



Shaping the Future of Forest Intelligence



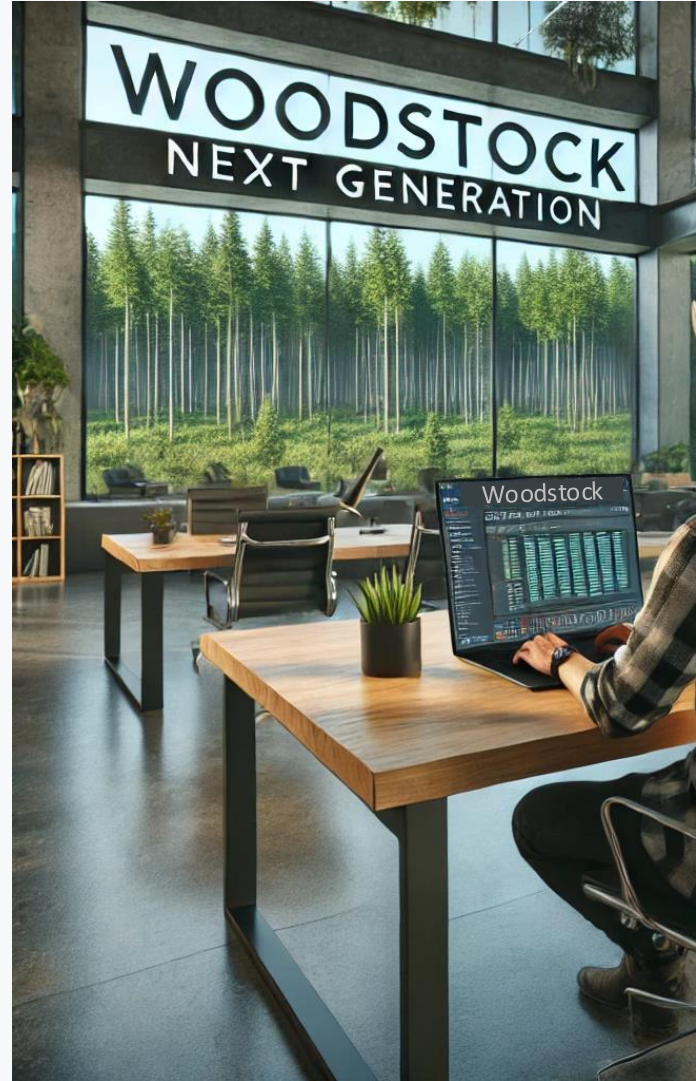
The next leap in forest planning optimization

From computational power to cognitive tools

Marie Eve Fillion, Director of Products - Optimization

What we'll explore today

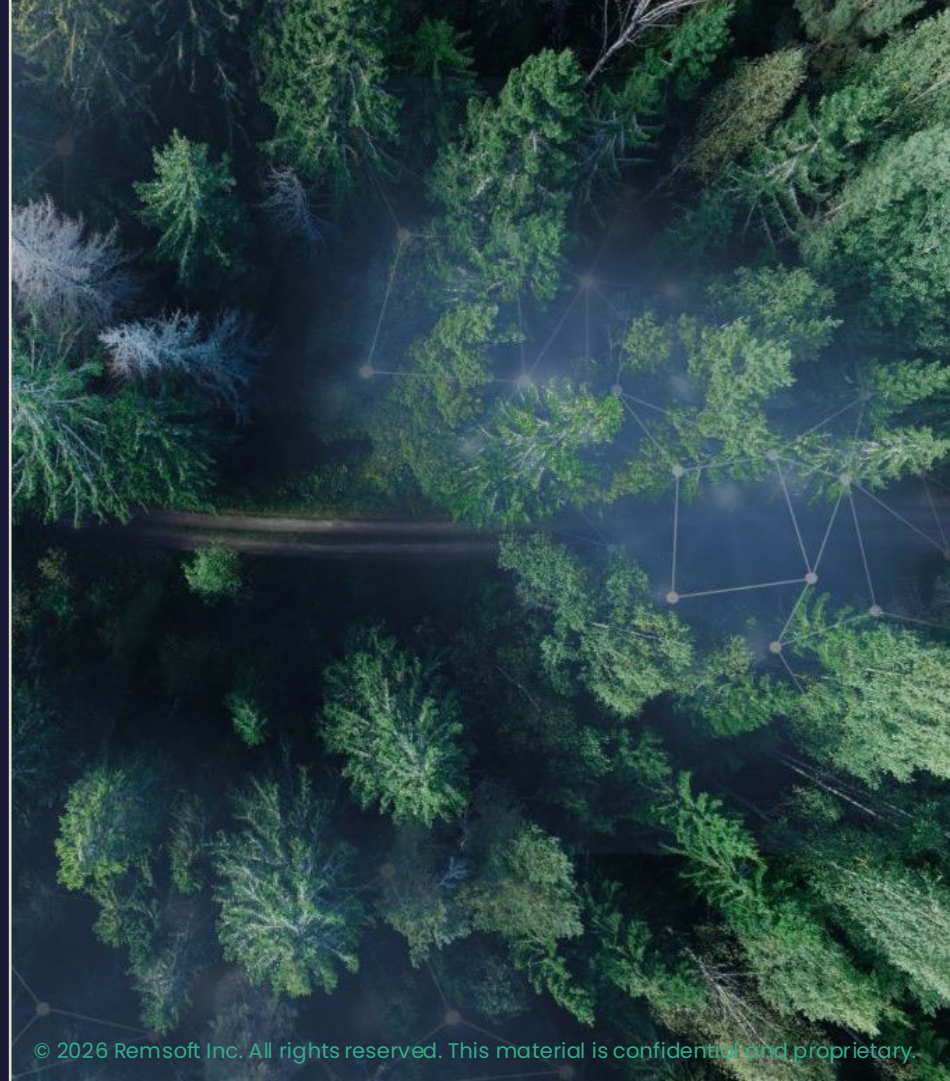
- Where forest planning optimization is heading
- The Woodstock Platform foundations
- A look at Next Generation
- How we get there together
- Q&As




