



Report on the survey Identification of disruptions in value and supply chains run by the European Cluster Collaboration Platform

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Report on the survey

Identification of disruptions in value and supply chains

run by the European Cluster Collaboration Platform



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1

Executive Summary



1. Executive summary

This report analyses the results of the survey "Identification of disruptions in value and supply chains" run by the European Cluster Collaboration Platform on behalf of the European Commission between 6th March and 25th April 2022.

The aim of the survey was to understand the impact of the current geo-political situation on companies and industrial ecosystems, and to look for approaches to find solutions.

We surveyed industrial stakeholders who are facing specific challenges in their supply chains or operations due to the Russian aggression against Ukraine and related factors.

The survey asked for the main disruptions affecting industrial operations, estimations in terms of loss of input and market, and the potential solutions for disruptions in their supply chains.

The survey received 500 answers between March and April 2022, 69% of them coming from large companies or SMEs.

Some fields in the answers were given in the form of free text. For the analysis, the project team, based on those answers, created and analysed a list of 139 "keywords" which described the reported disruptions. This list was summarized on 12 "keyword groups", main areas of disruptions: logistics (25.5%), energy (19.4%), raw material (16.2%), metals (12.2%), financing (8.1%), agri-food materials (5.4%), wood (4.2%), electronic components (3.4%), oil (1.7%), displaced workers (1.3%), construction materials (1.3%) and medical supplies (1.2%).

The analysis by industrial ecosystem shows that the most affected ecosystems are Agri-food (17.5%), followed by Construction (14%), Health (10.8%) and Mobility, Transport and Automotive (9.8%).

The report analyses the impact on each of the 14 EU industrial ecosystems, detailing their specific challenges.

Regarding the most impacted stages of the supply chains, 27% of the responses highlighted disruptions in inbound logistics, identifying it as the most impacted stage of their supply chain. Operations, Outbound logistics and Procurement are affected to a similar degree, taking a share of 15% respectively.

The detailed analysis of affected supply chain stages by company size shows a significant impact on SMEs in terms of logistics, both inbound (19%) and outbound (11%), as well as on operations (10%).

Similarly, 61.24% of the large companies signal a high level of input loss, in contrast with only 44% of SMEs who say they have been highly impacted by input losses. Looking at the loss of input estimation, the loss of input reaches 47% of the input volume for those entities that report a high impact of the disruption, 38% for those entities that expect a medium impact, and 15% for the entities that signal a low impact.

Almost 40% of the large respondent companies suffered a high impact on loss of market, with 37% reporting medium impact and 23% low impact. Amongst SMEs, the effect is less acute: 33% of medium-sized companies and 36% of micro and small ones report high impact on their market.



The average loss of market estimated by large companies is 21.75%, while medium-sized businesses report a loss of 17.45% and micro+small ones 24.97%.

Taking into account the representativeness of the number of answers received, Agri-food, Construction and Mobility – Transport – Automotive are the industrial ecosystems that show the highest impact both on input and market losses, followed by health and electronics.

There are significant differences on the effects suffered by the different industrial ecosystems, and between company sizes, even in each area of activity. Therefore, care should be taken when reviewing the results, taking into account the scope of the survey.

2

General overview



EUROPEAN CLUSTER
COLLABORATION PLATFORM

Strengthening the European economy through collaboration



2. General overview

2.1. Introduction

In the current geopolitical circumstances, some European supply and value chains are suffering disruptions or are at risk of suffering them in the near future. The purpose of the survey "Identification of disrupted supply and value chains" was to pick up signals of disrupted supply chains and gather knowledge directly from companies, cluster organisations, and other affected industrial stakeholders in or across industrial ecosystems. The survey's goal is to identify and anticipate disruptions or solutions and, ultimately, to strengthen the European economy.

The survey collected information about the type of the disruption based on free text descriptions, the stages of the supply chain at which the disruption occurs, and estimations on the loss of input and market, evaluating those losses from a low to high impact on the industrial activities. The survey also offered the possibility to describe those losses in a free text field.

Furthermore, the answers contain an estimation of the percentage of losses related to the Russian invasion of Ukraine.

The following chapters analyse the answers to the survey considering these different dimensions.

2.2. Disruption keywords

To understand and categorise the disruptions in supply chains, the project team identified different tags to describe the disruptions explained in the free text fields of the survey. Altogether, 139 tags were created. These tags were grouped in a second-level classification into 12 "keyword groups" to be able to process the information for the analysis. Both concepts will be described in the following paragraphs.

2.2.1. Tag cloud



Figure 1 - Global tag cloud



This tag cloud represents the most common keywords in the answers to the survey. The font size corresponds to the number of mentions. The keywords that appear most frequently in the responses are raw materials (131 records), energy (121), transport cost (114), import limitations (80), fuel (70), steel (56), delivery delays (53) and price increase (50).

Many of those tags suggest close linkages. For example, an increase in the cost for energy and fuel and the import and export limitations could be related to higher transport costs.

2.2.2. Keyword groups



logistics	296
energy	226
raw materials	188
metals	142
financing	94
agri-food materials	63
wood	49
electronic components	40
oil	20
displaced workers	15
construction materials	15
medical supplies	14

Table 1 - Keywords groups for disruptions - global

In order to highlight the most relevant disruptions suffered by the entities that answered the survey, the tags were grouped into different keyword groups to describe the category of the disruption.

As the graphics shows, the groups refer to logistics, energy, and raw material as the principal disruptions. The keyword group logistics can be attributed to 25% of the responses. It is followed by energy (20%), raw material (16%), metals (12%), financing (8%), agri-food materials (5.4%), wood (4%), and electronic components (3.4%). The keyword groups oil, displaced workers, construction materials and medical supplies appearing in less than 2% of the responses.



2.3. Answers by type of entity

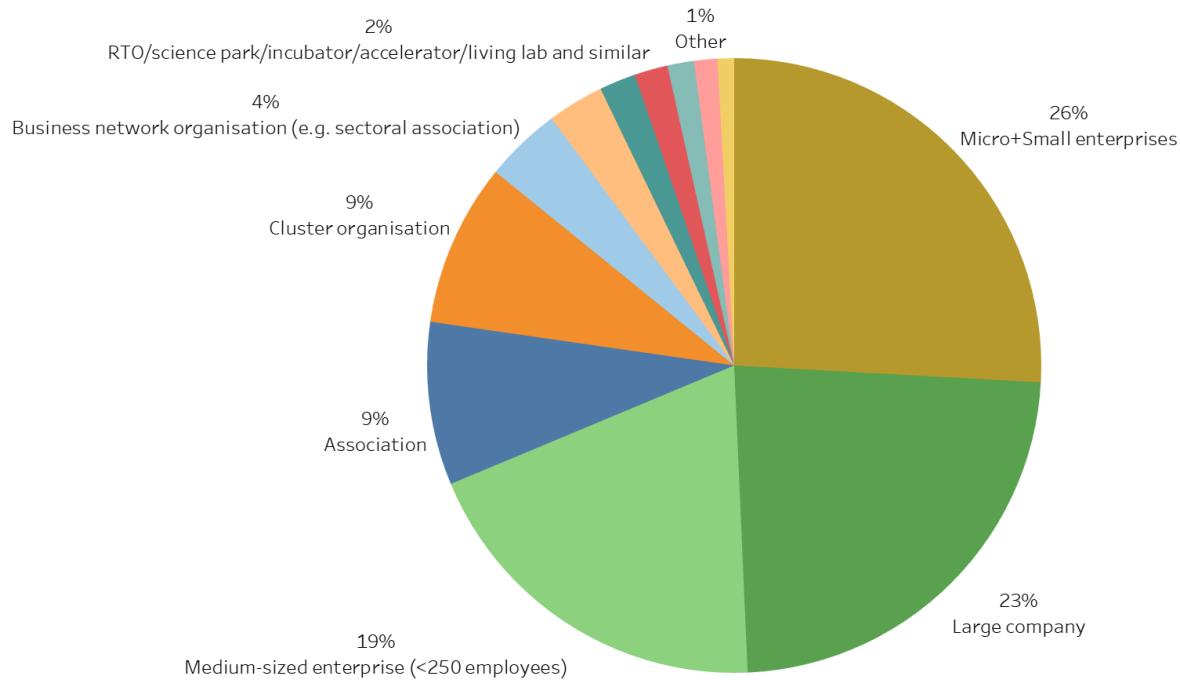


Figure 2 - Answers by type of entity

This figure provides information about the types of entities that have answered the survey.

69% of the answers were received from enterprises, SMEs being the most responsive entities (26% of the total answers). Large companies follow closely with 23%. The medium-sized enterprises represent the 19% of the answers.

In addition, the survey was answered by industrial stakeholders that either represent the industry or the research community. Industrial clusters and Associations represent 9% respectively. Business network organisations and RTOs/science parks/incubators/accelerators/living labs and similar entities make up 4% and 2% respectively.



2.4. Distribution of answers by country

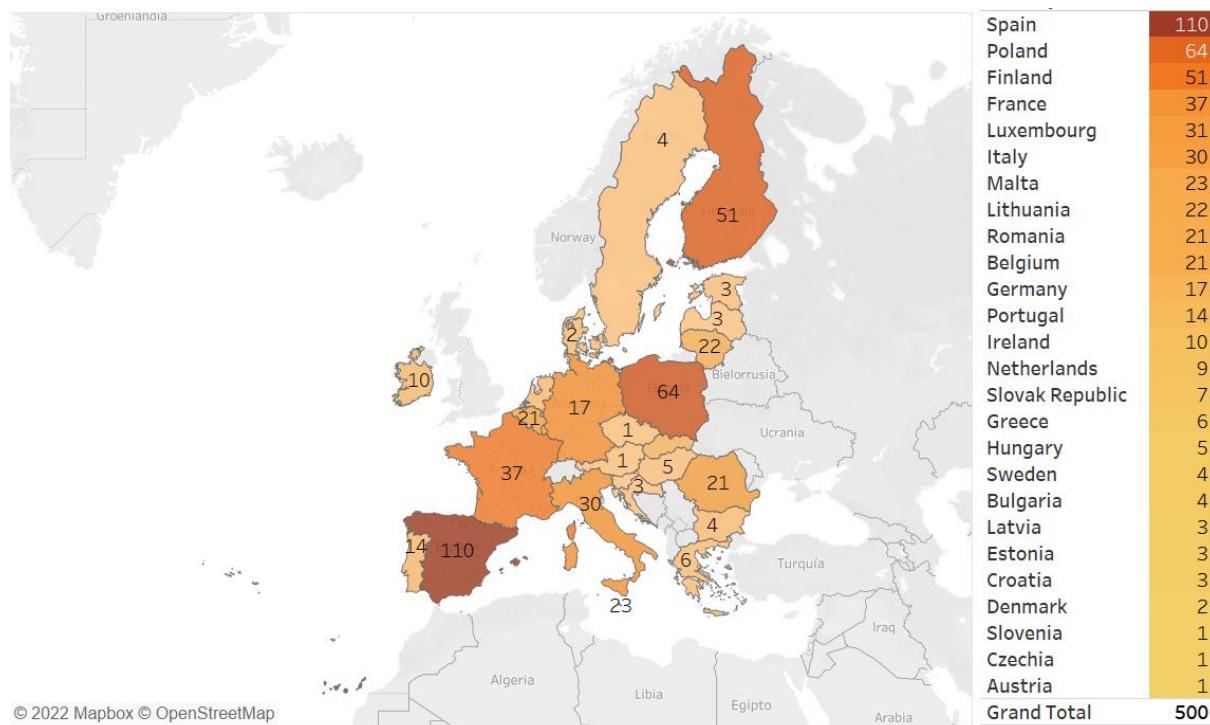


Figure 3 - Answer distribution by country

Regarding the responses by Member States of the European Union, it should be noted that the distribution is unequal. 52% of the entities belong to four countries: Spain with 22%, Poland with 13%, Finland with 10% and France with 7%.

Looking at proximity to Russia, Belarus, and Ukraine, 35% of the entities come from countries with direct borders with Russia and/or Belarus and/or Ukraine, such as Finland, Estonia, Latvia, Lithuania, Poland, Slovakia, Hungary and Romania. Among them, the country with the highest number of responses is Poland (37%), followed by Finland (29%), Lithuania (13%) and Romania (12%). Meanwhile, countries such as Hungary (4%) and Slovakia (2%) have few responses despite having a direct border with Ukraine.

Finally, it is worth noticing the low response in countries with high economic potential such as Germany, which only accounts for 3.5% of the total responses. The same is the case for the Netherlands, with 2% of the total responses. This may impact the weighting for these countries, as the percentage share of responses is much lower than their contribution to the GDP of the European economy.



2.5. Disruptions by industrial ecosystem

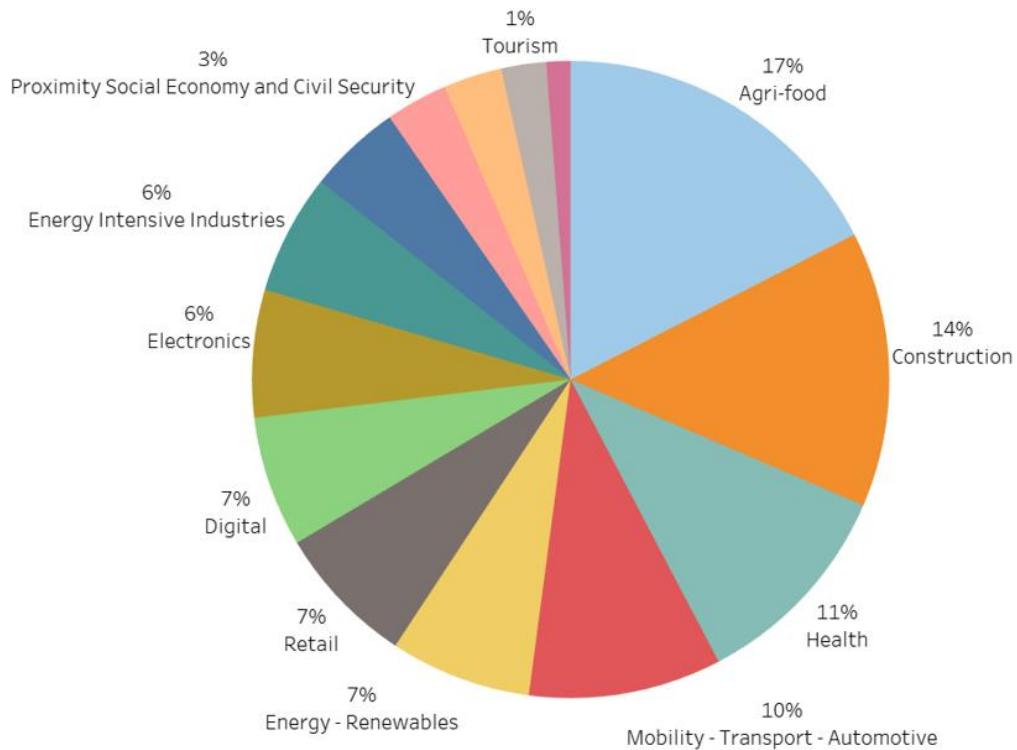


Figure 4 - Disruptions reported by Industrial Ecosystem

Industrial Ecosystem	%	
Aerospace and Defence	4,7%	27
Agri-food	17,5%	100
Construction	14,0%	80
Cultural and Creative Industr..	3,0%	17
Digital	6,6%	38
Electronics	6,5%	37
Energy - Renewables	7,2%	41
Energy Intensive Industries	6,1%	35
Health	10,8%	62
Mobility - Transport - Autom..	9,8%	56
Proximity Social Economy an..	3,1%	18
Retail	7,2%	41
Textile	2,3%	13
Tourism	1,2%	7

Table 2 - Disruptions reported by Industrial Ecosystem

This chart shows the distribution of the industrial ecosystems that the entities answering the survey belong to. For the interpretation of the data, it should be noted that the survey offered the possibility to choose more than one ecosystem.

According to the answers, the most entities that reported disruptions are from the Agri-food industrial ecosystem, with 17.5% of the answers, followed by Construction (14%), Health (10.8%) and Mobility, Transport and Automotive (9.8%).



The tourism sector has the lowest number of responses. Also, few entities that answered the survey come from the Textile, Cultural and Creative Industries and the Proximity and Social Economy ecosystems (2.3%, 3% and 3.1% respectively).

2.5.1. Keyword groups by ecosystem

Keyword_group	Aerospace	Agri-food	Construc.	Cultural ..	Digital	Electroni..	Energy - ..	Energy I..	Health	Mobility ..	Proximit..	Retail	Textile	Tourism
logistics	12	38	33	5	12	23	20	19	31	27	10	30	7	6
energy	3	27	41	1	11	7	32	23	15	24	7	6	3	5
raw materials	10	21	18	2	14	11	12	15	22	23	5	8	2	2
metals	6	13	41		5	5	20	9	7	13	7	2		3
financing	1	6	14	2	8	7	13	10	8	8	1	3	1	3
agri-food materials	2	31	2	1	3	3	3	3	1	4	4		1	2
wood		3	12	2	1	1	2	13	2	2	2	1		1
electronic components	6				4	9	6		8	3				1
oil		15	1					1					2	
construction materials		1	9					1	1	2	1			
medical supplies	1	2					1	1	8	1				
displaced workers		1	3		2	1	2		1		3		1	
Grand Total	41	158	174	13	60	67	112	95	105	106	39	53	15	22

Table 3 - Keyword groups by ecosystem

The table makes the relation between the identified keywords and the different industrial ecosystems. The column of keywords corresponds to the relevance of the disruption. The five most relevant keywords are logistics, energy, raw materials, metals and financing.

Disruptions related to logistics (import and export limitations, delivery delays, transport cost, etc.) appear most often in the Agri-food (representing 24% of their total keywords), Construction (19%), Health (30%), Retail (57%) and Mobility, Transport and Automotive (27%) ecosystems.

Energy-related disruptions (fuel, gas, etc) were reported most often from entities from the Construction (representing 24% of their total keywords), Energy - Renewables (28%), Agri-food (17%), Mobility, Transport and Automotive (23%) and Energy- Intensive Industries (24%) ecosystems.

Raw materials have a high number of appearances in the Mobility, Transport and Automotive (representing 22% of their total keywords), Health (21%), Agri-food (13%), Construction (10%) and Energy-Intensive Industries (14%) ecosystems.

The keyword group metals (steel, aluminium, iron, nickel, etc.) are mostly associated to the Construction (representing 24% of their total keywords), Energy - Renewables (18%), Mobility, Transport and Automotive (12%), Agri-food (8%) and Energy-intensive Intensive Industries (10%) ecosystems.

In terms of financing (investments, payments, breach of contract, price increases, etc.), entities from the Construction (representing 8% of the total keywords), Energy - Renewables (12%), Energy-intensive Industries (11%), Digital (13%) and Mobility, Transport and Automotive (8%) ecosystems reported problems with finances.



2.6. Disruptions reported by supply chain stage

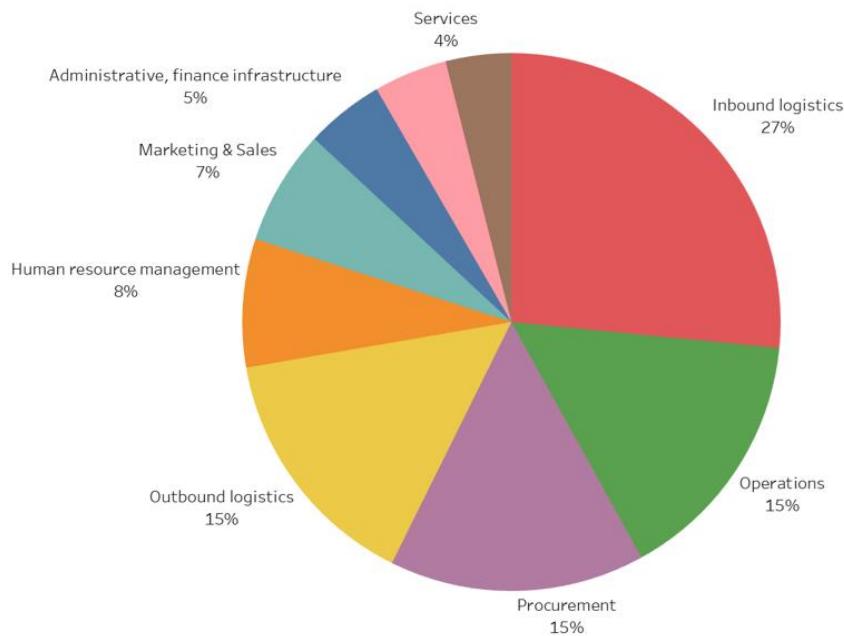


Figure 5 - Disruptions reported by supply chain stage

Administrative, finance infrastructure	5%
Human resource management	8%
Inbound logistics	27%
Marketing & Sales	7%
Operations	15%
Outbound logistics	15%
Procurement	15%
Research and development	4%
Services	4%

Table 4 - Disruptions reported by supply chain stage

This chart shows the disruptions by supply chain stage. When interpreting the data, it is crucial to mention that one entity could choose more than one stage when reporting the disruptions.

Twenty-seven percent of the entities reported disruptions at the inbound logistics stage, making it the supply chain stage with the most disruptions. Problems at Operations, Outbound logistics and Procurement were reported in 15% of the answers respectively.

Eight percent and 7% of the entities signalled disruptions at the stage of Human resource management and Marketing & Sales. The disruptions in Administrative and finance infrastructure make up 5% of the answers, followed by R&D and Services with 4% respectively.



2.6.1. Disruptions by supply chain stage and firm size

Supply value chains stage (Stages)	Type of entity (group)			Grand Total
	Large company	Medium-sized enterprise	Micro+Small enterprises	
Administrative, finance infrastructure	2%	1%	2%	4%
Human resource management	2%	2%	3%	7%
Inbound logistics	9%	8%	11%	28%
Marketing & Sales	2%	2%	3%	7%
Operations	5%	4%	6%	15%
Outbound logistics	5%	4%	7%	16%
Procurement	7%	5%	4%	16%
Research and development	1%	1%	2%	4%
Services	1%	0%	2%	3%

Table 5 - Stages by firm size

The table provides information about the disruptions reported by stages and by type of entity. The supply chain stages that have suffered or are suffering the most disruptions are Inbound logistics, Outbound logistics, and Procurement and Operations. They sum 75% of the disruptions.

2.7. Criticality of the loss of input and the loss of market

As discussed above, the survey includes a request to evaluate, from "high" to "low", the impact of the disruption/s reported on the loss of input and the loss of market. This table summarizes the percentage of entities that rate their losses as "high", "medium", or "low".

% Input loss		% Market loss	
High	47%	High	34%
Medium	38%	Medium	38%
Low	15%	Low	28%

Table 6 - Criticality of the loss of input / market

Almost 85% of the entities suffer a significant ("high" or "medium") loss of input, compared to 15% who report to have a low impact. As can be seen in the table, 47% of the entities disclosed that the input loss was high. Furthermore, there is no answer that indicates that the loss of input is nil, so all the entities that responded to the survey identify a loss of input.

In relation to critical market loss, almost 72% ("high" and "medium" responses) of the entities notice a significant market loss, compared to 28% who say they have little or no impact. Specifically, 34% - more than every third entity - consider that the market loss is high and 38% that it is medium, while 26% of the entities consider the market loss as low and only 2% that it is nil.



Input / Market losses

Loss of input criticality	Loss of market criticality			Grand To..
	High	Medium	Low	
High	32%	12%	3%	47%
Medium	2%	25%	11%	38%
Low	1%	1%	13%	15%
Grand Total	34%	38%	28%	100%

Table 7 - Criticality of input / market loss

When making the relation between input and market losses, it can be observed that the evaluation of the criticality of market loss and criticality of input loss correspond in the majority of answers. Of the 34% of entities that evaluate the market loss as "high", 32% also indicate a "high" input loss, which translates to a total of 94% that claim to have a high loss of market and a high loss of input.

However, it can be observed that of the entities that say to have a high loss of input, which make up 47% of the answers, 68% say they have a high loss of market, 26% a medium loss, and 6% a low loss.

2.8. Loss of input

The survey includes a request to evaluate, on a scale from "high" to "low", the impact of the disruption/s on the loss of input and the loss of market.

2.8.1. Loss of input and criticality level by firm size

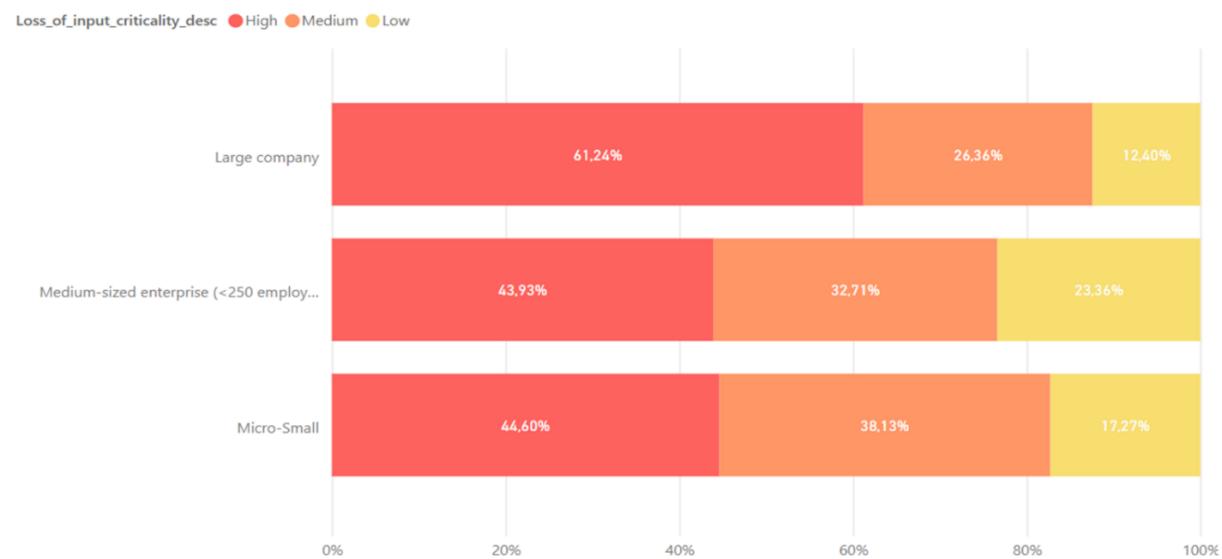


Figure 6 - Loss of input and criticality level by firm size

The bar chart provides information about the criticality of the input loss, categorised by the size of the entity. It shows that 61.24% of the large companies suffer a high impact on loss of input. 26.36% of the large companies see a medium impact and 12.4% a low impact.



Forty-four percent of the medium-sized companies and 44.6% of the micro/small enterprises report a high impact of the input loss. Moreover, almost 33% of the medium-sized enterprises and 38.13% of the micro/small enterprises report a medium impact on input loss.

Finally, almost 23.36% of the medium-size enterprises and almost 17.27% of the micro/small enterprises evaluate the impact on input loss as "low".

In summary, the major number of enterprises that suffer a high impact of input loss are large companies.



2.8.2. Loss of input by industrial ecosystem & firm size

Industrial Ecosystem	Type of entity (grouped)	Loss of input criticality				Grand Total
		High	Medium	Low	Total	
Aerospace and Defence	Large company	37%	5%	16%	53%	
	Medium-sized enterprise ..	5%	5%	21%	32%	
	Micro+Small enterprises		16%		16%	
Agri-food	Large company	21%	9%	1%	31%	
	Medium-sized enterprise ..	18%	13%	6%	38%	
	Micro+Small enterprises	21%	6%	4%	31%	
Construction	Large company	24%	3%	5%	32%	
	Medium-sized enterprise ..	10%	12%	8%	31%	
	Micro+Small enterprises	17%	14%	7%	37%	
Cultural and Creative Industries	Large company		13%			13%
	Medium-sized enterprise ..	13%	13%			25%
	Micro+Small enterprises	25%	25%	13%		63%
Digital	Large company	6%	6%	12%		24%
	Medium-sized enterprise ..	6%		12%		18%
	Micro+Small enterprises	29%	18%	12%		59%
Electronics	Large company	26%	9%			35%
	Medium-sized enterprise ..	13%	9%	9%		30%
	Micro+Small enterprises	22%	13%			35%
Energy - Renewables	Large company	21%	5%	5%		32%
	Medium-sized enterprise ..	16%	5%	11%		32%
	Micro+Small enterprises	16%	16%	5%		37%
Energy Intensive Industries	Large company	19%	19%	5%		43%
	Medium-sized enterprise ..	14%	10%			24%
	Micro+Small enterprises	19%	14%			33%
Health	Large company	27%	13%	4%		44%
	Medium-sized enterprise ..	15%	6%	2%		23%
	Micro+Small enterprises	8%	17%	8%		33%
Mobility - Transport - Automotive	Large company	25%	16%			41%
	Medium-sized enterprise ..	6%	6%	3%		16%
	Micro+Small enterprises	16%	19%	9%		44%
Proximity Social Economy and Civil Security	Large company		33%			33%
	Micro+Small enterprises	33%	33%			67%
Retail	Large company	11%	8%	5%		24%
	Medium-sized enterprise ..	11%	13%	5%		29%
	Micro+Small enterprises	18%	16%	13%		47%
Textile	Large company		17%			17%
	Medium-sized enterprise ..	33%		17%		50%
	Micro+Small enterprises		17%	17%		33%
Tourism	Micro+Small enterprises		100%			100%
Grand Total		50%	33%	17%		100%

Table 8 - Loss of Input by industrial ecosystem & firm size

This table shows the evaluation of the criticality of the input loss and its distribution according to company size in each of the 14 industrial ecosystem.



The column "Grand total" informs about the percentage of responses according to the company size (large, medium-sized and micro/small companies) on the loss of input within each of the industrial ecosystems.

Taking the example of the Aerospace and Defence ecosystem, 53% of the responses on the loss of input come from large companies, with 37% of the answers indicating a high criticality of input loss and 16% a low criticality of input loss.

2.8.3. Loss of input by keyword group and criticality level

Keyword group	A ^z _↓	Loss of input criticality			Grand To..
		High	Medium	Low	
logistics		15,7%	11,6%	2,7%	29,9%
energy		13,2%	7,7%	1,4%	22,3%
raw materials		8,7%	2,7%	1,8%	13,2%
metals		10,0%	1,2%		11,2%
financing		5,3%	1,2%	0,7%	7,3%
agri-food materials		4,3%	0,4%		4,6%
wood		1,6%	0,2%	0,2%	2,0%
electronic components		2,0%	0,4%		2,3%
oil		2,5%			2,5%
medical supplies		1,6%	0,2%	0,2%	2,0%
displaced workers		0,7%		0,2%	0,9%
construction materials		1,6%		0,2%	1,8%
Grand Total		67,2%	25,5%	7,3%	100,0%

Table 9 - Loss of Input by keyword group & criticality level

The table offers insights into the loss of input according to keyword group.

For instance, of the 29.9% of entities that have suffered disruptions in logistics, 15,7% indicate a high input loss, which translates to a total of 52.50% that claim to have a high loss of input in this keyword group. 11.6% indicate a medium input loss and 2.7% indicate a low input loss.

Of the 22.3% of entities that have suffered disruptions in energy, 13.2% indicate a high input loss, which translate to a total of 59% that claim a high loss of input in this keyword group.



2.8.4. Loss of input by criticality level, keyword group and firm size

Keyword group	Loss of input criticality / Type of entity (grouped)								
	High			Medium			Low		
	Large company	Medium-sized ent.	Micro+Sm all ent.	Large company	Medium-sized ent.	Micro+Sm all ent.	Large company	Medium-sized ent.	Micro+Sm all ent.
logistics	7,66%	3,92%	4,10%	4,28%	2,14%	5,17%	0,71%	1,78%	0,18%
energy	4,46%	4,99%	3,74%	4,28%	0,36%	3,03%	0,53%	0,71%	0,18%
raw materials	3,21%	1,78%	3,74%	0,89%	0,71%	1,07%	0,89%	0,89%	
metals	1,78%	2,67%	5,53%	0,18%		1,07%			
financing	2,14%	2,14%	1,07%	0,89%	0,18%	0,18%	0,18%	0,18%	0,36%
agri-food materials	2,85%	0,71%	0,71%	0,36%					
oil	0,71%	1,60%	0,18%						
electronic components	1,43%	0,18%	0,36%	0,18%		0,18%			
medical supplies	0,71%	0,89%				0,18%	0,18%		
wood	0,18%	1,07%	0,36%		0,18%				0,18%
construction materials	0,18%	0,89%	0,53%				0,18%		
displaced workers	0,53%		0,18%				0,18%		
Grand Total	25,85%	20,86%	20,50%	11,05%	3,57%	10,87%	2,85%	3,57%	0,89%

Table 10 - Loss of Input by criticality level, keyword group & firm size

This table offers insights into the loss of input according to keyword groups, criticality level and type of entity.

In this case, of the 15,7% of entities that report high level disruptions in logistics, 7,66% are large companies, 3,92% medium sized enterprises, and 4,10% micro or small enterprises.



2.9. Loss of market

2.9.1. Loss of market and criticality level by firm size

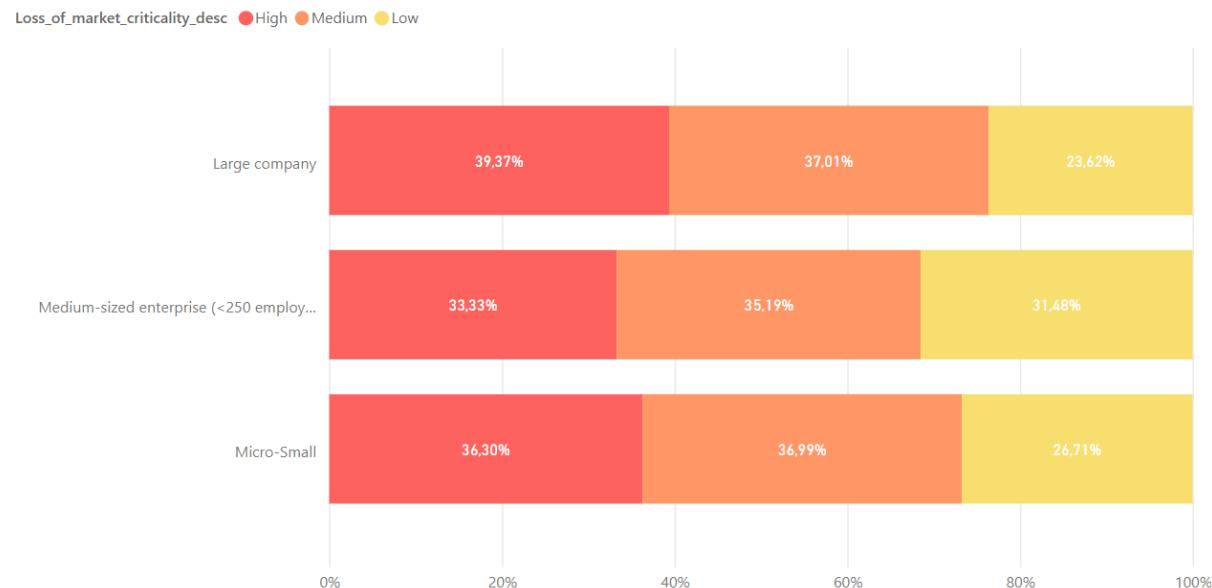


Figure 7 - Loss of market and criticality level by firm size

The bar chart provides information on the criticality of the market loss, categorised by firm size. It illustrates that almost 40% of the large companies suffer a high impact because of the loss of market. 37% of the large companies report a medium impact and 23.62% a low impact.

Thirty-three percent of the medium-sized enterprises and 36.3% of the micro/small enterprises experience a high impact of the loss of market. Moreover, 35% of the medium-sized enterprises and 37% of the micro/small enterprises report a medium impact of loss of market. Finally, 31.48 % of the medium-sized enterprises and 26.71% of the micro/small enterprises evaluate the impact of market loss to be low.

In summary, the major number of enterprises that suffer a high impact are large company. It can be highlighted that the percentage of the large enterprises that indicate this high impact of the loss of market is significantly lower than the one of the large enterprises reporting a high impact on the loss of input (60% vs. 40%).



2.9.2. Loss of market by industrial ecosystem & firm size

Industrial Ecosystem	Type of entity (grouped)	Loss of market criticality			
		High	Medium	Low	Grand To..
Aerospace and Defence	Large company	16%	21%	16%	53%
	Medium-sized enterprise ..	5%	5%	21%	32%
	Micro+Small enterprises		16%		16%
Agri-food	Large company	17%	8%	6%	31%
	Medium-sized enterprise ..	14%	14%	9%	38%
	Micro+Small enterprises	14%	9%	8%	31%
Construction	Large company	19%	8%	5%	32%
	Medium-sized enterprise ..	5%	14%	12%	31%
	Micro+Small enterprises	17%	12%	8%	37%
Cultural and Creative Industries	Large company		13%		13%
	Medium-sized enterprise ..		25%		25%
	Micro+Small enterprises	25%	13%	25%	63%
Digital	Large company	6%	12%	6%	24%
	Medium-sized enterprise ..	6%		12%	18%
	Micro+Small enterprises	24%	24%	12%	59%
Electronics	Large company	13%	13%	9%	35%
	Medium-sized enterprise ..	9%		22%	30%
	Micro+Small enterprises	17%	17%		35%
Energy - Renewables	Large company	5%	16%	11%	32%
	Medium-sized enterprise ..	16%	5%	11%	32%
	Micro+Small enterprises	11%	16%	11%	37%
Energy Intensive Industries	Large company	10%	24%	10%	43%
	Medium-sized enterprise ..	10%	14%		24%
	Micro+Small enterprises	14%	19%		33%
Health	Large company	19%	10%	15%	44%
	Medium-sized enterprise ..	15%	6%	2%	23%
	Micro+Small enterprises	6%	17%	10%	33%
Mobility - Transport - Automotive	Large company	13%	22%	6%	41%
	Medium-sized enterprise ..	6%	6%	3%	16%
	Micro+Small enterprises	13%	16%	16%	44%
Proximity Social Economy and Civil Security	Large company		33%		33%
	Micro+Small enterprises	33%	33%		67%
Retail	Large company	8%	8%	8%	24%
	Medium-sized enterprise ..	5%	16%	8%	29%
	Micro+Small enterprises	16%	11%	21%	47%
Textile	Large company		17%		17%
	Medium-sized enterprise ..	17%		33%	50%
	Micro+Small enterprises			33%	33%
Tourism	Micro+Small enterprises		100%		100%
Grand Total		36%	36%	27%	100%

Table 11 - Loss of market by industrial ecosystem & firm size

This table provides information on the criticality of the market loss and its distribution according to the company size in each of the 14 industrial ecosystem.



The column of "Grand total" shows the percentage of the responses on the loss of market according to the company size (large, medium-sized, and micro/small companies) per industrial ecosystem. Moreover, the table indicates the distribution of this total percentage according to the criticality level.

For example, in the Aerospace and Defence ecosystem, 53% of the responses on the loss of market come from large companies. In 16% of the cases, they evaluate the loss as "high", 21% evaluate it as "medium", and 16% as "low".

2.9.3. Loss of market by keyword group and criticality level

Keyword group	Loss of market criticality			Grand To..
	High	Medium	Low	
logistics	7,8%	10,5%	7,2%	25,5%
energy	5,9%	9,3%	4,4%	19,6%
raw materials	5,6%	6,3%	3,6%	15,5%
metals	4,9%	6,4%	1,2%	12,4%
financing	2,3%	3,8%	2,1%	8,2%
agri-food materials	2,6%	2,4%	0,8%	5,9%
wood	2,2%	1,6%	0,3%	4,0%
electronic components	0,6%	2,3%	0,7%	3,6%
oil	1,4%	0,3%	0,1%	1,8%
medical supplies	0,9%	0,1%	0,4%	1,4%
displaced workers	0,4%	0,6%	0,1%	1,1%
construction materials	0,9%	0,1%	0,1%	1,1%
Grand Total	35,4%	43,6%	20,9%	100,0%

Table 12 - Loss of market by Keyword group & criticality level

The table offers insights into the loss of market according to keyword group and type of entity.

For instance, of the 25.5% of entities that have suffered disruptions in logistics, 7.8% indicate a high market loss, which translates to a total of 30.58% that claim to have a high loss of market in this keyword group. Although, 10.5% indicate a medium market loss, which translates to a total of 41% that claim to have a medium loss of market and 7.2% of 25.5% indicate a low market loss.

Of the 19.6% of entities that have suffered disruptions in energy, 5.9% indicate a high market loss, which translate to a total of 30% that claim a high loss of market in this keyword group. However, 9.3% indicate a medium market loss.



2.9.4. Loss of market by criticality level, keyword group and firm size

Keyword group	Loss of market criticality / Type of entity (grouped)									
	High			Medium			Low			
	Large company	Medium-sized ent.	Micro+Sm all ent.	Large company	Medium-sized ent.	Micro+Sm all ent.	Large company	Medium-sized ent.	Micro+Sm all ent.	
logistics	4,8%	2,1%	2,1%	4,5%	2,5%	4,8%	3,4%	3,2%	2,5%	
energy	3,9%	3,7%	2,0%	5,0%	0,9%	3,9%	0,4%	1,4%	1,1%	
raw materials	2,1%	1,1%	3,2%	2,0%	0,9%	1,1%	0,9%	1,4%	0,5%	
metals	1,2%	1,2%	5,0%	0,7%	1,1%	1,1%		0,4%	0,5%	
financing	1,4%	1,1%	0,4%	1,6%	0,7%	0,7%	0,2%	0,7%	0,5%	
agri-food materials	2,9%	0,5%	0,7%		0,2%		0,4%			
wood	0,2%	0,9%	0,4%		0,4%					0,2%
electronic components	0,4%			0,2%		0,5%	1,1%	0,2%		
oil	0,7%	1,1%	0,2%		0,4%			0,2%		
medical supplies	0,7%	0,9%					0,2%		0,2%	
construction materials	0,2%	0,9%	0,5%					0,2%		
displaced workers	0,2%		0,2%	0,4%				0,2%		
Grand Total	18,7%	13,5%	14,6%	14,3%	7,0%	12,1%	6,8%	7,5%	5,5%	

Table 13 - Loss of market by criticality level, keyword group & firm size

This table offers insights into the loss of market according to keyword groups, criticality level and type of entity.

