



Network of knowledge for
efficient private forests

**3rd Joint staff training event
CATALONIA (Online)**

18.02.2021 – 18.03.2021



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MAIN AIM OF 3rd JOINT STAFF TRAINING EVENT

The aim of the training week was to provide an overview of the main management techniques of the different forestry regions and forestry resources which are natural to the Catalan territory. The Mediterranean climate and the landscape characteristics are crucial points to understand the approaches carried out across the years through the Catalan region, as well as the industry based on the social and economic demands. Also, the low profitability of the Catalan timber has turned the forestry management into a rather long-term sustainability of the forest (bio-multifunctional, environmental, and social benefits) and scaled to also provide a set of prevention approaches against wildfires as this is the main threat affecting the current forest of this region, together with other diseases and disturbances mostly related with climate change. Thus, the objective of this training week is to provide a different perspective in comparison to other central or northern European regions, presenting the challenges of a climate context which is getting closer to upper parts of Europe, exchange best practices and lessons learned from the forestry management developed during the last years. Also, the knowledge learned from the Net4Forest since the beginning of the project and boosted during the past 2 training weeks will be theoretically applied to the Catalan conditions and discussed to understand the whys of such forest owner's forestry management and try to find common practices applicable to the Catalan conditions, despite the obvious different casuistic of the different territories.

Initially it was planned as a 5-day tour, where each day was set to visit different regions and to present its management, profitability of the resources, structure, threats, etc. A relevant weight of the training week was related to the fire-prevention techniques and past-experiences as it is believed that Catalonia has a strong expertise in this, unfortunately. That means post-fire zone visits and forest prevention management sites. Due to the COVID situation, the training week has evolved into 5 online sessions, with different presentations grouped under time slots, corresponding to the scheduled visits as if it were physical, but with adapted content and length.

Training No.	Hosting partner	Country	Date	Place	No. of participants
3	Forest Science and Technology Centre of Catalonia	Spain	18.02 – 18.03	Online meetings	27

SHORT SESSION REPORT

1st SESSION (18/02/2021): SOLSONA AND THE CATALAN FOREST

T.S.1. 09:00-10:00. Welcome, brief presentation of the participants and Overview of the Catalan forest (threats and management) (CTFC).



Brief presentation of the participants to the sessions and brief introduction of the hosting partner, the Forest Science and technology Centre of Catalonia (CTFC).

Picture 1. CTFC's facilities in Solsona.

The CTFC is a public consortium (100 employers) attached to the administration of the Government of Catalonia and it depends on the department responsible for forests. It forms part of the Catalan research centres (CERCA) and is a TECNIO agent accredited by the Government of Catalonia (public technology developer). CTFC aims to contribute to the modernization and competitiveness of the forest sector, the rural development and to the sustainable management of the environment. To achieve this, the CTFC is organized through 3 programmes: (1) Multifunctional forest management, (2) Landscape dynamics and biodiversity, (3) Bioeconomy and governance. Also has two spin-off enterprises: (1) Forest Bioengineering Solutions (FBS) and (2) The Wood Catalan Institute (INCAFUST), both aiming at market-oriented development of Novel Products, Services and Methodologies.

T.S.2. 10:30-11:30. Overview of the Catalan Forest (Threats and Management). Plagues, droughts, sustainable forestry exploitations, wildfires management (CTFC).

Catalonia is an extended region in the north-east of Spain. 3 M Ha on a total surface. 64% of this surface is forest land and a 42% of forest surface with trees. Most of $\frac{3}{4}$ of forest is private ownership, a $\frac{1}{4}$ part of this forest is certified. Public forest is most located in the north, in the Pyrenees. Catalonia surface has many differences of landscapes and usages due to the variability of the territory. In the north-east forest, you can find a great biodiversity of plants and species. A common product is *Pinus sylvestris* wood for pallets, *Quercus sp.* for firewood and furniture sometimes, also *Populus sp.* and few *Platanus sp.* plantations. The most popular forest works enterprises are 2-3 self-employed people, working together. Silviculture forest management is the most activity, but nowadays government allows clear cuts to stop wildfires and support mosaic landscapes. Normally machinery is adapted from agriculture to

forest. Forest products depend on the type of forest, we have a great diversity from pallets, firewood, cork, medical plants, and mushrooms passing through honey and pine seeds to truffles. Due to globalisation and climate change the Catalan forest has many pests who affect the economy, some examples of insects or pests are coming from commerce others from climate stresses. The Catalan forestry sector has most enterprises of forests' works followed by environmental consultancies, after biomass and firewood suppliers and Forestry and agriculture machinery other types of forestry nurseries, recycling forest wood and paper industry or fisheries.

