

Welcome to the Euro PM2021 Virtual Congress & Exhibition!

Virtual Event, 18-22 October 2021

Thank you for your participation in the Euro PM2021 Virtual Congress & Exhibition Event, please find below some guidelines to help you with the Euro PM2021 Virtual Congress Website.

Login area



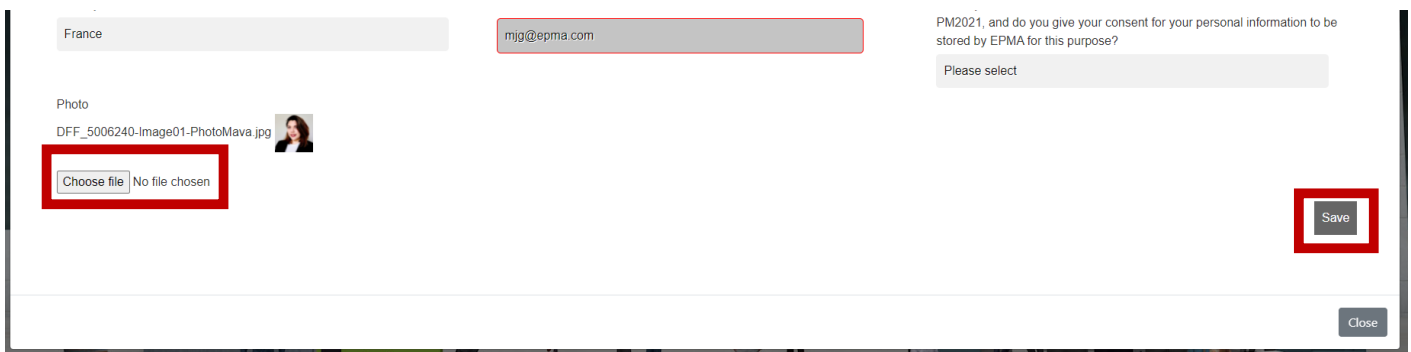
To access to the Euro PM2021 Virtual Congress & Exhibition, please enter your username (the email you have registered with) and your password (you will find your password in the joining invitation email).

Your Profile Picture

In a first time, we invite you to set up your profile picture by clicking on  on the top-right of your screen.

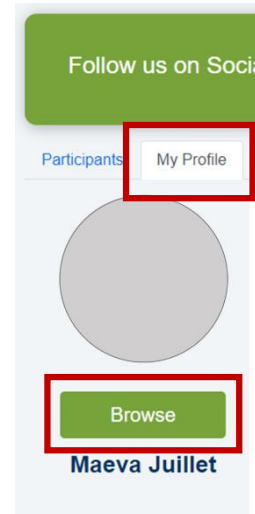


When you are on your profile area, click on “Edit profile” and then, choose your profile picture by clicking on “Choose file” and “Save”.



Please note that you will also have to upload your picture on the Euro PM2021 Networking tool.

Click on the networking section, then go to “Profile” and click on “Browse” to set your networking profile picture



Now you are ready to enjoy your Virtual visit!

The Lobby

Welcome to the main lobby. From here, you will be able to access to all part of the Virtual Congress.

Next pages will explain how some section works. Click on the related number below to go directly on the section guidelines (only blue numbers have a dedicated guideline in the following pages).



- 1 Programme: Click here to find the technical session programme.
- 2 Information Desk: All information related to the congress will be available here (General Information, 2021 Awardees, FAQ, contact).

Take a chance to win your ticket for the World PM2022 Congress & Exhibition by joining our contest game! All details and link to join the game will be available on the desk information.



- 3 World PM2022: Click here to find all details about the next World PM2022 Congress & Exhibition which be held in Lyon, from 09 to 13 October 2022.
- 4 Rio Tinto Website.
- 5 Euro PM2021 Website: Find all details about the Euro PM2021 Virtual Congress & Exhibition here.
- 6 EPMA Website.
- 7 EPMA Sectoral Group information.
- 8 Sponsors: The full sponsors list is available here.
- 9 Media Partners: Find all our Media Partners by clicking here.
- 10 E-Posters section: Go to the e-posters section and discover all e-posters presentations.
- 11 Technical Sessions: Enter to the Technical Session Lobby and join one of our 4 technical session rooms.
- 12 Exhibition area: Join our first Virtual Exhibition with representatives from across the world joining the international exhibition 18 -22 October 2021.
- 13 Networking: Communicate live or arrange meetings with attendees, exhibitors, chairs and speakers in advance by using PM2021's new networking tool.

Programme

You will be able to find all details regarding technical session in the Euro PM2021 Programme.

