

4.2.2 - Questionnaire Results (collection of main feedbacks from private and public actors)

Deliveries Planning

Actual I.T. (PP5)

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Introduction

In the previous phases of the DigLogs project, innovations in process informatization, big data and Traffic Automation Systems in Multimodal Transport have been explored, among which several innovations have been shortlisted as the most attractive to deploy. Impact analysis on technical operations and labour market has been carried out on the selected innovations. As a result of this, seven pilot actions have been chosen to test the most valuable solutions. Each pilot action is a ‚subset‘ of the shortlisted innovation, focusing on the narrowly determined scope for the innovation deployment.

In relation to the improvement of the freight transport flows, two innovations have been chosen for pilot test actions: warehouse management system and deliveries planning.

The pilot implementations will be carried out in the WP5 phase of the DigLogs project. So far, deployment roadmaps have been drafted in order to assure an effective development of the selected technologies (D4.2.1). The road mapping process has been divided into three steps:

- First version of the roadmaps (D4.2.1), carried out by the project partner in charge of the pilot project, according to the common methodology
- Stakeholders consultation process (WP4.2.2), aimed to revise the roadmaps D4.2.1, in order to maximise the contribution of most important stakeholders in the project area
- Final version of the roadmaps (D4.2.3), incorporating the stakeholders feedback

Currently, the roadmaps D4.2.1 have been created. Each partner in charge of a pilot project was responsible to collect stakeholders' opinion according to the common methodology. In particular, each partner selected and inquired the most important stakeholders in the project area and contacted them to collect their feedbacks. In order to facilitate the consultation process, each partner prepared a google form questionnaire which has been embedded into the Scigno platform managed by PP2-Elevante, maximising the project visibility. The platform includes a pilot description and dedicated PowerPoint presentations. The stakeholder selection has been carried out based on the previously identified project target groups and they have been contacted by email, phone, personal and/or video calls to gather the required information. All results of the consultations have been conveyed in the Google Forms surveys.

Sufficient quantity and quality of feedback from stakeholders have been received by the end of September. This delay has been mainly caused by CoVid emergency and the summer vacation

period, which hindered communication and feedback collection. This document reports the results of the stakeholder selection and the raw results of their consultation.

1 Objectives of this document

The objective of this document is to provide a complete report of the stakeholder consultation process, which was aimed to define the final version of the deployment roadmaps related to the improvement of multimodal transport flows. This document is based on the deliverable D4.2.1. *Definition of steps to be taken for innovative solutions deployment both from market and policy perspective*, concerning the two freight pilot projects, WMS4.0 and Deliveries Planning (DelPlan).

This document aims to provide the basis for the definition of the final version of the two roadmaps, D4.2.3, carried out considering the opinion of the relevant stakeholders in the project area. Hence in this document no elaboration of the outcomes of the consultation is presented yet, but only the responses to the questionnaires and oral consultations are reported.

2 Results of the stakeholder consultation

This section represents the results of the stakeholder consultation process. The specific results are provided for the following innovations dealing with informatization trends and traffic automation systems in multimodal transport:

- WMS4.0
- Deliveries Planning

The specific description of the innovations, related pilot actions and their draft roadmaps can be found in D4.2.1. This document presents the involved stakeholders and provides the results of the questionnaires. The source questionnaires are also provided in the appendix to this document ([Appendix](#)).

2.1 WMS4.0

A dedicated pilot project has been chosen to test the implementation of Warehouse management system, as one of the most relevant process informatization innovation related to the improvement of planning freight multimodal transport missions. PP2 is in charge of the pilot implementation in the WP5 phase.

This section analyses the results of the “Questionnaire WMS4.0 Elevante” for the stakeholders involved.

The results are referred up to the 24th July 2020, the date when the questionnaire was closed. 11 answers have been provided.

2.1.1 Description of the Pilot Action

Keywords: warehouse, storage, connections, cargo management, intermodality, ICT.

Nowadays, a new warehouse management system is necessary for a better management of cargos. WMS is a software application, designed to support and optimize warehouse functionality and distribution center management. These systems facilitate management in their daily planning, organizing, staffing, directing, and controlling the utilization of available resources, to move and store freight into, within, and out of a warehouse, while supporting staff in the performance of material movement and storage in and around a warehouse. A relevant functionality of the WMS that will be implemented is a DSS (Decision Support System), consisting in an open source platform. This DDS, linked with the WMS (and the Inland terminal involved) will provide an "intermodal transport network IT interface" and allow the logistics operators to be informed and choose among different possible intermodal solutions. The pilot will be the test of a web application that is going be used by carriers, Multimodal Transport Operators (MTO), dry ports and public authorities in the Programme area and that will perform an innovative service: an information system delivering data about intermodal appointments in the nodes. The DSS part will consist in the test of a collaboration platform with MTOs to collect from them information about the services, like time schedules, origin/destination, delays. The pilot will be run in a dryport located in FVG region and will then be open to other dryports and MTOs in the Programme area willing to upload their data.

2.1.2 Stakeholders involved

Stakeholders involved belong to different fields (transport operators, shippers, service providers etc.).

11 answers have been provided. Below a list of some of the major contributors to the questionnaire results:

- AMAZON (logistics operator)
- SOCIETÀ ALPE ADRIA (logistics operator)
- 4PLSERVICES (logistics operator)
- IAL FVG (training centre)
- D1MILANO (shipper)
- FCA GROUP (shipper)
- BENETTON (shipper)
- MARCEGAGLIA (shipper)
- INWIND (service provider)

2.1.3 Results of the questionnaire

In order to reach a more immediate comprehension, answers are also outlined in light blue color.

Q01 WMS4.0 – benefits and risks

A: what benefits brought by the innovation do you think will give greater advantages to your business considering the relationships with the activities and the actors working in the logistics sector?

- | | |
|--|-----------|
| <input type="checkbox"/> The improvement of business thanks to more objectivity in decisions processes | 1 answer |
| <input type="checkbox"/> The possibility to assess and compare alternative scenarios | 6 answers |
| <input type="checkbox"/> The reduction of decision cycle times | 2 answers |
| <input type="checkbox"/> The reduction of errors in decision processes | |
| <input type="checkbox"/> The possible implementation of Machine Learning technology | |
| <input type="checkbox"/> Others | |

B: what new opportunities do you think the innovation will bring in the logistics sector considering your operational context?

- | | |
|---|-----------|
| <input type="checkbox"/> The possibility to correlate more data sources | 3 answers |
| <input type="checkbox"/> The innovation of processes using real-time data | |
| <input type="checkbox"/> A better and more effective mitigation of risks | |
| <input type="checkbox"/> Others..... | |

C: which innovation weaknesses do you think will likely make innovation implementation more difficult?

- Too high investments in technologies 1 answer
- In some cases, there may be restricted time available to get decision suggestions from WMS/DSS
- Sometimes, it may be difficult to analyse too much intangible or indefinable data 1 answer
- Some decision-makers may not have enough technology knowledge
- Some employees may resist to change and use new tools 6 answers
- Others.....

D: what do you think will be the most concrete threats that likely make innovation deployment less effective?

- Some decision-makers may resist in accepting to adopt new techniques and tools
- Algorithms development and maintenance may be too difficult and costly 1 answer
- The difficulty to apply WMS/DSS to operational processes
- The lack of qualified labour force
- Others.....

no threats 1 answer

In addition to the fact that some may not have technological skills, it would make me more serene that someone would guarantee me the perfect integration between the two systems (WMS and DSS) and that is that they "speak" the same language even with regard to small details 1 answer

data should be always correct 1 answer

Q02 Adaptation and innovation of products and services

A: do you think you may need to change the specific features of some of your products or services in order to make your business compliant with the innovation? What is the reason why you think you need to change them?

- To better meet the new customers and users' needs 1 answer
- To make product or service cheaper and/or more effective
- To make product or service more compliant to the innovation 1 answer
- To replace non-digital features with digital ones or add new digital-based features 1 answer
- To make product or service more attractive or usable 1 answer
- To make products or service more integrated with other products or services 4 answers
- Others

B: what do you think are the needed and/or most effective type of changes to make in order to improve products and services?

- Create a new product or service
- Redesign an existing product or service 1 answer
- Redesign products packaging or service delivery
- Use different products or services delivery/provision ways and channels
- Others

no changes 1 answer

C: what do you think are the products and services that have to be created or modified and how? (e.g. development of a new information service for customers or suppliers, design of a new packaging with identification system, dematerialization of documents, porting of a service to a web-oriented systems)

Design more eco-friendly packaging (1 answer)

better satisfy new customers and customers user needs (1 answer)

Q04 Employees' skills and capabilities improvement

A: do you think you may need to improve skills and capabilities of your employees or decision-makers in order to better deal with the innovation? What is the reason why you think skills and capabilities inside your organization are not adequate?

- Employees are not able to use some tools and apply some procedures 2 answers
 - Employees' cooperation is insufficient 1 answer
 - Workforce productivity can be increased
 - Decision-makers are not able to correctly define workgroups and internal areas subdivision 1 answer
 - Decision-makers are not able to correctly understand/assess inputs, outputs and times of production and service provision processes
 - Decision-makers are not able to correctly forecast skills and capabilities needs 4 answers
 - Others
- no one , the enterprise is ready 1 answer
- A preventive process of training and accompaniment in the migration to digital is indispensable 1 answer
- if the tool is user friendly it can be easily integrated 1 answer

B: what do you think are the needed and/or most effective type of actions to carry-out in order to improve skills and capabilities within your organization?

- Carry on educational and training activities for employees and decision-makers
- Support tools and methods adoption and utilization
- Provide self-training materials
- Hire new professionals 1 answer
- Others

C: what do you think are the most critical lack of skills and capabilities that can limit your organization in dealing with the innovation implementation scenario?

Lack of technological knowledge (1 answer)

.....

.....

.....

D: if needed, what do you think are the best strategies and programmes to improve skills and capabilities within the specific context of your organization? (e.g. refresher courses, workshops, training on the job / coaching, e-learning, recruiting)

Training on the job (1 answer)

.....

.....

Q07 Machinery and equipment improvement

A: do you think you may need to improve machinery and production equipment owned by your organization in order to gain more benefits from the innovation deployment? What do you think can be the reasons why you may need to obtain new equipment or to improve the functionalities of in-use machinery and tools?

- To increase productivity 2 answers
- To allow the creation of a new product or the provision of a new service
- To increase the quality or the intrinsic value of a product or a service 2 answers
- To ease the use of the tools or the application of work procedures 6 answers
- To Increase work safety
- To obtain a new specific working process function
- Others

it depends on new operativity 1 answer

B: what kind of activities do you think you should carry-out in order to improve machinery and production equipment owned by your organization?

- Purchase or rent a new tool or machine
- Modify or integrate an existing tool or machine
- Integrate a tool or machine with another one or with a system 1 answer
- Others

C: what new tool or machine do you think you will need? Which equipment you own needs improvement or integration in order to improve your production process in the context of the innovation deployment? (e.g. a new electro-mechanical system, a security update for a machine, a new energy distribution slot)

New tool to enrich analysis (eg. CO2 calculation) (1 answer)

Q08 Information Technology IT infrastructure improvement

A: do you think you may need to improve your organizations’ IT infrastructure in order to gain more benefits from the innovation deployment? What do you think can be the reasons why you may need to obtain new IT tools or to improve the ones already in-use?

- To get new digital information storage capacity or increase available (more room)
- To get new computer processing power or increase available (more speed)
- To get new information processing functions or update existing (better results) 5 answers
- To get information network exchange capability or increase its performance (improve sharing) 4 answers
- Others

no, enterprise is ready 2 answers

B: what kind of activities do you think you should carry-out in order to improve your organizations’ IT infrastructure?

- Purchase or rent a storage device
- Purchase a cloud-based storage service
- Purchase or rent a server computer, workstations, client or personal computers. 1 answer
- Purchase a cloud-based computing (processing) solution
- Purchase and install sensor devices and/or actuators
- Purchase software licenses
- Update operating systems and applications
- Purchase and install network devices and infrastructures
- Perform systems and applications update, tuning and maintenance
- Others

C: what new IT tool or device do you think you will need? Which IT equipment you own needs improvement or integration in order to improve your production process or organizational model in the context of the innovation deployment? (e.g. a new sensor system, a document management system, a data server, a firewall, a mobile app software license update, a new IT infrastructure maintenance service for the warehouse)

A document management system (1 answer)

Q09 Financial resources allocation

A: do you think your organization may need to allocate special resources to carry-out tasks or activities related to the innovation deployment, or to re-allocate previously placed resources? What kind of financial operation do you think will be required?

- Direct financial resources allocation for the needed actions 2 answers
- Scouting for the raise of new funds and resources to be used for the innovation 6 answers
- Re-allocation of resources previously placed for other tasks of the innovation 2 answers
- Re-allocation of resources previously placed for other projects or activities
- Others

B: what kind of tasks do you think may require special resource allocation or re-allocation?

- Purchase of equipment and materials
- External services and consulting
- Internal services and expertise 1 answer
- Royalties
- Taxes
- Others

C: what do you think can be the equipment and materials to purchase, and services or consulting to pay to deal with the innovation implementation?

laptop (Instead of desktop) (1 answer)

2.2 Deliveries Planning

A dedicated pilot project has been chosen to test the implementation of *Deliveries Planning*, as one of the most relevant innovations in the field of *Traffic Automation Systems in Multimodal Transport*, showing a pressing need for obtaining a solid base for better resource planning. PP6 and PP5 are in charge of the pilot implementation in the WP5 phase. We named this pilot project as **DelPlan**.

This Report analyzes the results of the “*Possibility to improve the deliveries planning process using multimodal transportation alternatives*” for the stakeholders involved.

The results were collected up to the 30th September 2020, when the questionnaire was closed.

8 specific sets of questionnaire responses have been received within the Croatian-Slovenian port community and 5 sets of questionnaire responses on the Italian side.

2.2.1 Description of the Pilot Action

Keywords: Deliveries Planning, Multimodal Transportation.

Better planning of deliveries based on the real-time and predicted traffic conditions the travel time information helps to save travel time and improve reliability through the selection of travel routes pre-trip and en-route. In the application of logistics, travel-time information could reduce delivery costs, increase the reliability of delivery, and improve the service level.

Deliverables Planning solution can have key impact on efficiency of supply and transportation chain with better utilization of resources given the changing conditions during the transportation of the goods. A solution that can help with automatic suggestion or selection of travel routes before the trip and even during the trip, can save costs, decrease the transport time and have a smaller environmental impact on the communities affected by transportation of goods.

The proposed solution can be easily linked to the existing Port and Maritime information systems both as sources and as targets of the Delivery Planning solution. The type of data that Decision Planning system can offer to existing operation management solutions can be relatively easy to integrate in the existing solution with a suitable interface and with the help of routing, transformation solution like PCS system.

The quality of the data in a Delivery Planning solution depends on frequency and sources of acquisition of the data. This includes publicly available data, like traffic conditions, weather data, transport capacity availability as well as data available in the transportation management solution, like estimated times of arrivals, number and types of cargo, transportation vehicles.

To implement a Delivery Planning project the processing of the data must be assured, based on algorithms, traditional and based on machine learning, with an output that can be either a standalone Delivery Planning solution or an integration with existing port and transportation management solution.

