Orbica Geospatial Platform
7th forum on forest & wood innovations

Swisskrono, Wittstock 22.06.2023

ORBICA

ORBICA

GEOSPATIAL DEVELOPMENT PLATFORM

- Geospatial analysis and development
- Remote sensing
- Artificial intelligence

- Data Science
- Business intelligence
- Agile practitioners

32 team members

founded In 2017

Berlin Christchurch

BAYER

SIEMENS

VONOVIA

thyssenkrupp

RAG

BASF
We create chemistry

WOOD INNOVATIVE DISRUPTION IN FOREST INDUSTRIES   Leonhard Ventures   SWISS KRONO

Orbica Platform

A platform purpose-built to help you leverage Geospatial

BESPOKE TOOLS & WORKFLOWS
Create bespoke geospatial solutions for your data and business. Users can use / developers can develop

DESIGNED FOR EVERYONE
Enable everyone in your organization to unlock the value of spatial data, without relying on the GIS team for everything
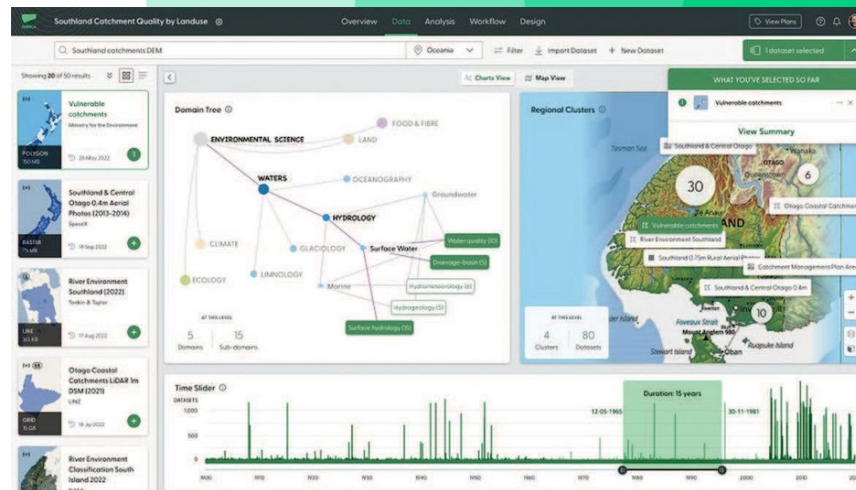
TRANSPARENT PRICING
Only pay for what you actually need with transparent, consumption-based pricing and shared licensing

CONTROLLED GOVERNANCE
Set organization-wide governance controls across standards, quality, security, visibility, and costs