Monday 18 October 2021		Tuesday 19 October 2021	Wednesday 20 October 2021	Thursday 21 October 2021	Friday 22 October 2021												
09:00 - 11:00	<p align="center"><u>Programme Calendar</u></p>																
09:00 - 11:00	<p>Plenary Session UPCOMING Location: Technical Session 1 Session Type: Plenary Session Session time: 09:00 - 11:00</p> <table border="1"> <thead> <tr> <th>Presentation title</th> <th>Speaker/Authors</th> </tr> </thead> <tbody> <tr> <td>Opportunities For The PM Industry In The Hydrogen Economy</td> <td>Dr Lars Röntzsch</td> </tr> </tbody> </table>					Presentation title	Speaker/Authors	Opportunities For The PM Industry In The Hydrogen Economy	Dr Lars Röntzsch								
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11:15 - 12:45	<p>Session 1: Cermets and Applications UPCOMING Location: Technical Session 1 Chair(s): Dr Slavash Momeni Session Type: Technical Session Session time: 11:15 - 12:45</p> <table border="1"> <thead> <tr> <th>Presentation title</th> <th>Speaker/Authors</th> </tr> </thead> <tbody> <tr> <td>Solid State And Liquid Phase Sintered Mo2C_WC And TiC Modified NbC-Ni Cermets</td> <td>Mr Zahid Anwer, Prof Jef Vleugels, Dr Shuigen Huang</td> </tr> <tr> <td>Femtosecond Laser Processing Of Hardmetals</td> <td>Dr Aldara Pan Cabo, Dr Lorena Leand Cabero</td> </tr> </tbody> </table>	Presentation title	Speaker/Authors	Solid State And Liquid Phase Sintered Mo2C_WC And TiC Modified NbC-Ni Cermets	Mr Zahid Anwer , Prof Jef Vleugels , Dr Shuigen Huang	Femtosecond Laser Processing Of Hardmetals	Dr Aldara Pan Cabo , Dr Lorena Leand Cabero	<p>Session 2: SIS HIP: Optimization of PM parts using HIP UPCOMING Location: Technical Session 2 Chair(s): Dr Anke Kaletsch, Mr James Shioley Session Type: Special Interest Seminar Session time: 11:15 - 12:45</p> <table border="1"> <thead> <tr> <th>Presentation title</th> <th>Speaker/Authors</th> </tr> </thead> <tbody> <tr> <td>The CAIHIPSO Project: Towards A Larger Use Of HIP Technology In France</td> <td>Prof Frederic Bernard, Mr Emmanuel Rigal, Dr Philippe Emonot, Prof Jean-Philippe</td> </tr> </tbody> </table>	Presentation title	Speaker/Authors	The CAIHIPSO Project: Towards A Larger Use Of HIP Technology In France	Prof Frederic Bernard , Mr Emmanuel Rigal , Dr Philippe Emonot , Prof Jean-Philippe	<p>Session 3: AM Sinter Based Technologies: Extrusion-Based Methods in AM UPCOMING Location: Technical Session 3 Chair(s): Prof. Dr Ana Senos Session Type: Technical Session Session time: 11:15 - 12:45</p> <table border="1"> <thead> <tr> <th>Presentation title</th> <th>Speaker/Authors</th> </tr> </thead> <tbody> <tr> <td>Experimental Investigations Of Extrusion 3D Printing And Sintering Of Copper MIM Feedstock</td> <td>Dr Gurminder Singh, Prof Jean-Michel Missiaen, Prof Didier Bouvard, Prof Jean-Marc Chaille</td> </tr> </tbody> </table>	Presentation title	Speaker/Authors	Experimental Investigations Of Extrusion 3D Printing And Sintering Of Copper MIM Feedstock	Dr Gurminder Singh , Prof Jean-Michel Missiaen , Prof Didier Bouvard , Prof Jean-Marc Chaille
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Click on the abstract title to read the abstract.

[426333] Opportunities For The PM Industry In The Hydrogen Economy

Hydrogen will play a key role as a versatile energy carrier for the long-term success of the energy transition and for climate protection. In addition to climate policy aspects, hydrogen technologies pave the way to many sustainable jobs, new value chains and a global multi-billion dollar market.

This presentation sheds light on the diverse opportunities for powder metallurgy in this new market on the short and long term. These include, for example, sinter electrodes for advanced zero-gap alkaline electrolyzers, metal hydride-based hydrogen storage devices or porous metallic structures for gas diffusion layers in fuel cells.

Click on the presenting author name to have more information about the speaker.



Mr Zahid Anwer
KU Leuven

Zahid Anwer

With an industrial work experience of more than six years as a materials engineer, I embarked upon pursuing my doctoral degree at the prestigious department of Materials Engineering (MTM), KU Leuven, Belgium. Here, my focus of research is to develop the next generation of eco-friendly NbC-based cermets which can replace the hazardous WC-Co based cemented carbides for wear resistant applications.

