Project: 101074381 — E-BOOST — SMP-COSME-2021-CLUSTER

SME electromobility map including needs analysis

e-boost

31/08/2023

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Main authors	Freek de Bruijn

Nature of the Deliverable		
R	Document, report (excluding the periodic and final reports)	X
DEM	Demonstrator, pilot, prototype, plan designs	
DEC	Websites, patents filing, press & media actions, videos, etc.	
DMP	Data Management Plan	
OTHER	Software, technical diagram, etc.	

Dissemination Level		
PU	Public, fully open, e.g. web	X
SEN	Sensitive, limited under the conditions of the Grant Agreement	
Classified	Classified, under the Commission Decision No2015/444	

Quality procedure			
Date	Version	Reviewers	Comments
20/07/2023	V0.1	Freek de Bruijn (ANL)	Initial version
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PROJECT SUMMARY

Sustainable mobility is at the core of the European strategy to accelerate the ecological and digital transition, as the transport sector is a major contributor to GHG emissions. Electricity and green hydrogen both represent two sources of energy not yet exploited enough in all transport modes and especially in railways, maritime, or long-distance transport (freight or people). The European Green Deal and many other documents such as the directive on the deployment of alternative fuels infrastructure

Alternative Fuels Infrastructure Directive (AFID) or "Fit for 55" package encourage the deployment of clean hydrogen, fuel cells and alternative fuels such as electricity to decarbonize the transport sector.

Cutting-edge technologies and services brought by Small and Medium-sized Enterprises (SME) involved in the electromobility sector need to be supported to take advantage of new market opportunities in third countries and to boost a competitive, sustainable, and circular European transport industry and to drive the transformation towards a carbon-neutral society. Europe is facing at the dawn of neutral carbon continent and to achieve this goal and reach a momentum of change E-BOOST Eurocluster will adopt a systemic approach to build a united and skilled ecosystem, ready to develop singular products and services to reach international market.

The E-BOOST Eurocluster is represented by a strong consortium ensuring a large coverage of electromobility at the European level. The project will focus on building a strong and dynamic platform for electromobility stakeholders to enhance cooperation among the whole electromobility value chain, thus strengthening EU resilience in the Mobility-Transport-Automotive industrial ecosystem (chosen strand). Direct financial and non-financial support to SMEs and clusters towards green and digital

transformation will be the cornerstone of the project. The signature of cooperation and business agreements will ensure the development of SMEs solutions at global scale and foster cross-sectoral activities which are key to support their economic growth in the context of a striking economic crisis. Mentoring programmes for clusters and SMEs based on the skills gaps identified will be designed and capacity building planned so that markets are prepared for the introduction of new electromobility solutions.

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DELIVERABLE EXECUTIVE SUMMARY

This document contains an analysis of several companies that are operational within the electromobility sector. To conduct the analysis properly, all consortium partners prepared a list of 292 SME's that they know are operational within electromobility in their respective countries. These SMEs are operational within several sectors such as automotive, railway, logistics, etc.

These companies were then approached to complete a survey to find out what they are struggling with currently and what exactly are their needs to accommodate those struggles. Each consortium partner was held responsible for obtaining information within their own country. In total, 62 companies from all regions responded to the survey. After the analysis was conducted, a top six in terms of needs for the electromobility sector was identified.

1. Essence of international cooperation
2. Qualified personnel
3. Legislation / Subsidies
4. Market shortages (logistics, materials, utility)
5. Price increases (materials, freight…, etc.)
6. Charging infrastructure

The top six of the findings from the survey will be used as the basis for setting up matchmaking events that will be organized in T3.3.

ACKNOWLEDGEMENT

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1. METHODOLOGY

This task (T3.1) is all about mapping the electromobility ecosystem in the EU (SMEs and cluster organizations) and their needs. Task leader is ANL. This section focuses on the methodology behind the actions carried out. What steps were followed until the final mapping of the electromobility system in which the partners within the E-BOOST consortium are active?

For the E-BOOST project, the categorization of the ecosystem ((air)port, corridor, logistics, mountains, rural and urban) will be further detailed based on technological (battery, charging infrastructures, hydrogen, etc.) and sectoral (automotive, maritime, rail, etc.) topics to best match European SMEs and cluster organizations.

Specifically, each consortium partner has compiled a list from their own country of companies known to them that are already operational within the electromobility sector. In total 292 companies were identified and listed. Following this mapping activity by each partner, guided by ANL, and within the framework of the International Strategy Plan (WP5), SME needs will be identified based on strategic gaps, bottlenecks, disruptions, dependencies, and opportunities for collaboration. Input substitutes, alternative technologies and infrastructures will also be explored.

1.1 The mapping

This mapping is the ground foundation for establishing collaboration models that are designed and built to facilitate value chain linkages between electromobility ecosystems. Examples may include site visits, matchmaking events and investor/sponsor days that are essential to start key partnerships and prepare for Business Continuity Plans part of T3.2.

It is no secret that the world of mobility, and with it the automotive industry, is under pressure. Consider external factors such as inflation, scarcity of raw materials, shortage of employees, as well as the developments going on in Ukraine and the aftermath of COVID-19. Therefore, it was decided to identify how these factors have affected the companies. Was this positive? Or also negative? And how can we as the E-BOOST consortium position ourselves in such a way that we will support these companies later in this project?

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1.2 The interviews

Task leader ANL sent two templates to the consortium partners.

The first template is about completing an overview and categorization of SMEs. SME are being categorized in the following topics:

1. Name and location of SME
2. Ecosystem categorization
3. Technology field
4. Sectoral

The second template is more general and deals with E-Mobility in Numbers. How many e-vehicles are we talking about? It is about an overview of the number of registered vehicles, vessels, aircraft, trains by country from December 2022 with an electric (BEV, FCEV or, PHEV) propulsion system.

The interview guideline was created through a brainstorming session with all project partners to check the relevance of the questions to 1 SME per project partner. After evaluating the first results from the SMEs, the interview guideline was further adjusted. Then the interview guideline was finalized and turned into a survey.

The survey was published and was prepared via Google Forms. It can be found at:
https://docs.google.com/forms/d/1u4u1wNiAZjw50vLaoBulNkXVs6gZpv91siW5-REAcsA/edit?ts=6438176d

In the Grant Agreement we stated that we need a response rate of minimum 15 companies per partner. Having six partners within the E-BOOST consortium that makes a KPI total of 90. However, the E-BOOST consortium received responses only from 62 companies. It means we are missing 28 responses. The main reasons for this is that the European ecosystem is going through an economic crises, Ukraine war, rise of resource prices, lack of labour, etc. Filling out this survey was simply not on their priority list. This means that we are dealing with a fragile electromobility sector that needs to be closely supported thanks to E-BOOST activities. Therefore, we believe that 62 answers are enough to complete a qualitative analysis and dedicated attention for some ecosystem that might need more support. Feedback collected was analysed, leading to the definition of a top-5 regarding the needs of European SMEs and cluster organizations for the electromobility sector.

After July 7, all data from both templates and the survey were analysed by lead partner ANL. The results of the findings can be found in the next section.

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1.3 Time schedule

Date	Action
14-03-2023	Initial meeting for discussing the approach
17-03-2023	Two templates were sent to all consortium partners
28-03-2023	Finishing interview guidelines, sent to consortium partners to test with 1 SME each
06-04-2023	Deadline feedback from 1 SME per partner
12-04-2023	Final survey has been published, to be filled in 15 SMEs per partner
26-05-2023	Initial deadline for retrieving answers from SMEs
07-07-2023	Extended deadline for retrieving answers from SMEs
10-07-2023	Analysing results from templates and online survey
18-08-2023	Final modifications
31-08-2023	Submission E-BOOST D3.1

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2. ELECTROMOBILITY EU ECOSYSTEM SMES & CLUSTER ORGANISATIONS AND THEIR NEEDS

The previous section focused on the methodology behind obtaining the necessary data within T3.1. In this section, we address the data obtained itself. It starts by demonstrating the number of electrically registered vehicles in each country in which the E-BOOST consortium is located. This can be found in chapter 2.1. Then in chapter 2.2 the list of SMEs will be presented categorized into ecosystem, technological field and sectoral area. Next, in chapter 2.3 the questions asked, and their answers will be addressed from the survey discussed earlier. The section ends with a brief conclusion in which E-BOOST consortium has identified a top six needs for the electromobility sector.

2.1 E-Mobility in numbers registered per partner country

In this section, we discuss the number of registered vehicles per country in which this consortium operates. These include Germany, France, Spain, Poland, Italy and the Netherlands. During the start of this task, the consortium decided to examine figures from passenger vehicles, light commercial vehicles, trucks over 3.5 tons, buses and lighter electric vehicles (e.g., mopeds and electric bicycles), trains, maritime and aerospace. While conducting the work, it was noticed that some registration reports are easier to track than others. Registrations such as the number of electric trains, ships and aircraft are probably beyond the scope of the cluster partners. Therefore, the consortium decided to omit these three categories. Please find all registered electric vehicles per country below.

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2.1.1 Germany

Germany 31-12-2022	Total registrations	Electrical registrations	% of total
Personal Cars			
	BEV	1013009	
	FCEV	1989	
	PHEV	864712	
	48.697.150	**1879710**	**3,86%**
Van's Light Trucks			
	BEV	4924	
	FCEV	0	
	PHEV	935	
	2.092.500	**5859**	**0,28%**
Trucks >3,5t			
	BEV	60803	
	FCEV	37	
	PHEV	496	
	23.214	**390**	**1,68%**
Busses			
	BEV	1884	
	FCEV	69	
	PHEV	23	
	83.025	**1976**	**2,38%**
LEV's			
	Mopeds	60651	
	Cycles	9800000	
	Other	0	
	83.282.525	**9860651**	**11,84%**

Figure 1 – E-Mobility in numbers registered (31-12-2022) in Germany

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2.1.2 France

France 31-12-2022	Total registrations	Electrical registrations	% of total
Personal Cars			
	BEV	202928	
	FCEV	193	
	PHEV	459212	
	1.540.309	**662333**	**43,00%**
Van's Light Trucks			
	BEV	16568	
	FCEV	2	
	PHEV	7658	
	346.114	**24228**	**7,00%**
Trucks >3,5t			
	BEV	163	
	FCEV	0	
	PHEV	4	
	41.750	**167**	**0,40%**
Busses			
	BEV	781	
	FCEV	5	
	PHEV	253	
	5.903	**1039**	**17,60%**
LEV's			
	Mopeds		
	Cycles	738454	
	Other	759000	
	3.355.263	**1497454**	**44,63%**