2.2.2 Stakeholders involved

The consultation process has been conducted in 2 locations: Abruzzo region in Italy and within Croatian-Slovenian port community (Rijeka, Ploče, Koper).

Stakeholders involved belong to different target groups, including port authorities, transport operators, agents, freight forwarders and port terminal operators.

8 answers have been provided within the Croatian-Slovenian port community. Below is the list of the major contributors to the questionnaire results:

- Luka Koper (Port of Koper)
- CMA CGM Croatia d.o.o. (Rijeka)
- Liburnia Maritime Agency (Rijeka)
- Jadroagent d.d. (Rijeka)
- Jadrošped d.o.o. (Rijeka)
- Lučka Uprava Ploče (Port Authority of Ploče)
- Lukašped d.o.o. (Port of Ploče)
- AGCT ICTSI (Rijeka)

5 responses were provided within the Abruzzo region. This is the list of some major contributors to the questionnaire results:

- TAURO TRASPORTI (carrier - Teramo);
- SANGRITANA (MTO & Rail Operator - Lanciano);
- INTERPORTO D'ABRUZZO (terminal - Manoppello);
- IFR (MTO - Manoppello);
- FAS TRASPORTI (carrier - Sambuceto);
- TRC SHIPPING (shipper - Manoppello);
- CONFINDUSTRIA SEZ. TRASPORTI (transport association - Chieti-Pescara).

2.2.3 Results of the questionnaires

The following 2 subchapters contain sets of results from the two separate rounds of questionnaires, belonging to each of the regions: Italy and Croatia-Slovenia.

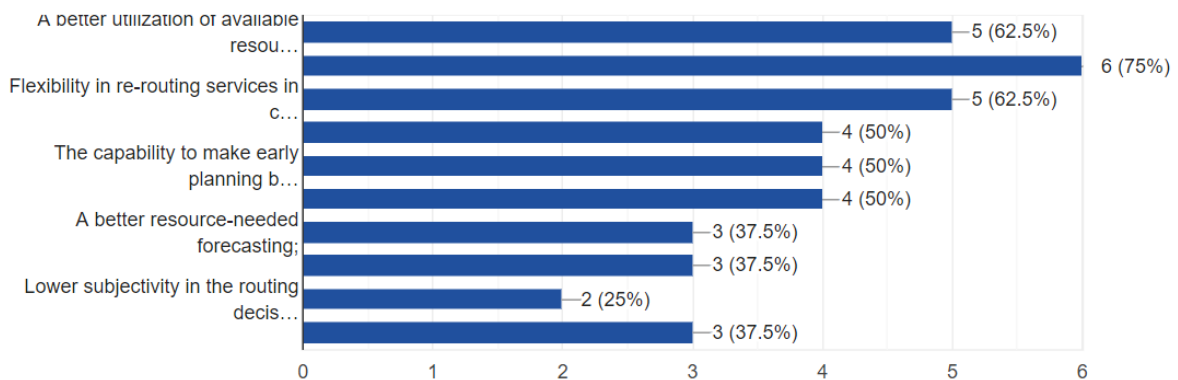
2.2.3.1 Results of the questionnaire within the Croatian-Slovenian port community

Section 1: Benefits and risks related to the innovation

Benefits and risks related to the innovation

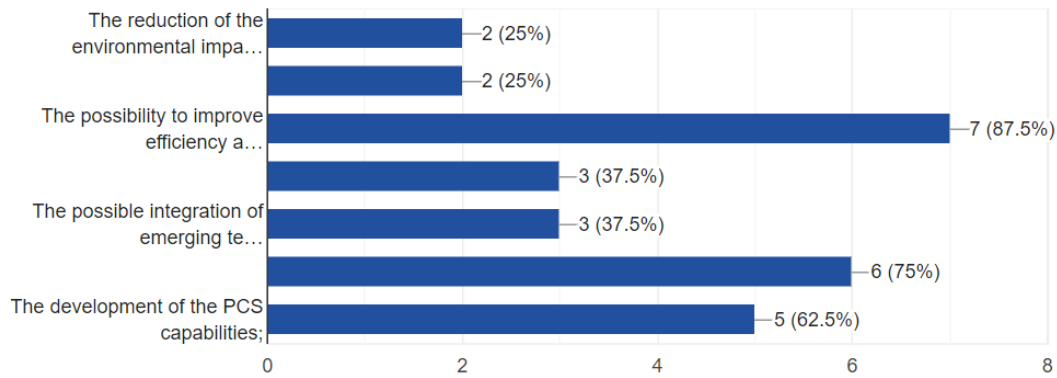
A: what benefits brought by the innovation do you think will give greater advantages to your business considering the relationships with the activities and the actors working in the logistics sector?

8 responses



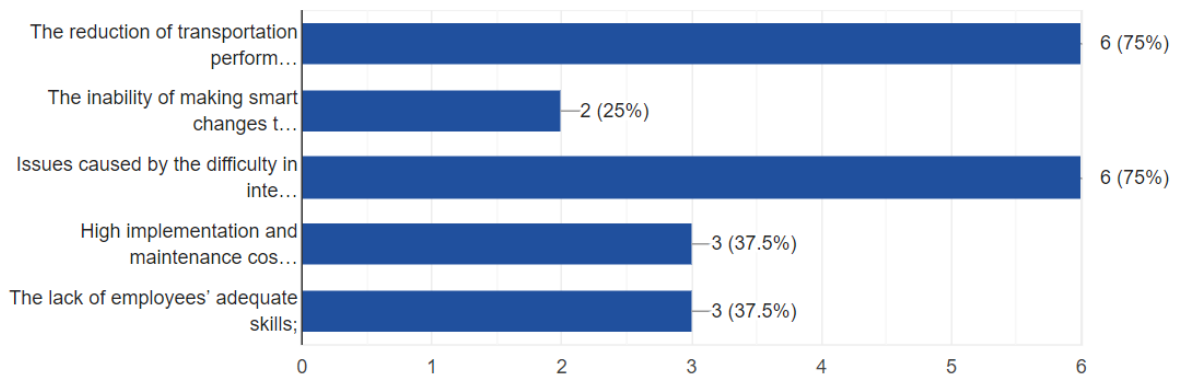
B: what new opportunities do you think the innovation will bring in the logistics sector considering your operational context?

8 responses



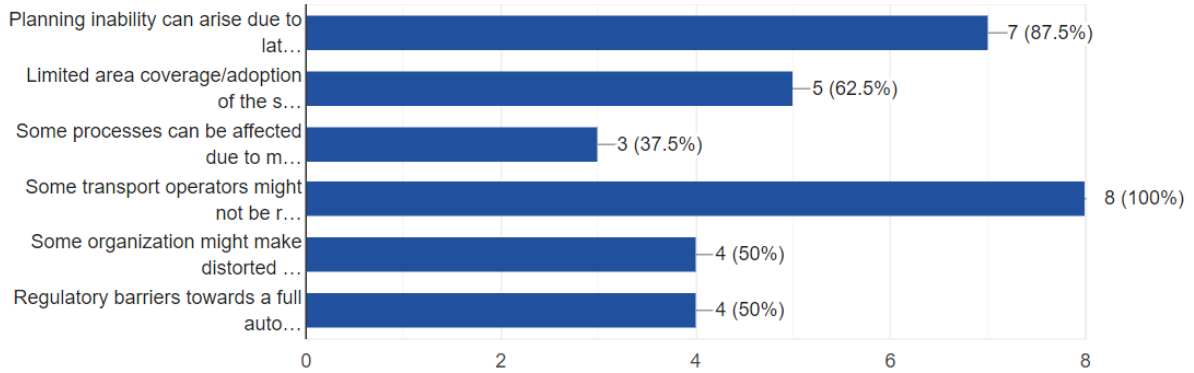
C: which innovation weaknesses do you think will likely make innovation implementation more difficult?

8 responses



D: what do you think will be the most relevant threats that likely make innovation deployment less effective?

8 responses

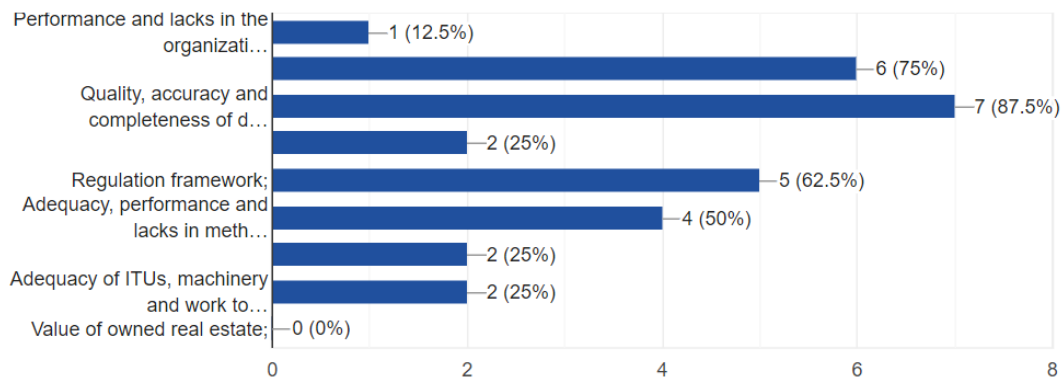


Section 2: Needed actions for innovation deployment

Improvement of knowledge and awareness about internal assets and resources

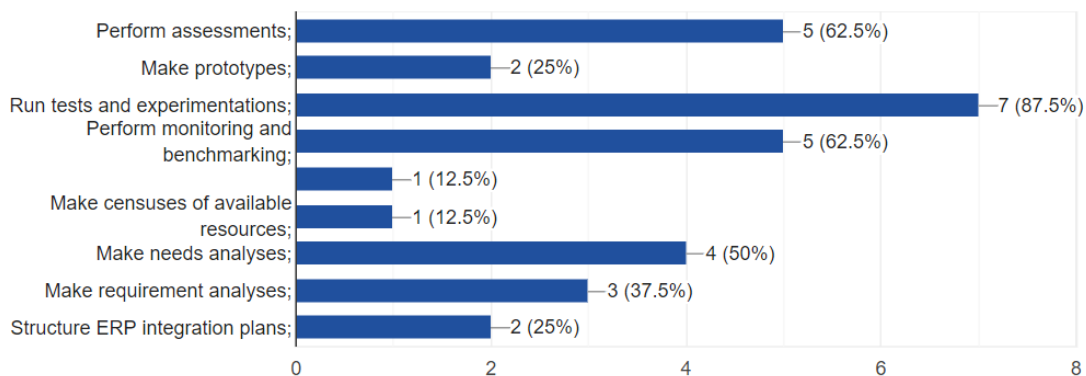
A: do you think there is the need to make specific analyses, tests or assessments to better know and understand one or more of the following aspects in order to deploy the innovation?

8 responses



B: what do you think are the most effective type of actions to carry out in order to achieve these objectives?

8 responses



C: what do you think are the needed and/or most effective analyses, assessments, tests, or other knowledge-improving activities needed to better plan and design the innovation implementation and deployment? (e.g. production process analysis, market scouting, data sources census, relationship issues assessment)

5 responses

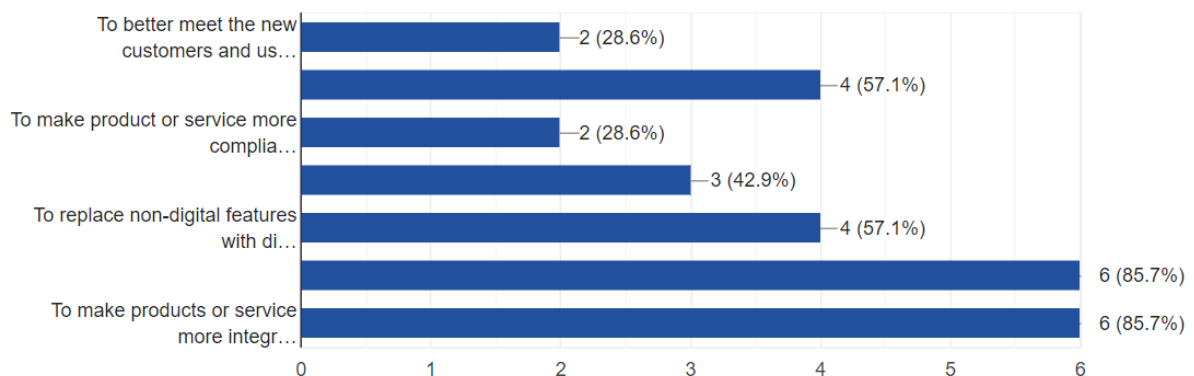
- Data quality assesment and data exchange gab anlysis within the logistic chain.
- market scouting
- production process analysis, data sources census
- relationship issues
- Production process analysis, market research and assessment of available resources (especially human) among all stakeholders in the process.

Adaptation and innovation of products and services

A: do you think you may need to change the specific features of some of your products or services in order to make your business compliant with the innovation? What is the reason for making you think you need to change them?

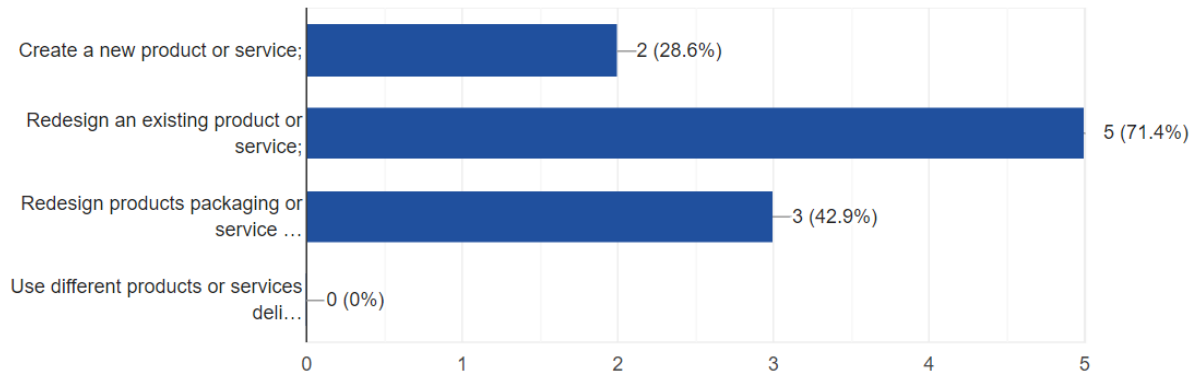


7 responses



B: what do you think are the needed and/or most effective types of changes to make in order to improve products and services?

7 responses



C: what do you think are the products and services that have to be created or modified and how? (e.g. development of a new information service for customers or suppliers, design of new packaging with identification system, dematerialization of documents, porting of service to web-oriented systems)

6 responses

API platform

Full digitalization of documents in process.

porting of service to web-oriented systems

Design and development of a new information service for customers or suppliers with aim to dematerialization of the documents and porting of service to web-oriented systems.