Session 1: Cermets and Applications
Monday 18 October 2021 : 11:15 am - 12:45 pm / 11:15 - 12:45
[Go to the session in the programme](#)

Presentation title	Role
Solid State And Liquid Phase Sintered Mo2C, WC And TiC Modified NbC-Ni Cermets.	Author

You can also find the calendar version of the programme by clicking on “Programme Calendar”.

[Programme Calendar](#)

Monday 18 October 2021 Tuesday 19 October 2021 Wednesday 20 October 2021 Thursday 21 October 2021 Friday 22 October 2021

09:00 - 11:00 Plenary Session

↓






 Sélectionner une langue ▼
 Change View

2021		Technical Session 1	Technical Session 2	Technical Session 3	Technical Session 4
Monday 18 October Monday 18-10 Tuesday 19-10 Wednesday 20-10 Thursday 21-10 Friday 22-10 powered by Shocklogic	09:00	Plenary Session 09:00 - 11:00			
	10:00				
	11:00	Session 1: Cermets and Applications 11:15 - 12:45	Session 2: SIS HIP: Optimization of PM parts using HIP 11:15 - 12:45	Session 3: AM Sinter Based Technologies: Extrusion-Based Methods in AM 11:15 - 12:45	Session 4: Applications: Automotive 11:15 - 12:45
	12:00				
	13:00	Session 5: Materials for Press & Sinter 13:30 - 15:00	Session 6: SIS HIP: Key Industrial Applications of HIP 13:30 - 15:00	Session 7: Industry Corner - 1 13:30 - 15:00	Session 8: Applications: Biomedical 13:30 - 15:00

From the Programme Calendar, you can click on each session to find more details (chairs, abstracts, speakers...).

Information Desk

Go to our Information Desk to find all information related to the Euro PM2021 Virtual Congress & Exhibition.

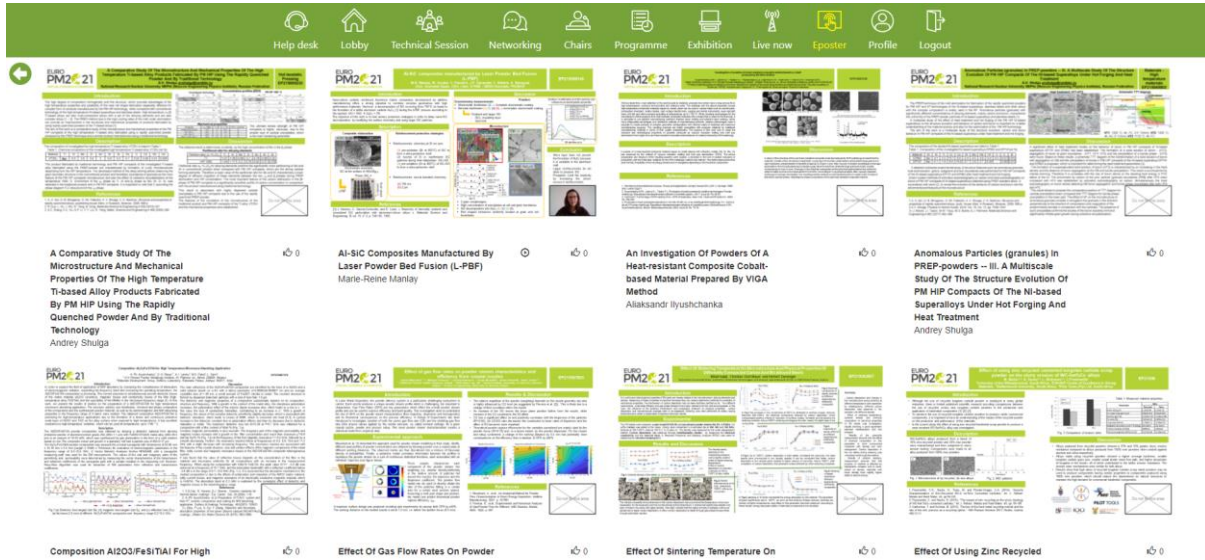
	General Information
	Awards & Competitions
	World PM2022 Contest Game
	Frequently Asked Questions
	Email us

You will also find the section to join our World PM2022 Contest Game.

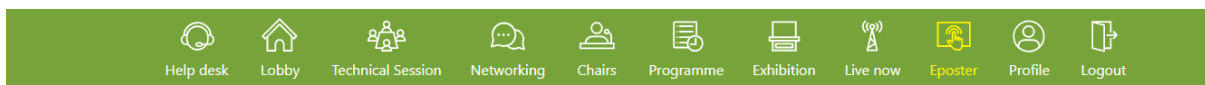
Take a chance to win a free ticket to join the next World PM2022 Congress & Exhibition which be held in Lyon from 09 to 13 October 2022.