Figure 2 – E-Mobility in numbers registered (31-12-2022) in France

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2.1.3 Spain

Spain 31-12-2022	Total registrations	Electrical registrations	% of total
Personal Cars			
	BEV	30521	
	FCEV	4	
	PHEV	47791	
TOTAL 2022	**813.399**	**78316**	**9,63%**
Van's Light Trucks			
	BEV	4572	
	FCEV	0	
	PHEV	413	
TOTAL 2022	**119.380**	**4985**	**4,18%**
Trucks >3,5t			
	BEV	160	
	FCEV	0	
	PHEV	0	
TOTAL 2022	**23.428**	**160**	**0,68%**
Busses			
	BEV	141	
	FCEV	7	
	PHEV	1	
TOTAL 2022	**2.441**	**149**	**6,10%**
LEV's			
	Mopeds	10188	
* (MOPED LESS 4KW)	Cycles*	5153	
	Other	1762	
	202.293	**17103**	**8,45%**

Figure 3 – E-Mobility in numbers registered (31-12-2022) in Spain

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2.1.4 Poland

Poland 31-12-2022	Total registrations	Electrical registrations	% of total
Personal Cars	BEV	11293	2,69%
	HEV	65617	15,63%
	FCEV	41	0,01%
	PHEV	9664	2,30%
	MHEV	71331	16,99%
	419.749	**157946**	**37,63%**
Van's Light Trucks	BEV		
	FCEV		
	PHEV		
	62.238		
Trucks >3,5t	BEV		
	FCEV		
	PHEV		
	34.905	**1643**	**4,71%**
Busses	BEV	127	10,99%
	FCEV	3	0,26%
	PHEV	41	3,55%
	1.156	**171**	**14,79%**
LEV's	Moterbikes	612	1,72%
	Scooters	2751	7,75%
	Other	177	0,50%
	35.501	**3540**	**9,97%**

Figure 4 – E-Mobility in numbers registered (31-12-2022) in Poland

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2.1.5 *Italy*

Italy 31-12-2022	Total registrations	Electrical registrations	% of total
Personal Cars			
	BEV	49165	
	FCEV	n.a.	
	PHEV	67331	
	1.316.726	**116496**	**8,85%**
Van's Light Trucks			
	BEV	4254	
	FCEV	n.a.	
	PHEV	n.a.	
	160.114	**4254**	**2,66%**
Trucks >3,5t			
	BEV	17	
	FCEV	n.a.	
	PHEV	n.a.	
	25.341	**17**	**0,07%**
Busses			
	BEV	126	
	FCEV	n.a.	
	PHEV	n.a.	
	3.255	**126**	**3,87%**
LEV's			
	Mopeds	23300	
	Cycles	337000	
	Other	n.a.	
	2.063.661	**360300**	**17,46%**

Figure 5 – E-Mobility in numbers registered (31-12-2022) in Italy

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2.1.6 The Netherlands

Netherlands 31-12-2022	Total registrations	Electrical registrations	% of total
Personal Cars			
	BEV	328295	
	FCEV	596	
	PHEV	186947	
	8.893.759	**515838**	**5,80%**
Van's Light Trucks			
	BEV	13964	
	FCEV	14	
	PHEV	127	
	1.076.718	**14105**	**1,31%**
Trucks >3,5t			
	BEV	306	
	FCEV	27	
	PHEV	56	
	195.000	**390**	**0,20%**
Busses			
	BEV	1444	
	FCEV	55	
	PHEV	7	
	9.127	**1506**	**16,50%**
LEV's			
	Mopeds	1535	
	Cycles	133730	
	Other	7505	
	2.039.571	**142770**	**7,00%**

Figure 6 – E-Mobility in numbers registered (31-12-2022) in the Netherlands

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2.2 List of SMEs

Within the E-BOOST project, task 3.1 also specifically involves mapping the electromobility sector. To do this, each partner researched within its own country the different companies known to them. These companies were also categorized by sector (automotive, aerospace, maritime and railway). We also looked at what facet within the sector the SMEs are operational on. Examples include light electric vehicle, charging infrastructure and battery developments. Finally, the companies were categorized within a particular context. So where do you find the most vehicles, vessels, and aircraft? Categories are distinguished between urban and rural, as well as airport, port, station, and the logistics sector.

A total of 292 companies have been located and categorized. These companies are potentially approachable to support during the E-BOOST project. Also, most of these companies were approached to complete the survey which is discussed in Chapter 2.3 A list of the complete list of SMEs can be found in Annex I.

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2.3 E-BOOST: The Transition Into E-Mobility

From the list of SMEs as discussed in chapter 2.2 during the timespan of this task a total of 62 companies completed the survey (as discussed in chapter 1). Most of them are in France (48%). From the Netherlands we received 11%, Italy 11%, Spain 10%, Germany 17%, and Poland 3%. Below you will find the total number of respondents from each country.

- 30 x France
- 10 x Germany
- 7 x Netherlands
- 7 x Italy
- 6 x Spain
- 2 x Poland

TOTAL of 62 companies

Most companies are positive towards a future for electromobility vehicles in general as it seems that revenue has remained stable (18%) or even some growth (33%) and over 80% even expect to make a profit this year. Of course, there are concerns that companies worry about, such as labour shortages, inflation in materials, and difficulties in the supply chain. Also, the insufficient availability of charging infrastructure could harm the transition towards E-Mobility. Material shortages also play a role, and there are concerns about compliance with emission and pollution targets (e.g., Euro 7/VII, CO2)[1].

Just like in any industry, companies in the electro mobility sector also face personnel shortages, particularly in the fields of engineering and software. Many companies are struggling to find qualified engineers and software developers to meet the growing demands of the industry. The rapid advancement of electric vehicle technology and the increasing complexity of software systems used in these vehicles have created a high demand for skilled professionals.

Furthermore, the companies believe that it is important to collaborate internationally in the transition to E-Mobility.

The E-BOOST project is designed in such a way that it will respond to this need. Examples are the Open Calls to Products & Services Development, access to Innovation Support services, internationalisation opportunities, etc.

[1] https://ec.europa.eu/commission/presscorner/detail/en/ip_22_6495

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3. CONCLUSION

In conclusion, several companies that are operational within the electromobility sector have been identified for which the E-BOOST consortium can aim its direction on their ecosystem. Out of the contacts with the companies a top six in terms of needs for the electromobility sector was identified:

1. Essence of international cooperation
2. Qualified personnel
3. Legislation / Subsidies
4. Market shortages (logistics, materials, utility)
5. Price increases (materials, freight…)
6. Charging infrastructure

The top six of the findings from the survey will be used as the basis for setting up matchmaking events that will be organized in T3.3.