In this case, of the 7,8% of entities that report high level disruptions in logistics, 4,8% are large companies, 2,1% medium sized enterprises, and 2,1% micro or small enterprises.

2.9.5. Percentage of loss of market by firm size

Type of entity (grouped)	
Large company	21,8%
Medium-sized enterprise (..	17,4%
Micro+Small enterprises	25,0%

Table 14 - Loss of market percentage by firm size

The table shows that the large companies that have responded to the survey report a reduction in total sales revenue of almost 22%. Medium-sized enterprises indicate an average loss of market of 17.4%, and micro/small enterprises signal an average loss of market of 25%. In sum, the highest average loss of market is suffered by the micro/small enterprises.



2.9.6. Percentage of Loss of market by keyword group and firm size

Keyword group	Type of entity (grouped)		
	Large company	Medium-sized ent..	Micro+Sm all enter..
agri-food materials	16,7%	25,0%	50,0%
construction materials	70,0%	50,0%	25,0%
displaced workers	18,8%		
electronic components	18,0%		10,1%
energy	38,6%	31,5%	15,6%
financing	40,6%	39,6%	32,3%
logistics	16,3%	23,5%	27,4%
medical supplies		50,0%	
metals	42,9%	35,4%	27,3%
oil	10,0%	4,8%	
raw materials	12,5%	5,1%	32,4%
wood		41,7%	27,5%

Table 15 - Loss of market percentage by keyword group & firm size

This table provides information on the percentage of the loss of market and its distribution according to company size in each keyword group.

For instance, those entities that reported disruptions in the construction materials group, the large companies report an average loss of market of 70%. The medium-sized enterprises signal an average loss of market of 50%, and the micro/small enterprises estimate an average loss of market of 25%.

3

Ecosystem Analysis



3. Ecosystem Analysis

3.1. Agri-food

3.1.1. Disruptions keywords

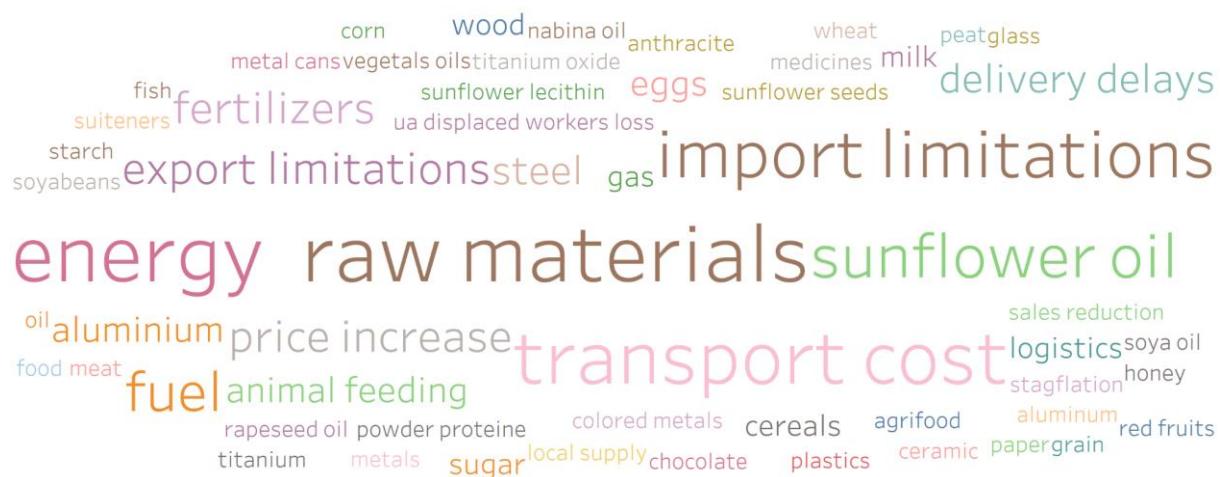


Figure 8 - Agri-food: Disruptions keywords

This word cloud gives an overview of the main disruptions based on the keywords of the Agri-food ecosystem. The cloud reflects the keywords that appear most frequently in the responses. These keywords are raw materials, import limitations, energy, transport cost, sunflower oil and fuel. Raw materials, transport cost and energy, in particular, seem to be the important issues in the agri-food ecosystem.

3.1.2. Disruptions by value and supply chain stage



Table 16 - Agri-food: Disruptions by Stage

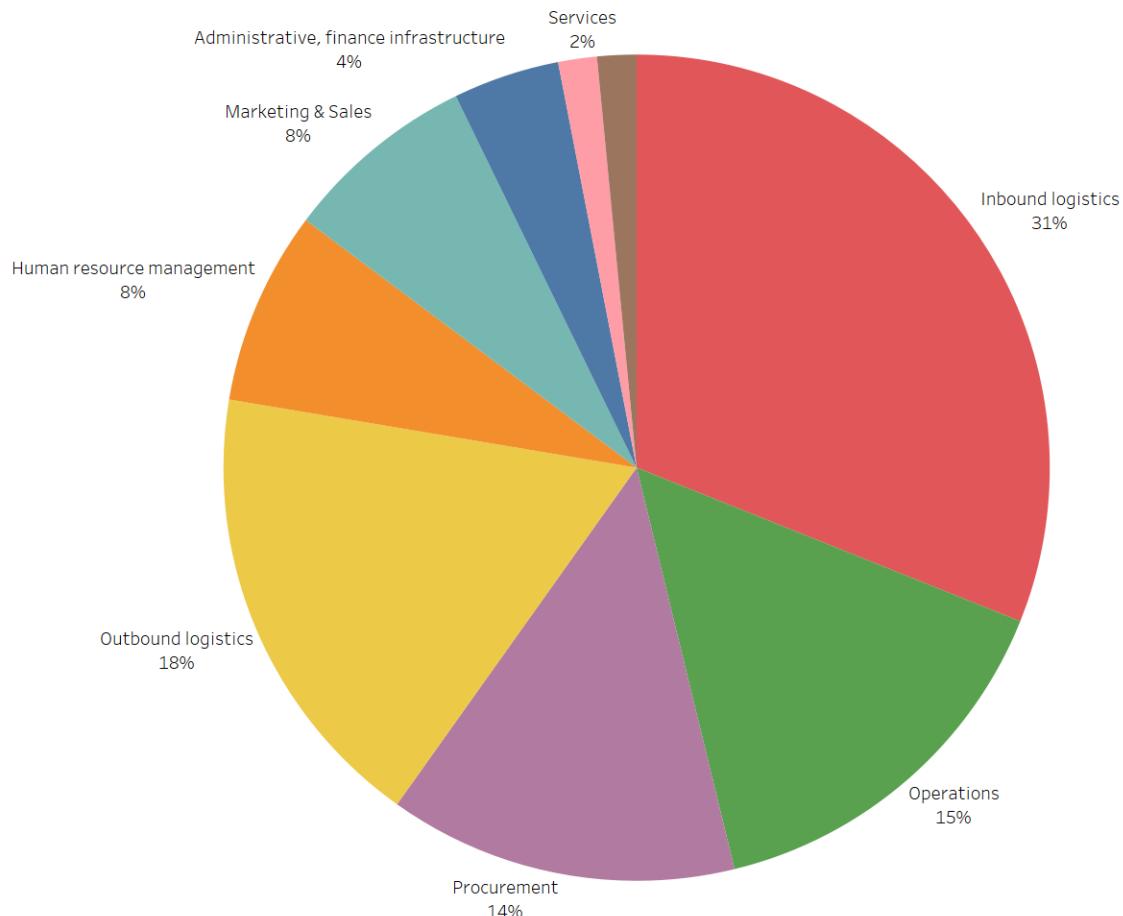


Figure 9 - Agri-food: Disruptions by Stage

Regarding the stage at which the disruptions occur in the Agri-food ecosystem, four stages account for almost 80% of the disruptions. 31% of the disruptions occur at Inbound logistics, 18% at Outbound logistics, 15% at Operations, and 14% at Procurement. In addition, Marketing & Sales and Human resource management make up for 8% for the disruptions respectively. Administrative, finance infrastructure account for 4%, and Research and development and Services for 2%.

It can be highlighted that the main stage at which entities from the Agri-food ecosystem suffer most disruptions is Inbound logistics.



3.1.3. Stages by firm size

Industrial Ec..	Supply value chains stage (Stages)	Type of entity (group)			
		Larg..	Medi..	Micr..	Gran..
Agri-food	Administrative, finance infrastructure	1%	2%	2%	4%
	Human resource management	1%	4%	4%	8%
	Inbound logistics	9%	13%	11%	33%
	Marketing & Sales	2%	3%	2%	6%
	Operations	5%	5%	5%	15%
	Outbound logistics	5%	8%	6%	18%
	Procurement	7%	4%	3%	14%
	Research and development	1%		1%	1%
	Services	1%	1%	1%	2%

Table 17 - Agri-food: Stages by firm size

The table informs about the supply chain stage of the disruptions analysed by size of company active in the Agri-food ecosystem. Inbound logistics is the supply chain stage with the highest level of responses independently of the type of the size of the company. It is followed by Outbound logistics in the case of medium-sized enterprise and Procurement in the case of large companies. The stages with lower responses independently of the size of the company are Services and Research and development.

3.1.4. Answers by type of entity

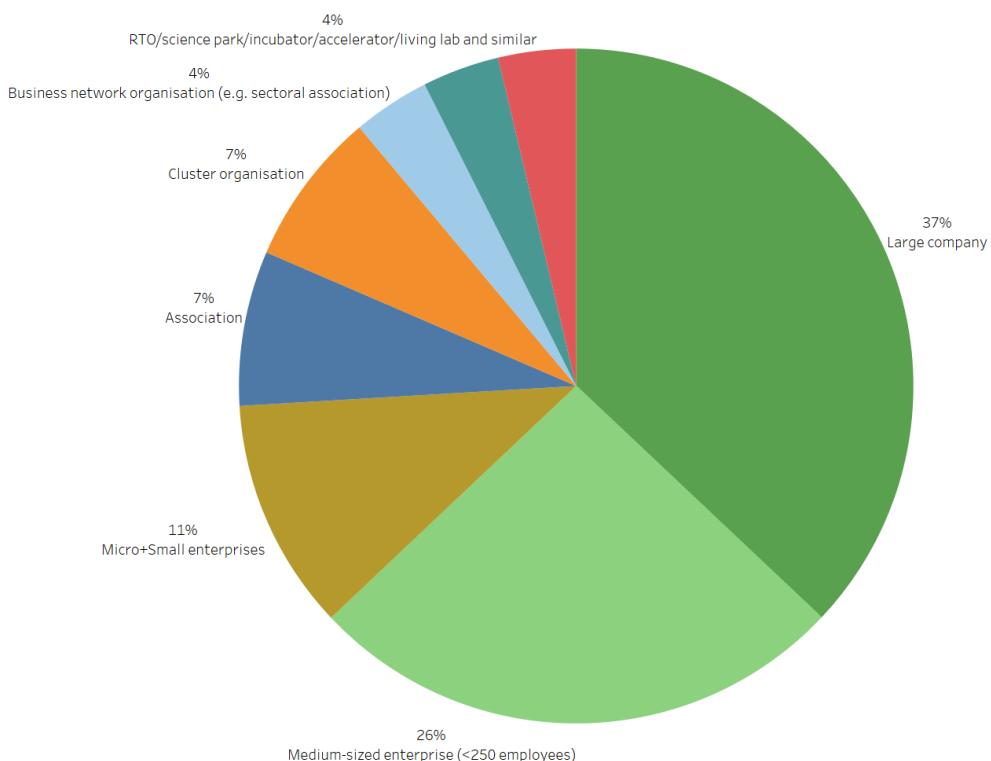


Figure 10 - Agri-food: Loss of input / Loss of market



The chart provides information about the types of entities active in the Agri-food ecosystem that answered the survey. Most responses were given by large companies, the responses make up 37% of all the answers. Medium-sized enterprises follow with 26%. Micro and small enterprises account for 11% of the answers from this ecosystem. Cluster organisations and associations gave answers in 7% of the cases. Business network organisations and RTO/science park/incubator/accelerator/living lab and similar organisations represent 4% respectively.

3.1.5. Loss of input and loss of market

% Input loss		% Market loss	
		High	Medium
High	59%		
Medium	30%		
Low	11%		

from 100 answers

Table 18 - Agri-food: Loss of input / Loss of market

With regard to the loss of input, 89% of the entities (sum of "high" and "medium" evaluations) suffer a significant loss of input, compared to 11% who say they have a low impact. The table shows that the number of entities that suffer a high input loss is very significant.

Looking at the critical market loss, 77% of the entities (sum of "high" and "medium" responses) report a significant market loss, compared to 23% that state to notice little or no impact. Specifically, 23% of the entities say that market loss has been low, while 45% consider it to be high.

Loss of input crit...	Loss of market criticality			
	High	Medi..	Low	Gran..
High	44%	13%	2%	59%
Medium	1%	18%	11%	30%
Low		1%	10%	11%
Grand Total	45%	32%	23%	100%

Table 19 - Agri-food: Loss of input / Loss of market

Making the relation between loss of input and loss of market, it can be observed that 98% of the companies that report to have a high loss of market also indicate to have a high loss of input. Moreover, it can be observed that of the companies that say they have had a high loss of input, 74% of them say that they experience a high loss of market. 22% evaluate the loss of market to be "medium" and 3% to be "low".



3.1.6. Criticality level by firm size

Industrial E..	Type of entity (grouped)	Loss of input criticality			
		High	Medium	Low	Grand To..
Agri-food	Large company	21%	9%	1%	31%
	Medium-sized enterprise ..	18%	13%	6%	38%
	Micro+Small enterprises	21%	6%	4%	31%
Grand Total		60%	29%	12%	100%

Table 20 - Agri-food: LOI Criticality by Ecosystem / Size

The table informs about the criticality of the loss of input suffered by the companies active in the Agri-food ecosystem by company size. The grand total column shows the percentage of the companies that reported an impact on the loss of input in the agri-food ecosystem.

31% of the answers come from large companies. 21% of them reported a high impact of the loss of input, 9% reported a medium impact, and 1% a low impact.

Medium-sized enterprises account for 38% of the responses. 18% of them reported a high impact of the loss of input, 13% reported a medium impact, and 6% a low impact.

31% of the micro/small enterprises that have answered the survey reported an impact on the loss of input. 21% indicated a high impact on the loss of input, 6% a medium impact, and 4% a low impact.

Industrial E..	Type of entity (grouped)	Loss of market criticality			
		High	Medium	Low	Grand To..
Agri-food	Large company	17%	8%	6%	31%
	Medium-sized enterprise ..	14%	14%	9%	38%
	Micro+Small enterprises	14%	9%	8%	31%
Grand Total		45%	31%	23%	100%

Table 21 - Agri-food: LOM Criticality by Ecosystem / Size

The table shows the criticality of the loss of market suffered by the companies from the Agri-food ecosystem according to their size. The grand total column indicates the percentage of the entities that reported on the impact of the loss of market in the agri-food ecosystem.

31% of the answers related to the agri-food ecosystem come from the large companies. 17% of them reported a high impact of the loss of market, 8% reported a medium impact, and 6% a low impact.

38% of the responses were given by medium-sized enterprises. 14% of them see the loss of market as highly critical, 14% evaluate the criticality as "medium", and 9% as "low".

The micro/small enterprises correspond to 31% of the answers. 14% of them estimate the loss of market to be highly critical, 9% see the criticality as "medium", and 8% as "low".

The percentage of companies that suffer a high impact of the loss of market is lower than the percentage of companies that reported a high impact of the loss of input, independently of the size of the company.



Loss_of_input_criticality_desc ● High ● Medium ● Low



Figure 11 - Agri-food: Criticality level by firm size

The bar chart provides information about the criticality of the loss of input categorised by firm size in the Agri-food ecosystem.

It shows that 68% of the large companies of the agri-food ecosystem suffer a highly critical loss of input. 28% of the large companies evaluate the loss of input as "medium", and 12.4% as "low".

48% of the medium-sized companies and 66.67% of the micro/small enterprises report a high impact of loss of input. In addition, almost 34.48% of the medium-sized companies and almost 21% of the micro/small enterprises estimate the loss of input to be "medium".

Almost 17% of the medium-sized companies and 12.5% of the micro/small enterprises do not consider the loss of input to be very critical.

It can be seen that the majority of the enterprises that suffer a critical loss of input are large companies and micro/small enterprises.

Loss_of_market_criticality_desc ● High ● Medium ● Low



Figure 12 - Agri-food: Criticality level by firm size

The bar chart provides illustrates the criticality of the loss of market according to the company size in the agri-food ecosystem.



54% of the large companies indicate to have a highly critical loss of market. 25% of the large companies characterise the criticality as "medium", and 20.83% as "low".

Almost 38% of the medium-sized companies and 48% of the micro/small enterprises report to have a highly critical loss of market.

Moreover, almost 38% of the medium-sized companies and 28% of the micro/small enterprises see the criticality of the loss of market as "medium".

Finally, 24.14% of the medium-sized companies and 24% of the micro/small enterprises consider it to be low.

To sum up, the enterprises that mostly suffer a critical loss of market are large companies. It can be highlighted that the percentage of the large enterprises that report a highly critical impact of loss of market is significantly lower than the number of companies that experience a highly critical loss of input (68% vs. 54%). The same is true for the micro/small companies.

3.1.7. Answer distribution by country

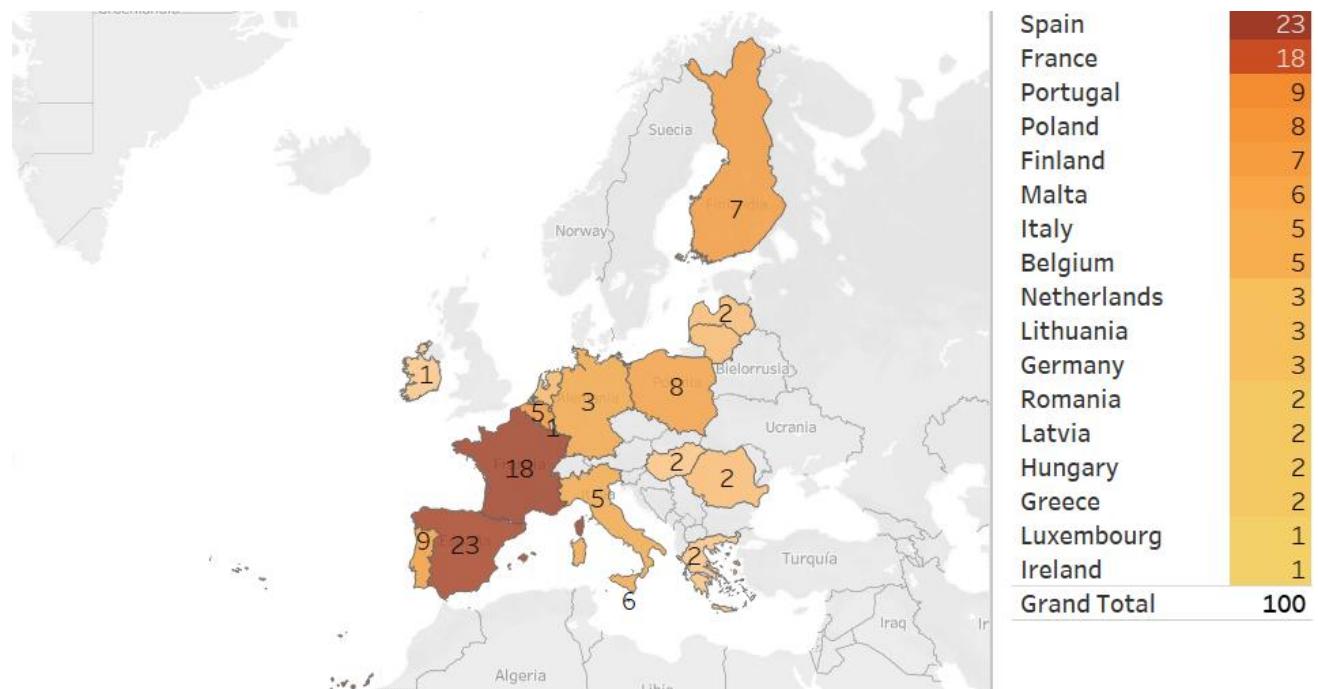


Figure 13 - Agri-food: Answer distribution by country

The map shows the responses of the agri-food ecosystem by country. It can be seen that 41% of the entities that responded to the survey belong to two countries (23% from Spain, and 18% from France). 9% of the responses come from Portugal and 8% from Poland.

It is important to note that the low number of responses from countries with a high economic potential in this sector, such as Germany or Ireland, affects the representativeness of the analysis.





3.2. Construction

3.2.1. Disruptions keywords

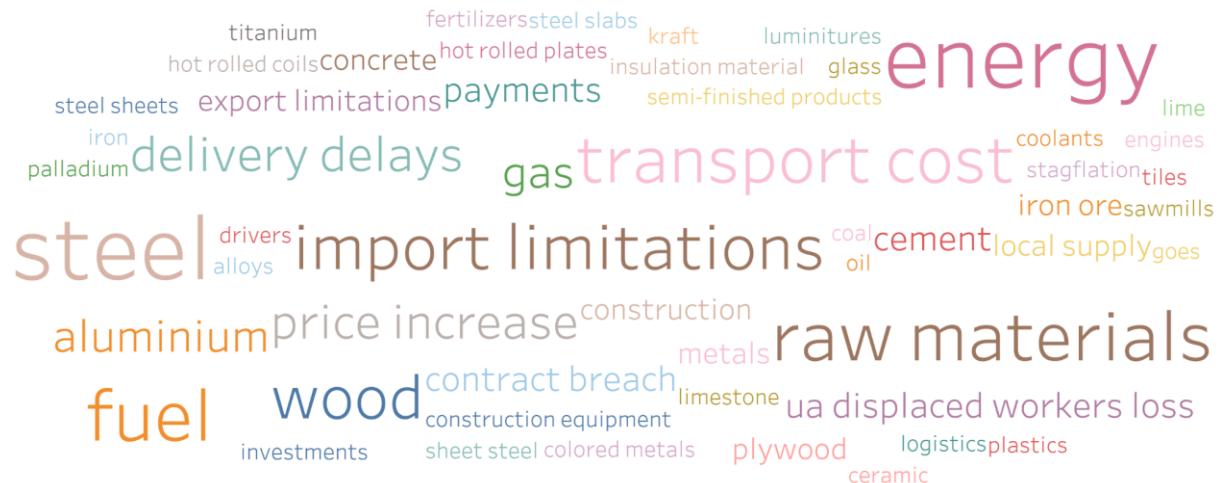


Figure 14 - Construction: disruptions Keywords

This word cloud gives an overview of the main disruptions based on the keywords of the Construction ecosystem. The cloud indicates the frequency of the keywords that summarise the responses. These keywords are energy, steel, raw materials, transport cost, fuel, import limitations and wood. In particular, the increase of the cost of energy and the lack of steel and raw materials are significant disruptions for the entities active in the construction ecosystem.

3.2.2. Disruptions by value and supply chain stage

Administrative, finance infrastructure	5%
Human resource management	8%
Inbound logistics	28%
Marketing & Sales	6%
Operations	13%
Outbound logistics	15%
Procurement	16%
Research and development	4%
Services	4%

Table 22 - Construction: Disruptions by Stage

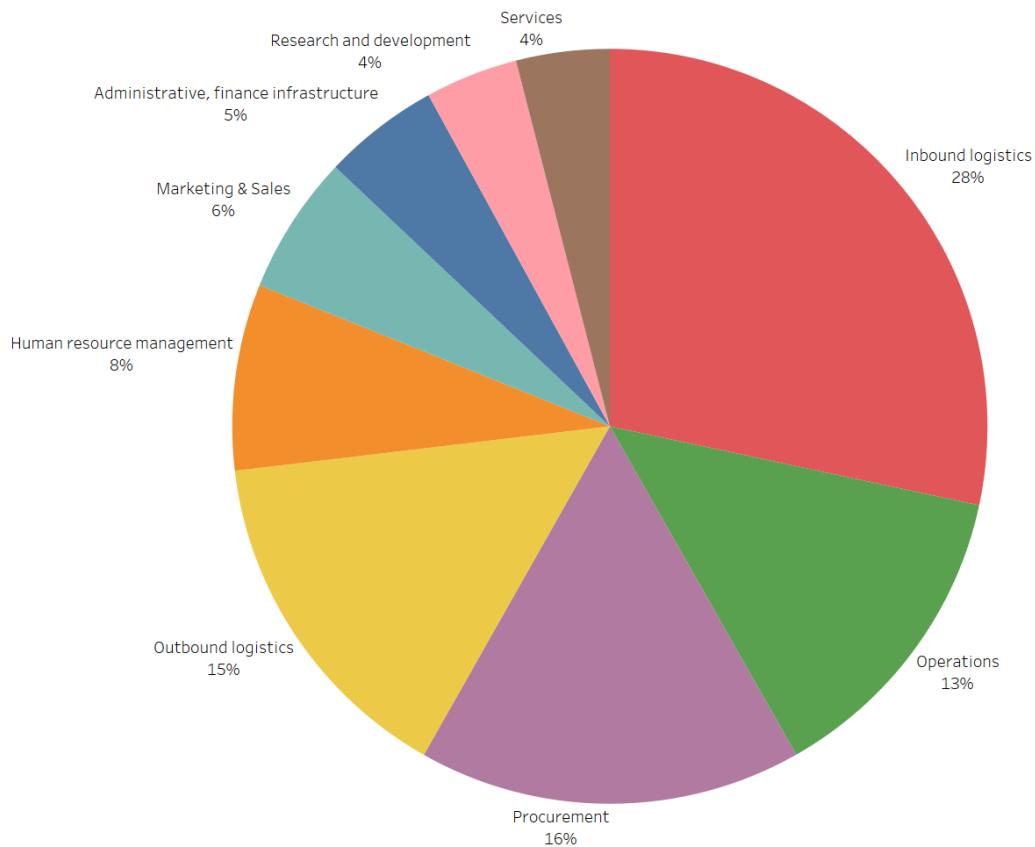


Figure 15 - Construction: Disruptions by Stage

Looking at the stage at which the disruptions occur in the Construction ecosystem, four stages account for almost 72% of the disruptions. Specifically, 28% occur at Inbound logistics, 16% at Procurement, 15% at Outbound logistics and 13% at Operations. In addition, Human resource management experience 8% of the disruptions, Marketing and sales 6%, Administrative and finance infrastructure 5%, and Research and development and Services 4% respectively.

It can be highlighted that the main stage at which the entities active in the Construction ecosystem suffer the most disruptions is Inbound logistics.



3.2.3. Stages by firm size

Industrial Ecosystems (Ecosys..	Supply value chains stage (Stages)	Type of entity (group)			Grand Total
		Large company	Medium-sized en..	Micro+Small ent..	
Construction	Administrative, finance infrastructure	2%		2%	5%
	Human resource management	3%	1%	4%	9%
	Inbound logistics	9%	9%	9%	27%
	Marketing & Sales	4%	1%	2%	6%
	Operations	5%	4%	4%	12%
	Outbound logistics	6%	3%	6%	16%
	Procurement	7%	7%	4%	18%
	Research and development	2%	1%	1%	4%
	Services	2%	1%	1%	4%

Table 23 - Construction: Stages by firm size

The table provides information on the disrupted supply chain stages by size of the company in the Construction ecosystem.

Inbound logistics is the most disrupted supply chain stage according to the given answers, independently of the size of the company. It is followed by Procurement in the case of medium-sized enterprises and large company, and Outbound logistics in the case of micro/small enterprises.

The stages with lower responses from all companies are Services and Research and development.



3.2.4. Answers by type of entity

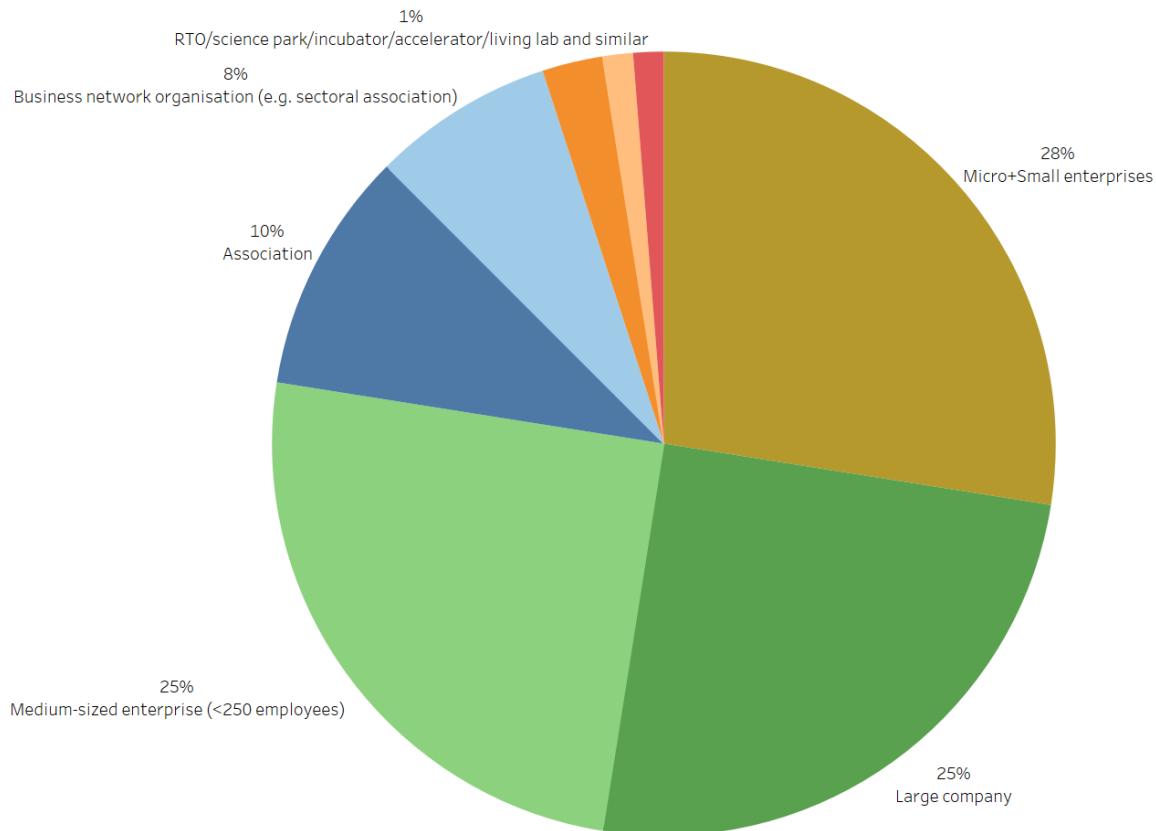


Figure 16 - Construction: Answers by type of entity

This chart shows the distribution of the answers by type of entities active in the Construction ecosystem. The most responses were received from micro/small enterprises, they account for 28%. Large companies follow them with 25%. Medium-sized enterprises also represent 25% of the answers from this ecosystem. Associations make up 10% of the answers. Business network organisations and RTO/science park/incubator/accelerator/living lab and similar organisations represent 8% and 1% respectively.

It can be clearly seen that the three company types have a similar percentage.

3.2.5. Loss of input and loss of market in Construction ecosystem

% Input loss		% Market loss	
High	50%	High	41%
Medium	31%	Medium	34%
Low	19%	Low	26%

from 80 answers

Table 24 - Construction: Loss of input / Loss of market



With regard to the loss of input, 81% of the companies (sum of "high" and "medium" responses) report that they have a significant loss of input, compared to 19% who say they have a low impact. It can be clearly seen that the number of companies that suffer a high input loss is very significant.

Looking at the market loss, 75% of the companies (sum of "high" and "medium" responses) experience a significant market loss, with 41% indicating it to be "high". 26% of the companies say that the market loss is low.

Input / Market losses

Loss of input cri..	Loss of market criticality			Gran..
	High	Medi..	Low	
High	35%	11%	4%	50%
Medium	4%	20%	7%	31%
Low	1%	3%	15%	19%
Grand Total	41%	34%	26%	100%

Table 25 - Construction: Loss of input / Loss of market

Putting the input and market loss into relation, it can be observed that 85% of the companies that report to have had a highly critical loss of market also say that they have a highly critical loss of inputs.

Furthermore, regarding loss of inputs, it can be seen that of the companies that say to have a highly critical loss, 70% of them signal a high critical loss of market. Another 22% of the answers indicate the loss to be "medium" and 8% to be "low".

3.2.6. Criticality level by firm size in Construction ecosystem

Industrial E..	Type of entity (grouped)	Loss of input criticality			
		High	Medium	Low	Grand To..
Construction	Large company	24%	3%	5%	32%
	Medium-sized enterprise ..	10%	12%	8%	31%
	Micro+Small enterprises	17%	14%	7%	37%
	Grand Total	51%	29%	20%	100%

Table 26 - Construction: LOI Criticality by Ecosystem / Size

The table informs about the criticality of the loss of input suffered by the entities active in the construction ecosystem by type of entities. The grand total column shows the percentage of the entities that reported an impact on the loss of input in the construction ecosystem.

32% of the answers were made by large companies. 24% of them signal a highly critical loss of input, 3% consider it to be "medium", and 5% indicate a low impact.

31% of the responses come from medium-sized companies. 10% of them report a highly critical impact of the loss of input, 12% see it as "medium" and 8% as "low".



37% of the micro/small enterprises that answered the survey signal an impact of the loss of input, with 17% marking it as "high", 14% as "medium", and 7% as "low".

Industrial E.. Type of entity (grouped)	Loss of market criticality			Grand To..
	High	Medium	Low	
Construction	19%	8%	5%	32%
	5%	14%	12%	31%
	17%	12%	8%	37%
Grand Total	41%	34%	25%	100%

Table 27 - Construction: LOM Criticality by Ecosystem / Size

The table shows the criticality of the loss of market suffered by the companies from the construction ecosystem according to their size. The grand total column indicates the percentage of the entities that reported on the impact of the loss of market in the construction ecosystem.

32% of the answers related to the construction ecosystem come from the large companies. 19% of them reported a highly critical of the loss of market, 8% reported a medium impact, and 5% a low impact.

31% of the responses were given by medium-sized enterprises. 5% of them see the loss of market as highly critical, 14% evaluate the criticality as "medium", and 12% as "low".

The micro/small enterprises correspond to 37% of the answers. 17% of them estimate the loss of market to be highly critical, 12% see the criticality as "medium", and 8% as "low".

Loss_of_input_criticality_desc ● High ● Medium ● Low

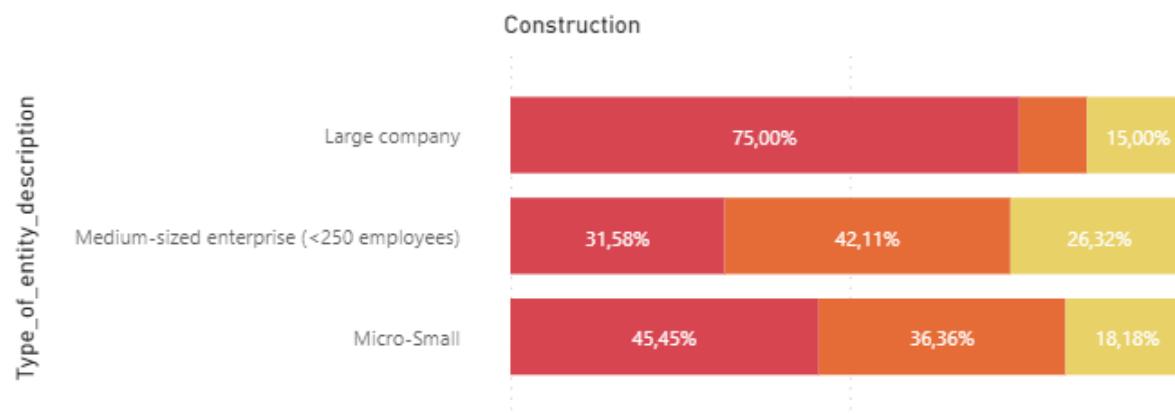


Figure 17 - Construction: Criticality level by firm size

The bar chart provides information on the criticality of the loss of input according to the firm size in construction ecosystem. It shows that 75% of the large companies of the construction ecosystem that responded to the survey suffer a highly critical loss of input. 15% report a low impact of the loss of input.

31.58% of the medium-sized companies and 45.45% of the micro/small enterprises evaluate the criticality of the loss of input to be "high". Moreover, 42% of the medium-sized companies and 36% of the micro/small enterprises consider the criticality of their loss of input to be "medium".



Finally, 26.32% of the medium-sized companies and 18% of micro/small enterprises report a low impact on the loss of input.

The majority of the enterprises active in the construction ecosystem that suffer a highly critical impact are large company.

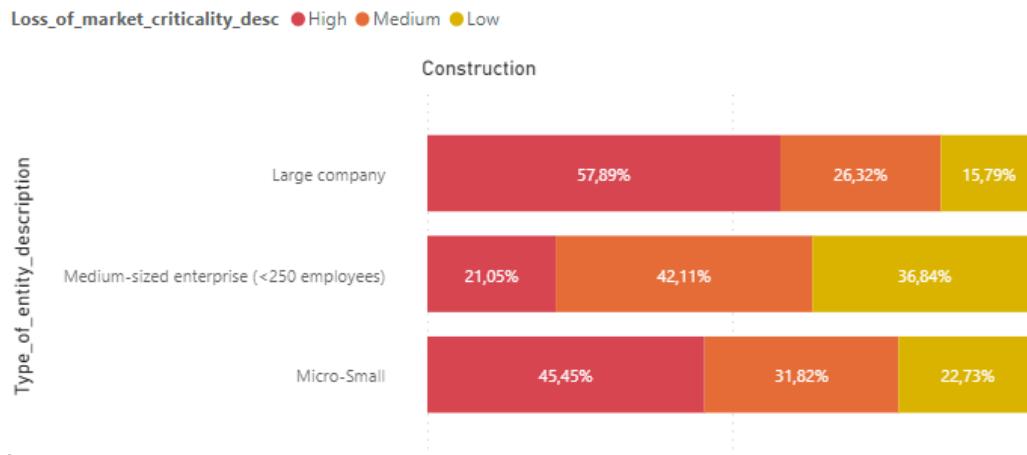


Figure 18 - Construction: Criticality level by firm size

The bar chart illustrates the criticality of the loss of market according to firm size in the construction ecosystem.

It shows that almost 58% of the large companies signal a highly critical loss of market. 26.32% of the large companies experiment an impact characterised as "medium", and almost 16% notice a low impact on the loss of market.

21% of the medium-sized companies and 45.45% of the micro/small enterprises report a highly critical loss of market.

In addition, 42% of the medium-sized companies and 31.82% of the micro/small enterprises consider the criticality of the loss of market to be "medium".

Finally, almost 37% of the medium-sized companies and 22.73% of the micro/small enterprises report a low impact of the loss of market.

As can be seen by these numbers, the enterprises that mostly suffer a highly critical loss of market are large companies. Furthermore, it can be highlighted that the percentage of the large enterprises that suffer a high impact of the loss of market is significantly lower than the percentages of large companies that report a high impact of the loss of input (75% vs. 57.89%).



3.2.7. Answer distribution by country

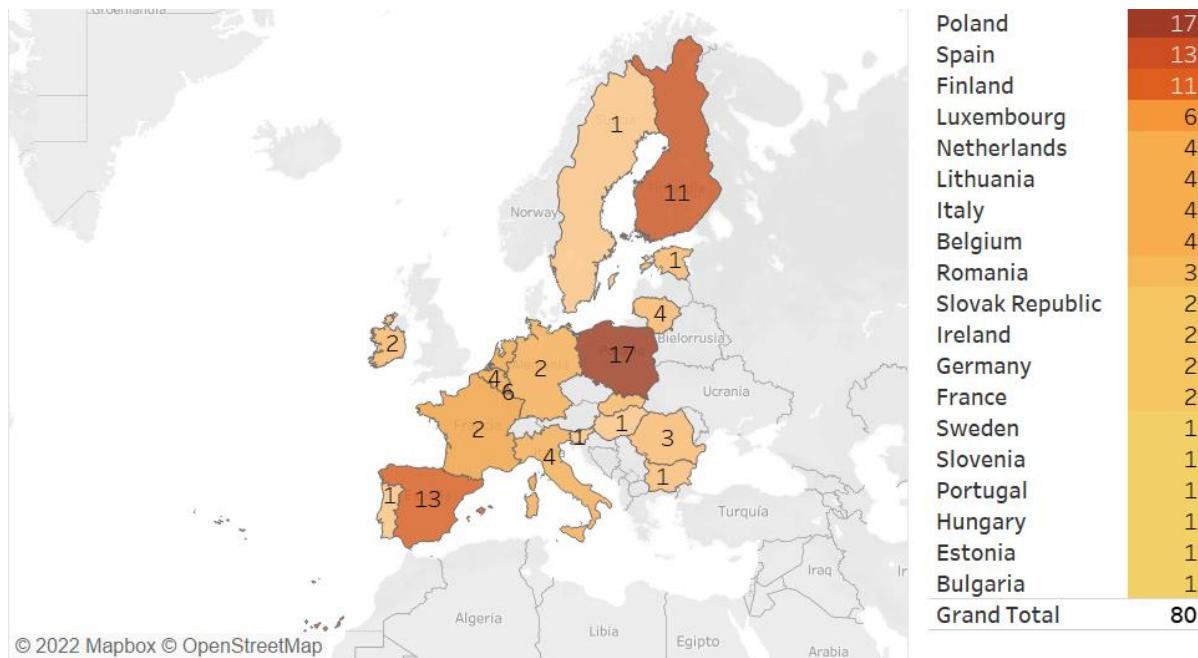


Figure 19 - Construction: Answer distribution by country

The map shows the responses of the construction ecosystem by country. It can be seen that 41% of the entities that answered the survey belong to three countries (17 from Poland, 13 from Spain, and 11 from Finland).

