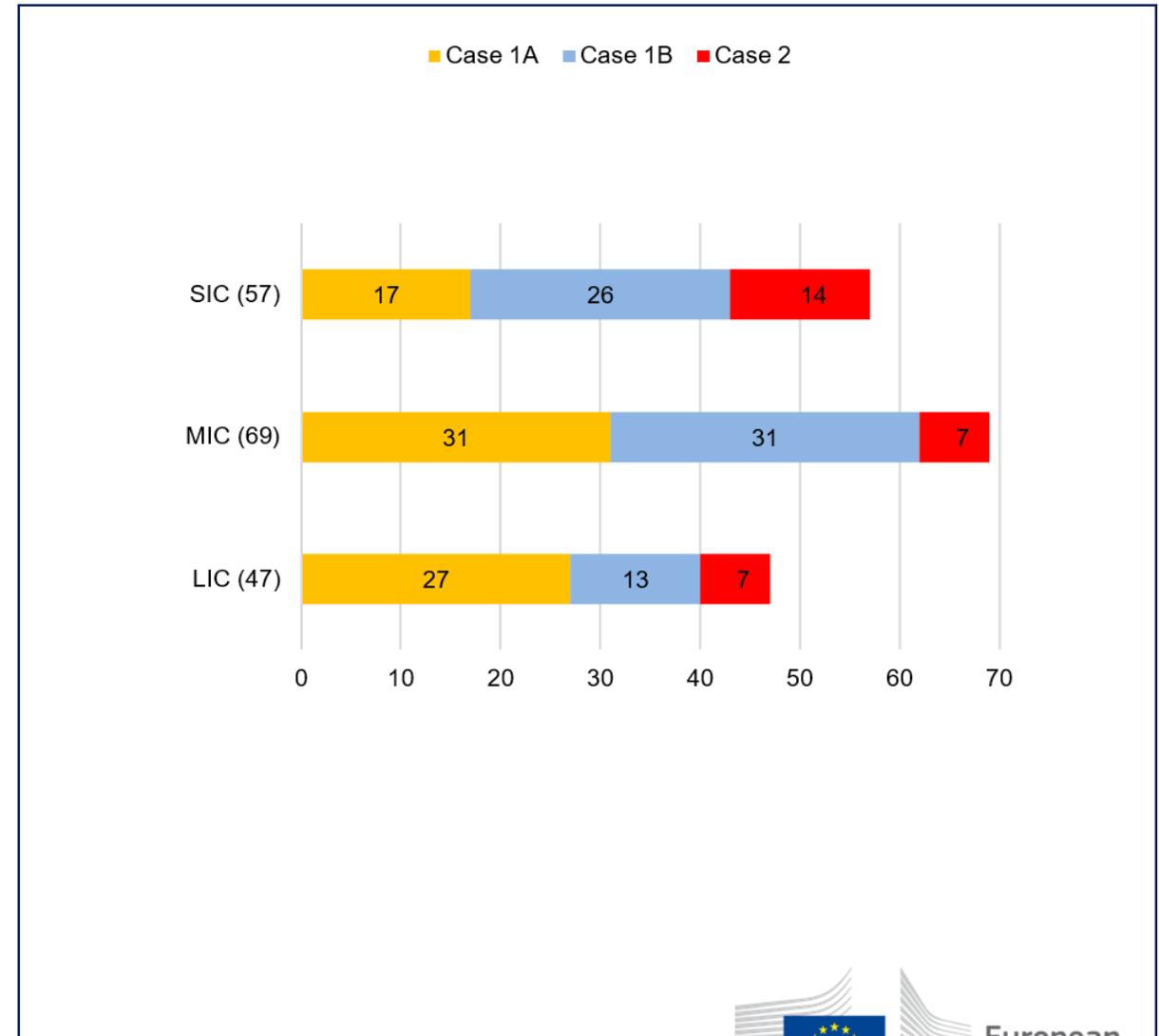
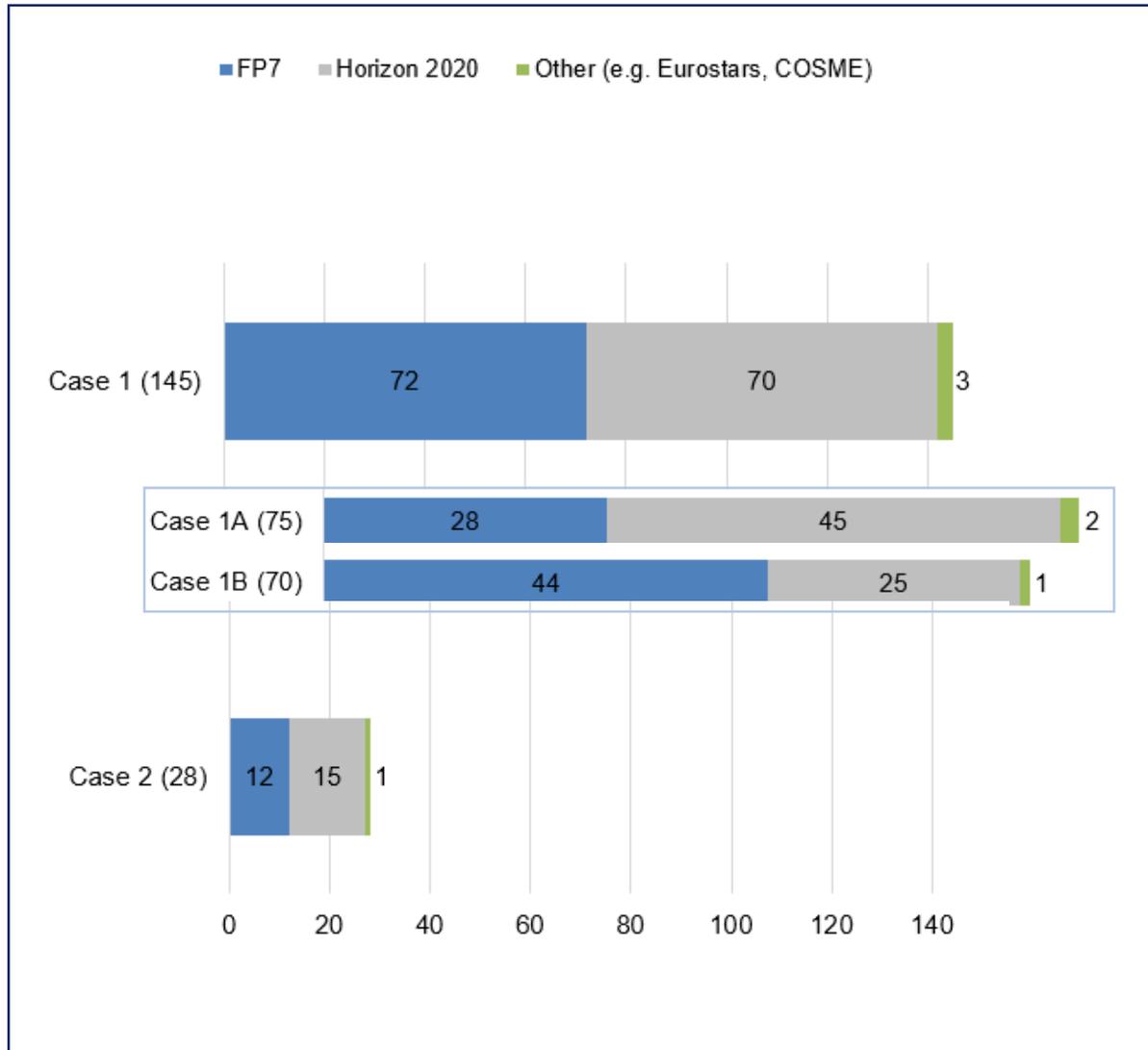
At the heart of this investment readiness analysis is the identification and study of SME's against innovation cycles they belong to:

- **Short Innovation Cycle (SIC)** (e.g. ICT sector), typically 1-4 years from proof of concept to commercialisation.
- **Medium Innovation Cycle (MIC)** (e.g. manufacturing, food, environment sectors), typically 4-8 years from proof of concept to commercialisation.
- **Long Innovation Cycle (LIC)** (e.g. biotech, health, space, transport, nanotech sectors), typically 6-12 years from proof of concept to commercialisation.

# Investment readiness by Innovation cycle and by case



# Participants by Innovation cycle and by case



# Key findings supporting the recommendations

- **More money leads to higher readiness level**
  - Investment ready companies secured on average grants of 2.6 M€ from FP7 and H2020.
  - Almost ready SMEs secured on average grants of 2.1 M€.
  - Non-ready companies 1.4 M€.
- **There is no significant difference between FP7 and Horizon 2020**
  - +2% of investment ready, +6% of almost ready, -8% of non-ready companies.
- **Being coordinator is key to be investment-ready**
  - 40% of investment ready and almost-ready companies were project coordinators.
  - 73% of non-ready companies were not coordinators.
- **Young beneficiaries have moved their technologies very close to the market (higher TRL)**
  - The majority of them are almost ready for investment.
  - 75% of them are deep-tech companies that still lack financial/market readiness.

# Analysis of high growth and scale-up SMEs

- **2 potential high growth firms According to the OECD definition** - both Case 1A investment-ready SMEs.
  - Both have only public grants and bank debt lines as external financing.
  - Only one of them is thinking to find a venture capital as funding strategy for the next future.
- **5 SMEs potential High Growth Firms based on VC funding received higher than 1M€.**
  - All of them have patents and four of them are high-tech Case 1A companies.
- By observing **team characteristics, implementation capabilities, internationalisation plan:**
  - None of the companies in Action 10 meet all three requirements at once.
  - 3 SMEs could be potential scale-up from an investor's perspective, as they have received high scores during the assessments. These three companies are Case 1A, investment ready, two SIC and one LIC.

# Analysis of medium and long innovation cycles (1/3)

## Historical type of finance:

- Most MIC and LIC SMEs **rely on substantial grant funding** for product development and early market development, and it can take several years before SMEs are able to generate revenue.
- There is a correlation between the age of the SMEs and the types of finance they have secured to grow and sustain their companies. **Young companies (<10 years) still rely on grants, and more established ones (>10 years) have used a mix of grant finance, bank debt and in some cases venture capital**, in addition to their own funds.

## Required external finance :

- 50% of ready and almost-ready SMEs seek **between 1 and 5 M€**. 20% seek more than 5 M€.
- The majority of **non-ready SMEs need <500k€** and can be attributed to them not having established full costs and resources for development of their product, and the stage of their development cycle.
- Given the time and resource required for MIC and LIC companies to achieve revenue generation and profitability, **they are deemed as more risky for private investors** as captured in the Enabling Plans by experts.
- **VC, business angels and strategic investors are the most recommended types of financing** by experts for MIC and LIC SMEs evaluated as either ready or almost-ready.

# Analysis of medium and long innovation cycles (2/3)

## Shortcomings and suggested strategies:

- **No correlation between TRL levels and investment readiness levels.** Even amongst SMEs with higher TRL levels, they have significant shortcomings in the areas of market readiness, financials and exit strategies.
- MIC and LIC SMEs routinely **underestimate the challenges around scale up of processes and products** to full commercial scale. This is attributable to their underestimation of the time, effort and resources needed for scale-up.
- For ready and almost-ready SMEs, one of their strengths is the management **team with specialist expertise**. A weakness is their **lack of sales and marketing expertise**, and the right management to scale and grow their companies.
- Non-ready SMEs have significant shortcomings in the areas of market readiness and financial strategy and planning mainly. Particular issues include:
  - Lack of advisory groups/Boards to guide their development.
  - Insufficient contact with potential customers and supply chains.
  - Lack of understanding of market segments, routes to market and a go-to-market strategy, value propositions.
  - Lack of clear revenue model, revenue streams and poor cash flow management.

