



D.4.4 Report on acquired skills through training for cluster managers and methodology used

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Silicon Eurocluster

Serving the electronics value chain for maintaining sovereignty in microelectronics, components and systems for a greener, more digital and resilient future Europe.

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D4.4. Report on acquired skills

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1. Project Summary

The Silicon Eurocluster project aims to achieve greater European self-sufficiency, with increased competitiveness and resilience in the electronics value chain, with specific attention to SMEs.

The semiconductor industry, a foundation of all electronics, impacts the entire European Value Chain. Its independence will build a strong basis for a greener and more digital economy.

Several regions cluster the technological expertise and resources of Europe's leading SMEs, industries, and research organisations in innovative electronics. A strong alliance of leading micro- and nanoelectronics regions already exists – The Silicon Europe Alliance. Enriched by competencies from Bulgaria, the alliance aims to synergise the updated European industrial strategy: to boost its value chains to be greener, more digital and resilient against disruption. Silicon Eurocluster will initiate the following actions:

- Develop and strengthen value chain interlinkages in the EU single market.
- Increase strategic autonomy in the most critical supplies and technologies of these ecosystems.
- Support transformation to a greener and more digital economy.
- Attract talent to stimulate and scale up the workforce.
- Reconnect and boost access to global supply and value chains.

Silicon Eurocluster wants to place Europe in a leading position in development and production of Micro- and Nanoelectronics (key enabling technologies) by harnessing the teamwork of existing high-potential clusters in Spain, Portugal, France, Italy, Germany, Austria, Bulgaria, Sweden, Belgium and the Netherlands. Extending the collaboration among the clusters to a registered European cluster association will have a major impact on the global competitiveness of Europe's electronics systems. The project ambitions to provide direct support to at least 50 SMEs via financial support (25 green vouchers and 25 demonstration projects) & support them in internationalization, innovation, networking and training towards digitized and green.

The Silicon Eurocluster project ambitions also to provide the SMEs with the additional services going beyond the cascade funding, which will help them to build the long-lasting, resilient networks within the EU industrial Ecosystem to uphold the Single market and strengthen its resistance to any disruption, acquire new skills and build capacities, stimulate innovation, strengthen the SMEs positioning inside the EU and facilitate their internationalization.

Following these objectives, WP4 and Task 4. aims at building the capacities and skill of the cluster managers in the field of green technologies, circular economy and Sustainable Development Goals for their internal benefit and to better support their SME members.

2. Introduction

In today's rapidly evolving global landscape, the imperative for sustainable development has never been so relevant. Recognizing this urgency, from Silicon Eurocluster we have organized a relevant training program dedicated to the main themes of the Green Transition: the Sustainable Development Goals (SDG), Circular Economy, and Decarbonization. This initiative represents a strategic endeavor to equip cluster managers and their teams with the knowledge, skills, and insights necessary to navigate and lead the transition of sustainability.

Our journey began with an exhaustive research phase, during which we explored the vast spectrum of topics covered by distinguished experts in the field, including those from our catalogue of green experts. This exploration was instrumental in shaping the final agenda of our training, ensuring it addresses the most relevant and impactful themes in the context of the Green Transition.

At the heart of our training are the Sustainable Development Goals (SDGs), a universal blueprint for peace, prosperity, and planetary health. Our sessions on the Circular Economy introduced participants to a systemic approach to economic development that benefits businesses, society, and the environment, challenging the traditional paradigm. In addressing Decarbonization, we confront the critical issue of climate change, exploring strategies to reduce carbon emissions and transition to a more sustainable future.

To enrich our training with practical insights, we included a selection of best practices and use cases, illustrating the tangible impact of these principles when applied in real-world scenarios. The expertise shared by our distinguished trainers—leaders in their respective fields—add invaluable depth and context to our program. Their contributions not only illuminate the path to sustainability but also demonstrate the vital role of clusters in fostering the Green Transition among SMEs.

Scheduled for the 27th of February, one full-day online event promises to be a landmark occasion for all participants. The agenda is meticulously structured to cover a broad spectrum of topics, from the worldwide 2030 Agenda to the intricacies of implementing SDGs in the workplace, the principles of Circular Economy, and the strategies for Decarbonizing the digital sector. This training is not just an educational experience; it is an opportunity to join a community of forward-thinking professionals committed to sustainability.

As we move forward, the skills and competencies acquired during this training will empower participants to integrate SDGs into their cluster strategic planning by innovating within the framework of the Circular Economy. These capabilities are critical not only for navigating the challenges of the Green Transition but also for seizing the opportunities it presents.

This initiative is a testament to our commitment to sustainability and our belief in the power of informed, motivated individuals to make a difference. We look forward to welcoming cluster managers and their teams to this transformative training program, confident that together, we can chart a course towards a more sustainable, equitable, and prosperous future.

3. Green Topics for training

Under this training we have organized a comprehensive training program focused on critical green topics, including the Sustainable Development Goals (SDG), Circular Economy, and Decarbonization. Research was done including topics covered by the experts that became part of our catalogue and with the main trainings that are currently arising about the Green Transition topics. After checking it these are the main topics discovered and which were used to elaborate the final agenda of the training:

Sustainable Development Goals (SDG): The Sustainable Development Goals (SDGs) are a global blueprint for dignity, peace, and prosperity for people and the planet, now and in the future. These 17 interlinked goals were adopted by all United Nations Member States in 2015 as part of the 2030 Agenda for Sustainable Development. During our training, we will explore each goal in detail, highlighting their targets, the progress made, and the challenges that remain. Participants of training would learn about the critical role of cross-sectoral collaborations in achieving these goals and how every sector of society can contribute to this monumental task. A discussion on practical steps that individuals and organizations can take to incorporate the SDGs into their operations, measure their impact, and drive change towards a more sustainable and equitable world.

Circular Economy: The Circular Economy is a systemic approach to economic development designed to benefit businesses, society, and the environment. It contrasts with the traditional linear economy, which follows a 'take-make-waste' approach. By redefining growth, focusing on positive society-wide benefits, the Circular Economy aims to decouple economic activity from the consumption of finite resources. The training covered the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems. Some case studies of circular economy models in action across various industries would be addressed, demonstrating how businesses can transform their operations for sustainability. Participants in workshops will be engaged to brainstorm circular solutions for real-world challenges, fostering innovation and creativity in pursuit of sustainability.