The next leap in forest planning optimization

remsoft.

GLOBAL FORESTY CONFERENCE '26



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A stylized graphic of a tree on the left side of the slide. The tree is composed of thin, light blue lines representing branches and several circular nodes of varying sizes in shades of blue and green. The background behind the tree is a light, textured grey.

Optimization has **transformed** forest planning

Planning models have grown dramatically in complexity

```
1 *OBJECTIVE
2   _MAX HARVEST 1.._LENGTH
3 ; _MAXMIN TOTVOL 1.._LENGTH
4
5 *CONSTRAINTS
6 harvest >= 860812 1.._LENGTH
7 ; _step(harvest,3000,3000) 1..4
8   _STEP(harvest,10000,10000) 5.._LENGTH
9 eastharv >= 220000 2.._LENGTH
10 eastharv >= 300230 1..1
11 ; eastharv >= 176500 2.._Length
12 aplant <= 2342 1..1
13 aplant <= 2500 2.._LENGTH
14 apct <= 15268 1..1
15 apct <= 17500 2.._LENGTH
16 spacedct - 0.7 * ctspcarea <= 0 1.._LENGTH
17 plantedct - 0.7 * ctplantarea <= 0 1.._LENGTH
18 aplant - 1 * adjccarea <= 0 1.._LENGTH
19 apctpine - 0.5 * pinespce_area <= 0 1.._LENGTH
20
21 *FORMAT MPS
22
```

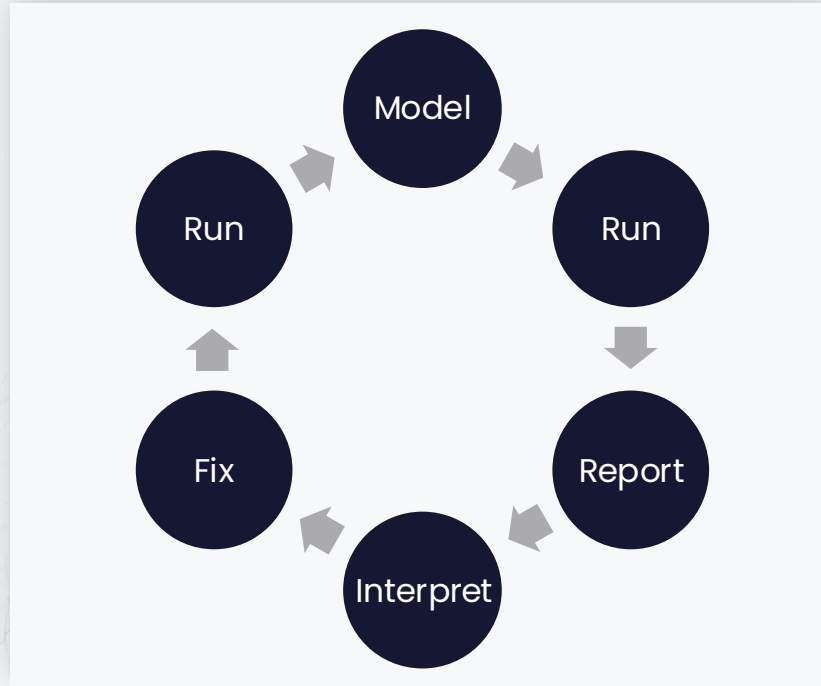
Optimize section - May, 2000
~20 lines

```
5,193
5,194 ;; User-defined constraints
5,195
5,196 *EXCLUDE
5,197 aMaintain 1.._LENGTH
5,198
5,199 *FORMAT CPLEX
5,200
5,201
```