T.S.3. 12:00-13:00. Marc Castellnou GRAF. Head of Forestry Action Support Group – Firefighters body – Wildfire expert.

Marc presented the current wildfire situation and foreseen scenarios in Europe under the Climate Change conditions. The last wildfires have turned to be wilder and more extreme during the last 25 years thanks to the new climate conditions. We've seen examples of extreme wildfire events in Chile, Portugal and Australia recently. These types of wildfires are impossible to be controlled through the means of extinction once are active, so the only way to fight against these events is to promote the culture of prevention and resilience. That implies forestry management focused on the upcoming climate conditions to avoid allowing fire to have the environment to burn uncontrollably. Lots of efforts...

2nd Session (25/02/21): “Some instances of Humid Catalonian forestry” Guillerries-Montseny

T.S.1. / T.S.2. / T.S.3. 09:00-13:00. Presentation of the Forestry Consortium of Catalonia and Forestry Services Cooperative, Quality Suber works and Douglas plantations (Josep M. Collellmir).

Catalonia has several climates that make a great diversity in forests. One of these examples is the humid forests situated in the Pyrenees, traverse mountains and Montseny. Over these areas, the annual precipitation is higher than 800l/m². Two examples of forestry management have been presented, one corresponding to the Guillerries zones and the other to the Garrotxa region. For the first one, forest management is between wood exploitation in plantations and multipurpose forest objectives. An overview of the Douglas plantation has been set, with their costs and benefits for the owners.

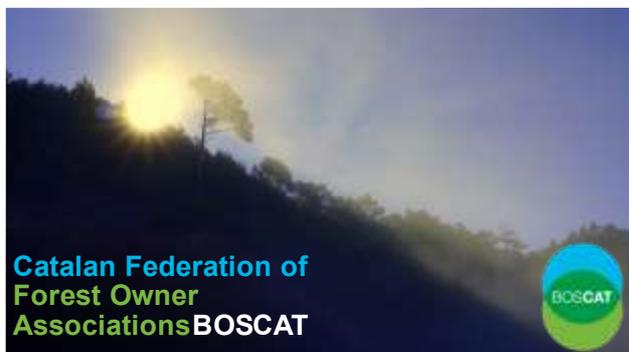


Picture 2. Douglas fir plantation after pruning works.

The second visit was through the volcanic region of La Garrotxa and presenting their oak and holm oak mixed forest. The historical use of the forest of this area has been charcoal, firewood, structural wood, floor, and roof wood for forest products and pastures fields in agriculture. In this type of estates, Multipurpose management has been during the last centuries the best solution for forest and agricultural ecosystems. The aim is to organize the whole ecosystem, obtaining wood production, environmental services, biodiversity and landscape.

3rd Session (04/03/21): BOSCAT. Catalan Federation of Forest Owner Associations

T.S.1. 09:00-10:00. Presentation of BOSCAT (Jaume Olivella).



Picture 3. BOSCAT Association.

Presentation of the Association of forest owners of the middle part of Catalonia. Non-profit Entity supported by the administration who helps the forest's owners financing management. This federation was created in 2011 and is a group of forest owners associations. It has grown from 8 till 25 associations.

The main functions of BOSCAT are the establishment of forest owners' associations and linking them for a better cooperation and the valorisation of the forest products and services. That includes the maintain of the forest ecosystem and wildfire prevention.

T.S.2. 10:30-12:00. Presentation of Private owner association Serres Miralles-Orpinell (Jaume Olivella).



Picture 4. Miralles-Orpinell location.