Decarbonization: Decarbonization involves reducing carbon dioxide emissions to mitigate the effects of climate change. This process is essential for achieving the goals of the Paris Agreement, aiming to limit global warming to well below 2, preferably to 1.5 degrees Celsius compared to pre-industrial levels. In our training sessions on Decarbonization, Minalogic will delve into the sources of carbon emissions, the impact of climate change on our planet and lives, and the urgent need for action. We will examine strategies for reducing emissions, including transitioning to renewable energy sources, enhancing energy efficiency, and adopting low-carbon technologies. Participants will learn about the role of policy, innovation, and individual actions in driving decarbonization efforts and will explore how to develop and implement effective decarbonization strategies within their organizations or communities.

It was also important to include in the training some best practices and use cases that would support the training with practical examples.

4. Trainers

Taking in considerations and checking different options, next ones are the entities that were contacted to be included in the training session per each block:

- Eva Vati from Vati of Sweden

She was selected from the different Green Experts that submitted their application to the Green Catalogue and she was approved as one of the experienced trainers with very relevant experience throughout the years and who could give us the information about the Sustainable Development Goals, Circular Economy, Green Transition and some practical application of these different tools. She was assigned with 4 hours to cover these topics in an efficient way. They work to increase competitiveness of companies by integrating sustainability into their business strategy.

- Jérôme de Parscau from Minalogic

Jérôme is a very experienced person within Minalogic cluster regarding decarbonization topics. It was seen as one of the key topics additional to which Eva was going to present. Another point of view of this relevant topic was covered by him.

- Geoffrey Marmonnier from Game Only Cluster

From the perspective of the project team it was interested to see how a digital sector could perform this green transition path, by providing this service available to their members. It was impressive to check how the gaming industry is being forced and influenced to go towards sustainability approach and Game Only Cluster served as a very interesting best practice on how a cluster can give support on this.

- Jaione Agirre from Tekniker

As one of the objectives of the project is to keep collaborations with other initiatives at European level, it was relevant to check which kind of services are offered in other projects working on similar topics to check which synergies may occur. That is why, after checking several projects, Green-SME was identified as interesting and they were invited to talk about the project to find collaborations. The objective of the project is to strengthen manufacturing SMEs' capacity to adopt advanced technologies and social innovation for sustainability through a sustainability assessment tool, an action plan, and financial support to foster projects between manufacturing SMEs and Sustainability and Technology Providers.

- Andreas Middendorf from Fraunhofer

Fraunhofer is the world's leading applied research organization. By prioritizing key technologies for the future and commercializing its findings in business and industry, it plays a major role in the innovation process and they were awarded to perform the Green ICT project. This project funded by the German Government (BMBF) has a volume of more than 30 Mio. Euro. 13 partners from the FMD working together in 3 technological hubs (semiconductor, communication, sensor). Additionally they set up an education program. For further information please visit the homepage: <https://greeniact.de/>

5. Training performed

Taking in consideration the information of the previous activities, the final agenda of the training was the next one:

5.1. OBJECTIVE

The objective of this initiatives is that Cluster Managers can receive training sessions regarding Green Technologies and Sustainability.

5.2. DATE AND FORMAT

Date: 27th of February

Format: Online, once registered will get the link to Teams

5.3. PROGRAMME

09.00 - 13.00 TRAINING ON GREEN, SDG AND CIRCULAR ECONOMY (Eva Vati: CEO and founder of VATI of Sweden)

1. 2030 AGENDA WORLDWIDE
 - WHAT IS IT
 - WHY THE 2030 AGENDA
 - WHAT IT CONSISTS OF
2. LEGAL FRAMEWORK FOR IMPLEMENTATION
 - LEGISLATION CSRD AND COUNTRY IMPLEMENTATION
 - PURPOSE AND SCOPE OF APPLICATION -DEFINITIONS, ESRS Standards
 - WHY VERIFICATION IS IMPORTANT FOR ELIMINATING FRAUD AND GREEN WASHING
 - EXAMPLES OF GOOD PRACTICE
3. HOW TO IMPLEMENT THE SDG IN THE WORKPLACE
 - WHY THE SDG?
 - WHAT ARE THEY?
 - HOW TO IMPLEMENT THE SDG-s INTO BUSINESS STRATEGY
 - IMPACTS ON THE ECONOMY, ENVIRONMENT AND COMMUNITY
 - POTENTIAL ACTIONS, KPIS AND MEASUREMENTS
 - WHAT TO REPORT AND HOW
4. CIRCULAR ECONOMY
 - OBJECTIVES AND DEFINITIONS
 - CIRCULAR ECONOMY BUSINESS MODELS
 - PROJECT PREPARATION
 - PRODUCT APPLICATION
 - EVALUATION
 - KPI AND INDICATORS
 - PRACTICAL EXPERIENCES

14.30 - 15.00 DECARBONISING THE DIGITAL SECTOR (Minalogic - Jérôme de Parscau)

- SUSTAINABLE DEVELOPMENT & GREEN HOUSE GAS SCOPES
- DECARBONIZATION INTERNATIONAL STRATEGY & OBJECTIVES

15.00 – 15.30 VIDEOGAME IMPACT CALCULATOR – JYROS
(Game only cluster – Geoffrey Marmonnier)

15.30 – 16.15 GREEN-SME
(Tekniker – Jaione Agirre)

- THE OC1 RESULTS
- SOME INSIGHTS ABOUT OC2
- COMMUNITY PLATFORM
- METHODOLOGIES AND THE RATION ADOPTED BOTH FOR THE ASSESSMENT AND THE ASAP

16.15 - 17.00 THE EDUCATION AGENDA IN THE GREEN ICT PROJECT
(Fraunhofer – Andreas Middendorf)

THE PROJECT GREEN ICT FUNDED BY THE GERMAN GOVERNMENT(BMBF)