Optimize section - Today
~5200 lines

The hidden work of planners

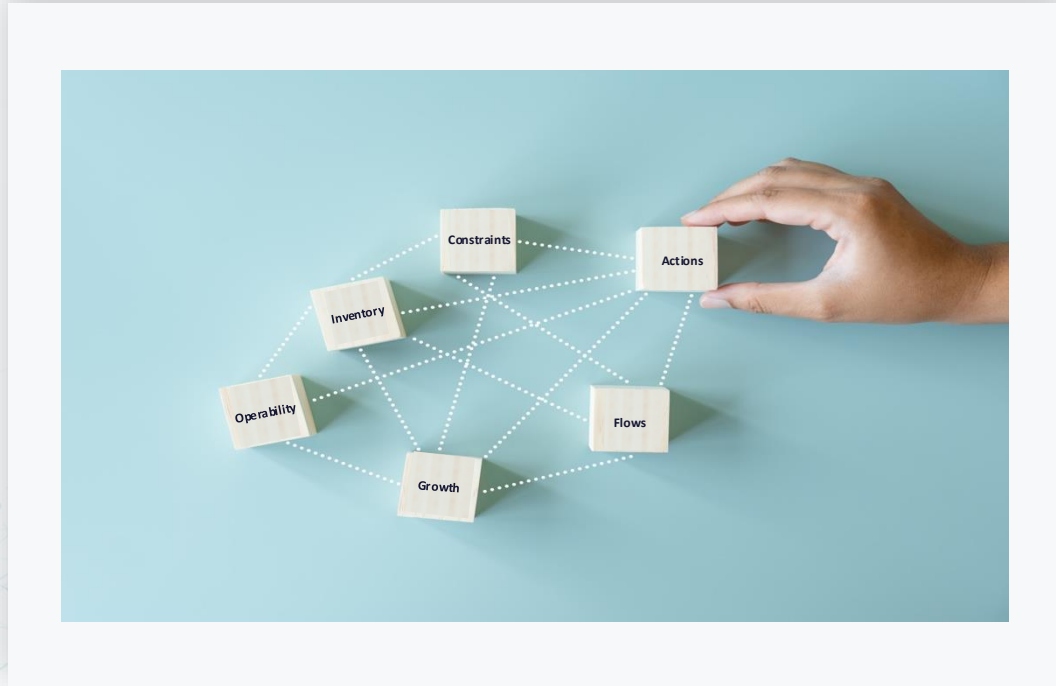
Understanding how planning systems behave



Much of the work happens outside the solver

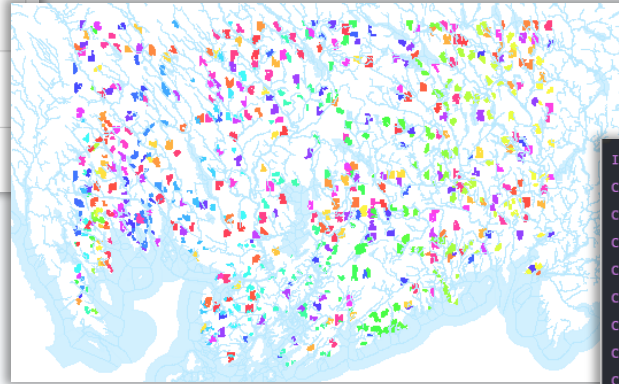
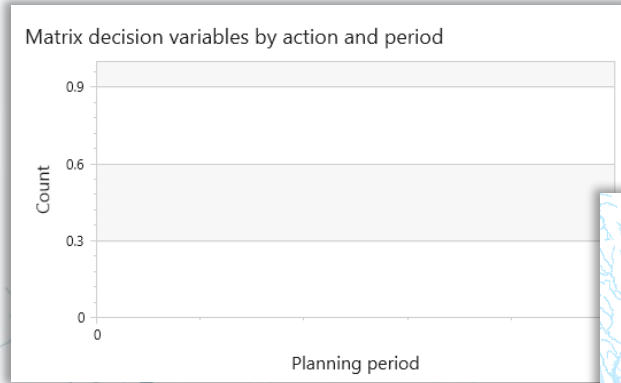
Why this happens

Optimization models are complex systems



Many interacting elements shape each decision

Forest planning software has become incredibly powerful



```
Interpreter Version : 2025.5.0 (64 Bit x64), Build Date : Jun 25 2025 10:42:28a
C:\Travail\Library\AtlanticRoads>If not exist "C:\Travail\Library\AtlanticRoads\RoadsToTopo
C:\Travail\Library\AtlanticRoads>If exist "C:\Travail\Library\AtlanticRoads\RoadsToTopo
C:\Travail\Library\AtlanticRoads>Dir *.xx? |>StartTime.txt
C:\Travail\Library\AtlanticRoads>If exist BeforeLp.bat Call BeforeLp.bat
C:\Travail\Library\AtlanticRoads>if exist Cplex.log Del Cplex.log
C:\Travail\Library\AtlanticRoads>if exist ODH.log Del ODH.log
C:\Travail\Library\AtlanticRoads>if exist "C:\Travail\Library\AtlanticRoads\RoadsToTopo
C:\Travail\Library\AtlanticRoads>"C:\REMSOFT\VER2024_08\SOLVERS\CPLEX\REMSOFT_CPLEX.EXE"
Selected objective sense: MINIMIZE
Selected objective name: OBJMIN
Selected RHS name: RHS
Selected bound name: BND

Version identifier: 22.1.1.0 | 2022-11-27 | 9160aff4d
CPXPARAM_TimeLimit 3600
CPXPARAM_MIP_Tolerances_MIPGap 0.001
Total execution time: 5.11min
```

