



D.2.4.2 -3rd Public Event



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METRIS
ISTARSKA
CENTAR ZA ISTRAŽIVANJE MATERIJALA
ISTARSKE ŽUPANIJE



HRVATSKE VODE

Document Control Sheet

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Project acronym	ASTERIS
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Duration	24 months

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1. INTRODUCTION

As foreseen by ASTERIS Project Work plan the Communication Activities (WP4) include the organisation of several public events during the project lifetime, and Ravenna Municipality was in charge of the organisation of the 3rd Public Event.

As agreed during the 3rd Steering Committee Meeting, organised by Ravenna Municipality and held online on the 4th of March 2020, the public event was expected to be held in Ravenna on 13th May 2020 within the broader context of the 13th edition of a technical-scientific event called “Fare i conti con l’ambiente” (“Dealing with the environment”). Such event has been regularly organised in Ravenna since 2007 and it consists of a 3-days of conferences, workshops and technical short-courses about waste management, energy, reclamation, environmental protection, circular economy and sustainability. ASTERIS conference had already been proposed to the organisers with the title „Climate change, adaptation strategies and resilience“ and a draft agenda had been identified, but, due to the COVID-19 restrictions the whole event „Fare i conti con l’ambiente“ was cancelled for 2020.

The ASTERIS public event in charge of Ravenna Municipality was then postponed Autumn 2020. A new suitable context was searched for and found in the REMTECH Conference, an international event held in Ferrara every year providing an exhibition area as well as conferences on several subjects such as protection and sustainable development of the territory, remediation of contaminated sites, coasts and ports, hydrogeological risk, climate changes, seismic risk, urban regeneration and sustainable chemical industry. Due to the persistence of the Covid-19 restrictions the 2020 edition was completely held online on a dedicated website including an Exhibition Room and a Conference Room that hosted several webinars.

2. ASTERIS 3rd Public Event

1.1 ASTERIS Exhibition room

In order to ensure the achievement of the objectives and targets set by WP 2.4.2 with public events, despite the international situation due to the COVID-19, Ravenna Municipality decided to take advantage of the Remtech Expo 2020 Digital Edition. The organizers of Remtech Expo managed indeed to provide a digital platform able to reproduce the real event, including an Exhibition area where it was possible to rent a

dedicated webspace to show the Project details, i.e., partnership, project description, results obtained so far.

The website, opened online on the 21st of September 2020, included also a section with Conference rooms where all the technical and scientific event were hosted online.

Figure 1 shows the Home page of the Remtech Expo Digital Edition 2020 whereas Figure 2 shows the Exposition Room and Figure 3 shows the front page of ASTERIS exhibition room.

Information about the Project were uploaded on the website, namely the partnership description, project activities description and first results achieved about mapping of hazards and future hydrological and sea level rise scenarios.

More detailed screenshots and the documentation uploaded on the website are available in Annex 3 and Annex 4.

The website registered a total of 107 visitors and 6 business cards where left, as documented in Annex 5 including the business cards and the list of contacts.