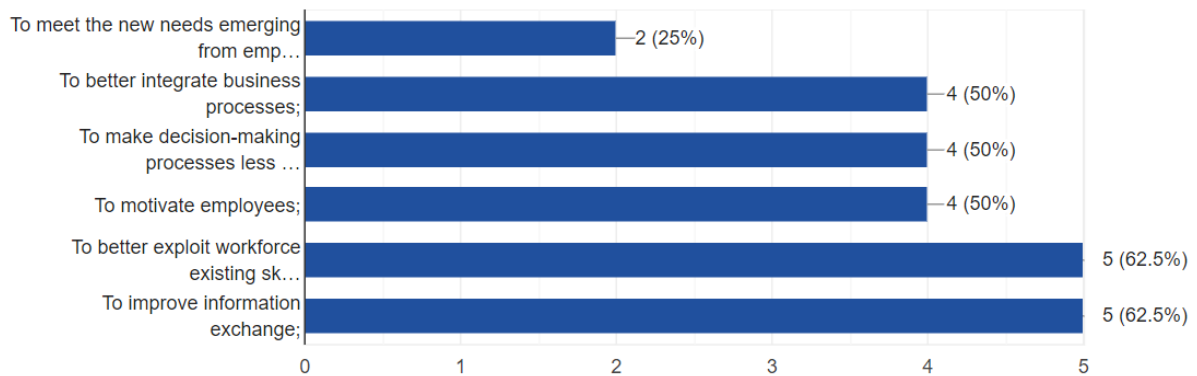
dematerialization of documents, connecting different organisations

Development of better information service support for customers or suppliers.

Organizational model improvement

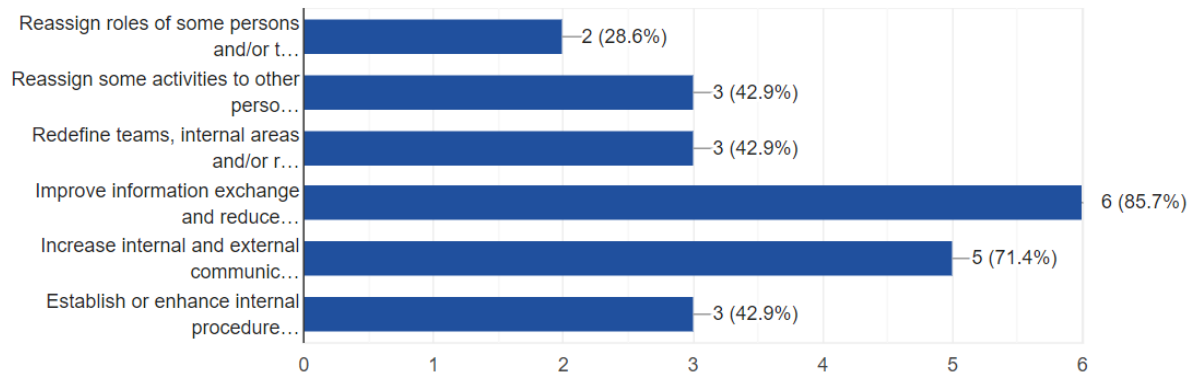
A: do you think you may need to change something of your organizational model in order to make your business compliant with the innovation? What is the reason why you think you need to change them?

8 responses



B: what do you think are the needed and/or most effective type of changes to be made in order to improve your organization model?

7 responses



C: what do you think are the main changes needed about roles and assignments, teams, information exchange, communication methods and procedures in order to better deal with the innovation implementation?

2 responses

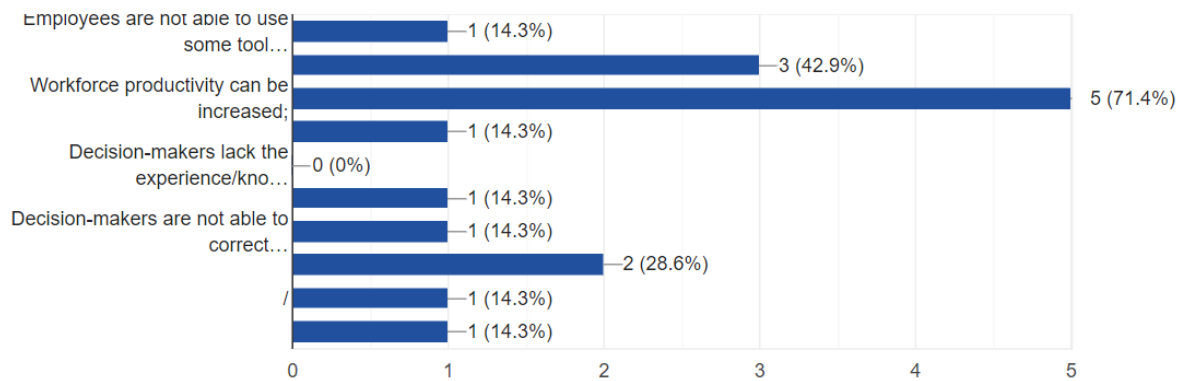
Promotion of the innovation implementation plans internally and externally

It is necessary to motivate and encourage employees to perform business tasks efficiently.
It is indispensable to create a good and stimulating business climate, work habits and responsibilities of each employee.

Employees' skills and capabilities improvement

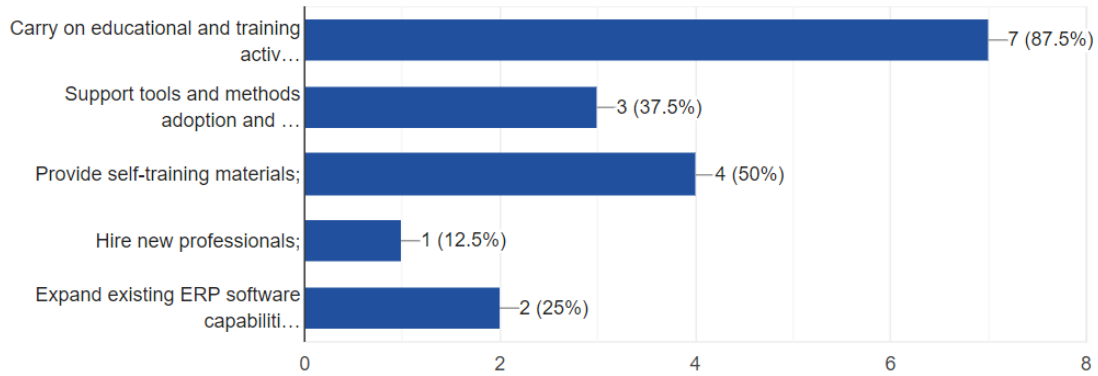
A: do you think you may need to improve the skills and capabilities of your employees or decision-makers in order to better deal with the innovation? What is the reason why you think skills and capabilities inside your organization are not adequate?

7 responses



B: what do you think are the needed and/or most effective types of actions to carry out in order to improve skills and capabilities within your organization?

8 responses



C: what do you think are the most critical lack of skills and capabilities that can limit your organization in dealing with the innovation implementation scenario?

4 responses

- /
- Employees' cooperation is insufficient
- none
- Lack of educated employees (in many segments, such as: IT, business process, knowledge of other languages...).

D: if needed, what do you think are the best strategies and programs to improve skills and capabilities within the specific context of your organization? (e.g. refresher courses, workshops, training on the job/coaching, e-learning, recruiting)

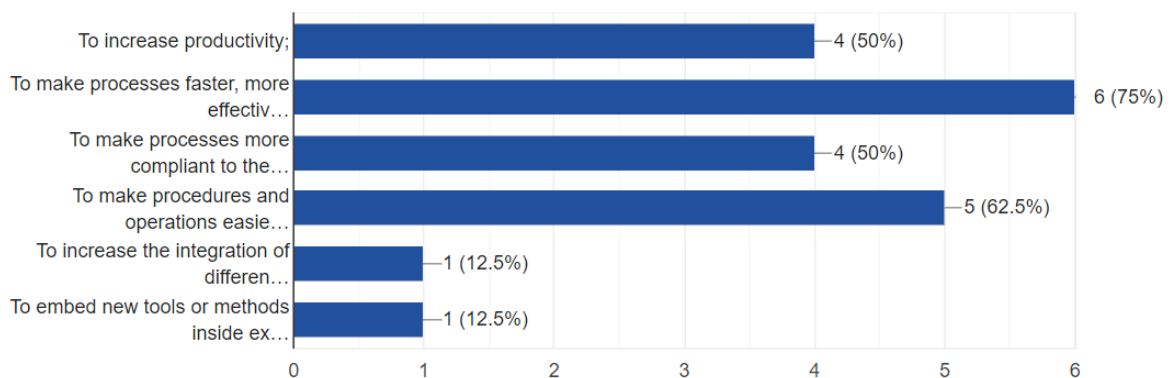
6 responses

- workshops
- /
- E-learning, training on the job.
- e-learning, refresher courses & workshops
- Personnel change. Hiring people with experience in the private sector.

Processes and procedures optimization

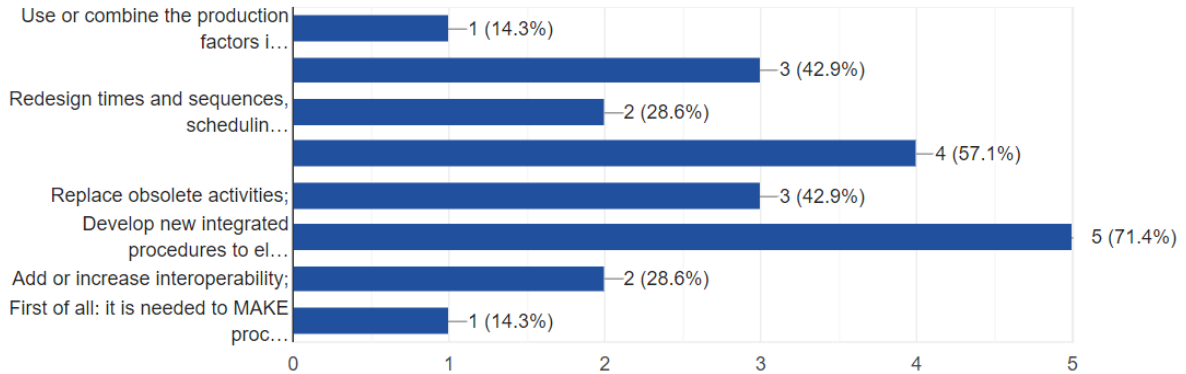
A: do you think you may need to modify your business processes or protocols and procedures in use within your organization to be more compliant with the innovation? What do you think can be the reasons why you may need to optimize them?

8 responses



B: what do you think are the needed and/or most effective types of actions to be carried out in order to improve skills and capabilities within your organization?

7 responses



C: which processes, protocols or procedures do you think you need to optimize to better deal with the innovation implementation? (e.g. data access policies, on-site inspections, information exchange between offices, traffic regulation)

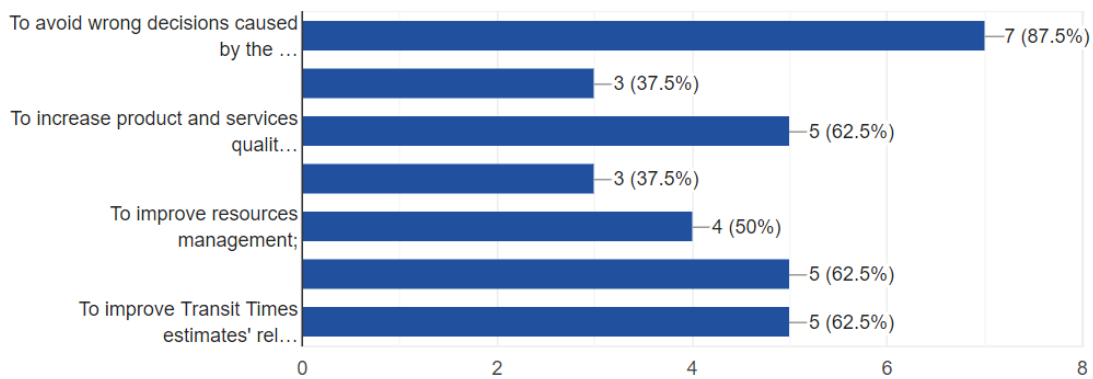
5 responses

- information exchange
- B2G and B2B information exchange
- information Exchange between offices
- Data access policies and on-site inspections.

Information assets improvement

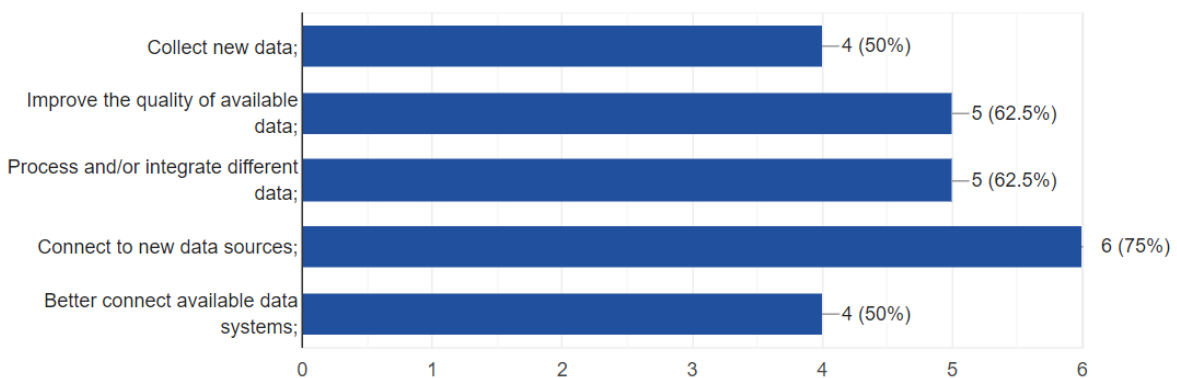
A: do you think you may need to improve the quality of information assets managed by your organization in order to gain more benefits from the innovation deployment? What do you think can be the reasons why you may need to get more data or improve existing datasets' quality?

8 responses



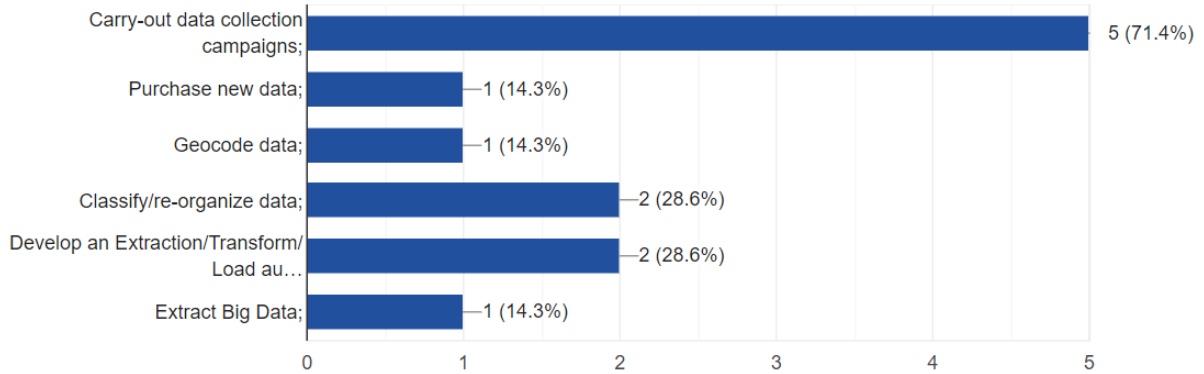
B: what kind of activity do you think you should carry-out to improve the quality of information assets managed by your organization?