The next leap in planning optimization is cognitive

FIRST GENERATION

Optimization-centered

- Run models
- Analyze reports



NEXT GENERATION

Understanding-centered

- Understand decisions
- Explore scenarios



The Next Generation



Structural
visibility



Decision
transparency



Exploration

The Next Generation



Structural
visibility



Structural
visibility



Decision
transparency



Decision
transparency



Exploration



Exploration

The Next Generation



Structural
visibility

Understanding how planning systems
behave



Decision
transparency



Exploration

The Next Generation



Structural
visibility

Understanding how planning systems
behave



Decision
transparency

Trace how constraints, rules, and objectives
influence outcomes



Exploration

The Next Generation



Structural
visibility

Understanding how planning systems
behave



Decision
transparency

Trace how constraints, rules, and objectives
influence outcomes

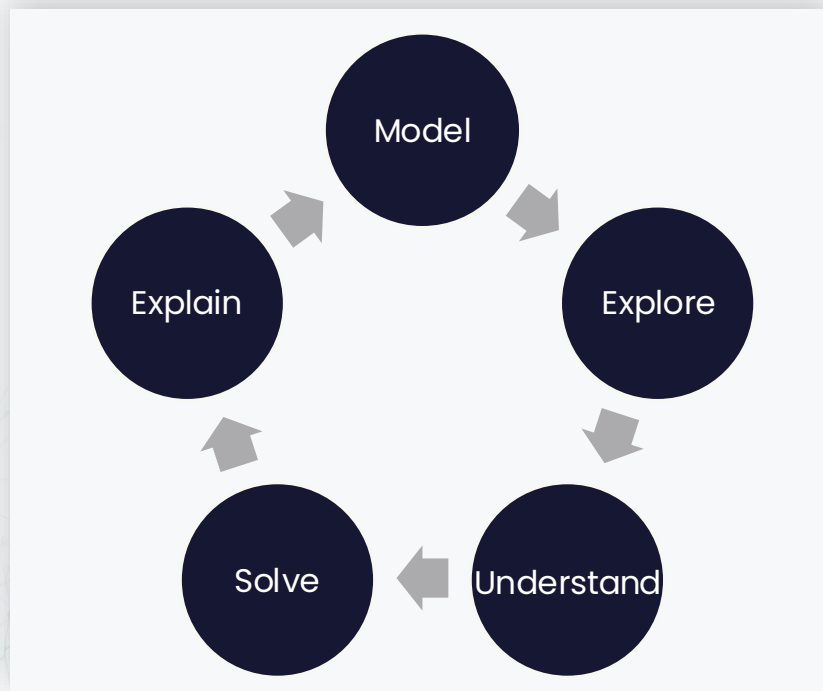


Exploration

Test ideas and learn how the system
responds

The future workflow

From running models to understanding systems



See structure • Understand decisions • Explore possibilities

The next 20 years of planning optimization

**The real challenge ahead is not solving
bigger problems.**

It's helping planners **understand the
systems they are managing.**

Building the next generation of optimization

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Introducing the Woodstock Platform

A foundation for optimization innovation



Optimization
core

- Optimization engines
- Modeling capabilities



Data
structures

- Resource models
- Supply chain structures



Platform API

- Desktop tools
- Cloud optimization

The Woodstock Platform

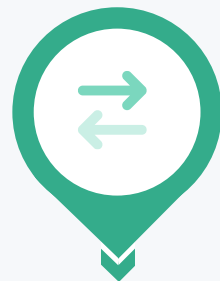
Optimization applications

Tailored solutions for industry needs



Optimization as a service

Cloud optimization through APIs



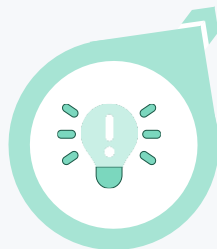
Point optimization

Embedded optimization in workflows



Future opportunities

Future innovations in optimization



Woodstock Next Generation

Reimagined, lean, modern desktop modeling



Woodstock Next Generation

Clarity • Simplicity • Continuity



Woodstock Next Generation: clarity

Woodstock Optimization Studio (Next Generation)

File Start Edit View Results

EXPLORING (Base)

Active scenario

Home

Home Optimization

Exploring Model project name

4 Scenario count Description

newqueens.shp Spatial source Not yet available Data source

Task List

Status	Task
<input checked="" type="checkbox"/>	Meetings about meetings
<input type="checkbox"/>	Brainstorm brainstorming
<input type="checkbox"/>	Track spreadsheets
<input type="checkbox"/>	Complain about Mondays
<input checked="" type="checkbox"/>	More Meetings about meetings

Page 1 of 2

Process Notifications Tracker

Item	Time
Optimized scenario EXPLORING (Base)	14 Mar 2026, 11:51
Optimized scenario EXPLORING (Base)	14 Mar 2026, 11:50
Optimized scenario EXPLORING (Base)	14 Mar 2026, 11:48
Saved edits to Coefficients section	7 Mar 2026, 09:09
Optimized scenario EXPLORING (Base)	5 Mar 2026, 10:09

Page 1 of 3

EXPLORING (Base) Active scenario name

14 Mar 2026, 11:51 Last run

Optimal Solution status

Maximization Optimization sense

1.01 B Objective function

40 Periods in schedule

2s 3s Processing time

Error summary

- 0 Errors
- 6 Warnings
- 0 Info messages

Indicators

oPulpVolume

Values

387360
290520
193680
96840
0

1 2 3 4 5 6 7 8 9 10

oTotalrevenue

Values

29791320
22343490
14895660
7447830
0

1 2 3 4 5 6 7 8 9 10

oStock_saw

Values

3688680
2766510
1844340
922170
0

0 1 2 3 4 5 6 7 8 9 10

Version history Ask a question Coding assistant

The model • The active scenario • The system state

Woodstock Next Generation: simplicity

Woodstock Optimization Studio (Next Generation)

