Cable road layout planner

Seilaplan

Seilaplan is a tool that supports the design of cable roads for timber harvesting. It works as a QGis-Plugin.

Starting point of the calculation are terrain data (digital elevation model or field measurement data in CSV format), machine and cable road properties.
The program calculates the skyline tensile forces, the skyline sag, support saddle forces. By knowing the rope forces, critical constructions can be avoided. This increases the safety at work.

Seilaplan includes an optimization algorithm that proposes the height and location of the supports. The load path of the skyline together with the terrain profile are displayed graphically and a construction manual is generated. Coordinates and saddle height of the supports can be saved as CSV and KML data so that they are electronically available for further planning steps.

The planning of cable road layout goes much faster. The calculated routing takes advantage of the natural terrain shapes and helps to reduce overall harvesting costs in mountainous regions and steep terrain.

DETALJI

PODRIJETLO DRVA

Šuma

VRSTA DRVA

Deblo

ODGOVARAJUćA VRSTA DRVA

stemwood and full trees

UTJECAJ NA OKOLIš I BIORAZNOLIKOST

The cost reduction will allow new, poorly accessible areas to be developed and additional timber to be harvested.
This has a positive effect on the protective function of the forest in the mountains and it promotes adaptation to climate change.

UčINAK NA PRIHOD

Improved profitability of logging in steep terrain

POTENCIJAL ISKORISTIVOSTI

For forest owners and forest contractors

SREDIšTE

Centralno-istočno čvorište

GOSPODARSKI UčINAK

Reduced installation cost, improved profitability

POTENCIJAL ZA POVEćANJE UPORABE DRVA

> 100'000 m³ for Switzerland

POTENCIJAL ODRžIVOSTI - VRIJEDNOST

Vrlo pozitivno

JEDNOSTAVNOST PROVEDBE

Very easy

JEDNOSTAVNOST PROVEDBE - EVALUACIJA

Very Easy

KLJUčNI PREDUVJETI

Terrain data must be available or collected along the planned line.

VRSTA DOGAđAJA NA KOJEM JE PRIKAZAN OVAJ BPI

--

UčINAK NA ZAPOšLJIVOST

Faster and saver skyline layout planing

TROšKOVI PROVEDBE (EURO - €)

100

POTREBNA POSEBNA ZNANJA

Knowledge of QGis is necessary

VIŠE DETALJA

IZAZOV

5. Unaprjeđenje učinkovitosti lanca opskrbe šumom na gospodarstvo i okoliš

DOMENA

Upravljanje šumama, uzgoj šuma, usluge ekosustava, otpornost

VRSTA RJEŠENJA

Savjetodavni i uslužni alati za vlasnike šuma

KLJUČNE RIJEČI

cable road

skyline

QGis plugin

mountain forest

DIGITALNO RJEŠENJE

Da

INOVACIJA

Da

ZEMLJA PODRIJETLA

Švicarska

PODRUČJE PRIMJENE

Kontinentalno

POČETAK I KRAJ GODINE

2012 - 2021

KONTAKT PODATCI

VLASNIK ILI AUTOR

Swiss Federal Institute for Forest Research WSL

Leo Bont

leo.bont@wsl.ch

https://seilaplan.wsl.ch/en/index.html

IZVJESTITELJ

BFH Berne University of Applied Sciences

Thuer Peter

peter.thuer@bfh.ch

REFERENCES AND RESOURCES

GLAVNA WEB STRANICA

https://www.wsl.ch/en/index.html

WEB STRANICA PROJEKTA

https://seilaplan.wsl.ch/en/index.html

REFERENCA PROJEKTA

Bont, L. G., Moll, P. E., Ramstein, L., Frutig, F., Heinimann, H. R., & Schweier, J. (2022).

IZVORI

--

SEILAPLAN, a QGIS plugin for cable road layout design. Croat J For Eng. Bont, L. G., Ramstein, L., Frutig, F., & Schweier, J. (2022). Tensile forces and deflections on skylines of cable yarders: comparison of measurements with close-to-catenary predictions. International Journal of Forest Engineering, 1-22. https://www.dora.lib4ri.ch/wsl/islandora/object/wsl%3A30255/datastream/PDF/Bont-2022-Tensile_forces_and_defl

LOGO PRIMJERA DOBRE PRAKSE

LOGO GLAVNE ORGANIZACIJE

Swiss Federal Institute for Forest, Snow and Landscape Research WSL

Bern University of Applied Sciences

PROJEKT U OKVIRU KOJEG JE INFORMATIVNI LIST KREIRAN

Rosewood 4.0

DATUM UNOSA

25 lis 2022

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 862681

A TOOL FROM ROSEWOOD 4.0, DESIGNED AND DEVELOPED BY