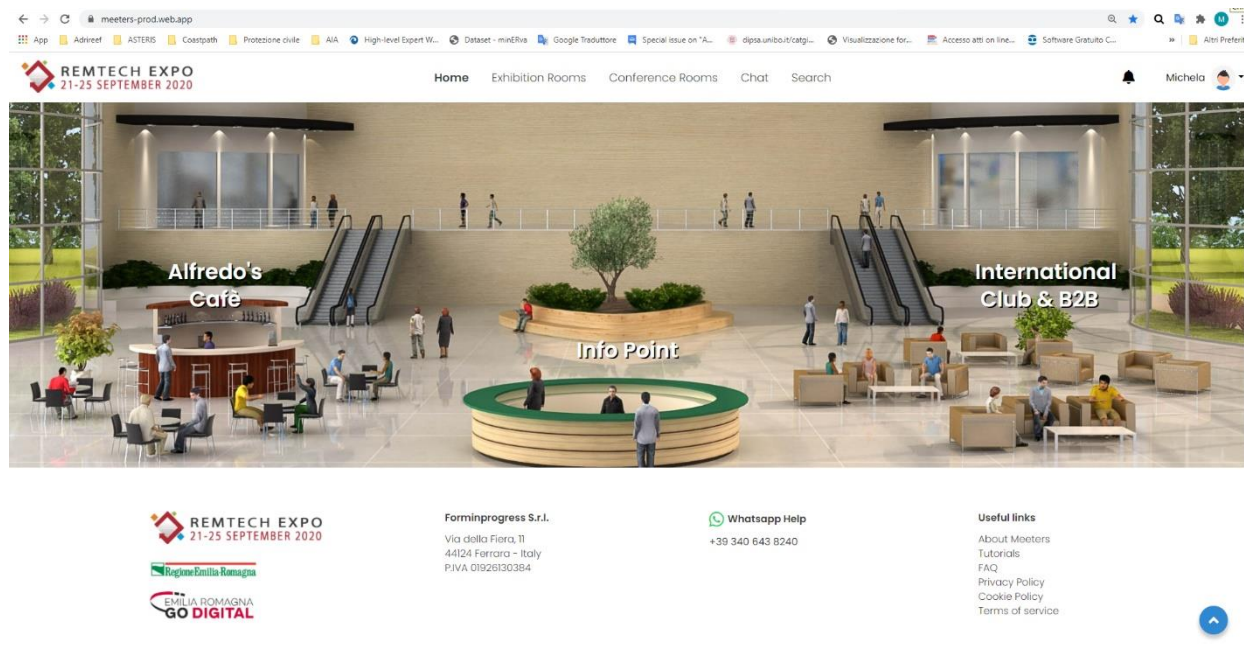


Figure 1 – Remtech Expo Digital Edition 2020 Home page

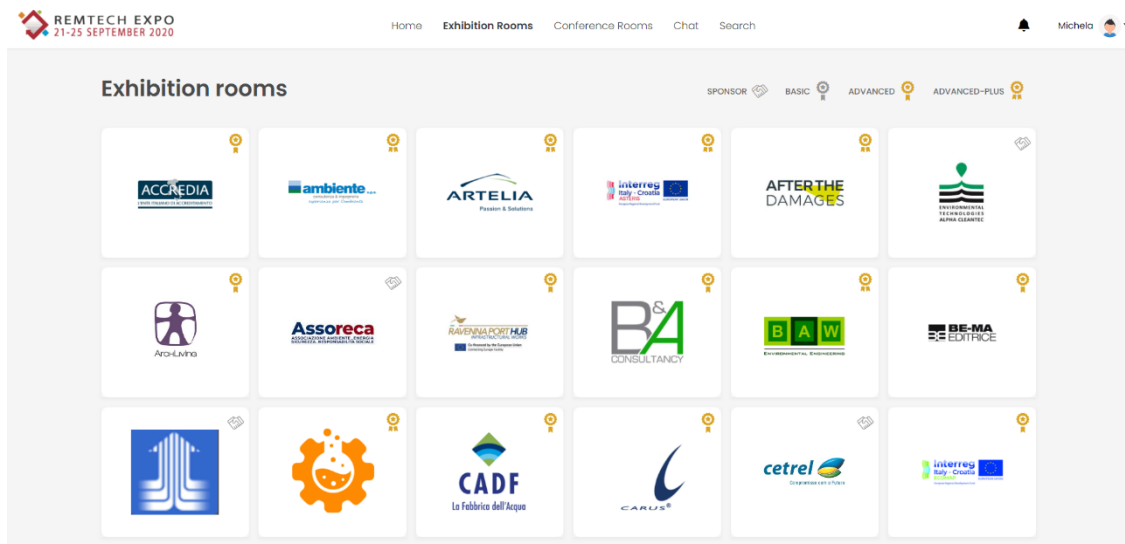


Figure 2 – Remtech Expo Digital Edition 2020: exhibition rooms page

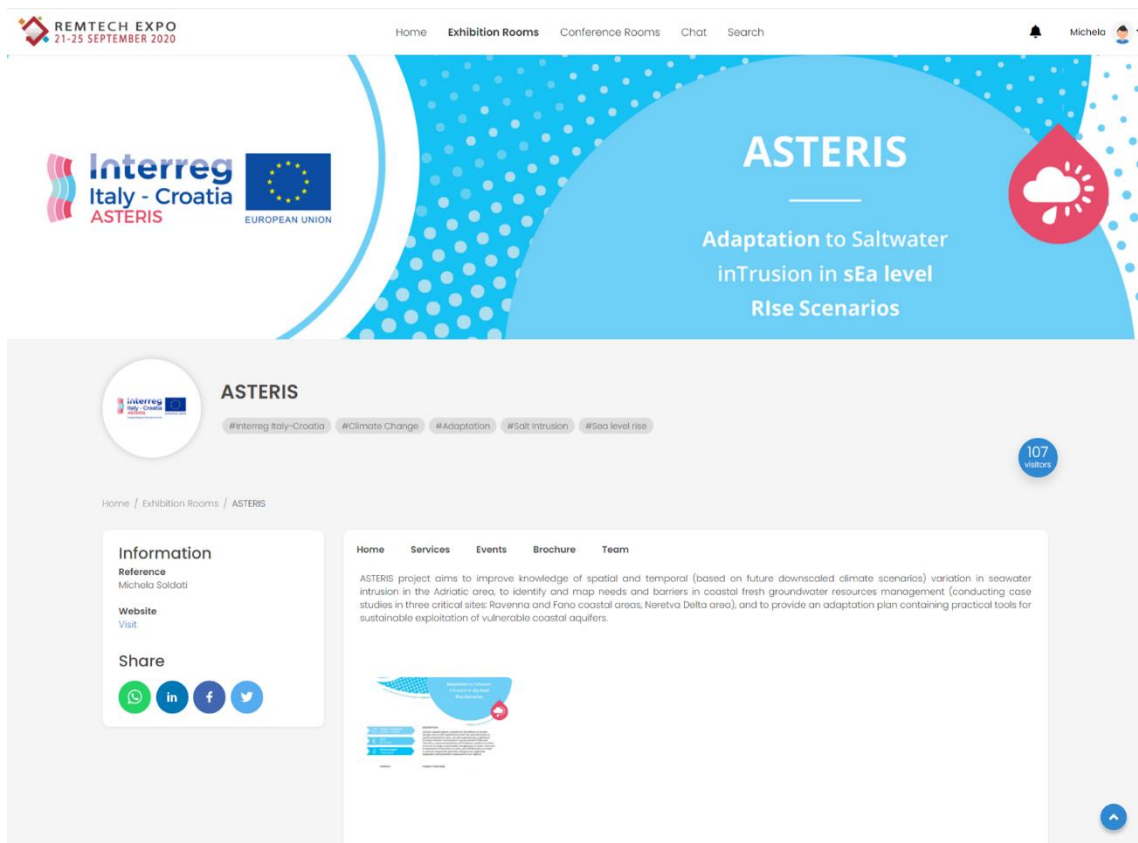


Figure 3 – ASTERIS's exhibition room

1.2 ASTERIS conference

The conference was held on the 21st of September, in the afternoon. It was included in Remtech conference program and was accessible to all the people registered to the website through the Remtech Conference room (Figure 4) or directly from ASTERIS exhibition room.

The conference was the opening event of the “*Coast, Ports, Sea*” topic session. The complete conference program is available at the following link (Figure 5):

<https://www.remtechexpodigitaledition.it/coste-porti-mare/>

The conference title was: “**Climate change, adaptation and resilience planning strategies.**” Focused on ASTERIS project and its activities, the conference dealt with adaptation strategies for coastal cities to be adopted at different planning levels to enhance their resilience to increasingly risk due to climate change.

The program was defined by Ravenna Municipality’s PM and included the contribution of partners of ASTERIS project. The conference was carried out with the active participation of Emilia Romagna Region, an important stakeholder of the project, and of the ADRIADAPT Italy-Croatia Interreg Project, whose specific object is to improve the climate change monitoring and planning of adaptation measures tackling specific effects, in the cooperation area, and it is therefore strictly connected to ASTERIS object.

