## GreenLane – fast tracking value and resilience in industrial wood supply

#### Dag Fjeld & team GreenLane





Project GreenLane is supported under the umbrella of ERA-NET Cofund ForestValue. ForestValue has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 773324.

# Background

Forest industries depend on a stable year-round supply of even log quality. GreenLane focuses on value-tracking to develop managerial responses for improved mill customer value in the face of challenging climate scenarios.



## GreenLane/MultiStrat group

## Oceanic

- NIBIO (L.R.Gobakken, D.Fjeld)
- AllSkog Forest Owners Assoc.

## Sub-Artic

- Skogforsk (K.Westlund, L.Wilhelmsson,
  P.Jönsson, L.Eliasson)
- Norra Forest Owners Assoc.

## Continental

- BOKU (P.Rauch, C.Kanzian, T.Kirisits)
- Austrian Federal forests (ÖBf)





# GreenLane

**Goal** - Develop a virtual supply chain laboratory environment enabling value-tracking and interactive testing of harvesting and transport responses to challenging climate scenarios.

**Focus** - on implementing weather-driven models for wood quality and availability.



Output –Best-practice guidelines for managerial response that improve the resilience of wood supply systems

# Putting it together

WP	2019			2020				2021		
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
WP 1 - Basic architecture										
WP 2 - Value tracking										
WP 3 - Managerial response										
WP 4 - Regional test cases										
WP 5 – Exploitation, dissemination, communication										
WP 6 – Project management										

Common frameworks Company tests

![](_page_4_Picture_3.jpeg)

![](_page_4_Picture_4.jpeg)

## **GreenLane value-tracking (IBM)**

![](_page_5_Figure_1.jpeg)

Updated **value-tracking module** with functionalities for managerial response (AUT-SE-NO; Kanzian et al. 2020).

**Key is lead-time (LT) tracking** of logs from harvesting to mill delivery, wood quality deterioration according to storage conditions (weather) and duration, at each position in the supply chain.

## WP2 - Value-tracking (IBM)

### **IB – Insect:blue stain development**

The **simulation architecture provides the time line** for valuetracking of entities.

![](_page_6_Figure_3.jpeg)

Interactive effects between temperature, humidity and storage conditions on wood deterioration.

#### **M** - Weekly drying rates

![](_page_6_Figure_6.jpeg)

Tofte et al. (2020)

# WP3 - Manageria response

Operational options limited by seasonal/weekly trafficability

![](_page_7_Picture_2.jpeg)

Hatlinghus

![](_page_7_Figure_3.jpeg)

![](_page_7_Figure_4.jpeg)

Fjeld et al. (2020)

![](_page_8_Figure_0.jpeg)

# So.... still aiming for company tests, summer 2021

#### **External dissemination so far**

Fjeld, Bjerketvedt, Braathen (2020) Forest road availability – inferences from logging truck delivery messages. Proceedings NB Nord Forest operations for the future. Copenhagen Sept 2020.

Kanzian, Holzfeind, Gobakken, Westund, Fjeld (2020). *GreenLane IBM – integrating insect, blue stain and moisture prediction models for value tracking in supply chain simulation*. Proceedings NB Nord Forest operations for the future. Copenhagen Sept 2020.

Tofte, Gobakken, Fjeld (2020) Seasonal variation in transport lead times and pulpwood freshness in a coastal geography. Proceedings NB Nord Forest operations for the future. Copenhagen Sept 2020.

![](_page_9_Picture_6.jpeg)

![](_page_9_Picture_7.jpeg)

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