Forest Innovation Case Studies

Biodiversity Net Gain Tool

Forest Fire Fuel Risk Analysis

National scale GeoAI

Red- Exotic Green - Native

WOOD INNOVATIVE DISRUPTION IN FOREST INDUSTRIES   Leonhard Ventures   SWISS KRONO
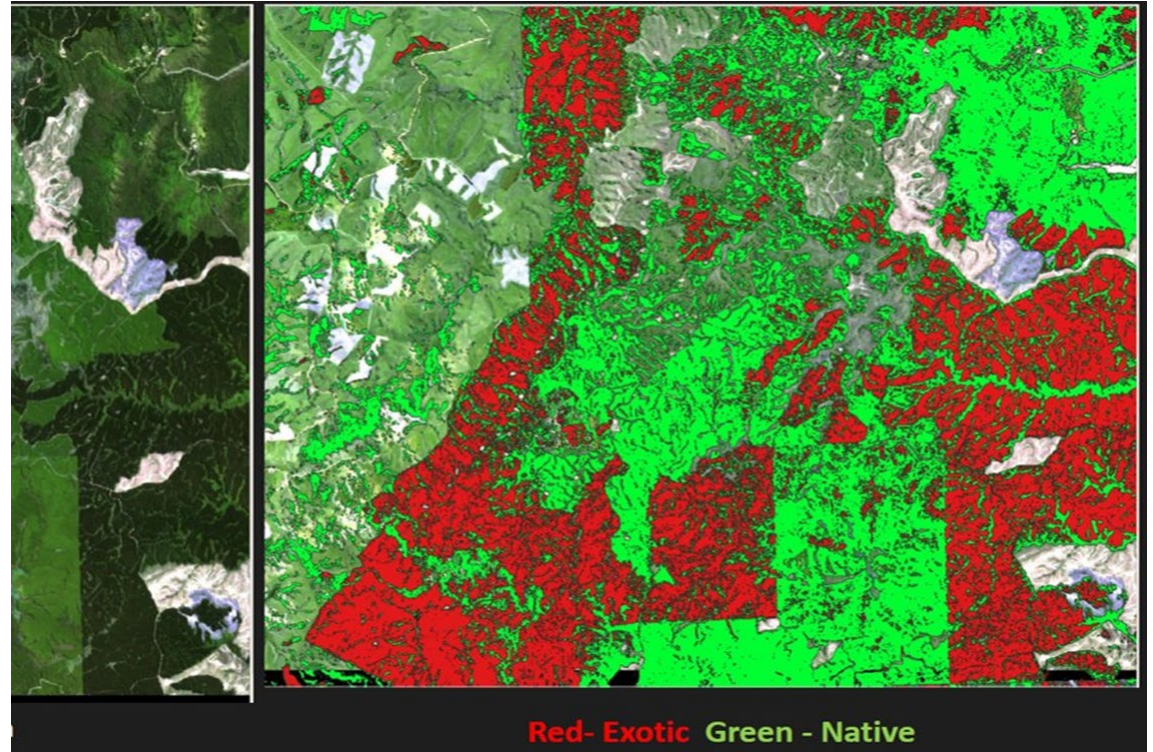
Tree Farmers Trust

Forestry Planning Application

Zoom Level: 14

Enter address or search

Map Layers

⊞ Productivity surfaces

⊞ Wind risk

Land Parcels (LINZ)   ●

Roads (LINZ)   ●

Waterways (NIWA)   ●

Power Lines (LINZ)   ●

Power Lines (OSM)   ●

Rock Pits (LINZ)   ●

Shingle Pits (LINZ)   ●

Quarries (LINZ)   ●

Slope layer

Erosion layer

Basemap: Aerials (LINZ)

Basemap: Streets (OSM)

ORBICA

Map data by FGR, LINZ, NIWA | © Mapbox © OpenStreetMap Improve this map © Maxar

TreeFarmer Application

Get started by navigating to your property by entering the address, then choose the option to examine "Planting Trees" or select "Tree Harvesting". Then use the drawing tools to define a woodlot boundary, then for planting define the current vegetation cover, and select species, tending options, and harvest age. For harvesting you will need to add access roads, and skid locations. Treefarmer will help you determine the woodlot area, establishment costs, and potential yields. At harvest it will estimate roading, harvesting and transport costs based on terrain and location information. This application is intended to improve woodlot owner knowledge of issues and options that arise at planting, and again at harvest. A checklist of issues is provided to print and help tick off completed items.

PROJECT DETAILS

Project name

Description

Load existing project   Save project

Planting trees   Tree Harvesting

| Inputs | Estimated Costs | Generate Report |

Use below feature to add multiple scenarios, select the designated scenario from the dropdown menu before drawing:

Scenario 1 ▼   Add   Delete

1. Map Search

🔍 Enter address or search

Use the map to navigate, or search for a property address.