Another association of forest owners was presented: *Serres Miralles-Orpinell* association, which is in the centre-south of Catalonia and runs their own management team. The main forestry task is related with the wildfire prevention. The management team together with forest engineers and forest owners detect the most vulnerable points and they provide forestry works accordingly. Also, they apply for subsidies, and they are organised together through a Joint Forestry Management Plan.

This association suffered from several wildfires during the last decades but thanks to a good forestry management, these wildfires have been extinguished rapidly and not allowing the flames to spread uncontrollably as many efforts were put to decrease the forestry fuel. An example of wildfire in Capelles have been presented, together with the post-fires actions to prevent soil erosion.

T.S.3. 12:00-13:00. Wildfire risk evaluation for preventive silviculture in Mediterranean forest landscapes (Cristina Vega-García from the University of Lleida).

Presentation of the overall threats of the forestry system of Catalonia. They can be summarized as problems with invasive species, fires, wind-blows, climate change, floods and droughts and wildfires. Beyond this, there's also a problem with the forestry management and few people are applying preventive silviculture techniques (not as much as we would like). In relation to this, strategic management points are presented and their procedures on how to create and detect them. Fire historical ignitions maps and models, and wildfire management priority maps. Through this information, different recommendations are given to the Catalan Government to define prevention strategies as well as to forest owners and forest associations.

4th Session (12/03/21): CPF

T.S.1. / T.S.2. / T.S.3. 09:00-13:00. Presentation of Forest Ownership Centre (Cesca Famadas), presentation of LIFE CLIMARC (Teresa Baiges) and LIFE BIORGEST (Mario Beltrán).

The Forest Ownership Centre (CPF) is the administration responsible for the management of the subsidies from the Catalan Government to forest owners to implement forestry management actions. They run two different types of Plans: the simple and the joint (more than 25 ha and different owners). Also they published different orientations of forest management and many models of suggested management for different forest typologies (Sustainable Forestry Management Recommendations of Catalonia – ORGEST). Also they provide forestry consultancy and they are involved in several EU projects to pursuit the latest knowledge.



Picture 5. Map of current forest managed plans areas.

Teresa Baiges later presented the LIFE CLIMARC, a project to contribute to the mitigation of climate change and increase the carbon sink capacity of Mediterranean forests by fostering the mitigating effects of multifunctional forest management through the creation of a climate credit market. After this, Mario Beltrán presented the LIFE BIORGEST, a project to improve the biodiversity of the Mediterranean forest through the integration of specific measures and innovative practices into forest planning and management instruments, and through new financing and compensation mechanisms. The aim is to make biodiversity enhancement compatible with the economic sustainability of forest management, guaranteeing the persistence of the stands and their adaptation to climate change. Different management tools were presented accordingly.

5th Session (18/03/21): Montnegre-Corredor

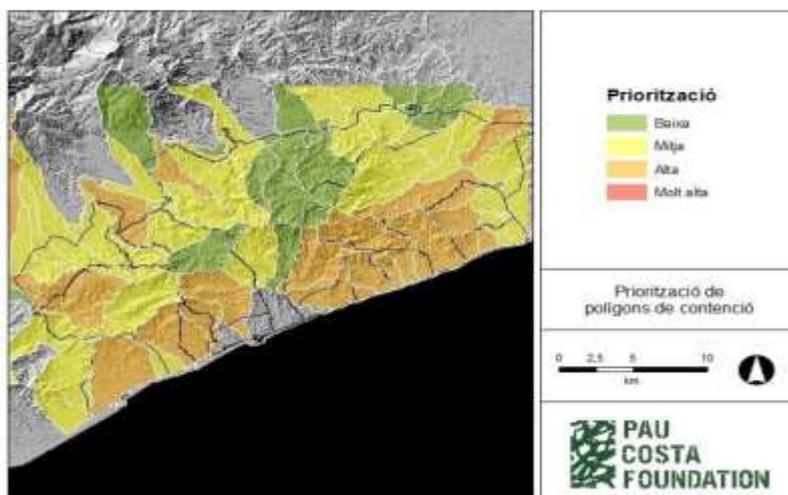
T.S.1. 09:00-10:00. Presentation of Montnegre-Corredor Forest Owner Association. Martí Rosell



Picture 6. Montnegre-Corredor logo.