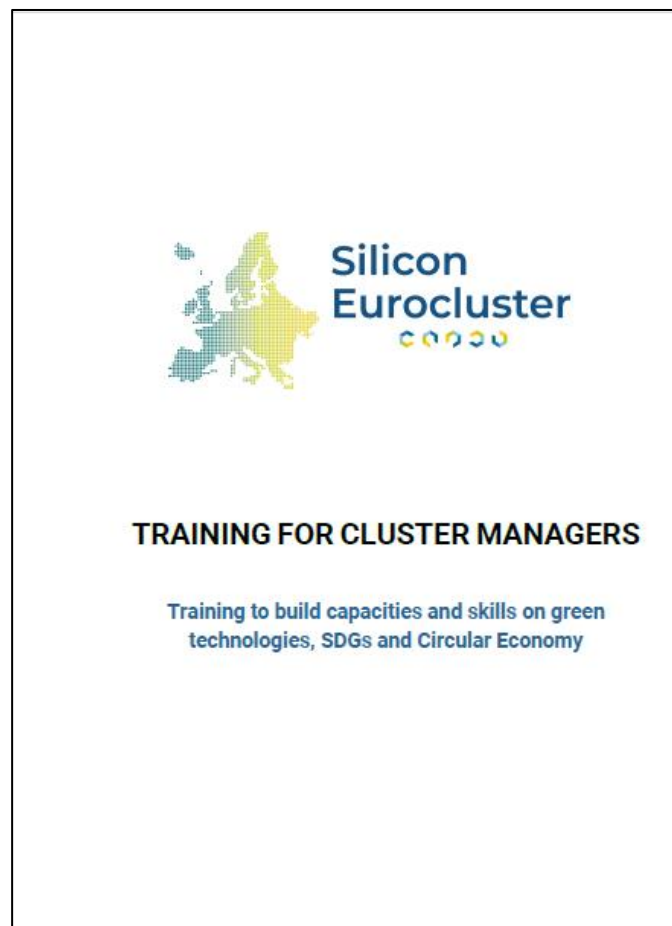


Figure 1: Programme of training for cluster managers

6. Skills obtained by participants

Participants in this comprehensive training program focused on Sustainable Development Goals (SDG), Circular Economy, and Decarbonization were able to acquire a multifaceted set of skills that are critical for navigating and leading in the era of the Green Transition, specially to support

the Green Transition by SMEs thanks to the clusters. Here are skills and competencies that participants could get:

- Understanding and Integrating SDGs
 - o Global Awareness: Deepened understanding of global challenges and the SDGs as a framework for addressing them.
 - o Strategic Integration: Skills to integrate SDG targets into organizational strategies, driving sustainable practices across operations.
 - o Cross-Sectoral Collaboration: Insights into the importance of collaborations across sectors and industries to achieve SDG targets, enhancing the ability to work in partnerships.

- Circular Economy Implementation
 - o Systemic Thinking: Development of a systemic approach to economic and environmental challenges, recognizing the interconnections within and between systems.
 - o Innovation and Creativity: Enhanced creativity to ideate and implement circular economy solutions, transforming challenges into opportunities for sustainable business models.
 - o Waste Reduction Strategies: Practical knowledge on designing out waste and pollution, keeping products and materials in use, and regenerating natural systems.

- Decarbonization Strategies
 - o Climate Change Mitigation: Understanding the impact of carbon emissions and the importance of decarbonization in mitigating climate change.
 - o Energy Transition: Knowledge on transitioning to renewable energy sources and enhancing energy efficiency as pivotal strategies for decarbonization.
 - o Low-Carbon Technologies: Insight into the adoption and implementation of low-carbon technologies within various organizational contexts.

- Cross-Cutting Skills
 - o Critical Thinking and Problem-Solving: Enhanced ability to critically assess sustainability challenges and develop effective, innovative solutions.
 - o Leadership for Sustainability: Leadership skills to drive change towards sustainability, influencing and motivating others to adopt sustainable practices.
 - o Policy and Advocacy: Understanding the role of policy in driving green transitions and skills to advocate for impactful environmental policies.
 - o Impact Measurement: Competencies in measuring and evaluating the impact of sustainability initiatives, essential for continuous improvement and reporting.

- Practical Application and Best Practices
 - o Case Study Analysis: Ability to analyze and learn from real-world examples of sustainability in action, applying lessons learned to one's own context.
 - o Project Development: Skills to develop, implement, and manage projects aimed at achieving SDGs, advancing circular economy principles, and decarbonizing operations.
 - o Stakeholder Engagement: Techniques for effectively engaging stakeholders, including employees, customers, and partners, in sustainability initiatives.

This training program offered a holistic educational experience that helped participants to get knowledge and skills needed to lead and contribute to sustainability efforts within their organizations and communities. By covering theoretical foundations, practical applications,

and best practices, the program prepared participants to become effective agents of change in the transition towards a more sustainable, equitable, and prosperous world.

7. Attendance and evaluation

7.1. Promotion

The main target of the training “building capacities and skills on green technologies, SDGs and Circular Economy” were the cluster managers, mainly from those cluster members of the Silicon Europe Alliance partnership and the objective was to get 20 cluster managers trained. The aim was to create a training with a limited number of participants to be more agile and people could be implicated by asking questions, therefore a big exposure was not made for the promotion as it was expected to get the target within the Silicon Europe Alliance clusters. Finally, in a second step the training was also offered to other clusters outside the Silicon Europe Alliance with whom we are already collaborating including a group of clusters from other Euroclusters project. In the end, we ended up with 35 registered people.



Figure 2: Save the Date visual

7.2. Live Online

This training programme was open to cluster staff employees, mainly from Silicon Europe Alliance clusters, but was also open to the participation of other clusters from outside the partnership. 32 was the number of registered cluster workers to the training and they were provided with the log-in information to the direct participation. Finally 26 were those who connected live to the event and were able to participate by giving feedback, making questions and interacting with the trainers.

The list of all participants can be found in the next table:

Name	Surname	Organization	Participation
Alesia	Laessig	Silicon Saxony e.V.	Live

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Alma	Sandberg	Mobile Heights	Live
Ana Soifa	Nogueira	PFP - Portuguese Railway Cluster	Live
Anaïs	Mispolet	Pôle SCS	Live
Anna	Naydenova	ICT Cluster	Live
Carolina	Garcés	Mobile Heights	Live
Cristina	Murillo	GAIA	Live
Erica	Contato	MESAP Innovation Cluster	Live
Fabrizio	Fallarini	MESAP Innovation Cluster	Live
Francesca	Pisino	Mesap	Live
Helena	Tinnert	Good Growth	Live
Isabel	Barrena	GAIA	Live
Jon	Mitxelena	GAIA	Live
Laure	Quintin	Minalogic	Live
marco	mangiantini	mesap	Live
Marielle	Campanella	Pôle SCS	Live
Paulo	Nunes	Portuguese Cluster TICE.PT	Live
Paulo	Duarte	PFP - Portuguese Railway Cluster Platform	Live
Rene	Churquina	BSDHUB	Live
Roger	Tofft	PropTech Sweden	Live
Timon	Theurl	Silicon Alps	Live
Victor	Ferreira	Cluster Habitat Sustentável	Live
Victor	Haze	High Tech NL	Live
Amaia	Sasiain	GAIA	Live
Adu	Lotta	Fraunhoffer	Live
Laëtia	Baousson	Silicon Saxony e.V.	Live
alessia	menduni	mesap	Recording
André	Carvalho	ACPMR - Cluster Portugal Mineral Resources	Recording
Gernot	Eder	Silicon Alps Cluster GmbH	Recording
Luís	Marcos	ADVID- Cluster for Vine&Wine Sector	Recording
Marta	Peres	Association Cluster Portugal Mineral Resources	Recording
Pedro	Rocha	PRODUTECH - Production Technologies Cluster	Recording
Pramod	Kakkerla	Iniac	Recording
Shabnam	Byllbas	Krinova	Recording
Andreas	Middendorf	Fraunhoffer	Trainer
Eva	Vati	Vati of Sweden	Trainer
Jaione	Agirre	Tekniker	Trainer
Jérôme	de Parscau	Minalogic	Trainer
Geoffrey	Marmonnier	Game Only Cluster	Trainer

Table 1: Participants in the training

7.3. Online Recording

The whole event was recorded, even if it will not be distributed in an open way. It will be available for those registered participants, the clusters from Silicon Europe Alliance and the organizations which are interested and send their request to get the recording.

