



## D10.3 Workshop Documentation

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<sup>1</sup> **R**=Document, report; **DEM**=Demonstrator, pilot, prototype; **DEC**=website, patent fillings, videos, etc.; **OTHER**=other

<sup>2</sup> **PU**=Public, **CO**=Confidential, only for members of the consortium (including the Commission Services), **CI**=Classified, as referred to in Commission Decision 2001/844/EC

Modifications Index	
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## ACRONYMS AND ABBREVIATIONS

CC	Climate Change
CET	Central European Time
CH	Cultural Heritage
HRAP	Holistic Resilience Assessment Platform
IoT	Internet of Things
ML	Machine Learning
MOSE	Modulo Sperimentale Elettromeccanico
NGO	Non-governmental organisation
QR	Quick response
SME	Small and medium-sized enterprises

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## Executive Summary

Exploitation workshop aims to guarantee that project results evolve into an exploitable solution after the project, taking concrete measures in three different directions:

- a) Using project results in further research activities not covered within the project.
- b) Providing the process or service that was developed during the program lifetime, which has a clear focus on the cultural heritage monuments, to the Authorities and the stakeholders.
- c) Using project results in standardization activities and policy-making actions.

The exploitation workshop was conducted in Venice. During the workshop the results of the WPs were presented to the audience. The questionnaire that was presented at the end of the workshop had as a goal the feedback on the proposed approaches and some innovative ideas related to the three above mentioned ways.

Possible opportunities, and barriers came up from the audience comments and replies to the questionnaire.

## 1. INTRODUCTION

This document is a compilation of documentation related to the final event of the HYRERION project workshop.

The event was held on 20<sup>th</sup> April 2023 9.30- 12.00 (CET) in Venice. This was the final event of the project where the partners presented the results achieved. Stakeholders from Italy attended the event and they could comment on the program results and how these could be integrated and used.

The workshop offered a stage for the first showcase of the HYPERION integrated platform and its different technical components to potential clients and interested parties, thus providing a ready list of stakeholders who could be approached for prototype display and the integrated solution as well as its individual components. This deliverable compiles the agenda, the main presentations of the workshop and the results of the questionnaire that was provided to the audience.

The workshop program is attached in Appendix 1.

For more information about the project Visit our website: <https://www.hyperion-project.eu>



*The Venue in Venice. (Palazzo Cavalli-Franchetti - Istituto Veneto di Scienze Lettere ed Arti in Venice Italy)*



*During the Presentations*

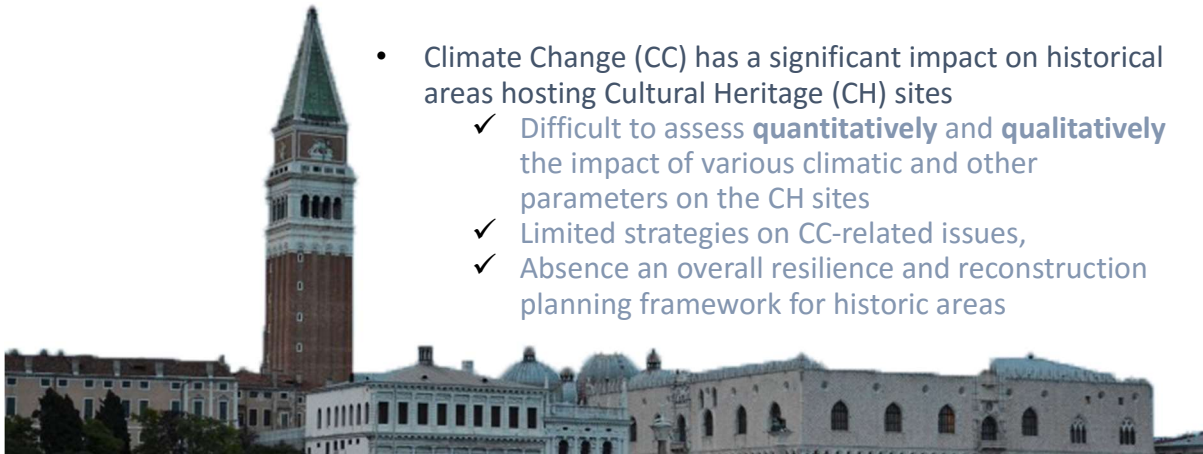
## 1.1 Background information of the project

The current document contains the brief description of the HYPERION project, and its results including the technologies, services and main tools, with all the key points of the research performed during the project, e.g. data collection, climate change model assessment, identification of buildings' deterioration patterns etc. Emphasis is given on certain components of the HYPERION tools and services, and specifically the Hygrothermal simulator, the Multi-Hazards Modelling, Vulnerability and Impact Assessment of the historic areas tools that even the audience pointed out as important.

## 1.2 HYPERION overview

The main slides from the Program Manager Dr. Antonis Kalis presentation are following:

The HYPERION project was granted in order to deal with the impact climate change has on historic areas hosting cultural heritage sites. And it deals with this problem by providing a holistic solution for improving resilience and sustainable reconstruction of historic areas. A solution that is designed, developed, and demonstrated within the timeline of the project.



- Climate Change (CC) has a significant impact on historical areas hosting Cultural Heritage (CH) sites
  - ✓ Difficult to assess **quantitatively** and **qualitatively** the impact of various climatic and other parameters on the CH sites
  - ✓ Limited strategies on CC-related issues,
  - ✓ Absence an overall resilience and reconstruction planning framework for historic areas

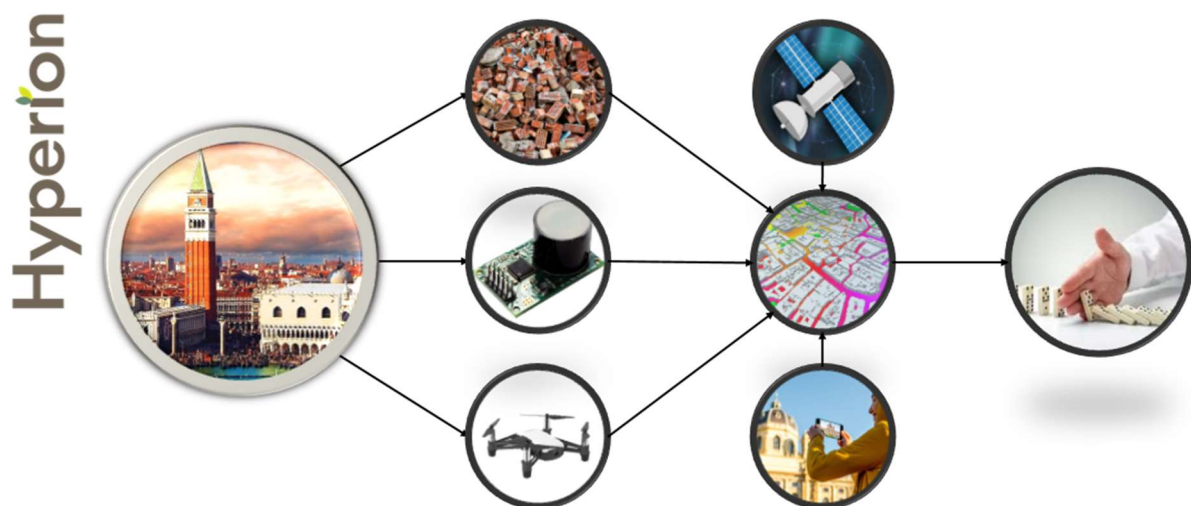


The sites of the HYPERION program were **Granada, Rhodes, Tonsberg, and Venice**



### ***The HYPERION solution***

In order to achieve this goal, it brings together the state-of-the-art of technologies, services and tools (e.g. advanced ML, IoT, satellite and terrestrial imaging, social networking, event, material decay and business continuity modelling), and combines them into a single decision support system which aspires to become the cornerstone for resilience and reconstruction planning for historic areas in the future.



We were able to integrate information from all these diverse systems in order to essentially create a digital twin of entire areas. This way, stakeholders are able to have an instant view of any situation, be able to make short term as well as long term forecasts, or even simulate scenarios of extreme events in order to train and prepare themselves to the effects of unforeseen events.





### 1.3 HYPERION's scientific achievements

Following the presentation of the project Manager, the Project Technical Director Assoc. Prof. Dimitrios Vamvatsikos presented the deliverables of all the Work packages of the HYPERION project.