File Start Edit View Results

Reduced_Hardwood

Active scenario

Home

Home

MontrealConference
Model project name

2 Scenario count Description

York_Dissolved.shp Spatial source Not yet available Data source

Task List

Status	Task
<input checked="" type="checkbox"/>	Meetings about meetings
<input type="checkbox"/>	Brainstorm brainstorming
<input type="checkbox"/>	Track spreadsheets
<input type="checkbox"/>	Complain about Mondays
<input checked="" type="checkbox"/>	More Meetings about meetings

Page 1 of 2

Process Notifications Tracker

Item	Time
Saved edits to Optimize section	21 Mar 2026, 10:32
Optimized scenario Reduced_Hardwood	20 Mar 2026, 19:41
Assigned schedule to map	20 Mar 2026, 13:55

Error list Show values

Reduced_Hardwood
Active scenario name

20 Mar 2026, 19:41 Last run

Feasible (gap = 8.78%) Solution status

Maximization Optimization sense

1.56 M Objective function

5 Periods in schedule

0s 2s Processing time

Indicators

oMargin

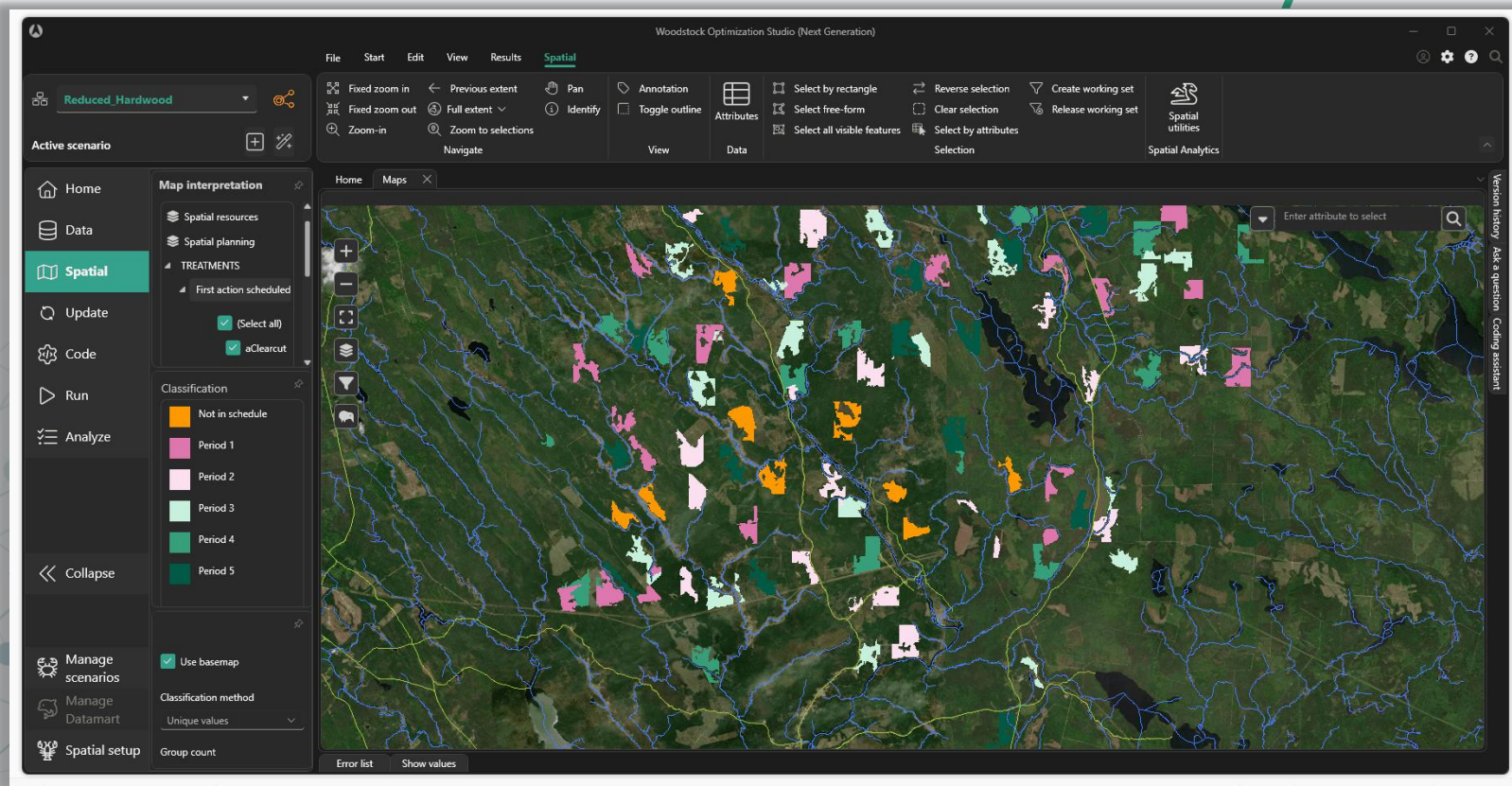
oHarvestVolume

oClearcutArea

Version history Coding assistant

Build models with guidance

Woodstock Next Generation: continuity



Clear feedback at every step

What comes next


Where this **foundation** is taking us



Woodstock Next Generation: structural visibility



Constraint focus

Constraint: Minimum harvest level 

Objective: Maximize Total revenue

Indicators referenced by this constraint **Resources implicated by this constraint**