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SME	Partner	Country	Automotive	Aerospace	Railway	Maritime	Charging Infastructure	Battery development	Light electric vehicle	Airport	Port	Station	Logistics	Urban	Rural	Remarks
Ben Eco Innovation - e-mobileTron	ANL	Netherlands	X	X		X			X					X		
Bender Benelux BV	ANL	Netherlands	X	X	X	X	X	X	X					X		
Cleantron	ANL	Netherlands	X					X								
CORE Technology	ANL	Netherlands						X								
Coxx Mobile Systems	ANL	Netherlands	X						X					X		
DAF Trucks (large company)	ANL	Netherlands	X					X					X			
Ebusco	ANL	Netherlands	X	X				X						X		
Eleo Technologies	ANL	Netherlands	X	X		X		X						X		
FastNed	ANL	Netherlands	X				X						X			
Heijmans	ANL	Netherlands					X								X	
Heliox	ANL	Netherlands	X				X								X	
Nimbus Engineering B.V.	ANL	Netherlands	X						X				X			
Opcharge	ANL	Netherlands	X				X							X		
Super B Lithium Power B.V.	ANL	Netherlands	X					X						X		
Urban Mobility Systems	ANL	Netherlands	X					X							X	
VDL ETS (large company)	ANL	Netherlands	X					X					X			
AIR	CAAR	Spain		X				X				X				
ALMA MOBILITY	CAAR	Spain	X						X					X		
ATRIA	CAAR	Spain	X				X	X				X	X	X	X	
CHARGEVITE	CAAR	Spain	X				X					X				
COMERCIAL EDIZAR	CAAR	Spain	X					X				X				
Delsat Aeronautics International Sl	CAAR	Spain		X			X					X				
ELECTRONICA CERLER	CAAR	Spain	X				X		X			X	X	X		
ENGANCHES	CAAR	Spain	X				X					X				
GRAVALOS	CAAR	Spain	X				X					X				
INFINITIA	CAAR	Spain	X				X	X				X	X	X	X	
MOONTECH	CAAR	Spain	X						X				X			
POMCEG	CAAR	Spain	X				X		X			X	X	X		
SEGUAS	CAAR	Spain	X				X					X				
SOMA	CAAR	Spain	X				X					X				
UMEC	CAAR	Spain	X				X					X		X	X	
ABSOLUT HYDROGENE	CARA	France	x					x					x	x	x	H2 + H2 combustion engine
ACC-M	CARA	France	x						x					x	x	electromobility
ACTICYCLE	CARA	France	x						x					x	x	Active Mobility actor
ADDBIKE	CARA	France	x						x					x	x	Active Mobility actor
ADDEV MATERIALS	CARA	France	x						x				x	x	x	H2
AD-VENTA	CARA	France	x						x							H2
ALPHEE DEVELOPPEMENT	CARA	France	x						x							H2
ATELIER HERITAGE BIKE	CARA	France	x						x					x	x	Active Mobility actor
AUTOROUTE ET TUNNEL DU MONT BLANC	CARA	France	x				x						x		x	H2
AVL LMM	CARA	France	x						x							H2 + H2 combuestion engine
BAAK	CARA	France	X						x					x	x	
BERTRANDT SAS	CARA	France	x					x						x	x	Batterie actor + H2 Combustion engine
BESSET	CARA	France	x		x				x				x	x	x	H2
BETI	CARA	France	x						x					x	x	H2
BEWEEL SOCIETY	CARA	France	x					x						x	x	Batterie actor
BLYYD	CARA	France	x						x				x			
BYMOSS ELECTRIC VEHICULES	CARA	France	x					x							x	Batterie actor
CARBON ID	CARA	France	x					x						x	x	Batterie actor
CARBON ID	CARA	France	x					x	x							H2 + H2 Pack
CHARLATTE MANUTENTION	CARA	France		x		x		x		x	x					Batterie actor
CHARLATTE MANUTENTION	CARA	France		x		x										H2
CIRCULACAR	CARA	France	x						x				x	x	x	electromobility
CM DUPON	CARA	France	x					x	x						x	Batterie + H2 Pack
CRMT	CARA	France	x					x								H2 + H2 combustion engine
CURVWAY	CARA	France	x						x					x	x	Active Mobility actor
DAM	CARA	France	x						x							H2
DESAUTEL GROUPE	CARA	France	x						x					x	x	
EASYMILE	CARA	France	x							x	x		x	x		
E-BIKE SOLUTIONS	CARA	France	x					x					x	x	x	Batterie actor
E-BIKE SOLUTIONS	CARA	France	x						x				x	x		electromobility
EBIKELABS	CARA	France	x						x				x	x		electromobility
ECOTRIPORTEUR	CARA	France	x						x					x	x	Active Mobility actor
EENUEE	CARA	France		x					x		x		x			
EFS SA	CARA	France	x						x							H2
ELLENKOS	CARA	France	x					x						x	x	Batterie actor
EMA BIKE	CARA	France	x						x					x	x	Active Mobility actor
ENERKA CONSEIL	CARA	France	x						x					x	x	H2
ENTROVIEW	CARA	France	x					x					x	x	x	Batterie actor
EOVOLT	CARA	France	x						x					x	x	Active Mobility actor
ETRICKS INNOVATION	CARA	France	x					x					x	x	x	Batterie actor
ETS JOSEPH MARTIN	CARA	France	x					x						x	x	Batterie actor + H2 Combustion engine
EURO SERVICE	CARA	France							x							
EUROPE SERVICE	CARA	France	x						x							H2
EV4 FRNACE	CARA	France	x						x					x	x	Active Mobility actor
EVE SYSTEM	CARA	France	x					x					x	x	x	Batterie actor
EVE SYSTEM	CARA	France	x						x							H2
GCK INDUSTRY	CARA	France	x					x	x				x		x	Batterie + H2 actor
GEESINKNORBA FRANCE	CARA	France	x					x					x	x	x	Batterie actor
GEESINKNORBA FRANCE	CARA	France	x						x					x	x	H2
GEMESIS	CARA	France	x					x					x	x	x	Batterie actor
GENARIS	CARA	France	x						x					x	x	electromobility
GREENGT	CARA	France	x					x	x							H2 + H2 Pack
GREENMOT	CARA	France	x						x							H2
GREENPACT by WAOUP	CARA	France	x				x	x	x						x	H2
HABELO	CARA	France	x					x					x	x	x	Batterie actor
HABELO	CARA	France	x						x					x		electromobility
HAM FRANCE ANDREAS MAIER (PRACARTIS)	CARA	France	x						x					x	x	H2
HYLIKO	CARA	France	x						x				x	x	x	H2
HYMPULSION SAS	CARA	France	x				x									H2
IMECA	CARA	France	x					x								H2
INCITIS	CARA	France	x						x					x		H2
INOCEL	CARA	France	x					x						x	x	H2
IVECO France (large company)	CARA	France	x						x					x	x	
KEB FRANCE	CARA	France	x						x		x			x	x	H2
KLEUSTER	CARA	France	x						x					x	x	Active Mobility actor
KONBOI ONE	CARA	France	x						x							H2
K-RYOLE	CARA	France							x				x	x		Active Mobility actor
LAMBERET SAS	CARA	France							x							
LHYFE	CARA	France	x				x					x				H2
LST MND Ropeway	CARA	France		x					x						x	Comment: No aerospace but "aerial guided transport mode"
MAP CHENE	CARA	France	x					x						x	x	Batterie actor
MAXON FRANCE	CARA	France	x						x				x	x	x	electromobility
MCE-5 DEVELOPPEMENT	CARA	France	x						x					x	x	H2
MCPHY	CARA	France	x				x									H2
MEILLEURSVELOS.FR	CARA	France	x						x					x		electromobility
MESTEER SARL - EPSILON BIKES	CARA	France	x					x						x		Batterie actor
MOBELEC	CARA	France	x						x							H2
MOV'NTEC	CARA	France	x						x					x		electromobility
NAVYA	CARA	France	x						x	x	x		x	x		
NEOTRUCKS	CARA	France	x						x							H2
NEXTENEO	CARA	France	x				x					x				electromobility
NOUVELLE ATTITUDE	CARA	France	x						x				x	x		electromobility
NOVUM TECH	CARA	France	x						x							H2
NOWOS	CARA	France	x					x					x	x	x	Batterie actor
PIPO MOTEURS	CARA	France	x						x							H2 + H2 combbustion engine
POMA (large company)	CARA	France			x				x				x	x	x	
PVA LWT SERVICES	CARA	France	x					x						x	x	Batterie actor + H2 Combustion engine
RENAULT (large company)	CARA	France	x						x					x	x	
RENAULT TRUCKS (large company)	CARA	France	x						x				x	x	x	
REV B& T	CARA	France	x					x					x	x	x	
SANKA CYCLE	CARA	France	x						x					x	x	Active Mobility actor
SAPAIC INDUSTRIES	CARA	France	x					x						x	x	H2
SEABUBBLES	CARA	France				x		x	x		x					H2
SERES TECHNOLOGIES	CARA	France	x						x							H2
SHERPA ENGINEERING	CARA	France	x						x					x	x	H2
SOBEN	CARA	France	x						x				x	x		
SOCIETE FLUVIALE DE LOGISTIQUE	CARA	France				x			x		x		x			electromobility
SOTRADEL	CARA	France	x						x				x			H2
SOUDAX EQUIPEMENTS	CARA	France	x					x					x	x	x	Batterie actor
STOR-H AAQIUS	CARA	France	x						x					x	x	H2
STOR-H AAQIUS	CARA	France	x						x					x	x	H2
SUD INDUSTRIE SERVICE	CARA	France	x					x						x	x	Batterie actor + H2 Combustion engine
TECHNAX	CARA	France	x					x					x	x	x	Batterie actor
TEMANAO	CARA	France	x					x						x	x	Batterie actor
TINHY	CARA	France	x				x					x				H2
TITAN AVIATION	CARA	France	x						x	x						
TOTOOM	CARA	France	x					x						x	x	Batterie actor + H2 Combustion engine
TRANSRAIL BOIGE et VIGNAL	CARA	France			x				x				x			H2
ULTIMA MOBILITY	CARA	France	x						x					x	x	Active Mobility actor
UPANDCHARGE	CARA	France	x						x					x	x	electromobility
VERKOR	CARA	France	x					x					x	x	x	Batterie actor
VHELIOS	CARA	France	x					x						x	x	Batterie actor
VL INNOVATIONS	CARA	France	x					x					x	x	x	Batterie actor
VL INNOVATIONS	CARA	France	x						x					x	x	H2
VOLTEO	CARA	France	x	x				x						x	x	electromobility
VON ROLL	CARA	France	x					x					x	x	x	Batterie actor
WATEA SAS	CARA	France	x						x					x	x	electromobility
YMAGINE BIKES	CARA	France	x					x						x	x	Batterie actor
ZE COMBI	CARA	France	x						x				x	x		
Be Dimensional S.r.l.	DITECFER	Italy	X		X			X								
Camozzi Group S.p.A. (large company)	DITECFER	Italy			X				X							
Elettri-Fer S.r.l.	DITECFER	Italy			X		X									
Elettromeccanica L.A. S.r.l.	DITECFER	Italy			X		X					X				
Elfi S.r.l.	DITECFER	Italy	X	X	X				X							