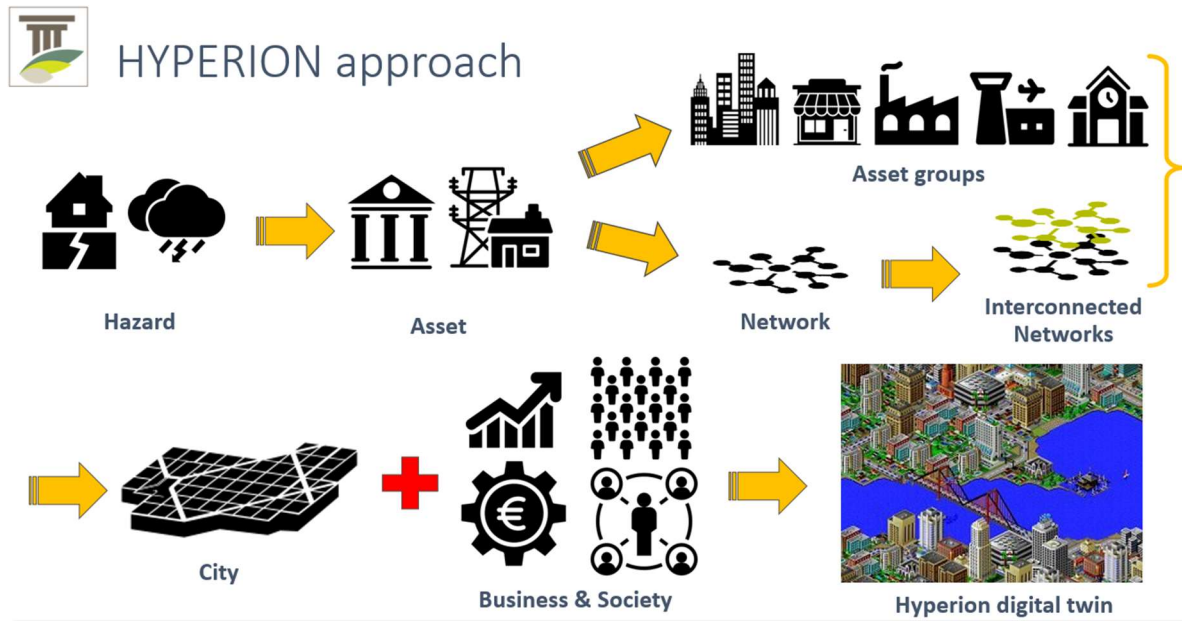


# Hyperion



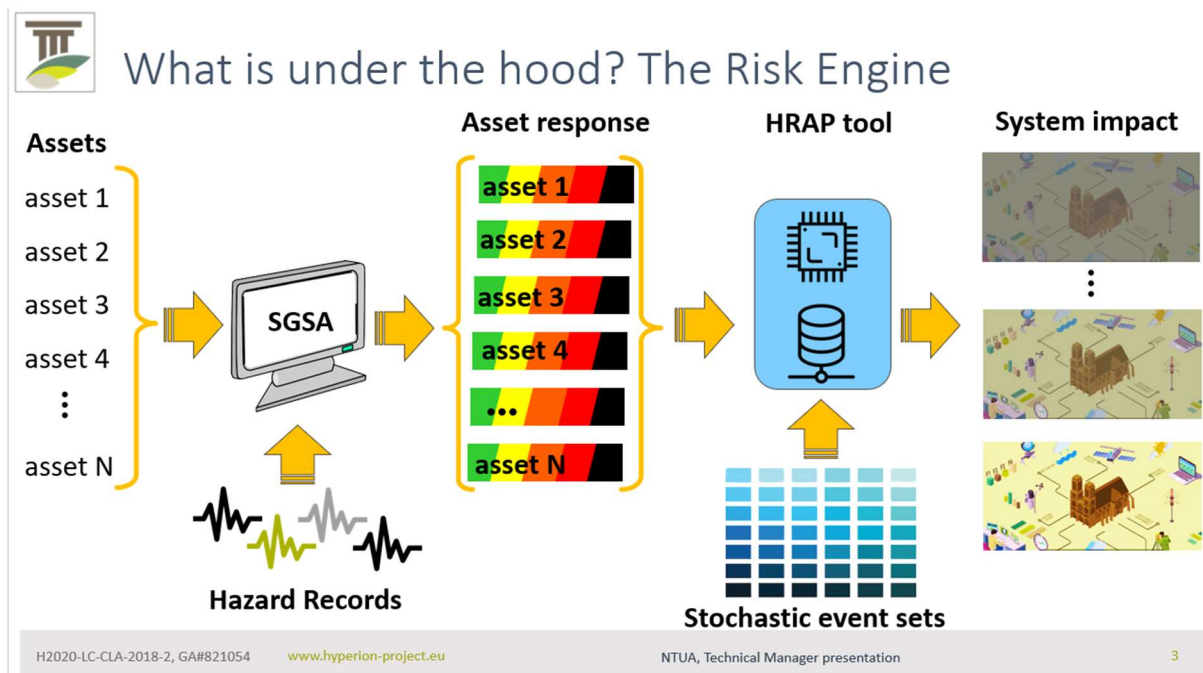
## Cultural Heritage Resilience Miracolo tecnico a Venezia

Safeguarding the future of Europe's heritage



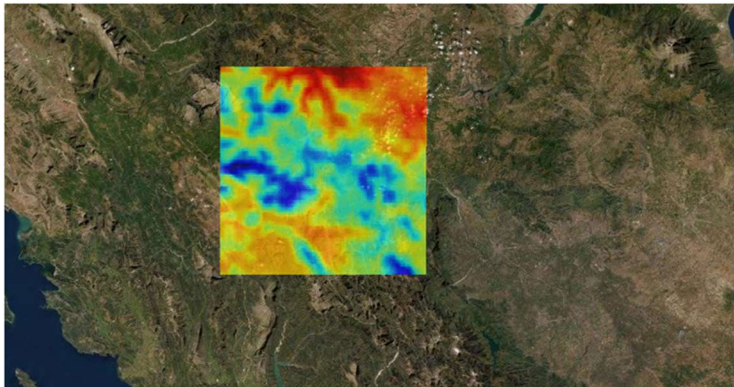
The steps are:

1. **Hazard definition**
2. From Hazard to Individual **Asset** damages (pipe, tower, bldg., bridge)
3. From assets to **groups of assets** (residential, commercial buildings, cultural heritage areas, airport terminals etc.) & infrastructure networks (water supply, power, telecom....)
4. Interconnected **networks** (power to all essentially!)
5. Exposure model. Modelling & simulating a city
6. **Whole system integration:** Supply, demand, business cycle of entire city.





## Sensors: Nowcasting & forecasting



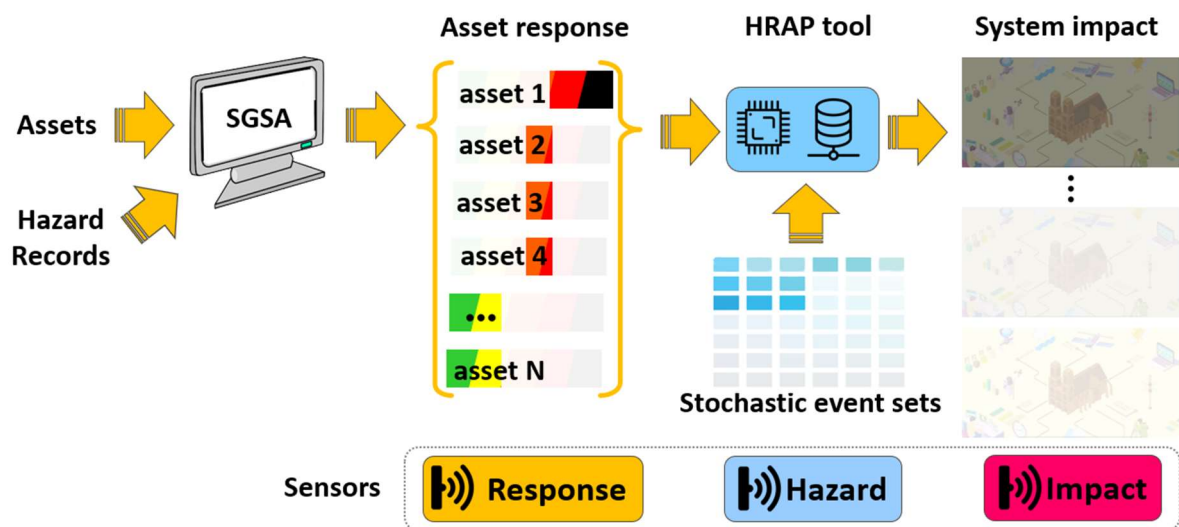
Temperature forecast

### Introduce sensor input:

- ✓ temperature
- ✓ cloud cover
- ✓ precipitation
- ✓ relative humidity
- ✓ wind speed
- ✓ seismic acceleration



## Sensor & Risk fusion



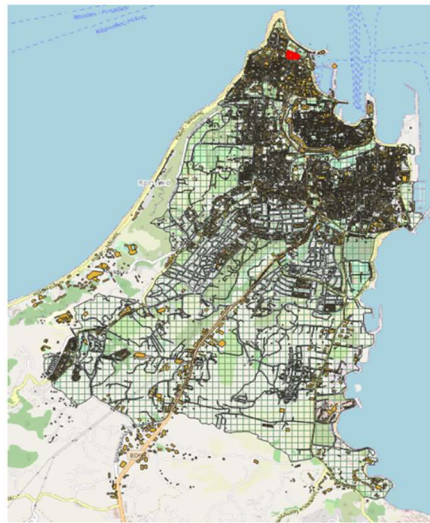


## Asset Exposure

WP2



- City Blocks
- Buildings (Tier 1 & 2)
- Buildings Tier 3
- Roads
- Electricity Network
- Water Network
- Sewer System



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[www.hyperion-project.eu](http://www.hyperion-project.eu)

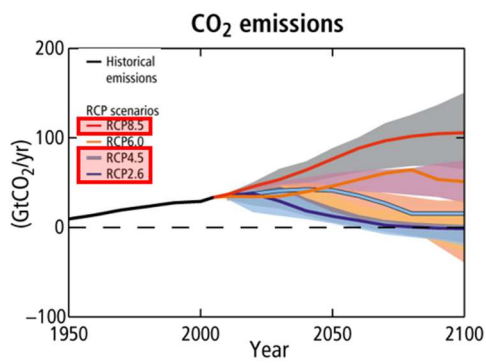
NTUA, Technical Manager presentation

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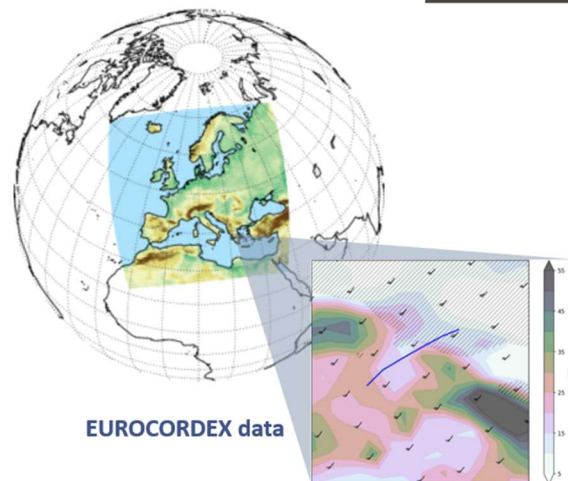


