

Interreg Alpine Space project - **NEWFOR**

Project number 2-3-2-FR

NEW technologies for a better mountain **FOR**est timber mobilization

Priority axis 2 - Accessibility and Connectivity

SUMMER SCHOOL:

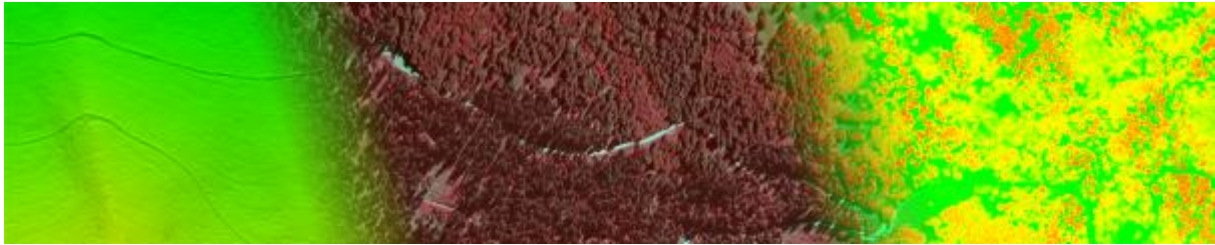
NEW TECHNOLOGIES FOR A BETTER MOUNTAIN FOREST TIMBER MOBILIZATION

NEWFOR



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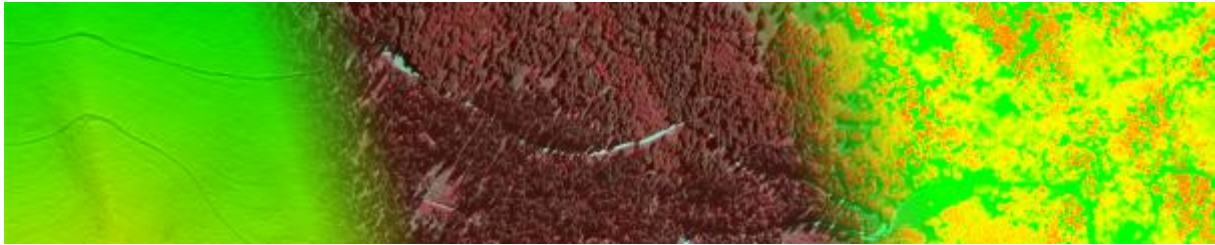


The consortium of the project Interreg Alpine Space NEWFOR



This project has been, co-funded by the European Regional Development Funds, and achieved under the third call of the European Territorial Cooperation Alpine Space Programme 2007-2013.





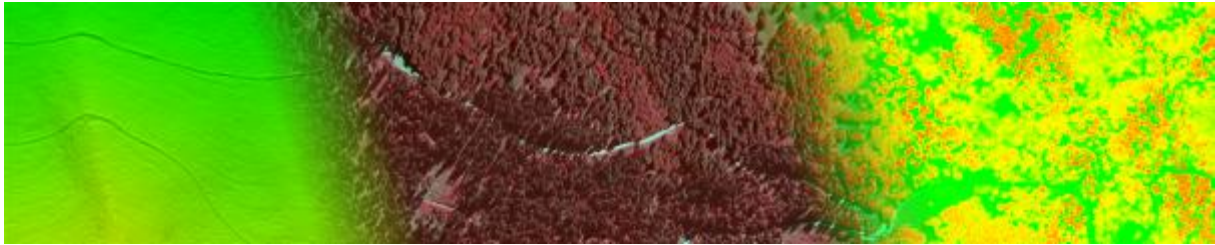
THE CONTEXT

Although forests represent a key resource of mountain environments, their valorisation is hampered by accessibility constraints that prevent an efficient mapping, management, harvesting and transport of wood products.

Forests fulfil multiple functions in mountainous areas. They have an ecological function as host of many habitats and species. They also are a leisure area for social activities such as hiking, skiing... From the economical perspective, the production of renewable resources like timber and fuel-wood has positive effects both at global scale, with climate change mitigation, and local scale with rural employment and the development of a regional value chain. The objective of preserving and improving the development of mountain forests is a point of public interest. However, managing forests in mountain territories is a difficult task as topography and climate set strong constraints inside a complex socio-economical framework.