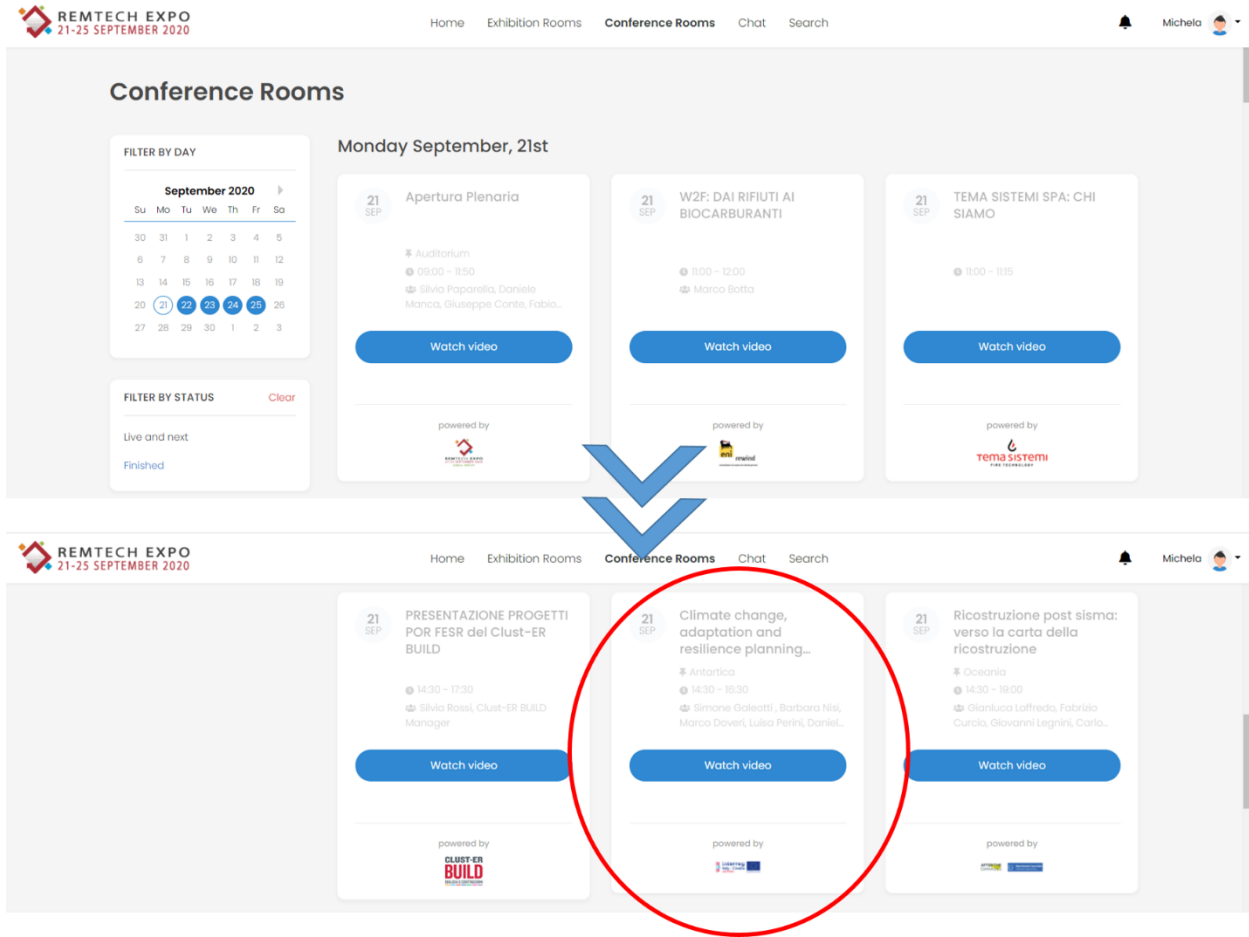


Figure 4 – Conference Room website

CONFERENCES AGENDA

Coasts, Ports, Sea



Climate change, adaptation and resilience planning strategies

Adriatic coastal areas and their communities are increasingly at risk due to the ongoing climate changes, resulting in sea level rise and intensification of extreme events with consequent increase of flooding, coastal erosion and saline intrusion effects. It has therefore become necessary to broaden our knowledge of the phenomenon, in order to develop adequate adaptation strategies for coastal cities to be applied at different planning levels and enhance their resilience.

ASTERIS project aims at improving the knowledge of spatial and temporal variations in seawater intrusion in the Adriatic area, based on future downscaled climate scenarios. Within the project needs and barriers to the management of coastal fresh groundwater resources have been identified and mapped, by means of case studies monitoring and modelling activities in three selected sites: Ravenna and Fano coastal areas in Italy and the Neretva Delta area in Croatia. The final aim of the project is to provide an adaptation plan containing practical tools for sustainable exploitation of vulnerable coastal aquifers.

By Ravenna Municipality.

[read more](#)



Figure 5 – Conference agenda webpage (<https://www.remtechexpodigitaledition.it/coste-porti-mare/>)

The conference program included three presentations by 3 different ASTERIS's project partners:

- Simone Galeotti from Urbino University who presented the project, objectives and activities carried-out so far, focusing on WP3;
- Barbara Nisi from CNR- IGG who presented the monitoring activities carried out in on the Italian case study areas: Ravenna and Fano Municipalities;
- Monika Zovko by University of Zagreb talking about Adaptation to Saltwater intrusion within the Polder-type Agricultural Catchment

As mentioned above, two guest speakers were invited to complete the conference program:

- Luisa Perini from the Geological, Seismic and Soil Department of Emilia Romagna Region, talking about future sea-level rise scenarios and possible impacts along the Emilia-Romagna coast (Italy)

- Daniele Capitani from Cervia Municipality, partner of ADRIADAPT Italy-Croatia Interreg Project, talking about the experience that the Municipality gained in planning the adaptation and the results they achieved with ADRIADAPT project.

The complete program is available at the following webpage:

<https://www.remtechexpodigitaledition.it/coste-porti-mare/climate-change-adaptation-and-resilience-planning-strategies/>

Michela Soldati, ASTERIS project PM for Ravenna Municipality, chaired the event, that was recorded and it is still available on the event website at the following link: <https://meeters-prod.web.app/events/event-detail/Qtg2B0066Neb5yxloi0A>.

Due to force majeure, Monika Zovko was unable to attend the event and give her presentation.

The submitted abstracts are now included in the Abstracts book.

A total of 78 people accessed the conference room during the webinar, with 47 people attending the conference with continuity.

ANNEX 1 - AGENDA

Climate change, adaptation and resilience planning strategies

21 SETTEMBRE LUNEDI

14.30 -16.30 CEST

Adriatic coastal areas and their communities are increasingly at risk due to the ongoing climate changes, resulting in sea level rise and intensification of extreme events with consequent increase of flooding, coastal erosion and saline intrusion effects. It has therefore become necessary to broaden our knowledge of the phenomenon, in order to develop adequate adaptation strategies for coastal cities to be applied at different planning levels and enhance their resilience.

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Programme

14.30-14.45 Registration

14.45-15.00 An integrated approach to the vulnerability assessment of Adriatic coastal aquifers due to the climate change impacts on sea level rise and the hydrological cycle

Simone Galeotti – Urbino University – ASTERIS Project Interreg Italy-Croatia Project

15.00-15.15 Hydrogeochemical surveys and aquifer-seawater intrusion modelling: first results from Ravenna's and Fano's (central-eastern Italy) coastal areas

Barbara Nisi and Marco Doveri – CNR-Institute of Geosciences and Earth Resources – ASTERIS Interreg Italy-Croatia Project

15.15-15.30 Adaptation to Saltwater intrusion within the Polder-type Agricultural Catchment

Monika Zovko University of Zagreb – ASTERIS Interreg Italy-Croatia Project

15.30-15.45 Future sea-level rise scenarios and possible impacts along the Emilia-Romagna coast (Italy)

Luisa Perini – Emilia-Romagna Region, Geological, Seismic and Soil service

15.45-16.00 Resilient territorial planning – The experience of Cervia

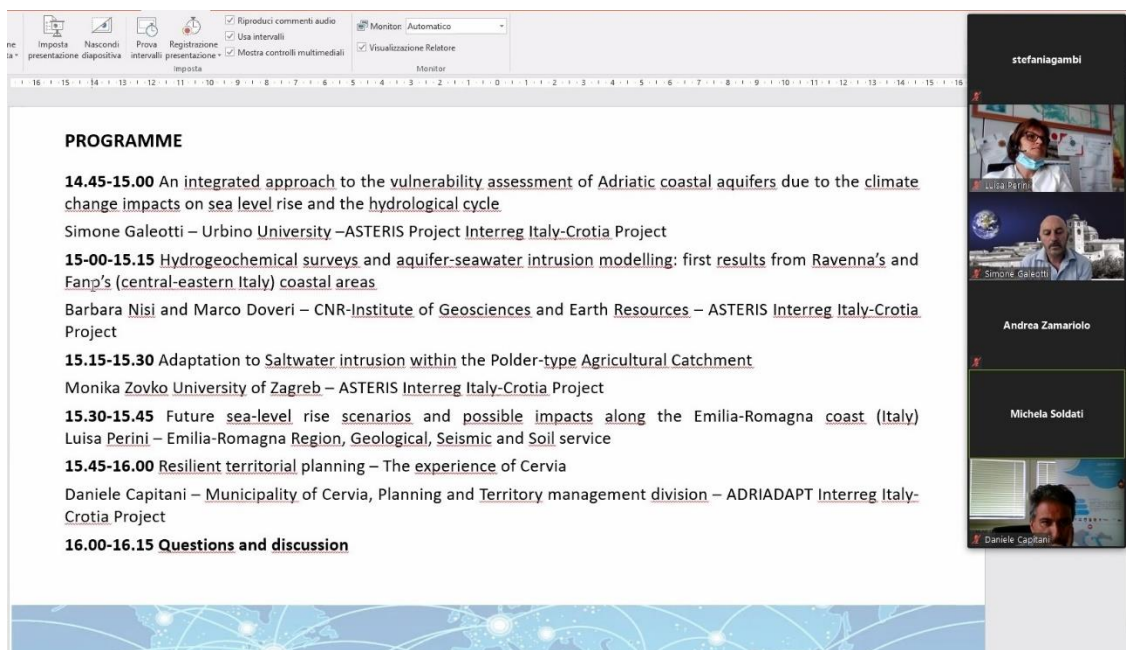
Daniele Capitani – Municipality of Cervia, Planning and Territory management division – ADRIADAPT Interreg Italy-Croatia Project