## Climate change & Weather hazard

WP3



**Alternative Climate Change scenarios**



(Combination of 7 climate models and 3 climate change scenarios)

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NTUA, Technical Manager presentation

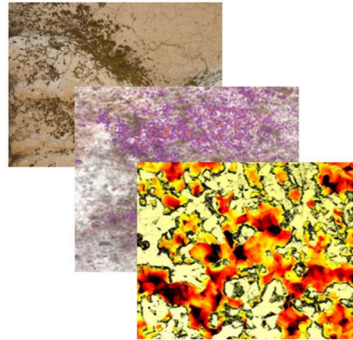
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## Monument ageing

WP4



### Stone & wood ageing

- ✓ Connect weather to deterioration
- ✓ Assess damage with climate change

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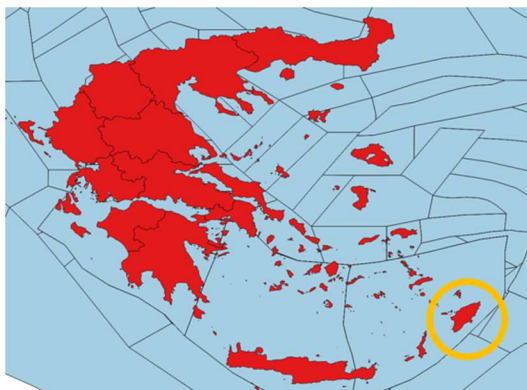
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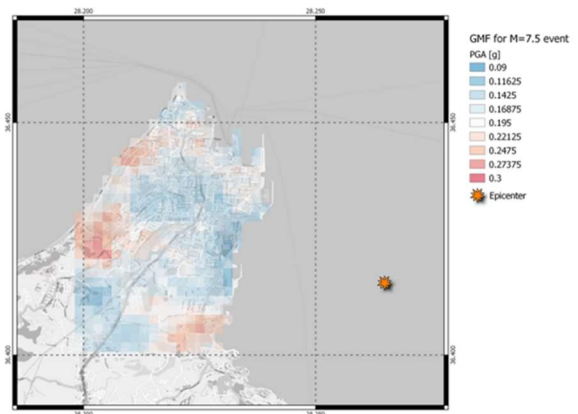


## Seismic hazard

WP5



**Seismic source model**  
Area sources produce events



**Ground Motion Field**  
One field per event

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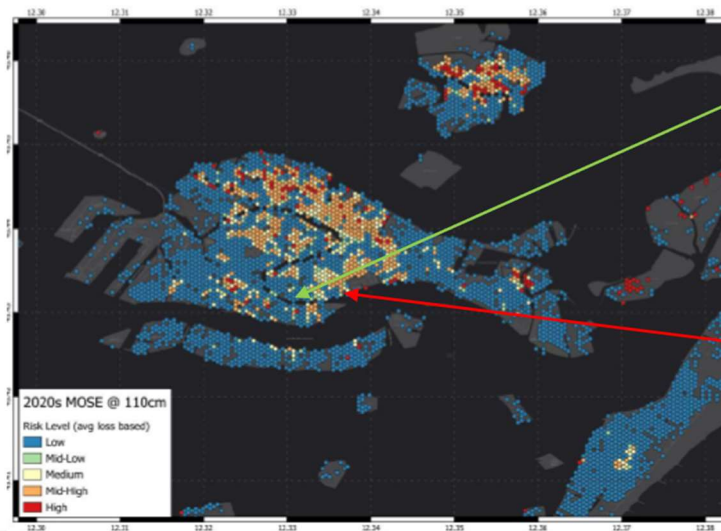
NTUA, Technical Manager presentation

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## Flood hazard

WP5



**Palazzo Cavalli-Franchetti**  
Low Hazard thanks to MOSE

**Piazza San Marco**  
Mid-high hazard remains

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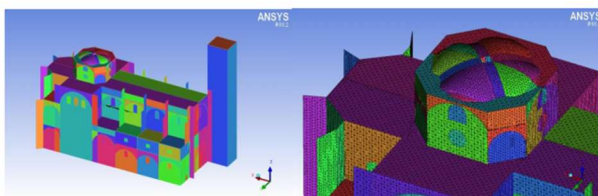
NTUA, Technical Manager presentation

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## Detailed simulation of Tier I assets

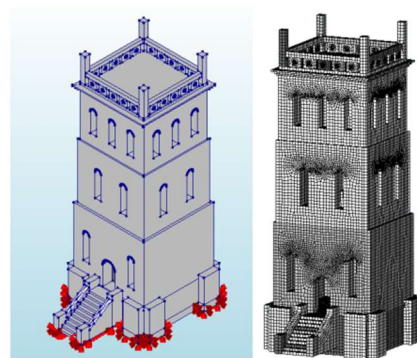
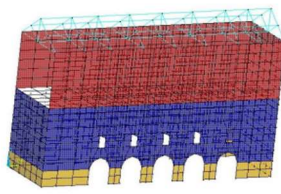
WP5



Monasterio de San Jerónimo (Granada)



Mill of the Marquis of Rivas (Granada)



Slottsfjellet Tower (Tønsberg)

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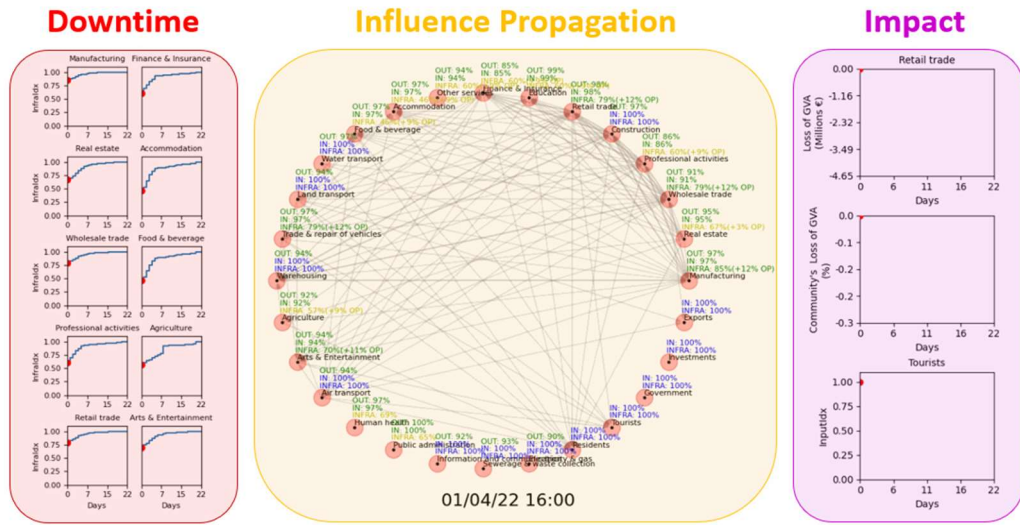
NTUA, Technical Manager presentation

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# Dynamic socioeconomic modeling

WPS



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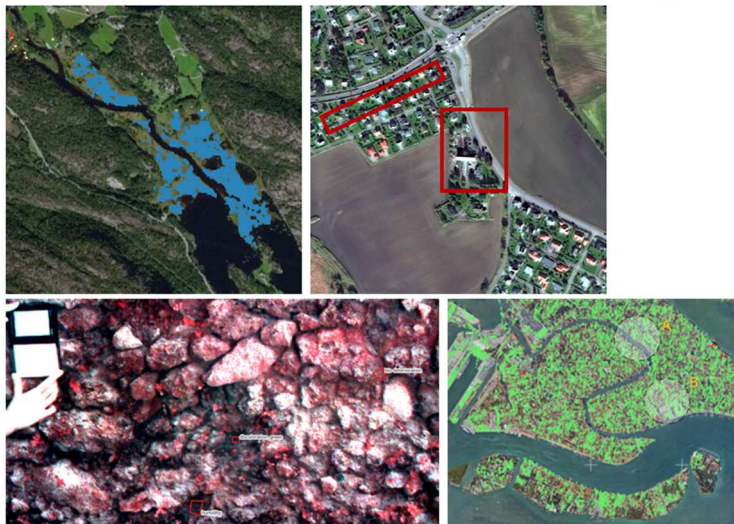
NTUA, Technical Manager presentation

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# Impact sensors: Remote sensing

WP6



Detection of:

- ✓ Flood
- ✓ Land use/cover
- ✓ Ground deformation

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NTUA, Technical Manager presentation