8 responses



C: what do you think you should do to get the data you need or to improve data quality in your organization's business context?

7 responses



D: what new data do you think you will need? Which data you own does need improvement or integration? What kind of processing and/or integration of data do you think you need in order to improve your business in the context of the innovation deployment? (e.g. real-time location of cargos, traffic amount inside port area zones, statistics about passengers, estimation of times)

5 responses

For us the most important discussion in general is different, e.g. when we can get the data we need

Better real-time data on traffic amount on the roads, inside port area zones, real-time info on traffic conditions.

estimation of times, real-time location of cargos, traffic amount inside port area zones

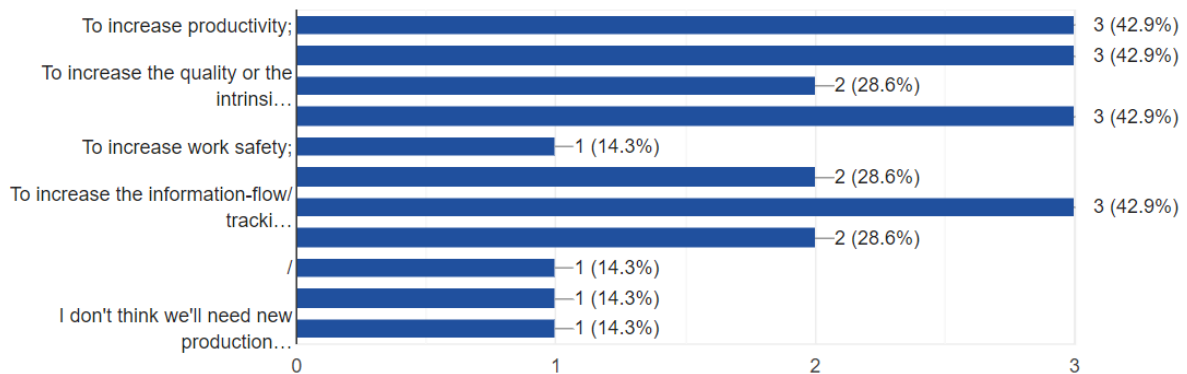
real - time location of cargos, traffic amount inside port area

Estimation of times

Machinery, equipment, ITUs improvement

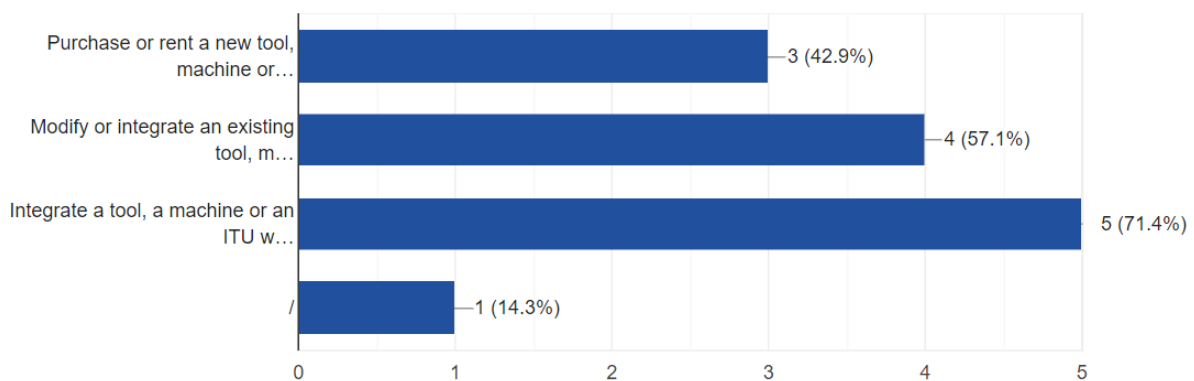
A: do you think you may need to improve machinery, production equipment or ITUs owned by your organization in order to gain more benefits from the innovation deployment? What do you think can be the reasons why you may need to obtain new equipment, ITUs or to improve the functionalities of in-use machinery and tools?

7 responses



B: what kind of activities do you think you should carry-out in order to improve machinery and production equipment owned by your organization?

7 responses



C: what new tool, machine or UTI do you think you will need? Which equipment that you own needs improvement or integration in order to improve your production process in the context of the innovation deployment? (e.g. a new electro-mechanical system, a security update for a machine, a new energy distribution slot)

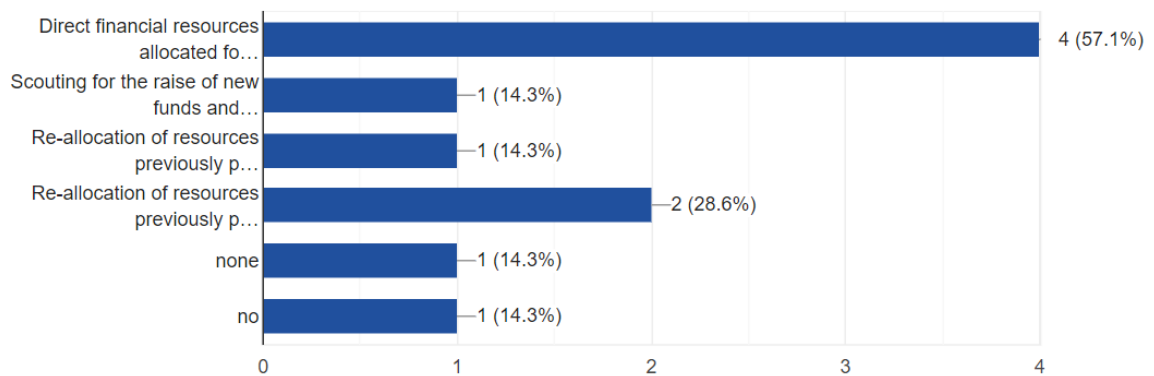
3 responses

- Mobile apps, Vehicle tracking system, etc.
- /
- a security update for a machine, a new energy distribution slot, a new electro-mechanical system

Financial resources allocation

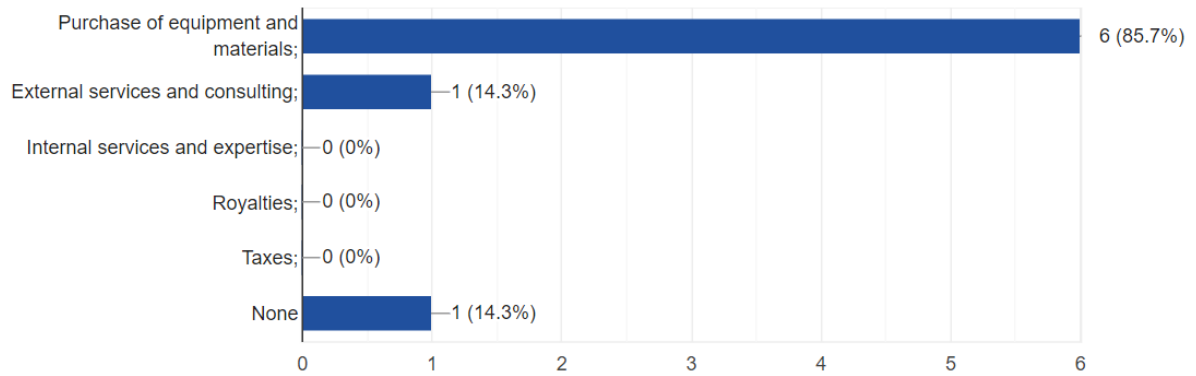
A: do you think your organization may need to allocate special resources to carry-out tasks or activities related to the innovation deployment or to re-allocate previously placed resources? What kind of financial operation do you think will be required?

7 responses



B: what kind of tasks do you think may require special resource allocation or re-allocation?

7 responses



C: what do you think can be the equipment and materials to purchase, and services or consulting to pay to deal with the innovation implementation?

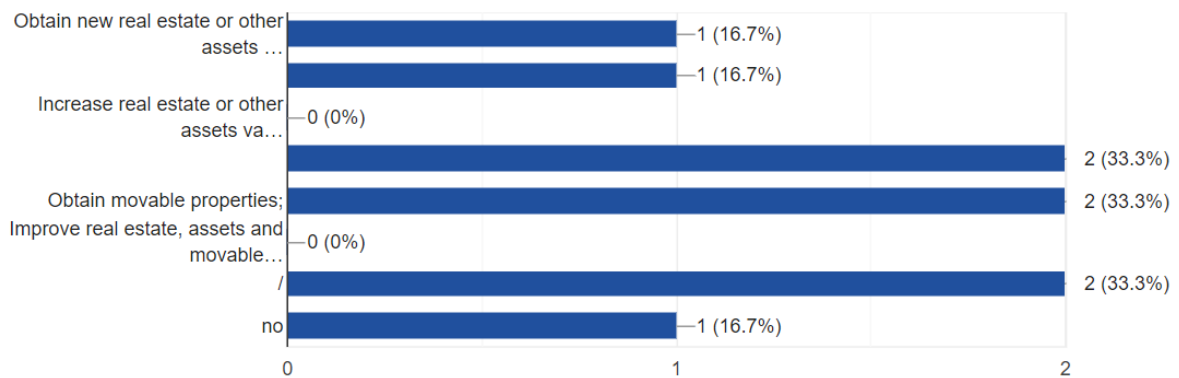
3 responses

- /
- None
- New computers and software.

Goods and real estate

A: do you think your organization may need to obtain special goods or real estate to carry-out tasks or activities related to the innovation deployment? What kind of actions do you think will be required?

6 responses



B: what good or asset do you think may need to be obtained or improved, and how? (e.g. a new warehouse, rooms or office barrier-free, electrified dock, warning signs for open spaces)

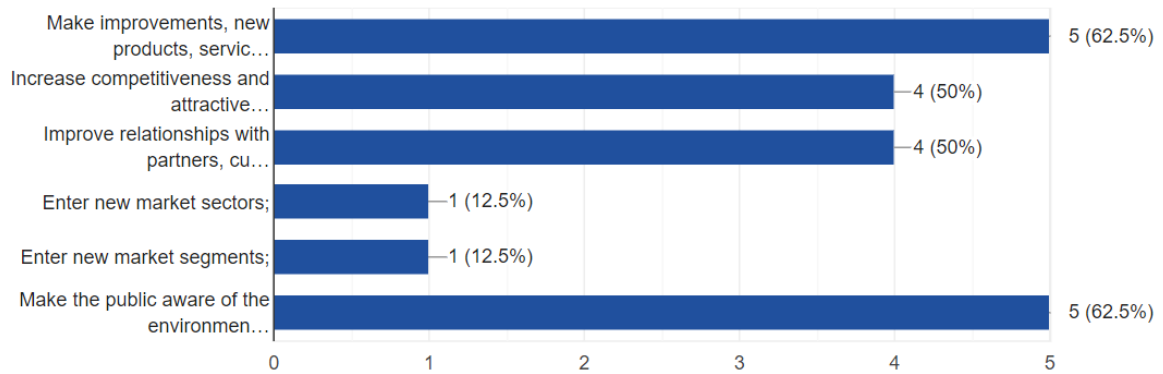
4 responses

- /
- Warehouses - internet accessibility via 5G/LTE/Wi-Fi/other; localization equipment, etc.
- electrified dock, warning signs for open spaces

Corporate image

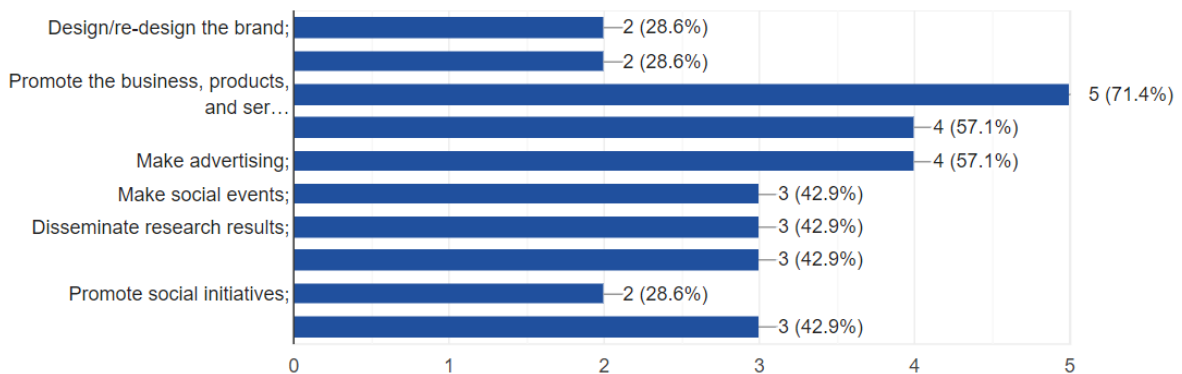
A: do you think there is the need to improve your organization’s corporate image in order to better exploit the benefits of the innovation deployment? What do you think are the main goals to improve your image?

8 responses



B: what actions/strategies do you think may be better to improve your corporate image in the innovation deployment scenario?

7 responses



C: what communication activities, design actions or events do you think you may need to better exploit the benefits of the innovation deployment? (e.g. brochures, logo design, virtual games, contests, digital advertising, newsletter, public conferences, websites)

6 responses

- websites
- All mentioned.
- None
- Public conferences.
- digital advertising, newsletter, public conferences, websites
- Digital advertising, newsletter, info on the website.

Innovation impact assessment

A: Which aspects of the innovation are of particular interest to you?

5 responses

- getting the full picture of services and prices on various transport directions from the ports and other logistic Companies such as rail and trucks
- Digital transformation of services we are offering.
- precise planning / monitoring of all phases of supply chain
- Availability of data, faster and cheaper business processes, better cooperation and coordination between process stakeholders and employees.
- Better quality of the real-time informations.

B: Which scenario would be most feasible to deploy?

3 responses

API platform will be the first offering APIs to business partners.

Education of employees and producing business procedures.

/

C: What benefits would that achieve? What would be the most valuable results?

5 responses

it would be a certain help when offering the logistic services

Better info exchange when needed.

faster exchange of information - shortened transit time

Clear setting of tasks and responsibilities of each participant in the process. Better competitiveness.

/

D: Can you think of the agenda beyond the deployment? How would your operations change? What would be the main changes in your strategy?

4 responses

This is inline with the strategy where innovation is a part of it.

taking active share in providing/sharing necessary information

The involvement of motivated and professional individuals/stakeholders would direct the firm towards constant improvement of business and market position.

/

E: Thinking about the mid to long term, which changes to your industry do you think this innovation would bring? What would be the new competitive scenario?

