



GOZDARSKI INŠTITUT SLOVENIJE
SLOVENIAN FORESTRY INSTITUTE

SLOVENIAN FORESTRY INSTITUTE
NEWFOR – PROJECT PARTNER
(SFI –PP7)
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The sixth Project Report

**Report Period 6:
10/2013 – 03/2014**

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Sixth interim report of the project NEWFOR covers the period from October 2013 to the end of March 2014. Activities of SFI workers during this period are presented by project work packages (WP). Some activities were realized in cooperation with another Slovenian project partner Slovenia Forest Service (SFS – PP12), austrian partner TU Wien (PP11) and Italian Project Partner Dipartimento Territorio e Sistemi Agro-Forestali – Università degli Studi di Padova (TeSAF – PP10). In sixth reporting period SFI disseminated intermediate project activities and results to interested public at mid-term conference in Ljubljana. Benchmark analysis of LiDAR data and available ground data was taken. States of the art on different issues were preparing and analyses of different tools were started. SFI implement new algorithms and software based on LIDAR data into Web-GIS tool. SFI also co-organize and attended at fourth project partner meeting and study tour in Bled (Slovenia). Issued CoE for the fourth and fifth RP was already forwarded to leading partner; CoE for the sixth RP is still in preparation phase.

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WP 2

Within WP 2 **Project Management** coordination of activities in SFI Newfor project working group, internal project meetings and assignments of different tasks to workgroup members, financial reporting and preparation of fifth progress report were realized. Received CoE from FLC for the fourth and fifth reporting period were send to LP. SFI as partner in Newfor project also has been audited by FLC at the end of 2013. We present our activities and intermediate results. SFI co-organize and active participate at 4. Project partner meeting in Bled (Slovenia) and organized also mid-term conference in Ljubljana with external experts and own presentations of actual work at the Newfor project for Slovenian language audience. SFI and SFS (PP12) harmonize common activities on PMM4 study tour and activities dealing with data preparation from pilot areas. For PMM5 in Vienna were prepared documentation for WP leaders.

WP 3

Within WP 3 **Information & Publicity**

SFI started with set of activities for presentation of project objectives and expected outputs relevant for interested stakeholders and other public. There were prepared good practice examples in cooperation with SFS and publish on web page.

Newfor project was presented at 3rd development day of forest and wood processing sector. It was held as side event of biggest fair of wood processing sector (9.11.2013). Project is presented to wider public in downloadable proceedings of the event.

See links of the event

https://dl.dropboxusercontent.com/u/11076869/Zbornik_%203.%20RAZVOJNI%20DAN%20GOZDNO-

[LESNEGA%20SEKTORJA_3.%2010.%202013.pdf,](#)

information links on Ministry for commerce

http://www.mgrt.gov.si/nc/si/medijsko_sredisce/novica/article/11987/9482/

and on Chamber of Commerce and Industry of Slovenia

http://www.gzs.si/slo/panoge/zdruzenje_lesne_in_pohistvene_industrije/62353.

There were also accepted an article about LIDAR data use in forestry for Slovenian professional journal for forestry.

Most publications are uploaded to Newfor webpage, some of them are updated within new activities on each WP.

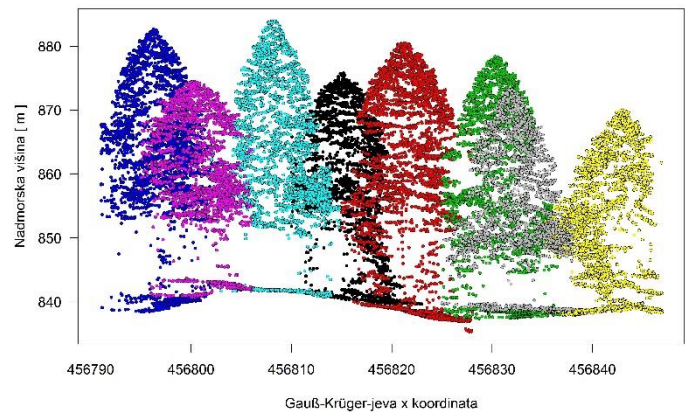


Presentations from mid-term conferences are available on SFI and Newfor websites.