7.4. Evaluation

A feedback evaluation survey was sent to all the participants, to know which was the feedback after the training. By the time this report is written, we haven't collected enough feedbacks to exploit the results. But the objective is to send another survey after 6 months, to check if the message and obtained knowledge has penetrated in the clusters and how they have started to implement this green approach and how started to develop the path towards the sustainability.

Questions asked in the survey are the next ones and the users had to indicate from 1 (the least) to 5 (maximum) how agreed they were with the statement:

1. How interesting was the training in general?
2. How would you measure the quality of the information shared?
3. How clear the information provided was?
4. How useful do you see the tools presented during the training for your cluster?
5. How useful do you see the tools presented during the training for your cluster members?
6. How would you consider your current experience on green transition topics?

7.5. Certificate of attendance

A certificate of attendance was issued to the participants of the training:



Figure 3: Certificate of attendance

ANNEX: Pictures of the training

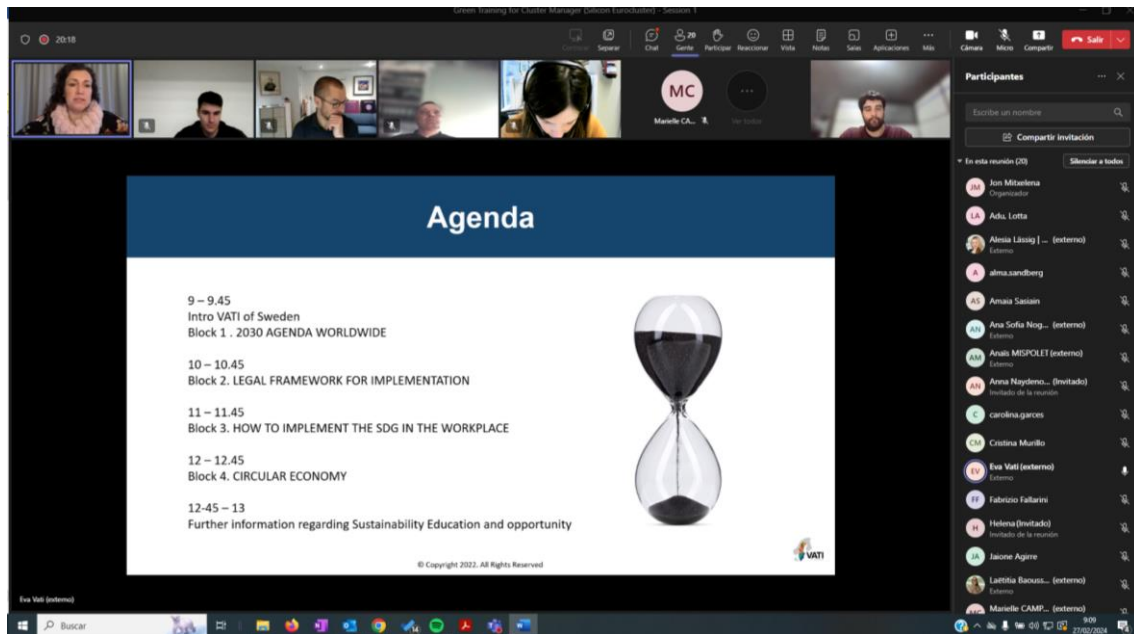


Figure 4: Presentation of Eva Vati



Figure 5: Presentation of Eva Vati SDG

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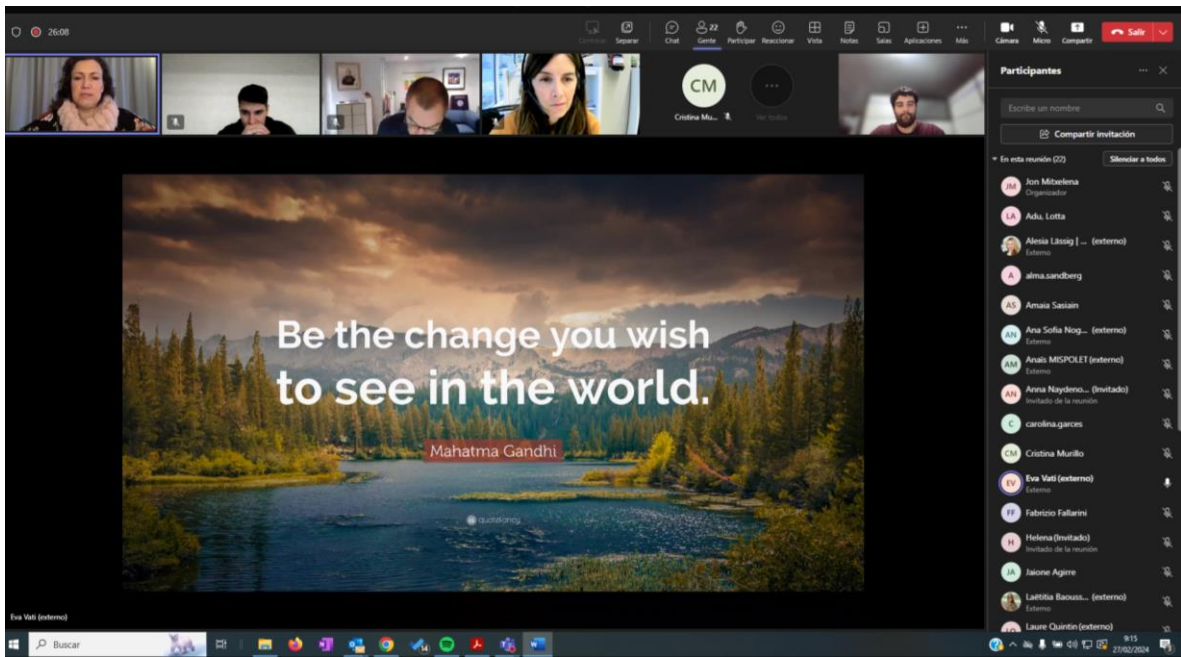