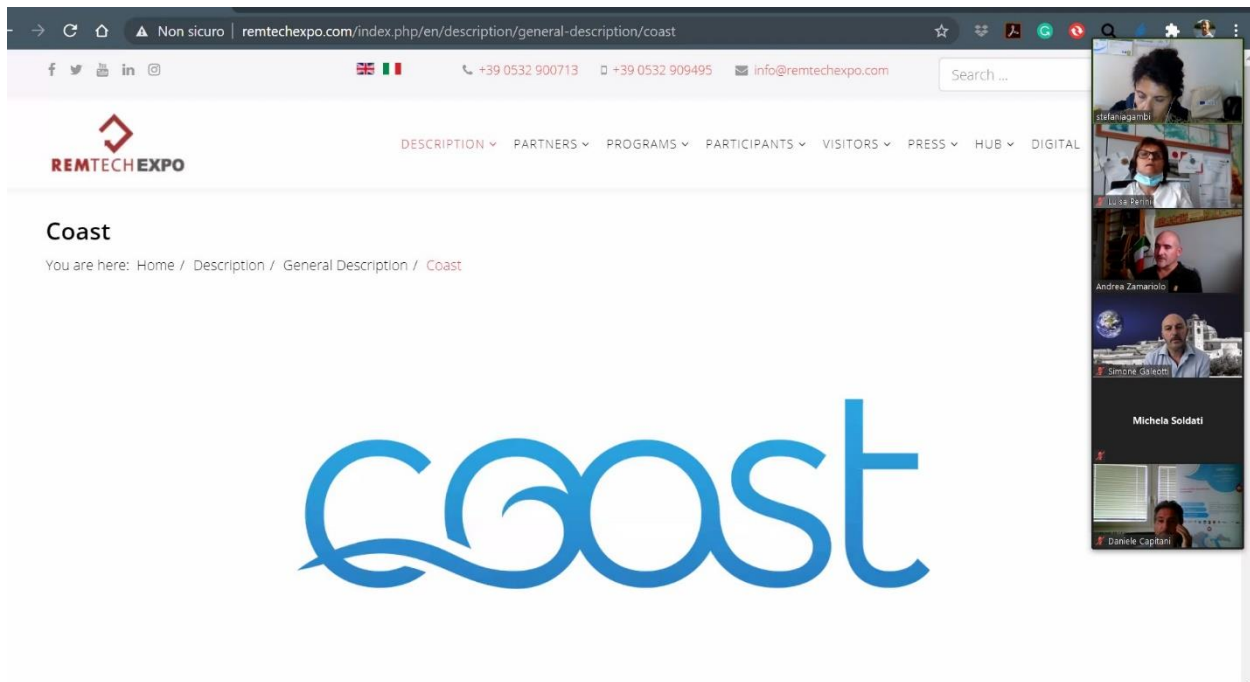
16.00-16.15 Questions and discussion

Powered by:

<https://www.remtechexpodigitaledition.it/coste-porti-mare/climate-change-adaptation-and-resilience-planning-strategies/>

ANNEX 2 – SCREENSHOTS OF THE CONFERENCE





Introduction of Coast, Ports and Sea section of Remtech Expo, by the Coordinator Andrea Zamariolo

ASTERIS - WP3 Activity 2

Map of territorial hazards to salt ingression in coastal aquifers

The assessment of risk for salinization of coastal aquifers considers vulnerability, defined as the combination of factors dealing with the aquifer susceptibility and external hazards.

Vulnerability	Aquifer susceptibility	Topography
	Intrinsic characteristics	Human pressure
	Hazards threats	Sea level pressure

The analysis, focused on the Northern Adriatic Basin. Parameters selected to define the "Acquirer susceptibility" have been:

- For "Topography": elevation and distance from the coast;
- For "Intrinsic characteristics": hydrogeology, aquifer type and lithology

The "Hazard threats" have been analyzed considering:

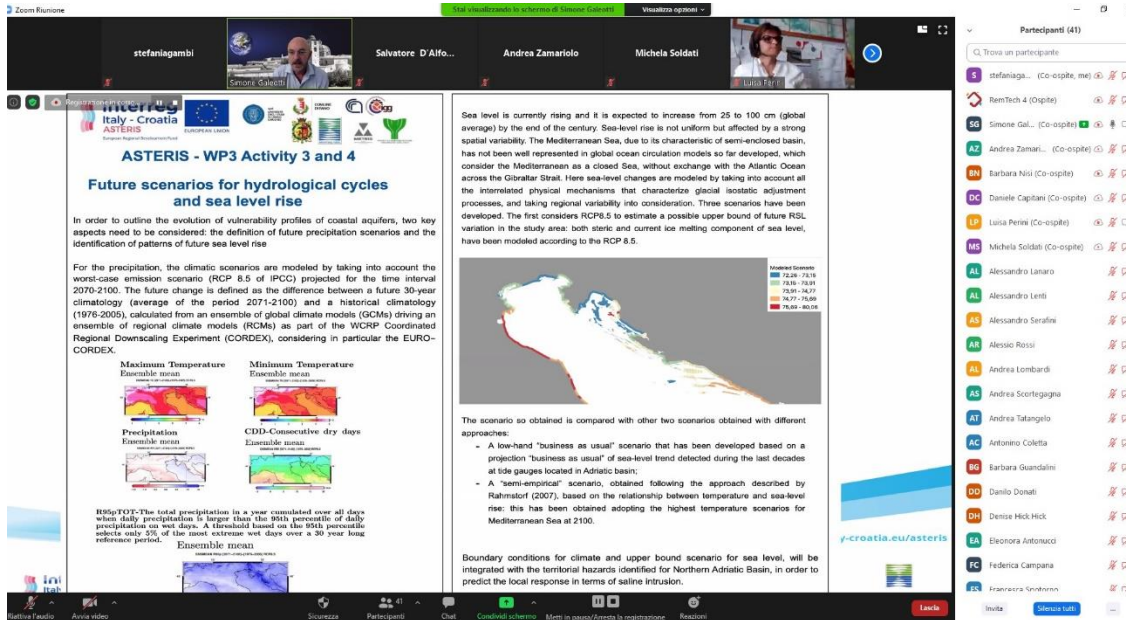
- For "Human pressure": population density and touristic pressure
- A "soil use pressure" to compensate the lack of homogeneous information on the area of analysis of presence of wells.