E-Posters section

Visit the E-Posters section to discover our 20 e-poster presentations.



Click on each e-poster to open and read it.



POSTER | ABSTRACT | CONTACT AUTHOR



Al-SiC Composites Manufactured By Laser Powder Bed Fusion (L-PBF)

EURO PM2021
VIRTUAL CONGRESS & EXHIBITION

Al-SiC composites manufactured by Laser Powder Bed Fusion (L-PBF)

M-R. Manlay, M. Soulier, C. Flament, J-P. Garandet, C. Ribière, A. Benayad
Univ. Grenoble Alpes, CEA, Liten, DTNM – 38000 Grenoble, FRANCE

EP215068146

Introduction

Nano-silicon carbide reinforced Aluminum matrix composites development by additive manufacturing offers a strong potential to combine complex geometries with high performance materials. However, a decomposition of SiC occurring from 750°C on leads to the formation of a brittle aluminum carbide Al₄C₃ [1] during the L-PBF process according to the reaction: 4Al + 3SiC → Al₄C₃ + 3Si. The objective of this work is to test various protection strategies in order to delay nano-SiC decomposition, by modifying the surface chemistry and using larger SiC particles.

Discussion

Granulometry measurements

- Monomodal distribution (2) → Complete electrostatic coating
- Bimodal distribution (1) (3) (4) (5) → Incomplete electrostatic coating

Oxidized and larger SiC:

- SiO₂ insulating layer
- Size limit

Description

Composite elaboration

Al/SiC 35 nm

Reinforcement protection strategies

- Reinforcements chemistry at 35 nm size:
 - pre-oxidation (2h at 850°C) of SiC to form a silica protective shell
 - excess of Si in synthesized SiC particles during their elaboration: SiC-Si3
 - pre-oxidation (2h at 850°C) of SiC-Si3

Microstructure

SEM-EBSD: (4) TEM: (3)

Conclusion

- Silica layer does not prevent the formation of Al₄C₃ because it is unstable in the aluminum

You can rate each e-poster. Please note that you can also find the abstract by clicking on “Abstract” or contact the author by clicking on “Contact Author”. E-posters are downloadable by clicking on the link below each presentation.

If this logo appears, you can click on it and discover a short recorded video from the author to present his/her work.

Technical Session

By clicking on the Technical Session area, you will join the second lobby.