For the above reasons, the recommendations given by experts to these SMEs are to **continue to secure non-dilutive grants** to further engage with the market through market demonstration activities, and subsequently plan to secure business angel funding, which would also come with some level of guidance and mentoring from experienced angel investors.

# Analysis of short innovation cycles

- Ready and almost-ready SMEs **need on average 1.5 M€ to grow**, with VC financing being the recommended option by experts to further develop their products and prepare their market entry strategies.
- **Public grants are essential for most of SIC SMEs** and particularly to recruit the right people to develop the technology and go international.
- Non-ready SIC SMEs have a number of shortcomings in the areas of market readiness and financial strategy. Other common issues include (this finding is also common with MIC and LIC SMEs):
  - Lack of management resources
  - Sales and marketing knowledge
  - Products not amenable to scale-up
  - Lack of routes to market or commercialisation plans
  - Lack of financial know-how and plans

# Perception of SMEs on EU grants

## MIC and LIC SMEs:

- Very high level of perception amongst ready and almost-ready:
  - Have accelerated knowledge transfer, access to partners and bridges from research to market.
  - Have aided/supported mobilisation of private investments via equity financing.
- Non-ready SMEs:
  - Have explored alternative applications for their technologies.

## SIC SMEs:

- Most significant benefits are the possibility to hire qualified workforce and access to international customers and stakeholders.
- No evidence amongst that EU programmes can eventually lead to raising funding from private VC or angels.
- Very low level perception that EU grants are a means to mobilise private investment in the future.
- SIC SME community is keener on looking into commercial partnerships and financial support to hire qualified personnel through EU grants. **This is a key difference from MIC and LIC SMEs.**

# Key findings from Case 1A SMEs (high growth potential SMEs)

- Readiness:
  - Case 1A are the 91% of all the investment ready SMEs.
  - 95% of Case 1A are investment ready or almost ready.
- **Belong to multiple sectors** such as health, security, nanotech, food. Only 17% of ICT SMEs are Case 1A.
- Higher average **number of patents** (applications and granted) in comparison with Case 1B (almost twice).

Strengths	Shortcomings
<ul style="list-style-type: none"><li>- marketable product/innovation with potential for disruption.</li><li>- highly complementary and experienced management teams.</li><li>- in-depth understanding of target market and potential customers.</li><li>- well validated business model.</li></ul>	<ul style="list-style-type: none"><li>- lack of sales and marketing resources.</li><li>- strategies for acquiring investors.</li><li>- lack of robust plans for capital utilisation</li></ul>

Experts have recommended to **prepare investor information package** and **define a strategy for negotiating with investors.**

# Key findings from Case 1B SMEs

- 70 Case 1B SMEs assessed, two SMEs were deemed as investment ready and 42 were almost ready.
- A small number of SMEs have **leaders with previous experience of building and exiting ventures**, and a higher number of less experienced management in comparison with Case 1A.
- As a significant difference from Case 1A, SMEs report that "interaction and networking" is one of the most valuable outcomes from the EU grants.

## Main characteristics:

- Imprecise definition of business strategies.
- Insufficient preparation for attracting investors and funders.
- Management teams with little ambition, preference to run their companies to suit their life style in a slow to moderate growth mode, as opposed to growing them to their full potential.
- Products were not market ready in many cases and their inherent market potential was not fully understood
- Lack of consistent IP strategy and SMEs did not demonstrate any contact with investors.

In light of the significant shortcomings above, experts have **recommended predominantly public grants** as the most suitable source of financing.