Engineering Ingegneria Informatica S.p.A.	DITECFER	Italy			X											
Enginsoft.S.p.A.	DITECFER	Italy	X	X	X	X										
FBG Srl (Blend Plants)	DITECFER	Italy			X				X							
Hitachi Rail S.p.A. (large company)	DITECFER	Italy			X			X	X							
IDS Ingegneria dei Sistemi S.p.A.	DITECFER	Italy		X	X				X							
Mont-Ele S.r.l.	DITECFER	Italy			X											
Officine Mario Dorin S.p.A.	DITECFER	Italy	X	X	X	X										
RGM Srl	DITECFER	Italy			X	X		X								
Unika S.p.A.	DITECFER	Italy	X	X	X	X	X									
a. hartrodt Deutschland (GmbH & Co) KG	LIHH	Germany	x										x			All companies from LIHH are logistics companies using trucks, reach stacker, forklift, va
Alfons Köster & Co. GmbH	LIHH	Germany	x										x			
Anhalt Logistics GmbH & Co. KG	LIHH	Germany	x										x			
boxXpress.de GmbH	LIHH	Germany			x								x			
Brunsbüttel Ports GmbH	LIHH	Germany									x		x			
Buss Port Services GmbH	LIHH	Germany									x		x			
C. Steinweg (Süd-West Terminal) GmbH & Co. KG	LIHH	Germany									x		x			
Carl Robert Eckelmann GmbH	LIHH	Germany				x							x			Inland Waterway Transport
City Express Logistik GmbH	LIHH	Germany	x										x	x		
CLC China Logistic Center GmbH	LIHH	Germany	x										x			
CLI AG	LIHH	Germany	x										x			
CTD Container-Transport-Dienst GmbH	LIHH	Germany	x										x			
Daimler AG (large company)	LIHH	Germany	x										x			
Deutsche Binnenreederei GmbH	LIHH	Germany				x							x			Inland Waterway Transport
DIE Logistik24 GmbH	LIHH	Germany	x										x			
ECL Euro-Cargo-Logistik Kontor GmbH	LIHH	Germany	x										x			
ecoCarrier AG	LIHH	Germany											x	x		Ecargobike manufacturer
Eichholtz GmbH	LIHH	Germany	x										x			
Ernst Pfaff GmbH	LIHH	Germany	x										x			
ERS Railways GmbH	LIHH	Germany			x								x			
EVB Eisenbahnen und Verkehrsbetriebe Elbe-Weser GmbH	LIHH	Germany			x								x			
FKT Transport GmbH	LIHH	Germany	x										x			
Fluss-Schiffahrts-Kontor GmbH	LIHH	Germany				x							x			Inland Waterway Transport
Funke Logistik Hamburg GmbH	LIHH	Germany	x										x			
Gerdts Spedition GmbH	LIHH	Germany	x										x			
GLS Grünwald Logistik Service GmbH	LIHH	Germany	x										x			
GP Joule Hydrogen GmbH	LIHH	Germany	x		x	x						x	x	x	x	
GREIWING logistics for you GmbH	LIHH	Germany	x										x			
Gustav Seeland GmbH	LIHH	Germany	x										x			
H. D. Cotterell GmbH & Co. KG	LIHH	Germany	x										x			
HBC Hanseatisches Bahn Contor GmbH	LIHH	Germany			x								x			
Hector Rail GmbH	LIHH	Germany			x								x			
Heinrich Osse Lagerhaus GmbH	LIHH	Germany	x										x			
Hiller Logistik GmbH & Co. KG	LIHH	Germany	x										x			
HRS-Transport-Logistik GmbH	LIHH	Germany	x										x			
IGS Logistics Group Holding GmbH	LIHH	Germany	x										x			
inline Kurierdienst GmbH	LIHH	Germany	x										x	x	x	
IN-TIME Transport GmbH	LIHH	Germany	x										x	x	x	
Iveco Magirus AG (large company)	LIHH	Germany	x													
IVECO Nord Nutzfahrzeuge GmbH (large company)	LIHH	Germany	x													
IWL Internationale Wein-Logistik GmbH	LIHH	Germany	x										x			
Konrad Zippel Spediteur GmbH & Co. KG	LIHH	Germany	x										x			
Kroop & Co. Transport + Logistik GmbH	LIHH	Germany	x										x			
Kruse Logistik GmbH	LIHH	Germany	x										x			
Kube & Kubenz Internationale Spedition und Logistikgesellsch	LIHH	Germany	x										x			
Lagerei und Spedition Dirk Vollmer GmbH	LIHH	Germany	x										x			
Lagerhaus Harburg Spedition GmbH	LIHH	Germany	x										x			
LCH Logistik Centrum Hamburg	LIHH	Germany	x										x			
LGX Logistics GmbH & Co. KG	LIHH	Germany	x										x			
Liermann Transporte GmbH	LIHH	Germany	x										x			
Lothar Thiedmann Intern. Transporte und Spedition e.K.	LIHH	Germany	x										x			
MAN Truck & Bus AG (large company)	LIHH	Germany	x													
MÄRZ Logistik Hamburg GmbH	LIHH	Germany	x										x			
meljo Network Logistics GmbH	LIHH	Germany	x										x	x	x	
Oetjen Logistik GmbH	LIHH	Germany	x										x			
OK Logistics GmbH & Co. KG	LIHH	Germany	x										x			
ONOMOTION GmbH	LIHH	Germany											x	x	x	Ecargobike manufacturer
PALETTEN-SERVICE Hamburg AG	LIHH	Germany	x										x			
Pohl & Co. GmbH	LIHH	Germany	x										x			
PostPlus Deutschland GmbH	LIHH	Germany	x										x	x	x	
Saco Shipping GmbH	LIHH	Germany	x										x			
Sander Logistics GmbH	LIHH	Germany	x										x			
Scania Deutschland GmbH (large company)	LIHH	Germany	x													
Scan-Shipping GmbH	LIHH	Germany	x										x			
SeRohCon GmbH	LIHH	Germany	x										x			resource traders, disposal logistics
SHOT Logistics GmbH	LIHH	Germany	x										x			
Simeonsbetriebe Hamburg GmbH - Sitex	LIHH	Germany	x										x			
SITRA Spedition GmbH	LIHH	Germany	x										x			
SLC Soltau Logistic Center GmbH & Co. KG	LIHH	Germany	x										x			
STERAC Transport & Logistik GmbH	LIHH	Germany	x										x			
STS - Seevetaler Transport Service GmbH	LIHH	Germany	x										x			
TCO Transcargo GmbH	LIHH	Germany	x										x			
Team Trans Logistics GmbH	LIHH	Germany	x										x			
TOP Mehrwert-Logistik GmbH & Co. KG	LIHH	Germany	x										x	x	x	
Transport- & Kombiservice Jürgen Ludwig GmbH & Co. KG	LIHH	Germany			x	x							x			
tricargo	LIHH	Germany											x			Ecargobike manufacturer
TSL Textil-Service & Logistik GmbH	LIHH	Germany	x										x			
TST Unisped GmbH	LIHH	Germany	x										x			
Vollers Hamburg GmbH	LIHH	Germany	x										x			
Wallmann & Co. (GmbH & Co. KG)	LIHH	Germany	x										x			
Wilhelm Ernst GmbH	LIHH	Germany	x										x			
Activ Yachts Sp. z o.o.	ZNIK	Poland				X										
AMZ Kutno LARGE COMPANY	ZNIK	Poland	X													
APS Energia S.A. LARGE COMPANY	ZNIK	Poland					X									
Aviomechanika SP. z o.o.	ZNIK	Poland	X													
Byotta Sp. z o.o.	ZNIK	Poland						X								
Canna Boats Sp. z o.o.	ZNIK	Poland				X										
DB Port Szczecin Sp.z o.o LARGE COMPANY	ZNIK	Poland				X					X					
DEER Sp. z o.o.	ZNIK	Poland	X										X			
DP Logistics Sp. z o.o.	ZNIK	Poland	X										X			
EMU Sp. z o.o Sp. k.	ZNIK	Poland	X				X	X								
Laude Smart Intermodal S.A.	ZNIK	Poland											X			
MOTO&MARINE Magdalena Okrój	ZNIK	Poland				X										
Northgate Logistics SP. z o.o. Sp. k.	ZNIK	Poland											X			
Okmarit Sp. z o.o	ZNIK	Poland				X							X			
Orion Trade Sp. z o.o.	ZNIK	Poland				X										
Pangea Logistics Sp. z o.o.	ZNIK	Poland											X			
Pelixar S.A.	ZNIK	Poland		X												
PKS SA Oliwa	ZNIK	Poland	X										X			
Port Gdański Eksploatacja S.A LARGE COMPANY	ZNIK	Poland				X					X					
Port Lotniczy Gdańsk LARGE COMPANY	ZNIK	Poland		X						X						
PTAK TRANSPORT – Usługi Transportowe Tadeusz Ptak	ZNIK	Poland	X										X			
REAL Logistics Sp. z o.o. Sp.k.	ZNIK	Poland	X										X			
Spectre Solutions Sp. z o.o.	ZNIK	Poland		X												
Stako Sp. z o.o.	ZNIK	Poland	X													H2 - producer of tanks for automotive LPG systems
TRYBECO Sp. z o.o.	ZNIK	Poland	X						X					X		
Uni-Logistics Sp z o.o	ZNIK	Poland	X										X			
WAVE blue Sp. z o.o.	ZNIK	Poland				X										
Sovereign speed	ANL	Netherlands														
Nuit architecture	CARA	France														
DENS	ANL	Netherlands														
Leman ebike	CARA	France														
e-lectreec	CARA	France														
Container quick lock	CARA	France														
e.re.ca	CARA	France														
Thermo compact	CARA	France														
Matelys	CARA	France														
EFI automotive et Axandus	CARA	France														
TOLV																
Setforge	CARA	France														
X07																
Baucher																
DPIA																
Mithieux Metal Protect	CARA	France														
Inyeccions Montanana	CAAR	Spain														
Zfoam	CAAR	Spain														
Arc en Ciel	CARA	France														
Taur																

General questions

1. Company Name
2. Company type
3. Job title
4. First Name
5. Last Name
6. E-mail adress
7. In which of the following sectors is your company (most) active?
8. Which is more relevant to your company in relation to Electromobility? Based on your answer, go to the section that is referred to.

It is also possible to respond to questions in both sections.

9. Are you a member of the following clusters?

SECTION 1: Applicable to e-mobility Production/Supply Companies

1. Which of the following types of technology is your company focused on?
2. What is your outlook for your industry based on the expected revenues and profitability?
3. What is your forecast for the revenues of your company in the next 12 months?
4. What overall profitability do you expect for 2023? (Select one)
5. How do you currently balance your focus between margin recovery / protection vs. investments into future growth?
6. How significant are the following issues in the transition to E-mobility? [Supply Chain Disruption]
6. How significant are the following issues in the transition to E-mobility? [Infrastructure]
6. How significant are the following issues in the transition to E-mobility? [Inflation of Products / Materials]
6. How significant are the following issues in the transition to E-mobility? [Personnel Shortage]
6. How significant are the following issues in the transition to E-mobility? [Legislation / Subsidies]
7. In which functions has the acquiring of good talent become more difficult over the last 5 years? (Select all that apply)
8. Which actions are most efficient to recover or improve profitability in the current market? (Select all that apply)
9. Do you consider international cooperation as an essential factor in transitioning to E-mobility
10. Please, rank the importance of the following global themes in disrupting the development of E-mobility. 1(most important) - 5 (least important) [Economical]
10. Please, rank the importance of the following global themes in disrupting the development of E-mobility. 1(most important) - 5 (least important) [Political]
10. Please, rank the importance of the following global themes in disrupting the development of E-mobility. 1(most important) - 5 (least important) [Educational]
10. Please, rank the importance of the following global themes in disrupting the development of E-mobility. 1(most important) - 5 (least important) [Technological]
10. Please, rank the importance of the following global themes in disrupting the development of E-mobility. 1(most important) - 5 (least important) [Environmental]
10. Please, rank the importance of the following global themes in disrupting the development of E-mobility. 1(most important) - 5 (least important) [Societal]
11. How do you perceive the following threats or concerns within the next 12 months? [Difficulty to pass on production cost increases to OEMs]
11. How do you perceive the following threats or concerns within the next 12 months? [Difficulty to implement (OEM) requirements (e.g., CO2 reduction targets)]
11. How do you perceive the following threats or concerns within the next 12 months? [Suppliers forced out of the automotive business / moving adjacent industries]
11. How do you perceive the following threats or concerns within the next 12 months? [Decreasing EU competitiveness, increased attractiveness to source outside EU (e/g, production costs, access to finance)]
11. How do you perceive the following threats or concerns within the next 12 months? [Compliance with emission and pollution targets (e.g., Euro 7/VII, Co2)]
11. How do you perceive the following threats or concerns within the next 12 months? [(Smaller) Suppliers facing bankruptcy]
11. How do you perceive the following threats or concerns within the next 12 months? [Raw material shortages]
11. How do you perceive the following threats or concerns within the next 12 months? [Limited freight / Logistic capacities]
11. How do you perceive the following threats or concerns within the next 12 months? [Demand reduction / potential recession]
11. How do you perceive the following threats or concerns within the next 12 months? [Utility shortages (E.g., gas, electricity)]
11. How do you perceive the following threats or concerns within the next 12 months? [Other]

12a) Financial impact due to Semiconductor shortage (pre-crisis)

12b) Financial impact due to Raw material cost inflation's

12c) Financial impact due to Utility (Gas, Electricity) shortages & cost inflation's

12d) Financial impact due to other cost increases (freight, volume fluctuations, FX effects)

13. Does China play a big role for importing batteries? Are you implementing any measures to reduce your exposure and dependencies from China?
14. How important is cash management for your company?
15. Which of the following cash management measures is your company implementing to optimize liquidity?

SECTION 2: Applicable for E-mobility Customers / End users

1. How significant do you consider the risk that an insufficient availability of charging infrastructure could harm the transition towards e-mobility?
2. What type of vehicles do you have in operational use
3. Do you already have experience with the use of electric vehicles in your company?
4. If yes: With which types of electromobility do you have experience within your company?
5. If yes: What kind of experiences have you had? (Positive or Negative)
6. If yes: For which distances do you want to use the vehicles?
7. What are the current obstacles to use e-mobility solutions in your company?
8. Are there any obstacles in relation to Q7 that are not on the list?
9. Do you plan to expand the use of alternatively powered vehicles in your company?
10. Is there something that would make the use of E-mobility in your company more attractive?

Conclusion

1. Would you be interested in creating an ecosystem with other stakeholders?
2. May we approach you for follow-up sessions in the future? This could be a second survey, or a telephone conversation.
3. With the E-BOOST project, we plan to organise matchmaking sessions and missions. Could we approach you for this in the future?