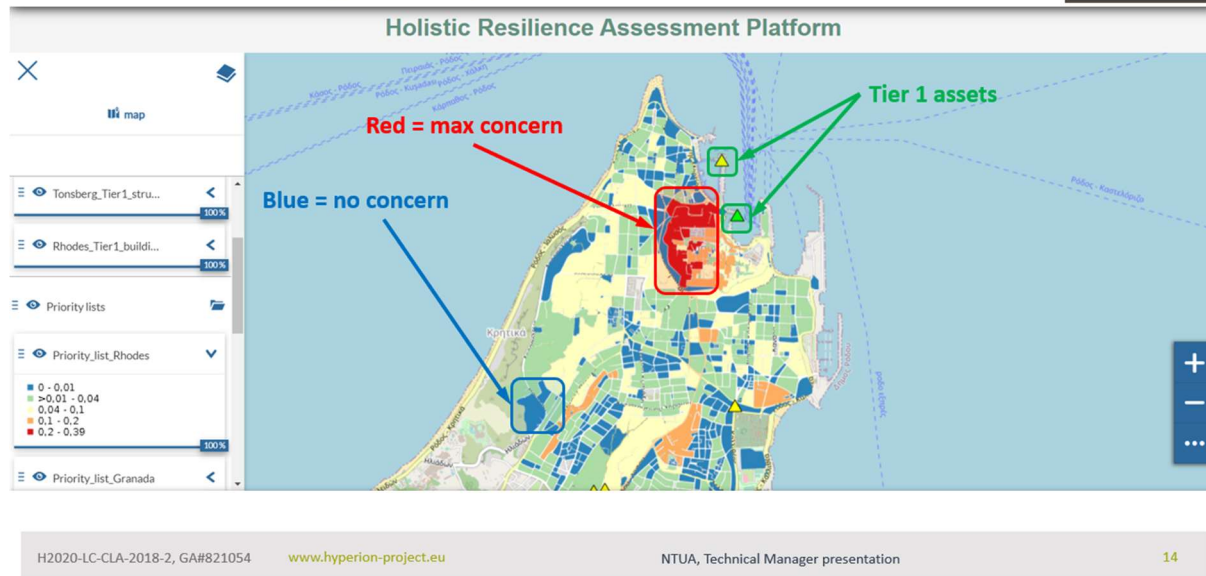
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## HRAP Integrated platform

WP7-8



### 1.4 HYPERION'S HRAP platform

The presentation of Mrs Dora Karali from RISA, the group that developed the HRAP platform (On site Integration, Demonstration and Validation of the HYPERION platform) was very attractive as it was the first time the partners and the audience had the opportunity to hear about its finalized form and detect its potential:



# Hyperion



## On-site Integration, Demonstration and Validation of the HYPERION platform

### Case studies in Greece, Italy, Norway and Spain

Theodora [Karali](mailto:d.karali@risa.de), RISA  
[d.karali@risa.de](mailto:d.karali@risa.de)



Hyperion

## Holistic Resilience Assessment Platform



- Hyperion Platform has been developed to meet HYPERION aim; sustainability of cultural heritage sites
- It has been and will be tested in four demo sites, in Greece (Rhodes), Spain (Granada), Norway (Tønsberg) and Italy (Venice).
  - ✓ The demonstration shall prove the suitability of the HYPERION platform and modules for multiple hazard assessment and optimized operational and strategic decisions for management and maintenance of the historic areas, considering as well other hazards relevant for other sections of the city.

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Hyperion

## Holistic Resilience Assessment Platform



Use case 1  
*What's my weather?*

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Hyperion

# Holistic Resilience Assessment Platform



The screenshot displays the Hyperion web application interface. At the top, there is a navigation bar with the Hyperion logo and menu items: 'Dataset visualization', 'Multi-hazard assessment', and 'Feedback'. The main content area is titled 'Holistic Resilience Assessment Platform'. On the left side, there are several interactive elements: a 'Region of interest' dropdown menu set to 'Venice', a 'Short term planning' / 'Long term planning' toggle, a 'Select part' section with a 'View' dropdown menu set to 'Weather', and a 'Nowcasting' section with a 'Load data' button. The central part of the interface is a large map showing a coastal area with various data overlays, including roads, water bodies, and hazard zones. The map is framed by a green border with labels 'Multi-hazard assessment & planning' on the left and 'Hyperion platform' on the right. At the bottom of the screenshot, there is a footer with the text 'H2020-LC-CLA-2018-2, GA#821054' and the website 'www.hyperion-project.eu'.



Hyperion

## Holistic Resilience Assessment Platform



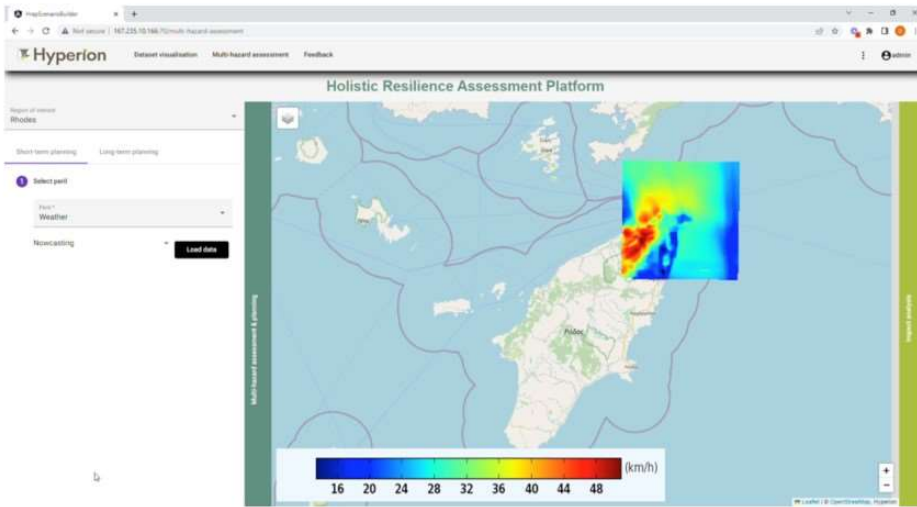
Use case 2  
*Flood is coming*

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Hyperion

# Holistic Resilience Assessment Platform



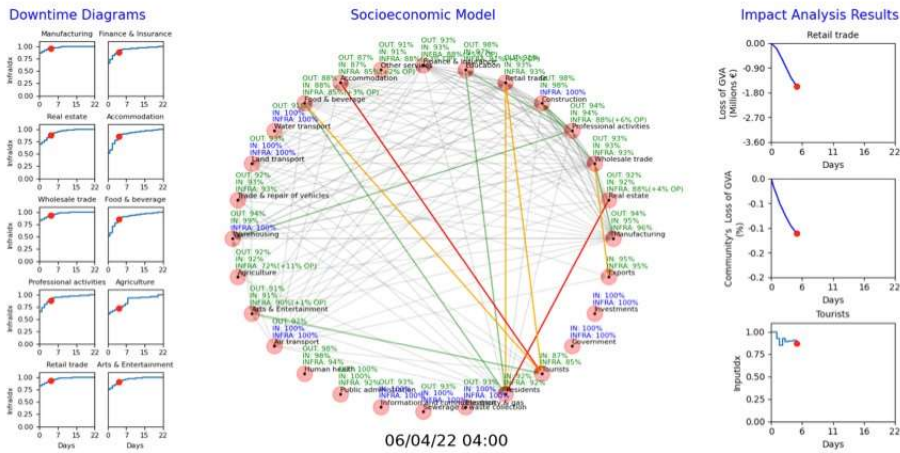
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[www.hyperion-project.eu](http://www.hyperion-project.eu)



Hyperion

# Holistic Resilience Assessment Platform



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# Holistic Resilience Assessment Platform



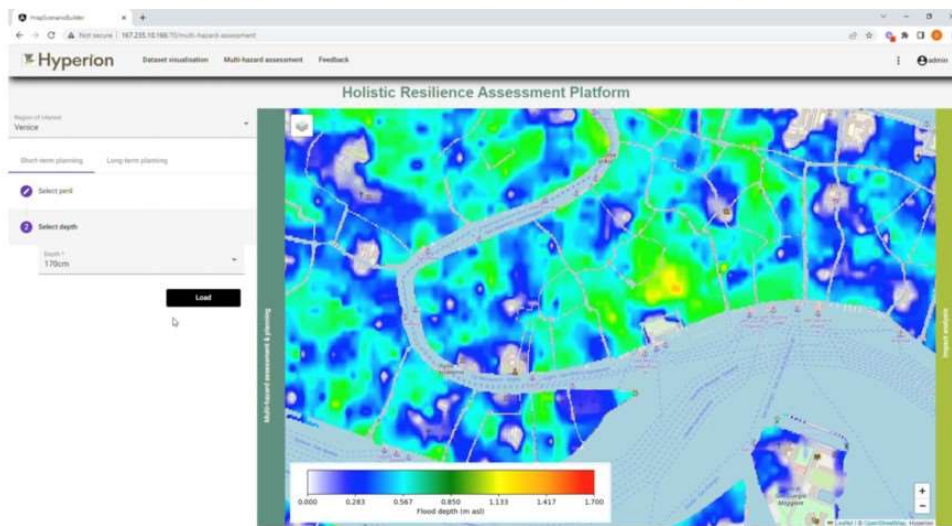
## Use case 3 *Earthquake in Rhodes*

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# Holistic Resilience Assessment Platform



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# Holistic Resilience Assessment Platform

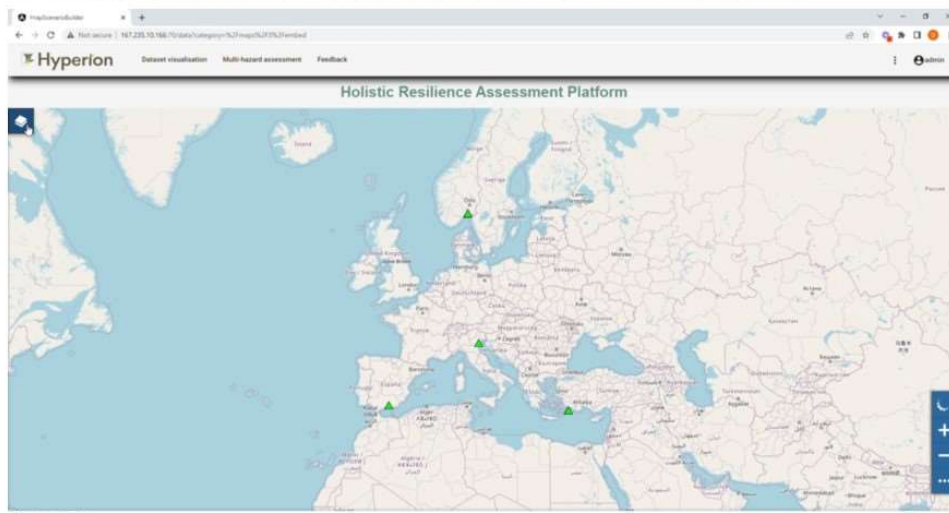


## Use case 4 *I have money to spend*

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# Holistic Resilience Assessment Platform