The sea level pressure and changes in climate conditions will be integrated in the model according to the results of activity 3 and 4 of WP3.

The information obtained for each variable has been arranged to create three possible scenarios. Comparison of the simulations obtained shows that the three scenarios proposed are very similar.

The maps produced is intended to provide a broad range idea of the vulnerability of different areas in the Northern Adriatic Basin. The map will be then used in the upscaling of the evaluation obtained at case study level. In particular, the maps obtained will be then combined with the future hydrological and sea-level scenarios (activities 3 and 4 of WP3) to obtain a conceptual model for the risk to salt intrusion.

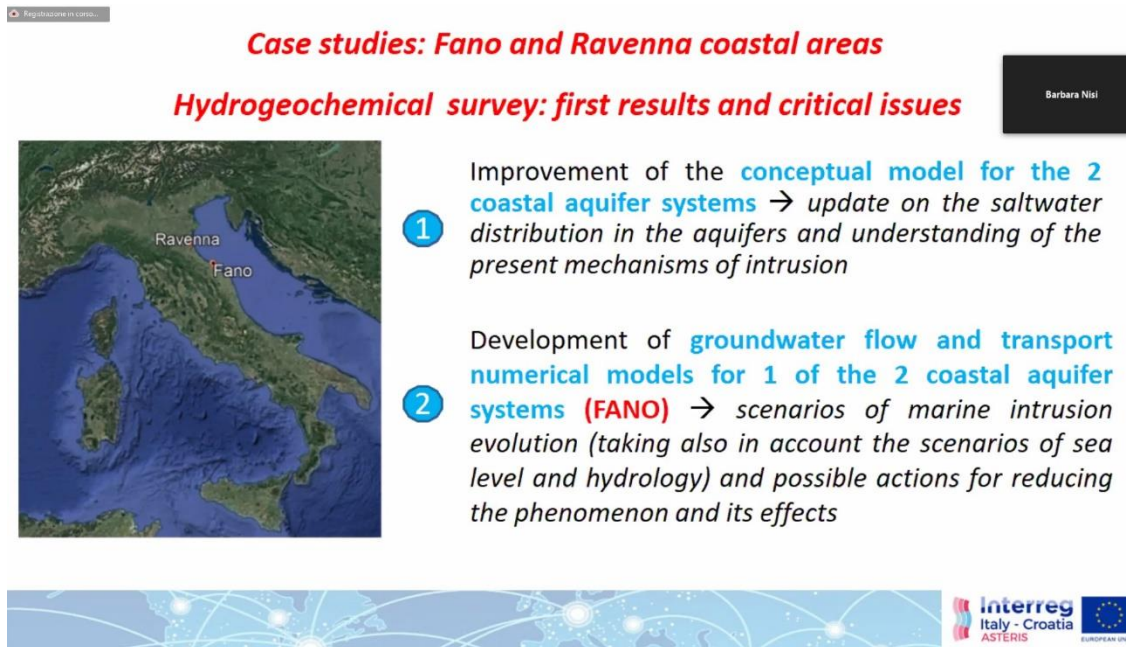
Presentation given by Simone Galeotti (University of Urbino – ASTERIS's lead partner)



The screenshot shows a Zoom meeting interface with a presentation slide. The slide title is "ASTERIS - WP3 Activity 3 and 4 Future scenarios for hydrological cycles and sea level rise". The slide content includes:

- Text:** "Sea level is currently rising and it is expected to increase from 25 to 100 cm (global average) by the end of the century. Sea-level rise is not uniform but affected by a strong spatial variability. The Mediterranean Sea, due to its characteristic of semi-enclosed basin, has not been well represented in global ocean circulation models so far developed, which consider the Mediterranean as a closed Sea, without exchange with the Atlantic Ocean across the Gibraltar Strait. Here sea-level changes are modeled by taking into account all the interrelated physical mechanisms that characterize glacial isostatic adjustment processes, and taking regional variability into consideration. These scenarios have been developed. The first considers RCP8.5 to estimate a possible upper bound of future RSL variation in the study area: both steric and current ice melting component of sea level, have been modeled according to the RCP 8.5."
- Figure:** A map of the Mediterranean Sea showing sea level rise projections. A legend indicates "Estimated Scenario" with values: 72.28 - 73.16, 73.28 - 74.91, 75.91 - 74.77, 74.77 - 74.69, and 76.69 - 80.08.
- Text:** "The scenario so obtained is compared with other two scenarios obtained with different approaches:
 - A low-end 'business as usual' scenario that has been developed based on a projection 'business as usual' of sea-level trend detected during the last decades at tide gauges located in Adriatic basin;
 - A 'semi-empirical' scenario, obtained following the approach described by Rahmstorf (2007), based on the relationship between temperature and sea-level rise: this has been obtained adopting the highest temperature scenarios for Mediterranean Sea at 2100.
- Text:** "Boundary conditions for climate and upper bound scenario for sea level, will be integrated with the territorial hazards identified for Northern Adriatic Basin, in order to predict the local response in terms of saline intrusion."

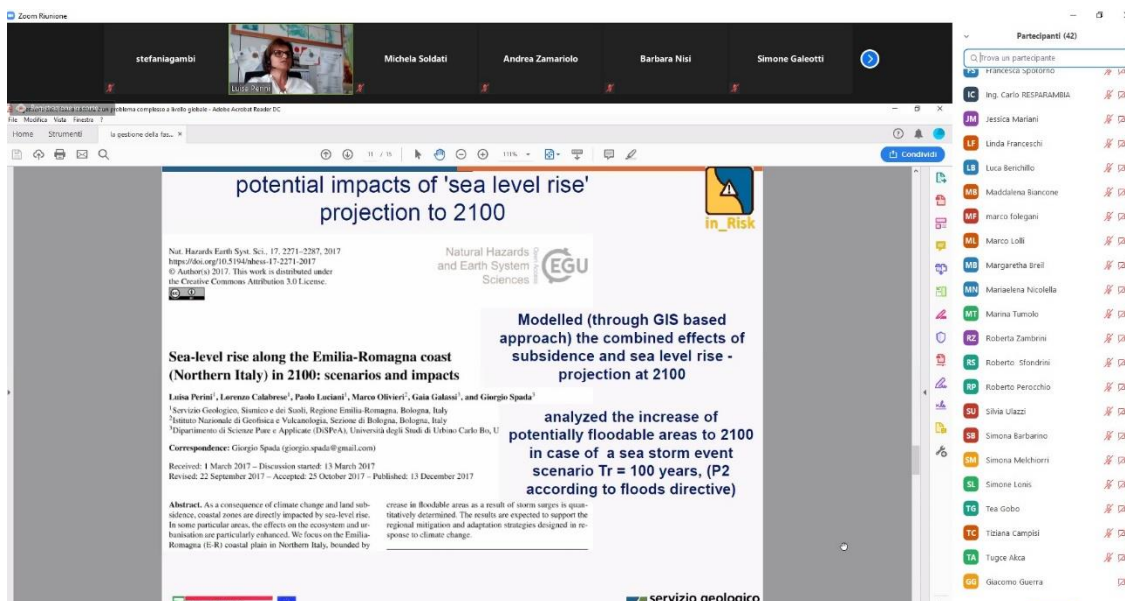
Presentation given by Simone Galeotti (University of Urbino – ASTERIS’s lead partner)