7.5% of the answers come from Luxembourg. Entities from the Netherlands, Lithuania, Italy, and Belgium make up 5% respectively.

It is important to say that the low number of responses from countries with high economic potential in this sector, such as Germany, Ireland, or Portugal, influence the representativeness of this analysis.



3.3. Health

3.3.1. Disruptions keywords

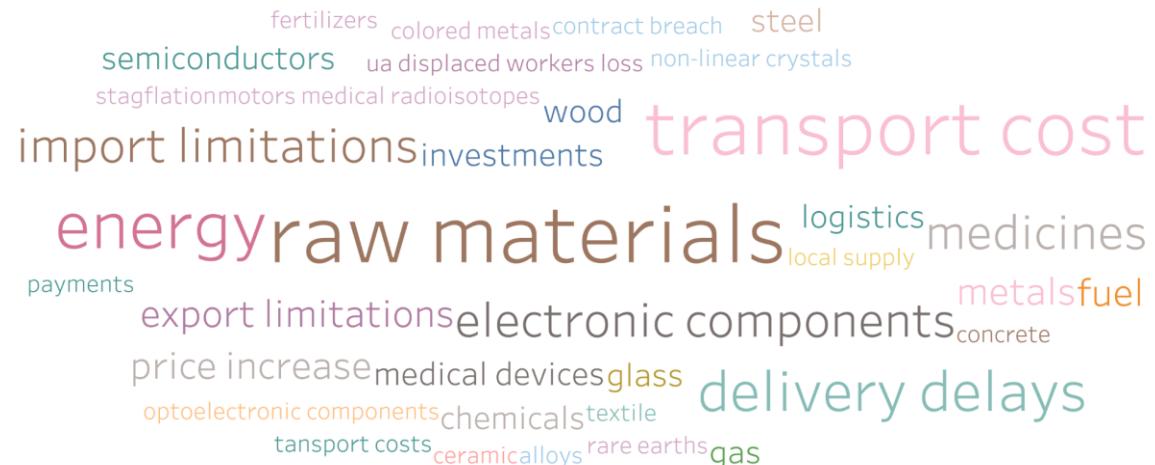


Figure 20 - Health: Disruptions keywords

This word cloud gives an overview of the main disruptions based on the keywords of the Health ecosystem. The cloud indicates the frequency of the keywords that summarise the responses. These keywords are raw materials, transport cost, energy, delivery delays, import limitations and medicines. In particular, shortages of raw materials and medicines as a possible result of logistical disruptions (transport costs, energy, delivery delays and import constraints) are major disruptions for entities active in the healthcare ecosystem.

3.3.2. Disruptions by value and supply chain stage



Table 28- Health: Disruptions by Stage

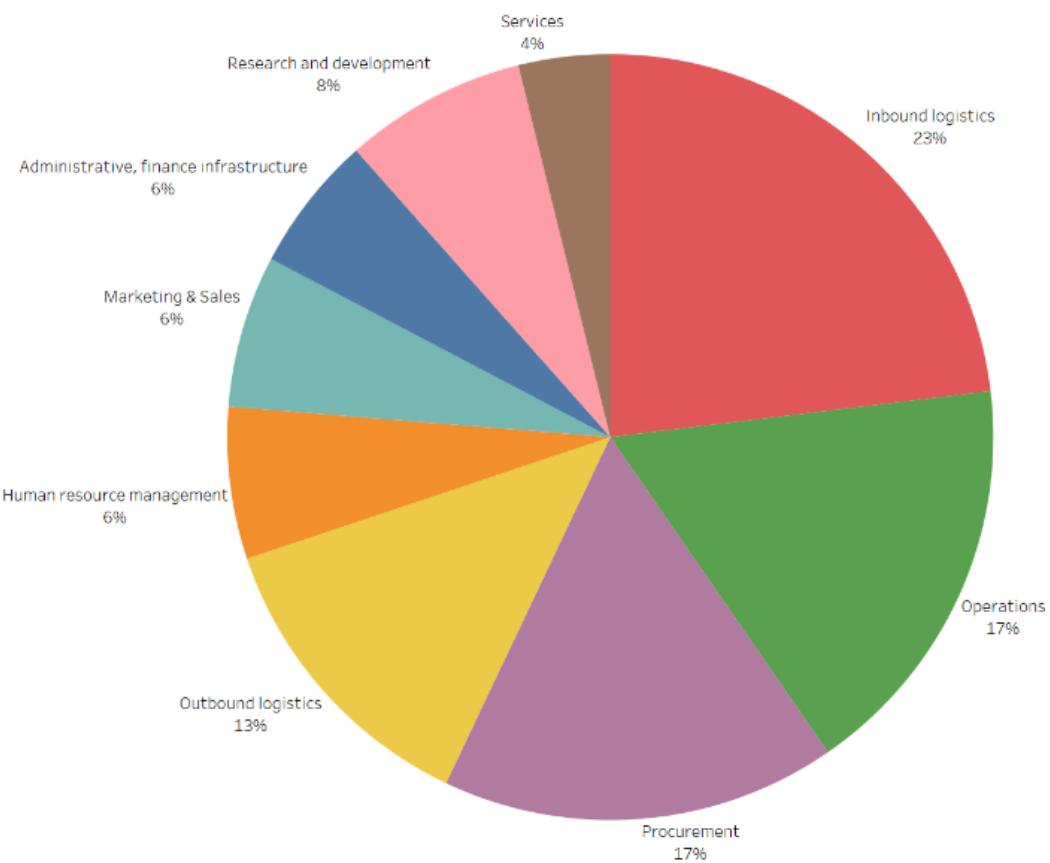


Figure 21 - Health: Disruptions by Stage

Looking at the stage at which the disruptions occur in the Health ecosystem, four stages account for almost 70% of the disruptions. Specifically, 23% occur at Inbound logistics, 17% in Operations, 17% in Procurement and 13% in Outbound logistics. In addition, Research and development experience 8% of the disruptions, Marketing and sales 6%, Administrative and finance infrastructure 6%, and Human resource management 6%.

It can be highlighted that the main stage at which the entities active in the Healthcare ecosystem suffered more disruptions than the rest of the ecosystems is Inbound Logistics. However, the Operations and Procurement stages are more affected in the Health ecosystem than on average.



3.3.3. Stages by firm size

		Type of entity (group)			Grand Total
	Industrial Ecosystems (Ecosys.. Supply value chains stage (Stages)	Large company	Medium-sized en..	Micro+Small ent..	
Health	Administrative, finance infrastructure	3%		2%	5%
	Human resource management	3%	2%	2%	6%
	Inbound logistics	12%	6%	6%	23%
	Marketing & Sales	3%	2%	2%	7%
	Operations	10%	5%	3%	18%
	Outbound logistics	6%	3%	5%	13%
	Procurement	9%	7%	3%	18%
	Research and development	3%	1%	3%	7%
	Services	1%	1%	2%	3%

Table 29 - Health: Stages by firm size

The chart provides information about the disrupted supply chain stage by size of the entity active in the Health ecosystem. Even though there are more types of entities in the survey, large company, medium-sized enterprise, and micro/small enterprise were selected.

Inbound logistics is the supply chain stage with the highest level of responses. However, it should be noted that the weight of the large companies represents 50% of the disruptions (12% compared to 6% for medium-sized and 6% for micro/small companies).

Inbound logistics is followed by Operations, where large companies account for 56% of the disruptions, compared to 28% for medium-sized and 16% for micro-/small enterprises.

Procurement is a similar case, with 50% of large companies, although medium-sized (39%) have a greater weight. Micro/small companies represent 11%.

The stages with lower responses for every type of entity are Services and Administrative, financial infrastructure.



3.3.4. Answers by type of entity

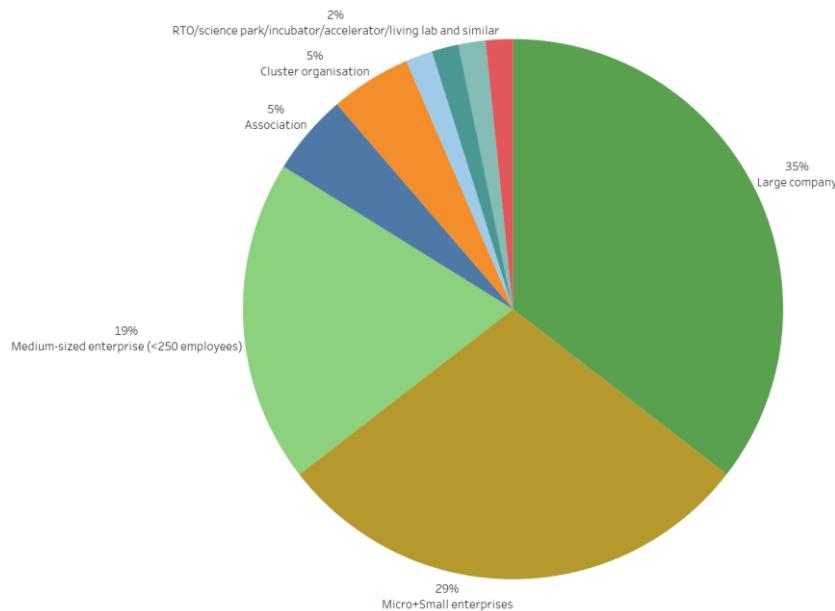


Figure 22 - Health: Answers by type of entity

The graph provides information on the distribution by type of entity active in the Health ecosystem that responded to the survey. The highest number of entities are large companies, accounting for 35%. They are followed by medium-sized companies with a percentage of 29%. Micro/small enterprises also represent 19% of the respondents in this ecosystem. Association and Cluster Organisation represent 5% of the respondents respectively.

The next groups are RTO/science park/incubator/accelerator/living lab and similar, representing 2% respectively.

In summary, the three major groups account for 83% of the respondents and more than one in three is a large company.

3.3.5. Loss of input and loss of market in Health ecosystem

% Input loss		% Market loss	
		High	Medium
High	46%	33%	39%
Medium	42%	39%	28%
Low	12%		

from 62 answers.

Table 30 - Health: Loss of input / Loss of market

In terms of loss of inputs, 88% (sum of "high" and "medium" responses) of the companies surveyed have suffered a significant loss of inputs, compared to 12% who say they have had a low impact. In particular, it is important to note that the number of companies that have suffered a high loss of inputs is very significant (almost 50%).



In relation to the critical market loss, 72% (sum of "high" and "medium" responses) of the companies surveyed have suffered significant market losses. 28% of the companies say that the market loss has been low. However, the most frequent response is "medium" market loss (39%), followed by "high" market loss (33%).

Input / Market losses

Loss of input cri...	Loss of market criticality			Gran...
	High	Medi..	Low	
High	32%	9%	5%	46%
Medium		30%	12%	42%
Low	2%		11%	12%
Grand Total	33%	39%	28%	100%

Table 31 - Health: Loss of input / Loss of market

In relation to the cross-analysis, it is observed that 96% of the companies that claim to have had a high loss of market also claim to have had a high loss of inputs.

In turn, with respect to input loss, it is observed that of the companies that claim to have had a high loss, 70% claim to have had a high loss of market, another 20% a medium loss, and 10% a low loss.

3.3.6. Criticality level by firm size in Health ecosystem

Industrial E..	Type of entity (grouped)	Loss of input criticality			Grand To..
		High	Medium	Low	
Health	Large company	27%	13%	4%	44%
	Medium-sized enterprise ..	15%	6%	2%	23%
	Micro+Small enterprises	8%	17%	8%	33%
Grand Total		50%	35%	15%	100%

Table 32 - Health: LOI Criticality / Ecosystem / Size

The table informs about the loss of input criticality suffered by the entities active in the Health ecosystem disaggregated by type of entities.

The grand total column shows the percentage of the entities that reported an impact on the loss of input in the Health ecosystem.

Large companies accounted for 44% of the respondents. Among them, 61% reported a high impact on input losses. Of these, 29% reported a medium loss of inputs, 10% reported a low impact on the loss of inputs.

In relation to medium-sized enterprises (23% of the total), 65% of them reported a high impact on the loss of inputs. 26% of them reported an impact on the loss of inputs. Of these, 26% reported a medium impact on the loss of inputs and 13% reported a low impact on the loss of inputs.

Finally, looking at the micro/small enterprises (33% of the total), 52% of them reported a medium impact on the loss of inputs. Of these, 24% reported a high impact on the loss of inputs and another 24% reported a low impact on the loss of inputs.



Industrial E..	Type of entity (grouped)	Loss of market criticality			Grand To..
		High	Medium	Low	
Health	Large company	19%	10%	15%	44%
	Medium-sized enterprise ..	15%	6%	2%	23%
	Micro+Small enterprises	6%	17%	10%	33%
Grand Total		40%	33%	27%	100%

Table 33 - Health: LOM Criticality by Ecosystem / Size

The table informs about the loss of market criticality suffered by the entities active in the Health ecosystem disaggregated by type of entities.

The grand total column shows the percentage of the entities that reported an impact on the loss of market in the Health ecosystem.

Large companies accounted for 44% of the respondents. Among them, 43% reported a high impact on market losses. Of these, 23% reported a medium loss of market and 34% reported a low impact on the loss of market.

In relation to medium-sized enterprises (23% of the total), 65% of them reported a high impact on the loss of market. 26% of them reported an impact on the loss of market. Of these, 26% reported a medium impact on the loss of market and 34% reported a low impact on the loss of market.

Finally, looking at the micro/small enterprises (33% of the total), 52% of them reported a medium impact on the loss of inputs. Of these, 24% reported a high impact on the loss of inputs and another 24% reported a low impact on the loss of inputs.

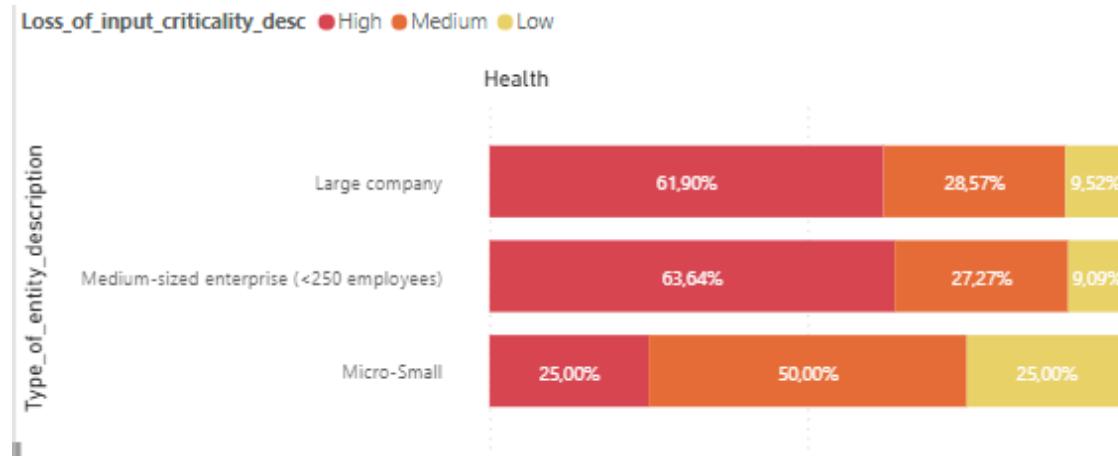


Figure 23 - Health: Criticality level by firm size (2)

The bar chart provides information about the loss of input criticality according to the firm size in the Health ecosystem.

The bar chart shows that 61.9% of the large companies in the Health ecosystem have suffered a high impact on the loss of inputs, 28.57% a medium impact on the loss of inputs and only 9.52% a low impact on the loss of inputs.

Almost 64% of the medium-sized companies and 25% of the micro/small enterprises report a high impact on loss of input.



Moreover, 45.45% of the medium-sized companies 27.27% and 50% of the micro-small enterprises report a medium impact on loss of input.

Finally, 9.09% of the medium-sized companies and 25% of the micro/small enterprises report a low impact on loss of input.

In summary, the highest number of companies active in the Health ecosystem that have suffered a high impact are large and medium-sized companies, while for micro/small companies, it is only 25%.

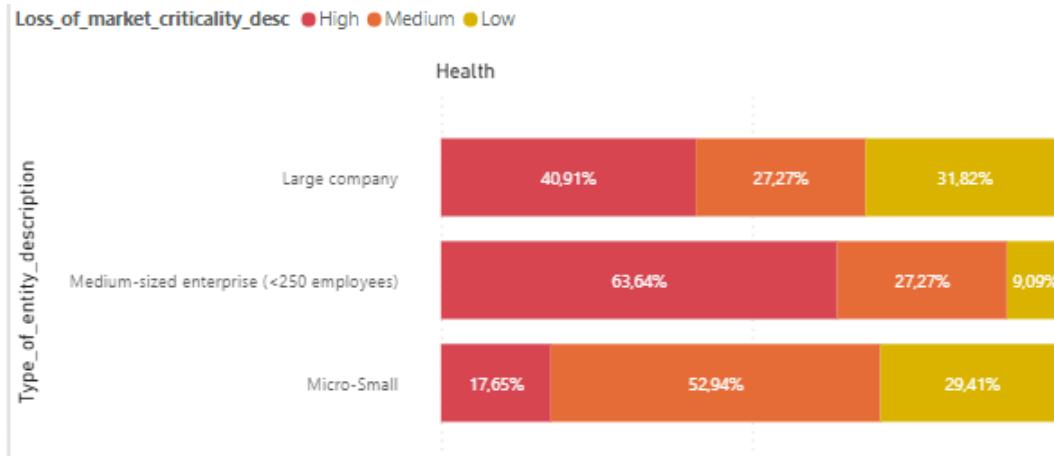


Figure 24 - Health: Criticality level by firm size (2)

The bar chart provides information about the loss of market criticality by firm size in the Health ecosystem.

The bar chart shows that almost 42% of the large companies have suffered a high impact on loss of market. 27.27% of the large companies have experienced a medium impact and 31.82% a low impact on loss of market.

63.64% of the medium-sized companies and 17.65% of the micro-small enterprises report a high impact on loss of market.

Moreover, almost 27.27% of the medium-sized companies and almost 53% of the micro/small enterprises report a medium impact on loss of market.

Finally, 9.09% of the medium-sized companies and almost a 30% of the micro/small enterprises report a low impact on loss of market.

To sum up, the major number of enterprises that have suffered high impact are medium-sized companies.

It can be highlighted that the percentage of the large enterprises that have suffered a high impact on loss of market is significantly lower than the number of large enterprises with a high impact on the loss of input (62% vs. 41%).



3.3.7. Answer distribution by country

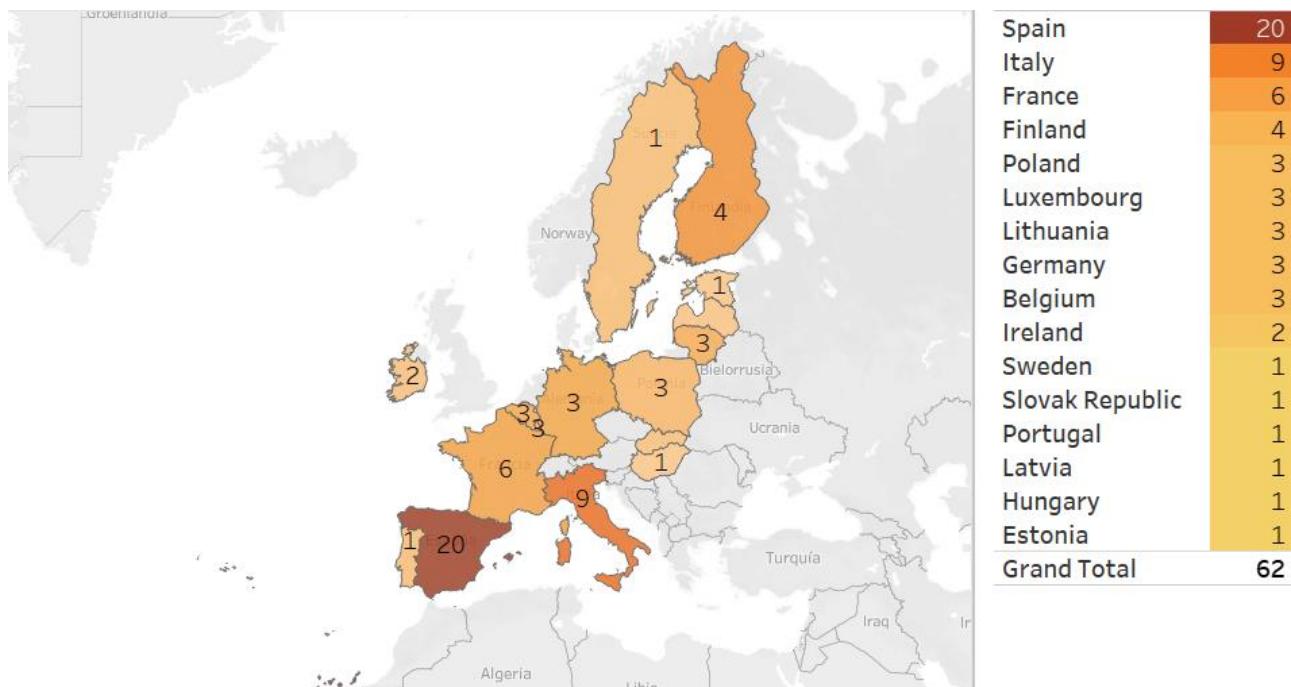


Figure 25 - Health: Answer distribution by country

The graph shows the responses from entities from the Health ecosystem by country.

Regarding the responses by Member States of the European Union in this ecosystem, it should be noted that 56% of the entities that responded belong to three countries (33% from Spain, 15% from Italy and 10% France).



3.4. Mobility - Transport - Automotive

3.4.1. Disruptions keywords



Figure 26 - Mobility - Transport - Automotive Disruptions keywords

This word cloud gives an overview of the main disruptions based on the keywords of the Mobility - Transport - Automotive ecosystem. It shows that the keywords that appear most frequently in the responses are raw materials, transport cost, energy, fuel and import limitations.

In particular, the entities of the Mobility ecosystem referred to the increase of the transport cost and energy, as well as the shortage of raw materials.

3.4.2. Disruptions by value and supply chain stage



Table 34 - Mobility - Transport - Automotive: Disruptions by Stage

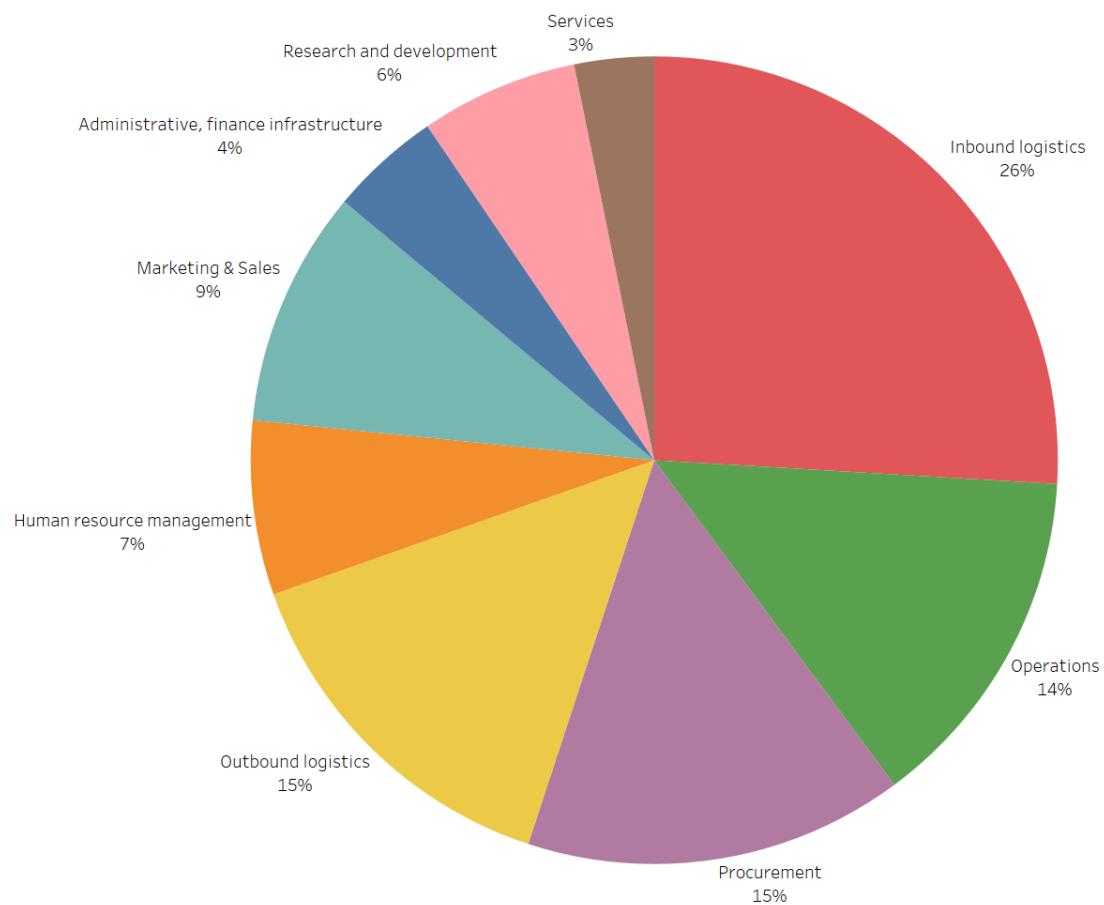


Figure 27 - Mobility – Transport – Automotive: Disruptions by Stage

In relation to the phase in which disruption occurs in the Mobility ecosystem, four phases account for almost 70% of the disruptions. Specifically, 26% occur in Inbound logistics, 15% Procurement, 15% in Outbound logistics and 14% in Operations. In addition, Marketing and sales 9%, Human resource management 7%, Research and development 6%, Administrative, finance infrastructure 4% and Services 3%.

It can be highlighted that the main stage in which entities active in the mobility ecosystem suffered disruptions is Inbound logistics.



3.4.3. Stages by firm size

Industrial Ecosystems (Ecosys.. Supply value chains stage (Stages)	Mobility - Transport - Automotive	Type of entity (group)			Grand Total
		Large company	Medium-sized en..	Micro+Small ent..	
Administrative, finance infrastructure	Human resource management	1%		2%	4%
	Inbound logistics	4%	1%	1%	6%
	Marketing & Sales	13%	6%	11%	30%
	Operations	2%	2%	5%	10%
	Outbound logistics	2%	2%	5%	10%
	Procurement	7%	2%	7%	17%
	Research and development	6%	4%	6%	16%
	Services	5%		1%	6%
				1%	1%

Table 35 - Mobility – Transport – Automotive: Stages by firm size

The chart provides information about the disrupted supply chain stage in the Mobility ecosystem, analysed by type of entity. Even though there are more types of entity that responded to the survey, large company, medium-sized enterprise and micro/small enterprise have been selected.

Inbound logistics is the supply stage with the highest number of responses, independently of the type of entity. It is followed by Outbound logistics in the case of micro/small enterprises and large companies, and Procurement in the case of medium-sized enterprises.

The stages with lower responses by every type of entity are Services and Administrative, finance infrastructure.



3.4.4. Answers by type of entity

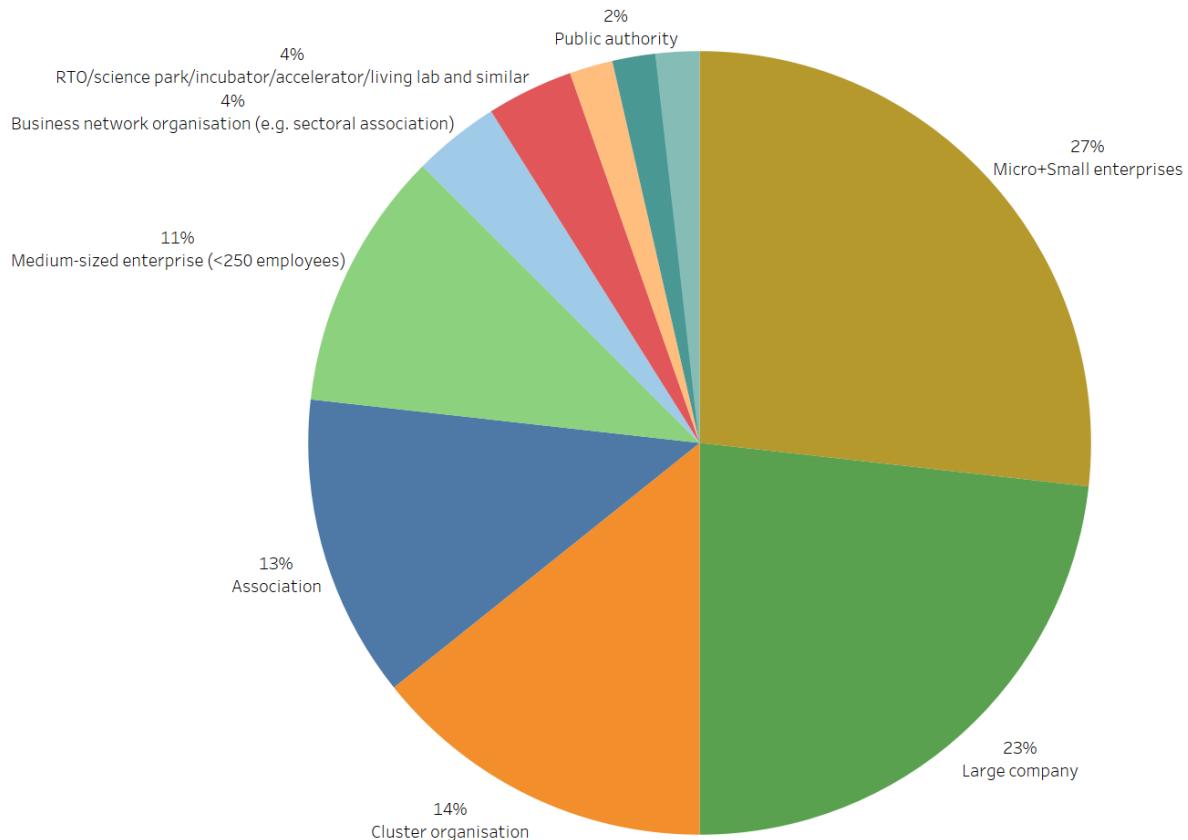


Figure 28 - Mobility – Transport – Automotive: Answers by type of entity

The chart provides information about the distribution by type of entity active in the Mobility ecosystem that have answered the survey.

The highest number of responses come from micro/small enterprises; they represent 27%. The large companies follow them with a percentage of 23. Cluster organisations follow them with 14%.

The following groups are associations and medium-sized enterprises, which represent 13% and 11% respectively.

Business network organisations and RTO/science park/incubator/accelerator/living lab and similar organisations represent 4% respectively.



3.4.5. Loss of input and loss of market in Mobility - Transport - Automotive ecosystem

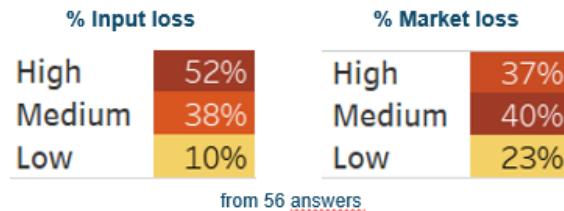


Table 36 - Mobility – Transport – Automotive: Loss of input / Loss of market

With regard to the loss of input, 90% (sum of "high" and "medium" responses) of the companies surveyed have suffered a significant loss of input, compared to 10% who say they have had a low impact. In particular, it is important to note that the number of companies that have suffered a high input loss is very significant.

In relation to critical market loss, 77% (sum of "high" and "medium" responses) of the companies surveyed have suffered significant market losses. Specifically, 23% of companies say that market loss has been low, while 37% consider it to be high.

Input / Market losses

Loss of input cri..	Loss of market criticality			Gran..
	High	Medi..	Low	
High	33%	17%	2%	52%
Medium	4%	23%	12%	38%
Low			10%	10%
Grand Total	37%	40%	23%	100%

Table 37 - Mobility – Transport – Automotive: Loss of input / Loss of Market

Making the cross-analysis, it can be observed that almost 90% of the companies that claim to have had a high loss of market also claim to have had a high loss of inputs.

On the other hand, with regard to loss of inputs, it can be observed that of the companies that say to have had a high loss, 63.46% of them say they have had a high loss of market and another 32% a medium loss of market.

3.4.6. Criticality level by firm size in Mobility - Transport - Automotive ecosystem

Industrial E..	Type of entity (grouped)	Loss of input criticality			
		High	Medium	Low	Grand To..
Mobility -	Large company	25%	16%		41%
Transport -	Medium-sized enterprise ..	6%	6%	3%	16%
Automotive	Micro+Small enterprises	16%	19%	9%	44%
	Grand Total	47%	41%	13%	100%

Table 38 - Mobility – Transport – Automotive: LOI Criticality by Ecosystem / Size



The table informs about the loss of input criticality suffered by the entities active in the Mobility ecosystem, analysed by type of entities.

The grand total column shows the percentage of the entities that reported an impact on the loss of input in the Mobility ecosystem.

41% of the large companies reported that they have suffered an impact on the loss of input. 25% of them reported a high impact on the loss of input and 16% reported a medium impact on the loss of input.

Looking at the medium-sized enterprises, 16% of them reported that they have suffered an impact on the loss of input. 6% of them reported a high impact on the loss of input, 6% reported a medium impact on the loss of input and 3% a low impact.

44% of the micro/small enterprises that have answered the survey reported an impact on the loss of input. 16% of them reported a high impact on the loss of input, 19% reported a medium impact and 9% reported a low impact.

Industrial E..	Type of entity (grouped)	Loss of market criticality			Grand To..
		High	Medium	Low	
Mobility - Transport - Automotive	Large company	13%	22%	6%	41%
	Medium-sized enterprise ..	6%	6%	3%	16%
	Micro+Small enterprises	13%	16%	16%	44%
	Grand Total	31%	44%	25%	100%

Table 39 - Mobility – Transport – Automotive: LOM Criticality by Ecosystem / Size

The table informs about the loss of market criticality suffered by the entities active in the Mobility ecosystem, analysed by type of entities (large company, medium-sized enterprise, and micro/small enterprise).

The grand total column shows the percentage of the entities that reported an impact on the loss of market in the Mobility ecosystem.

41% of the large companies reported that they have suffered an impact on the loss of market. 13% of them reported a high impact on the loss of market, 22% reported a medium impact on the loss of market and 6% a low impact.

16% of the medium-sized enterprises reported that they have suffered an impact on the loss of market. 6% of them reported a high impact on the loss of market, 6% reported a medium impact on the loss of market and 3% a low impact.

44% of the micro/small enterprises that have answered the survey reported an impact on the loss of market. 13% of them reported a high impact on the loss of market, 16% reported a medium impact and 16% reported a low impact.



Loss_of_input_criticality_desc ● High ● Medium ● Low

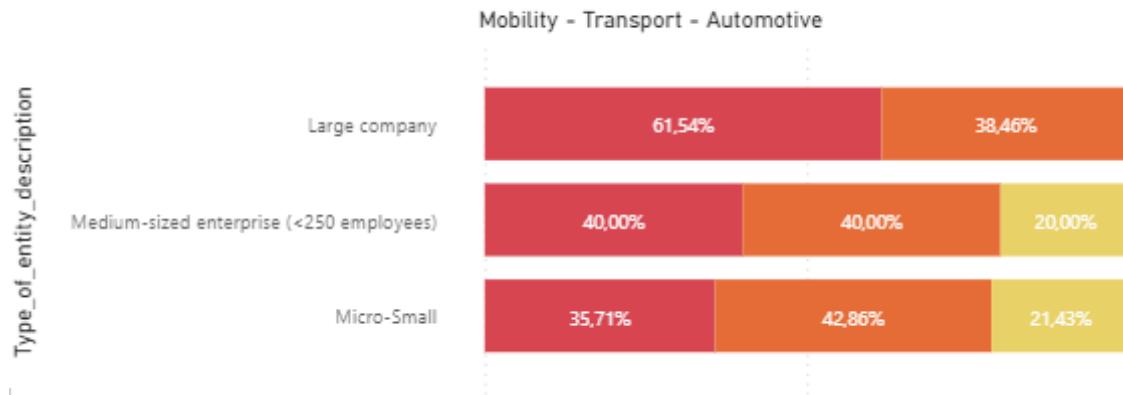


Figure 29 - Mobility – Transport – Automotive: Criticality level by firm size (2)

The bar chart provides information about the loss of input criticality by firm size in Mobility ecosystem.

The bar chart shows that the 61.54% of the large companies of the Mobility ecosystem have suffered a high impact on loss of input and 38.46% a medium impact on loss of input.

40% of the medium-sized companies and 35.71% of the micro-small enterprises report a high impact on loss of input.

Moreover, 40% of the medium-sized companies and almost 43% of the micro/small enterprises report a medium impact on loss of input.

Finally, 20% of the medium-sized companies and 21.43% of the micro/small enterprises report a low impact on loss of input.

To sum up, the majority of enterprises active in the Mobility ecosystem that have suffered a high impact are large companies.

Loss_of_market_criticality_desc ● High ● Medium ● Low

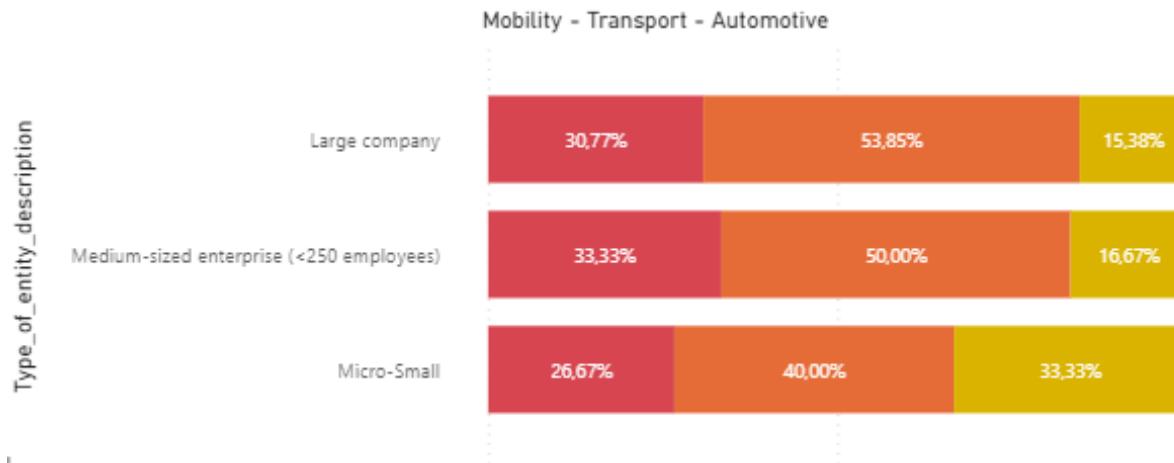


Figure 30 - Mobility – Transport – Automotive: Criticality level by firm size (2)

The bar chart provides information about the loss of market criticality categorize by firm size in the mobility ecosystem.



The bar chart shows that almost 30.77% of the large companies have suffered a high impact on loss of market. Almost 54% of the large companies have experienced a medium impact and 15.38% a low impact on loss of market.

33.33% of the medium-sized companies and 26.67% of the micro-small enterprises report a high impact on loss of market.

Moreover, 50% of the medium-sized companies and 40% of the micro-small enterprises report a medium impact on loss of market.

Finally, 16.67% of the medium-sized companies and 33.33% of the micro- small enterprises report a low impact on loss of market.

To sum up, the majority of enterprises that have suffered a high impact are medium-sized enterprises.