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# Holistic Resilience Assessment Platform



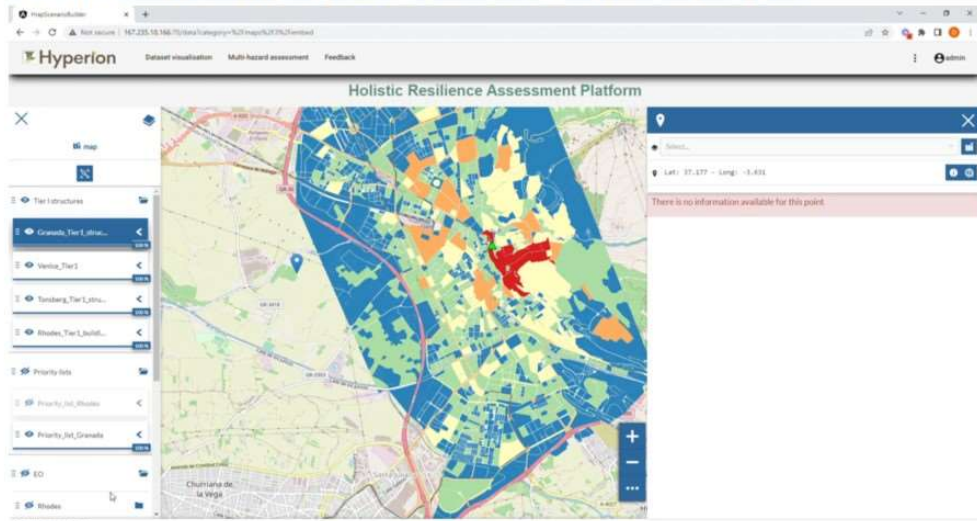
## Use case 5 *Tier I structures monitoring*

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# Holistic Resilience Assessment Platform



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Hyperion

# Holistic Resilience Assessment Platform



## Use case 6

### *Weather hazard; long term planning*

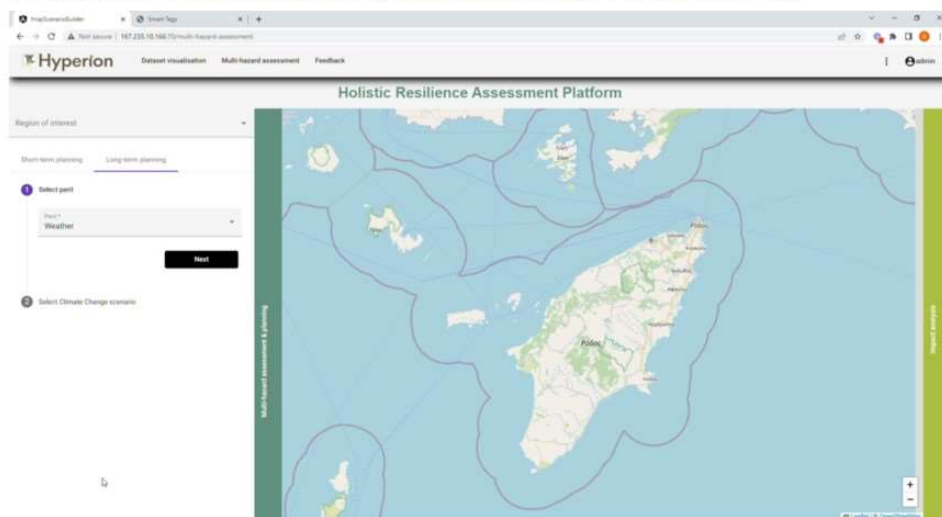
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# Holistic Resilience Assessment Platform



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## 1.5 HYPERION’s consensus-Building workshop

The presentation of Dimitrios Tsarpalis with the topic “HYPERION consensus-Building workshop” is following.



## HYPERION Consensus-Building Workshop

Final Project Event  
Dimitris Tsarpalis (RG)

April 2023

H2020-LC-CLA-2018-2, GA#821054

[www.hyperion-project.eu](http://www.hyperion-project.eu)

1



## HYPERION Consensus-Building Workshop



Hyperion

### Exploitation ≠ Dissemination

Utilization of project results  
for commercial purposes or  
public policymaking

Sharing research results with  
potential users, commercial  
players, policymakers

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## HYPERION Consensus-Building Workshop



### Exploitation Strategy



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## HYPERION Consensus-Building Workshop



Role	Stakeholders
<b>End-user</b>	<ul style="list-style-type: none"> <li>• CH operators</li> <li>• CI operators</li> <li>• City managers</li> <li>• Service providers (innovation platforms &amp; clusters)</li> <li>• Civil protection agencies</li> <li>• Insurance companies</li> <li>• Maintenance &amp; inspection teams</li> </ul>
<b>Promotion</b>	<ul style="list-style-type: none"> <li>• Citizens</li> <li>• Visitors</li> <li>• Media</li> <li>• Research institutes, technological centres, universities</li> <li>• Project partners</li> </ul>
<b>Funder</b>	<ul style="list-style-type: none"> <li>• Related EU funded projects</li> <li>• Investors and innovators</li> <li>• NGOs</li> </ul>
<b>Regulation</b>	<ul style="list-style-type: none"> <li>• Governmental bodies</li> <li>• Policy Makers, International &amp; National Organisations</li> <li>• Standards Developing Organizations (SDOs)</li> </ul>

We need your feedback!

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## 2. Questionnaire's results and discussion

After the end of the presentations the audience was asked to scan the QR and reply to questionnaire that was prepared by RISA.

The questionnaire was developed in Google forms. Thirty three were the responders.

The questions and the answers the responders gave, are the following:

### ***Q1: How did you learn about today's Workshop***

The majority of the responders were informed by their organization (73%) and 24% by an informative email by the HYPERION consortium.

### ***Q2: Please select the type of your organization***

From the responders 19 in total were either from a University or a research Institute and the rest (14) from enterprises, NGO, Ephorates of Antiquities and Municipalities. We can derive from the answers that 9 of them were related to the cultural heritage section as there is not a clear objective for the SMEs that participated in the workshop.

**Q3: Please select the field of expertise of your organizations (up to two answers)**

40 answers were given i.e. 7 of them gave two answers., meaning that the field of expertise was double. 42,4% are in the field of Protection of Cultural Heritage, 3% is related to EU Policies (one participant), 55% are in the field of Civil and Environmental Engineering.

The above results prove that one major Group to address the results is the Community of Civil and Environmental Engineers and the second is organisations that are related to the preservation of cultural Heritage (ICOMOS, Europa Nostra, and the Ephorates of Antiquities as well as the Municipalities that have Historical Monuments.

**Q4: Did you find the presentation of the Hyperion platform clear and concise**

From the results it is obvious that the HYPERION platform is extremely clear to the majority of the attendees (61%) and only 37% could possibly propose modifications to make it easy to plug and play for everyone.

**Q5: What is in your opinion the most interesting feature module of the Hyperion platform (up to three answers)**

Given that each participant could give maximum three answers most of them used this option (94 selections were made) (285%)

According to the results

Material degradation	51.5	normalized to 18.07%
Maps and layer management	39.4	normalized to 13.82%
Climate models	36.4	normalized to 12.77%
Socio-economic modeling	36.4	normalized to 12.77%
Flood Hazard Modeling	30.3	normalized to 10.63%
Risk Assessment	24.2	normalized to 8.70%
Data management system	24.2	normalized to 8.70%
Seismic Hazard modeling	18.2	normalized to 6.38%
3D representation toolkit	15.2	normalized to 5.33%
Computer vision detection	6.1	
Financial strategies	3.0	

Material degradation is the most interesting module of the HYPERION platform followed by Maps and Layer Management.

The degradation of cultural heritage materials represents one of the most important threats for them and their preservation in the near future is generally recognised by the researchers.

For the scientific results, of the HYPERION project please visit our website where 43 journal papers have been published during the project's implementation. More relevant results are

available through the web: (<https://www.frontiersin.org/research-topics/12975/degradation-of-cultural-heritage-artifacts-from-archaeometry-to-materials-development> , <https://www.currentscience.ac.in/Volumes/121/12/1553.pdf>, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8271397/>).

Maps and layer management can prevent the landscape in extreme weather events. It is clear also to the audience as it is considered as the second more important module of the HYPERION Platform.

The climate models are also important and are related to the socio-economic modeling. (they appear in the third and forth place)

These two features that are interesting according to the responders comprise changes in socio-economic variables (e.g. population, urbanization, land use, sanitation and sewage treatment) and climate variables (temperature, precipitation and sea-level rise). Several studies have been published and they can be used to assess future consequences for health risks. So these two are very important to global health as well. (<https://www.sciencedirect.com/science/article/pii/S143846391730408X> )

**Q6: Please mention any additional features you would like to see integrated in the Hyperion platform in the future (optional question)**

The six responses that were given are:

- Integration with the municipalities rubbing system
- Risk reduction using Financial strategies
- Real data matching with the EUROCORDEX models
- Propose tailored mitigation measures for cultural heritage managers
- Promotion of the platform to ensure the longevity and continuing Improvement of the platform
- Further details about seismic activity.

**Q7: Does your organization use Information Technology tools for the protection of important assets?**

61% responded positively but they are rarely used for specific assets.

21% replied that they don't use IT tools!!! and on the other hand 18% said that the use IT tools everyday for the protection of important assets.