Montnegre-Corredor Forest owners association is a non-profit private association founded in 1992. The association is composed of one manager, one forest engineer and one accountant. The creation of the corporation is in 2017. The corporation has one manager, two forest engineers and one field technician.

The main objectives of this association are a representation of the members, promotion of forest planning and more efficient management techniques, integration of multifunctional management and conservation of the environment guidelines, development of a mechanism for members co-operation and, work towards a better understanding of the region. The association implements solutions in forest work like thinning's, changing the combustible structure, promoting the mixed forest, or acting directly in landscape (opening spaces and maintaining them with livestock). Also the strategic management points through priority maps technique have been presented. Polygons in different colours mean different areas of contention of fire. Red coloured areas have priority in fire prevention management.



Picture 7. Fire prevention plan prioritisation in Montnegre-Corredor.

Different diseases affecting the Catalan Forest were presented, like: *Coraebus undatus* (cork oak – 2000), *Tomicus destruens* (*Pinus pinea* – 2015), *Matsococcus feytaudi* (*Pinus pinaster* – 2015), *Lymantria dispar* (holm oak, cork oak – 2018), *Phytophthora quercina* (cork oak – 2021).

T.S.2. 11:30. Example of different actions that have been developed in Montnegre-Corredor

Two different examples were presented: Can Bordoi and Can Casas. The first one is part of a Fire Strategic Area so the main objective was to fight against high-intensity fire, The secondary objective was to control pine's diseases and improve oak's forest pastures for fuel reduction. Can Casas is part of the implementation zone for the LIFE project MixforChange (oaks and lush vegetation like Quercus). The main objectives were the improvement of forest resilience and the increase of revenues resulting in a good quality of wood production and cork.



Technic avaluation



Before developingaction	After developingaction
<ul style="list-style-type: none"> • Simplified structure centered on intermediate CDs (20 cm) • Vertical and horizontal continuity • Low vigor sprouts • Low presence of sporadiplanifolis 	 <ul style="list-style-type: none"> - Reduction AB: 150% - Vertical and horizontal discontinuity - Higher proportion of sporadic deciduous tree - Undergrowth: <ul style="list-style-type: none"> - surface <65% - <1.3 m high



Picture 8. Comparison before and after actions.