4 responses

More accurate data exchange within the Logistics chain, data on-demand options available

total digitalisation of the process, no paper documents in use

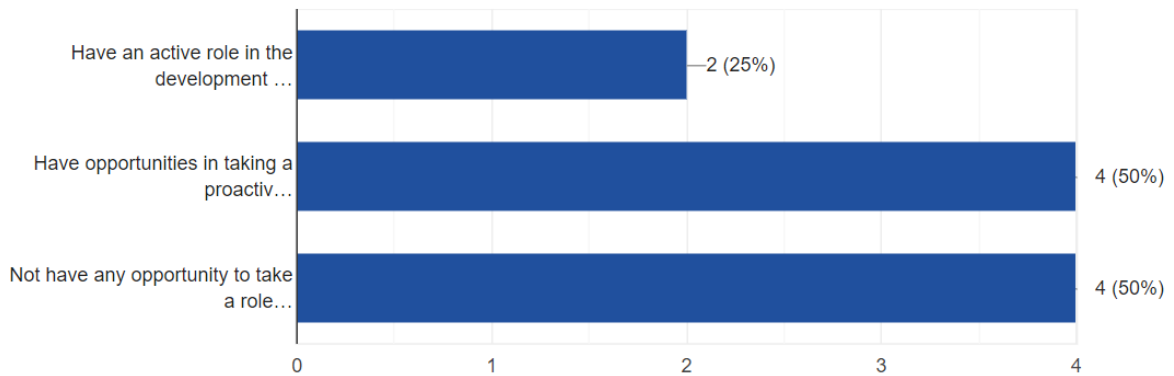
Taking a better market position.

/

Policy scenario

A: Regarding the policy scenario in the context of the innovation deployment, does your organization:

8 responses



B: Do you know if your area has regional or local policies in place, such as development regulations or written policies in adopted plans, that provide positive support of foster this type of innovation and/or foster digital ecosystems?

4 responses

- Not familiar.
- I don't know
- Yes
- /

C: Does your organization have to be compliant to special guidelines, authority regulations, or published policies in adopting the innovation?

5 responses

Not familiar.

No

Yes.

Yes

/

D: Do you think your organization will benefit from special guidelines, authority regulations, or published policies in the innovation deployment scenario?

5 responses

Yes.

No

Yes

/

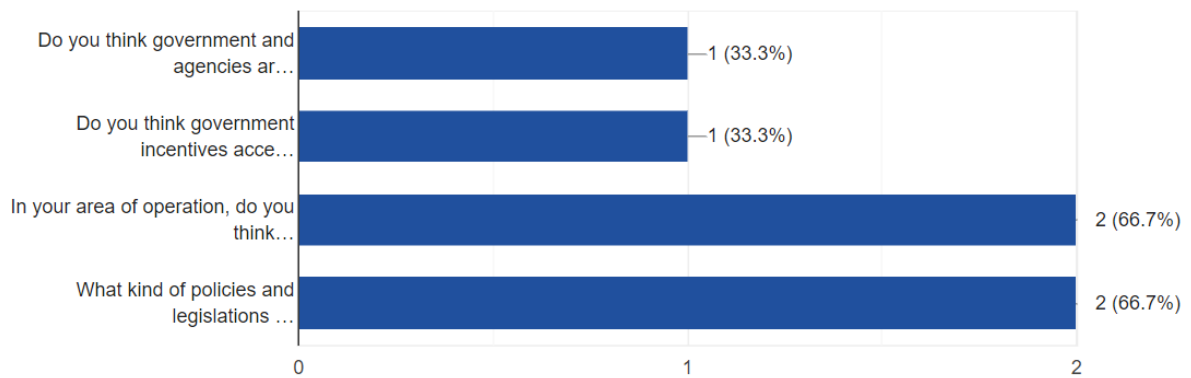
E: Did your organization advocate some policies related to the context of this innovation? If yes, can you list them?

4 responses

- No
- We do have some internal system for innovations.
- /

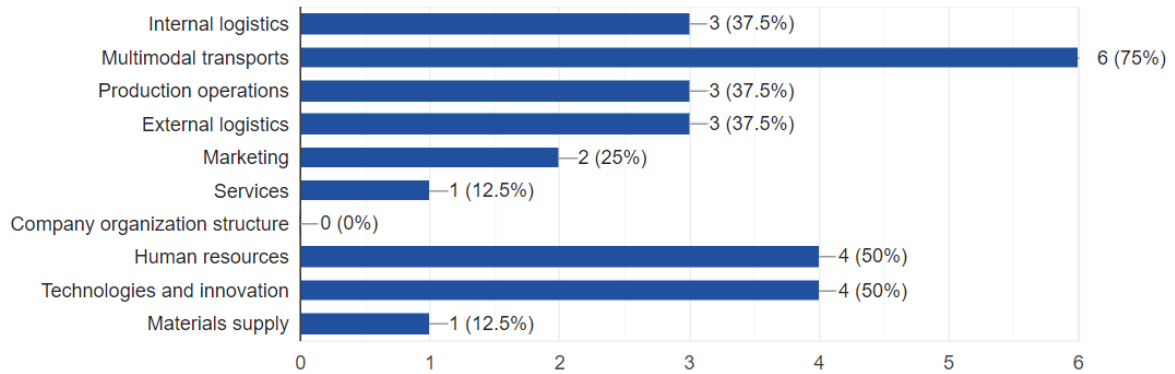
F: Regarding cybersecurity and privacy challenges:

3 responses



G: In your area of operation, which type of value chain do you think are being supported by economic policies?

8 responses



H: What do you think are bottlenecks in laws and regulations?

5 responses

- GDPR, data protection limiting the exchange with interested parties
- different interpretations on laws and regulations
- Policy influence.
- slow and improperly regulation adoption and delivery
- /

I: Do you know whether there are specific innovation policies including institutional coordination of investments in research and development across the sector? Can you list which type of innovation they refer to?

4 responses

/

I don't know

No, really don't know.

J: What do you think are the key barriers to investment and doing business in your sector? (e.g. enforcing contracts, property rights issues, finance issues, lack of trade facilitation/customs)

5 responses

/

unforeseen events

Geographical position and dependence on limited market (Bosnia and Herzegovina).

property rights issues

K: What are impediments to free and fair competition within the sector?

4 responses

/

-

Costs of service due to geographical position.

L: What would you consider the most impactful regulatory change that would make this innovation more effective?

3 responses

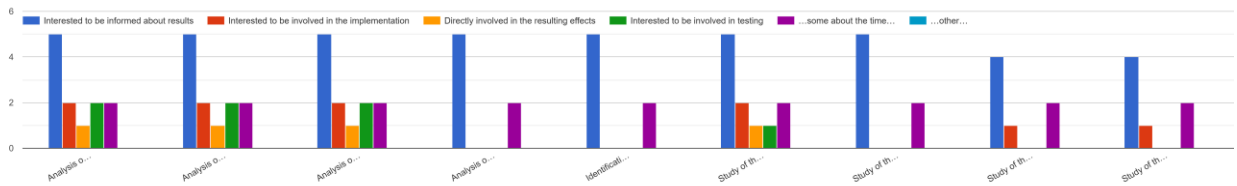
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active support by the institutions

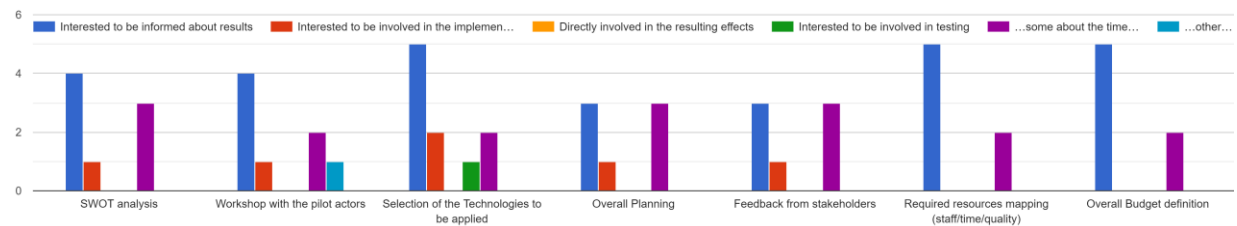
Section 3: Innovation deployment roadmap

Preliminary assessment

Current situation analysis

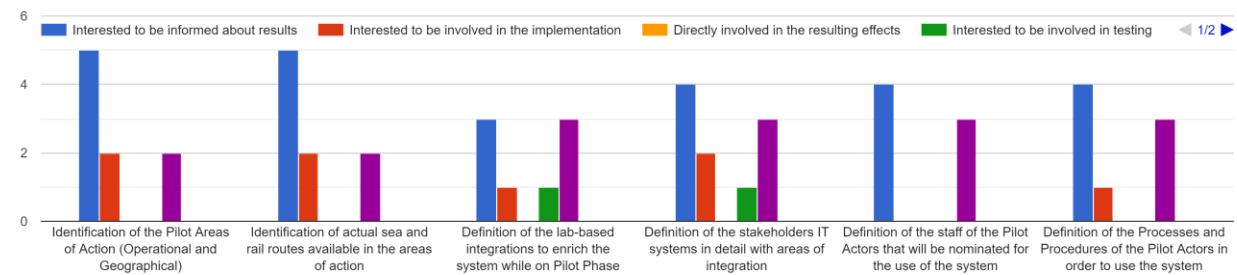


Overall Design

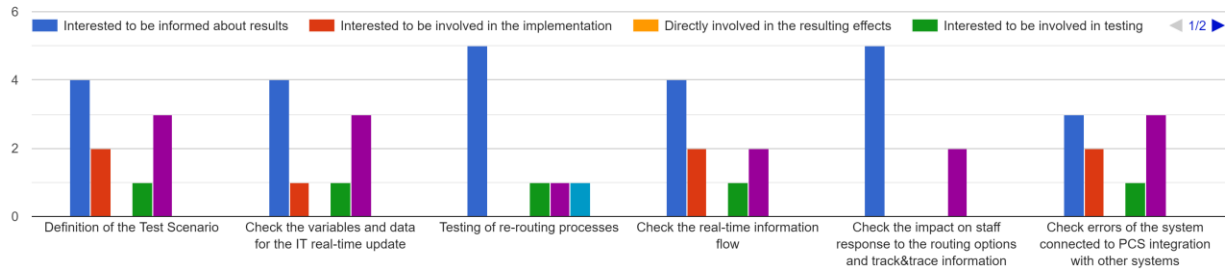


Pilot action

Pilot planning

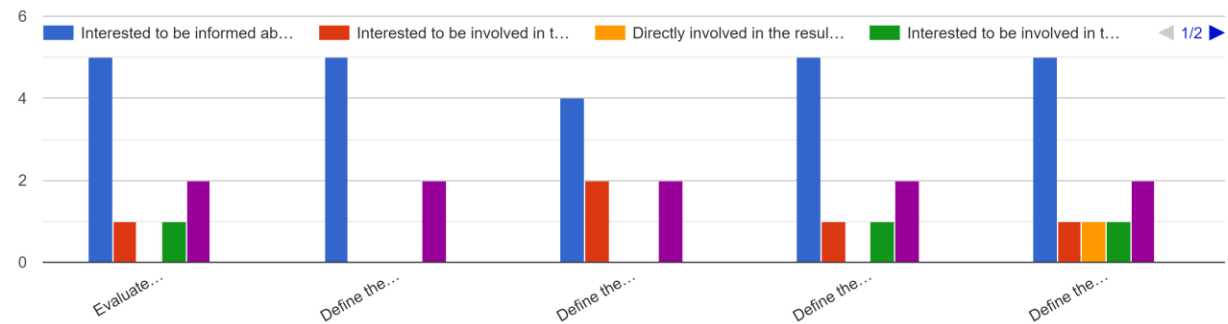


Pilot implementation

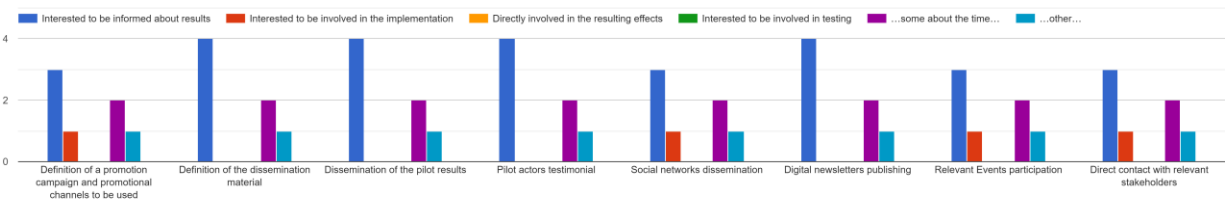


Post-project activities

Pilot Review

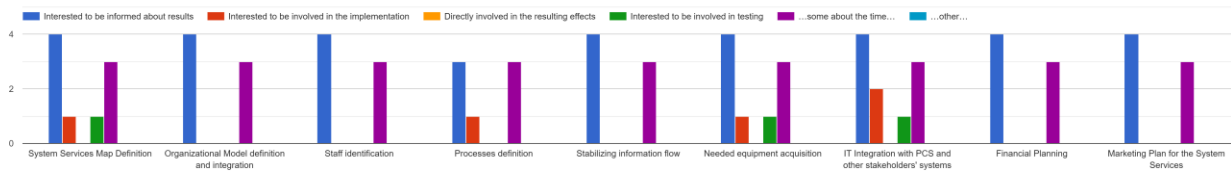


Promotion, dissemination and consultation

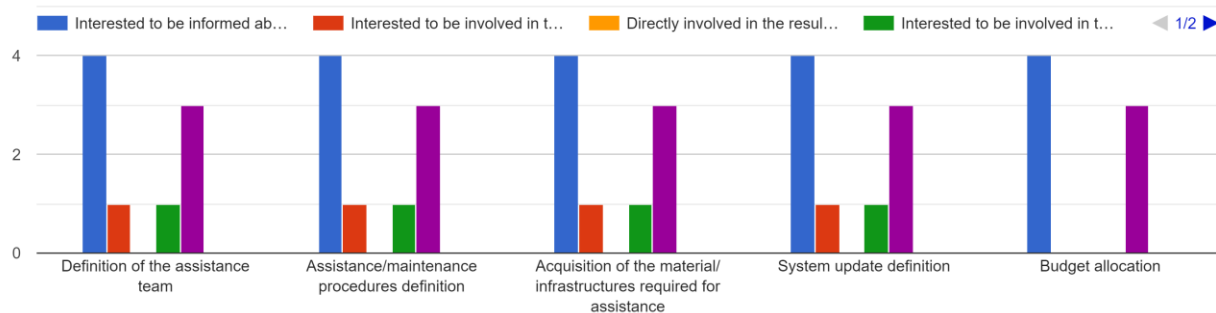


System Exploitation and Maintenance

System exploitation planning and execution



System maintenance planning and execution



2.2.3.2 Results of the questionnaire within the Abruzzo Region

SECTION 1

Q01

A: what benefits brought by the innovation do you think will give greater advantages to your business considering the relationships with the activities and the actors working in the logistics sector?

- A better utilization of available resources; 2 answers
- Waiting time reduction;
- Flexibility in re-routing services in case of unexpected events; 3 answers
- Improve transit-times of multimodal transport services; 2 answers
- The capability to make early planning based on real-time information; 3 answers
- Making multimodal transport services easier to organize; 4 answers
- A better resource-needed forecasting;

- A better infrastructure utilization;
- Lower subjectivity in the routing decision-making process; 3 answers
- Automatic Dangerous Goods and Custom documents processing; 1 answer
- Others

B: what new opportunities do you think the innovation will bring in the logistics sector considering your operational context?

- The reduction of the environmental impact of transportation systems; 1 answer
- The possibility to improve multimodality by integrating different transportation systems; 4 answers
- The possibility to improve efficiency along the supply chain; 2 answers
- The competitiveness increasing of the manufacturing sector by reducing transport costs;
- The possible integration of emerging technologies such as IoT and Machine learning;
- The opportunity to connect companies across the supply chain; 1 answer
- The development of the PCS capabilities; 2 answers
- Others.....