Figure 6: Presentation of Eva Vati



Figure 7: Presentation of Eva Vati

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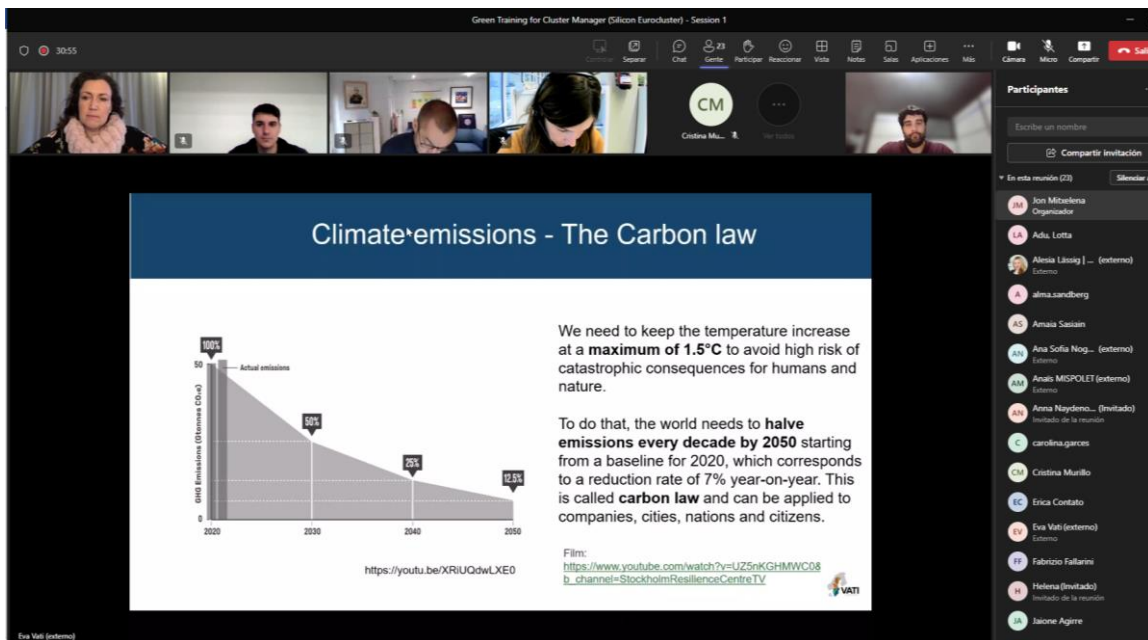


Figure 8: Presentation of Eva Vati

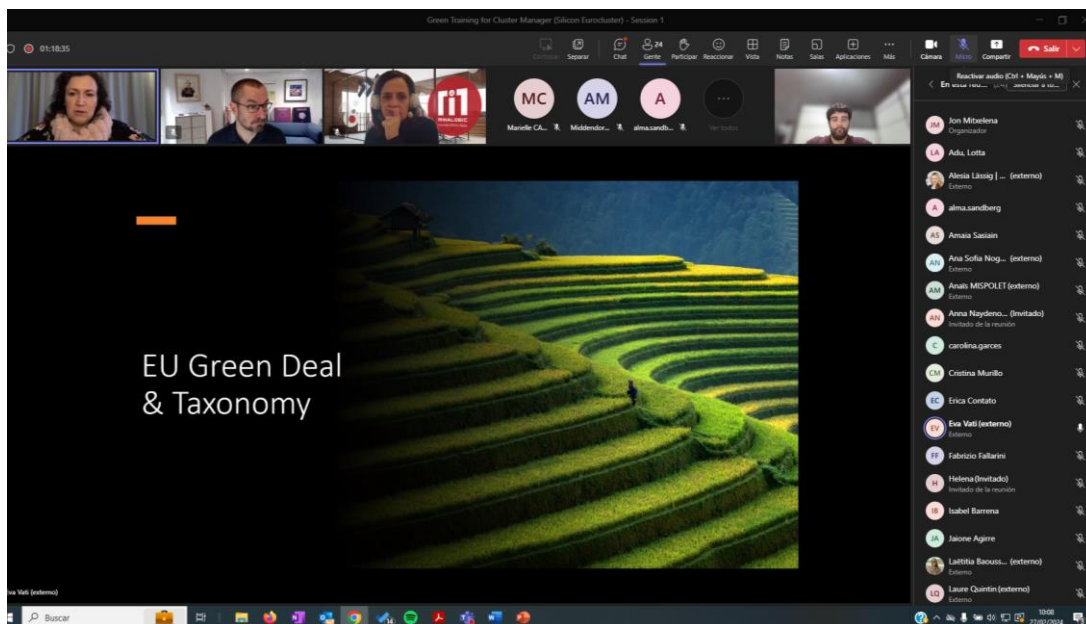


Figure 9: Presentation of Eva Vati, EU Green Deal

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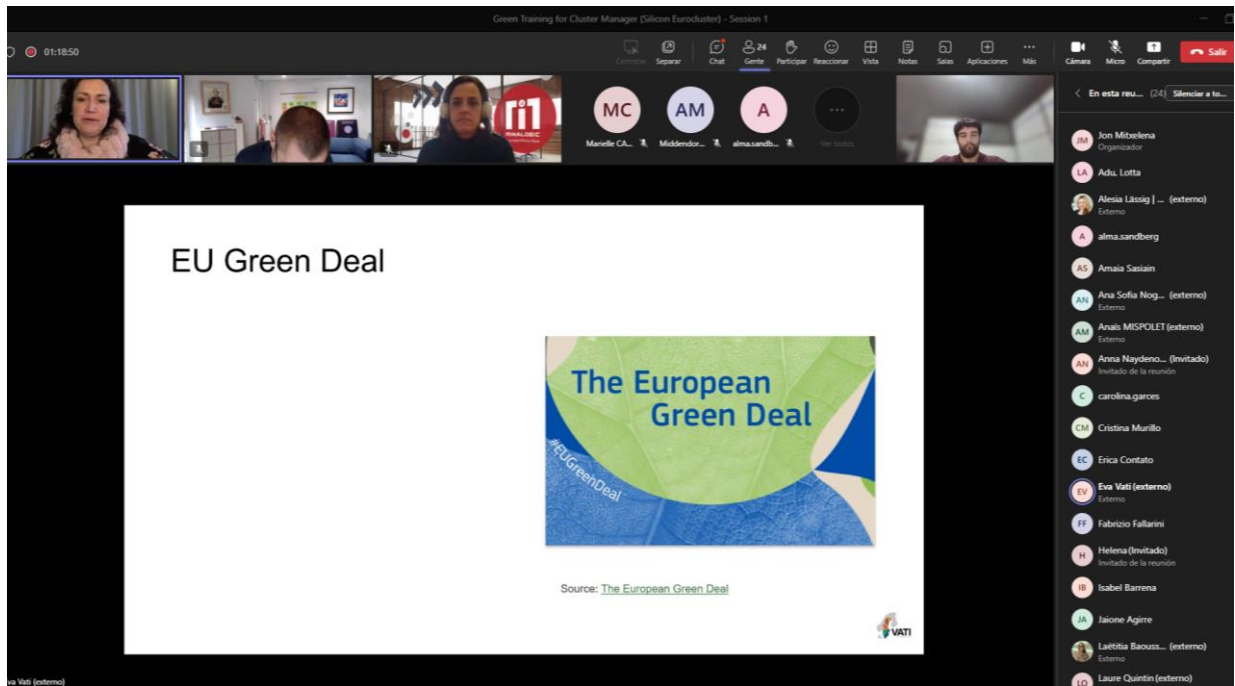