LIST OF THE PARTICIPANTS FROM EACH SESSION

DAY 1, 18. 2. 2021

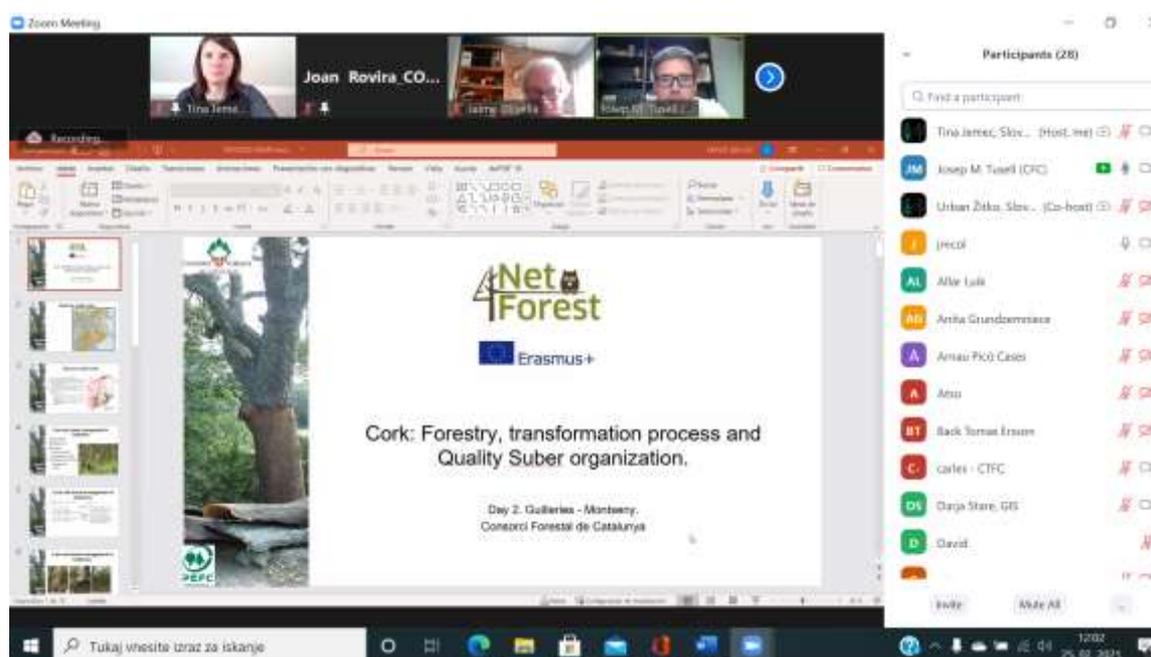


No.	Name	Organization	Country
1	Väino Suigusaar	Tartu Jahimeeste Metsaselts MTÜ	Estonia
2	Jaanus Aun	Estonian Private Forest Centre	Estonia
3	Raigo Rõõmussaar	Ühinenud Metsaomanikud MTÜ	Estonia
4	Pille-Riin Ressar	MTÜ Ühinenud Metsaomanikud	Estonia
5	Livia Pošlin	Estonian Private Forest Centre	Estonia
6	Atso Adson	Valgamaa Metsaühistu MTÜ	Estonia
7	Allar Luik	Estonian Private Forest Centre	Estonia
8	Grigorijs Rozentāls	Centre for Support of Forest Owner Cooperation Foundation	Latvia
9	Andis Malējs	Centre for Support of Forest Owner Cooperation Foundation	Latvia
10	Māra Rozentāle	Centre for Support of Forest Owner Cooperation Foundation	Latvia
11	Anita Grundzemniece	Centre for Support of Forest Owner Cooperation Foundation	Latvia
12	Gundega Agrita Januša	Centre for Support of Forest Owner Cooperation Foundation	Latvia
13	Kristaps Zīverts	Centre for Support of Forest Owner Cooperation Foundation	Latvia
14	Darja Stare	GIS	Slovenia



15	Nike Krajnc	GIS	Slovenia
16	Mirko Baša	GIS	Slovenia
17	Urban Žitko	GIS	Slovenia
18	Jemec Tina	GIS	Slovenia
19	Martí Rosell	Montnegre – Corredor	Spain
20	Carles Lorca	CTFC	Spain
21	Arnau Picó	CTFC	Spain
22	Jaume Olivella	Boscat	Spain
23	Josep Maria Collellmir	CPF	Spain
24	Eric Sundstedt	SLU	Sweden
25	Håkan Hulebo	Stora Segerstad naturbruksgymnasium	Sweden
26	Back Tomas Ersson	SLU	Sweden
27	Tomas Nordfjell	SLU	Sweden
28	Rune Simonsen	Jälla naturbruksgymnasium	Sweden
29	Albin Andersson	SLU	Sweden

DAY 2, 25. 2. 2021



No.	Name	Organization	Country
1	Pille-Riin Ressar	MTÜ Ühinenud Metsaomanikud	Estonia
2	Livia Pošlin	Estonian Private Forest Centre	Estonia
3	Atso Adson	Valgamaa Metsaühistu MTÜ	Estonia
4	Allar Luik	Estonian Private Forest Centre	Estonia
5	Maris Tõnuri	Estonian Private Forest Centre	Estonia
6	Annik Leppik	Estonian Private Forest Centre	Estonia
7	Marcis Saklaur	Estonian Private Forest Centre	Estonia
8	Grigorijs Rozentāls	Centre for Support of Forest Owner Cooperation Foundation	Latvia
9	Māra Rozentāle	Centre for Support of Forest Owner Cooperation Foundation	Latvia
10	Liene Macpane	Centre for Support of Forest Owner Cooperation Foundation	Latvia
11	Anita Grundzemiece	Centre for Support of Forest Owner Cooperation Foundation	Latvia
12	Josep M. Tusell	Centre for Support of Forest Owner Cooperation Foundation	Latvia
13	Darja Stare	GIS	Slovenia