The screenshot shows a presentation slide with the following content:

- Section Header:** "Case studies: Fano and Ravenna coastal areas Hydrogeochemical survey: first results and critical issues"
- Image:** A map of the Adriatic coast of Italy, highlighting the coastal areas of Ravenna and Fano.
- Text:** "Improvement of the **conceptual model for the 2 coastal aquifer systems** → update on the saltwater distribution in the aquifers and understanding of the present mechanisms of intrusion"
- Text:** "Development of **groundwater flow and transport numerical models for 1 of the 2 coastal aquifer systems (FANO)** → scenarios of marine intrusion evolution (taking also in account the scenarios of sea level and hydrology) and possible actions for reducing the phenomenon and its effects"

Presentation given by Barbara Nisi (CNR – Institute of Geoscience and Earth Resources – ASTERIS’s project Partner)



The screenshot shows a Zoom meeting interface with several participants visible in the top bar. The main content is a presentation slide titled "potential impacts of 'sea level rise' projection to 2100". The slide includes the following text:

potential impacts of 'sea level rise' projection to 2100

Nat. Hazards Earth Syst. Sci., 17, 2271–2287, 2017
<https://doi.org/10.5194/nhess-17-2271-2017>
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Sea-level rise along the Emilia-Romagna coast (Northern Italy) in 2100: scenarios and impacts

Luisa Perini¹, Lorenzo Calabrese², Paolo Luciani¹, Marco Olivieri¹, Gala Galassi¹, and Giorgio Spada¹

¹Servizio Geologico, Simisio e dei Suoli, Regione Emilia-Romagna, Bologna, Italy
²Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Bologna, Bologna, Italy
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Correspondence: Giorgio Spada (giorgio.spada@gmail.com)

Received: 1 March 2017 – Discussion started: 13 March 2017
 Revised: 22 September 2017 – Accepted: 25 October 2017 – Published: 13 December 2017

Abstract. As a consequence of climate change and land subsidence, coastal zones are directly impacted by sea-level rise. In some particular areas, the effects on the ecosystem and urbanisation are particularly enhanced. We focus on the Emilia-Romagna (E-R) coastal plain in Northern Italy, bounded by

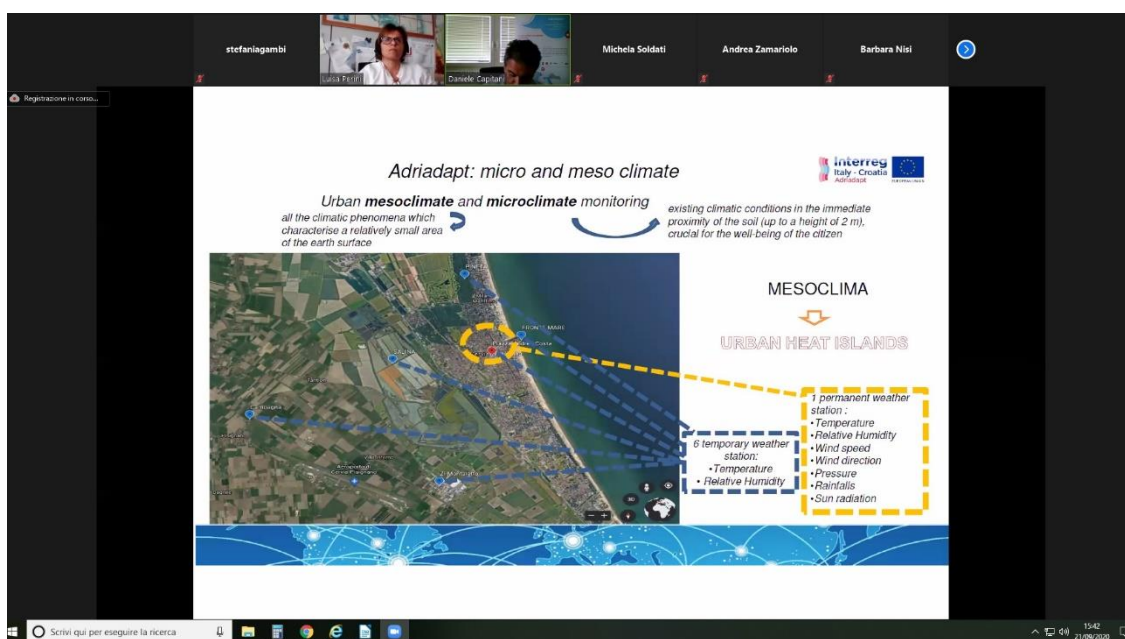
Modelled (through GIS based approach) the combined effects of subsidence and sea level rise - projection at 2100

analyzed the increase of potentially floodable areas to 2100 in case of a sea storm event scenario Tr = 100 years, (P2 according to floods directive)

increase in floodable areas as a result of storm surges is quantitatively determined. The results are expected to support the regional mitigation and adaptation strategies designed in response to climate change.

servizio geologico

Presentation given by Luisa Perini (Emilia Romagna Region – Geological, Seismic and Soil Department)



The screenshot shows a Zoom meeting interface with several participants visible in the top bar. The main content is a presentation slide titled "Adriadapt: micro and meso climate". The slide includes the following text:

Adriadapt: micro and meso climate

Urban mesoclimate and microclimate monitoring

all the climatic phenomena which characterise a relatively small area of the earth surface

existing climatic conditions in the immediate proximity of the soil (up to a height of 2 m), crucial for the well-being of the citizen