3.4.7. Answer distribution by country

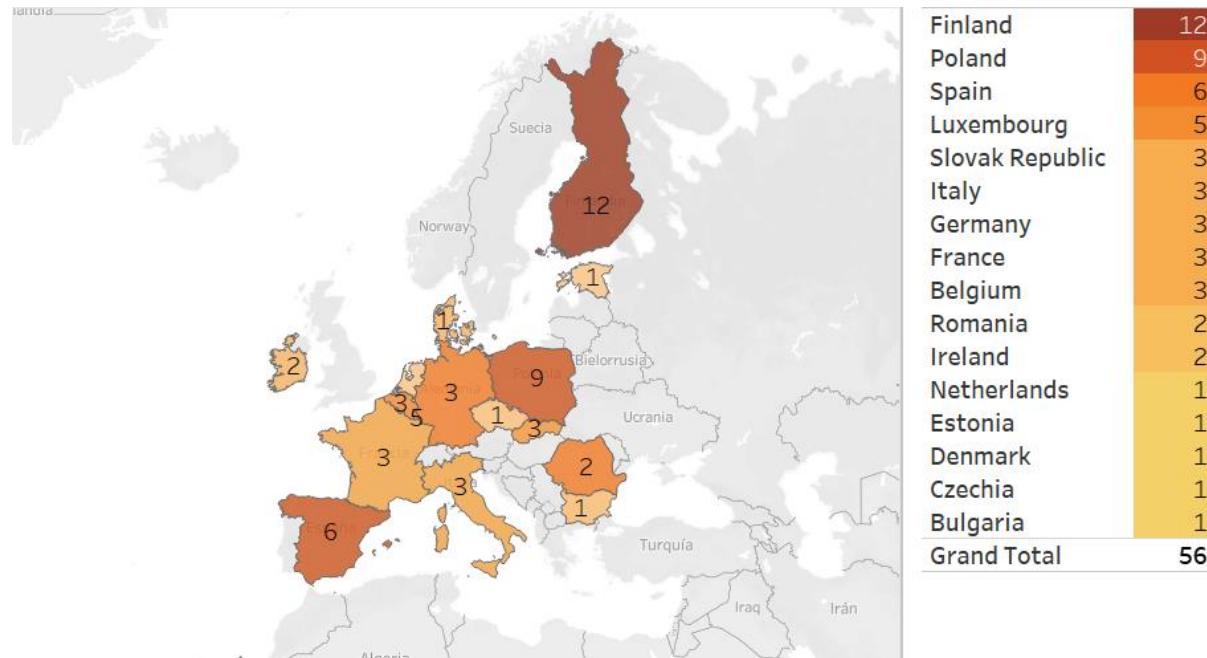


Figure 31 - Mobility – Transport – Automotive: Answer distribution by country

The graph shows the responses by entities from the Mobility ecosystem by country.

Regarding the responses by Member States of the European Union in this ecosystem, it should be noted that 37.5% of the organisations that responded belong to two countries (12 of the respondents come from Finland, 9 from Poland).

Almost 11% of the respondents come from Spain and 9% come from Luxembourg.



3.5. Retail

3.5.1. Disruptions keywords

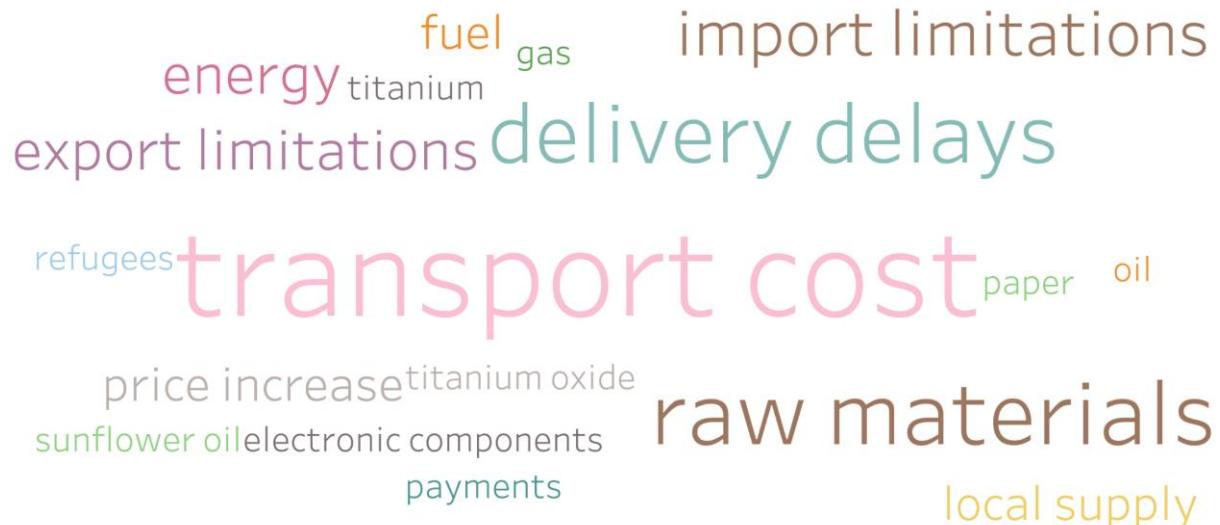


Figure 32 - Retail: Disruptions keywords

The cloud shows an analysis of the main disturbances through the keywords of the Retail ecosystem.

The cloud of keyword shows that the keywords that appear most frequently in the responses are transport cost, raw materials, delivery delays and import limitations.

In particular, shortages of raw materials and the cost increase on transport are major disruptions for entities active in the Retail ecosystem.

3.5.2. Disruptions by value and supply chain stage

Administrative, finance infrastructure	5%
Human resource management	7%
Inbound logistics	26%
Marketing & Sales	6%
Operations	18%
Outbound logistics	19%
Procurement	17%
Research and development	3%

Table 40 - Retail: Disruptions by Stage

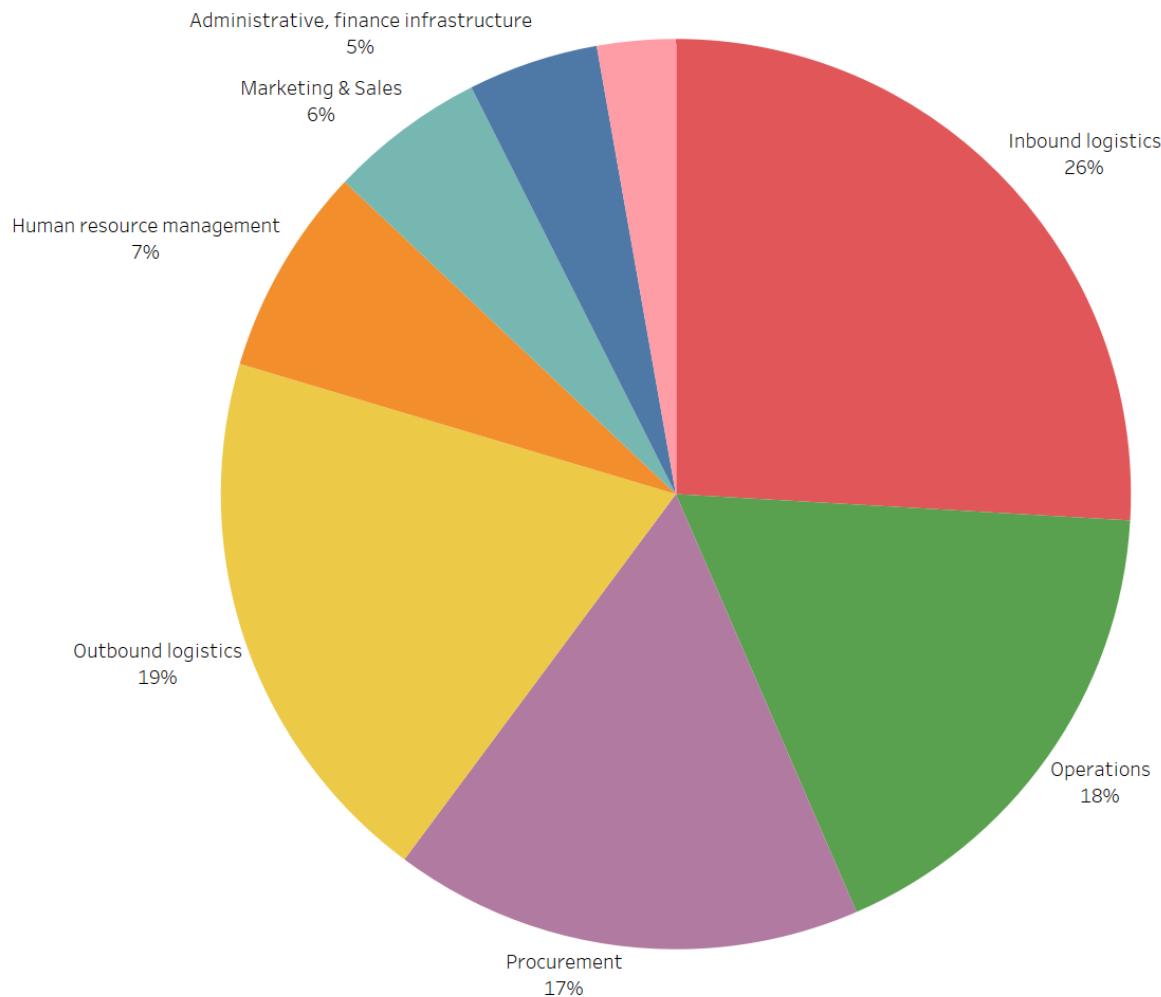


Figure 33 - Retail: Disruptions by Stage

In relation to the phase in which the disruptions occur in the Retail ecosystem, four phases account for almost 80% of the disruptions. Specifically, 26% occur in Inbound logistics, 19% in Outbound logistics, 18% in Operations and 17% in Procurement. In addition, Human resource management is affected in 7% of the cases, Marketing and sales in 6%, Administrative, finance infrastructure in 5% and Research and development in 3%.

It can be highlighted that the main stage at which entities active in the Retail ecosystem suffered the most disruptions is Inbound logistics.



3.5.3. Stages by firm size

Industrial Ecosystems (Ecosys..	Supply value chains stage (Stages)	Type of entity (group)			Grand Total
		Large company	Medium-sized en..	Micro+S mall ent..	
Retail	Administrative, finance infrastructure		3%	2%	5%
	Human resource management	1%	6%		7%
	Inbound logistics	6%	6%	13%	26%
	Marketing & Sales		3%	2%	5%
	Operations	5%	2%	10%	17%
	Outbound logistics	5%	7%	7%	19%
	Procurement	8%	7%	2%	17%
	Research and development	1%	1%	1%	3%

Table 41 - Retail: Stages by firm size

The chart provides information about the disrupted supply chain stage of the entities active in the Retail ecosystem, analysed by type of entity. Even though in the survey, there are more types of entity, large company, medium-sized enterprise and micro/small enterprise have been selected.

Inbound logistics is the supply chain stage with the highest number of responses by micro/small enterprises. In the case of large companies, the supply stage with a highest level of responses is Procurement.

Those stages are followed by Operations in the case of micro/small enterprises and Inbound logistics in the case of large companies.

Regarding to the Medium-sized enterprises, Outbound logistics and Procurement are the supply chain stages with a most responses.

The stage with the lowest responses for every type of entity is Research and development.



3.5.4. Answers by type of entity

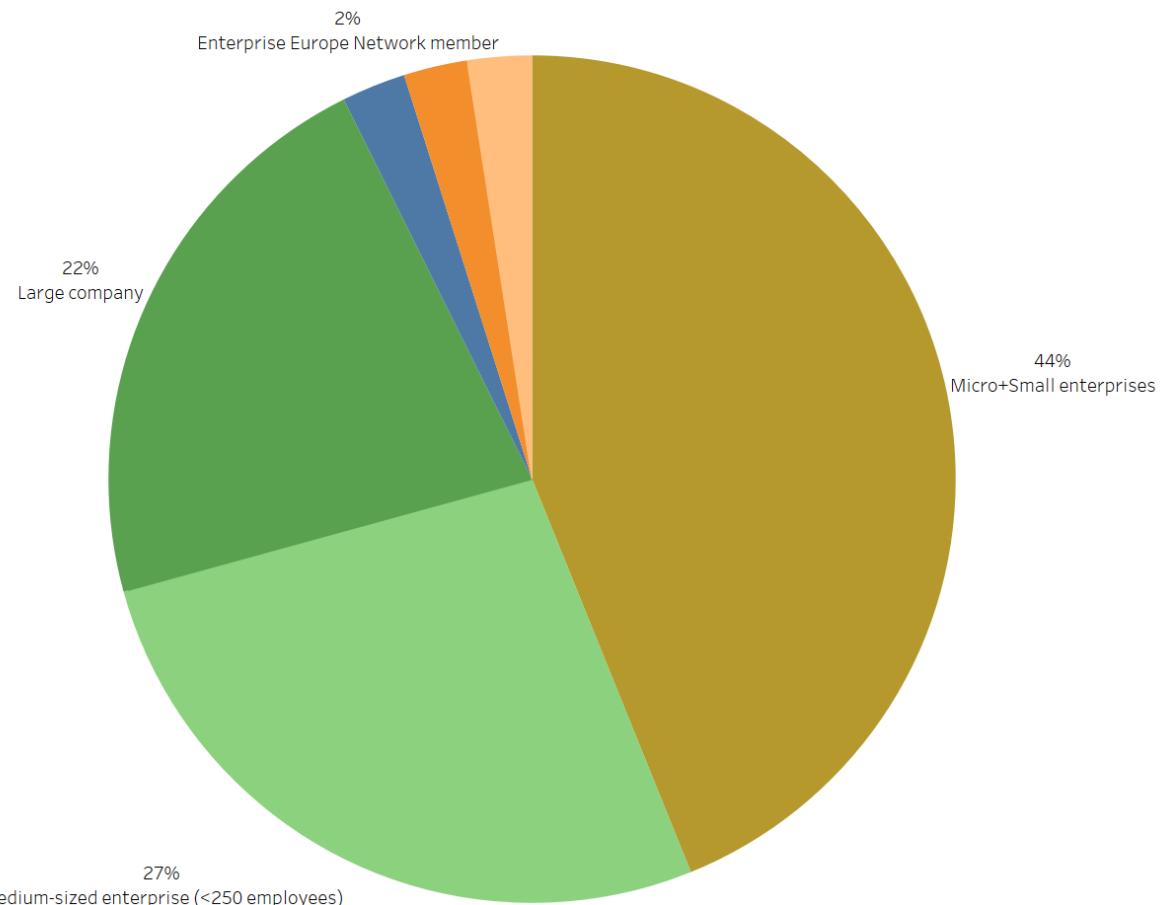


Figure 34 - Retail: Answers by type of entity

The chart provides information about the distribution by type of entity active in the Retail ecosystem that have answered the survey.

The highest number of entities are micro/small enterprises, they represent the 44%. The medium-sized enterprises follow them with a percentage of 27. Large companies follow them with 22%.

Enterprise Europe Network members represent 2%.

3.5.5. Loss of input and loss of market in Retail ecosystem

% Input loss		% Market loss	
High	44%	High	34%
Medium	34%	Medium	32%
Low	22%	Low	34%
from 41 answers			

Table 42 - Retail: loss of input / loss of market



In this first table, with regard to the loss of input, 78% (sum of "high" and "medium" responses) of the companies surveyed have suffered a significant loss of input, compared to 22% who say that they have had a low impact. It is important to note that the number of companies that have suffered a high input loss is rather significant.

In relation to the critical market loss, the 66% (sum of "high" and "medium" responses) of the companies surveyed have suffered significant market losses. Specifically, 34% of companies say that the market loss has been low, while 34% consider it high.

Input / Market losses

Loss of input cri..	Loss of market criticality			Gran..
	High	Medi..	Low	
High	34%	10%		44%
Medium		20%	15%	34%
Low		2%	20%	22%
Grand Total	34%	32%	34%	100%

Table 43 - Retail: loss of input / loss of market

Regarding the market loss, it can be observed that 100% of the companies that claim to have had a high loss of market also claim to have had a high loss of inputs.

In turn, with regard to the loss of inputs, it can be observed that 77% of the companies with a high loss say they have had a high loss of market and another 22.72% a medium loss.

3.5.6. Criticality level by firm size in Retail ecosystem

Industrial E..	Type of entity (grouped)	Loss of input criticality			
		High	Medium	Low	Grand To..
Retail	Large company	11%	8%	5%	24%
	Medium-sized enterprise ..	11%	13%	5%	29%
	Micro+Small enterprises	18%	16%	13%	47%
Grand Total		39%	37%	24%	100%

Table 44 - Retail: LOI Criticality by Ecosystem / Size

The table informs about the loss of input criticality suffered by the entities active in the Retail ecosystem, analysed by type of entity.

The grand total column shows the percentage of the entities that reported an impact on the loss of input in the Retail ecosystem.

24% of the large companies reported that they suffered an impact on the loss of input. 11% of them reported a high impact on the loss of input, 8% reported a medium impact on the loss of input and 5% reported a low impact.

In relation to the medium-sized enterprises, 29% of them reported that they suffered an impact on the loss of input. 11% of them reported a high impact on the loss of input, 13% reported a medium impact on the loss of input and 5% a low impact.



47% of the micro/small enterprises that have answered the survey reported an impact on the loss of input. 18% of them reported a high impact on the loss of input, 16% reported a medium impact and 13% reported a low impact.

		Loss of market criticality					
		Industrial E..	Type of entity (grouped)	High	Medium	Low	Grand To..
Retail	Large company	8%	8%	8%	24%		
	Medium-sized enterprise ..	5%	16%	8%	29%		
	Micro+Small enterprises	16%	11%	21%	47%		
Grand Total		29%	34%	37%	100%		

Table 45 - Retail: LOM Criticality by Ecosystem / Size

The table informs about the loss of market criticality suffered by the entities active in the Retail ecosystem, disaggregated by type of entity (large company, medium-size enterprises and micro/small enterprises).

The grand total column shows the percentage of the entities that reported an impact on the loss of market in the Retail ecosystem.

24% of the large companies reported that they suffered an impact on the loss of market. 8% of them reported a high impact on the loss of market, 8% reported a medium impact on the loss of market and 8% a low impact.

In relation to the medium-sized enterprises, 29% of them reported that suffered an impact on the loss of market. 5% of them reported a high impact on the loss of market, 16% reported a medium impact on the loss of market and 8% a low impact.

47% of the micro/small enterprises that have answered the survey reported an impact on the loss of market. 16% of them reported a high impact on the loss of market, 11% reported a medium impact and 13% reported a low impact.

Loss_of_input_criticality_desc ● High ● Medium ● Low

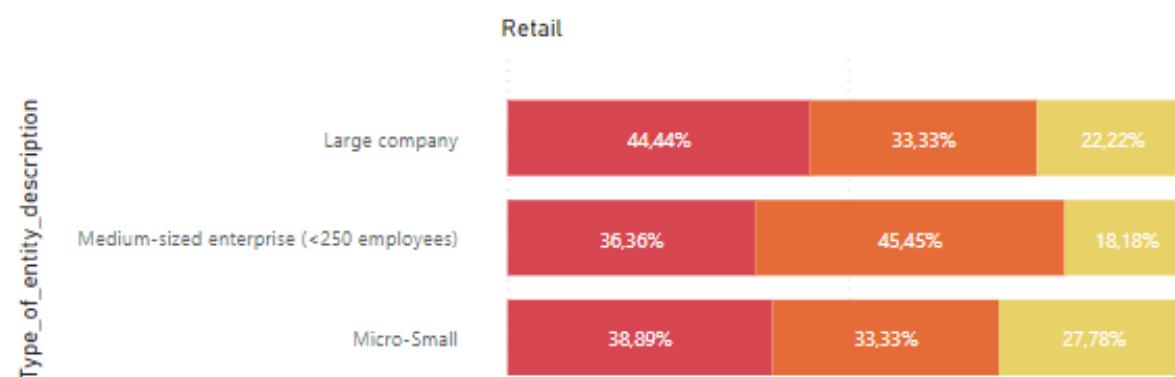


Figure 35 - Retail: Criticality level by firm size

The bar chart provides information about the loss of input criticality by firm size in the Retail ecosystem.



The bar chart shows that the 44.44% of the large companies of the Retail ecosystem have suffered a high impact on loss of input, 33.33% a medium impact on loss of input and 22.22% a low impact on loss of input.

36.36% of the medium-sized companies and almost 39% of the micro/small enterprises report a high impact on loss of input. Moreover, 45.45% of the medium-sized companies and 33.33% of the micro/small enterprises report a medium impact on loss of input. Finally, 18.18% of the medium-sized companies and 27.78% of the micro/small enterprises report a low impact on loss of input.

To sum up, the majority of enterprises active in the Retail ecosystem that have suffered high impact are large companies, although the difference with the other two types of entities is not very significant.



Figure 36 - Retail: Criticality level by firm size

The bar chart provides information about the loss of market criticality by firm size in the Retail ecosystem.

The bar chart shows that almost 33.33% of the large companies have suffered a high impact on loss of market. Almost 33.33% of the large companies have experienced a medium impact and 33.33% a low impact on loss of market.

18.18% of the medium-sized companies and 33% of the micro/small enterprises report a high impact on loss of market.

Moreover, 54% of the medium-sized companies and 22% of the micro/small enterprises report a medium impact on loss of market.

Finally, 27% of the medium-sized companies and 44% of the micro/small enterprises report a low impact on loss of market.



3.5.7. Answer distribution by country



Figure 37 - Retail: answer distribution by country

The graph shows the responses of the Retail ecosystem by country.

Regarding the responses by Member States of the European Union in this ecosystem, it should be noted that 63.41% of the organisations that responded belong to four countries (8 of the respondents come from Malta, 7 from Spain, 6 from Poland and 5 from Finland).

Luxembourg and Lithuania reported 14.63% of the respondents.

It is important to note that the low number of responses from high economic potential countries at the sector level may detract from the representativeness of this analysis, such as Germany and Ireland.



3.6. Energy - Renewables

3.6.1. Disruptions keywords



Figure 38 - Energy - Renewables: Disruptions keywords

The cloud shows an analysis of the main disturbances through the keywords of the Energy - Renewables ecosystem.

The cloud of keyword shows that the keywords that appear most frequently in the responses are energy, fuel, raw materials, transport cost and import limitations.

In particular, the cost increase on energy and transport are major disruptions for entities active in the energy and renewables ecosystem.

3.6.2. Disruptions by value and supply chain stage

Administrative, finance infrastructure	5%
Human resource management	10%
Inbound logistics	23%
Marketing & Sales	9%
Operations	15%
Outbound logistics	11%
Procurement	20%
Research and development	5%
Services	2%

Table 46 - Energy - Renewables: Disruptions by Stage

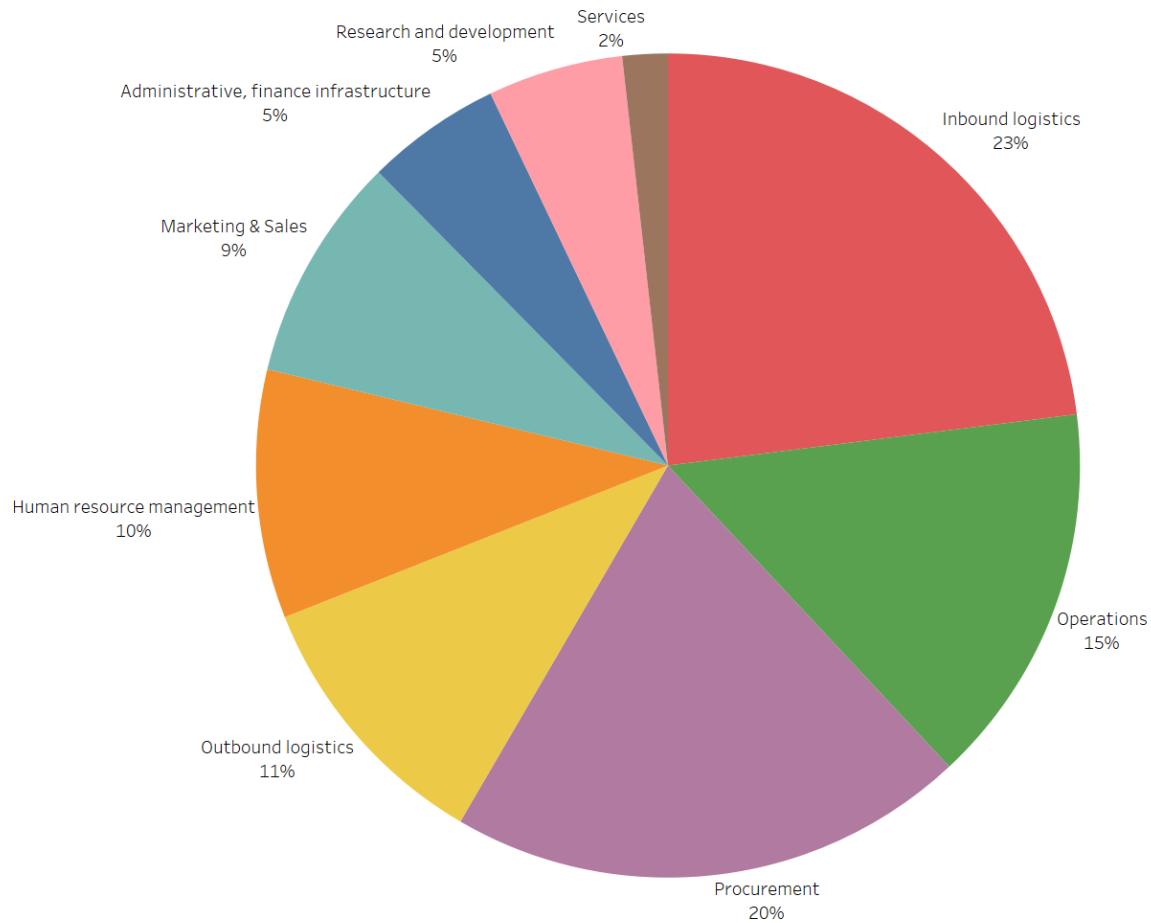


Figure 39 - Energy - Renewables: Disruptions by Stage

In relation to the phase in which disruptions occur in the Energy - Renewables ecosystem, three phases account for almost 60% of the disruptions. Specifically, 23% occur in Inbound logistics, 20% in Procurement, and 15% in Operations. In addition, Outbound logistics 11%, Human resource management 10%, Marketing and sales 9%, Administrative, finance infrastructure 5%, Research and development 5% and Services 2%.

It can be highlighted that the main stage in which entities active in the Energy - Renewables ecosystem suffered more disruptions is Inbound logistics.



3.6.3. Stages by firm size

Industrial Ecosystems (Ecosys..)	Supply value chains stage (Stages)	Type of entity (group)			Grand Total
		Large company	Medium-sized en..	Micro+Small ent..	
Energy - Renewables	Administrative, finance infrastructure	2%			2%
	Human resource management	4%		2%	6%
	Inbound logistics	6%	8%	10%	24%
	Marketing & Sales	2%	4%	2%	8%
	Operations	4%	6%	4%	14%
	Outbound logistics	4%	6%	6%	16%
	Procurement	8%	6%	8%	22%
	Research and development	4%			4%
	Services			2%	2%

Table 47 - Energy - Renewables: Stages by firm size

The chart provides information about the supply chain stage of the entities active in the Energy - Renewables ecosystem analysed by type of entity. Even though in the survey, there are more types of entities, large company, medium-sized enterprise, and micro/small enterprise have been selected.

Inbound logistics is the supply stage that micro/small enterprises and medium-sized entities reported a high level of responses.

It is followed by Procurement, Outbound logistics and Operations in the case of medium-sized enterprises and Procurement in the case of micro/small enterprises.

Regarding the large companies, Procurement is the supply chain stage with a higher level of responses followed by Inbound logistics.

The stages with lower responses across every type of entity are Services and Administrative, finance infrastructure.



3.6.4. Answers by type of entity

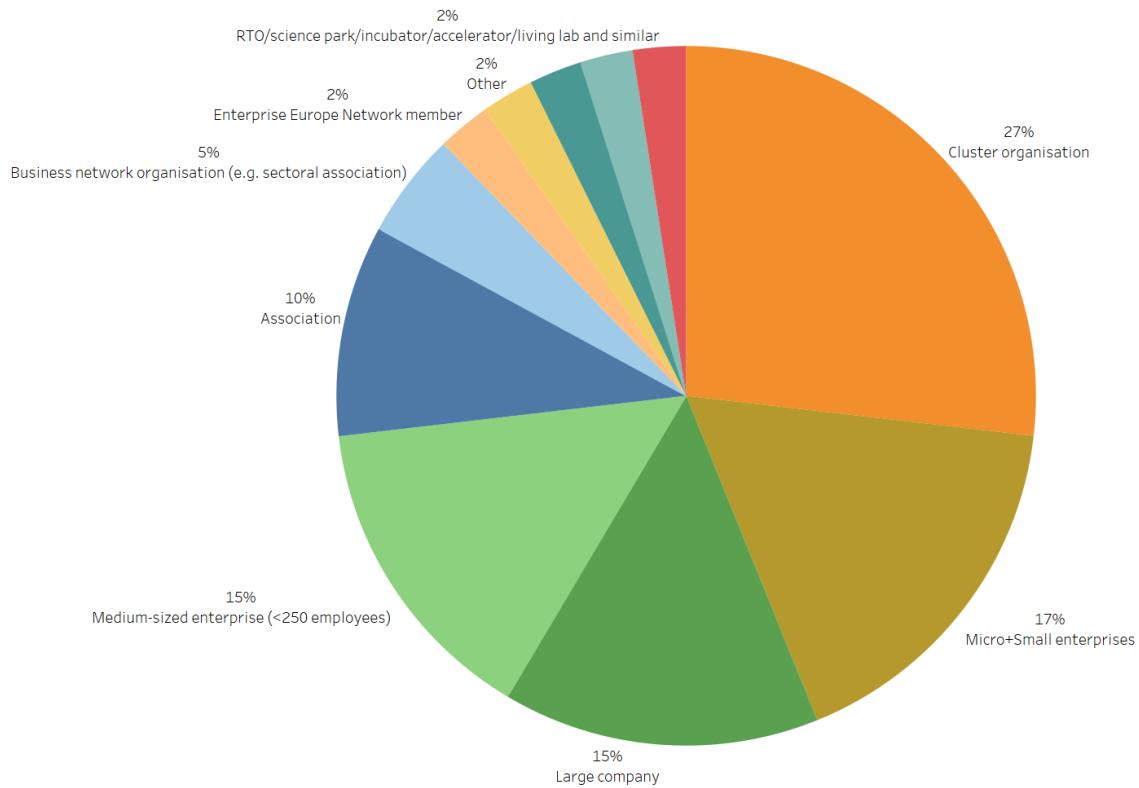


Figure 40 - Energy - Renewables: Answers by type of entity

The chart provides information about the distribution by type of entity active in the Energy - Renewables ecosystem that have answered the survey.

The highest number of entities are cluster organisations; they represent 27%. The micro/small enterprises follow them with a percentage of 17. Large company and medium-sized enterprises follow them with 15% respectively.

Associations represent 10%, business network organisations 5%, and Enterprise Europe Network members represent 2%.

3.6.5. Loss of input and loss of market in Energy - Renewables ecosystem

% Input loss		% Market loss	
	High	High	26%
High	41%	Medium	41%
Medium	41%	Low	33%
Low	18%		

from 41 answers

Table 48 - Energy - Renewables: loss of input / loss of market



In this first table, with regard to the loss of input, 82% (sum of "high" and "medium" responses) of the companies surveyed have suffered a significant loss of input, compared to 18% who say they have had a low impact.

In relation to the critical market loss, the 67% (sum of "high" and "medium" responses) of the companies surveyed have suffered significant market losses. The percentage of the high impact on the loss of market is significantly low.

Input / Market losses

Loss of input cri..	High	Medi..	Low	Gran..
High	23%	13%	5%	41%
Medium	3%	28%	10%	41%
Low			18%	18%
Grand Total	26%	41%	33%	100%

Table 49 - Energy - Renewables: loss of input / loss of market

Looking at the cross-analysis, regarding the market loss, it can be observed that 88% of the companies that claim to have had a high loss of market also claim to have had a high loss of inputs.

In turn, with regard to the loss of inputs, it can be observed that of the companies that have had a high loss, 56% say they have had a high loss of market, another 31% a medium loss, and 12% low impact on market loss.

3.6.6. Criticality level by firm size in Energy - Renewables ecosystem

Industrial E..	Type of entity (grouped)	Loss of input criticality			
		High	Medium	Low	Grand To...
Energy - Renewables	Large company	21%	5%	5%	32%
	Medium-sized enterprise ..	16%	5%	11%	32%
	Micro+Small enterprises	16%	16%	5%	37%
Grand Total		53%	26%	21%	100%

Table 50 - Energy - Renewables: LOI Criticality by Ecosystem / Size

The table informs about the loss of input criticality suffered by the entities active in the Energy - Renewables ecosystem, disaggregated by type of entities.

The grand total column shows the percentage of the entities that reported an impact on the loss of input in the Energy - Renewables ecosystem.

32% of the large companies reported that they suffered an impact on the loss of input. 21% of them reported a high impact on the loss of input, 5% reported a medium impact on the loss of input and 5% reported a low impact.

In relation to the medium-sized enterprises, 32% of them reported that they suffered an impact on the loss of input. 16% of them reported a high impact on the loss of input, 5% reported a medium impact on the loss of input and 11% a low impact.



37% of the micro/small enterprises that have answered the survey reported an impact on the loss of input. 16% of them reported a high impact on the loss of input, 16% reported a medium impact and 5% reported a low impact.

Industrial E..	Type of entity (grouped)	Loss of market criticality			Grand To..
		High	Medium	Low	
Energy - Renewables	Large company	5%	16%	11%	32%
	Medium-sized enterprise ..	16%	5%	11%	32%
	Micro+Small enterprises	11%	16%	11%	37%
Grand Total		32%	37%	32%	100%

Table 51 - Energy - Renewables: LOM Criticality by Ecosystem / Size

The table informs about the loss of market criticality suffered by the entities active in the Energy - Renewables ecosystem, disaggregated by type of entity (large company, medium-size enterprises and micro/small enterprises).

The grand total column shows the percentage of the entities that reported an impact on the loss of market in the Energy - Renewables ecosystem.

32% of the large companies reported that they suffered an impact on the loss of market. 5% of them reported a high impact on the loss of market, 16% reported a medium impact on the loss of market and 11% a low impact.

In relation to the medium-sized enterprises, 32% of them reported that suffered an impact on the loss of market. 16% of them reported a high impact on the loss of market, 5% reported a medium impact on the loss of market and 11% a low impact.

37% of the micro/small enterprises that have answered the survey reported an impact on the loss of market. 11% of them reported a high impact on the loss of market, 16% reported a medium impact and 5% reported a low impact.

Loss_of_input_criticality_desc ● High ● Medium ● Low

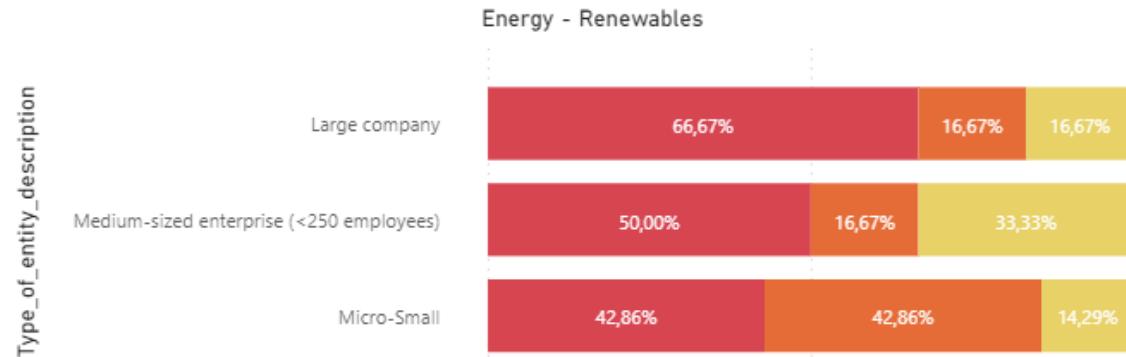


Figure 41 - Energy - Renewables: Criticality level by firm size

The bar chart provides information about the loss of input criticality by firm size in the Energy - Renewables ecosystem.

The bar chart shows that 66.67% of the large companies of the Energy - Renewables ecosystem have suffered a high impact on loss of input, 16.67% a medium impact on loss of input and 16.67% a low impact on loss of input.



50% of the medium-sized companies and almost 43% of the micro/small enterprises report a high impact on loss of input.

Moreover, 16.67% of the medium-sized companies and 42.86% of the micro/small enterprises report a medium impact on loss of input.

Finally, 33.33% of the medium-sized companies and 14.29% of the micro/small enterprises report a low impact on loss of input.

To sum up, the majority of the enterprises active in the Energy - Renewables ecosystem that have suffered a high impact are large company.

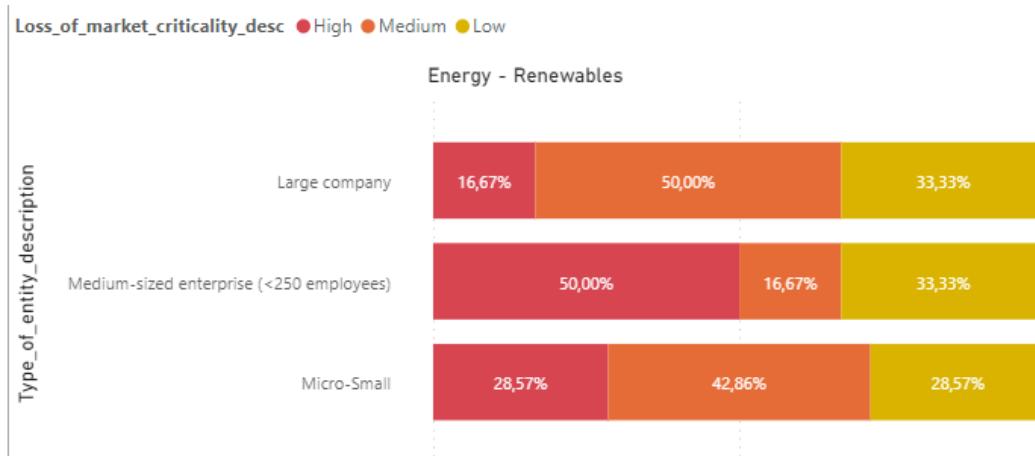


Figure 42 - Energy - Renewables: Criticality level by firm size

The bar chart provides information about the loss of market criticality by firm size in the Energy - Renewables ecosystem.

The bar chart shows that almost 16.67% of the large companies have suffered a high impact on loss of market. 50% of the large companies have experienced a medium impact and 33.33% a low impact on loss of market.

50% of the medium-sized companies and 28.57% of the micro/small enterprises report a high impact on loss of market.

Moreover, 16.67% of the medium-sized companies and 42.86% of the micro/small enterprises report a medium impact on loss of market.

Finally, 33.33% of the medium-sized companies and 28.57% of the micro/small enterprises report a low impact on loss of market.

It can be highlighted that the percentage of the large enterprises that have suffered a high impact on loss of market is significantly lower than the high impact on the loss of input (66.67% vs. 16.67%).



3.6.7. Answer distribution by country

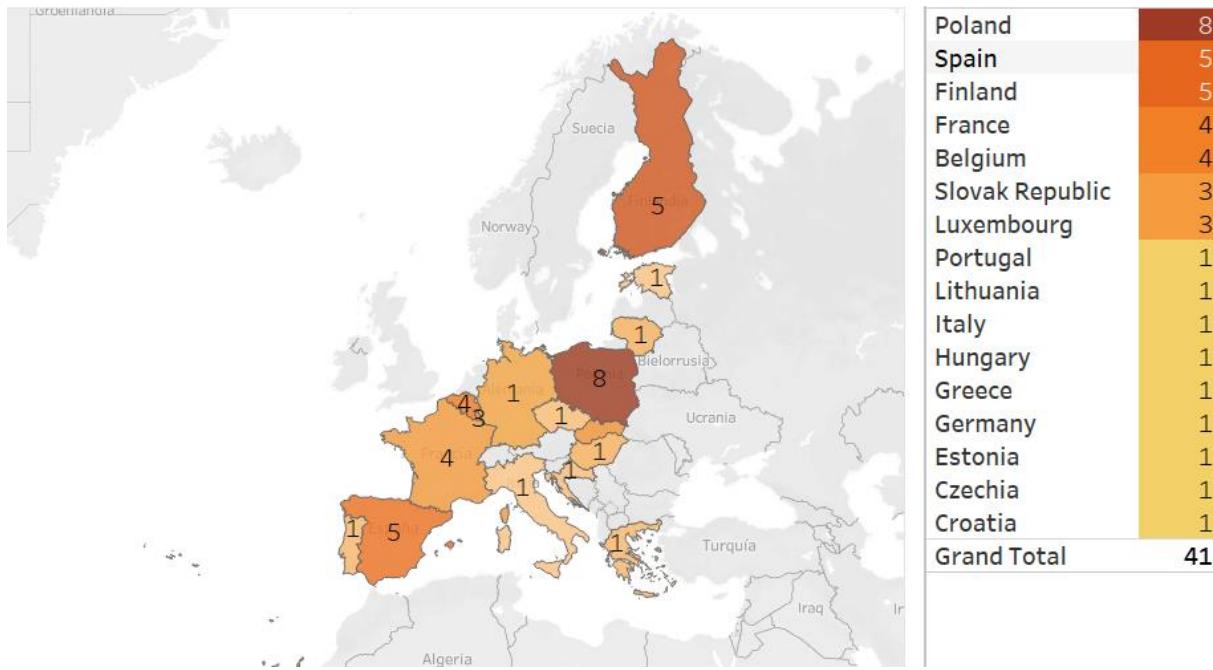


Figure 43 - Energy - Renewables: Answer distribution by country

The graph shows the responses of the Energy - Renewables ecosystem by country.

Regarding the responses by Member States of the European Union in this ecosystem, it should be noted that 44% of the organisations that responded belong to three countries (8 of the respondents come from Poland, 5 from Spain and 5 from Finland). France and Belgium reported 20% of the respondents.

It is important to note that the low number of responses from countries with high economic potential in this sector may detract from the representativeness of this analysis, such as Germany and Italy.