C: which innovation weaknesses do you think will likely make innovation implementation more difficult?

- The reduction of transportation performances due to poor data quality or unavailability; 3 answers
- The inability of making smart changes to delivery plans due to tool long transfer/processing time; 2 answers
- Issues caused by the difficulty in integrating new and improved tools and methods; 1 answer
- High implementation and maintenance costs; 1 answer
- The lack of employees' adequate skills; 1 answer
- Others.....

D: what do you think will be the most relevant threats that likely make innovation deployment less effective?

- Planning inability can arise due to late or missing data; 4 answers
- Limited area coverage/adoption of the system, making it ineffective for large scale planning; 4 answers

- Some processes can be affected due to modifications of some part of the interoperable system; 1 answer
- Some transport operators might not be ready to adapt, distrust, and not provide their data; 3 answers
- Some organization might make distorted use of innovation, for example, to reduce staff; 1 answer
- Regulatory barriers towards a full automatization of Dangerous Goods and Custom Clearance documents processing;
- Others.....

SECTION 2

Q01) Improvement of knowledge and awareness about internal assets and resources:

A: do you think there is the need to make specific analyses, tests or assessments to better know and understand one or more of the following aspects in order to deploy the innovation?

- Performance and lacks in the organization model;
- Skills, capabilities, and productivity of the workforce; 2 answers
- Quality, accuracy and completeness of data and information; 4 answers
- Adequacy of available technologies; 2 answers
- Regulation framework;
- Adequacy, performance and lacks in methods, procedures and protocols; 2 answers
- Amount of financial resources and funding opportunities;
- Adequacy of ITUs, machinery and work tools; 2 answers
- Value of owned real estate;
- Others

B: what do you think are the most effective type of actions to carry out in order to achieve these objectives?

- Perform assessments; 2 answers
- Make prototypes;
- Run tests and experimentations; 3 answers
- Perform monitoring and benchmarking;
- Carry-out a make-or-buy analysis;

- Make censuses of available resources;
- Make needs analyses; 1 answer
- Make requirement analyses; 3 answers
- Structure ERP integration plans; 2 answers
- Others

C: what do you think are the needed and/or most effective analyses, assessments, tests, or other knowledge-improving activities needed to better plan and design the innovation implementation and deployment? (e.g. production process analysis, market scouting, data sources census, relationship issues assessment)

Market scouting and supply chain assessment.

Q02) Adaptation and innovation of products and services:

A: do you think you may need to change the specific features of some of your products or services in order to make your business compliant with the innovation? What is the reason for making you think you need to change them?

- To better meet the new customers and users' needs; 1 answer
- To make product or service cheaper and/or more effective; 2 answers
- To make product or service more compliant to the innovation; 1 answer
- To make product or service more environment-friendly; 2 answers
- To replace non-digital features with digital ones or add new digital-based features;
- To make product or service more attractive or usable; 2 answers
- To make products or service more integrated with other products or services; 3 answers
- Others

B: what do you think are the needed and/or most effective types of changes to make in order to improve products and services?

- Create a new product or service;
- Redesign an existing product or service; ; 3 answers
- Redesign products packaging or service delivery;
- Use different products or services delivery/provision ways and channels; 1 answer
- Others

C: what do you think are the products and services that have to be created or modified and how? (e.g. development of a new information service for customers or suppliers, design of new packaging with identification system, dematerialization of documents, porting of service to web-oriented systems)

A new service would be represented by a user-interface to book and monitor multimodal shipments on real time basis, also, it would be possible to modify current MTO services, expanding the offering over our current trains.

Q03) Organizational model improvement:

A: do you think you may need to change something of your organizational model in order to make your business compliant with the innovation? What is the reason why you think you need to change them?

- To meet the new needs emerging from employees and decision-makers;
- To better integrate business processes; 1 answer
- To make decision-making processes less subjective; 4 answers
- To motivate employees; 1 answer
- To better exploit workforce existing skills and capabilities; 4 answers
- To improve information exchange; 1 answer
- Others

B: what do you think are the needed and/or most effective type of changes to be made in order to improve your organization model?

- Reassign roles of some persons and/or teams;
- Reassign some activities to other persons or teams; 3 answers
- Redefine teams, internal areas and/or relationships between persons, teams, and areas; 1 answer
- Improve information exchange and reduce redundancy and inconsistency of communication; 2 answers
- Increase internal and external communication; 2 answers
- Establish or enhance internal procedures; 1 answer
- Others

C: what do you think are the main changes needed about roles and assignments, teams, information exchange, communication methods and procedures in order to better deal with the innovation implementation?

It is important to create teams with different skills, both IT, operations and CS.

Q04) Employees' skills and capabilities improvement:

A: do you think you may need to improve the skills and capabilities of your employees or decision-makers in order to better deal with the innovation? What is the reason why you think skills and capabilities inside your organization are not adequate?

- Employees are not able to use some tools and apply some procedures; 2 answers
- Employees' cooperation is insufficient;
- Workforce productivity can be increased; 3 answers
- Decision-makers are not able to redefine services quickly when something wrong happens; 2 answers
- Decision-makers lack the experience/knowledge required for service planning; 2 answers
- Decision-makers are not able to correctly define workgroups and internal areas subdivision;
- Decision-makers are not able to correctly understand/assess inputs, outputs and times of production and service provision processes; 1 answer
- Decision-makers are not able to correctly forecast skills and capabilities needs; 2 answers
- Others

B: what do you think are the needed and/or most effective types of actions to carry out in order to improve skills and capabilities within your organization?

- Carry on educational and training activities for employees and decision-makers; 2 answers
- Support tools and methods adoption and utilization;
- Provide self-training materials; 2 answers
- Hire new professionals;
- Expand existing ERP software capabilities; 4 answers
- Others

C: what do you think are the most critical lack of skills and capabilities that can limit your organization in dealing with the innovation implementation scenario?

There is limited knowledge besides the rail sector and its core activities. Therefore, in order to use the whole system presented, we would need for our organization a training course to gain a complete perspective on the sector.

D: if needed, what do you think are the best strategies and programs to improve skills and capabilities within the specific context of your organization? (e.g. refresher courses, workshops, training on the job/coaching, e-learning, recruiting)

Workshops and training on the job.

Q05) Processes and procedures optimization:

A: do you think you may need to modify your business processes or protocols and procedures in use within your organization to be more compliant with the innovation? What do you think can be the reasons why you may need to optimize them?

- To increase productivity;
- To make processes faster, more effective and eliminate bottlenecks; 3 answers
- To make processes more compliant to the innovation and exploit the digitalization; 1 answer
- To make procedures and operations easier for employees; 2 answers
- To increase the integration of different processes and exploit synergies;
- To embed new tools or methods inside existing processes or define new processes based on the use of new tools and methods;
- Others

B: what do you think are the needed and/or most effective types of actions to be carried out in order to improve skills and capabilities within your organization?

- Use or combine the production factors in a smarter way; 2 answers
- Re-allocate or increase resources; 2 answers
- Redesign times and sequences, scheduling, relationships between resources and processes; 3 answers
- Make new regulations or review existing ones;
- Replace obsolete activities;
- Develop new integrated procedures to eliminate redundant activities; 1 answer
- Add or increase interoperability;
- Others

C: which processes, protocols or procedures do you think you need to optimize to better deal with the innovation implementation? (e.g. data access policies, on-site inspections, information exchange between offices, traffic regulation)

We would need a better information exchange between offices and departments of our company.

Q06) Information assets improvement:

A: do you think you may need to improve the quality of information assets managed by your organization in order to gain more benefits from the innovation deployment? What do you think can be the reasons why you may need to get more data or improve existing datasets' quality?

- To avoid wrong decisions caused by the use of bad data quality or lack of data; 3 answers
- To better support production processes; 1 answer
- To increase product and services quality;
- To increase analysis, forecast and estimation capability; 2 answers
- To improve resources management; 3 answers
- To create new services for customers, users and suppliers;
- To improve Transit Times estimates' reliability; 3 answers
- Others

B: what kind of activity do you think you should carry-out to improve the quality of information assets managed by your organization?

- Collect new data; 1 answer
- Improve the quality of available data; 4 answers
- Process and/or integrate different data;
- Connect to new data sources; 1 answer
- Better connect available data systems; 3 answers
- Others

C: what do you think you should do to get the data you need or to improve data quality in your organization's business context?

- Carry-out data collection campaigns; 1 answer
- Purchase new data;

- Geocode data;
- Classify/re-organize data; 4 answers
- Develop an Extraction/Transform/Load automated system; 1 answer
- Extract Big Data;
- Others

D: what new data do you think you will need? Which data you own does need improvement or integration? What kind of processing and/or integration of data do you think you need in order to improve your business in the context of the innovation deployment? (e.g. real-time location of cargos, traffic amount inside port area zones, statistics about passengers, estimation of times)

Real-time location of cargos would help, rail traffic, estimates of ETA, booking procedures.

Q07) Machinery, equipment, ITUs improvement:

A: do you think you may need to improve machinery, production equipment or ITUs owned by your organization in order to gain more benefits from the innovation deployment? What do you think can be the reasons why you may need to obtain new equipment, ITUs or to improve the functionalities of in-use machinery and tools?

- To increase productivity; 2 answers
- To allow the creation of a new product or the provision of a new service;
- To increase the quality or the intrinsic value of a product or a service; 1 answer
- To ease the use of the tools or the application of work procedures;
- To increase work safety;
- To obtain a new specific working process function; 1 answer
- To increase the information-flow/tracking of the ITU; 3 answers
- To access new services not previously available with other ITUs; 3 answers
- Others

B: what kind of activities do you think you should carry-out in order to improve machinery and production equipment owned by your organization?

- Purchase or rent a new tool, machine or ITU; 2 answers
- Modify or integrate an existing tool, machine or ITU; 4 answers
- Integrate a tool, a machine or an ITU with another one or with a system; 2 answers

Others

C: what new tool, machine or UTI do you think you will need? Which equipment that you own needs improvement or integration in order to improve your production process in the context of the innovation deployment? (e.g. a new electro-mechanical system, a security update for a machine, a new energy distribution slot)

We would need ITUs connected with Track&Trace Systems.

Q08) Information Technology IT infrastructure improvement:

A: do you think you may need to improve your organization’s IT infrastructure in order to gain more benefits from the innovation deployment? What do you think can be the reasons why you may need to obtain new IT tools or to improve the ones already in-use?

- To get new digital information storage capacity or increase the one available (more room);
- To get new computer processing power or increase the one available (more speed);
- To get new information processing functions or update existing (better results); ; 3 answers
- To get information network exchange capability or increase its performance (improve sharing); ; 1 answer
- Others

B: what kind of activities do you think you should carry-out in order to improve your organization’s IT infrastructure?

- Purchase or rent a storage device;
- Purchase a cloud-based storage service; 1 answers
- Purchase or rent a server computer, workstations, client or personal computers;
- Purchase a cloud-based computing (processing) solution; ; 2 answers
- Purchase and install sensor devices and/or actuators;
- Purchase software licenses; 3 answers
- Update operating systems and applications;
- Purchase, install and/or update an ERP software; 3 answers
- Purchase and install network devices and infrastructures;
- Perform systems and applications update, tuning and maintenance;
- Others

C: what new IT tool or device do you think you will need? Which IT equipment you own needs improvement or integration in order to improve your production process or organizational model in the context of the innovation deployment? (e.g. a new sensor system, a document management system, a data server, a firewall, a mobile app software license update, a new IT infrastructure maintenance service for the warehouse)

We would need to integrate our ERP system.

Q09) Financial resources allocation:

A: do you think your organization may need to allocate special resources to carry-out tasks or activities related to the innovation deployment or to re-allocate previously placed resources? What kind of financial operation do you think will be required?

- Direct financial resources allocated for the needed actions; 1 answer
- Scouting for the raise of new funds and resources to be used for the innovation; 2 answers
- Re-allocation of resources previously placed for other tasks of the innovation; 1 answer
- Re-allocation of resources previously placed for other projects or activities; 1 answer
- Others

B: what kind of tasks do you think may require special resource allocation or re-allocation?

- Purchase of equipment and materials;
- External services and consulting; 3 answers
- Internal services and expertise; 1 answer
- Royalties;
- Taxes;
- Others

C: what do you think can be the equipment and materials to purchase, and services or consulting to pay to deal with the innovation implementation?

Consultants for training activities.

Q10) Goods and real estate:

A: do you think your organization may need to obtain special goods or real estate to carry-out tasks or activities related to the innovation deployment? What kind of actions do you think will be required?

- Obtain new real estate or other assets needed for some production or service provision processes;
- Redefine the use of available real estate or assets according to production or service provision process;
- Increase real estate or other assets value;
- Improve real estate or asset features; 1 answer
- Obtain movable properties;
- Improve real estate, assets and movable properties quality, usability or durability; 2 answers
- Others none

B: what good or asset do you think may need to be obtained or improved, and how? (e.g. a new warehouse, rooms or office barrier-free, electrified dock, warning signs for open spaces)

none

Q11) Corporate image:

A: do you think there is the need to improve your organization’s corporate image in order to better exploit the benefits of the innovation deployment? What do you think are the main goals to improve your image?

- Make improvements, new products, services, and features known to the public; 3 answers
- Increase competitiveness and attractiveness;
- Improve relationships with partners, customers and suppliers; 2 answers
- Enter new market sectors; 1 answer
- Enter new market segments; 4 answers
- Make the public aware of the environmentally friendly activities carried out; 2 answers
- Others

B: what actions/strategies do you think may be better to improve your corporate image in the innovation deployment scenario?

- Design/re-design the brand;
- Modify the products/services portfolio; 1 answer
- Promote the business, products, and services through the traditional media; 1 answer
- Promote the business, products, and service using social media; 2 answers

- Make advertising;
- Make social events;
- Disseminate research results;
- Involve people, companies, institutions, and professionals in live activities; 3 answers
- Promote social initiatives;
- Create pilot/test open days with customers/suppliers to show the innovation functionality; 4 answers
- Others

C: what communication activities, design actions or events do you think you may need to better exploit the benefits of the innovation deployment? (e.g. brochures, logo design, virtual games, contests, digital advertising, newsletter, public conferences, websites)

Website and social media advertising in order to convince B2B users to utilize the platform.

Q12) Innovation impact assessment:

A: Which aspects of the innovation are of particular interest to you?

The service planning module

B: Which scenario would be most feasible to deploy?

A stand-alone pilot system to be integrated into the company's ERP system.

C: What benefits would that achieve? What would be the most valuable results?

A simplified management tool for multimodal shipments, useful for planning, routing and re-routing.

D: Can you think of the agenda beyond the deployment? How would your operations change? What would be the main changes in your strategy?

We would expand our current offering, from rail operator services to full MTOs ones.

E: Thinking about the mid to long term, which changes to your industry do you think this innovation would bring? What would be the new competitive scenario?

This system would make easier to arrange multimodal shipments, making multimodality in freight transport more transparent and easy.

Q13) Policy scenario:

In the innovation deployment scenario, many activities are strongly related to policies and regulations obligations and requirements.