In particular, a precise mapping of forest biomass characteristics and mobilization conditions (harvesting and accessibility) is a prerequisite for the implementation of an efficient supply chain for the wood industry. The available information is currently insufficient to provide, at reasonable costs, the required guarantees on the wood supply and on its sustainability. With the recent development of new remote sensing technologies and modelling tools, major improvements regarding the evaluation of the forest growing stock and accessibility are now possible. Upon this highly valuable information, decision-making tools must be build to optimize the investments in forest infrastructures required for a cost-effective wood supply while securing the sustainable management of forests, and to support the implementation of an efficient European policy for mountain forest management.

According to this context and based on the use of new technologies (LiDAR: light detection and ranging, Unmanned Aerial Vehicle...) for forest and topography characterization, the project NEWFOR is dedicated to enhance and develop tools and adapted policies for decision making in the field of a sustainable and adaptive mountain forest resources management facing the sustainability of mountain forest ecosystems services.



1.1 OBJECTIVES OF THE SUMMER SCHOOL

The main objective of the Summer School is to give the participants the basic knowledge about the most recent tools and approaches (ALS data, Spatial Decision Support Systems). At the end of the week each participant should be able to develop its own methodology in order to improve the management of forest resources in mountain areas and to evaluate forest accessibility in order to gain a better economical efficiency of wood harvesting and transport in a context of sustainable forest management.

In particular the topics that will be faced during the week will regard:

- Forest resources and LiDAR

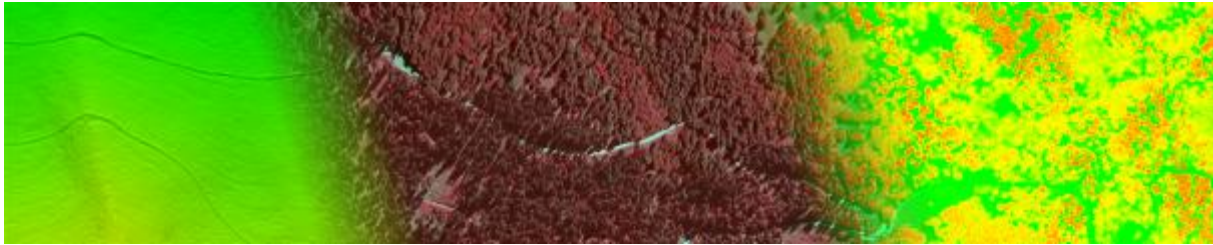
Recent developments in LiDAR technology, combined to other available data sources (aerial photographs, aerial photo series by UAVs, ...), are now allowing a precise and fine mountain forest resource quantification, qualification and mapping. Integrating this technology will provide an innovative response to the challenges of a precise and robust knowledge on the available growing stocks. During the Summer School will be used tools that will help forestry to benefit from this technological advance.

- Forest accessibility

After the identification of forest resources, the second step of an efficient forest management is to evaluate the accessibility to these resources. In mountain areas, topography is the main constraint to a technical and economically efficient exploitation. During the Summer School will be taught how to use topographic LiDAR data coupled with geographic information systems (GIS) for an optimal planning of forest harvesting and logging while taking current and scheduled accessibility of forest resources into account.

- Forest road planning

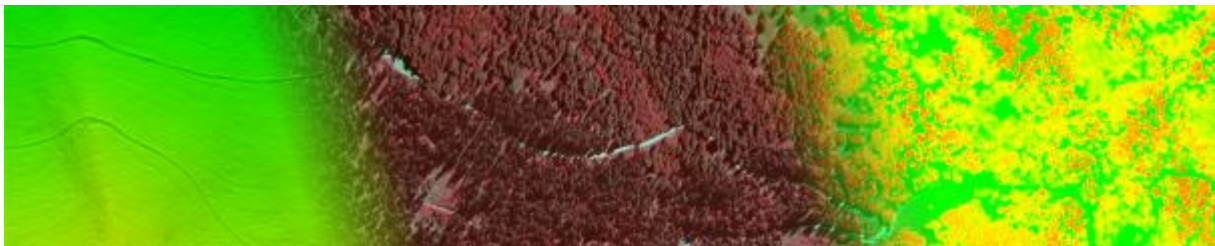
Once the forest resources and accessibility are characterized, then remains the issue of the possibility to improve the access to the resources by the construction of new forest roads or the upgrading of the existing one. During the Summer School will be taught how to find the optimal location and to plan a new forest road using the latest available tools.