3.7. Digital

3.7.1. Disruptions keywords

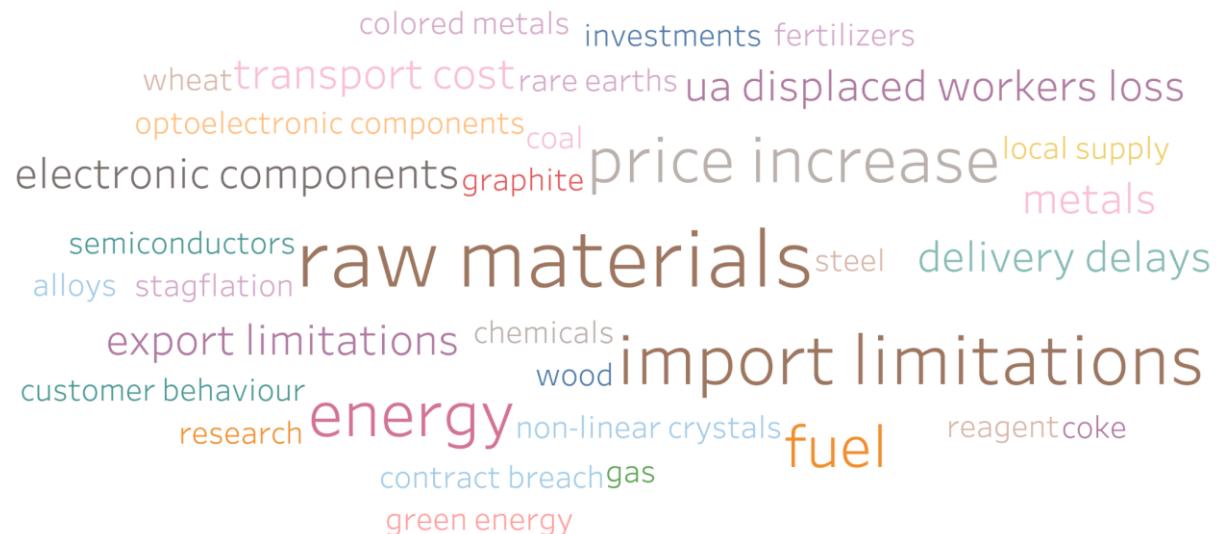


Figure 44 - Digital: Disruptions keywords

This word cloud shows the analysis of the main disruptions by keywords for the Digital ecosystem.

The keywords that appear most frequently in the responses are raw materials, import limitations, energy, price increase and fuel.

In particular, shortages of raw materials as a possible result of logistical disruptions such as transport costs, energy and import constraints are major disruptions for entities active in the Digital ecosystem.

3.7.2. Disruptions by value and supply chain stage



Table 52 - Digital: Disruptions by Stage

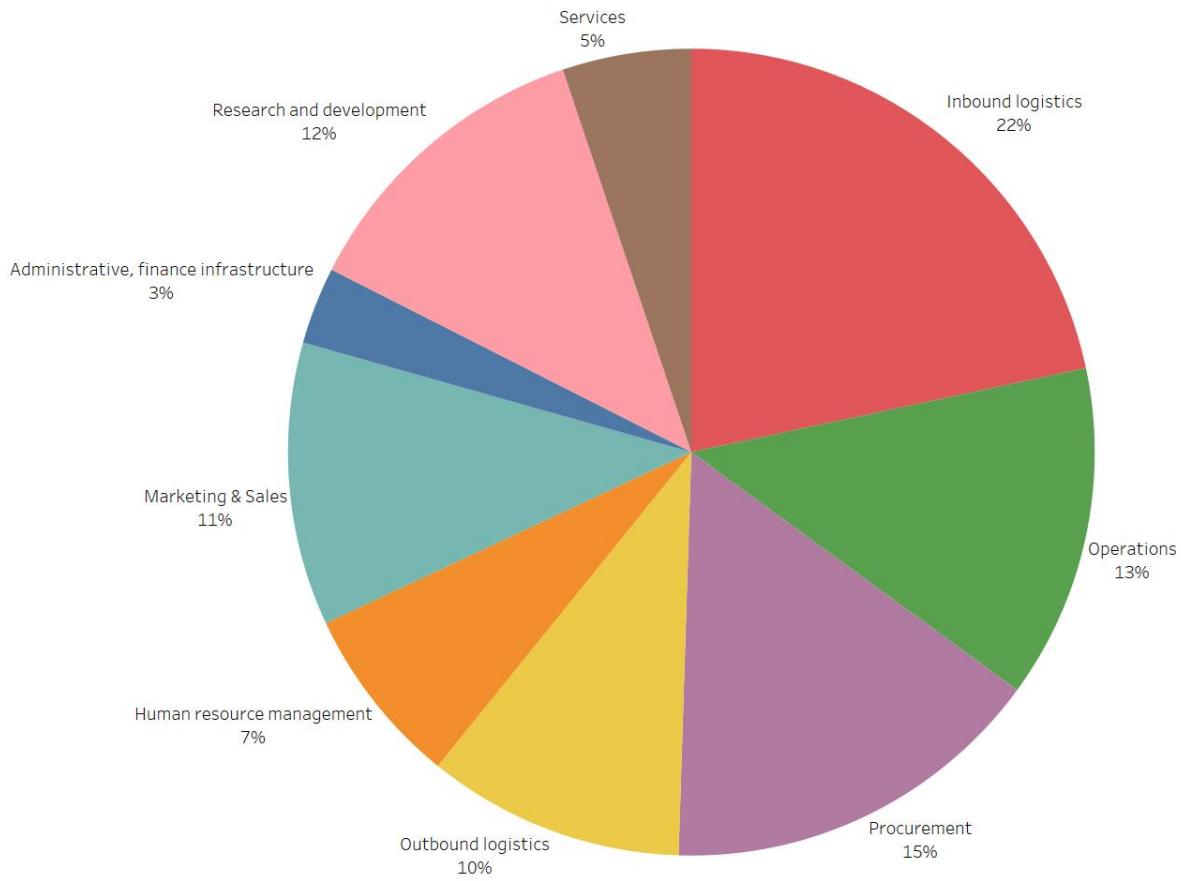


Figure 45 - Digital: Disruptions by Stage

In relation to the phase in which disruptions occur in the Digital ecosystem, four phases account for almost 62% of the disruptions. Specifically, 22% occur in Inbound logistics, 15% in Procurement, 13% in Operations and 12% in Research and development.

22% of the entities active in the Digital ecosystem suffered the disruptions at the Inbound logistics stage.

It is followed by Marketing and sales with 11%. 7% of the entities of the Digital ecosystem report disruptions at the Human resource management stage. The disruptions on Services and Administrative, finance infrastructure correspond to 5% and 3% respectively.



3.7.3. Stages by firm size

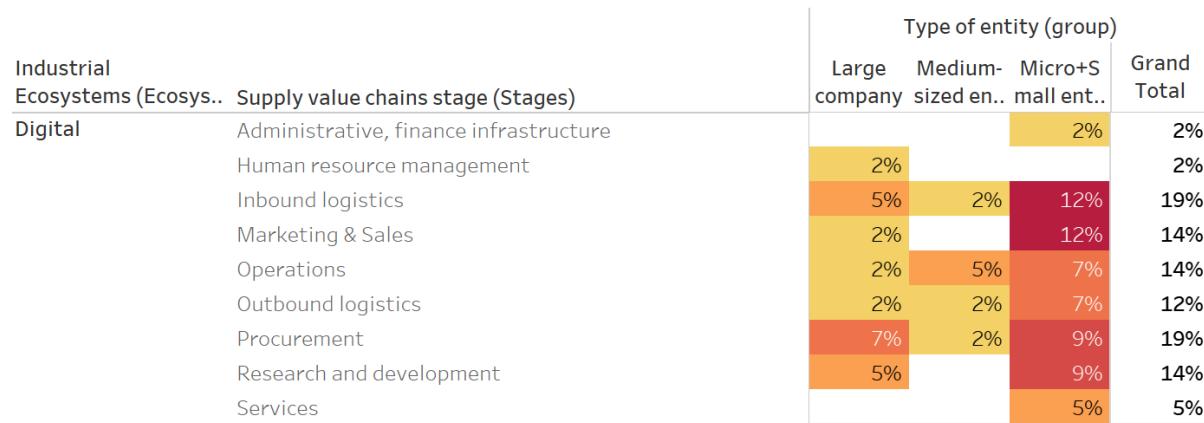


Table 53 - Digital: Stages by firm size

The chart provides information about the disrupted supply chain stage from the entities active in the Digital ecosystem, analysed by type of entity. Even though in the survey there are more groups of entities, large company, medium-sized enterprise and micro/small enterprise have been selected.

Inbound logistics and Marketing and sales are the supply chain stages for which micro/small enterprises entities gave a high number of responses.

It should be noticed that the weight of the micro/small enterprises represent 63% and large companies represent 26% of the disruptions at the Inbound logistics stage.

These stages are followed by Procurement, where large companies account for almost 37% of disruptions, compared to 10.52% for medium-sized and 47.36% for micro/small enterprises.

The stages with lower responses across every type of entity are Human resource management and Administrative, financial infrastructure.



3.7.4. Answers by type of entity

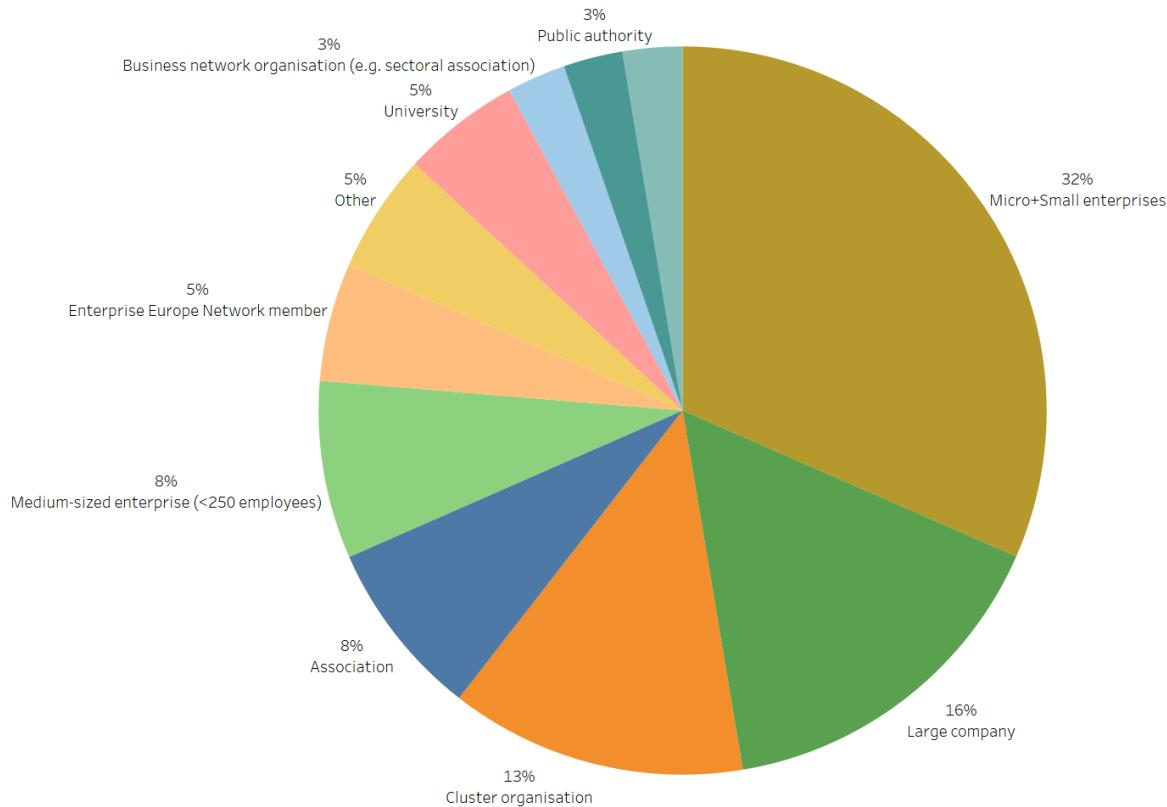


Figure 46 - Digital: Answers by type of entity

The chart provides information about the distribution by type of entity active in the Digital ecosystem that have answered the survey. The highest number of responses come from micro/small enterprises; they represent 32%. Large companies follow them with a percentage of 16. Cluster organisations represent 13% of the respondents of this ecosystem. Medium-sized enterprises and association represent 8% of the respondents respectively.

The following groups are Enterprise Europe Network member and universities, which represent 5% respectively.

The last groups are business network organisations and public authorities with 3% respectively.

3.7.5. Loss of input and loss of market in Digital ecosystem

% Input loss		% Market loss	
High	32%	High	29%
Medium	38%	Medium	32%
Low	29%	Low	38%
from 38 answers			

Table 54 - Digital: loss of input / loss of market



In this first table, with regard to the loss of input, 70% (sum of "high" and "medium" responses) of the companies surveyed have suffered a significant loss of input, compared to 29% who say that they have had a low impact. In particular, it is important to note that the number of companies that have suffered a high input loss is only two percentage points bigger than the one for low input loss.

In relation to the critical market loss, 61% (sum of "high" and "medium" responses) of the companies surveyed have suffered significant market losses, compared to 38% who say they have had little or no impact. Specifically, 38% of companies say that market loss has been low, while 29% consider it high.

Input / Market losses

Loss of input cri..	Loss of market criticality			Gran..
	High	Medi..	Low	
High	26%	6%		32%
Medium	3%	24%	12%	38%
Low		3%	26%	29%
Grand Total	29%	32%	38%	100%

Table 55 - Digital: loss of input / loss of market

Making the cross-analysis, regarding the market loss, it can be observed that 90% of the companies that claim to have had a high loss of market also claim to have had a high loss of inputs.

In turn, with regard to loss of inputs, it can be observed that of the companies that say to have had a high loss, 81% say they have had a high loss of market and another 19% a medium loss of market.

3.7.6. Criticality level by firm size in Digital ecosystem

Industrial E..	Type of entity (grouped)	Loss of input criticality			Grand To..
		High	Medium	Low	
Digital	Large company	6%	6%	12%	24%
	Medium-sized enterprise ..	6%		12%	18%
	Micro+Small enterprises	29%	18%	12%	59%
Grand Total		41%	24%	35%	100%

Table 56 - Digital: LOI Criticality by Ecosystem / Size

The table informs about the loss of input criticality suffered by the entities active in the Digital ecosystem, disaggregated by type of entity.

The grand total column shows the percentage of the entities that reported an impact on the loss of input in the Digital ecosystem.

Large companies account for 24% of the respondents. Among them, 25% reported a high impact on input losses. Of these, 25% reported a medium loss of inputs, 50% reported a low impact on the loss of inputs.

In relation to the medium-sized enterprises (18% of the total), 33% of them reported a high impact on the loss of inputs and 66.7% reported a low impact on the loss of inputs.



Finally, regarding the micro/small enterprises (59% of the total), 50% of them reported high impact on the loss of inputs, 30.5% reported a medium impact on the loss of inputs and another 20.33% reported a low impact on the loss of inputs.

Industrial E..	Type of entity (grouped)	Loss of market criticality			Grand To..
		High	Medium	Low	
Digital	Large company	6%	12%	6%	24%
	Medium-sized enterprise ..	6%		12%	18%
	Micro+Small enterprises	24%	24%	12%	59%
Grand Total		35%	35%	29%	100%

Table 57 - Digital: LOM Criticality by Ecosystem / Size

The table informs about the loss of market criticality suffered by the entities active in the Digital ecosystem, disaggregated by type of entity.

The grand total column shows the percentage of the entities that reported an impact on the loss of market in the digital ecosystem.

Large companies account for 24% of the respondents. Among them, 25% reported a high impact on market losses. Of these, 50% reported a medium loss of market and 25% reported a low impact on the loss of market.

In relation to the medium-sized enterprises (18% of the total). Among them, 33% reported a high impact on market losses and 67% reported a low impact on the loss of market.

Finally, regarding the micro/small enterprises (59% of the total), almost 41% of them reported a high impact on the loss of market, another 41% reported a medium impact on the loss of market and 20.33% reported a low impact on the loss of market.

Loss_of_input_criticality_desc ● High ● Medium ● Low

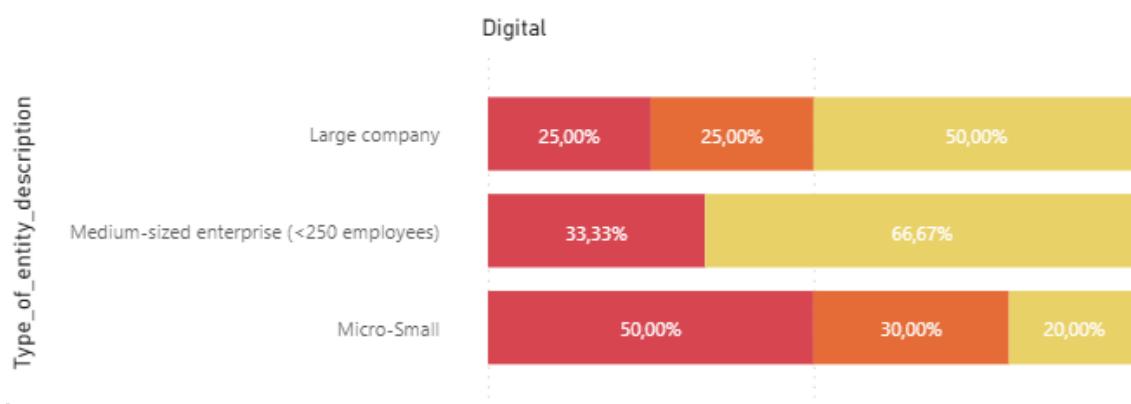


Figure 47 - Digital: Criticality level by firm size

The bar chart provides information about the loss of input criticality by firm size in Digital ecosystem.

The bar chart shows that the 25% of the large companies of the Digital ecosystem have suffered a high impact on loss of input, 25% a medium impact on loss of input and 50% a low impact on loss of input.



33.33% of the medium-sized companies and 50% of the micro/small enterprises report a high impact on loss of input.

Moreover, 30% of the micro/small enterprises report a medium impact on loss of input.

Finally, 66.67% of the medium-sized companies and 20% of the micro/small enterprises report a low impact on loss of input.

To sum up, most enterprises active in the Digital ecosystem that have suffered high impact are micro-small enterprises.

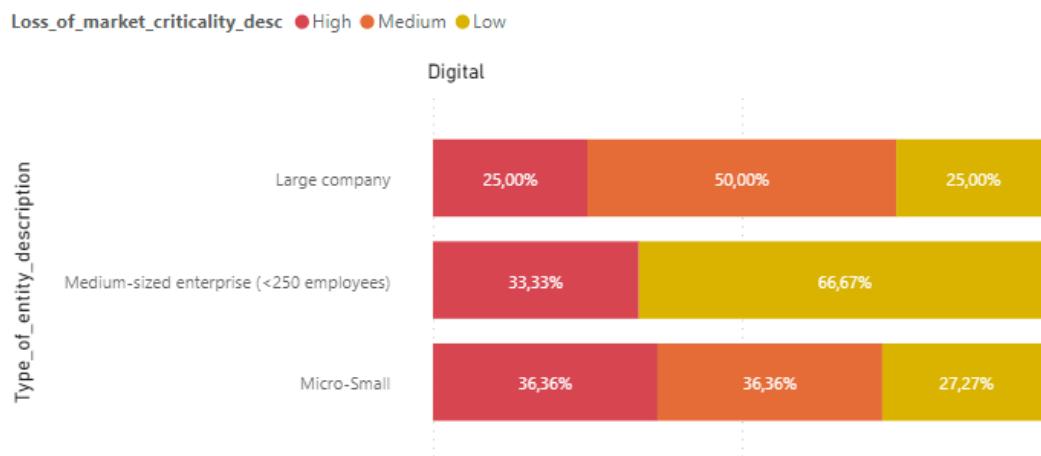


Figure 48 - Digital: Criticality level by firm size

The bar chart provides information about the loss of market criticality by firm size in the Digital ecosystem.

The bar chart shows that almost 25% of the large companies have suffered a high impact on loss of market. 50% of the large companies have experienced a medium impact and 25% a low impact on loss of market.

33.33% of the medium-sized companies and 36.36% of the micro/small enterprises report a high impact on loss of market.

Moreover, 36.36% of the micro/small enterprises report a medium impact on loss of market.

Finally, 66.67% of the medium-sized companies and 27.27% of the micro/small enterprises report a low impact on loss of market.



3.7.7. Answer distribution by country

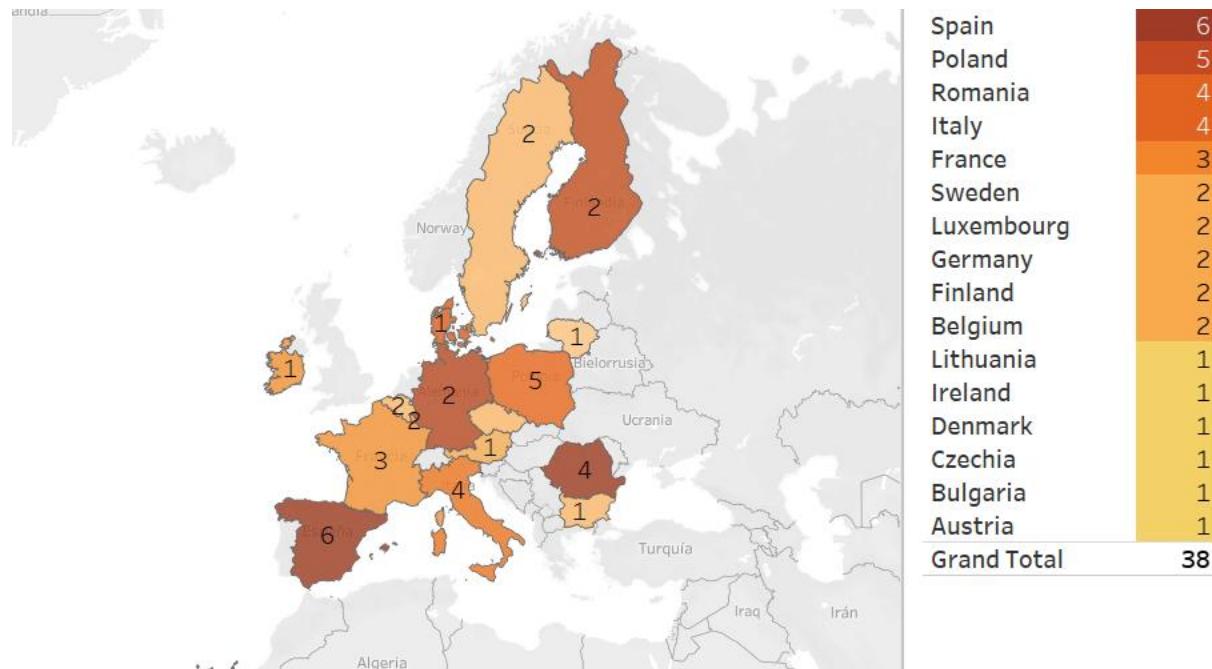


Figure 49 - Digital: Answer distribution by country

Regarding the responses by Member States of the European Union in this ecosystem, it should be noted that 50% of the organisations that responded belong to four countries (16% from Spain, 13% from Poland, 10.5% from Romania and 10.5% from Italy). The low number of responses from countries with high economic potential in this sector may detract from the representativeness of this analysis.



3.8. Electronics

3.8.1. Disruptions keywords

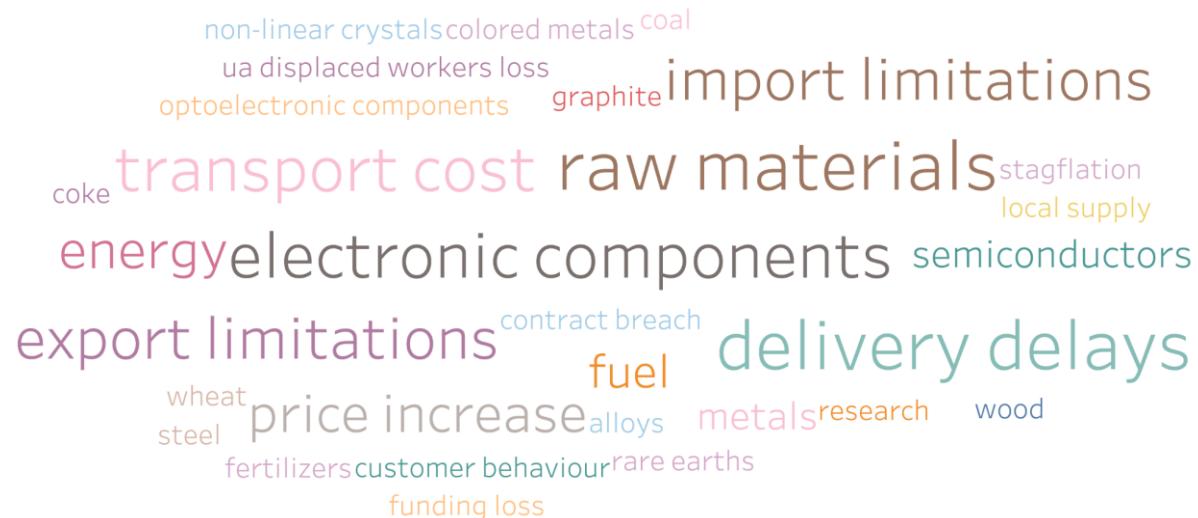


Figure 50 - Electronics: Disruptions keywords

This word cloud shows the analysis of the main disruptions by keywords for the Electronics ecosystem.

The keywords that appear most frequently in the responses are raw materials, transport cost, electronic components, delivery delays, export limitations, import limitations and price increase.

In particular, the entities of the Electronics ecosystem referred to the deceleration of the supply of raw materials and basic electronic components, which impact the production flow and, thus, the volume of orders and production/economic activity of companies.

3.8.2. Disruptions by value and supply chain stage



Table 58 - Electronics: Disruptions by stage

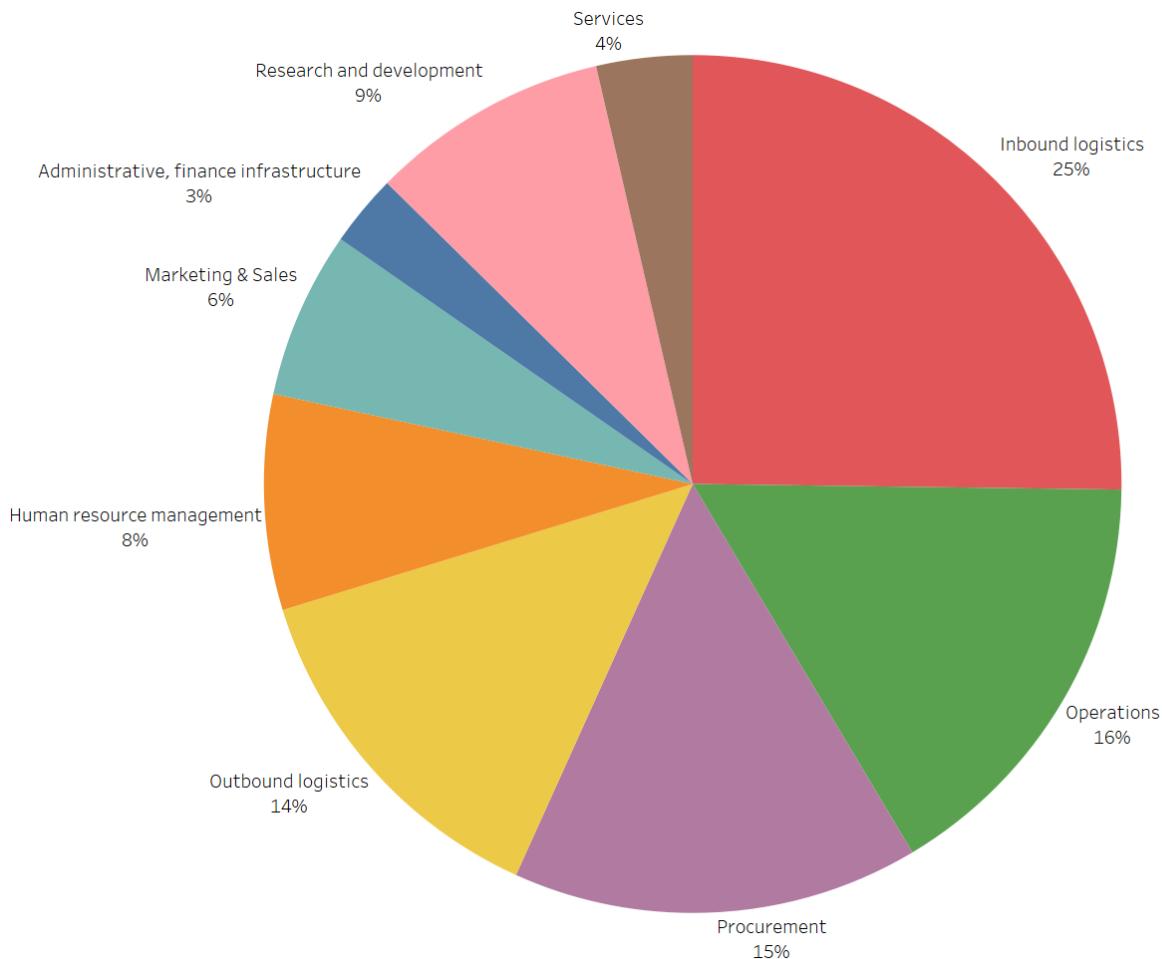


Figure 51 - Electronics: Disruptions by stage

In relation to the phase in which the disruptions occur in the Electronics ecosystem, four phases account for almost 70% of the disruptions. Specifically, 25% occur in Inbound logistics, 16% in Operations, 15% in Procurement and 14% in Outbound logistics.

They are followed by Research and development and Human resource management with 9% and 8% respectively.

6% of the entities of the Electronics ecosystem report disruptions at the Marketing and sales stage. The disruptions on Services and Administrative, finance infrastructure make up 4% and 3% respectively.



3.8.3. Stages by firm size

Industrial Ecosystems (Ecosys.. Supply value chains stage (Stages)		Type of entity (group)			Grand Total
		Large company	Medium- sized en..	Micro+S mall ent..	
Electronics	Human resource management	3%		2%	5%
	Inbound logistics	10%	8%	8%	26%
	Marketing & Sales	2%	2%	2%	5%
	Operations	5%	6%	6%	18%
	Outbound logistics	6%	3%	6%	16%
	Procurement	6%	8%	5%	19%
	Research and development	3%	3%	3%	10%
	Services			2%	2%

Table 59 - Electronics: Stages by firm size

The chart provides information about the disrupted supply chain stage of the entities active in the Electronics ecosystem, analysed by type of entity. Even though in the survey there are more groups of entities, large company, medium-sized enterprise and micro/small enterprise have been selected.

Inbound logistics is the supply chain stages for which these entities gave a high level of responses - independently of the type of entity.

It should be noticed that the weight of the micro/small enterprises and medium-sized enterprises is 30.76% respectively and large companies represents 38.46% of the disruptions at the Inbound logistics stage.

This stage is followed by Procurement, where large companies account for almost 31.57% of the disruptions, compared to 42% for medium-sized and 26.31% for micro/small enterprises.

The stages with lower responses across every type of entity are Human resource management and Services.



3.8.4. Answers by type of entity

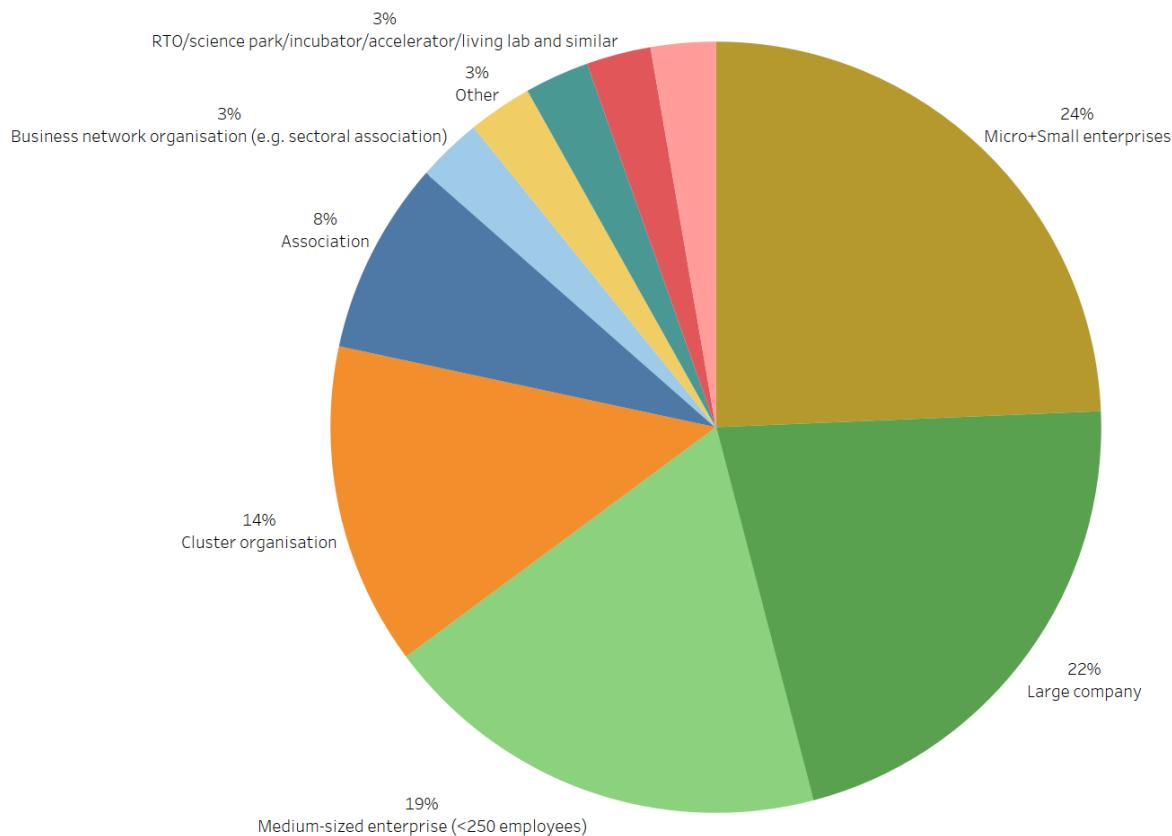


Figure 52 - Electronics: Answers by type of entity

The graph provides information on the distribution by type of entity active in the Electronics ecosystem that responded to the survey. The highest number of responses come from micro/small enterprises, accounting for 24%. They are followed by large companies with a percentage of 22. Medium-sized enterprises represent 19% of the respondents in this ecosystem. Cluster Organisations and associations represent 14% and 8% respectively.

The next groups are business network organisations and RTO/science park/incubator/accelerator/living lab and similar organisation representing 3% respectively.

In summary, the three biggest groups account for 65% of the respondents.



3.8.5. Loss of input and loss of market in Electronics ecosystem

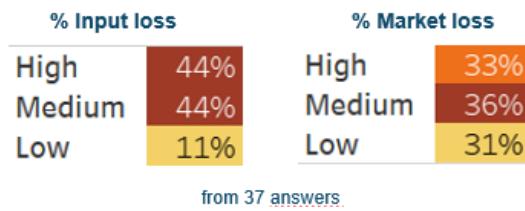


Table 60 - Electronics: loss of input / loss of market

In this first table, with regard to the loss of input, 88% (sum of "high" and "medium" responses) of the companies surveyed have suffered a significant loss of input, compared to 11% that say that they have had a low impact.

In relation to the critical market loss, 69% (sum of "high" and "medium" responses) of the companies surveyed have suffered significant market losses, compared to 31% that claim to notice little or no impact.

Input / Market losses

Loss of input crit...	Loss of market criticality			Gran...
	High	Medi...	Low	
High	31%	6%	8%	44%
Medium		31%	14%	44%
Low	3%		8%	11%
Grand Total	33%	36%	31%	100%

Table 61 - Electronics: loss of input / loss of market

Making the cross-analysis, with regard to the market loss, it can be observed that 94% of the companies that claim to have had a high loss of market also claim to have had a high loss of inputs.

In turn, with regard to the loss of inputs, it can be observed that of the companies that have had a high loss, 70.45% say they have had a high loss of market.

3.8.6. Criticality level by firm size in Electronics ecosystem

Industrial E...	Type of entity (grouped)	Loss of input criticality			
		High	Medium	Low	Grand To..
Electronics	Large company	26%	9%		35%
	Medium-sized enterprise ..	13%	9%	9%	30%
	Micro+Small enterprises	22%	13%		35%
Grand Total		61%	30%	9%	100%

Table 62 - Electronics: LOI Criticality by Ecosystem / Size

The table informs about the loss of input criticality suffered by the entities active in the Electronics ecosystem, disaggregated by type of entity.



The grand total column shows the percentage of the entities that reported an impact on the loss of input in the Electronics ecosystem.

Large companies account for 35% of the respondents. Among them, 74% reported a high impact on input losses. Of these, 25.71% reported a medium loss of inputs.

In relation to medium-sized enterprises (30% of the total), 43.33% of them reported a high impact on the loss of inputs, 30% reported a medium impact and 30% reported a low impact on the loss of inputs.

Finally, regarding micro/small enterprises (35% of the total), almost 63% of them reported high impact on the loss of inputs and 37% reported a medium impact on the loss of inputs.

		Loss of market criticality			
		High	Medium	Low	Grand To..
Industrial E..	Type of entity (grouped)				
Electronics	Large company	13%	13%	9%	35%
	Medium-sized enterprise ..	9%		22%	30%
	Micro+Small enterprises	17%	17%		35%
Grand Total		39%	30%	30%	100%

Table 63 - Electronics: LOM Criticality by Ecosystem / Size

The table informs about the loss of market criticality suffered by the entities active in the Electronics ecosystem, disaggregated by type of entity (large company, medium-size enterprises, and micro/small enterprises).

The grand total column shows the percentage of the entities that reported an impact on the loss of market in the electronics ecosystem.

35% of the large companies reported that they suffered an impact on the loss of market. 13% of them reported a high impact on the loss of market, 13% reported a medium impact on the loss of market and 9% a low impact.

In relation to the medium-sized enterprises, 30% of them reported that they suffered an impact on the loss of market. 9% of them reported a high impact on the loss of market and 22% a low impact.

35% of the micro/small enterprises that have answered the survey reported an impact on the loss of market. 17% of them reported a high impact on the loss of market and 17% reported a medium impact.



Loss_of_input_criticality_desc ● High ● Medium ● Low

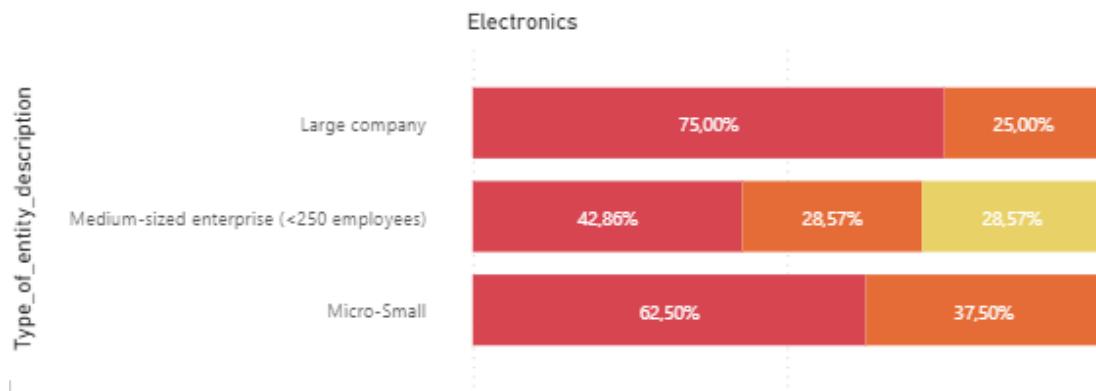


Figure 53 - Electronics: Criticality level by firm size

The bar chart provides information about the loss of input criticality by firm size in Electronics ecosystem.

The bar chart shows that the 75% of the large companies of the Electronics ecosystem have suffered a high impact on loss of input and 25% a medium impact on loss of input.

42.86% of the medium-sized companies and 62.5% of the micro/small enterprises report a high impact on loss of input.

Moreover, 28.57% of the medium-sized companies and 37.50% of the micro/small enterprises report a medium impact on loss of input.

Finally, 28.57% of the medium-sized companies report a low impact on loss of input.

To sum up, the majority of the enterprises active in the Electronics ecosystem that have suffered a high impact are large company.

Loss_of_market_criticality_desc ● High ● Medium ● Low

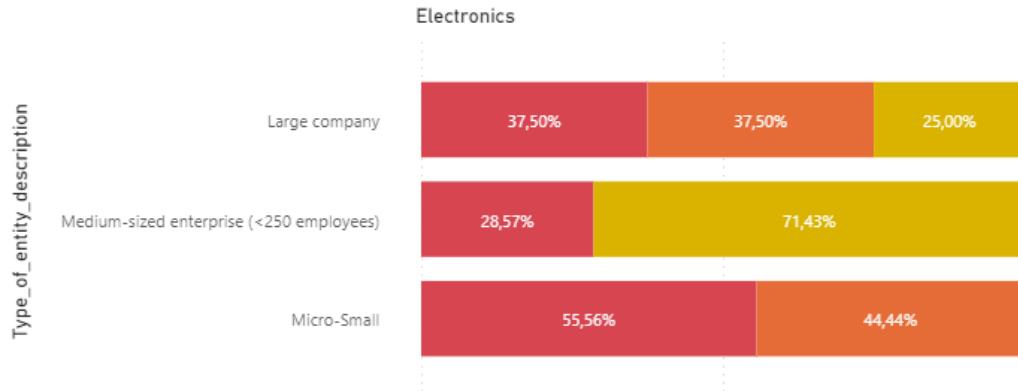


Figure 54 - Electronics: Criticality level by firm size

The bar chart provides information about the loss of market criticality by firm size in the Electronics ecosystem.