MESOCLIMA

URBAN HEAT ISLANDS

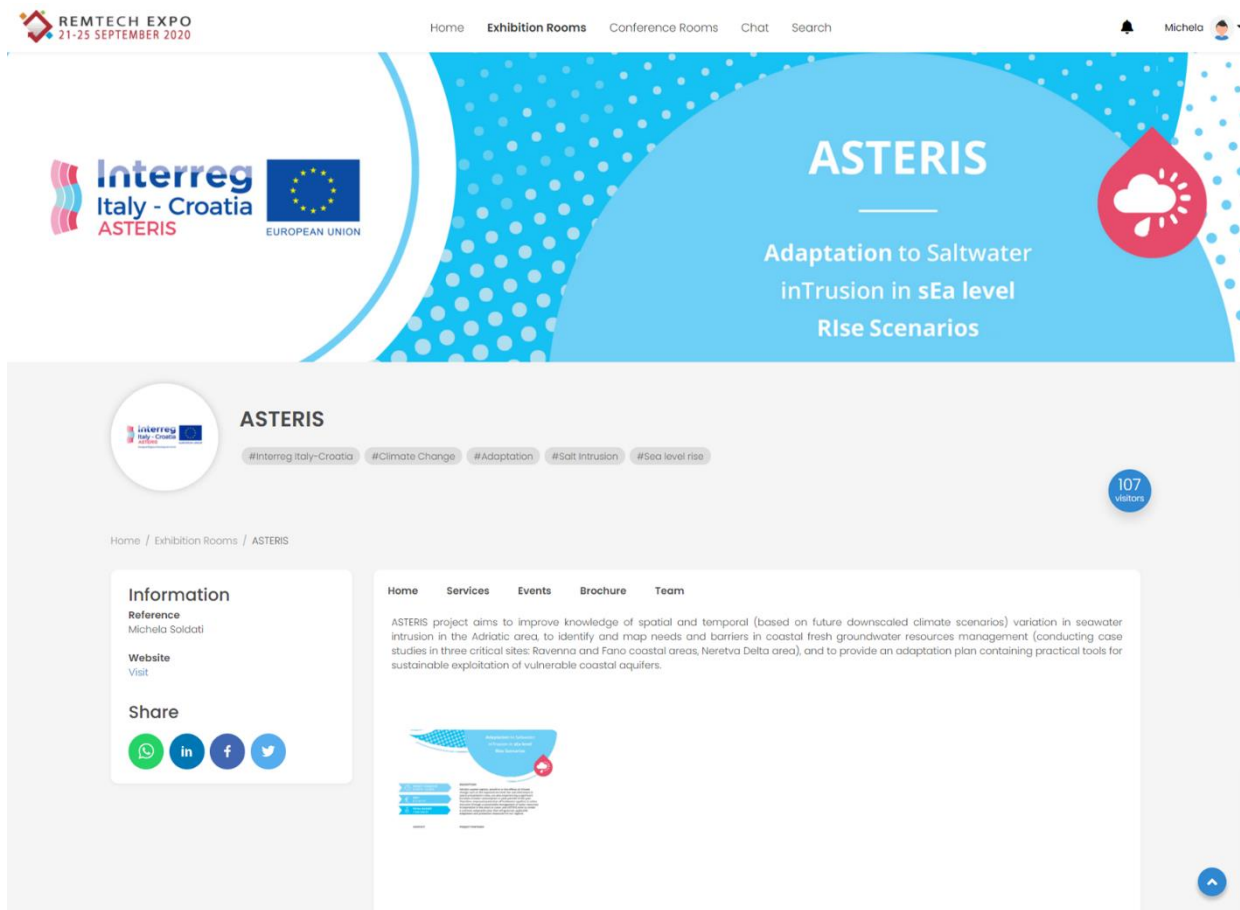
1 permanent weather station:
 • Temperature
 • Relative Humidity

6 temporary weather station:
 • Temperature
 • Relative Humidity
 • Wind speed
 • Wind direction
 • Pressure
 • Rainfalls
 • Sun radiation

Presentation given by Daniele Capitani (Cervia Municipality – ADRIADAPT Interreg Italy-Croatia project's partner)

ANNEX 3 – LIST OF ASTERIS CONFERENCE PARTICIPANTS

ANNEX 4 – SCREENSHOTS OF THE EXHIBITION ROOM



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inTrusion in sEa level
Rise Scenarios

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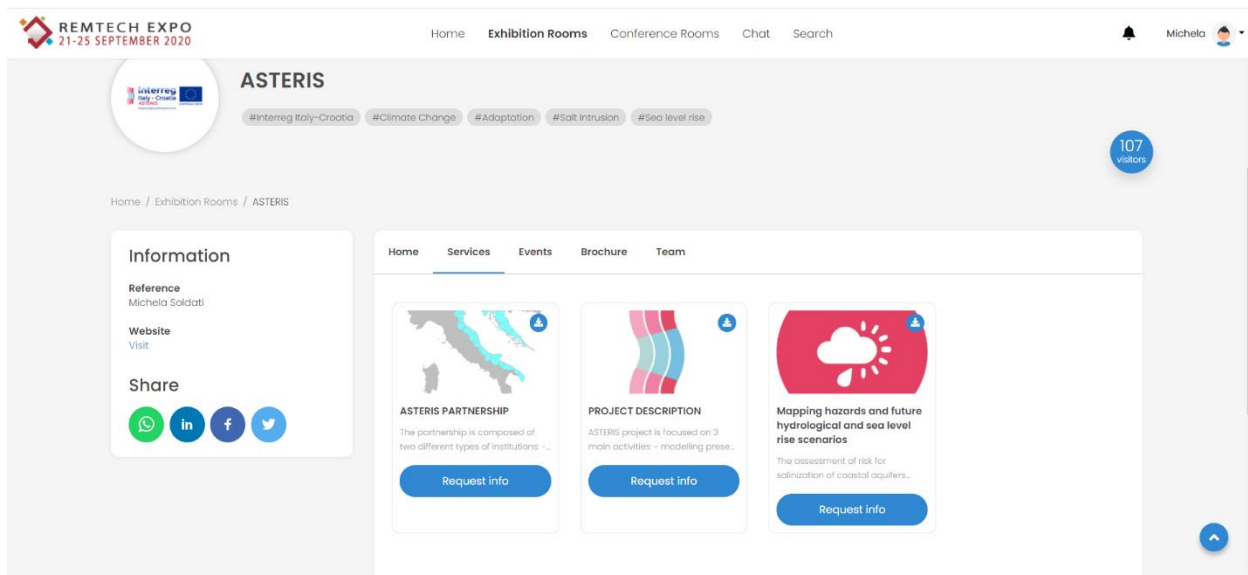
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ASTERIS project aims to improve knowledge of spatial and temporal (based on future downscaled climate scenarios) variation in seawater intrusion in the Adriatic area, to identify and map needs and barriers in coastal fresh groundwater resources management (conducting case studies in three critical sites: Ravenna and Fano coastal areas, Neretva Delta area), and to provide an adaptation plan containing practical tools for sustainable exploitation of vulnerable coastal aquifers.

ASTERIS Exhibition room - homepage



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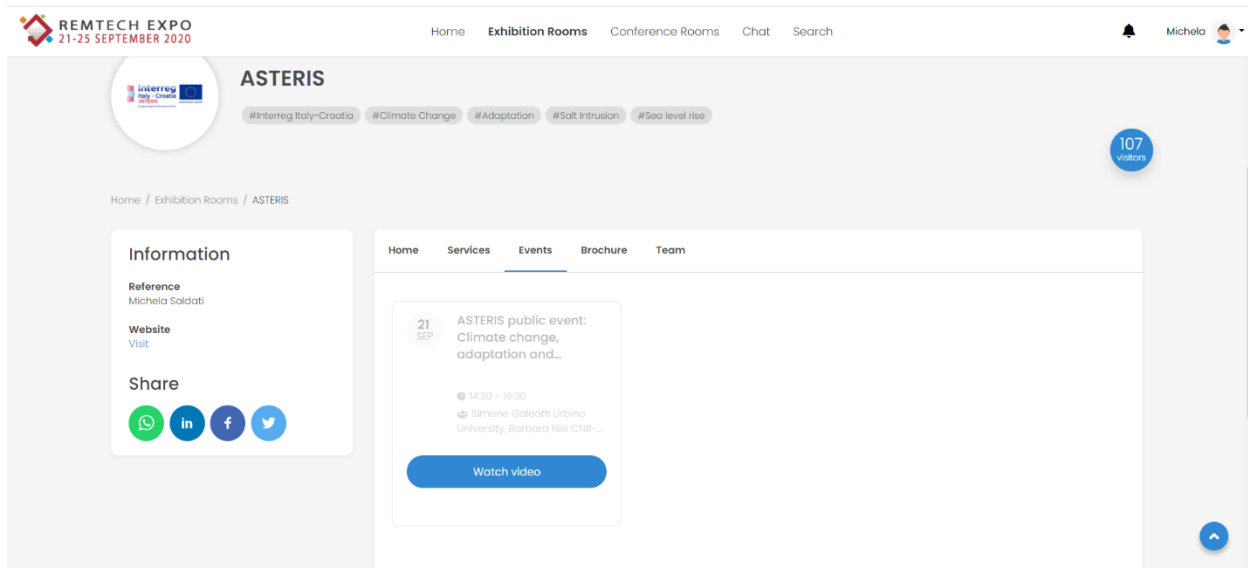
ASTERIS PARTNERSHIP
The partnership is composed of two different types of institutions: -

PROJECT DESCRIPTION
ASTERIS project is focused on 3 main activities - modelling prese...