Figure 10: Presentation of Eva Vati



Figure 11: Presentation of Eva Vati



Figure 12: Presentation of Jérôme de Parscau

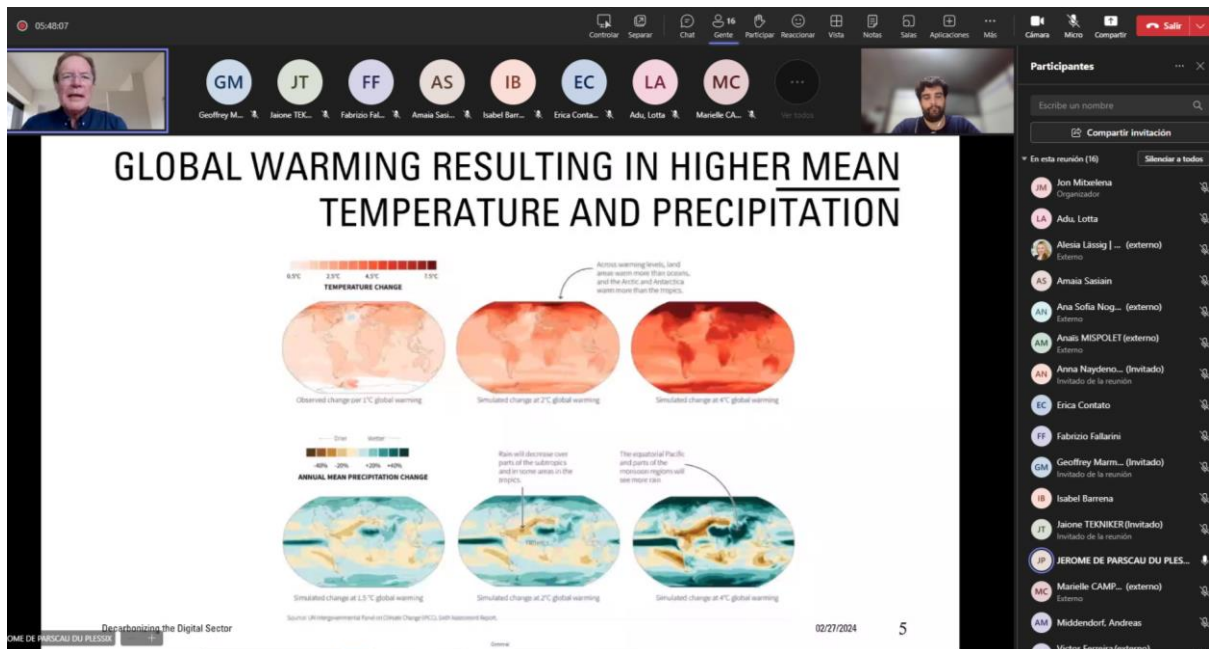


Figure 13 Presentation of Jérôme de Parscau

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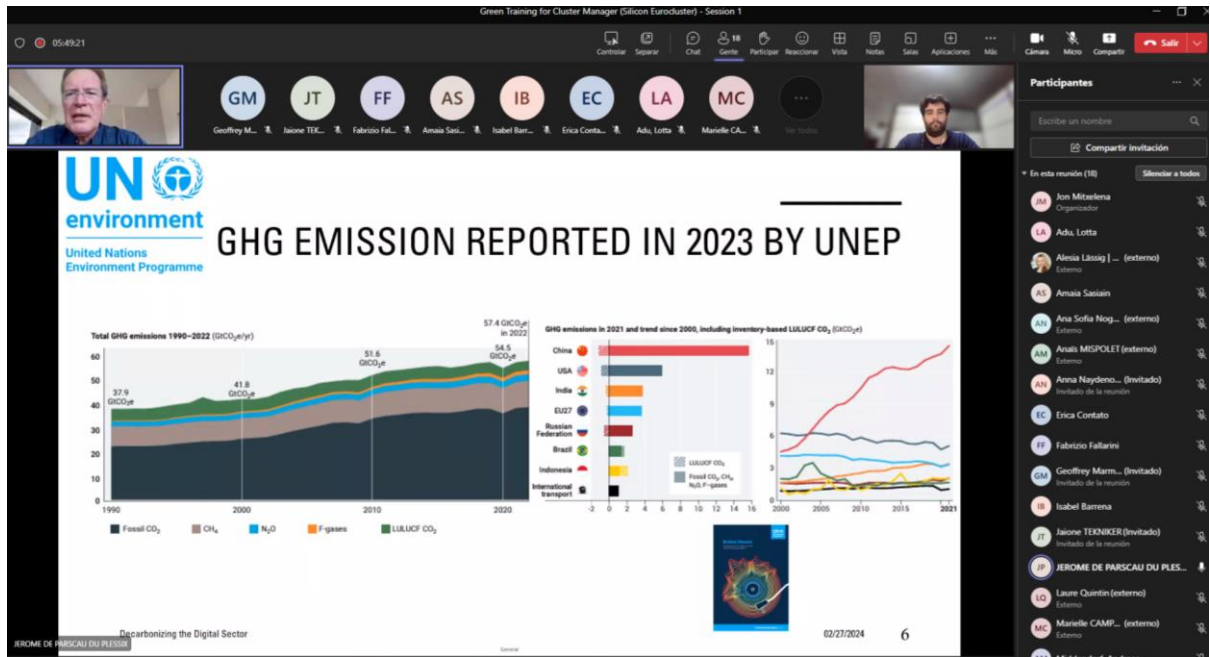