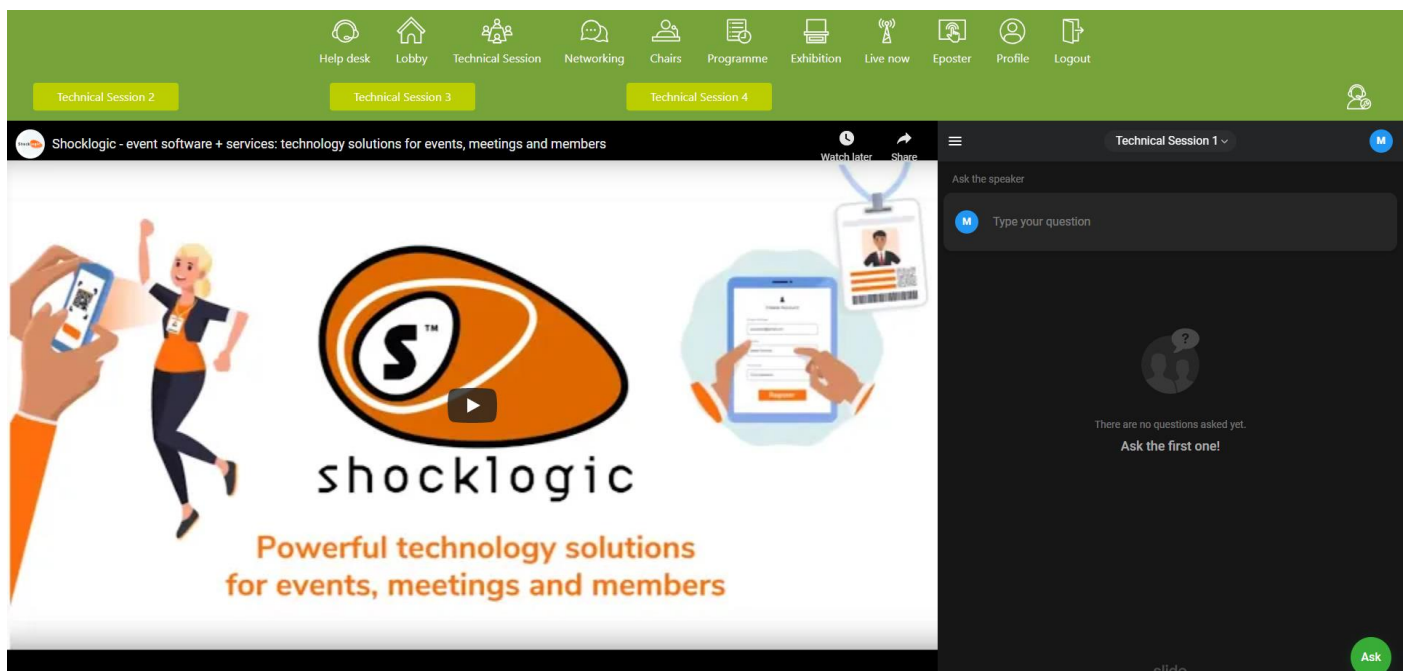


From here, you will find the access to join one of our 4 technical session room. You can also join a room directly through the Programme.

Please note that if you have chosen the “full delegate package”, you will be able to find and download **the proceedings** on this lobby.

Technical Session Room

Each presentation from a same session will be launched automatically at the beginning of the session. During presentation, you will be able to ask question through the chat box on the right.



You can join another technical session, at any time, directly by clicking on light green link on the top of the page.

[Technical Session 2](#)

[Technical Session 3](#)


[Technical Session 4](#)

Questions and Answers

Please note that the Questions and Answers session will start at the end of each session. Presenting authors and session chairs will be on live to answer directly to the questions sent through the chat box.

Exhibition area

Welcome to the Exhibition Area! You will find here all exhibitors booth to visit.

!! Please note that a second exhibition hall, with others exhibitors, is available by clicking on 

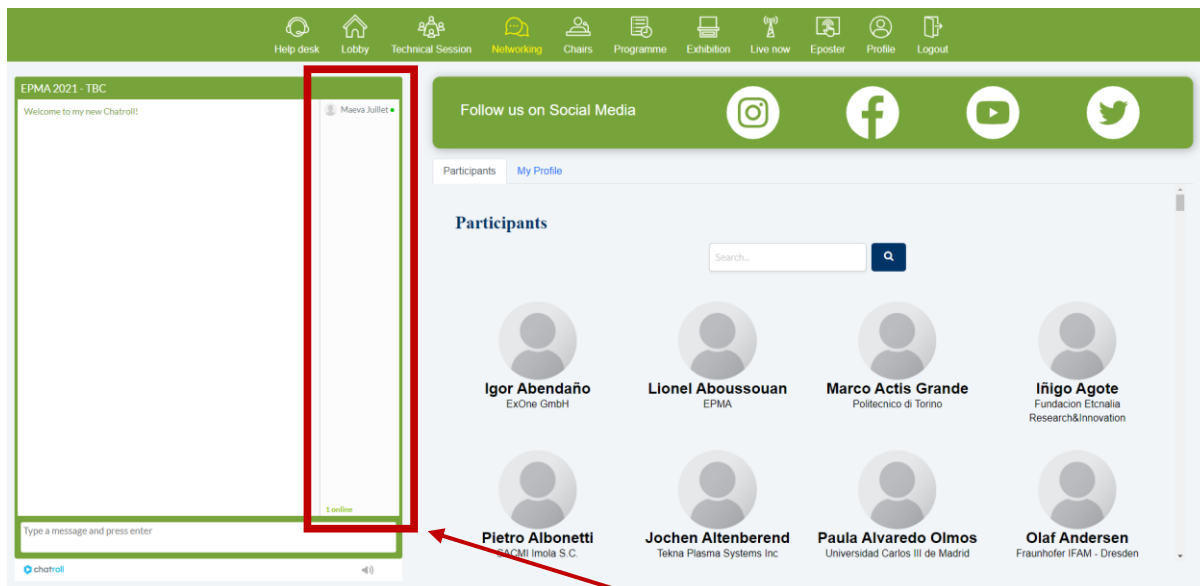


Click on a company to join its booth. Once in the stand, you will be able to read/download available documents, watch company's videos and communicate live or arrange meetings with exhibitors in advance using PM2021's new networking tool.