14	Nike Krajnc	GIS	Slovenia
15	Mirko Baša	GIS	Slovenia
16	Urban Žitko	GIS	Slovenia
17	Jemec Tina	GIS	Slovenia
18	Martí Rosell	Montnegre – Corredor	Spain
19	Carles Lorca	CTFC	Spain
20	Arnau Picó	CTFC	Spain
21	Jaume Olivella	Boscat	Spain
22	Josep Maria Collellmir	CPF	Spain
23	Joan Rovira	CPF	Spain
24	Raul Fernandez Lacruz	SLU	Sweden
25	Leif Westerlund	SLU	Sweden
26	Eric Sundstedt	SLU	Sweden
27	Håkan Hulebo	Stora Segerstad naturbruksgymnasium	Sweden
28	Back Tomas Ersson	SLU	Sweden
29	Tomas Nordfjell	SLU	Sweden

DAY 3, 5. 3. 2021



No.	Name	Organization	Country
1	Livia Pošlin	Estonian Private Forest Centre	Estonia
2	Atso Adson	Valgamaa Metsäühistu MTÜ	Estonia
3	Allar Luik	Estonian Private Forest Centre	Estonia
4	Indrek Jakobson	Estonian Private Forest Centre	Estonia
5	Jaanus Aun	Estonian Private Forest Centre	Estonia
6	Tiina Mitt	Estonian Private Forest Centre	Estonia
7	Triin Nõmmik	Estonian Private Forest Centre	Estonia
8	Gunnar Reinapu	Estonian Private Forest Centre	Estonia
9	Grigorijs Rozentāls	Centre for Support of Forest Owner Cooperation Foundation	Latvia
10	Māra Rozentāle	Centre for Support of Forest Owner Cooperation Foundation	Latvia
11	Anita Grundzemniece	Centre for Support of Forest Owner Cooperation Foundation	Latvia
12	Andis Malējs	Centre for Support of Forest Owner Cooperation Foundation	Latvia
13	Liene Macpane	Centre for Support of Forest Owner Cooperation Foundation	Latvia
14	Kristaps Zīverts	Centre for Support of Forest Owner Cooperation Foundation	Latvia
15	Marcis Saklaur	Centre for Support of Forest Owner Cooperation Foundation	Latvia

16	Darja Stare	GIS	Slovenia
17	Nike Krajnc	GIS	Slovenia
18	Mirko Baša	GIS	Slovenia
19	Urban Žitko	GIS	Slovenia
20	Jemec Tina	GIS	Slovenia
21	Francesca Famadas	CTFC	Spain
22	Martí Rosell	Montnegre – Corredor	Spain
23	Carles Lorca	CTFC	Spain
24	Mario ???	CTFC	Spain
25	Arnau Picó	CTFC	Spain
26	Jaume Olivella	Boscat	Spain
27	Josep Maria Collellmir	CPF	Spain
28	Teresa Baiges	CTFC	Spain
29	Raul Fernandez Lacruz	SLU	Sweden
30	Eric Sundstedt	SLU	Sweden
31	Back Tomas Ersson	SLU	Sweden
32	Rune Simonsen	Jälla naturbruksgymnasium	Sweden
33	Albin Andersson	SLU	Sweden
34	Peter Johansson	Stora Segerstad naturbruksgymnasium	Sweden
35	Björn Edlund	SLU	Sweden