# Investor enabling plan – what was communicated to the SMEs

- Roadmap for SMEs with examples as a guideline
- Outcomes and conclusions clear and measurable
  - how much funding
  - what sort of funding
  - when it will be required & how to get prepared
- Detailed recommendations
  - preparation of financial forecasts
  - investment and financial plans
  - economic/ market assumptions and analyses
  - due diligences
  - project risk analysis
  - pricing and IPR valorization

# Main limitations of the study

- Experts used a **methodology that an early stage investor may use as an initial assessment** (some of the experts involved in Action 10 are investors themselves) .
  - As a result, the information asymmetry presented in this report assumes that the assessing experts acted as close to investors in real life as possible.
- As much as possible, the experts who were allocated to assess SMEs were chosen based on their **investment experience and domain knowledge**. The same SME could have been assessed slightly differently by another expert.
- Conclusions and recommendations are based on a **limited sample set**.
  - Challenges in making too many generalizations, the steering group has refrained from making conclusions and generalizations, where it was found not appropriate.
- Analyses rely on **data provided by the SMEs**. The steering group performed multiple quality checks, comparing the data with those available from ORBIS database. In case of mismatches, ORBIS data were used since it is based on official statements.

# Key recommendations to the European Commission (1/4)

- **Continue to provide substantial grant funding to innovative SMEs.**
  - These funds need to place the focus on the needs of these entrepreneurs, SMEs and innovators, and with a particular emphasis on the scale and time needed to develop these innovations, leading towards commercialisation.
- **Implement SME support programmes in parallel with R&D&I framework programmes that would prepare SMEs to become commercialisation ready and attract investment.**
  - Specifically support activities within grant funded programmes that would allow SMEs to develop their market demonstration and improvement of market readiness in addition to technology and product readiness.
  - The Commission should build more effective connections between the support programmes, aiming at supporting SMEs in their efforts to face the complex requirements of the innovations process. There should be continuity from early-stage collaborative research projects to later stages while SMEs enter the market.

## Key recommendations to the European Commission (2/4)

- **Seek to identify those SMEs that are repeatedly seeking grant funds and not utilising the funding to develop themselves to be able to grow and seek private investment.**
  - For this group of SMEs, EC should carefully consider and use their discretion before continuing to provide grant funding.
- **Identify and provide enhanced support, and continued funding to Case 1A (high growth and/or scale-up potential) SMEs.**
  - Identification of such SMEs could be through their selection process, combining both assessments of proposals and outline business plans and face-to-face interviews given the subjectivity associated with the selection process.
  - Multiple criteria need to be assessed carefully, and amongst them, management team and advisory board expertise and experience in building and exiting ventures, leaders' ambition and disruptive innovation potential should be viewed as key factors.

# Key recommendations to the European Commission (3/4)

- **Provide structured support mechanisms to help MIC and LIC SMEs to access and utilise physical infrastructures for product and process innovation, development, testing, integration and scale-up.**
  - Especially in sectors such as nanotechnologies and new materials, health, factory of the future, to ensure sufficient de-risking of the projects can be demonstrated to potential customers and early-stage investors. E.g. EU funded pilot line initiatives.
- **Endeavour to further support regulators** in understanding the potential innovations emerging in different sectors to prepare them well in advance to support innovators.
  - This is especially true for sectors that are highly regulated such as healthcare, environment and security.

# Key recommendations to the European Commission (4/4)

- **Consider creating special grant instruments to support SMEs to address their needs around quicker access to international markets, supply and value chain partners** and to support business model innovation and service innovations as appropriate.
- **Support patient venture capital provision (through EIB schemes or other) for MIC and LIC SMEs to address the 1-5 M€ gap.**
  - Support the European equity ecosystem that would truly nurture MIC and LIC companies. These SMEs' are not the same as SIC companies with respect to their risk profile, time cycles and market engagement challenges.
- **Augment grant funding with mechanisms for blended finance schemes/parallel financing for SMEs from multiple sources** (EU grant, private capital, debt financing with blended finance schemes) through appropriate screening, assessment and financial award structuring mechanisms.