2. Draw Access Road (start drawing from public road to woodlot)

✎   Use Line Drawing Tool

Zoom Level: 14

Drawing Tool Active
(Hit Enter or double-click to finish)

Enter address or search

Map Layers

- Productivity surfaces
- Wind risk

Land Parcels (LINZ)
Roads (LINZ)
Waterways (NIWA)
Power Lines (LINZ)
Power Lines (OSM)
Rock Pits (LINZ)
Shingle Pits (LINZ)
Quarries (LINZ)
Slope layer
Erosion layer
Basemap: Aerials (LINZ)
Basemap: Streets (OSM)

Woodlot 1

ORBICA

mapbox

Aerial imagery sourced from the LINZ Data Service, CC BY 4.0 | Map data by FGR, LINZ, NIWA | © Mapbox © OpenStreetMap Improve this map © Maxar

---

Planting trees   **Tree Harvesting**

Inputs   Estimated Costs   Gener

Use below feature to add multiple scenarios, select the designated scenario from the before drawing:

Scenario 1 ▾   **Add**   D

1. Map Search

🔍 Culverden, Canterbury, Neuseeland

Use the map to navigate, or search for a property address.

2. Draw Access Road (start drawing from public road to woodlot)

✏   Use Line Drawing Tool

3. Draw Woodlot Boundary

⬚   Use Area Drawing Tool

4. Draw Skid Location(s)

📍   Use Marker Drawing Tool

5. Select Roading Type

Trucking (up to 7° incline)

Existing
Trucking (up to 7° incline)
Forwarder (up to 15° incline)
Forwarder (on existing track, up to 15° incline)

1 drawn Woodlot(s) Boundary - 25.01 ha

Calculate Costs   Reset

Access Road Costs

Selected Roading Type - Trucking

Roading costs calculated for the drawn road are based on likely erosion susceptibility, rainfall, terrain slope, and any waterway crossings.

Total $109,893

Per km $83,738

Transport Costs

Nearest Processing Facilities by Road Network

Port - Lyttleton, Christchurch - 83 km

Mill - Darfield - 26 km

Port $25/t

Port $8,103/ha

Mill $17/t

Mill $2,996/ha

Skid Costs

Suggested Number of Skids - 2

Average Slope for Skid - 17°

Total $7,500

Skids drawn: 1

Drawn Map Measurements

1 drawn Woodlot(s) Boundary - 25.01 ha

Drawn Access Road Length - 1.31 km

Other Information

Alternate Ports - Timaru (154 km), Nelson (462 km)

Alternate Mills - Rolleston (51 km), Mill Road, Oxford (73 km)

Total Estimated Costs

Cost Description	Cost per tonne	Cost per hectare
Log & Load Costs	$34	$17,034
Access Road Costs	$9	$4,394
Transport Costs	$22	$11,098
Skid Costs	$1	$300
Management & Other Note: Other includes Shifting, Weighbridge, Compliance & Levy Costs	$7	$3,500
Total	$73	$36,326

Map Layers
- ⊞ Productivity surfaces
- ⊞ Wind risk
- Land Parcels (LINZ) ●
- Roads (LINZ) ●
- Waterways (NIWA) ●
- Power Lines (LINZ) ●
- Power Lines (OSM) ●
- Rock Pits (LINZ) ●
- Shingle Pits (LINZ) ●
- Quarries (LINZ) ●
- Slope layer
- Erosion layer
- Basemap: Aerials (LINZ)
- Basemap: Streets (OSM)

Zoom Level: 15

Woodlot

DETAILS

Planting trees   Tree Harvesting

Inputs   Estimated Costs   Generate Report

l Inputs	Value
e age of the woodlot in years?	25
e estimated total merchantable volume of logs per d, click here for an estimation guide.	500
entage of the harvest will be completed in summer?	0
entage of the harvest will be exported ?	65
entage of the harvest will be local ?	35
ource of suitable road metal within 20-30 km? also view the Helpful Checks - at top right of page.	Yes

Recalculate

#1

Cost Descriptions

d Costs for Woodlot

arvest System Based on Drawn Woodlot's Slope
nally, only one or two of these will be deployed in a small woodlot.

e	% of Woodlot	Suggested Harvest System	Cost per tonne
	32%	Flat Ground-Based	$32

We're seeking foundation customers

WOOD INNOVATIVE DISRUPTION IN FOREST INDUSTRIES   **Leonhard Ventures**   SWISS KRONO

Your contact

Peter Rose
Managing Director
Peter.rose@orbica.com
+49 176 8084 96 38

Learn more at:

www.orbica.com

ORBICA