The bar chart shows that 37.50% of the large companies have suffered a high impact on loss of market. 37.50% of the large companies have experienced a medium impact and 25% a low impact on loss of market.

28.57% of the medium-sized companies and 55.56% of the micro/small enterprises report a high impact on loss of market.

Moreover, 44.44% of the micro/small enterprises report a medium impact on loss of market.

Finally, 71.43% of the medium-sized companies report a low impact on loss of market.

3.8.7. Answer distribution by country

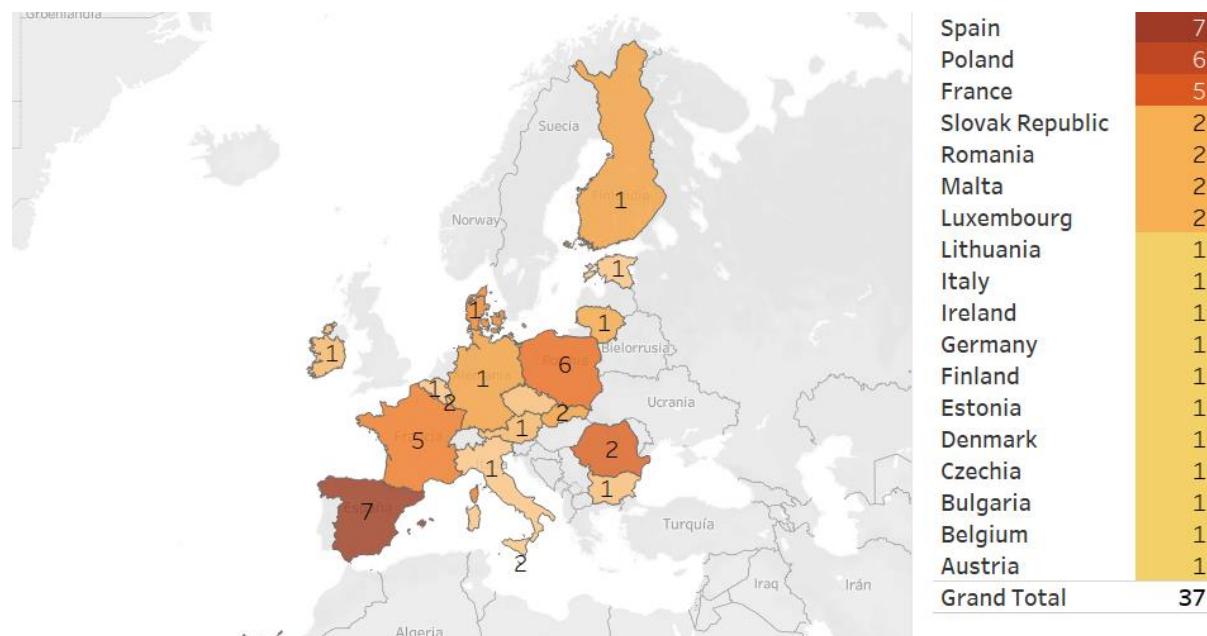


Figure 55 - Electronics: answer distribution by country

The graph shows the responses of the Electronics ecosystem by country.

Regarding the responses by Member States of the European Union in this ecosystem, it should be noted that 48.64% of the organisations that responded belong to three countries (7 of the respondents come from Spain, 6 from Poland and 5 from France).

5.4% of the respondents come from Slovak Republic, Romania, Malta, and Luxembourg respectively.

It is important to note that the low number of responses from countries with high economic potential in this sector may detract from the representativeness of this analysis, such as Germany, Italy or Ireland.



3.9. Energy-Intensive Industries

3.9.1. Disruptions keywords

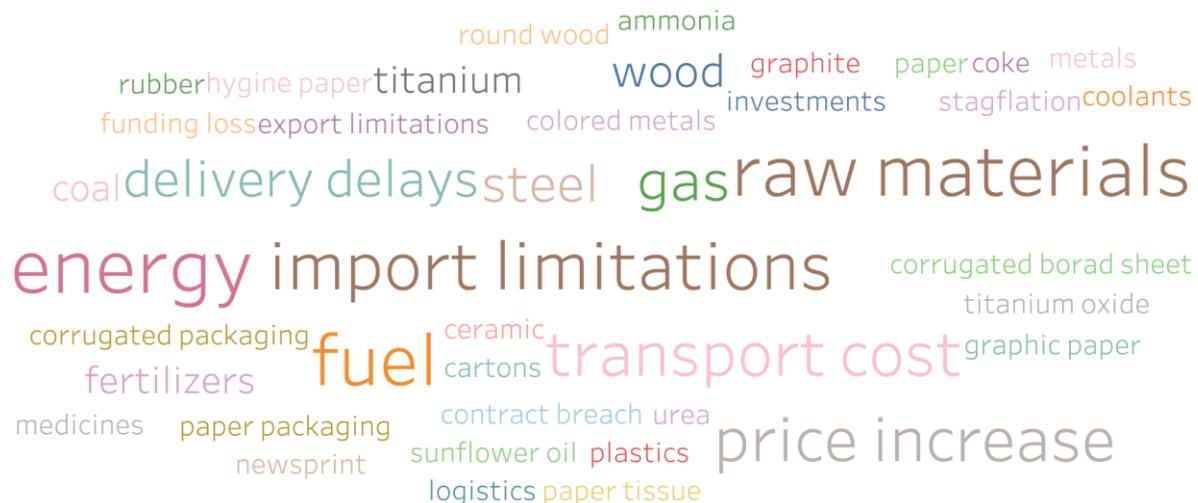


Figure 56 – Energy-Intensive Industries: Disruptions keywords

Analysing the main disruptions through the keywords of the Energy-intensive industries ecosystem, the keywords that appear most frequently in the responses are raw materials, energy, fuel, import limitations, price increase and transport cost.

In particular, the entities of the Energy-intensive industries ecosystem referred to the price increase of energy, fuel and gas that seems to have triggered a spiral that increases many other costs, reducing margins in companies.

3.9.2. Disruptions by value and supply chain stage



Table 64 – Energy-Intensive Industries: Disruptions by Stage

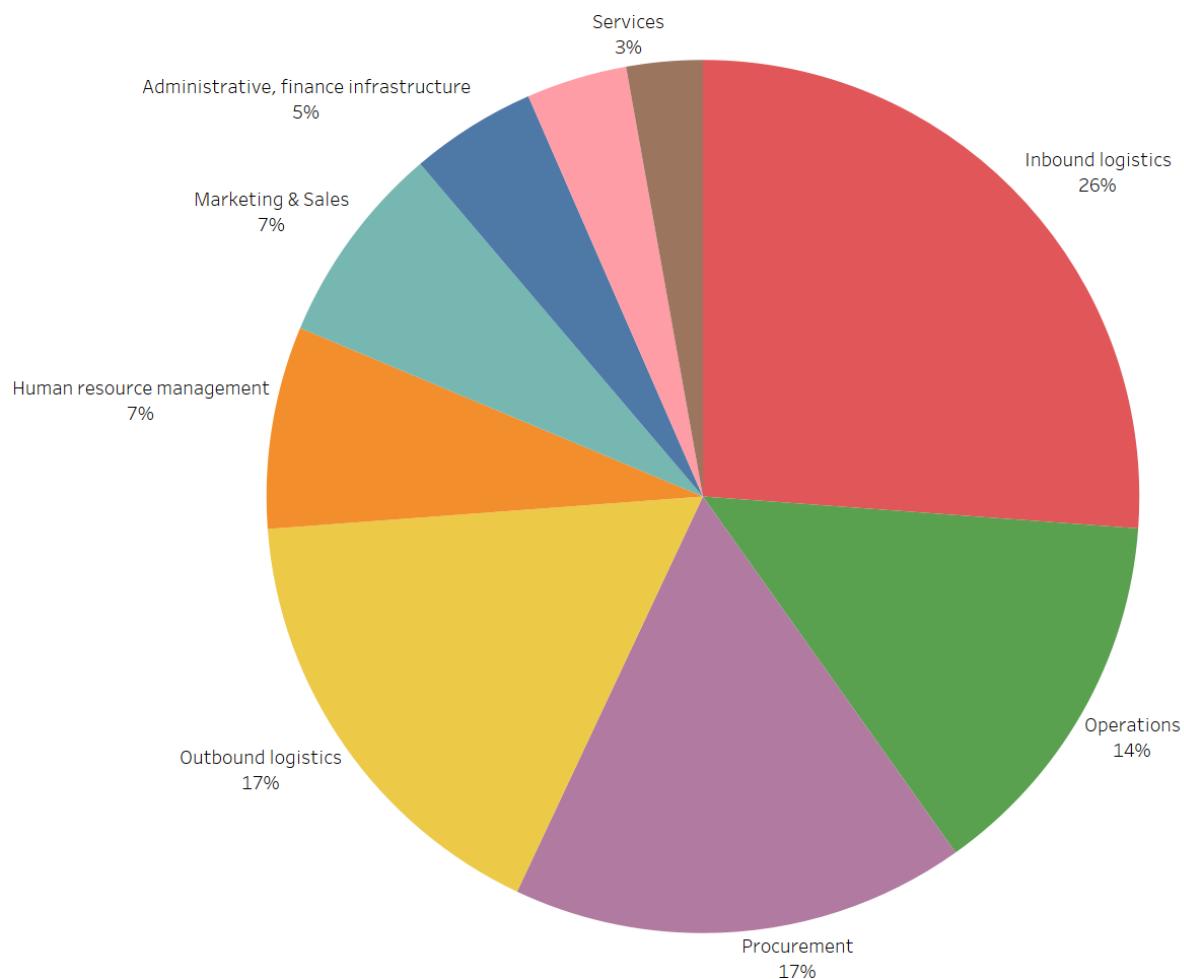


Figure 57 – Energy-Intensive Industries: Disruptions by Stage

In relation to the phase in which the disruptions occur in the Energy-intensive industries ecosystem, four phases account for almost 74% of the disruptions. Specifically, 26% occur in Inbound logistics, 17% in Procurement and 17% in Outbound logistics and 14% in Operations.

They are followed by Marketing and sales and Human resource management with 7% respectively.

5% of the entities of the Energy-intensive industries ecosystem report disruptions on Administrative, finance infrastructure. The disruptions on Research development and Services make up 4% and 3% respectively.



3.9.3. Stages by firm size

Industrial Ecosystems (Ecosys..	Supply value chains stage (Stages)	Type of entity (group)			Grand Total
		Large company	Medium-sized ent..	Micro+Small ent..	
Energy Intensive Industries	Administrative, finance infrastructure	3%		2%	5%
	Human resource management	5%	2%		6%
	Inbound logistics	9%	6%	9%	25%
	Marketing & Sales	5%	2%		6%
	Operations	5%	5%	5%	14%
	Outbound logistics	9%		9%	19%
	Procurement	11%	3%	6%	20%
	Research and development	2%			2%
	Services			3%	3%

Table 65 – Energy-Intensive Industries: Stages by firm size

The chart provides information about the disrupted supply chain stage of the entities active in the Energy-Intensive Industries ecosystem, analysed by type of entity. Even though in the survey there are more groups of entities, large company, medium-sized enterprise and micro/small enterprise have been selected.

Inbound logistics is the supply chain stage for which medium-sized enterprise and micro/small enterprises reported a high number of responses. In case of large companies, most disruptions occur at the Procurement stage, although Inbound logistics is also an important stage for this type of entity.

They are followed by Outbound logistics in the case of large companies and micro/small enterprises and Operations in the case of medium-sized enterprises.

The stages with lower responses across every type of entity are Research and development and Services.



3.9.4. Answers by type of entity

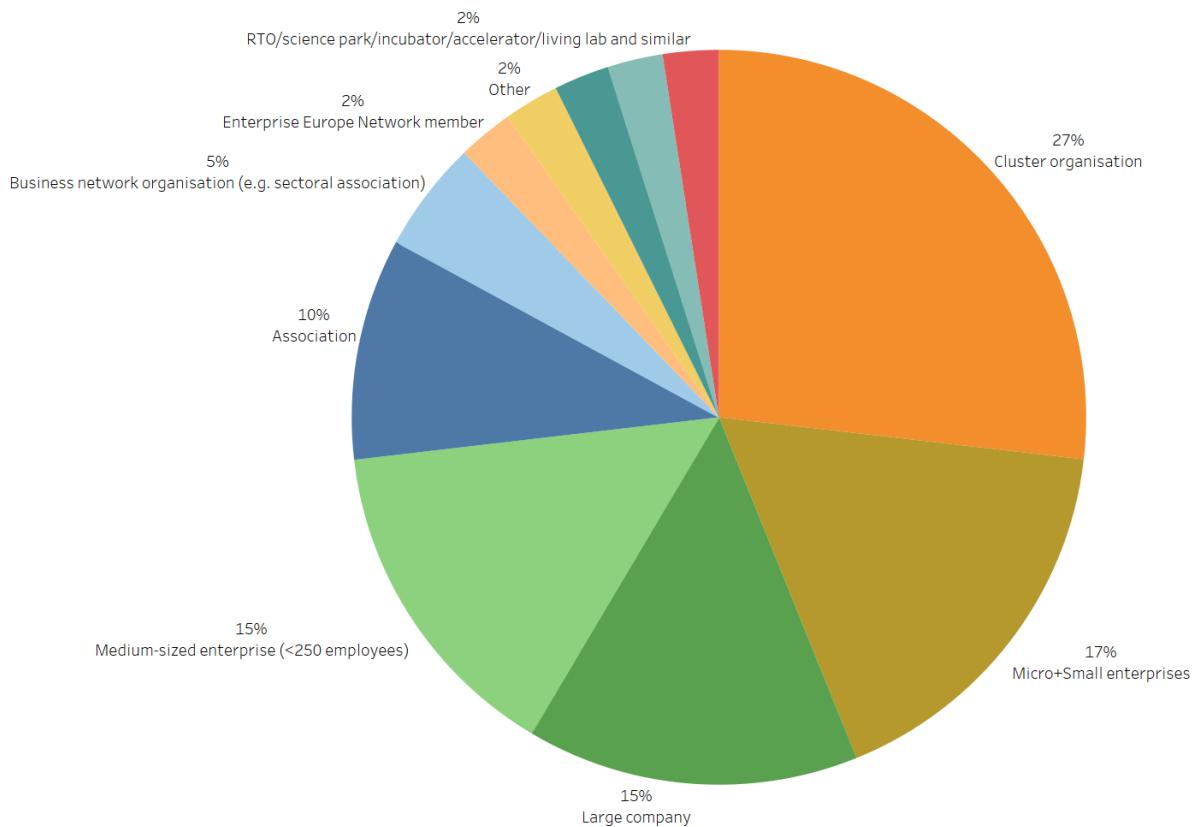


Figure 58 – Energy-Intensive Industries: Answers by type of entity

The graph provides information on the distribution by type of entity active in the Energy-intensive industries ecosystem that responded to the survey. The highest number of entities are cluster organisations, accounting for 27%. They are followed by micro/small enterprises with a percentage of 17%. Large companies and medium-sized enterprise represent 15% of the respondents in this ecosystem respectively. Associations represent 10%

The next groups are business network organisations and Enterprise Europe Network members, representing 5% and 2% respectively.

In summary, the three biggest groups account for 59% of the respondents.

3.9.5. Loss of input and loss of market in Energy-Intensive Industries ecosystem

% Input loss		% Market loss	
High	39%	High	27%
Medium	52%	Medium	48%
Low	9%	Low	24%

from 35 answers

Table 66 – Energy-Intensive Industries: loss of input / loss of market



In this first table, with regard to the loss of input, 91% (sum of "high" and "medium" responses) of the companies surveyed have suffered a significant loss of input, compared to 9% that say that they have had a low impact.

In relation to the critical market loss, 75% (sum of "high" and "medium" responses) of the companies surveyed have suffered significant market losses, compared to 24% that say to have had little or no impact.

Input / Market losses

Loss of input cri..	Loss of market criticality			
	High	Medi..	Low	Gran..
High	24%	12%	3%	39%
Medium	3%	33%	15%	52%
Low		3%	6%	9%
Grand Total	27%	48%	24%	100%

Table 67 – Energy-Intensive Industries: loss of input / loss of market

Making the cross-analysis, with regard to the market loss, it can be observed that 89% of the companies that claim to have had a high loss of market also claim to have had a high loss of inputs.

In turn, with regard to the loss of inputs, it can be observed that of the companies that say they have had a high loss, 61.53% say that they have had a high loss of market.

3.9.6. Criticality level by firm size in Energy-Intensive Industries ecosystem

Industrial E..	Type of entity (grouped)	Loss of input criticality			
		High	Medium	Low	Grand To..
Energy	Large company	19%	19%	5%	43%
Intensive	Medium-sized enterprise ..	14%	10%		24%
Industries	Micro+Small enterprises	19%	14%		33%
	Grand Total	52%	43%	5%	100%

Table 68 - Energy Intensive Industries: LOI Criticality by Ecosystem / Size

The table informs about the loss of input criticality suffered by the entities active in the Energy-intensive industries ecosystem, disaggregated by type of entity.

The grand total column shows the percentage of the entities that reported an impact on the loss of input in the Energy-intensive industries ecosystem.

43% of the large companies reported that they suffered an impact on the loss of input. 19% of them reported a high impact on the loss of input, 19% reported a medium impact on the loss of input and 5% a low impact.

Looking at the medium-sized enterprises, 24% of them reported that they suffered an impact on the loss of input. 14% of them reported a high impact on the loss of input and 10% reported a medium impact on the loss of input.

33% of the micro/small enterprises that have answered the survey reported an impact on the loss of input. 19% of them reported a high impact on the loss of input and 14% reported a medium impact.



Industrial E..	Type of entity (grouped)	Loss of market criticality				Grand To..
		High	Medium	Low		
Energy Intensive Industries	Large company	10%	24%	10%		43%
	Medium-sized enterprise ..	10%	14%			24%
	Micro+Small enterprises	14%	19%			33%
Grand Total		33%	57%	10%		100%

Table 69 – Energy-Intensive Industries: LOM Criticality by Ecosystem / Size

The table informs about the loss of market criticality suffered by the entities active in the Energy-intensive industries ecosystem, disaggregated by type of entity (large companies, medium-size enterprises, and micro/small enterprises)

The grand total column shows the percentage of the entities that reported an impact on the loss of market in the Energy-intensive industries ecosystem.

43% of the large companies reported that they suffered an impact on the loss of market. 10% of them reported a high impact on the loss of market, 24% reported a medium impact on the loss of market and 10% a low impact.

In relation to the medium-sized enterprises, 24% of them reported that they suffered an impact on the loss of market. 10% of them reported a high impact on the loss of market and 14% reported a medium impact on the loss of market.

33% of the micro-small enterprises that have answered the survey reported an impact on the loss of market. 14% of them reported a high impact on the loss of market and 19% reported a medium impact.

Loss_of_input_criticality_desc ● High ● Medium ● Low

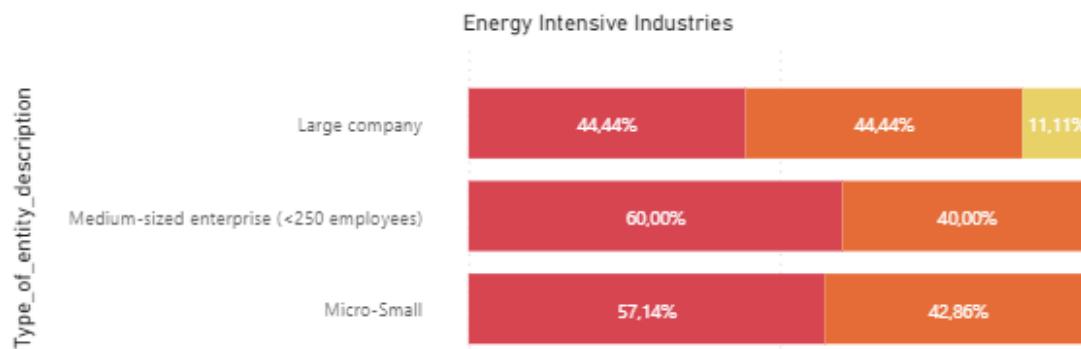


Figure 59 – Energy-Intensive Industries: Criticality level by firm size

The bar chart provides information about the loss of input criticality by firm size in the Energy-intensive industries ecosystem.

The bar chart shows that 44.44% of the large companies of the Energy-intensive industries ecosystem have suffered a high impact on loss of input, 44.44% a medium impact on loss of input and 11.11% a low impact.

60% of the medium-sized companies and 57.14% of the micro/small enterprises report a high impact on loss of input.



Moreover, 40% of the medium-sized companies and almost 43% of the micro/small enterprises report a medium impact on loss of input.

Finally, neither medium-sized enterprises nor micro/small companies have reported a low impact.

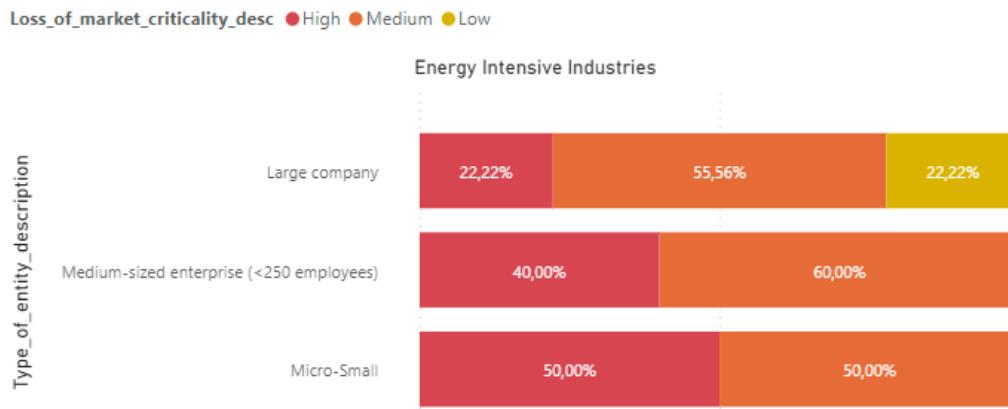


Figure 60 – Energy-Intensive Industries: Criticality level by firm size

The bar chart provides information about the loss of market criticality by firm size in the Energy-intensive industries ecosystem.

The bar chart shows that almost 22.22% of the large companies have suffered a high impact on loss of market. 55.56% of the large companies have experienced a medium impact and 22.22% a low impact on loss of market.

40% of the medium-sized companies and 50% of the micro/small enterprises report a high impact on loss of market.

Moreover, 60% of the medium-sized companies and 50% of the micro/small enterprises report a medium impact on loss of market.

Finally, neither medium-sized enterprises nor micro/small companies have reported a low impact.



3.9.7. Answer distribution by country

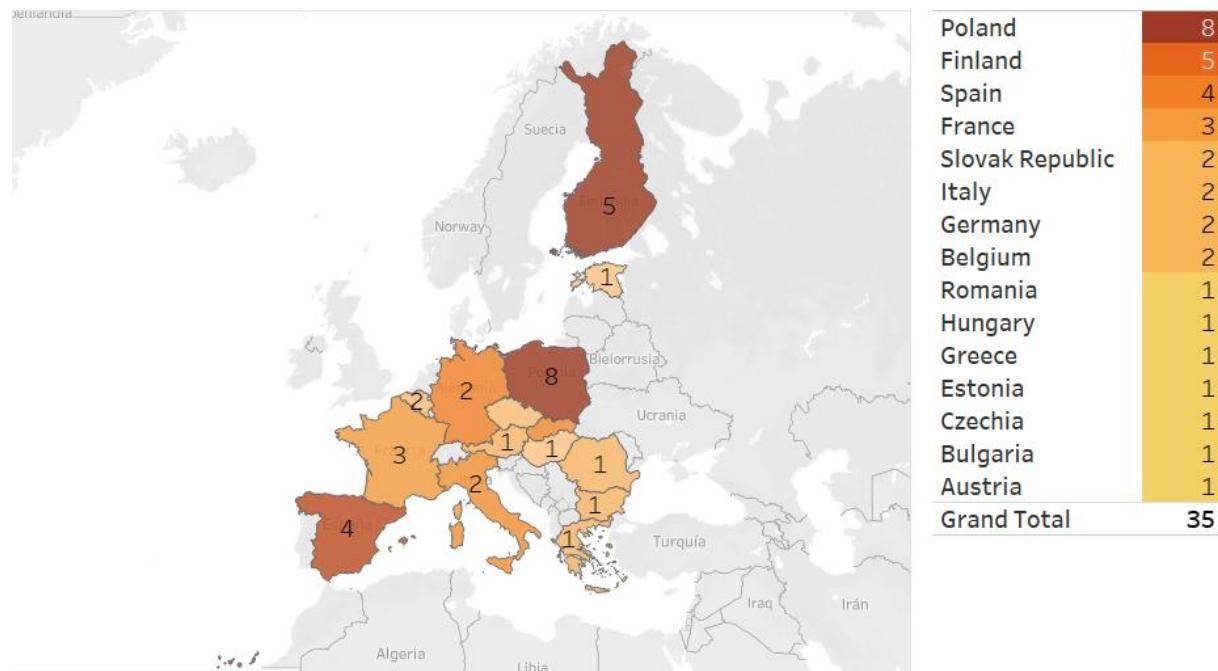


Figure 61 – Energy-Intensive Industries: answer distribution by country

The graph shows the responses of the Energy-Intensive Industries ecosystem by country.

Regarding the responses by Member States of the European Union in this ecosystem, it should be noted that 57% of the organisations that responded belong to four countries (8 of the respondents come from Poland, 5 from Finland, 4 from Spain and 3 from France).

It is important to note that the low number of responses from countries with high economic potential in this sector may detract from the representativeness of this analysis, such as Germany or Hungary.



3.10. Aerospace & Defense

3.10.1. Disruptions keywords

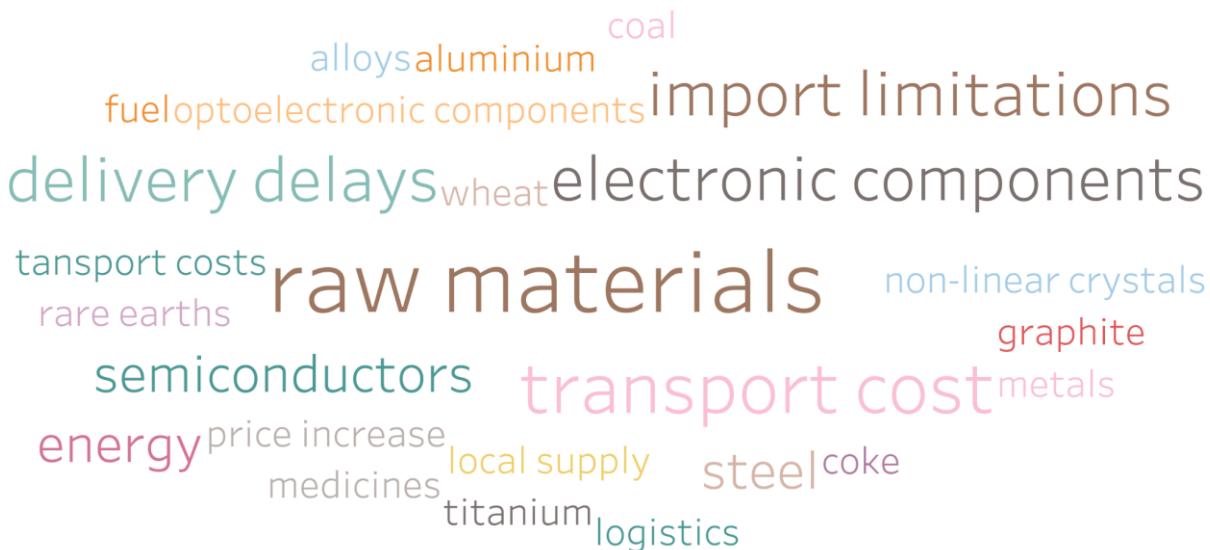


Figure 6062 - Aerospace & Defense: Disruptions keywords

This word cloud shows the analysis of the main disruptions through keywords for the Aerospace and defense ecosystem.

The keywords that appear most frequently in the responses are raw materials, transport cost, electronic components, delivery delays and import limitations.

3.10.2. Disruptions by value and supply chain stage



Table 70 - Aerospace & Defense: Disruptions by Stage

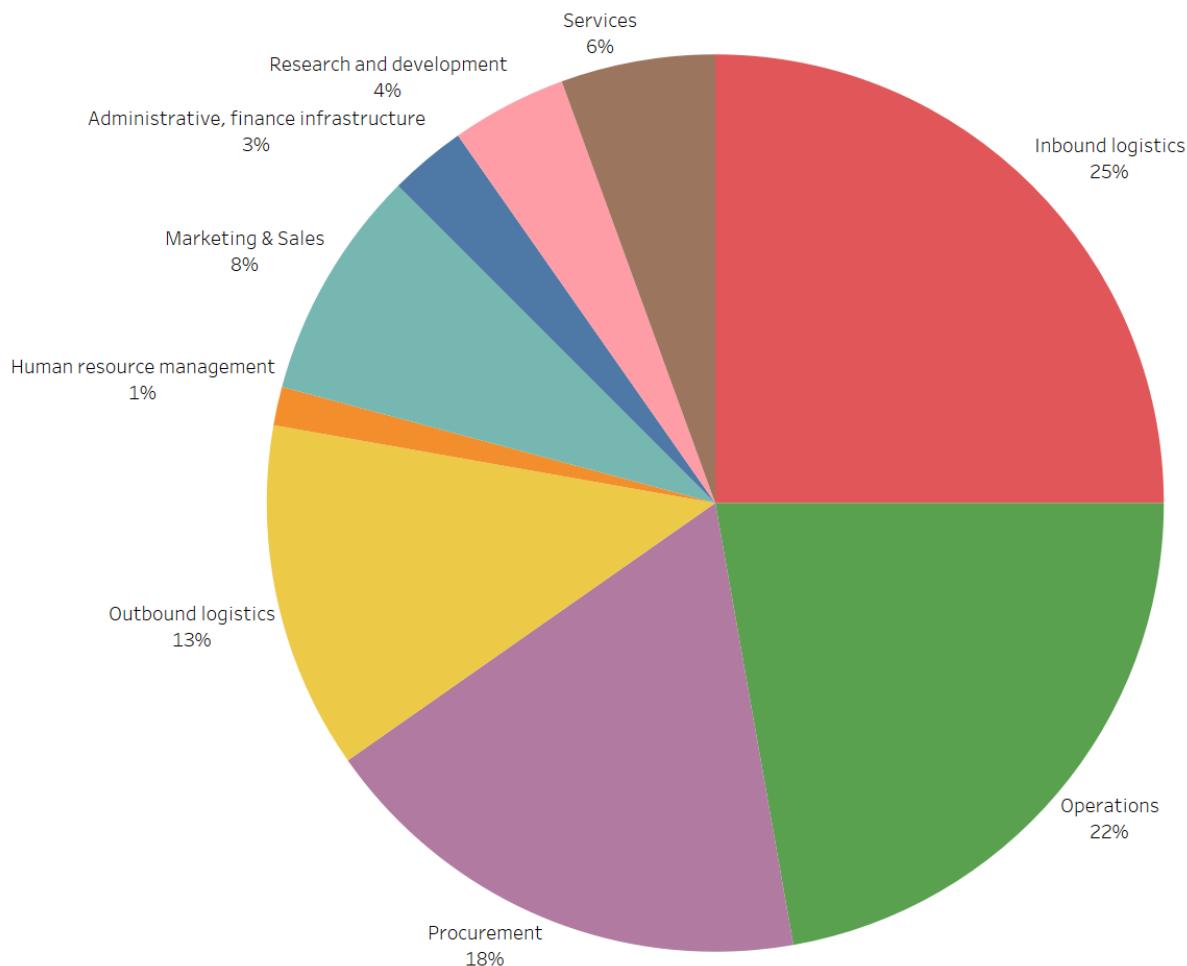


Figure 63 - Aerospace & Défense: Disruptions by Stage

In relation to the phase in which the disruptions occur in the Aerospace and defense ecosystem, four phases account for almost 65% of the disruptions. Specifically, 25% occur in Inbound logistics, 22% in Operations and 18% in procurement.

They are followed by Outbound logistics with 13%.

6% of the entities of the Aerospace and defense ecosystem report disruptions on Services. The disruptions on Research development and Administrative, finance infrastructure make up 4% and 3% respectively.



3.10.3 Stages by firm size

Industrial Ec..	Supply value chains stage (Stages)	Type of entity (group)			
		Larg..	Medi..	Micr..	Gran..
Aerospace and Defence	Administrative, finance infrastructure	2%			2%
	Human resource management	2%			2%
	Inbound logistics	14%	9%		22%
	Marketing & Sales	3%	5%	2%	10%
	Operations	10%	7%	5%	22%
	Outbound logistics	9%	5%		14%
	Procurement	10%	7%		17%
	Research and development	3%			3%
	Services	2%		5%	7%

Table 71 - Aerospace & Defense: Stages by firm size

The chart provides information about the disrupted supply chain stage of the entities active in the Aerospace and defense ecosystem, analysed by type of entity. Even though in the survey there are more groups entity, large company, medium-sized enterprise and micro/small enterprise have been selected.

Inbound logistics is the supply chain stages with the highest number of responses from medium-sized enterprises and large companies. They are followed by the Operations and procurement in the case of large companies.

In case of the micro/small enterprises, those are the Operations and Services stages.

The stages with lower responses across every type of entity are Administrative, finance infrastructure and Human resource management.



3.10.4. Answers by type of entity

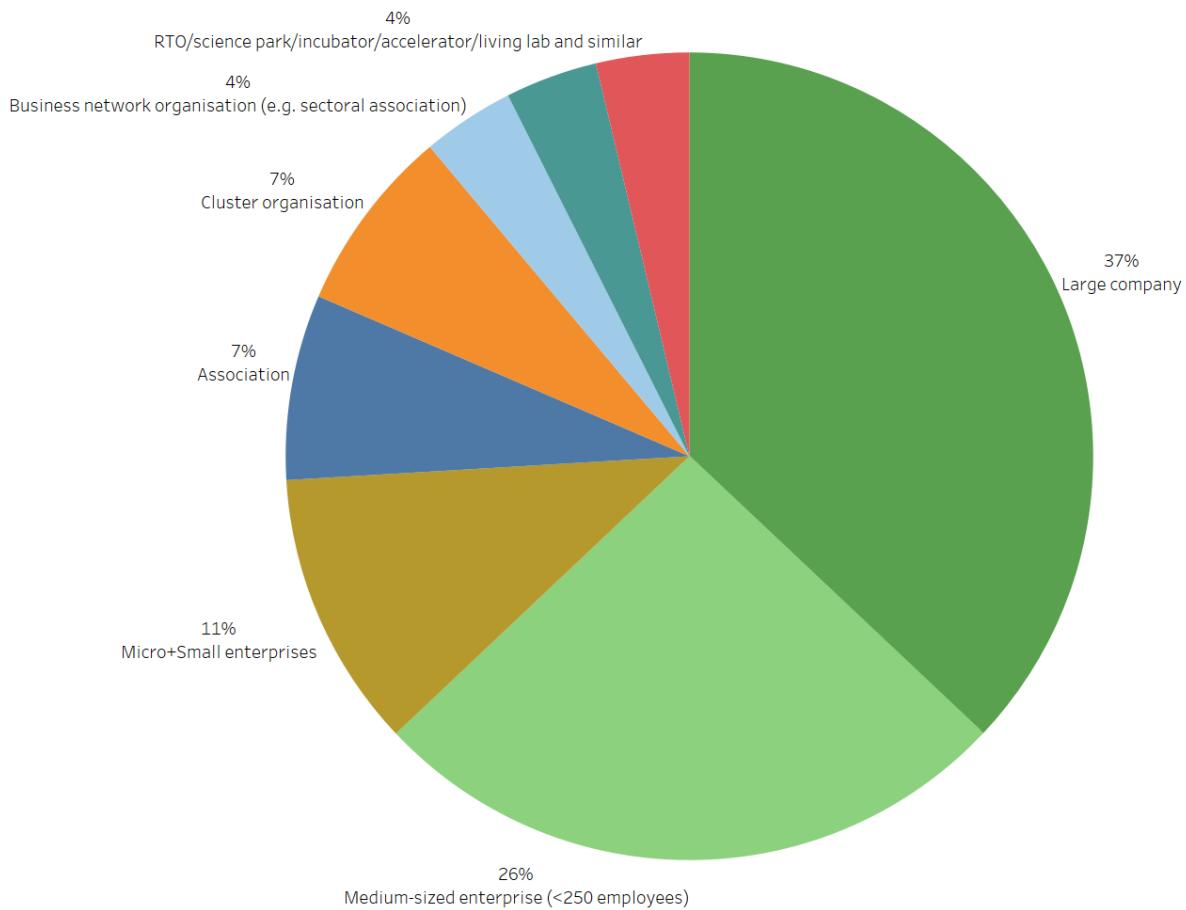


Figure 64 - Aerospace & Defense: Answers by type of entity

The graph provides information on the distribution by type of entity active in the Aerospace and defense ecosystem that responded to the survey.

The highest number of entities are large company, accounting for 37%. They are followed by medium-sized enterprises with a percentage of 26. Micro-small enterprises represent 11% of the respondents in this ecosystem. Associations and cluster organisations represent 7% respectively.

In summary, the two biggest groups account for 63% of the respondents.



3.10.5. Loss of input and loss of market in Aerospace & Defense ecosystem

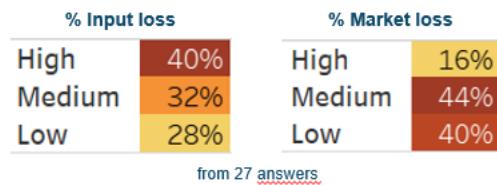


Table 72 - Aerospace & Defense: loss of input / loss of market

In this first table, with regard to the loss of input, 72% (sum of "high" and "medium" responses) of the companies surveyed have suffered a significant loss of input, compared to 28% who say they have had a low impact.

In relation to the critical market loss, 60% (sum of "high" and "medium" responses) of the companies surveyed have suffered significant market losses, compared to 40% who say they have had little or no impact. Specifically, 40% of companies say that market loss has been low, while 16% consider it high.

Input / Market losses				
Loss of input crit..	Loss of market criticality			
	High	Medi..	Low	Gran..
High	16%	16%	8%	40%
Medium		24%	8%	32%
Low		4%	24%	28%
Grand Total	16%	44%	40%	100%

Table 73 - Aerospace & Defense: loss of input / loss of market

With regard to the market loss, it can be observed that 100% of the companies that claim to have had a high loss of market also claim to have had a high loss of inputs.

In turn, with regard to the loss of inputs, it can be observed that of the companies that say that they have had a high loss, 40% say they have had a high loss of market.

3.10.6. Criticality level by firm size in Aerospace & Defense ecosystem

Industrial E..	Type of entity (grouped)	Loss of input criticality			
		High	Medium	Low	Grand To..
Aerospace and Defence	Large company	37%		16%	53%
	Medium-sized enterprise ..	5%	5%	21%	32%
	Micro+Small enterprises		16%		16%
Grand Total		42%	21%	37%	100%

Table 74 - Aerospace & Defense: LOI Criticality by Ecosystem / Size

The table informs about the loss of input criticality suffered by the entities active in the Aerospace and defense ecosystem, disaggregated by type of entity.



The grand total column shows the percentage of the entities that reported an impact on the loss of input in the Aerospace and defense ecosystem.

Large companies account for 53% of the respondents. Among them, 37% reported a high impact on input losses. Of these, 16% reported a low impact on the loss of inputs.

In relation to medium-sized enterprises (32% of the total), 5% of them reported a high impact on the loss of inputs, 5% reported a medium impact and 21% reported a low impact on the loss of inputs.

Finally, regarding micro/small enterprises (16% of the total), 16% reported a medium impact on the loss of inputs.

Industrial E..	Type of entity (grouped)	Loss of market criticality			Grand To..
		High	Medium	Low	
Aerospace and Defence	Large company	16%	21%	16%	53%
	Medium-sized enterprise ..	5%	5%	21%	32%
	Micro+Small enterprises		16%		16%
Grand Total		21%	42%	37%	100%

Table 75 - Aerospace & Defense: LOM Criticality by Ecosystem / Size

The table informs about the loss of market criticality suffered by the entities active in the Aerospace and defense ecosystem, disaggregated by type of entity.

The grand total column shows the percentage of the entities that reported an impact on the loss of market in the Aerospace and defense ecosystem.

Large companies account for 53% of the respondents. 16% reported a high impact on market losses. Of these, 21% reported a medium loss of market and 16% reported a low impact on the loss of market.

In relation to medium-sized enterprises (32% of the total), 5% reported a high impact on market losses, 5% reported a medium impact and 21% reported a low impact on the loss of market.

Finally, regarding micro/small enterprises (16% of the total), 16% reported a medium impact on the loss of market.