Figure 14: Presentation of Jérôme de Parscau



Figure 15: Jyros: The environmental impact calculation tool dedicated to the video gaming industry

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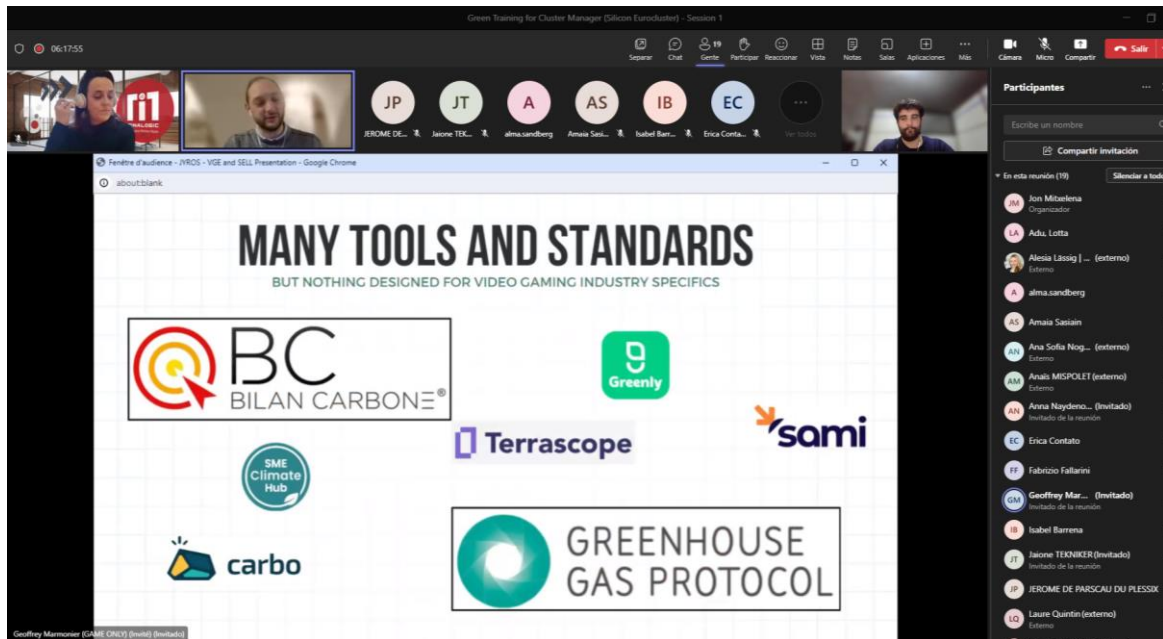


Figure 16: Jyros: The environmental impact calculation tool dedicated to the video gaming industry