We have the feeling that the 18% did not combined the question to the topic of the workshop.

**Q8: If your organization you decided tools for the protection of important assets please select what kind of systems you employ**

The 61% of the above responders (27 answers with 51 options) most of them on average ticked two of the proposed answers. So, they use IT for

Sensor devices	55.6% (15) 29.41%
Cybersecurity system	40.7% (11) 21.57%
Surveillance cameras	33.3% ( 9) 17.68%
Message warning system to protect employees at risk	29.6% ( 8) 15.69%
A dedicated Incident Management System like HRAP	14.8% ( 4) <b>7.84%</b>
Unmanned aerial vehicles	7.4% ( 2) 3.92%
Open data	3.7%
Non specified	3.7%

We have not weighted responses and for this reason all answers carry equal value. It seems that only 7,5% consider as important asset the cultural heritage in general terms.

#### **Q9: Would your organization benefit from the Hyperion platform**

Three out of the seven possible answers were positive. According to the positive answers (by integrating the complete platform to their Legacy systems (24%) or by using the platform as a cloud-based service without any integration (27%), or by integrating specific modules (12%)) giving the majority of 63,6%. The answers are considered as a positive result even with a partial integration of the platform as this stage.

#### **Q10: Which is in your opinion the most relevant customers for the Hyperion platform**

The predicted answers gave a sound reply promoting the Hyperion Platform for the users who are either Cultural heritage Authorities, city managers who do care about the cultural heritage that being a socio-economic force of development, and those who are dealing with the critical infrastructure and maintenance, who benefit from the reconstruction or the preservation of the monuments.

#### **Q11 : Please mention any potential customers over the Hyperion platform (optional)**

Even if only 4 responded it is obvious that the Universities are interested for Academic reasons and the Cultural Heritage Authorities and the Municipalities to attract visitors for the economic development of the region.

#### **Q12: Is in your opinion the best approach for the Hyperion platform to reach its Target customers to answers**

The best approach of the Hyperion platform to reach its Target customers is by offering to them a free version of the tool or by organizing workshops and seminars with the relevant stakeholders. (70%)



The marketing campaign using the social media is a good practice which may lead to the result. The dissemination of the platform through conferences and journal papers can be a least significant pole.

**Q13: Which in your opinion could be the most efficient customer relationship for the Hyperion platform**

The majority of the attendees believes that Hyperion Consortium should license the platform to third parties who may modify the accordingly to their needs. (60%) It seems that any applicable fee maybe negative to the use of the platform. It is a strong outcome that the Platform should be freely used and linked to other existing platforms which are related to Cultural heritage, as the one that recently launched by the Greek Telecommunications Services and is provided for free to everyone for the moment.

**Q14: According to your opinion which way could Hyperion reach the US or Global Market of critical infrastructure protection (optional)**

Direct informative campaign towards the end users via the social media and pilot studies in the US and the participation of the HYPERION partners to JPI CH calls for research are pointed as the main peers to promote HYPERION in the US and the Global Market of Critical infrastructure protection.

### 3. Conclusion

In the current deliverable, the HYPERION workshop documentation, the concept and the important achievements were presented by the project manager, the project director and all the work package leaders in order to disseminate the project results to the attendees. The current documentation is considered to be the starting point of the possible tuning of the project results in order to unify the application developed through the project's course with other existing ones, that can be used by the municipalities and the stakeholders who are active on the project's concept and objectives, reflecting the significant impact of them to the preservation of the Cultural Heritage Monuments.

Also, we would like to express our gratitude to the stakeholders who actively participated during the program implementation as well those who were present during this last event of the HYPERION project.

The project partners will continue their research activities and their effort to integrate the HRAP with other applications towards the improvement of cultural heritage.

#### Partners:



## 4. Appendices

The final training and demo event program is attached in Appendix 1 and the Hyperion Exploitation Questionnaire along with its results in Appendix 2 for reference and further information.

## 4.1 Appendix 1- Final - Training & Demo Event (Program)



### *The Digital Cultural Heritage Conservator*

**HYPERION** is an EU research project which focuses on the development of a decision support system for improved resilience and sustainable reconstruction of historic areas to cope with climate change and extreme events, based on novel sensors and advanced modelling tools.

## Final - Training & Demo Event

Event Information	
Date:	20 of April 2023
Location	Palazzo Cavalli-Franchetti - Istituto Veneto di Scienze Lettere ed Arti - San Marco 2842 Venice

## AGENDA

Thursday 20 <sup>th</sup> of April 2023		
FINAL EVENT	09.00 - 09.30	Arrival & Registration
	09.30 - 10.00	Welcome Speeches
	10.00 - 10.10	HYPERION General Overview
	10.10 - 10.25	Reliable quantification of climatic, hydrological and atmospheric stressors – CFD simulations
	10.25 - 10.35	Reliable quantification of climatic, hydrological and atmospheric stressors – Meso-scale model
	10.35 - 11.00	Flood hazard modelling
	11.00 - 11.20	Coffee Break
	11.20 - 11.40	Analysis of building materials and deterioration processes
	11.40 - 12.00	Implementation of a Hygro-Thermal (HT) simulation tool
	12.00 - 12.20	Improved prediction of Structural and Geotechnical (SG) safety risk
	12:20 - 12.40	Environmental and material monitoring including state identification and damage diagnosis
	12.40 - 13.00	Q&A
	13.00 - 14.00	Lunch Break
TRAINING & DEMO EVENT	14.00 - 14.15	Design of a Holistic Resilience Assessment Platform (HRAP) and a Decision-Support-System (DSS), enabling communities' participation
	14.15 - 14.40	Financial Mitigation Tools
	14.40 - 15.00	Project Handbook presentation
	15.00 - 15.30	On-site Integration, Demonstration and Validation of the HYPERION platform through case studies in Greece, Italy, Norway and Spain
	15.30 - 17.00	Demonstration & Feedback Workshop at Venice's pilot site

## 4.2 Appendix 2- Hyperion Exploitation Questionnaire (Screenshots)

# HYPERION Exploitation Questionnaire

HYPERION has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no 821054.

\* Indicates required question

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### 1. How did you learn about today's workshop? \*

*Tick all that apply.*

- I was informed by my organization
- From the HYPERION website
- From LinkedIn
- An informative email was sent to me by the HYPERION Consortium
- Other: \_\_\_\_\_

### 2. Please select the type of your organization. \*

*Tick all that apply.*

- University
- Research Institute
- Municipality
- Ephorate of Antiquities
- Governmental body
- SME
- Self-employed
- Other: \_\_\_\_\_

3. Please select the field of expertise of your organization (up to 2 answers) \*

*Tick all that apply.*

- Protection of Cultural Heritage
- Information Technology (IT) industry
- Civil Engineering
- Environmental Engineering
- Tourism
- Finance/Insurance
- Other: \_\_\_\_\_

**HYPERION Platform Modules**

4. Did you find the presentation of the HYPERION platform clear and concise? \*

*Mark only one oval.*

\_\_\_\_\_  
No, I did not understand its usage

1

2

3

4

5

\_\_\_\_\_  
Yes, everything was clear

5. Which is, in your opinion, the most interesting features/modules of the HYPERION Platform (up to 3 answers)? \*

*Tick all that apply.*

- Maps and Layer Management: User can manage and visualize GIS maps and layers, critical assets, models, etc.
- Data Management System: The ability to collect data from different sources (e.g., cameras, weather stations, sensors) and display them to the user
- 3D Representation Toolkit: The ability to realize accurate 3D re-construction of wide historical areas/structures on the computer
- Material Degradation: The ability to assess the effects of material decay on historical sites and warn the user about vulnerable assets
- Climate Models: The ability to produce high-quality future maps of climatic and atmospheric stressors
- Flood Hazard Modelling: The ability to assess the impact of different flood hazard scenarios on an urban community
- Seismic Hazard Modelling: The ability to produce site-specific seismic maps, generate and assess earthquake events of different intensity
- Socioeconomic Modelling: The ability to assess the socioeconomic impact of a disaster to the businesses operating within a community
- Risk Assessment: The ability to perform regional risk analysis for different hazards and events
- Computer Vision (CV) Detection: The ability to detect deterioration of materials, land cover changes, ground displacement maps using CV techniques
- Other: \_\_\_\_\_

6. Please mention any additional features you would like to see integrated in the HYPERION Platform in the future (optional).

---

HYPERION Platform Integration



7. Does your organization use Information Technology (IT) tools for the protection of important assets? \*

*Mark only one oval.*

- Yes, we use IT tools everyday
- Yes, but rarely or for specific assets
- No, not at all

8. If your organization uses IT tools for the protection of important assets, please select what kind of systems you employ.

*Tick all that apply.*

- Surveillance cameras
- Sensor devices
- Unmanned Aerial Vehicles (UAVs)
- A dedicated Incident Management System (IMS), like HRAP
- Message Warning System to inform and protect employees at risk
- Cyber Security System
- Other: \_\_\_\_\_

9. Would your organization benefit from the HYPERION Platform? \*

*Mark only one oval.*

- Yes, by integrating the complete platform to our legacy systems
- Yes, by using the platform as a cloud-based service, without any integrations
- Yes, but only integrating specific modules
- No, it is not relevant
- No, we already have such kind of monitoring system
- No, too complicated
- Other: \_\_\_\_\_

HYPERION Platform Market Model

10. Which is, in your opinion, the most relevant customers for the HYPERION Platform (up to 2 answers)? \*

*Tick all that apply.*

- Cultural Heritage Authorities
- City managers
- Critical Infrastructure operators
- Large-scale structure operators for maintenance/repairing/restoration
- Information Technology (IT) organizations
- Standards Developing Organizations (SDOs)
- Other: \_\_\_\_\_

11. Please mention any potential customers (or customer categories) of the HYPERION Platform from your organization's network (optional)

\_\_\_\_\_

12. Which is, in your opinion, the best approach for the HYPERION Platform to reach its target costumers (up to 2 answers) ? \*

*Tick all that apply.*

- By organizing workshops and seminars with relevant stakeholders
- By offering free versions of the tool (online and physical demonstrations)
- By organizing a marketing campaign (social media, paid search, emails, videos)
- By publishing scientific results in conferences and journal papers
- Other: \_\_\_\_\_

13. Which, in your opinion, could be the most efficient customer relationship for the HYPERION Platform? \*

*Mark only one oval.*

- Service contract: Customers sign annual or monthly contracts to use the platform
- Pay-per-use: Customers pay each time they use the platform
- Licensing: The HYPERION Consortium licenses the platform to third-parties who may modify it according to their needs
- Other: \_\_\_\_\_

14. According to your opinion, which way could HYPERION reach the US or global market of Critical Infrastructure Protection (optional)?