Loss_of_input_criticality_desc ● High ● Medium ● Low

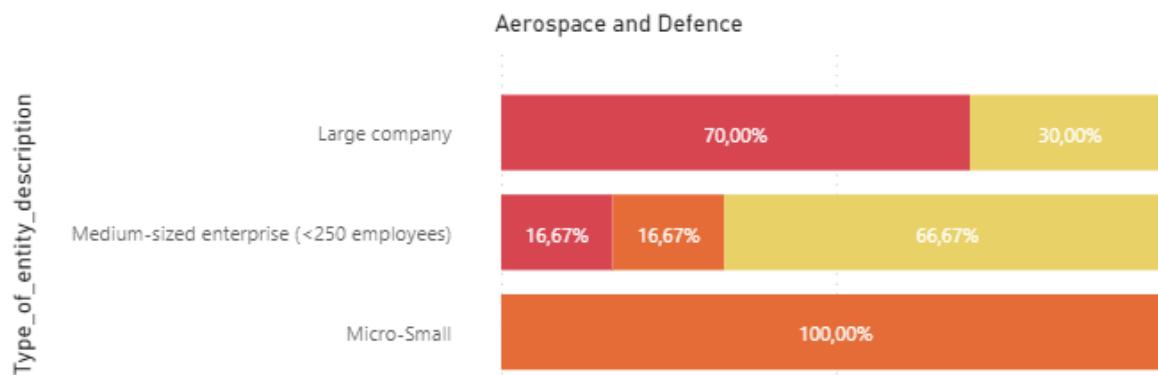


Figure 61 - Aerospace & Defense: Criticality level by firm size



The bar chart provides information about the loss of input criticality by firm size in Aerospace and defense ecosystem.

The bar chart shows that the 70% of the large companies of the Aerospace and defense ecosystem have suffered a high impact on loss of input and 30% a low impact.

16.67% of the medium-sized companies report a high impact on loss of input.

Moreover, 16.67% of the medium-sized companies and 100% of the micro/small enterprises report a medium impact on loss of input.

Finally, 66.67% of the medium-sized companies reported a low impact on loss of input.

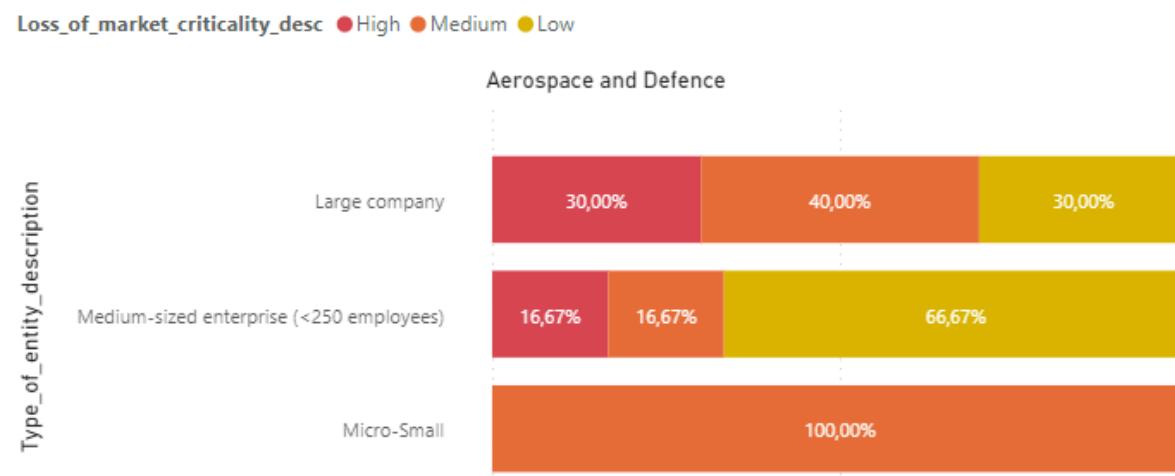


Figure 66 - Aerospace & Defense: Criticality level by firm size

The bar chart provides information about the loss of market criticality by firm size in the Aerospace and defense ecosystem.

The bar chart shows that almost 30% of the large companies have suffered a high impact on loss of market. 40% of the large companies have experienced a medium impact and 30% a low impact on loss of market.

Moreover, 16.67% of the medium-sized companies and 100% of the micro/small enterprises report a medium impact on loss of market.

Finally, 66.67% of the medium-sized companies reported a low impact on loss of market.



3.10.7. Answer distribution by country

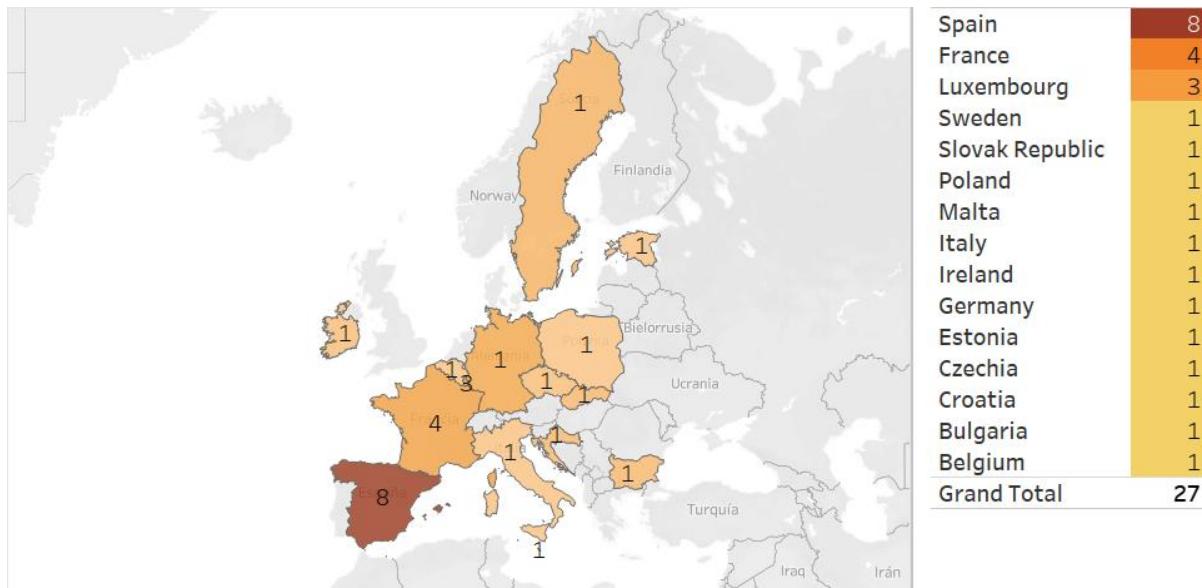


Figure 62 - Aerospace & Defense: answer distribution by country

The graph shows the responses of the Aerospace and defense ecosystem by country.

Regarding the responses by Member States of the European Union in this ecosystem, it should be noted that 55% of the organisations that responded belong to three countries (8 of the respondents come from Spain, 4 from France and 3 from Luxembourg).

It is important to note the low number of responses in this ecosystem.



3.11. Proximity, Social Economy and Civil Security

3.11.1. Disruptions keywords



Figure 63 - Proximity, Social Economy and Civil Security: Disruptions Keywords

This keyword cloud shows the analysis of the main disruptions according to the keywords for the Proximity ecosystem. The keywords that appear most frequently in the responses are energy, transport cost, raw materials, Ukrainian displaced workers, and steel.

In particular, shortages of raw materials could be a possible result of logistical disruptions (transport costs, energy and delivery delays), which are important disruptions for entities active in the ecosystem of the proximity and social economy. Disruptions to displaced Ukrainian workers are also significant.

3.11.2. Disruptions by value and supply chain stage



Table 76 - Proximity, Social Economy and Civil Security: Disruptions by Stage

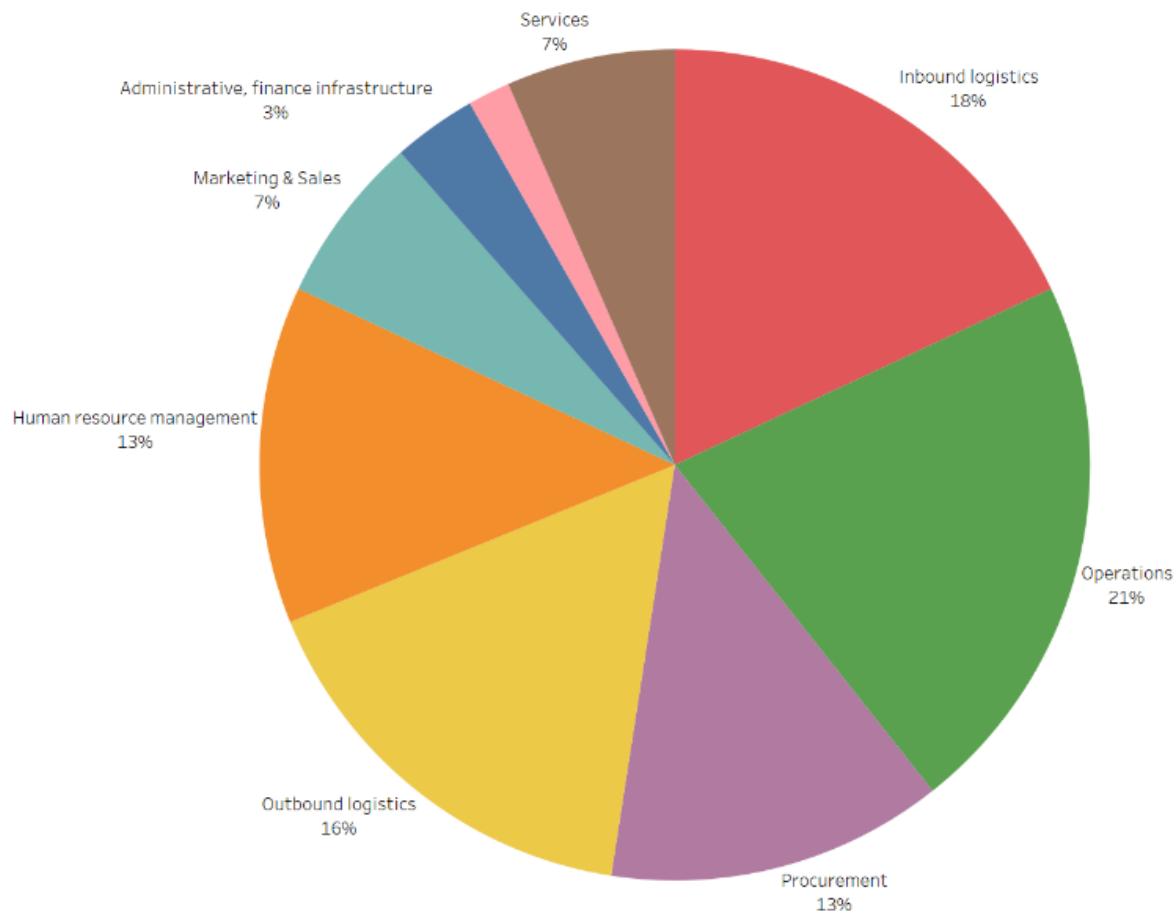


Figure 69 64 - Proximity, Social Economy and Civil Security: Disruptions by Stage

In relation to the phase in which the disruptions occur in the Proximity and social economy ecosystem, five phases account for almost 81% of the disruptions. Specifically, 21% occur Operations, 18% in Inbound logistics, 16% in Outbound logistics, 13% in Procurement and 13% in Human resource management. In addition, 8% in Marketing and sales, 7% in Services, 7% in Administrative, finance infrastructure and 2% Research and development.

It can be highlighted that the main stage at which entities active in the Proximity and economy ecosystem suffered most disruptions is Operations, followed by Inbound logistics.



3.11.3. Stages by firm size

Industrial Ecosystems (Ecosys..)	Supply value chains stage (Stages)	Type of entity (group)		
		Large company	Micro+S mall ent..	Grand Total
Proximity Social Economy and Civil Security	Human resource management	13%		13%
	Inbound logistics	13%	13%	25%
	Operations		13%	13%
	Outbound logistics	13%	13%	25%
	Procurement	25%		25%

Table 77 - Proximity, Social Economy and Civil Security: Stages by firm size

The chart provides information about the disrupted supply chain stage of the entities active in the Proximity and social economy ecosystem, analysed by type of entity. Even though in the survey there are more groups of entities, large company and micro/small enterprise have been selected. Please note that there are no respondents from medium-sized enterprises.

Inbound logistics and Outbound logistics are the supply chain stages for which these entities reported a high level of responses, 26% respectively. However, it is worth noting that the weight of large enterprises accounts for 64% of the disruptions, compared to 36% for micro/small enterprises.

It is followed by Procurement, but only for large companies (25%).

Finally, only large companies have disruptions in Human resource management (13%) and micro/small companies in Operations (also 13%).

It could be said that the disruptions depend on the size of the entity. However, the results may not be representative, as there are no responses from medium-sized companies.



3.11.4. Answers by type of entity

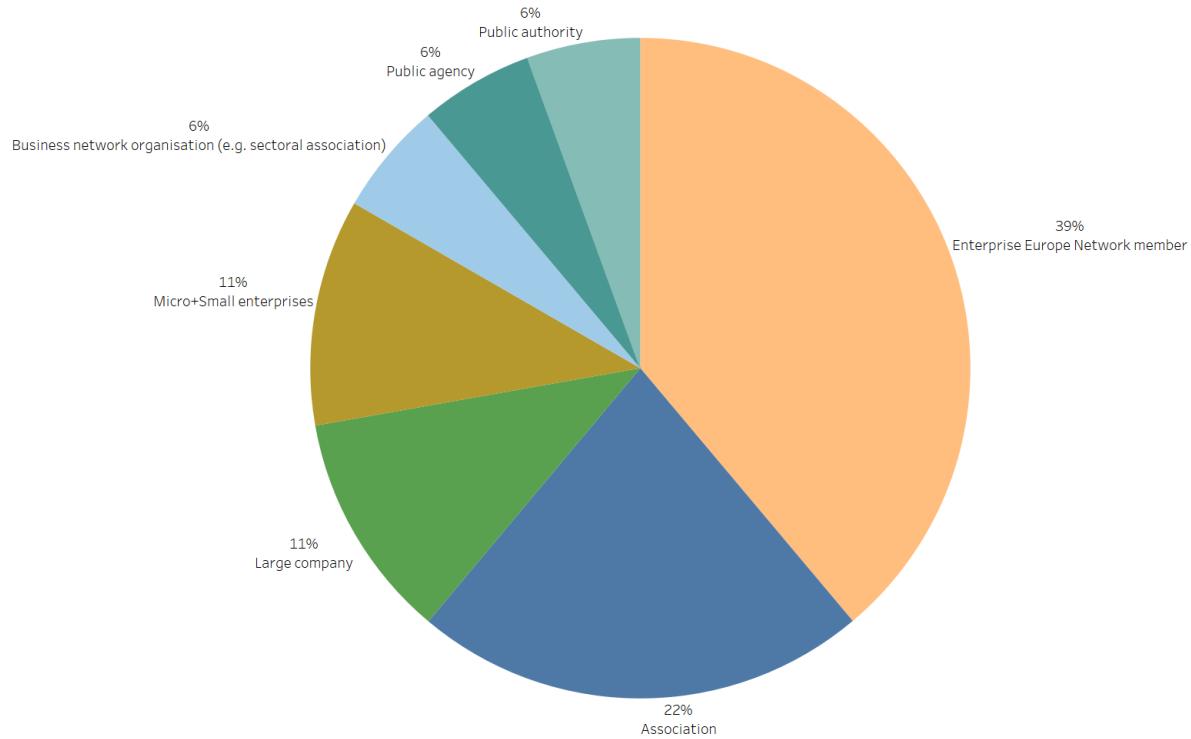


Figure 70 - Proximity, Social Economy and Civil Security: Answers by type of entity

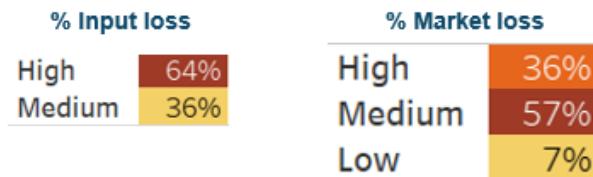
The graph provides information on the distribution by type of entity active in the Proximity and social economy ecosystem that responded to the survey. The highest number of entities are Enterprise Europe Network members, accounting for 39%. They are followed by associations with 22%. Large companies and micro/small enterprises also account for 11% respectively.

It should be noted that there is no presence of medium-sized companies among the respondents in this ecosystem. The rest is occupied by business network organisations, public agencies and public authorities with 6% respectively.

In summary, the two biggest groups account for 61% of the respondents and more than one in three is a Enterprise Europe Network member.



3.11.5. Loss of input and loss of market in Proximity, Social Economy and Civil Security ecosystem



from 18 answers

Table 78 - Proximity, Social Economy and Civil Security: Loss of input / loss of market

In this first table, in terms of the loss of inputs, 100% (sum of "high" and "medium" responses) of the companies surveyed have suffered a significant loss of inputs. No company has indicated that its impact is low. It is important to note that the number of companies that have suffered a high loss of inputs is very significant (64%).

In relation to the critical market loss, 93% (sum of "high" and "medium" responses) of the companies surveyed have suffered significant market losses. 7% of the companies say that the market loss has been low. However, the most frequent response is medium market loss (57%), followed by high market loss (36%).

Input / Market losses				
Loss of input crit...	Loss of market criticality			Gran...
	High	Medi..	Low	
High	36%	29%		64%
Medium		29%	7%	36%
Grand Total	36%	57%	7%	100%

Table 79 - Proximity, Social Economy and Civil Security: Loss of input / loss of market

Making the cross-analysis, with respect to the market loss, it is observed that 100% of the companies that claim to have had a high loss of market also claim to have had a high loss of inputs.

In turn, with respect to the input loss, it is observed that of the companies that claim to have had a high loss, almost 56% claim to have had a high loss of market and a 44% a medium loss.



3.11.6. Criticality level by firm size in Proximity, Social Economy and Civil Security eco-system

Industrial Ecosystem	Type of entity (grouped)	Loss of input criticality		
		High	Medium	Grand To..
Proximity Social Economy and Civil Security	Large company		33%	33%
	Micro+Small enterprises	33%	33%	67%
Grand Total		33%	67%	100%

Table 80 - Proximity, Social Economy and Civil Security: LOI Criticality by Ecosystem / Size

The table informs about the loss of input criticality suffered by the entities active in the Proximity and social economy ecosystem, disaggregated by type of entity.

The grand total column shows the percentage of the entities that reported an impact on the loss of input in the Proximity and social economy ecosystem.

Large companies account for 33% of the respondents. Among them, 100% reported a medium impact on input losses.

In relation to micro/small enterprises (67% of the total), 50% of them reported a high impact and another 50% a medium impact on the loss of inputs.

It is possible that there is a lack of representativeness, as there are no responses from medium-sized companies.

Industrial Ecosystem	Type of entity (grouped)	Loss of market criticality		
		High	Medium	Grand To..
Proximity Social Economy and Civil Security	Large company		33%	33%
	Micro+Small enterprises	33%	33%	67%
Grand Total		33%	67%	100%

Table 81 - Proximity, Social Economy and Civil Security: LOM Criticality by Ecosystem / Size

The table informs about the loss of market criticality suffered by the entities active in the Proximity and social economy ecosystem disaggregated by type of entities.

The grand total column shows the percentage of the entities that reported an impact on the loss of market in the Proximity and social economy ecosystem.

Large companies account for 33% of the respondents. Among them, 100% reported a medium impact on market losses.

In relation to micro/small enterprises (67% of the total), 50% of them reported a high impact and another 50% a medium impact on the loss of market.

It is possible that there is a lack of representativeness, as there are no responses from medium-sized companies.



Figure 71 - Proximity, Social Economy and Civil Security: Criticality level by firm size

The bar chart provides information about the loss of input criticality by firm size in Proximity and social economy ecosystem.

The bar chart shows that 50% of the large companies in this ecosystem have suffered a high impact on the loss of inputs and another 50% a low impact.

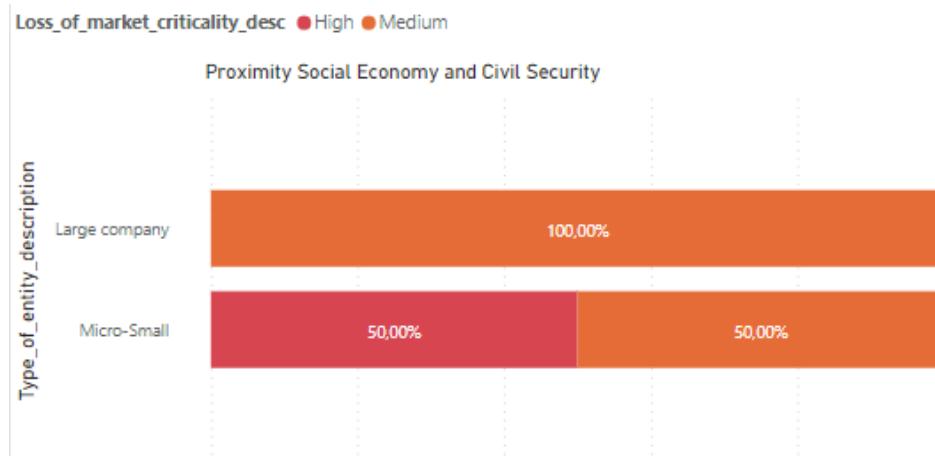


Figure 72 - Proximity, Social Economy and Civil Security: Criticality level by firm size

The bar chart provides information about the loss of market criticality by firm size in the Proximity and social economy ecosystem.

The bar chart shows that 100% of the large companies in this ecosystem have suffered a medium impact on the loss of market.

Moreover, 50% of micro/small companies report a high impact on the loss of inputs and 50% a medium impact on the loss of inputs.



3.11.7. Answer distribution by country

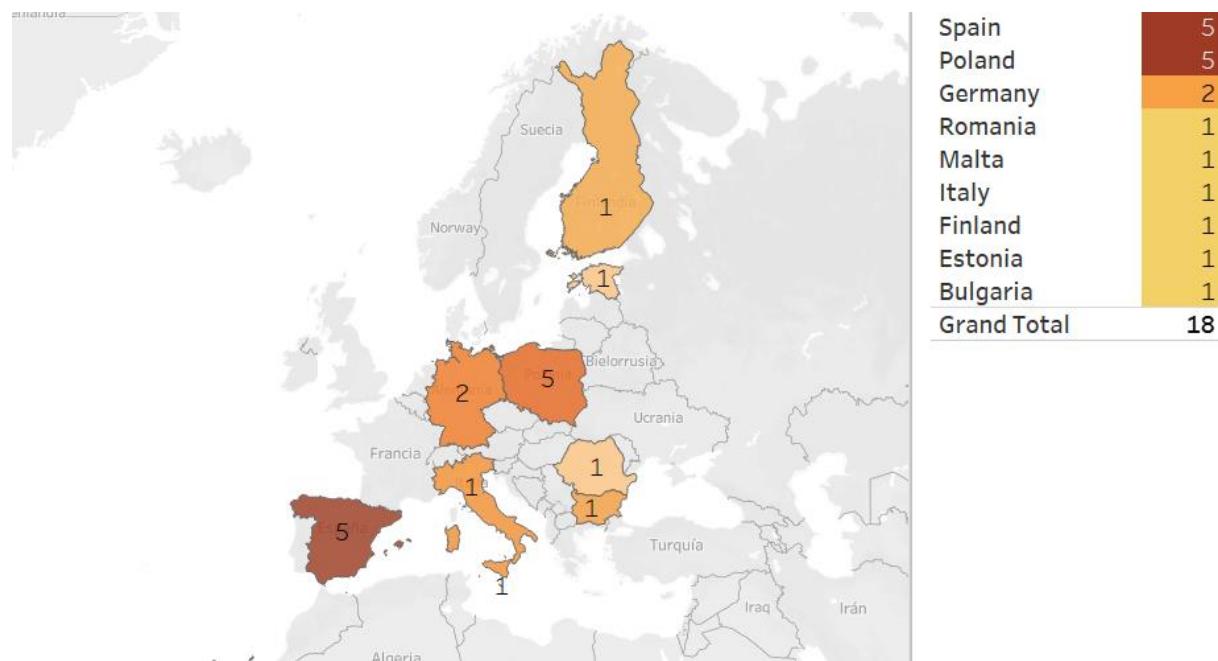


Figure 73 - Proximity, Social Economy and Civil Security: answer distribution by country

The graph shows the responses of the Proximity and social economy ecosystem by country.

Regarding the responses by Member States of the European Union in this ecosystem, it should be noted that 55% of the organisations that responded belong to two countries (50% from Spain and 50% from Poland). 11% of the responses come from Germany.

It is important to note the low number of responses in this ecosystem.



3.12. Cultural and Creative Industries

3.12.1. Disruptions keywords



Figure 65 74 - Cultural and creative industries: Disruptions keywords

This word clouds visualises the main disruptions according to the keywords for the cultural and creative ecosystem. The keywords that appear most frequently in the responses are import limitations, payments, transport cost, energy, customer behaviour, delivery delays and contract breach.

3.12.2. Disruptions by value and supply chain stage



Table 82 - Cultural and Creative Industries: Disruptions by Stage

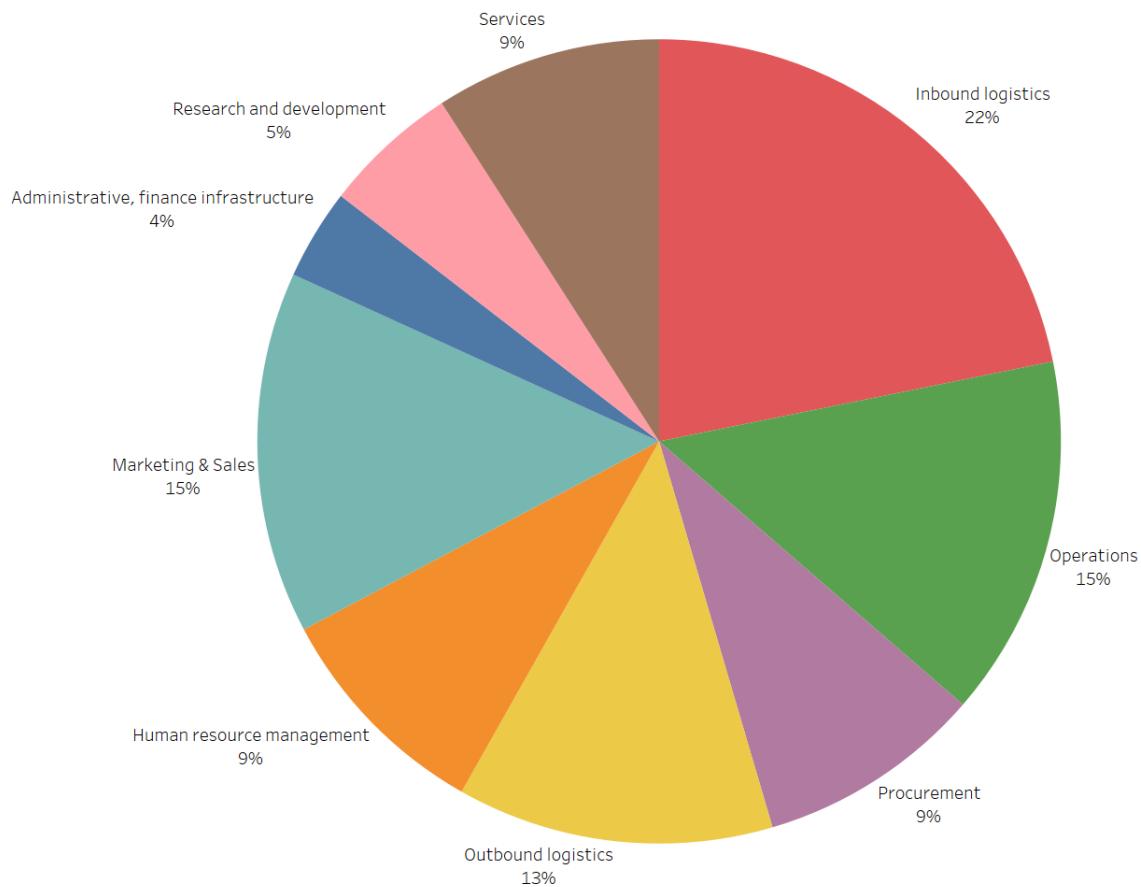


Figure 66 - Cultural and Creative Industries: Disruptions by Stage

This chart shows the disruptions by supply chain stage in the Cultural and Creative Industries ecosystem. When interpreting the data, it is crucial to mention that one entity could choose more than one stage when reporting the disruptions.

Twenty-two percent of the entities reported disruptions at the inbound logistics stage, making it the supply chain stage with the most disruptions. Problems at Operations and Marketing and Sales were reported in 15% of the answers respectively.

Thirteen percent of the entities signalled disruptions at the stage of Outbound logistics. The disruptions in Procurement, Services and Human resource management make up 9% of the answers, followed by Research and development with 5%. Problems at Administrative, finance infrastructure was reported in 4% of the answers.



3.12.3. Stages by firm size

Industrial Ecosystems (Ecosys..	Supply value chains stage (Stages)	Type of entity (group)			Grand Total
		Large company	Medium-sized en..	Micro+Small ent..	
Cultural and Creative Industries	Administrative, finance infrastructure			3%	3%
	Human resource management			6%	6%
	Inbound logistics	3%	6%	12%	21%
	Marketing & Sales	3%	3%	12%	18%
	Operations	3%	3%	12%	18%
	Outbound logistics	3%	3%	9%	15%
	Procurement	3%		3%	6%
	Research and development			6%	6%
	Services			6%	6%

Table 83 - Cultural and creative industries: Stages by firm size

The chart provides information about the disrupted supply chain stage of the entities active in the Cultural and Creative Industries ecosystem, analysed by type of entity. Even though in the survey there are more groups of entities, large company, medium-sized enterprise and micro/small enterprise have been selected.

Inbound logistics is the supply chain stage with the most responses from medium-sized enterprises and micro/small enterprises. In case of the micro/small enterprises, Operations and Marketing and sales stages also play a role.

The stages with lower responses across every type of entity is Administrative, finance infrastructure.

3.12.4. Answers by type of entity

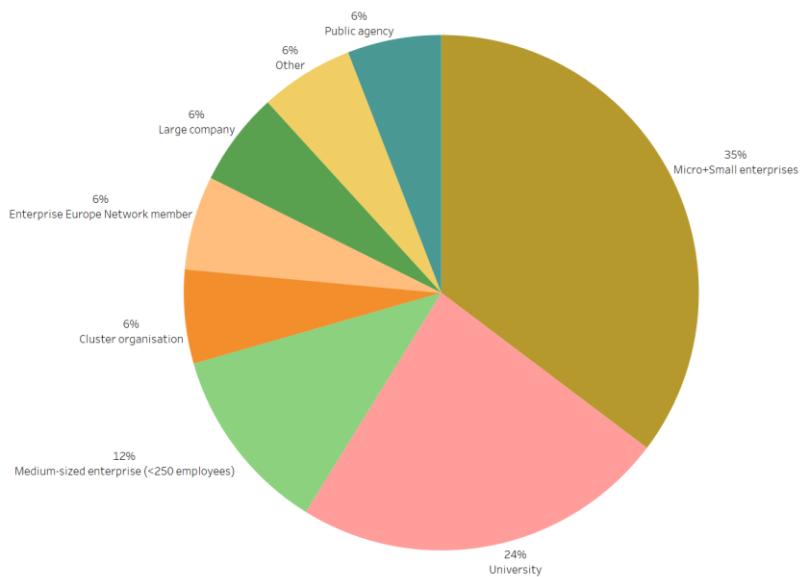


Figure 76 - Cultural and creative industries: Answers by type of entity



The graph provides information on the distribution by type of entity active in the Cultural and Creative Industries ecosystem that responded to the survey.

The highest number of responses come from micro/small enterprises, accounting for 35%. They are followed by universities with a percentage of 24. Medium-sized enterprises represent 12% of the respondents in this ecosystem. Cluster organisations, large companies, public agencies, and Enterprise Europe network members represent 6% respectively.

In summary, the two biggest groups account for 59% of the respondents.

3.12.5. Loss of input and loss of market in Cultural and Creative Industries ecosystem

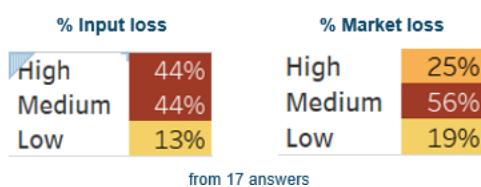


Table 84 - Cultural and creative industries: loss of input / loss of market

In this first table, with regard to the loss of input, 88% (sum of "high" and "medium" responses) of the companies surveyed have suffered a significant loss of input, compared to 13% who say they have had a low impact.

In relation to the critical market loss, 81% (sum of "high" and "medium" responses) of the companies surveyed have suffered significant market losses, compared to 19% who say that they have had little or no impact.

Input / Market losses				
Loss of input crit.	Loss of market criticality			
	High	Medi..	Low	Gran..
High	25%	19%		44%
Medium		38%	6%	44%
Low			13%	13%
Grand Total	25%	56%	19%	100%

Table 85 - Cultural and creative industries: loss of input / loss of market

Making the cross-analysis, with regard to the market loss, it can be observed that 100% of the companies that claim to have had a high loss of market also claim to have had a high loss of inputs.

In turn, about the loss of inputs, it can be observed that of the companies that say that they have had a high loss, 56% of them say they have had a high loss of market.



3.12.6. Criticality level by firm size in Cultural and Creative Industries ecosystem

The table informs about the loss of input criticality suffered by the entities active in the Cultural and Creative Industries ecosystem shows the percentage of the entities that reported an impact on the loss of input.

Industrial E..	Type of entity (grouped)	Loss of input criticality			
		High	Medium	Low	Grand To..
Cultural and Creative Industries	Large company		13%		13%
	Medium-sized enterprise ..	13%	13%		25%
	Micro+Small enterprises	25%	25%	13%	63%
Grand Total		38%	50%	13%	100%

Table 86 - Cultural and Creative Industries: LOI Criticality by Ecosystem / Size

Large companies account for 13% of the respondents. Of these, 100% reported a medium impact on the loss of inputs.

In relation to medium-sized enterprises (25% of the total), 13% reported a high impact on the loss of inputs and 13% reported a medium impact.

Finally, regarding micro/small enterprises (63% of the total), 25% reported a high impact, 25% reported a medium impact on the loss of inputs and 13% reported a low impact.

Industrial E..	Type of entity (grouped)	Loss of market criticality			
		High	Medium	Low	Grand To..
Cultural and Creative Industries	Large company		13%		13%
	Medium-sized enterprise ..		25%		25%
	Micro+Small enterprises	25%	13%	25%	63%
Grand Total		25%	50%	25%	100%

Table 87 - Cultural and Creative Industries: LOM Criticality by Ecosystem / Size

The table informs about the loss of market criticality suffered by the entities active in the Cultural and Creative Industries ecosystem, disaggregated by type of entity.

The grand total column shows the percentage of the entities that reported an impact on the loss of market in the Cultural and Creative Industries ecosystem.

Large companies account for 13% of the respondents, 100% reported a medium impact on market losses.

In relation to medium-sized enterprises (25% of the total), 100% reported a medium impact on market losses.

Finally, regarding micro/small enterprises (63% of the total), 25% reported a high impact, 13% reported a medium impact on the loss of market and 25% reported a low impact.



Loss_of_input_criticality_desc ● High ● Medium ● Low

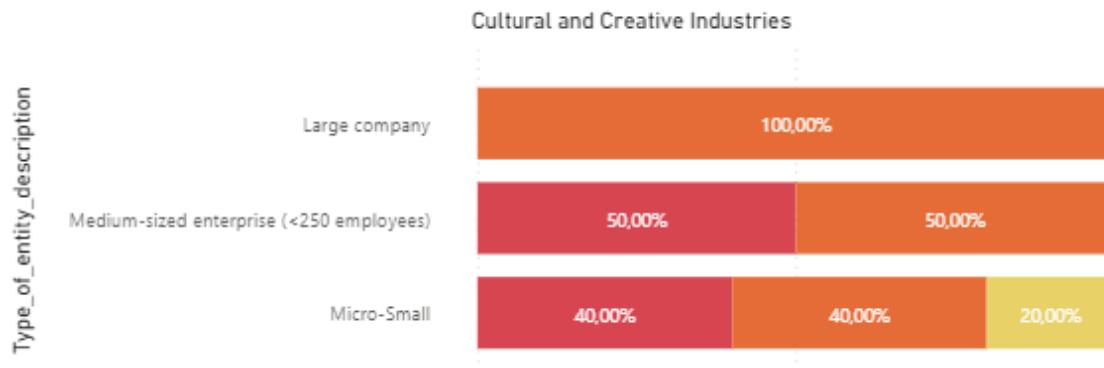


Figure 77 - Cultural and Creative Industries: Criticality level by firm size

The bar chart provides information about the loss of input criticality by firm size in the Cultural and Creative Industries ecosystem.

The bar chart shows that the 100% of the large companies of the Cultural and Creative Industries ecosystem have suffered a medium impact on loss of input.

50% of the medium-sized companies report a high impact on loss of input and 40% of the micro/small enterprises reported a high impact.

Moreover, 50% of the medium-sized companies and 40% of the micro/small enterprises report a medium impact on loss of input.

Finally, 20% of the micro/small enterprises reported a low impact on loss of input.

Loss_of_market_criticality_desc ● High ● Medium ● Low

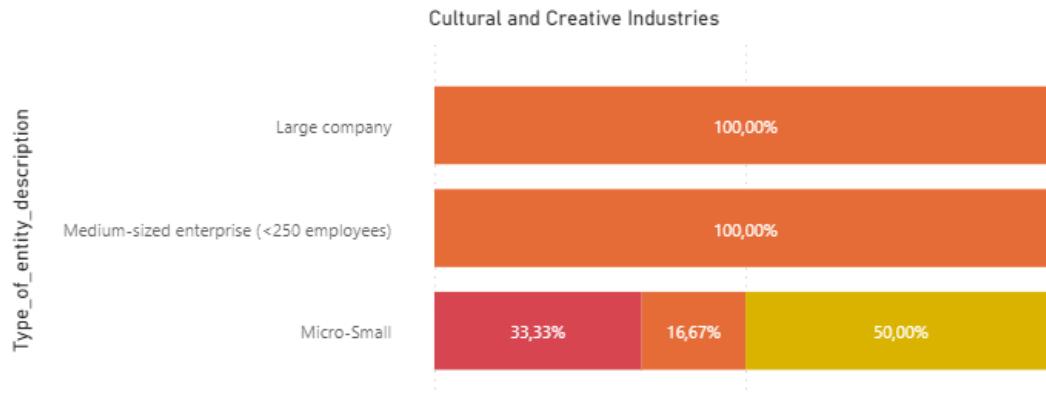


Figure 67 - Cultural and Creative Industries: Criticality level by firm size

The bar chart provides information about the loss of market criticality by firm size in the Cultural and Creative Industries ecosystem.

The bar chart shows that 100% of the large companies have suffered a medium impact on loss of market.



100% of the medium-sized companies have suffered a medium impact on loss of market.

Moreover, 33.33% of the micro-/small enterprises report a high impact, 16.67% a medium impact and 50% a low impact on loss of market.

3.12.7. Answer distribution by country

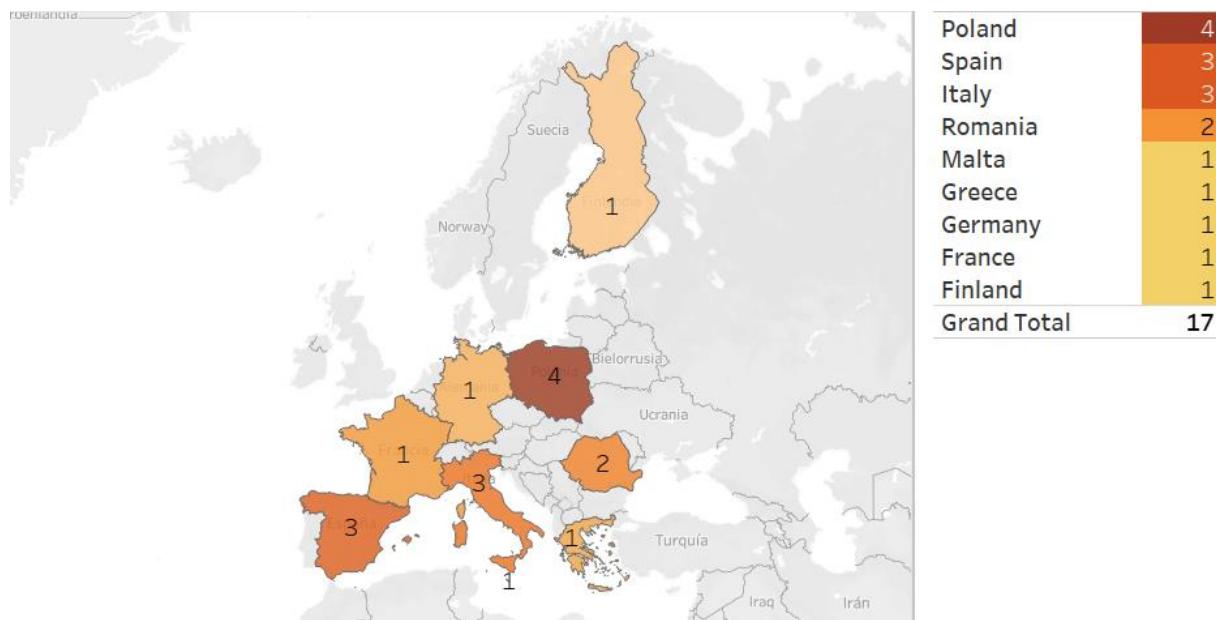


Figure 68 - Cultural and Creative Industries: answer distribution by country

The graph shows the responses of the Cultural and Creative Industries ecosystem by country.