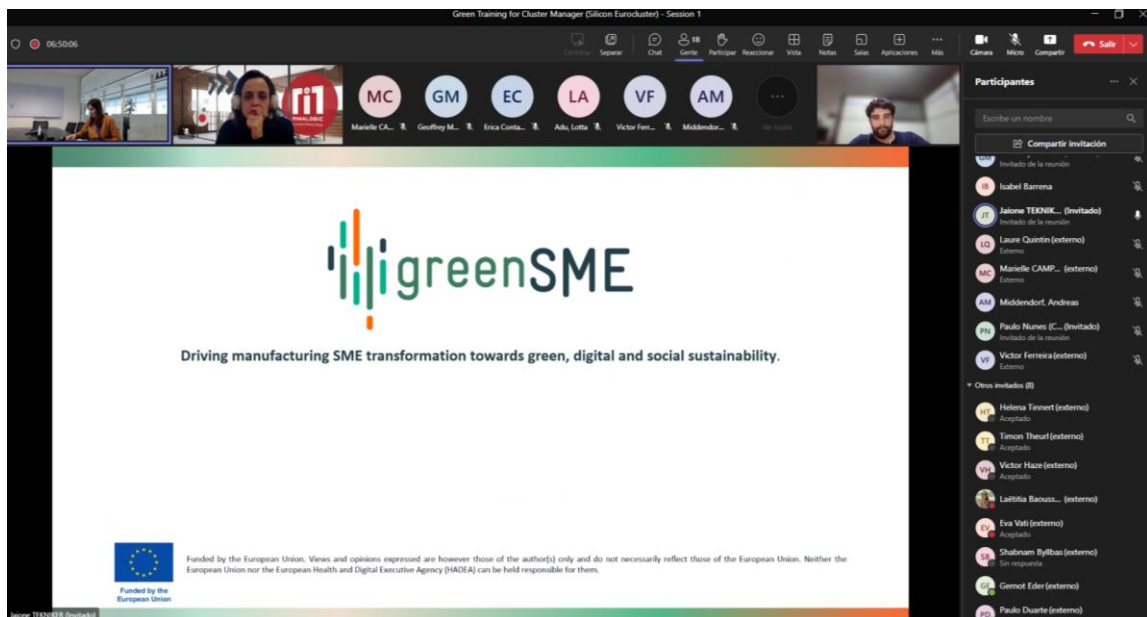


Figure 17: Jaione Agirre: Green-SME project

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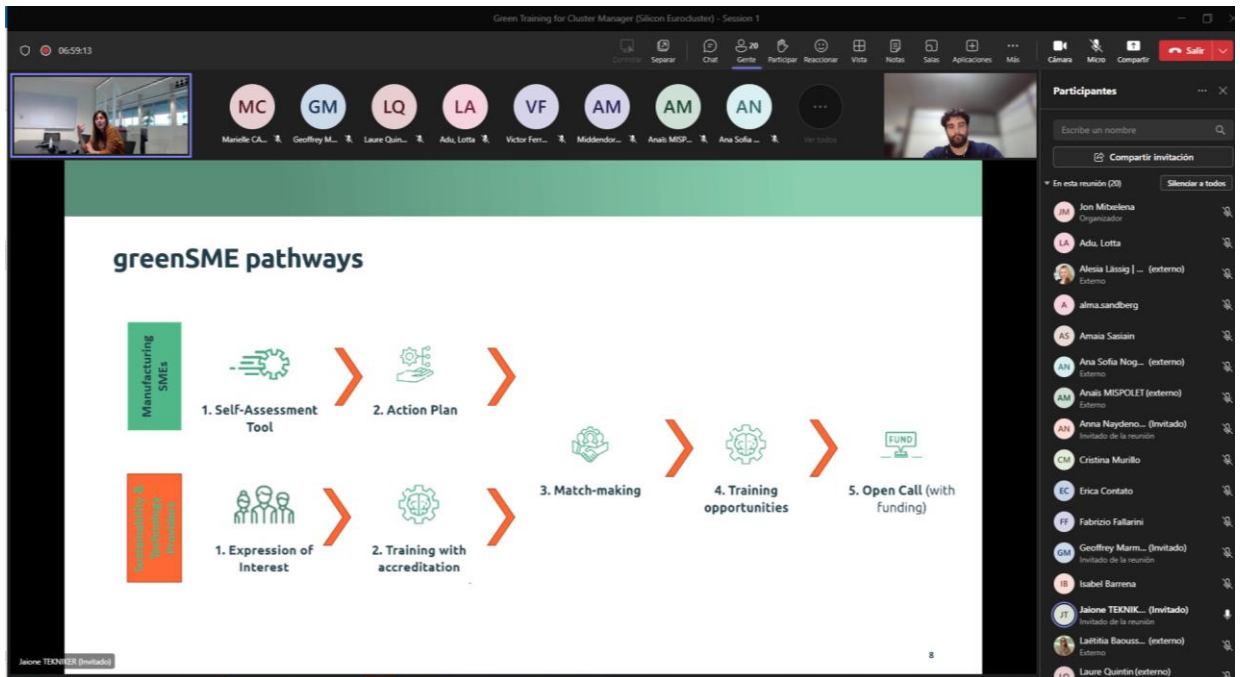


Figure 18: Jaione Agirre: Green-SME project



Figure 19: Jaione Agirre: Green-SME project

D4.4. Report on acquired skills

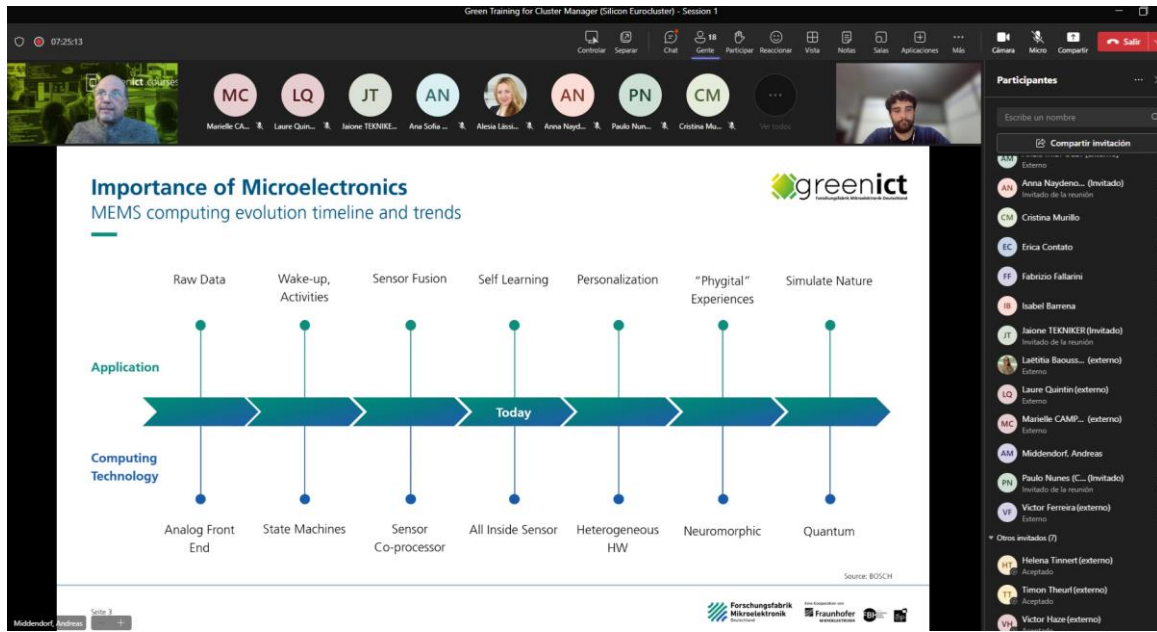


Figure 20: Andreas Middendorf

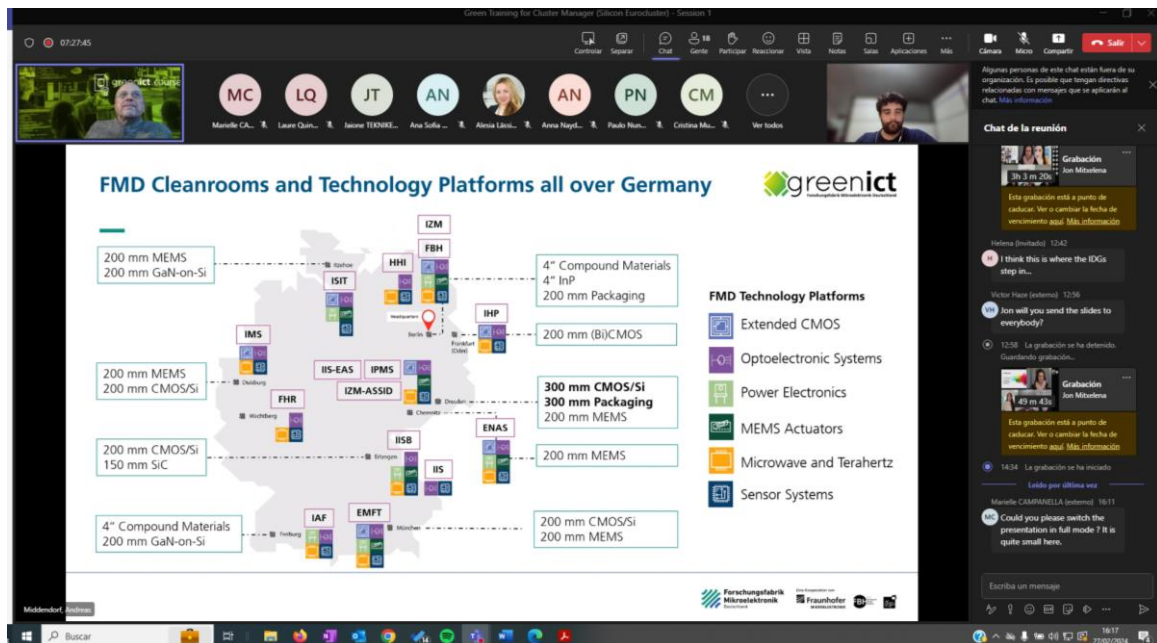


Figure 21: Andreas Middendorf

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Figure 22: Andreas Middendorf (Green-ICT project)