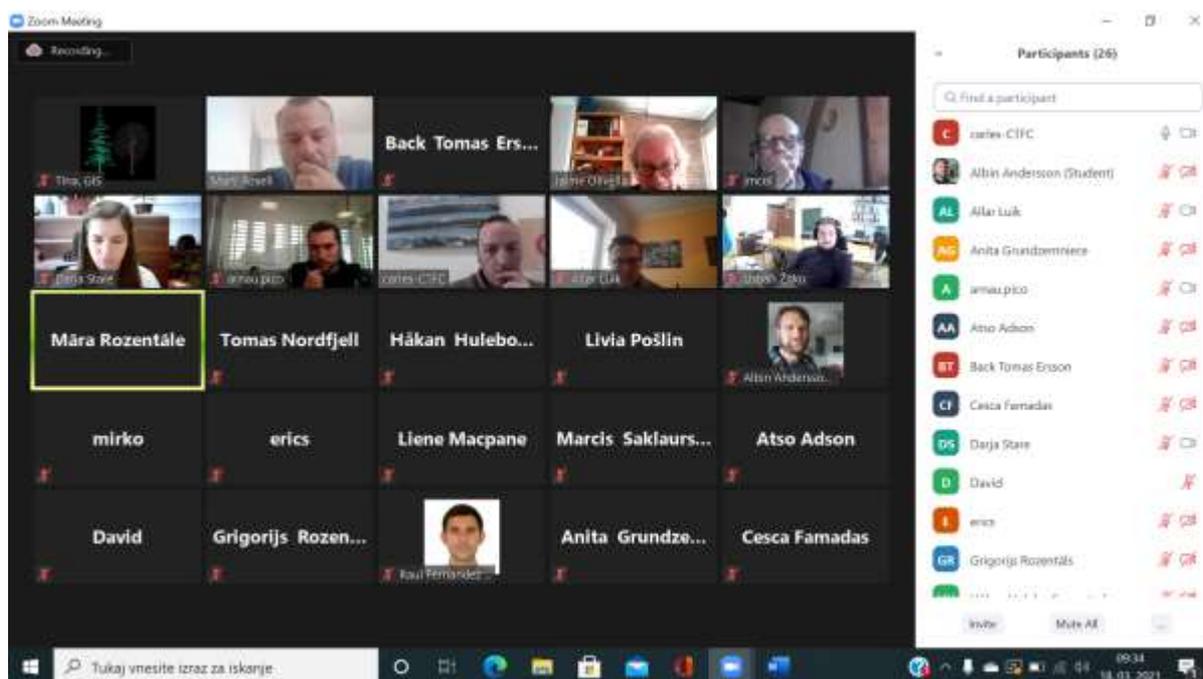
DAY 4, 12. 3. 2021



No.	Name	Organization	Country
1	Livia Pošlin	Estonian Private Forest Centre	Estonia
2	Atso Adson	Valgamaa Metsäühistu MTÜ	Estonia
3	Allar Luik	Estonian Private Forest Centre	Estonia
4	Tiina Mitt	Estonian Private Forest Centre	Estonia
5	Leo Filippov	Estonian Private Forest Centre	Estonia
6	Grigorijs Rozentāls	Centre for Support of Forest Owner Cooperation Foundation	Latvia
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19	Arnau Picó	CTFC	Spain
20	Jaume Olivella	Boscat	Spain
21	Josep Maria Collellmir	CPF	Spain
22	Cristina Vega-Garcia	UdL - University of Lleida	Spain

23	Raul Fernandez Lacruz	SLU	Sweden
24	Back Tomas Ersson	SLU	Sweden
25	Rune Simonsen	Jälla naturbruksgymnasium	Sweden
26	Albin Andersson	SLU	Sweden
27	Håkan Hulebo	Stora Segerstad naturbruksgymnasium	Sweden
28	Björn Edlund	SLU	Sweden
29	Tomas Nordfjell	SLU	Sweden

DAY 5, 18. 3. 2021



No.	Name	Organization	Country
1	Livia Pošlin	Estonian Private Forest Centre	Estonia
2	Atso Adson	Valgamaa Metsäühistu MTÜ	Estonia
3	Allar Luik	Estonian Private Forest Centre	Estonia
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13	Jemec Tina	GIS	Slovenia
14	Francesca Famadas	CTFC	Spain
15	Martí Rosell	Montnegre – Corredor	Spain
16	Carles Lorca	CTFC	Spain
17	Arnau Picó	CTFC	Spain
18	Jaume Olivella	Boscat	Spain
19	Josep Maria Collellmir	CPF	Spain
20	Asier Larrañaga	BOMBERS-GRAF	Spain
21	Raul Fernandez Lacruz	SLU	Sweden

22	Back Tomas Ersson	SLU	Sweden
23	Rune Simonsen	Jälla naturbruksgymnasium	Sweden
24	Albin Andersson	SLU	Sweden
25	Håkan Hulebo	Stora Segerstad naturbruksgymnasium	Sweden
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