A: Regarding the policy scenario in the context of the innovation deployment, does your organization:

- Have an active role in the development of policies and regulations?
- Have opportunities in taking a proactive role in the development of policies and regulations? 1 answer
- Not have any opportunity to take a role in the development of policies and regulations? 3 answers

B: Do you know if your area has regional or local policies in place, such as development regulations or written policies in adopted plans, that provide positive support of foster this type of innovation and/or foster digital ecosystems?

Regional development plans would be important, particularly regarding funds and support to SMEs using multimodal transport services.

C: Does your organization have to be compliant to special guidelines, authority regulations, or published policies in adopting the innovation?

We do have to be compliant to national rail regulations and to further standards for MTOs.

D: Do you think your organization will benefit from special guidelines, authority regulations, or published policies in the innovation deployment scenario?

Contributions in kind for MTOs such as Ferrobonus and similar incentives to use a system like the one presented would make the benefits larger for our company.

E: Did your organization advocate some policies related to the context of this innovation? If yes, can you list them?

We advocated regional incentives in support of MTOs and multimodal rail services.

F. Regarding cybersecurity and privacy challenges:

- Do you think government and agencies are ahead of the curve in terms of supporting industry to find solutions to emerging threats? 2 answers
- Do you think government incentives accelerate the adoption of new technology in this field? 1 answer

- In your area of operation, do you think there are coherent industry regulations in place for effective controls?
- What kind of policies and legislations are important for stimulating innovation?
1 answer

G. In your area of operation, which type of value chain do you think are being supported by economic policies?

- Internal logistics
- Multimodal transports 4 answers
- Production operations
- External logistics
- Marketing
- Services 1 answer
- Company organization structure
- Human resources 2 answers
- Technologies and innovation 3 answers
- Materials supply
- Other

H. What do you think are bottlenecks in laws and regulations?

There are some restrictions, in particular with dangerous goods and waste transport. Also, there is a widespread use of paper documents, which should be digitalized, thanks also to the use of systems like the one proposed.

I. Do you know whether there are specific innovation policies including institutional coordination of investments in research and development across the sector? Can you list which type of innovation they refer to?

There are funds dedicated to multimodal transport services.

J. What do you think are the key barriers to investment and doing business in your sector? (e.g. enforcing contracts, property rights issues, finance issues, lack of trade facilitation/customs)

High entry costs, unions (in particular rail ones), national rail certificates.

K. What are impediments to free and fair competition within the sector?

High investment costs, regulations and local monopolies given by the allocation of infrastructure.

L. What would you consider the most impactful regulatory change that would make this innovation more effective?

Allow rail documents digitalization.

SECTION 3

interested to be informed about results
 interested to be involved in the
 directly involved in the resulting effects
 interested to be involved in testing
 ... *some about the time* ...
 ... *other* ...
 ..

Preliminary assessment								
Current situation analysis								
	Analysis of DigLogs Pilot Project Requirements	1	2			1		
	Analysis of the current technology available for Ports, Terminals, Transport Operators, MTOs and Shipping Companies	1	2			1		
	Analysis of Pilot Requirements in terms of IT capabilities	1	2			1		
	Analysis of Pilot Requirements in terms of information	1	2			1		
	Identification of Pilot candidates	1	2			1		
	Study of the current IT systems available for the pilot candidates	1	2			1		
	Study of the organizational model in place for pilot candidates	1	2			1		
	Study of the Employees capabilities of the pilot candidates	1	2			1		
	Study of the Processes and Procedures of the pilot candidates	1	2			1		
Overall Design								
	SWOT analysis	1	2			1		
	Workshop with the pilot actors	1	2			1		
	Selection of the Technologies to be applied	1	2			1		
	Overall Planning	1	2			1		
	Feedback from stakeholders	1	2			1		
	Required resources mapping (staff/time/quality)	1	2			1		
	Overall Budget definition	1	2			1		
Pilot action								

Pilot planning							
	Identification of the Pilot Areas of Action (Operational and Geographical)	1	2			1	
	Identification of actual sea and rail routes available in the areas of action	1	2			1	
	Definition of the lab-based integrations to enrich the system while on Pilot Phase	1	2			1	
	Definition of the stakeholders IT systems in detail with areas of integration	1	2			1	
	Definition of the staff of the Pilot Actors that will be nominated for the use of the system	1	2			1	
	Definition of the Processes and Procedures of the Pilot Actors in order to use the system	1	2			1	
Pilot implementation							
	Definition of the Test Scenario	1	2			1	
	Check the variables and data for the IT real-time update	1	2			1	
	Testing of re-routing processes	1	2			1	
	Check the real-time information flow	1	2			1	
	Check the impact on staff response to the routing options and track&trace information	1	2			1	
	Check errors of the system connected to PCS integration with other systems	1	2			1	
Post-project activities							
Pilot Review							
	Evaluate Organizational Changes the System would bring on a wider scale on organizations, considering the savings that could be brought	1	2			1	
	Define the impact of the system on jobs roles and the productivity increase	1	2			1	
	Define the impact of the system on processes and procedures	1	2			1	
	Define the information integration needed to increase the performance of the system	1	2			1	
	Define the IT infrastructure needed to perform a complete system integration across the supply chain to make the system more effective	1	2			1	
Promotion, dissemination and consultation							
	Definition of a promotion campaign and promotional channels to be used	1	2			1	
	Definition of the dissemination material	1	2			1	
	Dissemination of the pilot results	1	2			1	
	Pilot actors testimonial	1	2			1	
	Social networks dissemination	1	2			1	
	Digital newsletters publishing ¹ _{SEP}	1	2			1	
	Relevant Events participation	1	2			1	
	Direct contact with relevant stakeholders	1	2			1	
System Exploitation and Maintenance							
System exploitation planning and execution							
	System Services Map Definition	1	2			1	
	Organizational Model definition and integration	1	2			1	
	Staff identification	1	2			1	
	Processes definition	1	2			1	
	Stabilizing information flow	1	2			1	
	Needed equipment acquisition	1	2			1	
	IT Integration with PCS and other stakeholders' systems	1	2			1	
	Financial Planning	1	2			1	
	Marketing Plan for the System Services	1	2			1	

System maintenance planning and execution							
	Definition of the assistance team	1	2			1	
	Assistance/maintenance procedures definition	1	2			1	
	Acquisition of the material/infrastructures required for assistance	1	2			1	
	System update definition	1	2			1	
	Budget allocation	1	2			1	

2.3 Deliveries Planning - results commentary and final considerations

The present document presented the results coming from stakeholder consultation. This will be the base for the revision of the roadmap related to Deliveries Planning and the definition of its final version. The presented results are not homogeneous, since they reflect the specific importance given to different aspects depending on the innovation they deal with. Nevertheless, they provide an interesting information source thanks to the collaboration of a wide spectrum of stakeholders from the project area.

Most of the respondents agree that Deliveries Planning is an interesting and useful innovation. As it is presented, it is more interesting to specific groups of stakeholders (transport operators, shipping companies, MTOs, terminals, vessel owners) than others (port authorities), but this might change if other uses of Deliveries Planning are identified with the evolution of the pilot and the product.

Stakeholders are looking forward for a better utilisation of available resources, an easier and less subjective organization of multimodal services, and flexibility in re-routing services. The goal is to improve the efficiency of Deliveries planning and to avoid wrong decision caused by the use of bad quality data or due to lack of data.

Stakeholders have identified also some impediments, which are presently in place and can affect the success of Deliveries Planning when comparing multimodal transport options. For example, tariffs and prices are often not publicly available and stakeholders will be reluctant to disclose such information, which might impact the quality of Deliveries Planning based on cost optimisation. A limited geographic coverage of the system may also be an obstacle to the effectiveness of Deliveries Planning.

Moreover, stakeholders expressed the fear that some stakeholders will reject participation, limiting the potential usefulness of innovation. However, this risk can be mitigated with a new relationship/agreements between stakeholders and with the protection of sensitive business data, so that it is used only for computation/planning and not other business leverages.

The other big concern with the stakeholders is poor quality and late arrival of data needed for Deliveries Planning optimisation. This can be mitigated with tests runs and experimentations, regular data monitoring and benchmarking.

Integration with existing IT solutions (like PCS and ERP systems) is high on the list of priorities, so the Deliveries Planning solution will have to take in consideration the option of an easier integration (over web services) to existing information workflows. This is in line with digitalisation efforts that are currently in place in a number of port communities.

On the HR perspective, stakeholders have indicated that Deliveries Planning may better exploit workforce existing skills and capabilities, increasing productivity, while it may also have a direct impact on the organization model, suggesting a change in the structure, reassigning some activities to other persons or teams.

3 Appendix 1

Following is the questionnaire that was used in the stakeholder consultation process, as part of the WP4 - activity 2.

3.1 Deliveries Planning questionnaire

3.1.1 Section 1: Benefits and risks related to the innovation:

Q01 Deliveries Planning – benefits and risks

Deliveries Planning is innovative IT solution, based on Big Data and PCS automation, aimed at better planning of deliveries based on the real-time and predicted traffic conditions, service prices, transit times, schedules & ITU requirements comparisons, automatically suggesting or enabling selection of best travel routes before or during the trip. This tool is a specialized Decision Support System that calculates and suggests routes by processing normalized real-time data coming from external sources and systems used by the port community. Deliveries planning solution can be easily connected to the existing Port and Maritime information systems both as sources and as targets of the Delivery Planning Solution.

A: what benefits brought by the innovation do you think will give greater advantages to your business considering the relationships with the activities and the actors working in the logistics sector?

- A better utilization of available resources;
- Waiting time reduction;
- Flexibility in re-routing services in case of unexpected events;

- Improve transit-times of multimodal transport services;
- The capability to make early planning based on real-time information;
- Making multimodal transport services easier to organize;
- A better resource-needed forecasting;
- A better infrastructure utilization;
- Lower subjectivity in the routing decision-making process;
- Automatic Dangerous Goods and Custom documents processing;
- Others

B: what new opportunities do you think the innovation will bring in the logistics sector considering your operational context?

- The reduction of the environmental impact of transportation systems;
- The possibility to improve multimodality by integrating different transportation systems;
- The possibility to improve efficiency along the supply chain;
- The competitiveness increasing of the manufacturing sector by reducing transport costs;
- The possible integration of emerging technologies such as IoT and Machine learning;
- The opportunity to connect companies across the supply chain;
- The development of the PCS capabilities;
- Others.....

C: which innovation weaknesses do you think will likely make innovation implementation more difficult?

- The reduction of transportation performances due to poor data quality or unavailability;
- The inability of making smart changes to delivery plans due to tool long transfer/processing time;
- Issues caused by the difficulty in integrating new and improved tools and methods;
- High implementation and maintenance costs;
- The lack of employees' adequate skills;
- Others.....

D: what do you think will be the most relevant threats that likely make innovation deployment less effective?

- Planning inability can arise due to late or missing data;
- Limited area coverage/adoption of the system, making it ineffective for large scale planning;

- Some processes can be affected due to modifications of some part of the interoperable system;
- Some transport operators might not be ready to adapt, distrust, and not provide their data;
- Some organization might make distorted use of innovation, for example, to reduce staff;
- Regulatory barriers towards a full automatization of Dangerous Goods and Custom Clearance documents processing;
- Others.....

3.1.2 Section 2. Needed actions for innovation deployment:

Q01) Improvement of knowledge and awareness about internal assets and resources:

Internal assets and resources are the core value of an organization and include all physical and intangible resources, from financial, knowledge and organizational resources to machinery, technologies, workforce and real estate. Note that this context element is about the knowledge about both intrinsic values of items and their productivity and performances; indeed, it is very important to have the most accurate and detailed report of available resources in order to develop any subsequent planning and design action.

A: do you think there is the need to make specific analyses, tests or assessments to better know and understand one or more of the following aspects in order to deploy the innovation?

- Performance and lacks in the organization model;
- Skills, capabilities, and productivity of the workforce;
- Quality, accuracy and completeness of data and information;
- Adequacy of available technologies;
- Regulation framework;
- Adequacy, performance and lacks in methods, procedures and protocols;
- Amount of financial resources and funding opportunities;
- Adequacy of ITUs, machinery and work tools;
- Value of owned real estate;
- Others

B: what do you think are the most effective type of actions to carry out in order to achieve these objectives?

- Perform assessments;
- Make prototypes;

- Run tests and experimentations;
- Perform monitoring and benchmarking;
- Carry-out a make-or-buy analysis;
- Make censuses of available resources;
- Make needs analyses;
- Make requirement analyses;
- Structure ERP integration plans;
- Others

C: what do you think are the needed and/or most effective analyses, assessments, tests, or other knowledge-improving activities needed to better plan and design the innovation implementation and deployment? *(e.g. production process analysis, market scouting, data sources census, relationship issues assessment)*

Q02) Adaptation and innovation of products and services:

Products and services are the core business of a company or an institution. Changing a product or a service does not mean changing the production or the provisioning process but changing the specific features of a product or a service. Changing products and services is often a response to some modification of the broader context of the production and provision process.

A: do you think you may need to change the specific features of some of your products or services in order to make your business compliant with the innovation? What is the reason for making you think you need to change them?

- To better meet the new customers and users' needs;
- To make product or service cheaper and/or more effective;
- To make product or service more compliant to the innovation;
- To make product or service more environment-friendly;
- To replace non-digital features with digital ones or add new digital-based features;
- To make product or service more attractive or usable;

- To make products or service more integrated with other products or services;
- Others

B: what do you think are the needed and/or most effective types of changes to make in order to improve products and services?

- Create a new product or service;
- Redesign an existing product or service;
- Redesign products packaging or service delivery;
- Use different products or services delivery/provision ways and channels;
- Others

C: what do you think are the products and services that have to be created or modified and how? (e.g. development of a new information service for customers or suppliers, design of new packaging with identification system, dematerialization of documents, porting of service to web-oriented systems)

Q03) Organizational model improvement:

The organization model is how responsibilities and activities are assigned to persons or teams referring to specific business areas. It can also include other aspects such as relationships network, materials' sharing, information exchange and communication modalities.

A: do you think you may need to change something of your organizational model in order to make your business compliant with the innovation? What is the reason why you think you need to change them?

- To meet the new needs emerging from employees and decision-makers;
- To better integrate business processes;
- To make decision-making processes less subjective;
- To motivate employees;
- To better exploit workforce existing skills and capabilities;

- To improve information exchange;
- Others

B: what do you think are the needed and/or most effective type of changes to be made in order to improve your organization model?

- Reassign roles of some persons and/or teams;
- Reassign some activities to other persons or teams;
- Redefine teams, internal areas and/or relationships between persons, teams, and areas;
- Improve information exchange and reduce redundancy and inconsistency of communication;
- Increase internal and external communication;
- Establish or enhance internal procedures;
- Others

C: what do you think are the main changes needed about roles and assignments, teams, information exchange, communication methods and procedures in order to better deal with the innovation implementation?

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Q04) Employees' skills and capabilities improvement:

Skills and capabilities are what human resources are able to do within the organization concerning their education and expertise. Human resources are one of the primary production factors of a company or an institution.

A: do you think you may need to improve the skills and capabilities of your employees or decision-makers in order to better deal with the innovation? What is the reason why you think skills and capabilities inside your organization are not adequate?