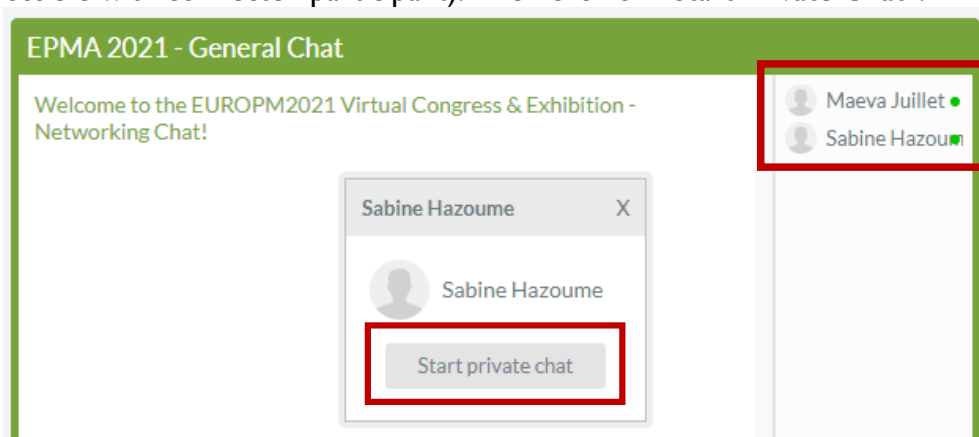
Networking

Welcome to the Networking section. From here, you will be able to chat with every connected participant.

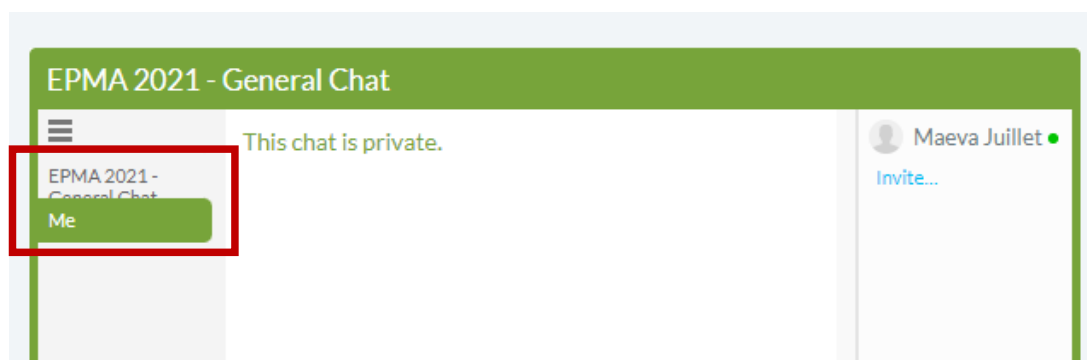


The chat box on the left is a general chat room.

If you want to chat with someone in private, you can click on his/her name on the right of the chat box (this option is only possible with connected participant). Then click on "Start Private Chat".

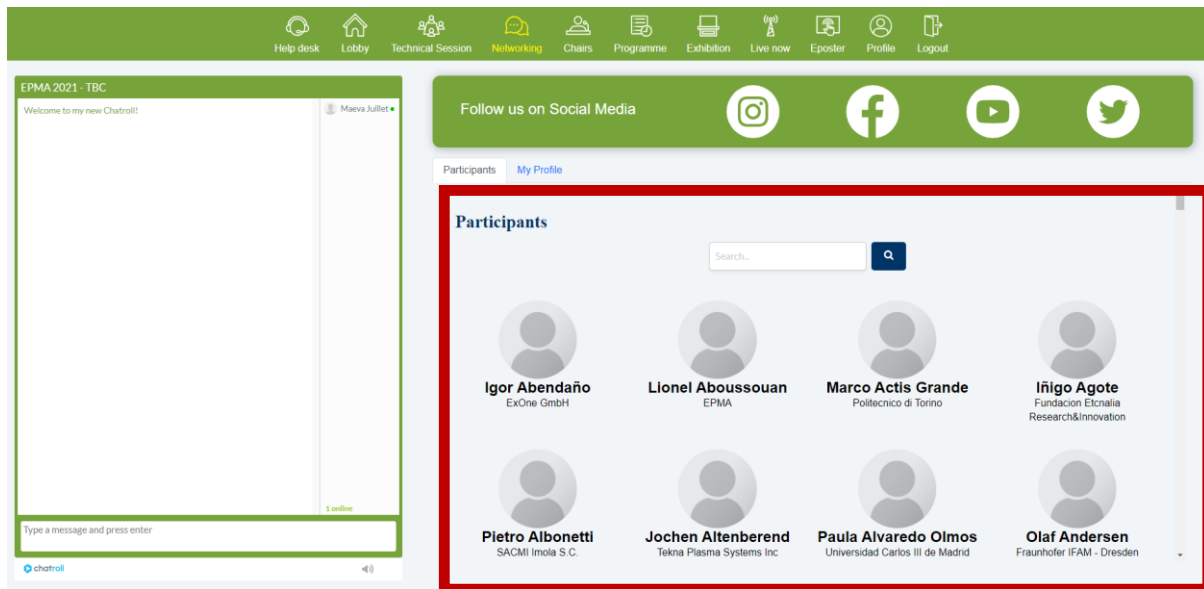


A tab will appear on the left of the chat box. Each tab will correspond to a private chat.