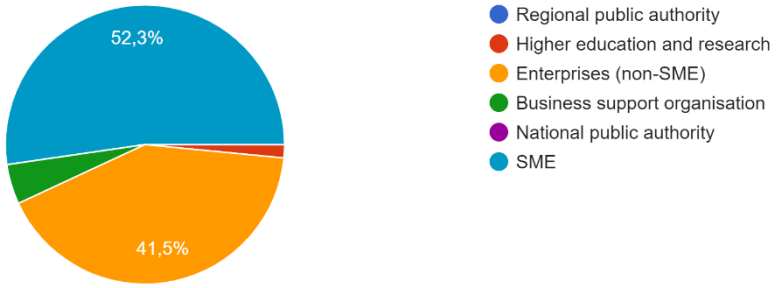
ANNEX III: Results from the survey

1. General information

Questions 1 till 7 were generated to acquire general information about the companies that completed the survey. Some questions are not implanted this annex due to GDPR reasons (company name, name of the respondents, email-addresses).

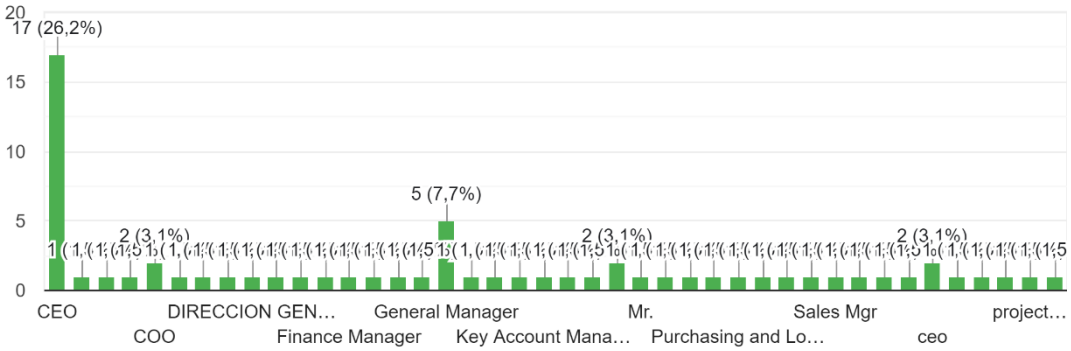
2. Company type

65 antwoorden



3. Job title

65 antwoorden



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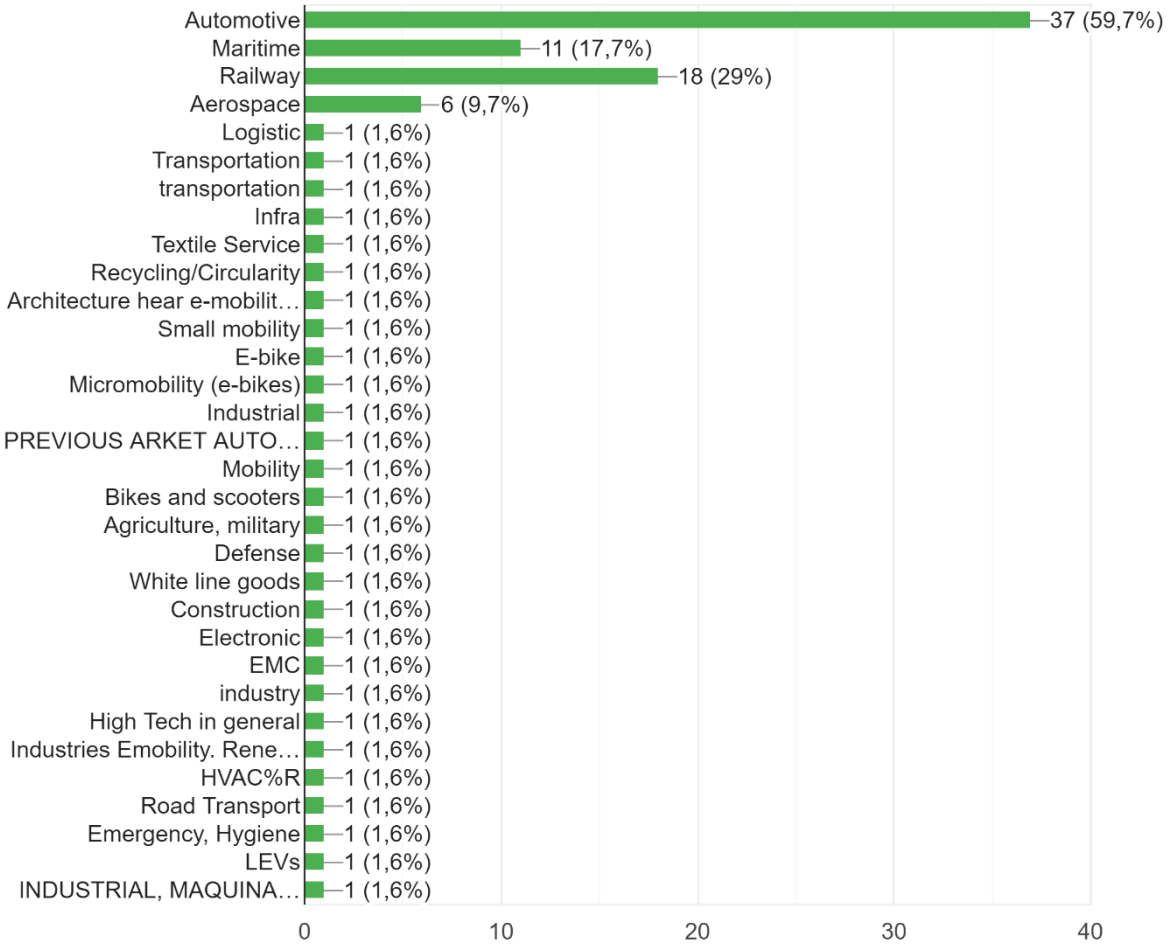
7. In which of the following sectors is your company (most) active?

62 antwoorden



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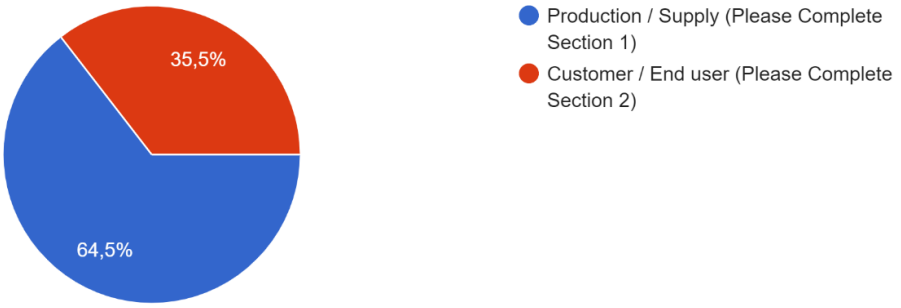
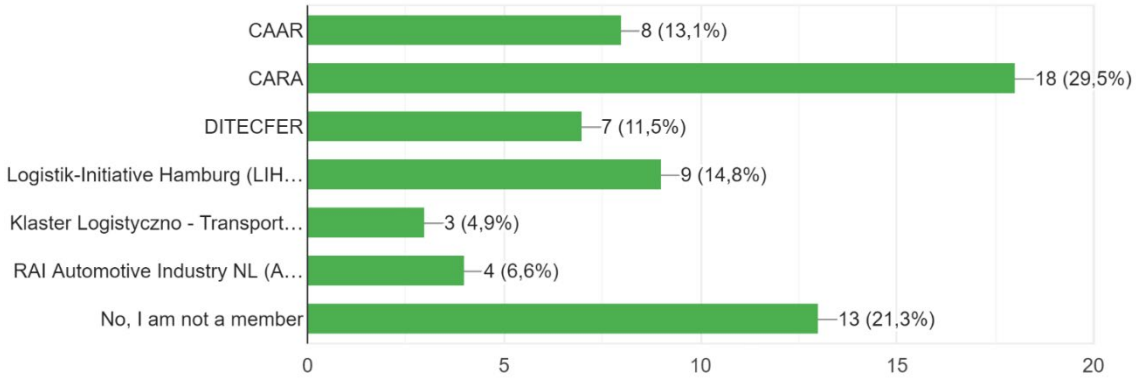
8. Which is more relevant to your company in relation to Electromobility? Based on your answer, go to the section that is referred to. It is also possible to respond to questions in both sections.

62 antwoorden



9. Are you a member of the following clusters?

61 antwoorden



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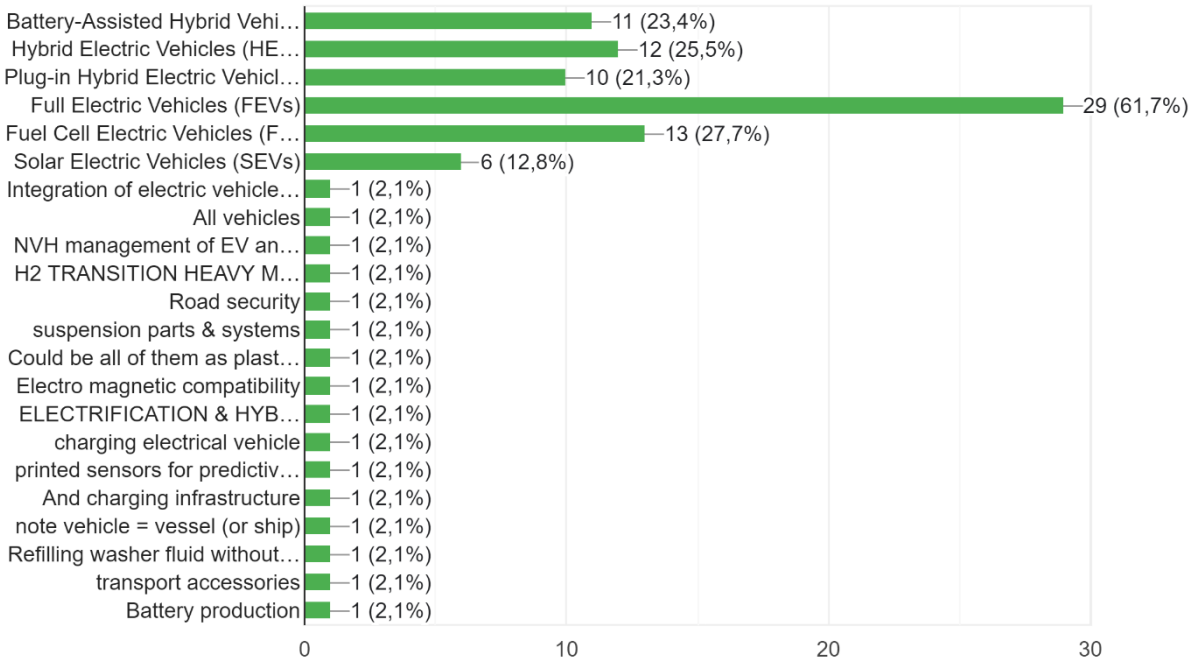
2. SECTION 1: Applicable to e-mobility Production/Supply Companies

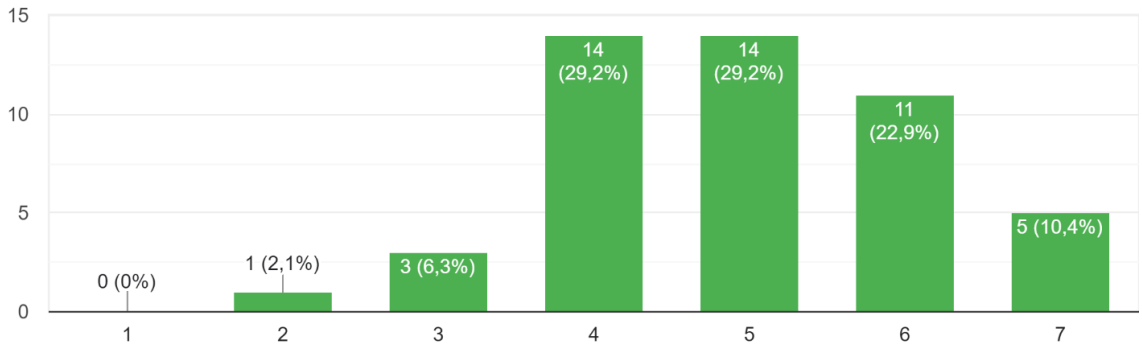
1. Which of the following types of technology is your company focused on?