Mapping hazards and future hydrological and sea level rise scenarios
The assessment of risk for salinization of coastal aquifers...

Request info

ASTERIS Exhibition room - Services



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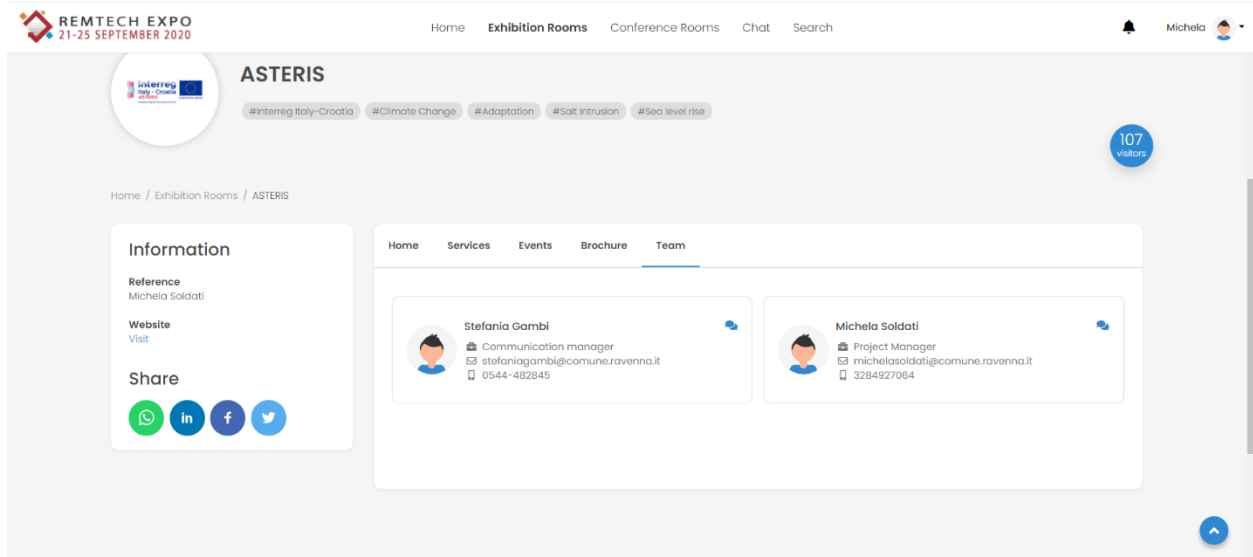
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21 SEP
ASTERIS public event: Climate change, adaptation and...

14:30 - 16:30
Simone Galeotti Urbino University, Barbara Nisi CNR...

Watch video

ASTERIS Exhibition room - Events



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Michela Soldati	Project Manager	michelasoldati@comune.ravenna.it 3284927064

ASTERIS Exhibition room - Team

ANNEX 5 PROJECT DOCUMENTS UPLOADED IN THE EXHIBITION ROOM

ANNEX 6 – EXHIBITION ROOM VISITORS AND CONTACTS

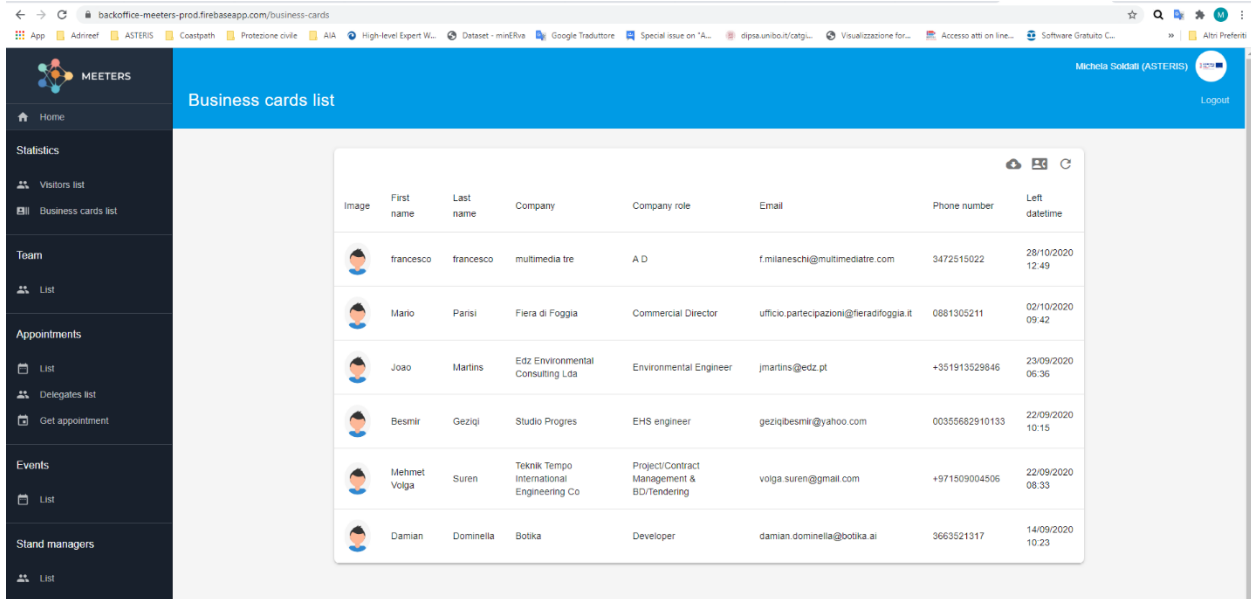








Image	First name	Last name	Company	Company role	Email	Phone number	Left datetime
	francesco	francesco	multimedia tre	A D	f.milaneschi@multimediatre.com	3472515022	28/10/2020 12:49
	Mario	Parsi	Fiera di Foggia	Commercial Director	ufficio.partecipazioni@fieradifoggia.it	0881505211	02/10/2020 09:42
	Joao	Martins	Edz Environmental Consulting Lda	Environmental Engineer	jmartins@edz.pt	+351913529846	23/09/2020 05:35
	Besmir	Gezigi	Studio Progres	EHS engineer	gezigi@besmir@yahoo.com	00355682910133	22/09/2020 10:15
	Mehmet Volga	Suren	Teknik Tempo International Engineering Co	Project/Contract Management & BD/Tendering	volga.suren@gmail.com	+971509004506	22/09/2020 08:33
	Damian	Dominella	Bobka	Developer	damian.dominella@bobka.ai	9663521317	14/09/2020 10:23

Business cards list