You can also arrange meetings with attendees in advance by using PM2021's new networking tool.

To proceed, click on the name of the person you want to meet on the participants list on the right (you can scroll down or search by typing the name on the search tool bar to find your interlocutor).



After select the person you want to meet, you can choose to request a meeting to him/her. Propose the date and time which suit you and add a description if needed. Then click on "Request meeting". An email will be sent automatically to the participant's mailing box.

The image shows a screenshot of the "Request meeting" form in the PM2021 interface. The form has a white background and a green border. At the top, there are two tabs: "Request meeting" (selected) and "Send email". Below the tabs, there is a field "Send email to: Sabine Hazoume" with a close button (X). Underneath, there is a "Select date" field with a placeholder "dd/mm/yyyy" and a calendar icon. Below that is a "Select hour (Europe/London)" field with a placeholder "--:--" and a clock icon. A note states "The meeting will have a duration of 20 minutes". There is a "Description" text area with a placeholder. At the bottom right, there is a green "Request meeting" button.

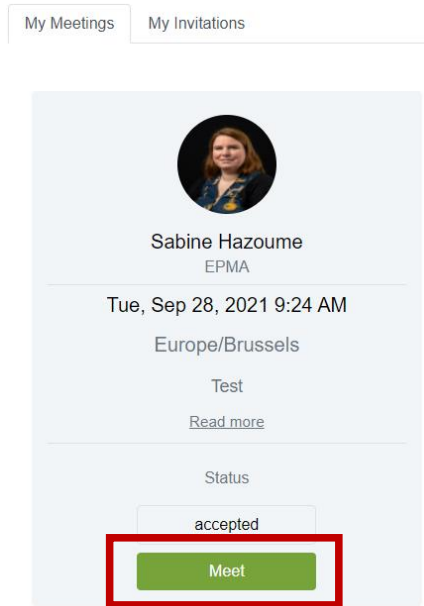
You can also send him/her directly an email by choosing the option "Send email".

You can find your requested meeting or your invitation to join a meeting by clicking on the tab “My Profile”

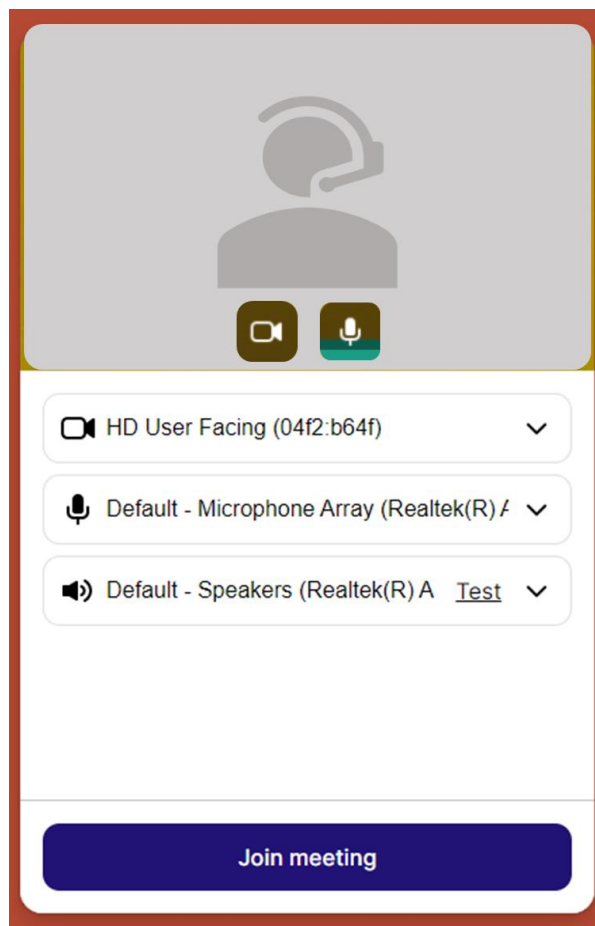
The screenshot shows the user profile page. At the top, there is a green banner with the text "Follow us on Social Media" and icons for Instagram, Facebook, YouTube, and Twitter. Below this, there are two tabs: "Participants" and "My Profile", with "My Profile" highlighted by a red box. The profile section includes a circular profile picture of a woman, a "Browse" button, and the name "Maeva Juliet". To the right, there are two tabs: "My Meetings" and "My Invitations 1", with "My Invitations 1" highlighted by a red box. Below these tabs is a meeting card for Sabine Hazoume (EPMA) on Wednesday, September 8, 2021, at 12:00 PM in Europe/London. The card shows a "Status" of "accepted" and a "Meet" button.

