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

OPPRINNELSE FOR TRE
Skog

TYPE TRE
Tre fra rundtvirke

TYPE TRE INVOLVERT
stemwood and full trees

PåVIRKNING På MILJø OG BIOLOGISK MANGFOLD
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.

INNTEKTSEFFEKT
Improved profitability of logging in steep terrain

UTNYTTELSESPOTENSIAL
For forest owners and forest contractors

HUB
Central-East Hub

ØKONOMISK PåVIRKNING
Reduced installation cost, improved profitability

MOBILISERINGSPOTENSIAL
> 100'000 m³ for Switzerland

BæREKRAFTPOTENSIAL - VERDI
Veldig positivt

ENKEL IMPLEMENTERING
Very easy

ENKEL IMPLEMENTERING - EVALUERING
Very Easy

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

TYPE BEGIVENHET DER DENNE BPI HAR BLITT OMTALT
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EFFEKT På ARBEIDSPLASSER
Faster and saver skyline layout planing

KOSTNADER MED IMPLEMENTERING (EURO - €)
100

SPESIFIKKE KUNNSKAPSBEHOV

Knowledge of QGis is necessary

MER INFORMASJON

UTFORDRING ADRESSERT

5. Forbedre den økonomiske og miljømessige ytelsen i skogbrukets forsynings kjede

DOMENE

Skogforvaltning, skogskjøtsel, økosystemtjenester

TYPE LøSNING

Rådgivnings- og serviceverktøy for skogeiere

NøKKELORD

cable road

skyline

QGis plugin

mountain forest

DIGITAL LøSNING

Ja

INNOVASJON

Ja

OPPRINELSESLAND

Sveits

POTENSIALE

Kontinentalt

START OG SLUTT åR

2012 - 2021

KONTAKT INFORMASJON

EIER ELLER FORFATTER

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

RAPPORTøR

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REFERENCES AND RESOURCES

HJEMMESIDE (HOVEDSIDE)

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

PROSJEKTETS HJEMMESIDE

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

REFERANSE TIL PROSJEKT

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

RESSURSER

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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 FOR BESTE PRAKSIS

Swiss Federal Institute for Forest, Snow and Landscape Research WSL

LOGO FOR HOVEDORGANISASJON

Bern University of Applied Sciences

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Rosewood 4.0

INNLEGGSDATO

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A TOOL FROM ROSEWOOD 4.0, DESIGNED AND DEVELOPED BY

cesefor
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