- Total clearfell volume
 - ↳ Harvest volume (m3/ha)
 - ↳ Commercial thin (m3/ha)
- Total selective cut volume
 - ↳ Hardwood removal (m3/ha)

Affecting decisions

- Clearfell
- Selective partial harvest

Rule definition **Periods**

Status: Must satisfy

Left side:

- Clear fell volume + Selective cut volume

Operator: \geq

Right side: 20000

Constraint count

P1 - P50

50

See and navigate the model

Woodstock Next Generation: decision transparency



What is driving the result

See which constraints are actively limiting the solution.

Focus on the real bottlenecks.



What is about to matter

Spot constraints close to becoming limiting.

Anticipate sensitivity / change.



What is not influencing the solution

Identify constraints that are not active.

Ignore what's irrelevant.



Where to act

Understand which changes will have impact.

Make targeted adjustments.

Woodstock Next Generation: exploration

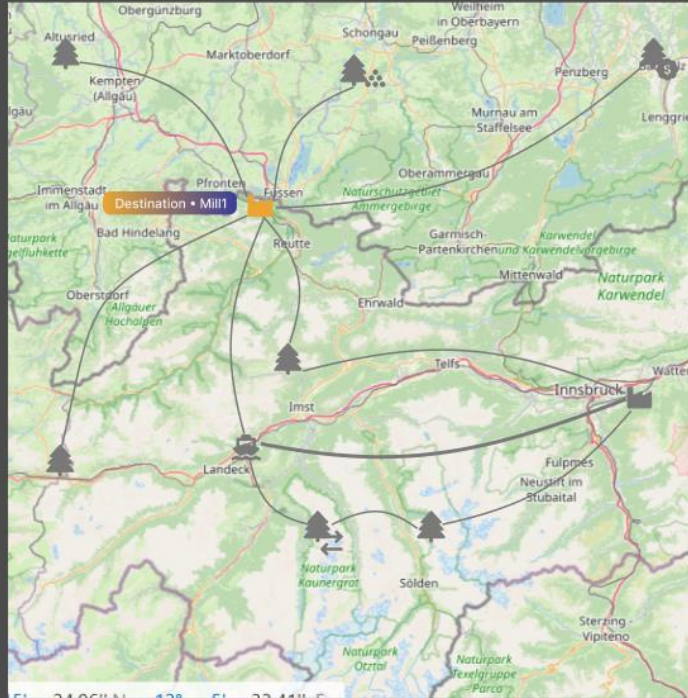
Forest Supply Chain - Overview

Structure

Supply origins

- Forest
- Roadside pile
- External purchase
- Intermediate yard
- Primary destination
- Primary movement
- Secondary destinations
- Process movement

Show invalid flows



Mill 1 • Regional pulpmill

Type: **Primary destination**

Member of: State pulpmill producers

Accepts products:

Product

Conifer pulp

Hardwood pulp

Produces byproducts:

Conifer chips

Demand configuration:

Defined

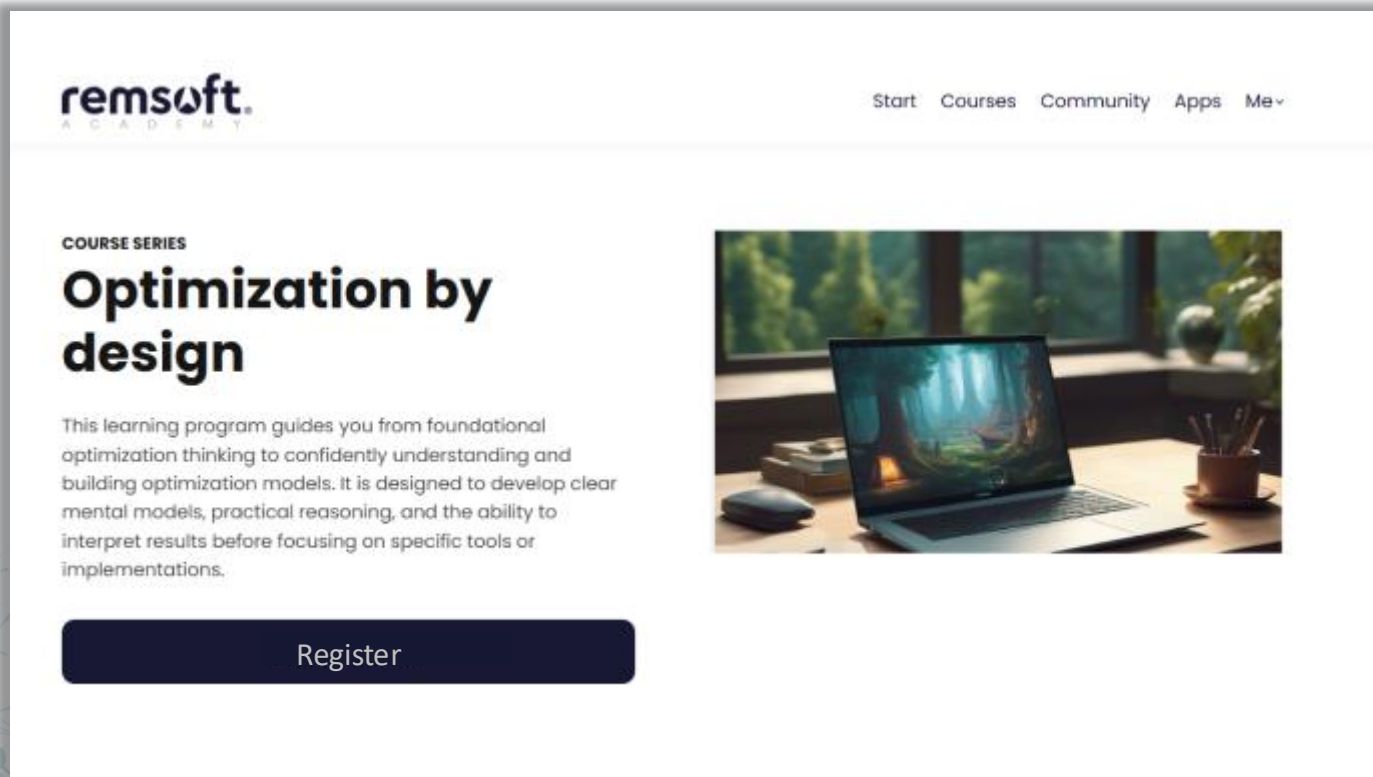
On-site inventory:

Supported

Has starting inventory →

Explore • Understand • Decide

A fourth element



The screenshot shows the Remsoft Academy website. At the top left is the logo 'remsoft. ACADEMY'. At the top right are navigation links: 'Start', 'Courses', 'Community', 'Apps', and 'Me'. Below the navigation is a course card for 'Optimization by design'. The card includes the text 'COURSE SERIES', the title 'Optimization by design', a paragraph describing the course, and a dark blue 'Register' button. To the right of the text is an image of a laptop on a desk with a nature scene on the screen.

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ACADEMY


Start Courses Community Apps Me

COURSE SERIES

Optimization by design

This learning program guides you from foundational optimization thinking to confidently understanding and building optimization models. It is designed to develop clear mental models, practical reasoning, and the ability to interpret results before focusing on specific tools or implementations.

Register

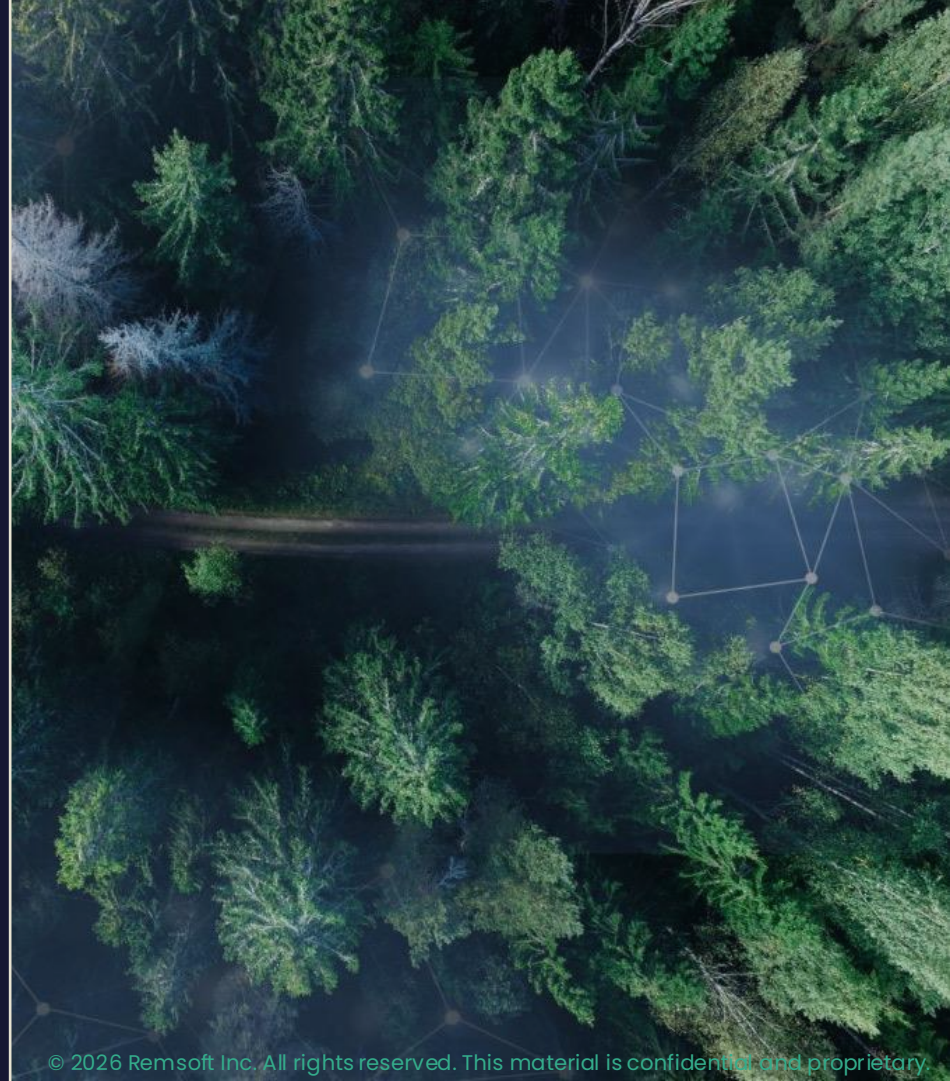


Supporting the next generation of planners

Moving forward together

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Your models are safe

Increase the **value** of the work you have already done



Existing models

Planning expertise
Embedded knowledge
Tested workflows



Built into the foundation

Model compatibility
Shared optimization core



Woodstock Next Generation

New tools
New interfaces
Better exploration

A progressive transition

Today

Woodstock
Optimization Studio
continues supporting
planning in production



Next Gen exploration

Early adopters begin
testing the new
platform



Hybrid workflows

Planning teams
combine existing
models with new tools



Next Gen becomes primary platform

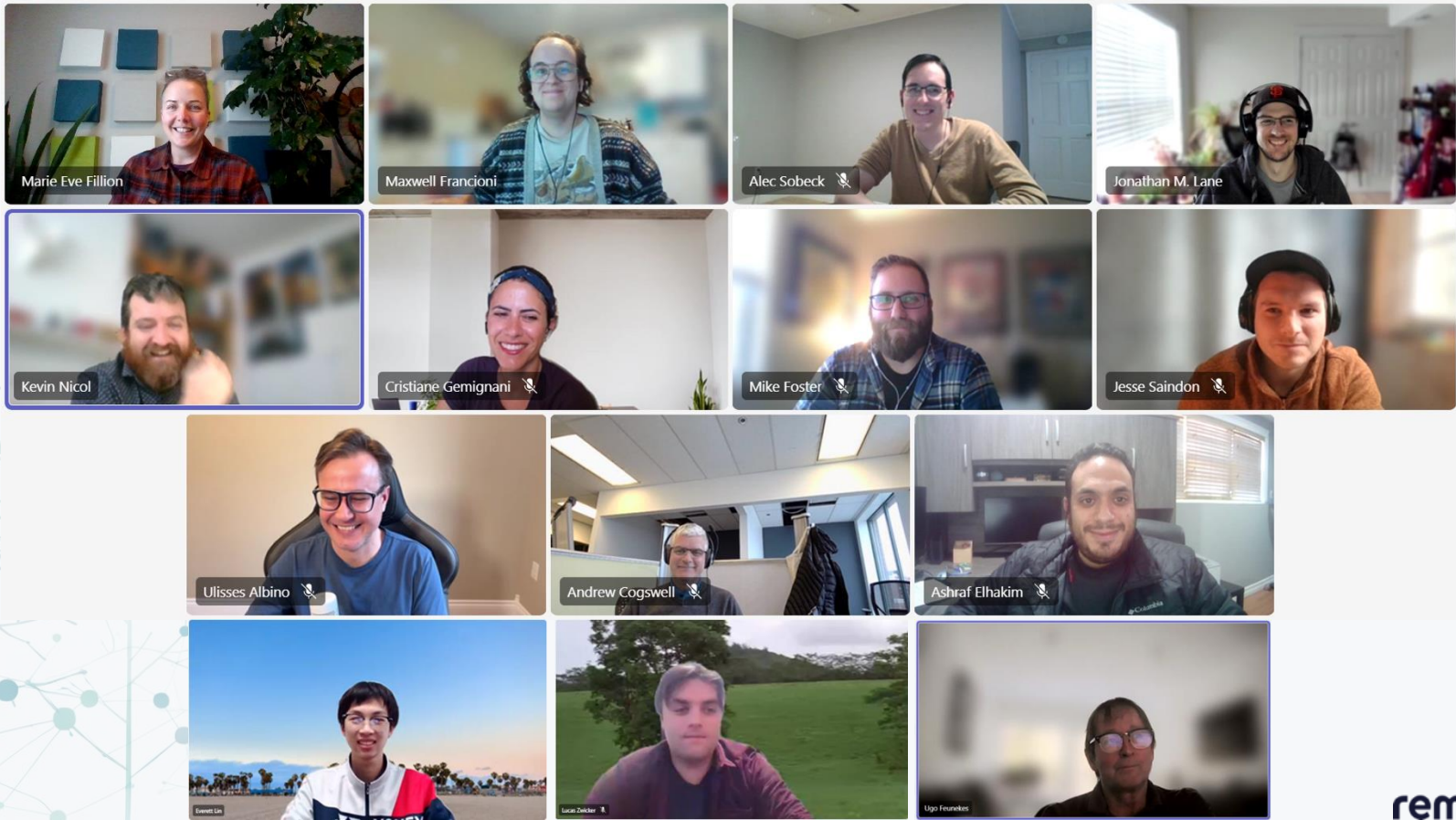


How you can engage today

How to start
shaping what
comes **next**



The Team behind it





Better tools
+
Better understanding
+
Stronger community
=
BETTER PLANNING DECISIONS

Thank you!

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