This block shows a detailed view of the "My Meetings" and "My Invitations" tabs. On the left, the "My Meetings" tab is highlighted with a red box. It displays a meeting card for Sabine Hazoume (EPMA) on Tuesday, September 28, 2021, at 1:19 PM in Europe/Brussels. The status is "pending" and there is a "Read more" link. On the right, the "My Invitations 1" tab is highlighted with a red box. It displays a meeting card for Sabine Hazoume (EPMA) on Wednesday, September 8, 2021, at 12:00 PM in Europe/Brussels. The status is "accepted" and there is a "Meet" button.

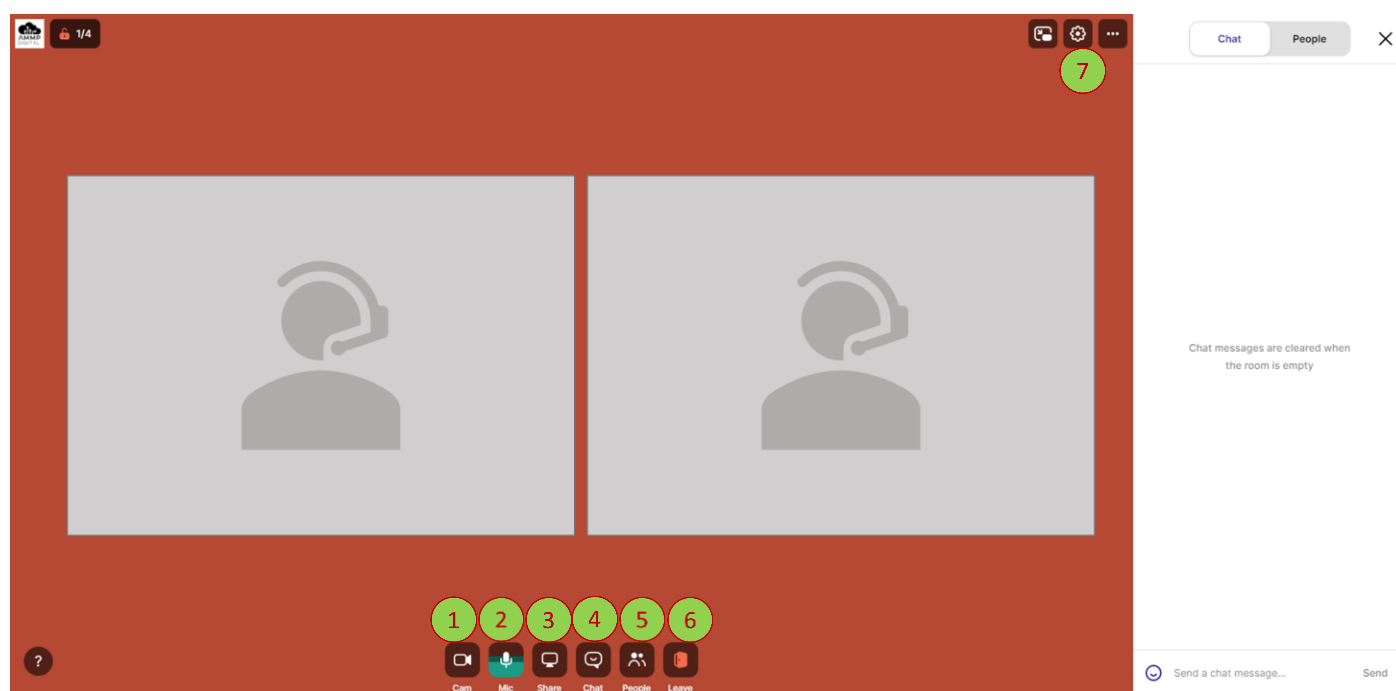
To join a meeting, go to the arranged meeting you want to join and click on “Meet”.




A new window will open. Check that you have allowed the website to access to your camera and your microphone and then, click on “Join meeting”.



Once connected, you can manage the meeting by these different tools:



- 1 Open/close your camera.
- 2 Mute/Unmute your microphone.
- 3 Share your screen.
- 4 Open the chat (the chatbox will appear on the right).
- 5 People: moderate participant by mute/unmute them.
- 6 Leave the meeting.
- 7 Settings  (manage your audio and video set up, invite other participant to join the meeting by sharing a link etc...)

If you have any questions regarding the Euro PM2021 Virtual Congress & Exhibition, or if you need some help to manage the virtual platform, do not hesitate to contact us through the general chat box on the networking section or email us: pm2021@epma.com