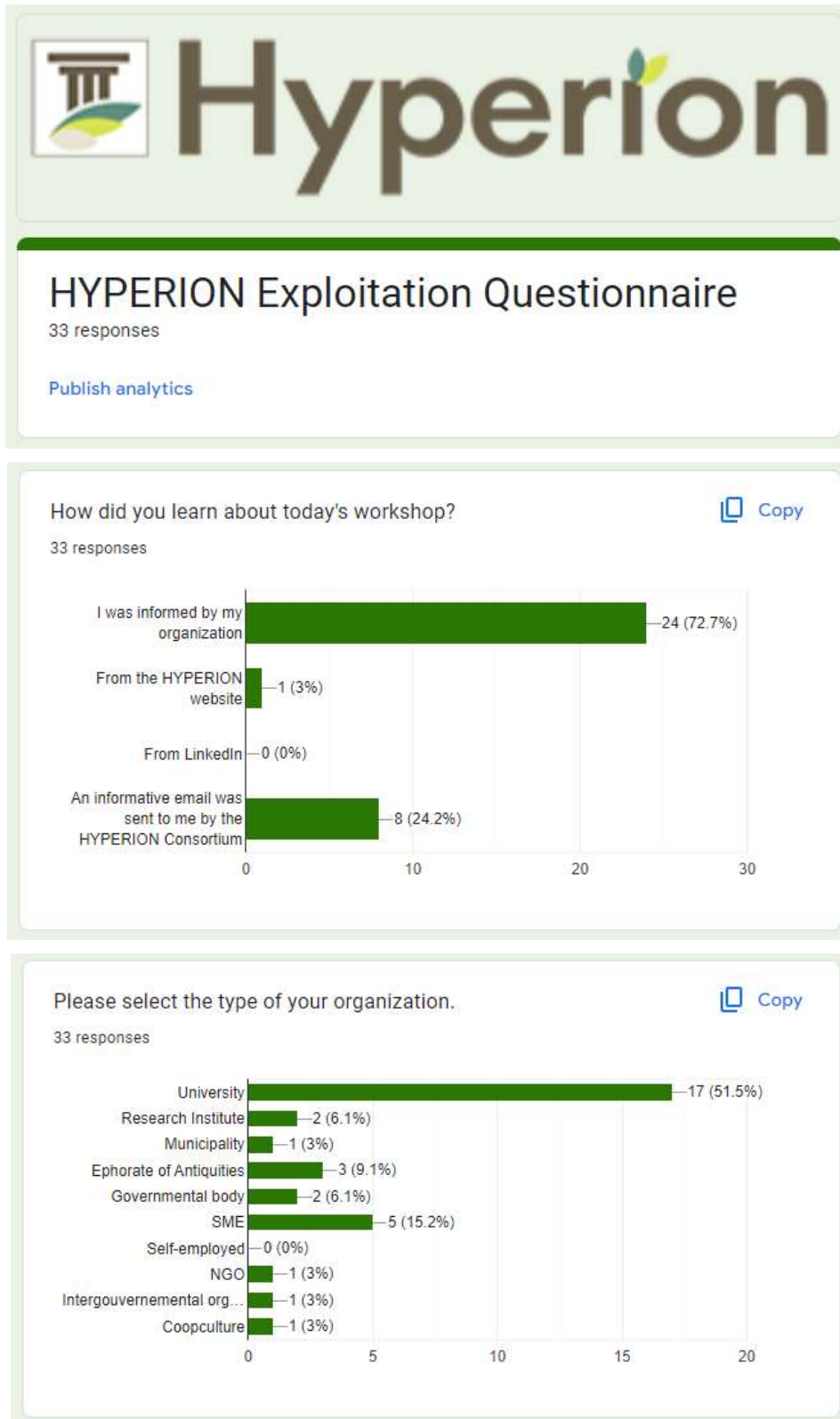
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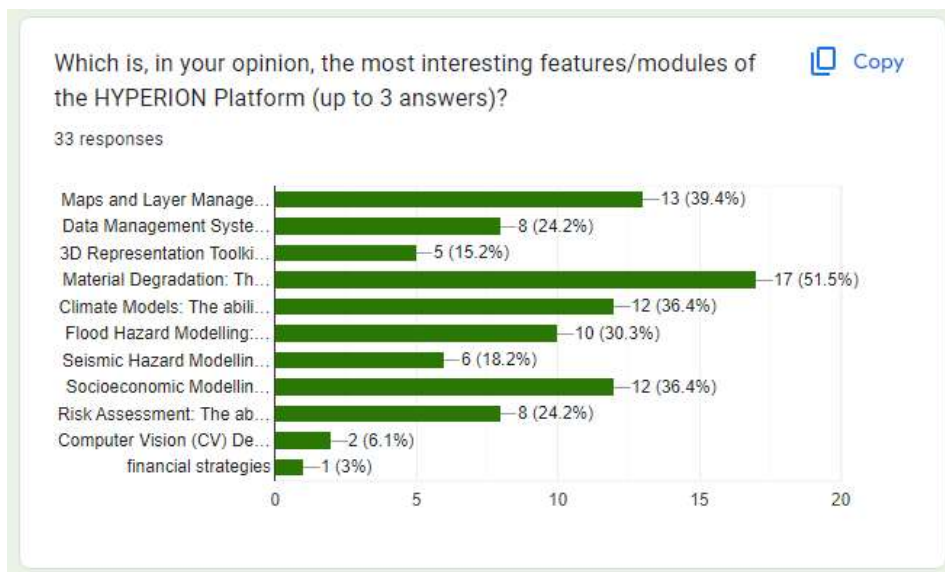
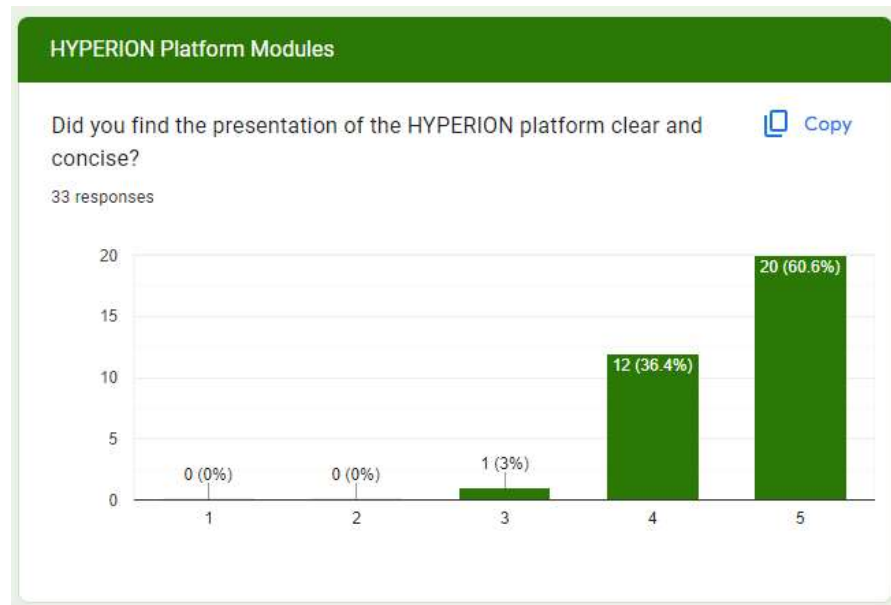
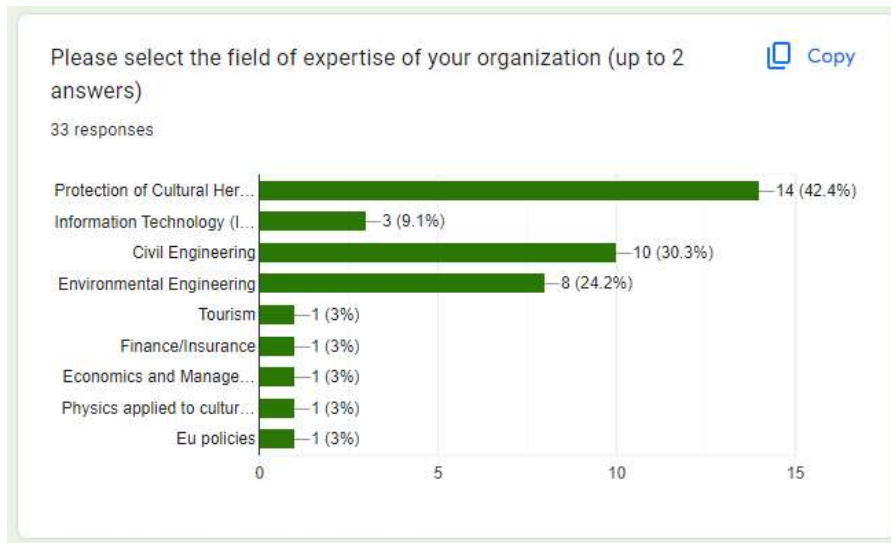
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Google Forms

### 4.3 The Questionnaire’s Results (Screenshots)







Please mention any additional features you would like to see integrated in the HYPERION Platform in the future (optional).