47 antwoorden



2. What is your outlook for your industry based on the expected revenues and profitability?

48 antwoorden



1 = very negative → 7 = very positive

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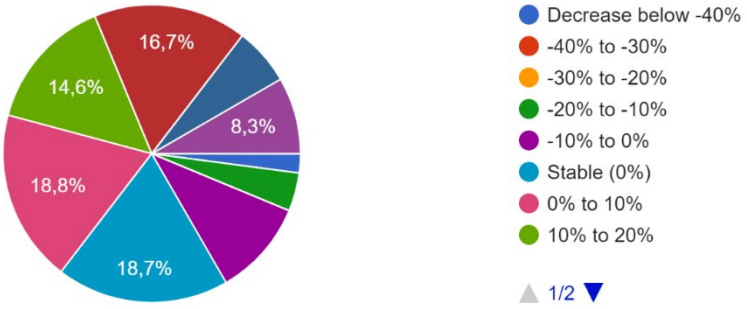
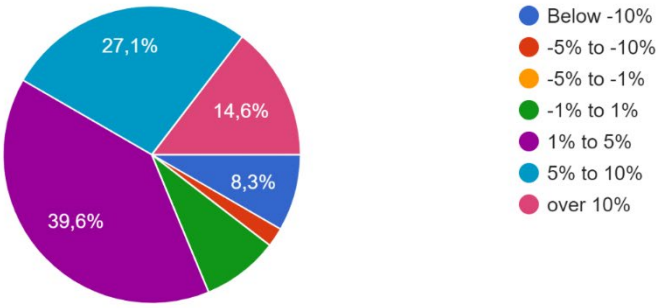
3. What is your forecast for the revenues of your company in the next 12 months?

48 antwoorden



4. What overall profitability do you expect for 2023? (Select one)

48 antwoorden



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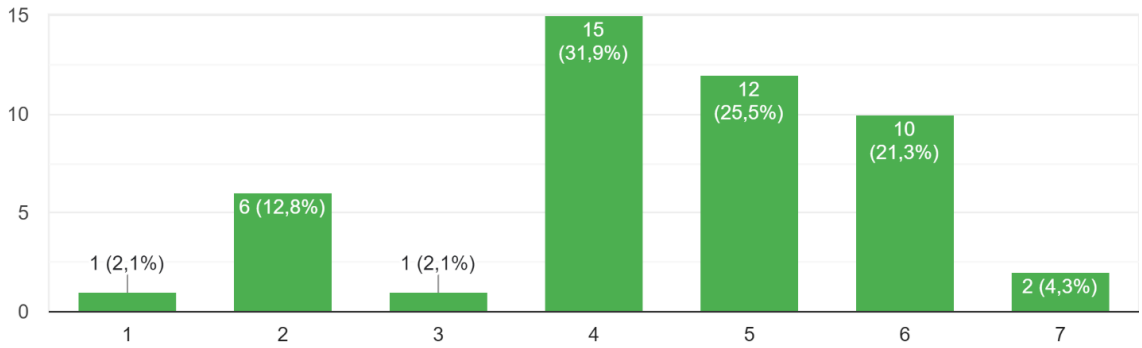
5. How do you currently balance your focus between margin recovery / protection vs. investments into future growth?

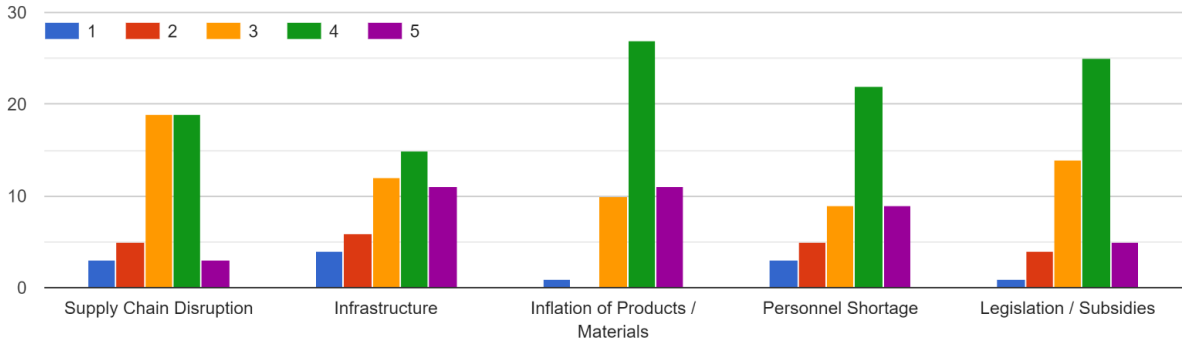
47 antwoorden



1 = Margin recovery – our focus is clearly on margin recovery, while investments into future growth opportunities are canceled or delayed →

7 = Growth investments – We have already fully recovered market headwinds and our main focus is to capture future growth opportunities

6. How significant are the following issues in the transition to E-mobility?



1 = not a problem → 5 = very

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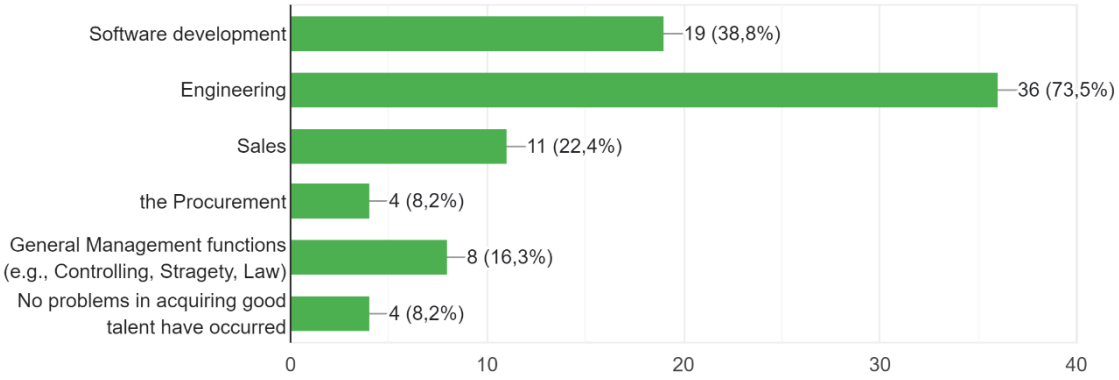
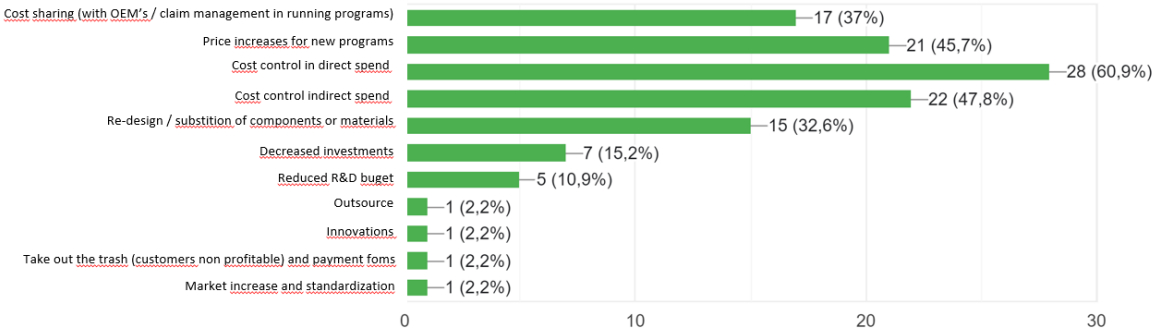
7. In which functions has the acquiring of good talent become more difficult over the last 5 years? (Select all that apply)

49 antwoorden



8. Which actions are most efficient to recover or improve profitability in the current market? (Select all that apply)

46 antwoorden



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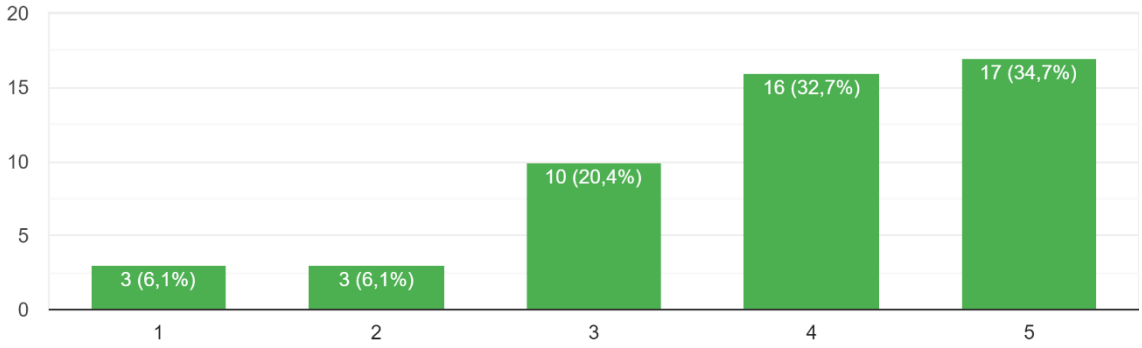
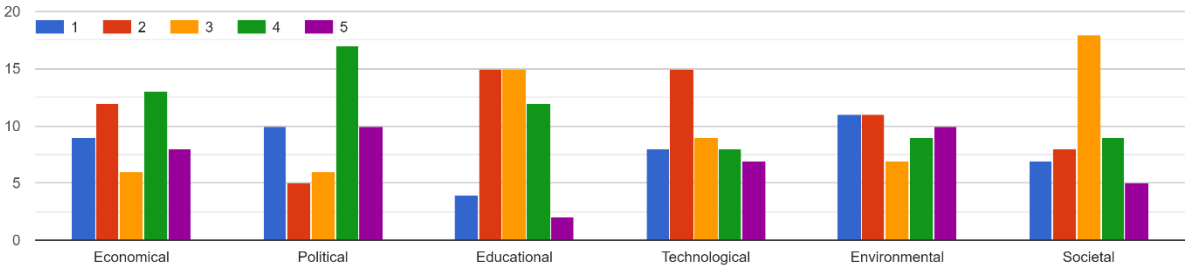
9. Do you consider international cooperation as an essential factor in transitioning to E-mobility