- Employees are not able to use some tools and apply some procedures;
- Employees' cooperation is insufficient;
- Workforce productivity can be increased;

- Decision-makers are not able to redefine services quickly when something wrong happens;
- Decision-makers lack the experience/knowledge required for service planning;
- Decision-makers are not able to correctly define workgroups and internal areas subdivision;
- Decision-makers are not able to correctly understand/assess inputs, outputs and times of production and service provision processes;
- Decision-makers are not able to correctly forecast skills and capabilities needs;
- Others

B: what do you think are the needed and/or most effective types of actions to carry out in order to improve skills and capabilities within your organization?

- Carry on educational and training activities for employees and decision-makers;
- Support tools and methods adoption and utilization;
- Provide self-training materials;
- Hire new professionals;
- Expand existing ERP software capabilities;
- Others

C: what do you think are the most critical lack of skills and capabilities that can limit your organization in dealing with the innovation implementation scenario?

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D: if needed, what do you think are the best strategies and programs to improve skills and capabilities within the specific context of your organization? (e.g. refresher courses, workshops, training on the job/coaching, e-learning, recruiting)

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Q05) Processes and procedures optimization:

Processes, procedures, protocols, and regulations concern how products and services are provided. Optimizing processes and procedures does not mean modifying assets, infrastructures, materials, and workforce which are other factors; it means changing the way production factors and assets are combined to get to the final product or service.

A: do you think you may need to modify your business processes or protocols and procedures in use within your organization to be more compliant with the innovation? What do you think can be the reasons why you may need to optimize them?

- To increase productivity;
- To make processes faster, more effective and eliminate bottlenecks;
- To make processes more compliant to the innovation and exploit the digitalization;
- To make procedures and operations easier for employees;
- To increase the integration of different processes and exploit synergies;
- To embed new tools or methods inside existing processes or define new processes based on the use of new tools and methods;
- Others

B: what do you think are the needed and/or most effective types of actions to be carried out in order to improve skills and capabilities within your organization?

- Use or combine the production factors in a smarter way;
- Re-allocate or increase resources;
- Redesign times and sequences, scheduling, relationships between resources and processes;
- Make new regulations or review existing ones;
- Replace obsolete activities;
- Develop new integrated procedures to eliminate redundant activities;
- Add or increase interoperability;
- Others

C: which processes, protocols or procedures do you think you need to optimize to better deal with the innovation implementation? (e.g. data access policies, on-site inspections, information exchange between offices, traffic regulation)

Q06) Information assets improvement:

In logistics decision-making processes, the information assets are the main support resource. In this era, digital structured information is mostly called “the new oil” with reference to the power of using data sources and data streams flowing through the IT networks to obtain better operational and business performances, with particular focus on geospatial information and Big Data.

A: do you think you may need to improve the quality of information assets managed by your organization in order to gain more benefits from the innovation deployment? What do you think can be the reasons why you may need to get more data or improve existing datasets' quality?

- To avoid wrong decisions caused by the use of bad data quality or lack of data;
- To better support production processes;
- To increase product and services quality;
- To increase analysis, forecast and estimation capability;
- To improve resources management;
- To create new services for customers, users and suppliers;
- To improve Transit Times estimates' reliability;
- Others

B: what kind of activity do you think you should carry-out to improve the quality of information assets managed by your organization?

- Collect new data;
- Improve the quality of available data;
- Process and/or integrate different data;
- Connect to new data sources;
- Better connect available data systems;
- Others

C: what do you think you should do to get the data you need or to improve data quality in your organization’s business context?

- Carry-out data collection campaigns;
- Purchase new data;
- Geocode data;
- Classify/re-organize data;
- Develop an Extraction/Transform/Load automated system;
- Extract Big Data;
- Others

D: what new data do you think you will need? Which data you own does need improvement or integration? What kind of processing and/or integration of data do you think you need in order to improve your business in the context of the innovation deployment? (e.g. real-time location of cargos, traffic amount inside port area zones, statistics about passengers, estimation of times)

Q07) Machinery, equipment, ITUs improvement:

Machinery and other equipment are the set of physical production tools of the organization, except Information Technologies hardware tools. This includes ITUs.

A: do you think you may need to improve machinery, production equipment or ITUs owned by your organization in order to gain more benefits from the innovation deployment? What do you think can be the reasons why you may need to obtain new equipment, ITUs or to improve the functionalities of in-use machinery and tools?

- To increase productivity;
- To allow the creation of a new product or the provision of a new service;
- To increase the quality or the intrinsic value of a product or a service;
- To ease the use of the tools or the application of work procedures;

- To increase work safety;
- To obtain a new specific working process function;
- To increase the information-flow/tracking of the ITU;
- To access new services not previously available with other ITUs;
- Others

B: what kind of activities do you think you should carry-out in order to improve machinery and production equipment owned by your organization?

- Purchase or rent a new tool, machine or ITU;
- Modify or integrate an existing tool, machine or ITU;
- Integrate a tool, a machine or an ITU with another one or with a system;
- Others

C: what new tool, machine or UTI do you think you will need? Which equipment that you own needs improvement or integration in order to improve your production process in the context of the innovation deployment? (e.g. a new electro-mechanical system, a security update for a machine, a new energy distribution slot)

Q08) Information Technology IT infrastructure improvement:

The IT infrastructure of an organization usually includes hardware devices, software tools and network connectivity.

A: do you think you may need to improve your organization’s IT infrastructure in order to gain more benefits from the innovation deployment? What do you think can be the reasons why you may need to obtain new IT tools or to improve the ones already in-use?

- To get new digital information storage capacity or increase the one available (more room);
- To get new computer processing power or increase the one available (more speed);
- To get new information processing functions or update existing (better results);

- To get information network exchange capability or increase its performance (improve sharing);
- Others

B: what kind of activities do you think you should carry-out in order to improve your organization’s IT infrastructure?

- Purchase or rent a storage device;
- Purchase a cloud-based storage service;
- Purchase or rent a server computer, workstations, client or personal computers;
- Purchase a cloud-based computing (processing) solution;
- Purchase and install sensor devices and/or actuators;
- Purchase software licenses;
- Update operating systems and applications;
- Purchase, install and/or update an ERP software;
- Purchase and install network devices and infrastructures;
- Perform systems and applications update, tuning and maintenance;
- Others

C: what new IT tool or device do you think you will need? Which IT equipment you own needs improvement or integration in order to improve your production process or organizational model in the context of the innovation deployment? (e.g. a new sensor system, a document management system, a data server, a firewall, a mobile app software license update, a new IT infrastructure maintenance service for the warehouse)

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Q09) Financial resources allocation:

Available financial resources can include one or more project budgets or financing funds and may consider future needs that may occur due to project evolution and unexpected events.

A: do you think your organization may need to allocate special resources to carry-out tasks or activities related to the innovation deployment or to re-allocate previously placed resources? What kind of financial operation do you think will be required?

- Direct financial resources allocated for the needed actions;
- Scouting for the raise of new funds and resources to be used for the innovation;
- Re-allocation of resources previously placed for other tasks of the innovation;
- Re-allocation of resources previously placed for other projects or activities;
- Others

B: what kind of tasks do you think may require special resource allocation or re-allocation?

- Purchase of equipment and materials;
- External services and consulting;
- Internal services and expertise;
- Royalties;
- Taxes;
- Others

C: what do you think can be the equipment and materials to purchase, and services or consulting to pay to deal with the innovation implementation?

Q10) Goods and real estate:

Goods and real estate are tangible assets that have an intrinsic or operational value which can be considered part of production or service provision processes. Machinery and equipment are excluded.

A: do you think your organization may need to obtain special goods or real estate to carry-out tasks or activities related to the innovation deployment? What kind of actions do you think will be required?

- Obtain new real estate or other assets needed for some production or service provision processes;
- Redefine the use of available real estate or assets according to production or service provision process;
- Increase real estate or other assets value;
- Improve real estate or asset features;
- Obtain movable properties;
- Improve real estate, assets and movable properties quality, usability or durability;
- Others

B: what good or asset do you think may need to be obtained or improved, and how? (e.g. a new warehouse, rooms or office barrier-free, electrified dock, warning signs for open spaces)

Q11) Corporate image:

Corporate image is how the company or institution is evaluated and considered by others. It is known to have an intrinsic value related to several factors like communication strategy, marketing strategy, identity design, customer relationship, social responsibility, products and services portfolio and others.

A: do you think there is the need to improve your organization’s corporate image in order to better exploit the benefits of the innovation deployment? What do you think are the main goals to improve your image?

- Make improvements, new products, services, and features known to the public;
- Increase competitiveness and attractiveness;
- Improve relationships with partners, customers and suppliers;
- Enter new market sectors;
- Enter new market segments;
- Make the public aware of the environmentally friendly activities carried out;
- Others

B: what actions/strategies do you think may be better to improve your corporate image in the innovation deployment scenario?

- Design/re-design the brand;
- Modify the products/services portfolio;
- Promote the business, products, and services through the traditional media;
- Promote the business, products, and service using social media;
- Make advertising;
- Make social events;
- Disseminate research results;
- Involve people, companies, institutions, and professionals in live activities;
- Promote social initiatives;
- Create pilot/test open days with customers/suppliers to show the innovation functionality;
- Others

C: what communication activities, design actions or events do you think you may need to better exploit the benefits of the innovation deployment? (e.g. brochures, logo design, virtual games, contests, digital advertising, newsletter, public conferences, websites)

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Q12) Innovation impact assessment:

A: Which aspects of the innovation are of particular interest to you?

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B: Which scenario would be most feasible to deploy?

C: What benefits would that achieve? What would be the most valuable results?

D: Can you think of the agenda beyond the deployment? How would your operations change? What would be the main changes in your strategy?

E: Thinking about the mid to long term, which changes to your industry do you think this innovation would bring? What would be the new competitive scenario?

Q13) Policy scenario:

In the innovation deployment scenario, many activities are strongly related to policies and regulations obligations and requirements.

A: Regarding the policy scenario in the context of the innovation deployment, does your organization:

- Have an active role in the development of policies and regulations?
- Have opportunities in taking a proactive role in the development of policies and regulations?
- Not have any opportunity to take a role in the development of policies and regulations?

B: Do you know if your area has regional or local policies in place, such as development regulations or written policies in adopted plans, that provide positive support of foster this type of innovation and/or foster digital ecosystems?

C: Does your organization have to be compliant to special guidelines, authority regulations, or published policies in adopting the innovation?

D: Do you think your organization will benefit from special guidelines, authority regulations, or published policies in the innovation deployment scenario?

E: Did your organization advocate some policies related to the context of this innovation? If yes, can you list them?

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F. Regarding cybersecurity and privacy challenges:

- Do you think government and agencies are ahead of the curve in terms of supporting industry to find solutions to emerging threats?
- Do you think government incentives accelerate the adoption of new technology in this field?
- In your area of operation, do you think there are coherent industry regulations in place for effective controls?
- What kind of policies and legislations are important for stimulating innovation?
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G. In your area of operation, which type of value chain do you think are being supported by economic policies?

- Internal logistics
- Multimodal transports
- Production operations
- External logistics
- Marketing
- Services
- Company organization structure
- Human resources
- Technologies and innovation
- Materials supply
- Other

Please provide a brief description:
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H. What do you think are bottlenecks in laws and regulations?

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I. Do you know whether there are specific innovation policies including institutional coordination of investments in research and development across the sector? Can you list which type of innovation they refer to?

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J. What do you think are the key barriers to investment and doing business in your sector? (e.g. enforcing contracts, property rights issues, finance issues, lack of trade facilitation/customs)

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K. What are impediments to free and fair competition within the sector?

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.....

L. What would you consider the most impactful regulatory change that would make this innovation more effective?

3.1.3 Section 3. Innovation deployment roadmap

This is the first plan of pilot action implementation and innovation deployment.

In the first year, it will be implemented the pilot action which is aimed at creating a foundation for Deliveries Planning system that can help carriers at reducing the complexity connected with the management of intermodal shipments (including road, rail and sea freight transport services) in relation to route-planning, re-routing activities due to unexpected events, automating reservations (terminal accesses and sea/rail services' reservations) and documents processing (including Custom and Dangerous Goods clearance), track&trace of the shipments and ETA. The system is aimed for using real-time big-data information, as well as interconnected systems information such as local ports PCS and MTOs platforms for rail services. The system may be able to issue at the end of the shipment a CO2 emissions saving certificate.

Please, identify the tasks you are interested in, or in which you think you are/will be involved and check the related boxes.

Interest / Involvement options →

(check the boxes related to the desired tasks)

Roadmap actions and tasks ↓

interested to be informed about results

interested to be involved in the implementation

directly involved in the resulting effects

interested to be involved in testing

... *some about the time* ...

... *other*...

...

Preliminary assessment

Current situation analysis

Analysis of DigLogs Pilot Project Requirements									
Analysis of the current technology available for Ports, Terminals, Transport Operators, MTOs and Shipping Companies									
Analysis of Pilot Requirements in terms of IT capabilities									
Analysis of Pilot Requirements in terms of information									
Identification of Pilot candidates									
Study of the current IT systems available for the pilot candidates									
Study of the organizational model in place for pilot candidates									
Study of the Employees capabilities of the pilot candidates									
Study of the Processes and Procedures of the pilot candidates									
Overall Design									
SWOT analysis									

Workshop with the pilot actors									
Selection of the Technologies to be applied									
Overall Planning									
Feedback from stakeholders									
Required resources mapping (staff/time/quality)									
Overall Budget definition									

Pilot action

Pilot planning

Identification of the Pilot Areas of Action (Operational and Geographical)									
Identification of actual sea and rail routes available in the areas of action									
Definition of the lab-based integrations to enrich the system while on Pilot Phase									
Definition of the stakeholders IT systems in detail with areas of integration									
Definition of the staff of the Pilot Actors that will be nominated for the use of the system									
Definition of the Processes and Procedures of the Pilot Actors in order to use the system									

Pilot implementation

Definition of the Test Scenario									
Check the variables and data for the IT real-time update									
Testing of re-routing processes									
Check the real-time information flow									
Check the impact on staff response to the routing options and track&trace information									

Check errors of the system connected to PCS integration with other systems									
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Post-project activities

Pilot Review

Evaluate Organizational Changes the System would bring on a wider scale on organizations, considering the savings that could be brought									
Define the impact of the system on jobs roles and the productivity increase									
Define the impact of the system on processes and procedures									
Define the information integration needed to increase the performance of the system									
Define the IT infrastructure needed to perform a complete system integration across the supply chain to make the system more effective									

Promotion, dissemination and consultation

Definition of a promotion campaign and promotional channels to be used									
Definition of the dissemination material									
Dissemination of the pilot results									
Pilot actors testimonial									
Social networks dissemination									
Digital newsletters publishing ^[1] _{SEP}									
Relevant Events participation									
Direct contact with relevant stakeholders									

System Exploitation and Maintenance

System exploitation planning and execution

System Services Map Definition									
Organizational Model definition and integration									
Staff identification									
Processes definition									
Stabilizing information flow									
Needed equipment acquisition									
IT Integration with PCS and other stakeholders' systems									
Financial Planning									
Marketing Plan for the System Services									

System maintenance planning and execution

Definition of the assistance team									
Assistance/maintenance procedures definition									
Acquisition of the material/infrastructures required for assistance									
System update definition									
Budget allocation									