

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.

PODROBNOSTI

PÔVOD DREVA

Les

DRUH DREVA

Kmeňové drevo

UVAŽOVANÝ DRUH DREVA

stemwood and full trees

VPLYV NA ŽIVOTNÉ PROSTREDIE A BIODIVERZITU

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.

DOPAD NA PRÍJMY

Improved profitability of logging in steep terrain

POTENCIÁL VYUŽITIA

For forest owners and forest contractors

ROZBOČOVAČ

Stredovýchodný uzol

EKONOMICKÝ VPLYV

Reduced installation cost, improved profitability

MOBILIZAČNÝ POTENCIÁL

> 100'000 m³ for Switzerland

POTENCIÁL UDRŽATEĽNOSTI - HODNOTA

Veľmi pozitívne

UĽAHČENIE IMPLMENTÁCIE

Very easy

UĽAHČENIE IMPLMENTÁCIE - HODNOTENIE

Very Easy

Kľúčové PREPOKLADY

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

TYP PODUJATIA, NA KTOROM BOL TENTO BPI PREZENTOVANÝ

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DOPAD NA ZAMESTNANOSŤ

Faster and saver skyline layout planing

NÁKLADY NA IMPLEMENTÁCIU (EURO - €)

100

POTREBA ŠPECIFICKÝCH ZNALOSTÍ

Knowledge of QGis is necessary

VIAC INFORMÁCIÍ

RIEŠENÁ VÝZVA

5. Zlepšenie hospodárskej a environmentálnej výkonnosti dodávateľských reťazcov v lesníctve

Kľúčové SLOVÁ

cable road

skyline

QGis plugin

mountain forest

KRAJINA PôVODU

Švajčiarsko

DOMAIN

Lesné hospodárstvo/hospodárska úprava lesa, pestovanie lesa, ekosystémové služby, odolnosť

DIGITALNE RIEŠENIE

áno

TYP RIEŠENIA

Poradenské a servisné nástroje pre vlastníkov lesov

INOVÁCIE

Áno

ROZSAH APLIKÁCIE

Continental

ZAČIATOK A KONIEC ROKA

2012 - 2021

KONTAKTNÉ ÚDAJE

VLASTNÍK ALEBO AUTOR

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

REPORTÉR

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REFERENCES AND RESOURCES

HLAVNÁ WEBSTRÁNKA

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

PROJEKTOVÁ WEBSTRÁNKA

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

REFERENCIA PROJEKTU

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

ZDROJE

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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 NAJLPEŠEJ PRAXE



Swiss Federal Institute for Forest,
Snow and Landscape Research WSL

LOGO HLAVNEJ ORGANIZÁCIE



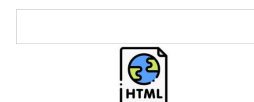
Bern University
of Applied Sciences

PROJEKT, V RÁMCI KTORÉHO BOL TENTO INFORMAČNÝ PREHĽAD VYTVORENÝ

Rosewood 4.0

DÁTUM ODOSLANIA

25 okt 2022



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A TOOL FROM ROSEWOOD 4.0, DESIGNED AND DEVELOPED BY