49 antwoorden



10. Please, rank the importance of the following global themes in disrupting the development of E-mobility. 1(most important) - 5 (least important)



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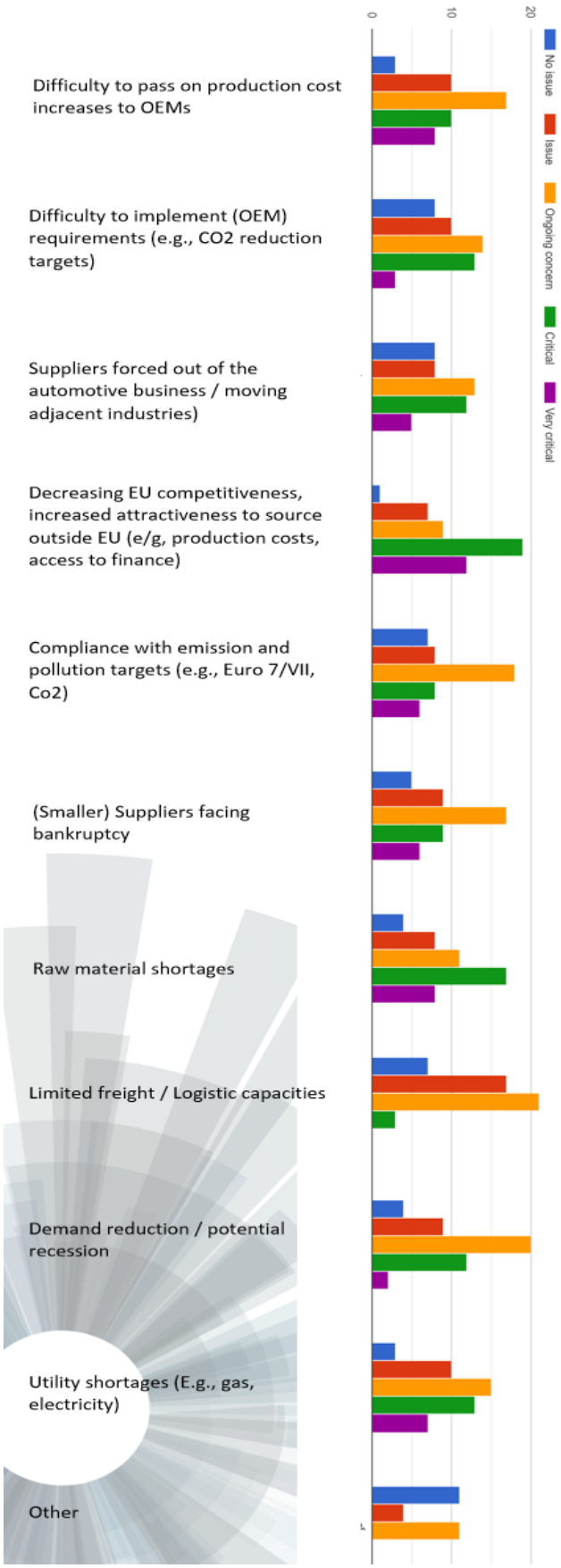

11. How do you percieve the following theats or concerns within the next 12 months?

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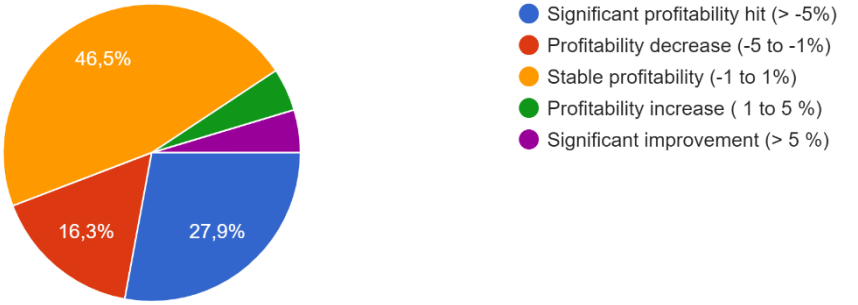
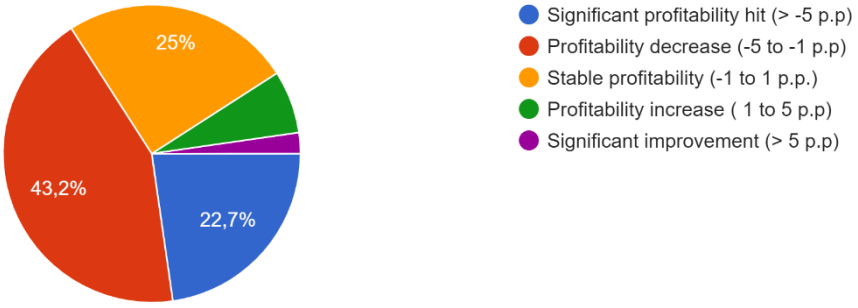
12a) Financial impact due to Semiconductor shortage (pre-crisis)

43 antwoorden



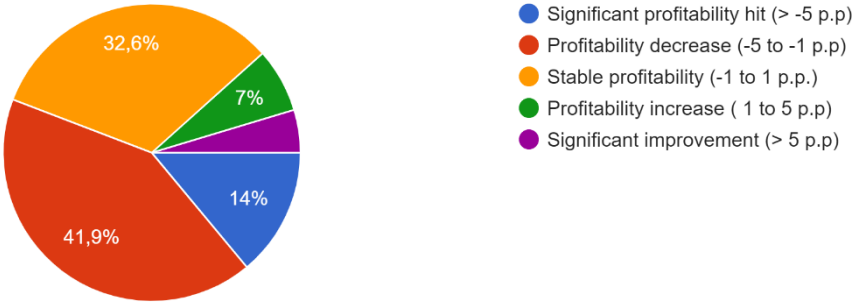
12b) Financial impact due to Raw material cost inflation's

44 antwoorden



12c) Financial impact due to Utility (Gas, Electricity) shortages & cost inflation's

43 antwoorden



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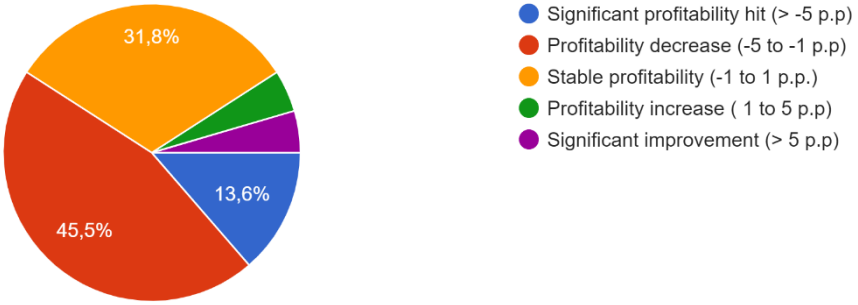
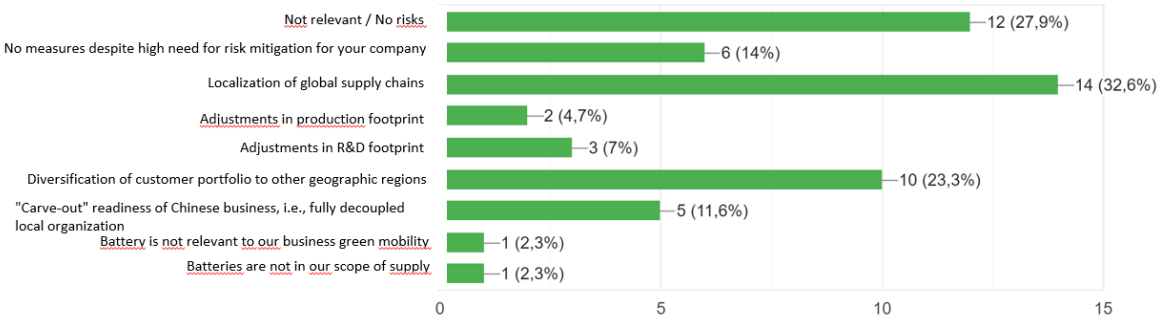
12d) Financial impact due to other cost increases (freight, volume fluctuations, FX effects)

44 antwoorden



13. Does China play a big role for importing batteries? Are you implementing any measures to reduce your exposure and dependencies from China?

43 antwoorden



14. How important is cash management for your company?

43 antwoorden

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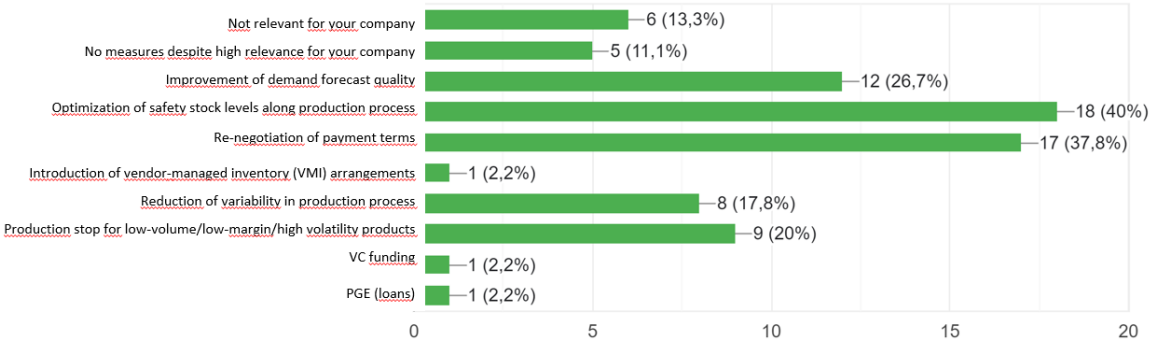
15. Which of the following cash management measures is your company implementing to optimize liquidity?