Regarding the responses by Member States of the European Union in this ecosystem, it should be noted that 59% of the organisations that responded belong to three countries (4 from Poland, 3 from Spain and 3 from Italy).

It is important to note the low number of responses in this ecosystem.



3.13. Textile

3.13.1. Disruptions keywords



Figure 69 - Textile: Disruptions keywords

The word cloud shows an analysis of the main disruptions according to keywords for the Textile ecosystem. The keywords that appear most frequently in the responses are transport cost, raw materials, energy, delivery delays and export limitations.

In particular, shortages of raw materials and difficulties to export as a possible result of logistical disruptions (transport costs, energy, delivery delays) are major disruptions for entities active in the Textile ecosystem.

3.13.2. Disruptions by value and supply chain stage

Administrative, finance infrastructure	11%
Human resource management	6%
Inbound logistics	26%
Marketing & Sales	9%
Operations	17%
Outbound logistics	14%
Procurement	11%
Research and development	6%

Table 88 - Textile: Disruptions by Stage

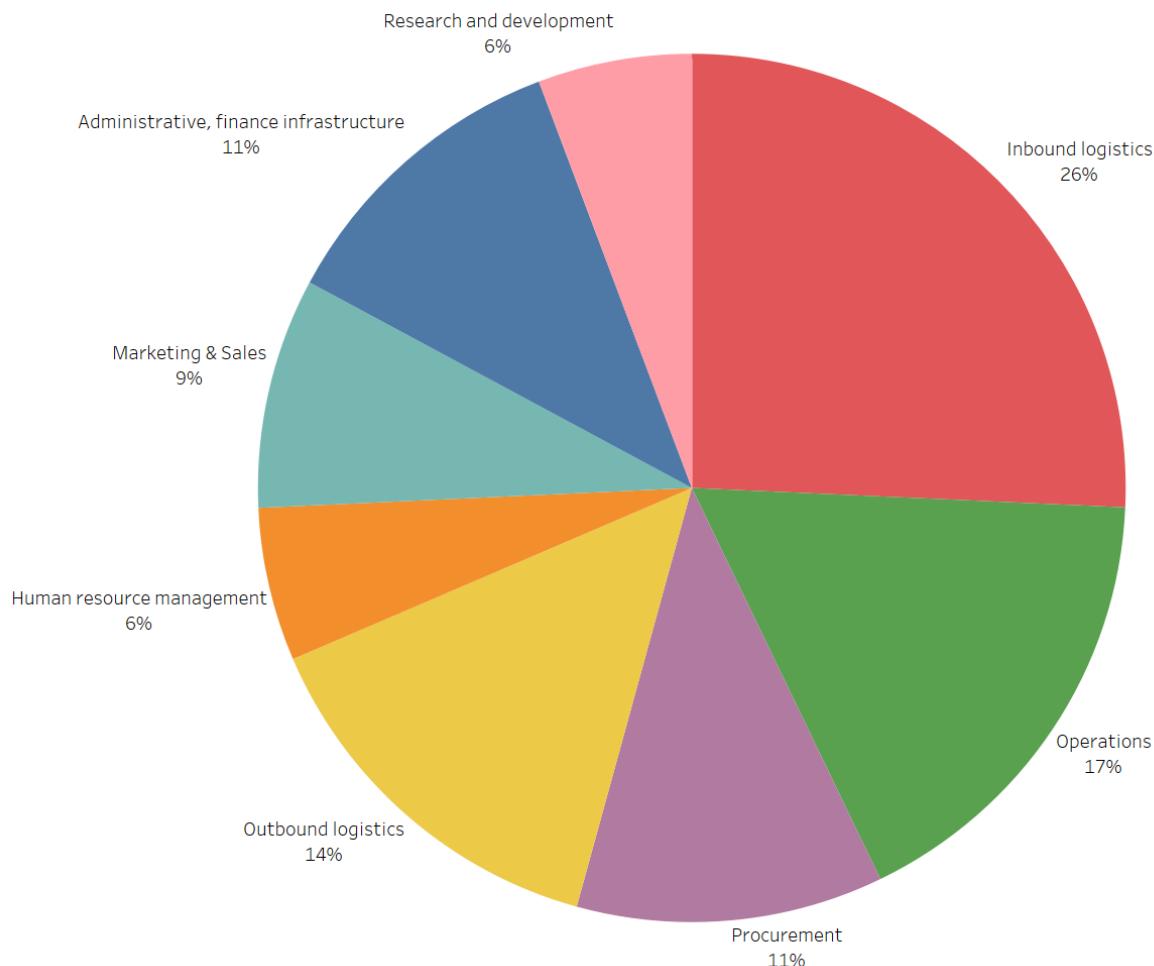


Figure 81 - Textile: Disruptions by Stage

In relation to the phase in which the disruptions occur in the Textile ecosystem, five phases account for almost 80% of the disruptions. Specifically, 26% in Inbound logistics, 17% occur Operations, 14% in Outbound logistics, 11% in Procurement and 13% in Administrative, finance infrastructure. In addition, 9% in Marketing and sales, 6% in Human resource management and 6% Research and development.

It can be highlighted that the main stage in which entities active in the Textile ecosystem suffered more disruptions is Operations, followed by Inbound logistics. In addition, there are no interruptions in the service phase.



3.13.3. Stages by firm size

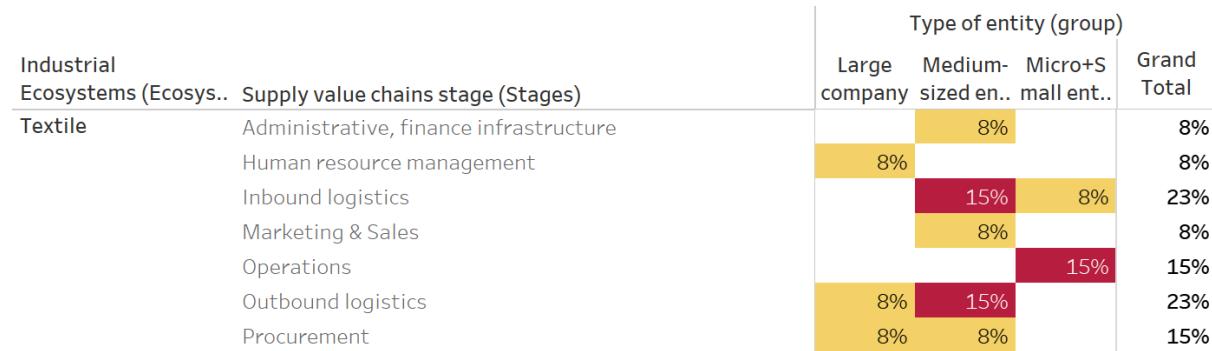


Table 89 - Textile: Stages by firm size

The chart provides information about the supply chain stage of the entities active in the Textile ecosystem, analysed by type of entity. Even though in the survey there are more groups of entities, large company, medium-sized enterprise, and micro/small enterprise have been selected.

Inbound logistics and Outbound logistics are the supply stages reported with a high level of responses - 22% respectively. However, it is worth noting that the weight of medium-sized enterprises accounts for 54% of the disruptions, compared to 24% for large companies and 22% for micro/small enterprises.

Furthermore, in the case of Inbound logistics, only medium-sized enterprises (15%) and micro/small enterprises (8%) are affected. The same occurs for Outbound logistics, where there are no indicated disruptions from micro/small companies.

This is followed by Purchasing, but only large and medium-sized companies are affected.

Finally, only large companies are affected by 8% in Human Resources Management. The same is true for medium-sized companies in Administration, Financial Infrastructure and Marketing and Sales.

It could be said that the disruptions depend on the size of the company, although they share disruptions at the same stages.



3.13.4. Answers by type of entity

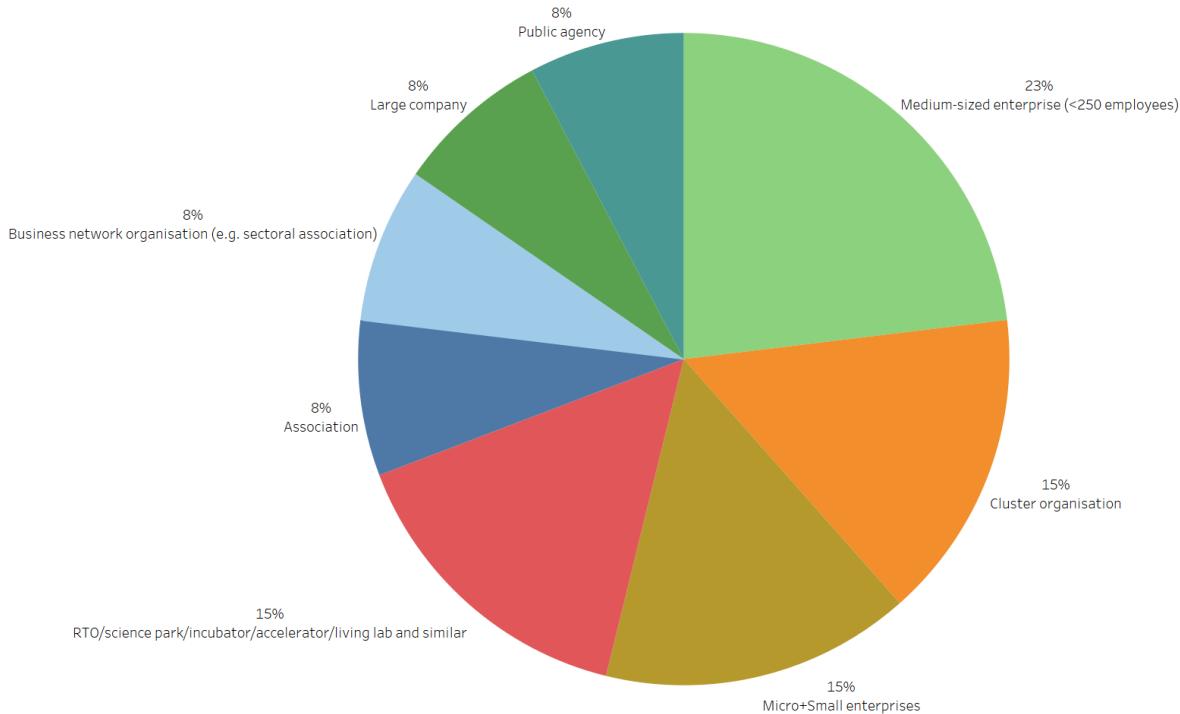


Figure 82 - Textile: Answers by type of entity

The graph provides information on the distribution by type of entity active in the Textile ecosystem that responded to the survey. The highest number of responses come from medium-sized enterprises, with 23%. They are followed by cluster organisations, micro/small enterprises, and RTOs/science park/incubator/accelerator/living lab and similar organisations, which represent 15% respectively.

It is worth noting that the presence of large companies is very low, at only 8%. Respondents from associations, business networks organisations and public agencies, with 6% respectively.

In summary, the four biggest groups account for almost 70% of the respondents, with medium-sized enterprises being the largest by a small margin.

3.13.5. Loss of input and loss of market in Textile ecosystem

% Input loss		% Market loss	
		High	36%
High	27%	Medium	27%
Medium	55%	Low	36%
Low	18%		

from 13 answers

Table 90 - Textile: loss of input / loss of market

In this first table, in terms of the loss of inputs, 82% (sum of "high" and "medium" responses) of the companies surveyed have suffered a significant loss of inputs, compared with a 18% that indicated



that its impact is low. In particular, it is important to note that the number of companies that have suffered a medium loss of inputs is very significant (55%).

In relation to the critical market loss, 63% (sum of "high" and "medium" responses) of the companies surveyed have suffered significant market losses. 36% of the companies state that the market loss has been low. However, the most frequent responses are high and low market loss with 36% respectively.

Input / Market losses

Loss of input cri..	Loss of market criticality			Gran..
	High	Medi..	Low	
High	18%		9%	27%
Medium	18%	27%	9%	55%
Low			18%	18%
Grand Total	36%	27%	36%	100%

Table 91 - Textile: loss of input / loss of market

In relation to the cross-analysis, with respect to the market loss, it is observed that 50% of the companies that claim to have had a high loss of market also claim to have had a high loss of inputs and the other 50% a medium loss of inputs.

In turn, with respect to the input loss, it is observed that of the companies that claim to have had a high loss, almost 67% claim to have had a high loss of market and a 33% a medium loss. Also, of the companies that claim to have had a low loss, 100% claim to have had a low loss of market.

3.13.6. Criticality level by firm size in Textile ecosystem

Industrial E..	Type of entity (grouped)	Loss of input criticality			
		High	Medium	Low	Grand To..
Textile	Large company		17%		17%
	Medium-sized enterprise ..	33%		17%	50%
	Micro+Small enterprises		17%	17%	33%
Grand Total		33%	33%	33%	100%

Table 92 - Textile: LOI Criticality by Ecosystem / Size

The table informs about the loss of input criticality suffered by the entities active in the Textile ecosystem, disaggregated by type of entity.

The grand total column shows the percentage of the entities that reported an impact on the loss of input in the Textile ecosystem.

Large companies only account for 17% of the respondents. Among them, 100% reported a medium impact on input losses.

In relation to medium-sized enterprises (50% of the total), 66% of them reported a high impact on the loss of inputs. 34% reported a low impact on the loss of input.



Regarding micro/small enterprises (33% of the total), 50% of them reported a medium impact and another 50% a low impact on the loss of inputs.

Industrial E..	Type of entity (grouped)	Loss of market criticality			Grand To..
		High	Medium	Low	
Textile	Large company		17%		17%
	Medium-sized enterprise ..	17%		33%	50%
	Micro+Small enterprises			33%	33%
Grand Total		17%	17%	67%	100%

Table 93 - Textile: LOM Criticality by Ecosystem / Size

The table informs about the loss of market criticality suffered by the entities active in the Textile ecosystem, disaggregated by type of entity.

The grand total column shows the percentage of the entities that reported an impact on the loss of market in the Textile ecosystem.

Large companies only account for 17% of the respondents. Among them, 100% reported a medium impact on market losses.

In relation to medium-sized enterprises (50% of the total), 66% of them reported a low impact on the loss of market. 34% reported a high impact on the loss of market.

Regarding micro/small enterprises (33% of the total), 100% of them reported a low impact on the loss of market.

Loss_of_input_criticality_desc ● High ● Medium ● Low

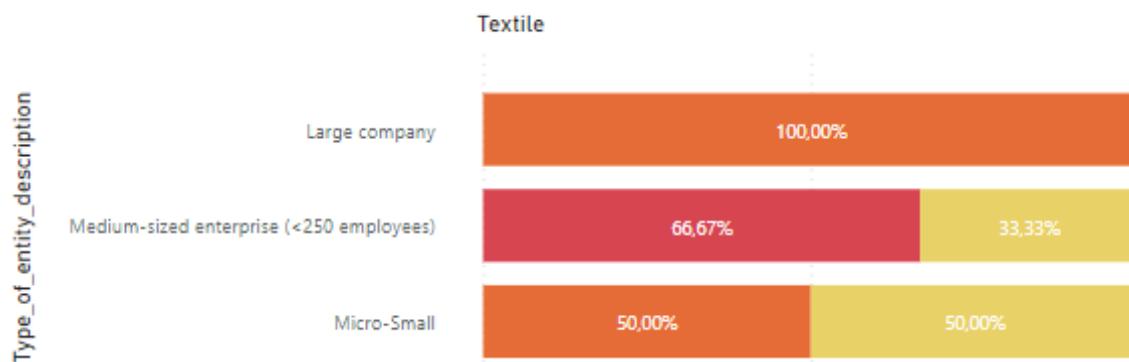


Figure 70 - Textile: Criticality level by firm size

The bar chart provides information about the loss of input criticality by firm size in Textile ecosystem.

The bar chart shows that 100% of the large companies in the textile ecosystem have suffered a medium impact on the loss of inputs.

66,67% of medium-sized companies report a high impact on the loss of inputs and 33,33% a medium impact on the loss of inputs.

50% of micro/small companies report a medium impact on the loss of inputs and 50% a medium impact on the loss of inputs.



Loss_of_market_criticality_desc ● High ● Medium ● Low

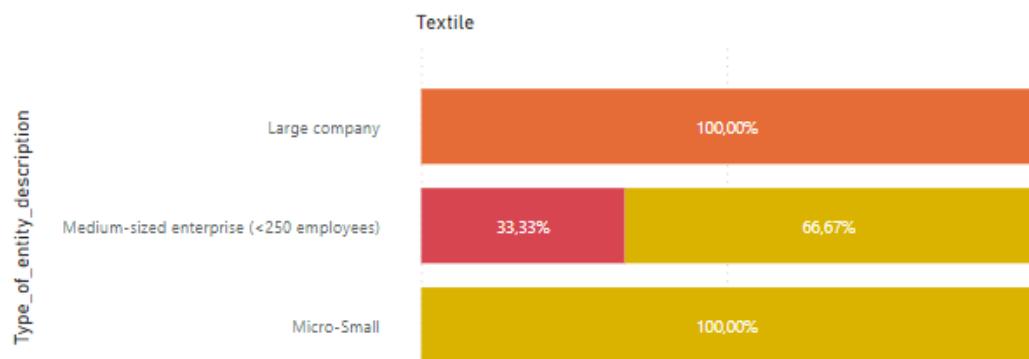


Figure 71 - Textile: Criticality level by firm size

The bar chart provides information about the loss of market criticality by firm size in Textile ecosystem.

The bar chart shows that 100% of the large companies in the textile ecosystem have suffered a medium impact on the loss of market.

66,67% of medium-sized companies report a low impact on the loss of market and 33,33% a high impact on the loss of market.

Moreover, 100% of micro/small companies report a medium impact on the loss of market.

3.13.7. Answer distribution by country

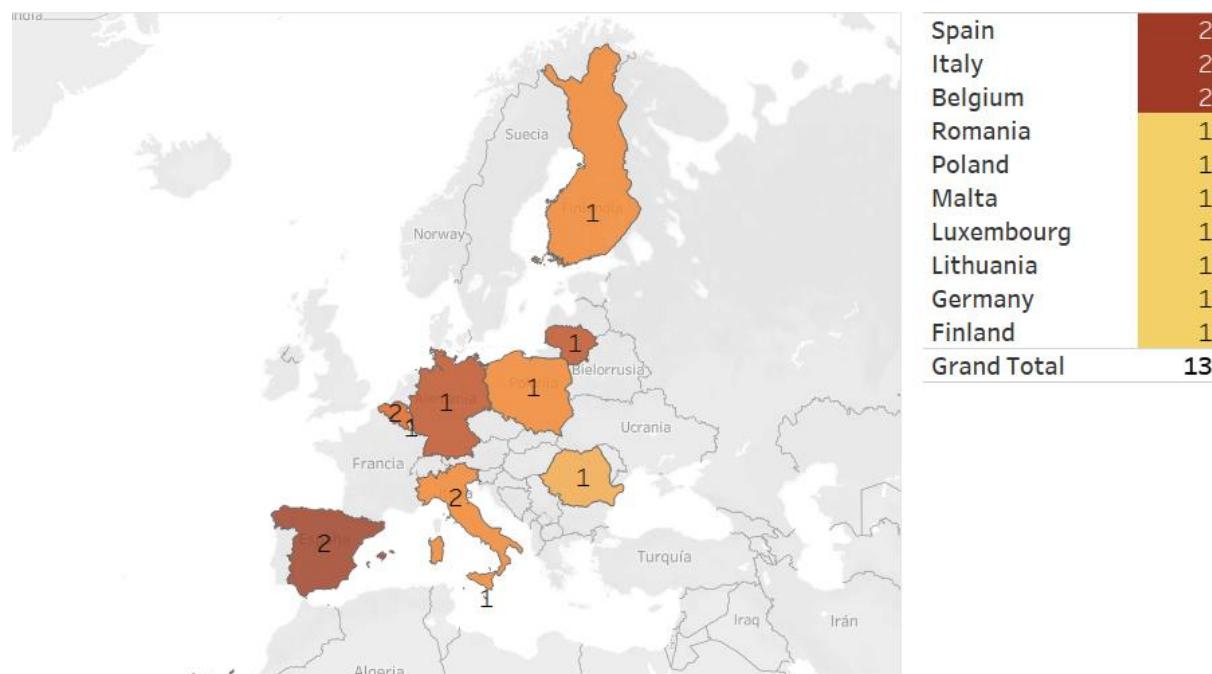


Figure 85 - Textile: answer distribution by country



The graph shows the responses of the Proximity and social economy ecosystem by country.

Regarding the responses by Member States of the European Union in this ecosystem, it should be noted that almost 50% of the organisations that responded belong to three countries (33% from Spain, 33% from Italy and 33% from Belgium). There are also respondents from Romania, Poland, Malta, Luxembourg, Germany, Finland, and Lithuania.

It is important to note the low number of responses in this ecosystem.



3.14. Tourism

3.14.1. Disruptions keywords



Figure 86 - Tourism: Disruptions keywords

The cloud shows an analysis of the main disruptions according to keywords for the Tourism ecosystem. The keywords that appear most frequently in the responses are energy, raw materials, import limitations, price increase and fuel.

In particular, shortages of raw materials and the price increase as a possible result of logistical disruptions (import limitations, energy, fuel) are major disruptions for entities active in the Tourism ecosystem.

It should be noted that the number of respondents has been low for this ecosystem.

3.14.2. Disruptions by value and supply chain stage

Administrative, finance infrastructure	4%
Human resource management	9%
Inbound logistics	22%
Marketing & Sales	22%
Operations	13%
Outbound logistics	13%
Procurement	9%
Research and development	4%
Services	4%

Table 94 - Tourism: Disruptions by Stage

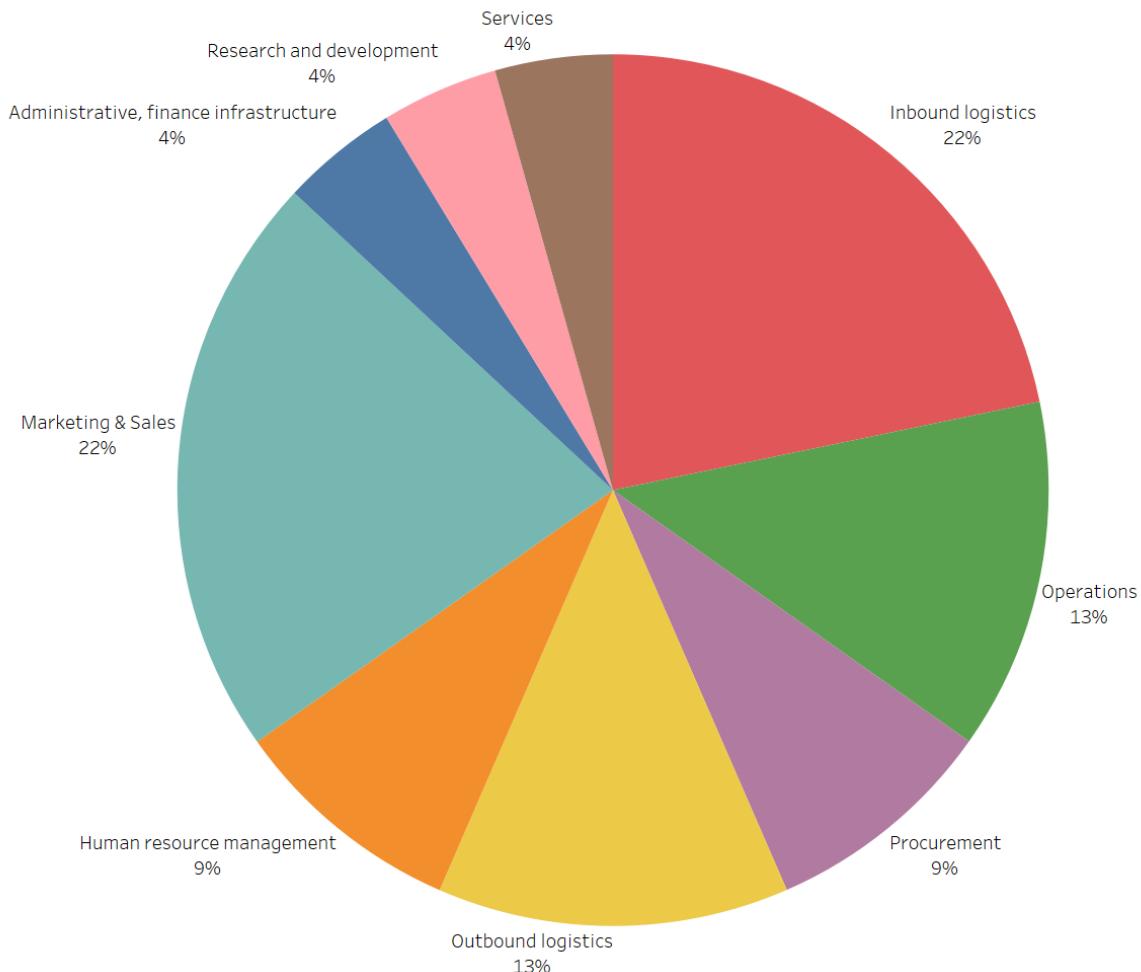


Figure 72 - Tourism: Disruptions by Stage

In relation to the phase in which the disruptions occur in the Tourism ecosystem, four phases account for almost 70% of the disruptions. Specifically, 22% occur in Inbound logistics, 22% in Marketing and sales, 13% in Operations and 13% in Outbound logistics.

In addition, there are disruptions in Human resource management and Procurement with 9% respectively, 4% in Administrative, finance infrastructure, 4% in Research and development and another 4% in Services.

It can be highlighted that the main stage in which entities active in the Textile ecosystem suffered the most disruptions are Inbound logistics and Marketing and sales.



3.14.3. Stages by firm size

		Type of entity (gro..	
		Micro+S mall ent..	Grand Total
Industrial Ecosystems (Ecosys..	Supply value chains stage (Stages)		
Tourism	Marketing & Sales	100%	100%

Table 95 - Tourism: Stages by firm size

The chart provides information about the disrupted supply chain stage of the entities active in the Proximity and social economy ecosystem, analysed by type of entity. Please note that there are no respondents from large companies and medium-sized enterprises.

3.14.4. Answers by type of entity

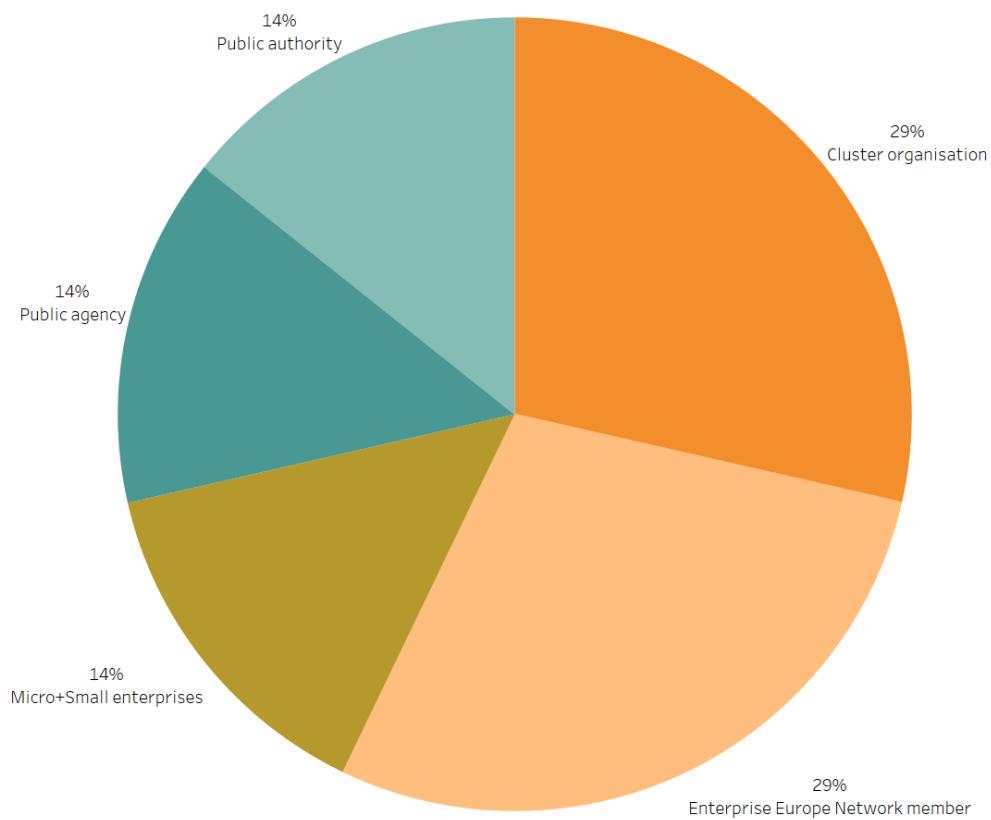


Figure 73 - Tourism: Answers by type of entity

The graph provides information on the distributions by type of entity active in the tourism ecosystem that responded to the survey. The highest number of entities are cluster organisations and members of the Enterprise Europe Network, with 29% respectively. They are followed by micro/small enterprises (15%). Public agencies and public authorities also account for 14% each.



It should be noted that there are no respondents from large and medium-sized enterprises. Due to the low number of respondents, we believe that due to the lack of representativeness this analysis of the tourism ecosystem cannot be conclusive.

3.14.5. Loss of input and loss of market in Tourism ecosystem

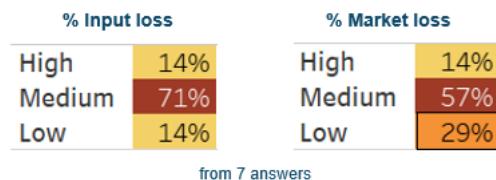


Table 96 - Tourism: loss of input / loss of market

In this first table, in terms of the loss of inputs, 85% (sum of "high" and "medium" responses) of the companies surveyed have suffered a significant loss of inputs, compared with a 15% that indicated that its impact is low. It is important to note that the number of companies that have suffered a medium loss of inputs is very significant (71%).

In relation to the critical market loss, 71% (sum of "high" and "medium" responses) of the companies surveyed have suffered significant market losses. 29% of the companies state that the market loss has been low. However, the most frequent responses are a medium loss with 57%.

Loss of input cri..	Loss of market criticality			Gran..
	High	Medi..	Low	
High	14%			14%
Medium		57%	14%	71%
Low			14%	14%
Grand Total	14%	57%	29%	100%

Table 97 - Tourism: loss of input / loss of market

Making the cross-analysis, with respect to the market loss, it is observed that 100% of the companies that claim to have had a high loss of market also claim to have had a high loss of inputs. The same is true for the correlation of average loss of market with loss of inputs.

In turn, with respect to the input loss, it is observed that of the companies that claim to have had a high loss, 100% of them claim to have had a high loss of market. Also, the companies that claim to have had a low loss, 100% of them claim to have had a low loss of market.

Regarding a medium loss of inputs, 80% respondents claim to have had a medium loss of market and a 20% a low one.



3.14.6. Criticality level by firm size in Tourism ecosystem

		Loss of input critical..	
Industrial E.. Type of entity (grouped)		Medium	Grand To..
Tourism	Micro+Small enterprises	100%	100%
Grand Total		100%	100%

Table 98 - Tourism: LOI Criticality by Ecosystem / Size

The table informs about the loss of input criticality suffered by the entities active in the Tourism ecosystem, disaggregated by type of entity.

The grand total column shows the percentage of the entities that reported an impact on the loss of input in the Tourism ecosystem.

Micro/small enterprises accounted for 100% of the respondents. Among them, 100% reported a medium impact on input losses.

It should be noted that there are no respondents from large and medium-sized enterprises. Due to the low number of respondents, we believe that due to the lack of representativeness this analysis of the tourism ecosystem cannot be conclusive.

		Loss of market critic..	
Industrial E.. Type of entity (grouped)		Medium	Grand To..
Tourism	Micro+Small enterprises	100%	100%
Grand Total		100%	100%

Table 99 - Tourism: LOI Criticality by Ecosystem / Size

The table informs about the loss of market criticality suffered by the entities active in the Tourism ecosystem, disaggregated by type of entity.

The grand total column shows the percentage of the entities that reported an impact on the loss of market in the Tourism ecosystem.

Micro/small enterprises accounted for 100% of the respondents. Among them, 100% reported a medium impact on market losses.

It should be noted that there are no respondents from large and medium-sized enterprises. Due to the low number of respondents, we believe that due to the lack of representativeness this analysis of the tourism ecosystem cannot be conclusive.



Loss_of_input_criticality_desc ● Medium

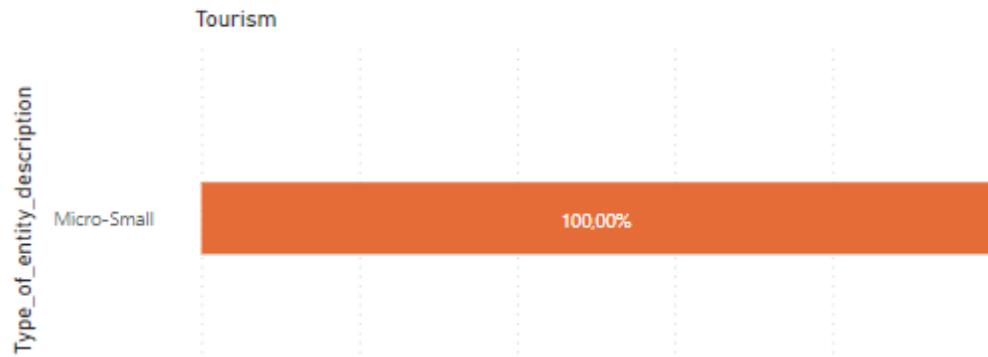


Figure 74 - Tourism: Criticality level by firm size

The bar chart provides information about the loss of input criticality by firm size in Tourism ecosystem.

The bar chart shows that 100% of the micro/small enterprises in the textile ecosystem have suffered a medium impact on the loss of inputs.

Loss_of_market_criticality_desc ● Medium

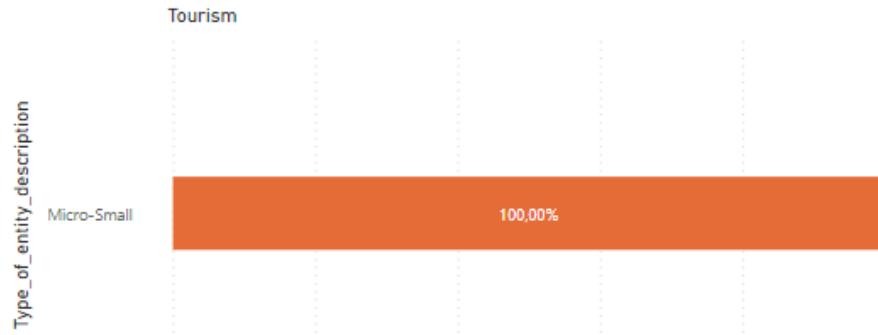


Figure 90 - Tourism: Criticality level by firm size

The bar chart provides information about the loss of market criticality by firm size in Tourism ecosystem.

The bar chart shows that 100% of the micro/small enterprises in the textile ecosystem have suffered a medium impact on the loss of market.



3.14.7. Answer distribution by country

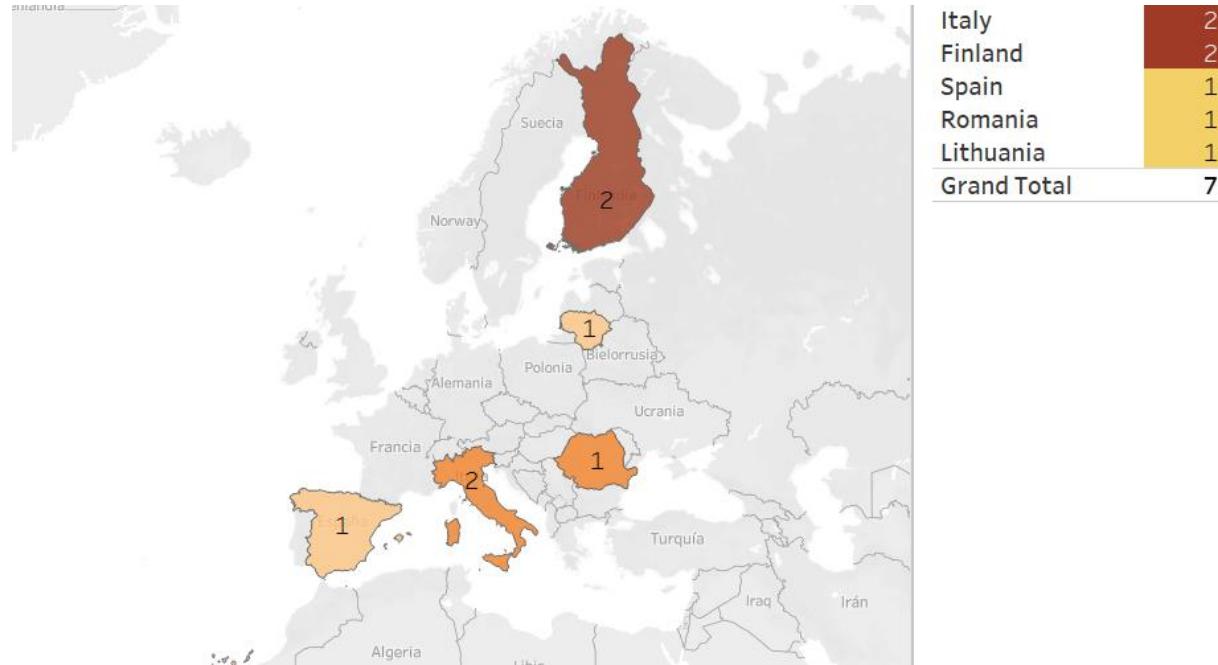


Figure 75 - Tourism: answer distribution by country

The graph shows the responses of the Proximity and social economy ecosystem by country.

Regarding the responses by Member States of the European Union in this ecosystem, it should be noted that 57% of the organisations that responded belong to two countries (50% from Italy and 50% from Finland). There are also respondents from Spain, Romania and Lithuania.

It is important to note the low number of responses in this ecosystem.

4

Annex



4. Annex

4.1. Survey form

Identification of disrupted supply and value chains

Fields marked with * are mandatory.



Under the current geopolitical circumstances, some supply chains and production lines are suffering disruptions or are at risk of suffering them in the near future.

The purpose of this survey is to pick up these signals of disrupted supply chains from the ground in order to anticipate and find solutions. It is addressed to all EU stakeholders though, in particular, to the business community.

The next cut-off for the analysis of the results is on Tuesday, 29 March, 16:00 CET. The survey will remain open and we will announce the next cut-off date.

This survey is run by the **European Cluster Collaboration Platform**, in collaboration with the **Enterprise Europe Network**, on behalf of the **European Commission**.

If you have any questions, please do not hesitate to contact:

European Cluster Collaboration Platform
contact@clustercollaboration.eu

Please read our privacy statement for any questions on your personal data. Please be aware that participants in this survey may be contacted by the European Commission or the European Cluster Collaboration Platform for further follow up.

Data Protection Notice

[DPN_ECCP_survey_on_supply_chains.pdf](#)

Disruptions of supply/value chains

At which **stage** of the supply/value chains is there a disruption?

- Administrative, finance infrastructure (e.g. legal, accounting, financial management)
- Human resource management (e.g. personnel, recruitment, training)
- Research and development (e.g. product and process design, production engineering, testing, validation, IP rights)
- Procurement (e.g. supplier management, funding, specification, standardization, certification)
- Inbound logistics (e.g. raw materials, intermediate inputs, storage)
- Operations (e.g. manufacturing, processing, maintenance)
- Outbound logistics (e.g. dispatch, delivery, invoicing)
- Marketing & Sales (e.g. customer management, order taking, promotion)
- Services (e.g. post-sale services, upgrades)



What is the **loss of input** you experience/expect due to the geopolitical situation? [?](#)

Please specify the **criticality of the loss of input**:

- High
- Medium
- Low

What is the **loss of market** you experience/expect due to the geopolitical situation?

Please specify the **criticality of the loss of market**:

- High
- Medium
- Low

Would you be able to provide us with a **percentage of expected market losses**?

[Move the slider or accept the initial position.](#)



In your estimation, what percentage of those disruptions relates with the situation originated by the **Russian invasion** of Ukraine?

[Move the slider or accept the initial position.](#)





Possible solutions

Which action(s) would you suggest? [?](#)

References and documentation (optional)

Links to references of your case (e.g. documentation, websites, news)

Upload of references of your case (e.g. documentation, website, presentations) [?](#)

Select file(s) to upload



Your entity

* Entity name

* Our entity is a:

- Micro enterprise (<10 employees)
- Small enterprise (<50 employees)
- Medium-sized enterprise (<250 employees)
- Large company
- Cluster organisation
- Enterprise Europe Network member
- Business network organisation (e.g. sectoral association)
- RTO/science park/incubator/accelerator/living lab and similar
- University
- Public agency
- Association
- Public authority
- Other

Our entity is active in the following **Industrial Ecosystems**:

- Aerospace and Defence
- Agri-food
- Construction
- Cultural and Creative Industries
- Digital
- Electronics
- Energy Intensive Industries
- Energy - Renewables
- Health
- Mobility - Transport - Automotive
- Proximity, Social Economy and Civil Security
- Retail
- Textile
- Tourism

* EU member states

* City / region

Contact information

* Name

* Last name

* Email

@

Phone number

*

By submitting this form you declare that you have read and accept the information and personal data condition.

Submit



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