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.

DETALJER

VEDENS URSPRUNG
Skog

TRäTYP
Rundvirke

TYP AV TRä
stemwood and full trees

PåVERKAN På MILJö & BIOLOGISK MåNGFALD
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.

EKONOMISK EFFEKT
Improved profitability of logging in steep terrain

KOMMERSIELL POTENTIAL
For forest owners and forest contractors

NAV
Centrala och östra navet

EKONOMISK PåVERKAN
Reduced installation cost, improved profitability

MOBILISERINGSPOTENTIAL
> 100'000 m³ for Switzerland

HåLLBARHETS POTENTIAL - VäRDE
Mycket positiv

ENKEL IMPLEMENTERING
Very easy

ENKEL IMPLEMENTERING - UTVäRDERING
Very Easy

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

TYP AV EVENEMANG DäR DENNA BPI HAR PRESENTERATS
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EFFEKT ANTAL ANSTäLLDA
Faster and saver skyline layout planing

KOSTNADER FöR IMPLEMENTERING (EURO - €)
100

SPECIFIKA KUNSKAPSBEHOV

Knowledge of QGis is necessary

MER INFORMATION

UTMANING SOM ADRESSERAS

5. Förbättra ekonomisk och miljömässig prestanda för skogsförsörjningskedjor

DOMäN

Skogsförvaltning, skogskjötsel, ekosystemtjänster

TYPE AV LöSNING

Rådgivning og serviceverktyg för skogsägare

NYCKELORD

cable road

skyline

QGis plugin

mountain forest

DIGITAL LöSNING

Ja

INNOVASION

Ja

UPPHOVSLAND

Schweiz

POTENTIAL

kontinental

START OCH SLUTåR

2012 - 2021

KONTAKT INFORMASION

ÄGARE ELLER FöRFATTARE

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

RAPPORTöR

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REFERENCES AND RESOURCES

HEMSIDA (HUVUDSIDA)

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

PROJEKTETS HEMSIDA

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

PROJEKTREFERENS

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

RESURSER

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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 FöR BEST PRACTICE

Swiss Federal Institute for Forest, Snow and Landscape Research WSL

LOGO, HUVUDORGANISATION

Bern University of Applied Sciences

PROJEKT SOM DETTA FACTSHEET SKAPATS INOM

Rosewood 4.0

DATUM FöR INLäGG

25 okt 2022

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A TOOL FROM ROSEWOOD 4.0, DESIGNED AND DEVELOPED BY

cesefor
Centro de Servicios y Promoción Forestal y de su Industria de Castilla y León