WP 4

Within WP 4 **Forest resources & LIDAR** we analysed databases of digital terrain models. Due to huge ice-break in Slovenian forests in February 2014, we use know-how developed within WP4 for estimating of damaged area and started to develop a system to quantify parameters of such forest disturbance. This situation is also another argument for SFI going to second Lidar data acquisition in PA Leskova Dolina, where also ice-break disturb and damage quiet big part of forests stands. SFI prepared list of available providers for LIDAR recording and “success story” of development of LIDAR technologies in Slovenia. Activities for second scan started and there are all PP and LP informed for necessary transfer of 20 % budget share from staff to external costs. For this reason is also expected prolongation of Newfor project till end of the year very helpful. Here is also very good moment to show interested public and policy how such data can be used in salvage operations. So Newfor tools will be helpful in real situation.

In cooperation with PP11 (TU Wien) SFI realized single tree detection within benchmarking analyses for all PP available data.



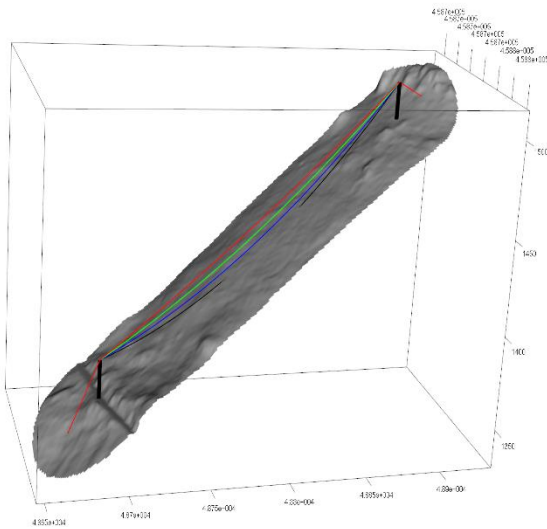
Some new examination on different 3D processing software solution (Photomodeler, MicMac) from last reporting period has been continued.



After the survey of existing tools, the tool Photomodeler Scanner 2013 was selected to perform test OVE pictures processing to 3D cloud. 3D cloud has been successfully prepared, but benchmark with LiDAR was not possible as we do not claim data for same locations.

WP 5

Within WP 5 **Forest accessibility** were developed software algorithm for automatic cable crane placement, based on defined criteria (based on R-code) for optimization of cable corridors in PA.



In cooperation with PP10 (TeSAF) were developed WEB-tool for this code and there is some exporting tool in preparation and testing phase, to use and import single line data into NEWFOR-CABLEWAY (NCW) 3D-visualization software. NCW working operations were presented at French mid-term conference http://www.newfor.net/wp-content/uploads/2013/11/Cable_way.avi.

All novelties will be implemented in the Web-GIS application.

SFI cooperate with SFS in survey of mechanization used among bigger forestry companies in rounded Alpine Space PA.

There were prepared and published an article of success stories on Newfor website, probably followed Slovenian language extended version.

SFI planned activities to purchase and test software for LIDAR data implementation in forest road engineering (Roadeng) in last RP and will in next phase test if it is possible also to use LIDAR data environment for extracting forest roads.

WP 6

Within WP 6 **Forest & Industry Connectivity** replenishment and updates regarding state of the art on forest connectivity according to WP6 leader demands have been investigated, prepared and updated. New version has been send to WP leader. Together with paper about general presentation of the wood transport sector in Slovenia this will present state of the art for Slovenia.

SFI will not analyze Slovenian forestry logistics software LOGISLED while producer stopped development of operational version for this year. SFI will overview possibilities of implementation our forest road data base to other logistics software.

WP 7

Within WP 7 **Costs&benefits evaluation** some activities were focused on analyses and comparison of outputs of different tools in use for cost calculation in forestry. Preparation of algorithm for cost calculations of forest truck (for roundwood transport) has been prepared in MS Excel file and provided to internal group as .XLS file in order to be integrated into a development of cost calculation tool.

Best-practice-example for cost calculations (HeProMo) provided by SFS has been reviewed and returned to SFS. Internal meeting regarding development of cost calculation tool has been carried out and in next RP we intend to develop interactive tool, which will be extend as cost calculation of forest operations web application. Some transferred external costs are predicted also for external web-programmer.

WP 8

One of the objectives of WP8 **Logistical planning strategy** is to provide forest managers and decision makers with reliable information for the evaluation of technical and economical conditions for their decision-making on timber supply chain logistical planning and land use strategies.

Main work in this RP belongs to organizing and preparing mid-term conference at SFI in Ljubljana. There were more than 50 registered attendees and many of them are also interested to use or to be involved as Newfor tools users.

The development of a Web-GIS tool for optimal cable layout and supplementary user friendly 3D visualization of single line layout and unified tool based on methodology will be published in NEWFOR website. A cost calculation of forest operations seems to be good idea to live on as interactive tool after project comes to the end.