6 responses

An integration with the municipalities rubbing systems

financial strategies to reduce risk

Real data matching with the eurocordex models

Propose tailored mitigation measures for cultural heritage managers

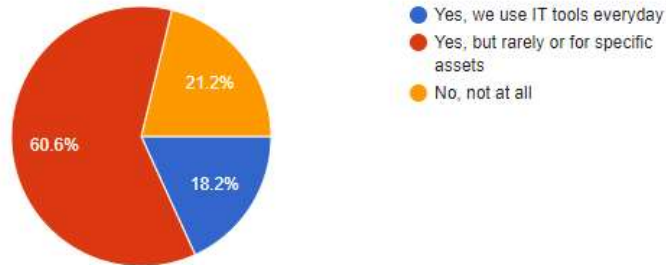
I like to see more details about the seismic activity

I think that I would like to see EU award a few more euros into this platform to ensure its longevity and continuing improvement.

### HYPERION Platform Integration

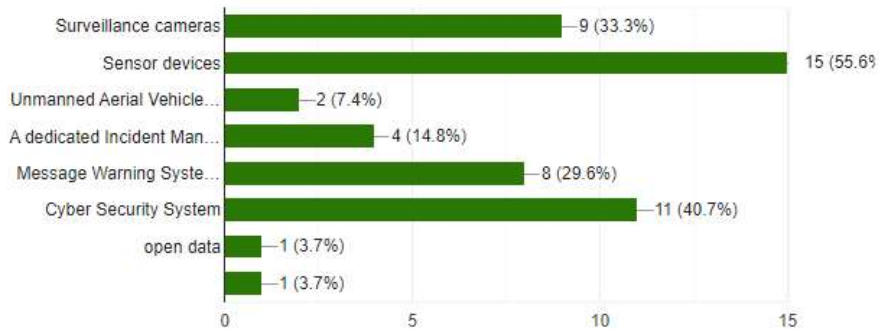
Does your organization use Information Technology (IT) tools for the protection of important assets? [Copy](#)

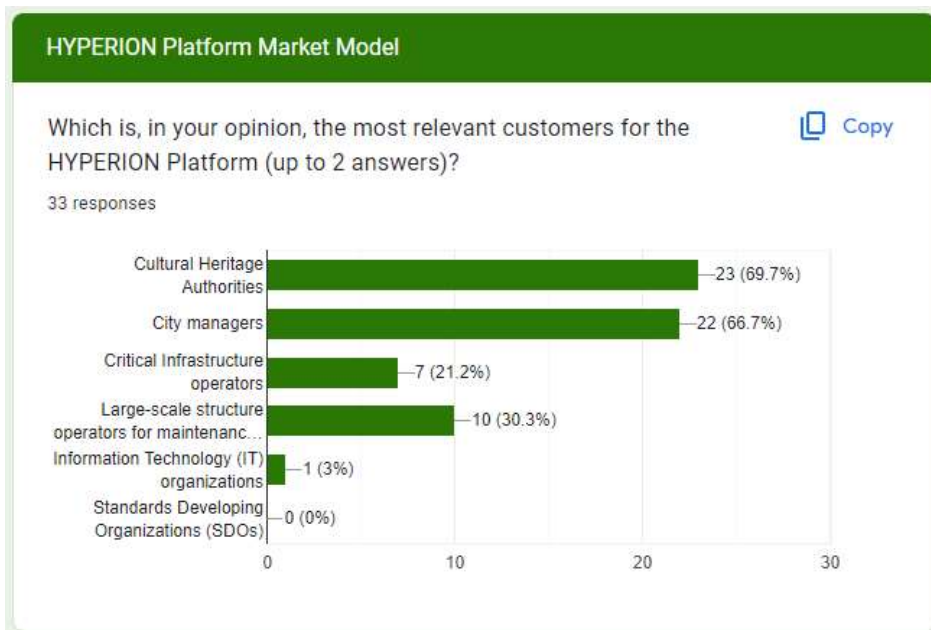
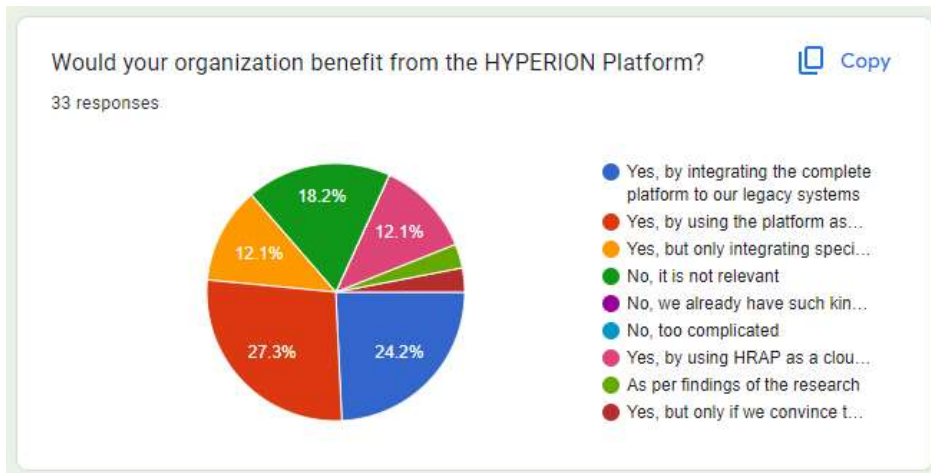
33 responses



If your organization uses IT tools for the protection of important assets, please select what kind of systems you employ. [Copy](#)

27 responses

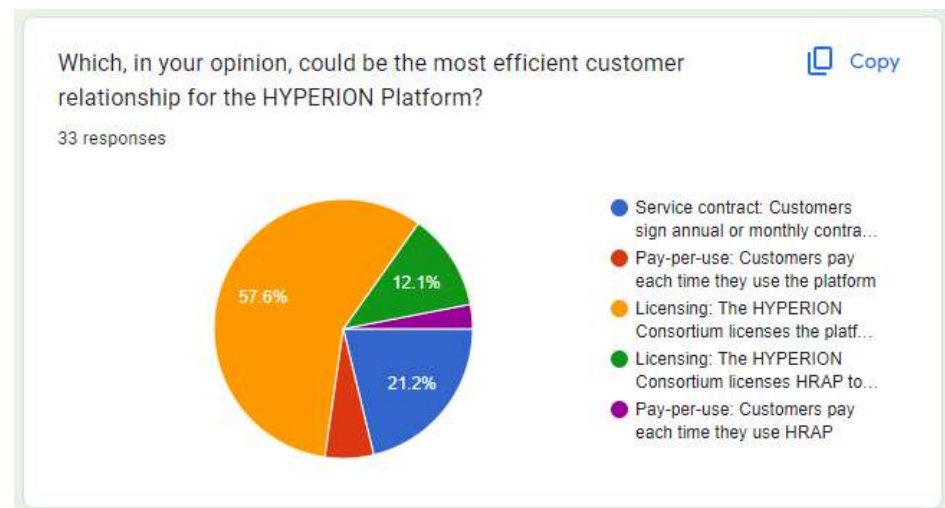
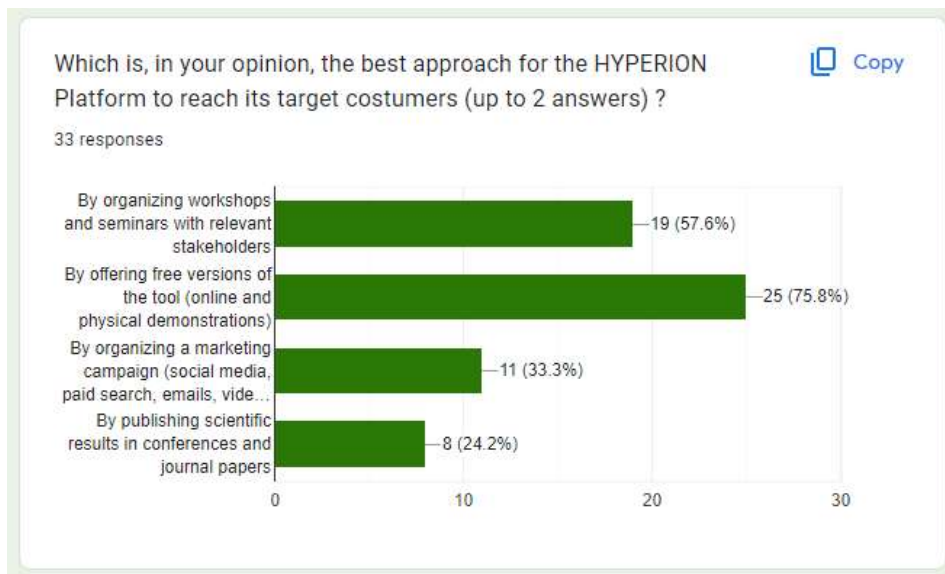




Please mention any potential customers (or customer categories) of the HYPERION Platform from your organization's network (optional)

4 responses

- Municipalities
- Cultural Heritage Authorities
- Insurance sector
- Universities in Veneto Region, Regional and Local (town) authorities



- According to your opinion, which way could HYPERION reach the US or global market of Critical Infrastructure Protection (optional)?
- 4 responses
- Direct informative campaign towards end users
  - dissemination plan
  - Conduct pilot studies in the US and participate to the next JPI CH call for research proposals which includes international partners beyond Europe
  - By organising marketing campaign on the social media