45 antwoorden



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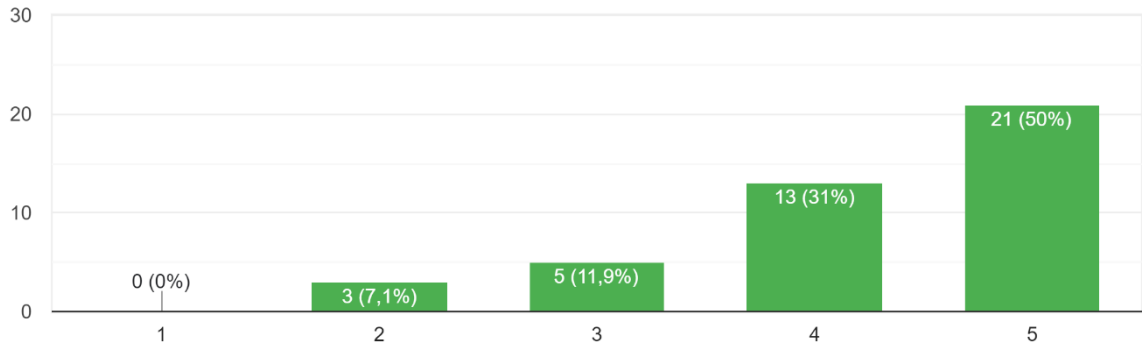
3. SECTION 2: Applicable for E-mobility Customers / End users

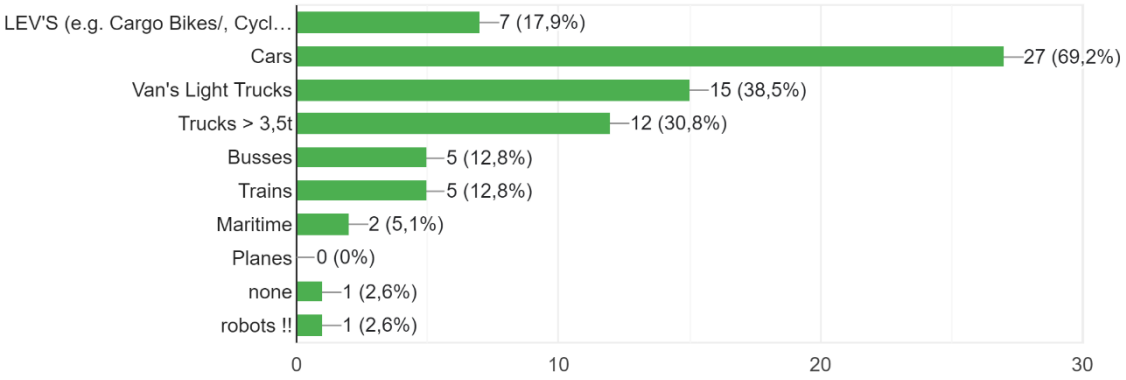
1. How significant do you consider the risk that an insufficient availability of charging infrastructure could harm the transition towards e-mobility?

42 antwoorden



2. What type of vehicles do you have in operational use

39 antwoorden



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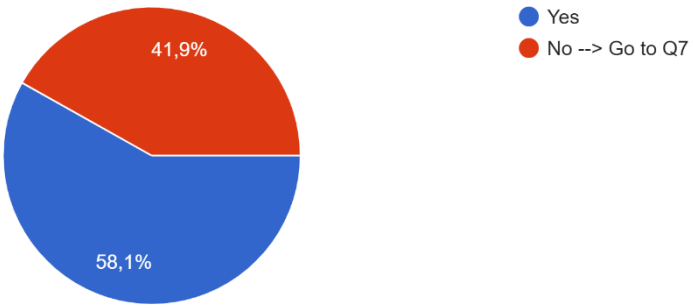
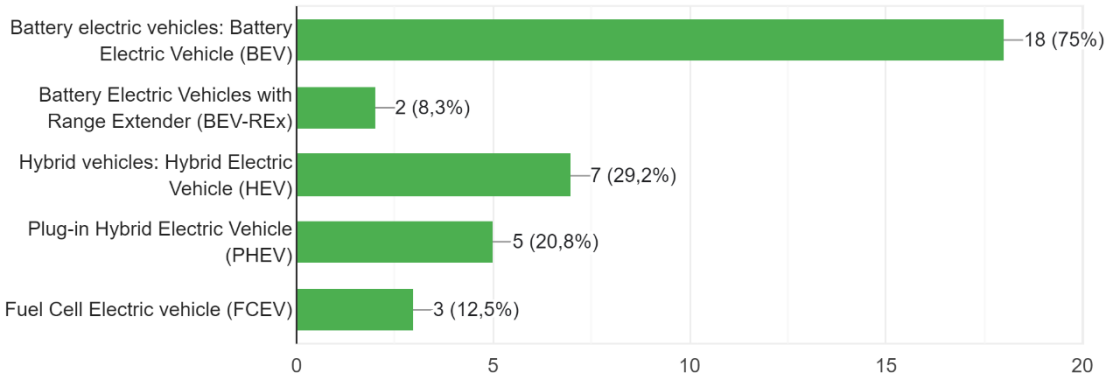
3. Do you already have experience with the use of electric vehicles in your company?

43 antwoorden



4. If yes: With which types of electromobility do you have experience within your company?

24 antwoorden



5. If yes: What kind of experiences have you had? (Positive or Negative)

19 x Positive

3 x Negative

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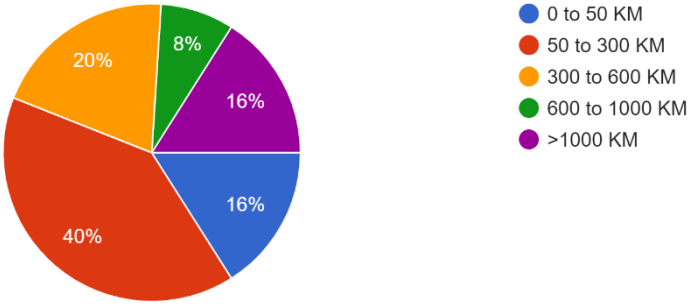
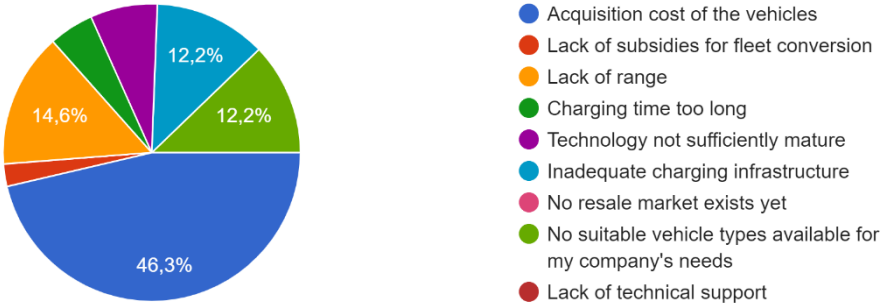
6. If yes: For which distances do you want to use the vehicles?

25 antwoorden



7. What are the current obstacles to use e-mobility solutions in your company?

41 antwoorden



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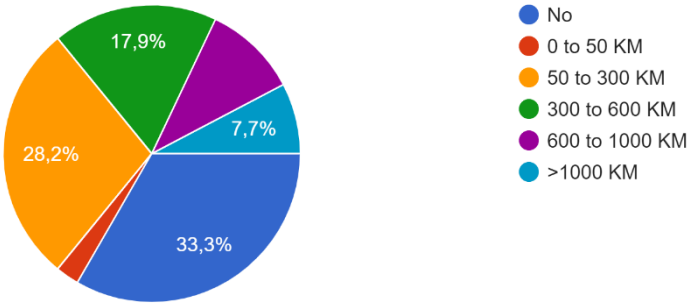
8.Are there any obstacles in relation to Q7 that are not on the list?

- ADR approval
- it is all of it
- Costs, lead time, approvals, subsidies
- 10 x no
- Autonomy
- Autonomie
- low autonomy in km
- Charging time too long
- Nothing missing but more than one obstacle should be chooseable.
- Charging time too long

9. Do you plan to expand the use of alternatively powered vehicles in your company?

39 antwoorden



10. Is there something that would make the use of E-mobility in your company more attractive?

- Business Case + certainty of cost advantage
- already we are doing our best to support e-mobility
- More subsidies, larger customer demand, shorter lead times, better availability, lower costs
- more range
- Market with more possibilities.
- More autonomy
- the price,
- Price & Autonomy
- A modular concept would be more then welcome
- No

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- marketing
- pricing
- Yes
- Cost
- we use 100% electric locomotives
- Cost
- bring them to an equal or better level (in sum of all economic effects) as the traditional powered vehicles
- nein
- Price of new vehicles
- Cost and charge
- Subsidies
- VEHICLES WITH MORE LOAD CAPACITY

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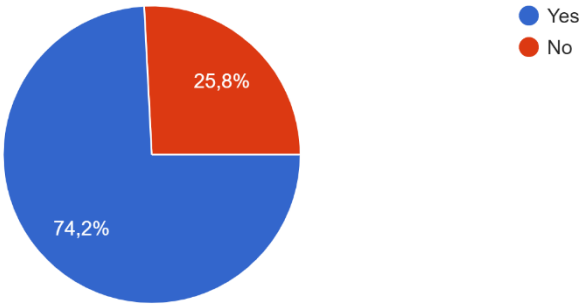
4. Conclusion

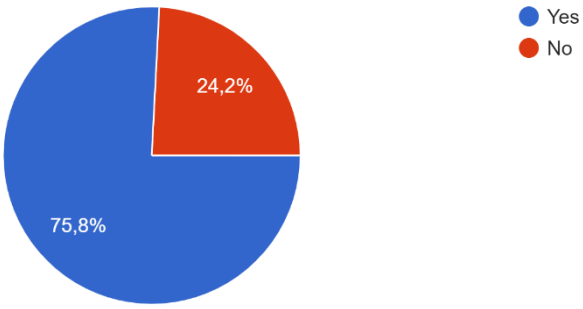
1. Would you be interested in creating an ecosystem with other stakeholders?

62 antwoorden



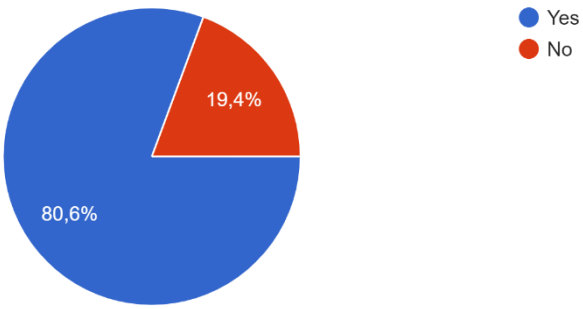
2. May we approach you for follow-up sessions in the future? This could be a second survey, or a telephone conversation.

62 antwoorden



3. With the E-BOOST project, we plan to organise matchmaking sessions and missions. Could we approach you for this in the future?

62 antwoorden



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e-boost

Boost Electromobility for SMEs