2. THE SUMMER SCHOOL PROGRAM

JULY	MORNING	AFTERNOON
20 SUN	/	17.00 – 19.30: Participants registration 19.30 – 22.00: Welcome dinner
21 MON	8.30 – 10.00: Introduction on Lidar 10.30 – 12.00: LiDAR application and forest management	13.30 – 18.30: brief excursion to the World War I fortress "Forte Verena", introduction to the characteristics of the area 20.00 – 21.00: introduction to the next day field activities
22 TUE	8:00 – 13:00: Field activities - data collection in forest plot	14.00 – 18.00: Lab - extraction of data on forest resources from LiDAR 20.00 - 21.00: Introduction to the next day field activities
23 WED	8:00 - 13:00: Field activities - evaluation of harvesting systems, example of survey of a cable line	14.00 – 18.00: Lab - evaluation of accessibility and harvesting systems using GIS tool. Presentation of tools for cable crane planning. 20.00 - 24.00: Social event
24 THU	8:00 – 13:00 Field activities - survey of a new road	14.00 – 18.00: Lab - forest road planning using the software Road-Eng
25 FRI	8:00 - 12.00: UAV demonstration - collection of data in the field and example of data elaboration	Team work for final report
26 SAT	Presentation of the team work and deliver of diplomas	Visit of Asiago city centre, visit at a cheese factory and typical dinner in Asiago
27 SUN	Check out	

Forest resources	Forest accessibility	Road network
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3. PRACTICAL INFORMATION

LOCATION

Rifugio Verenetta, Comune di Roana. Altopiano di Asiago (ITALY)

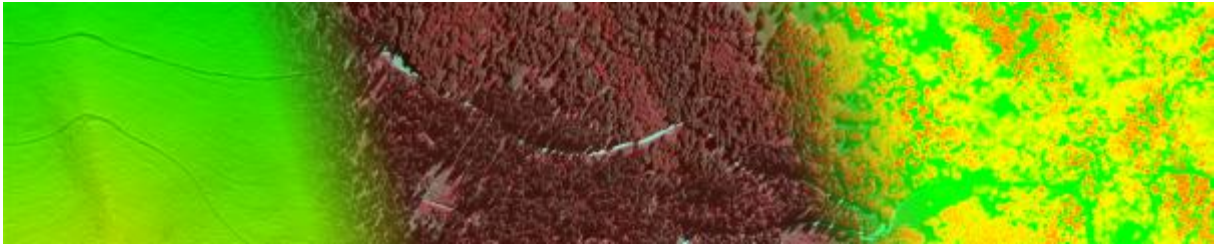
http://www.skiverena.com/rifugio_verenetta.html



For driving direction from Asiago center to the summer school venue click : [HERE](#)

COST

Only travel cost to the Summer-School venue are on the behalf of the participants.



SELECTION PROCEDURE

The deadline for submitting the following application form and the personal CV is **10 of June**
The organizers will select the participants after the analysis of the CV and the final list will be published on the project web-site before the **13 of June**.

Contact person for different nation:

Italy (or others): **marco.pellegrini@unipd.it**

France: **frederic.berger@irstea.fr**

Austria: **markus.hollaus@geo.tuwien.ac.at**

Slovenia: **milan.kobal@gozdis.si**

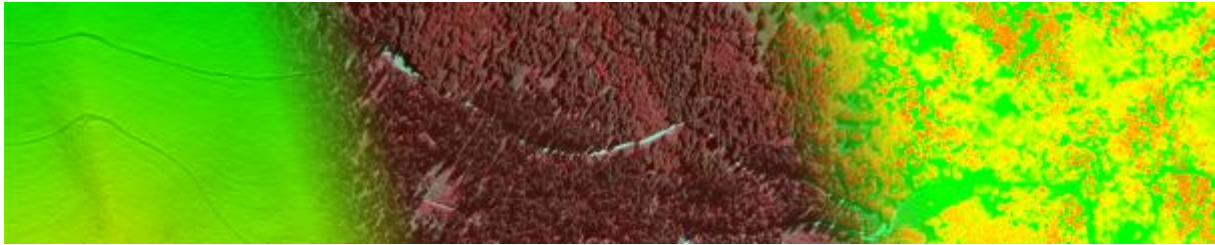
Germany: **franz.binder@lwf.bayern.de**

Switzerland: **christian.ginzler@wsl.ch**

Good luck

THE NEWFOR PROJECT CONSORTIUM





Summer School NEWFOR Project

NEW TECHNOLOGIES FOR A BETTER MOUNTAIN FOREST TIMBER MOBILIZATION

Personal Information	
First Name (s):	
Last Name:	
Gender:	Date of birth:
Contact Details	
Street:	
Postal Code:	
City:	
Country:	
E-mail:	
Tel:	
Fax:	
Professional Information	
University/ Institution /Office / Agency	
Address:	
Other Information:	
Food preferences:	
Special wishes, comments:	

Date and signature:

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