Remote scaling using images

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Swedish forestry

Area: Montana + 20%, 23 million ha

Owners: private 50%, companies 25%, federal 15%

Scots pine, Norwegian Spruce, Birch…that's it

Sawtimber – 4 & 2 classes (50 % yield, 40 % chips)

Pulpwood – class 1 & 2 during 2019

Fuelwood (log & residues)

Managed forests – low amount reject

Logging – cut to length according to prize list

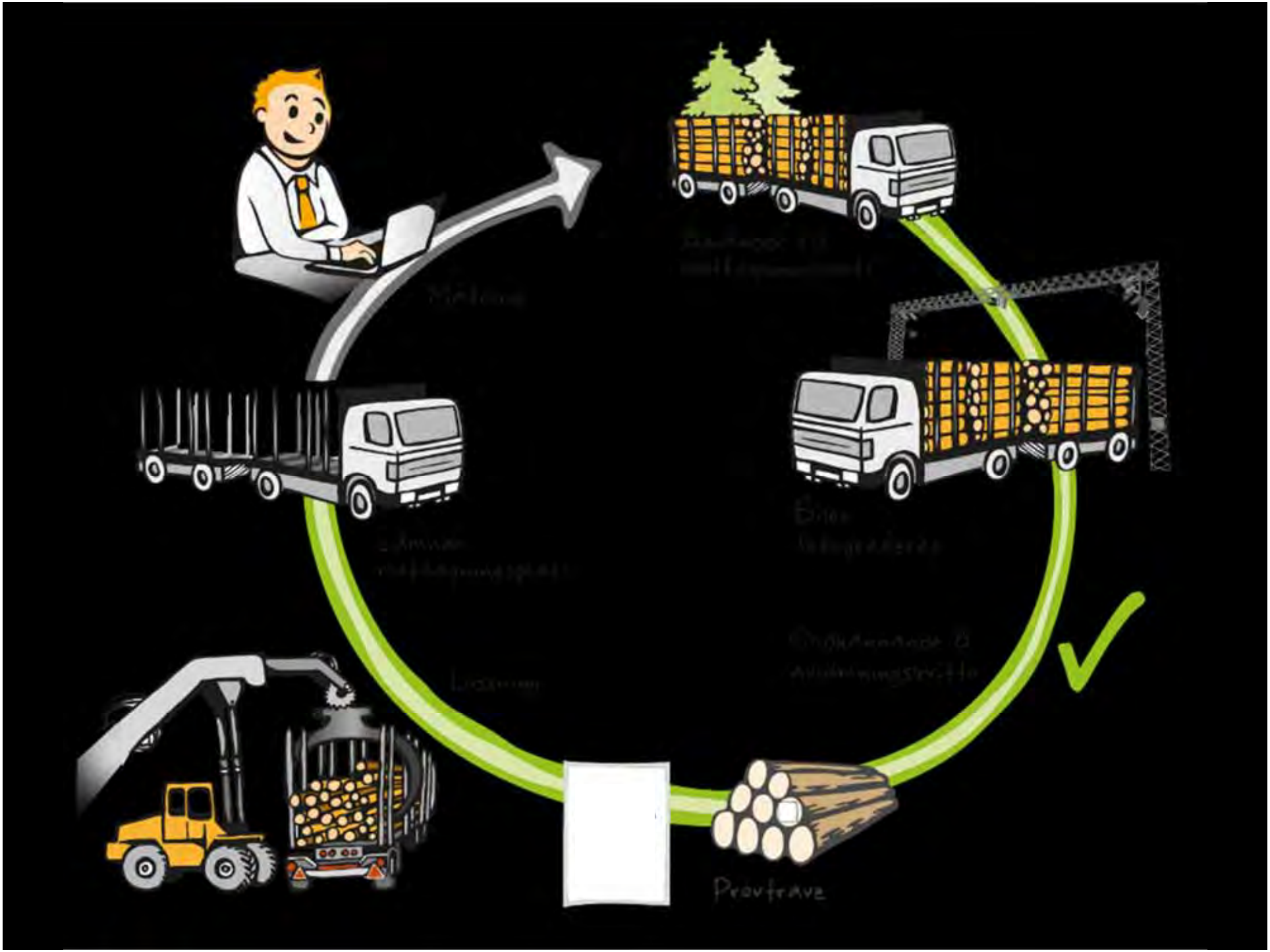
(mm & cm)

General about Swedish timber measurement

100 million m^3

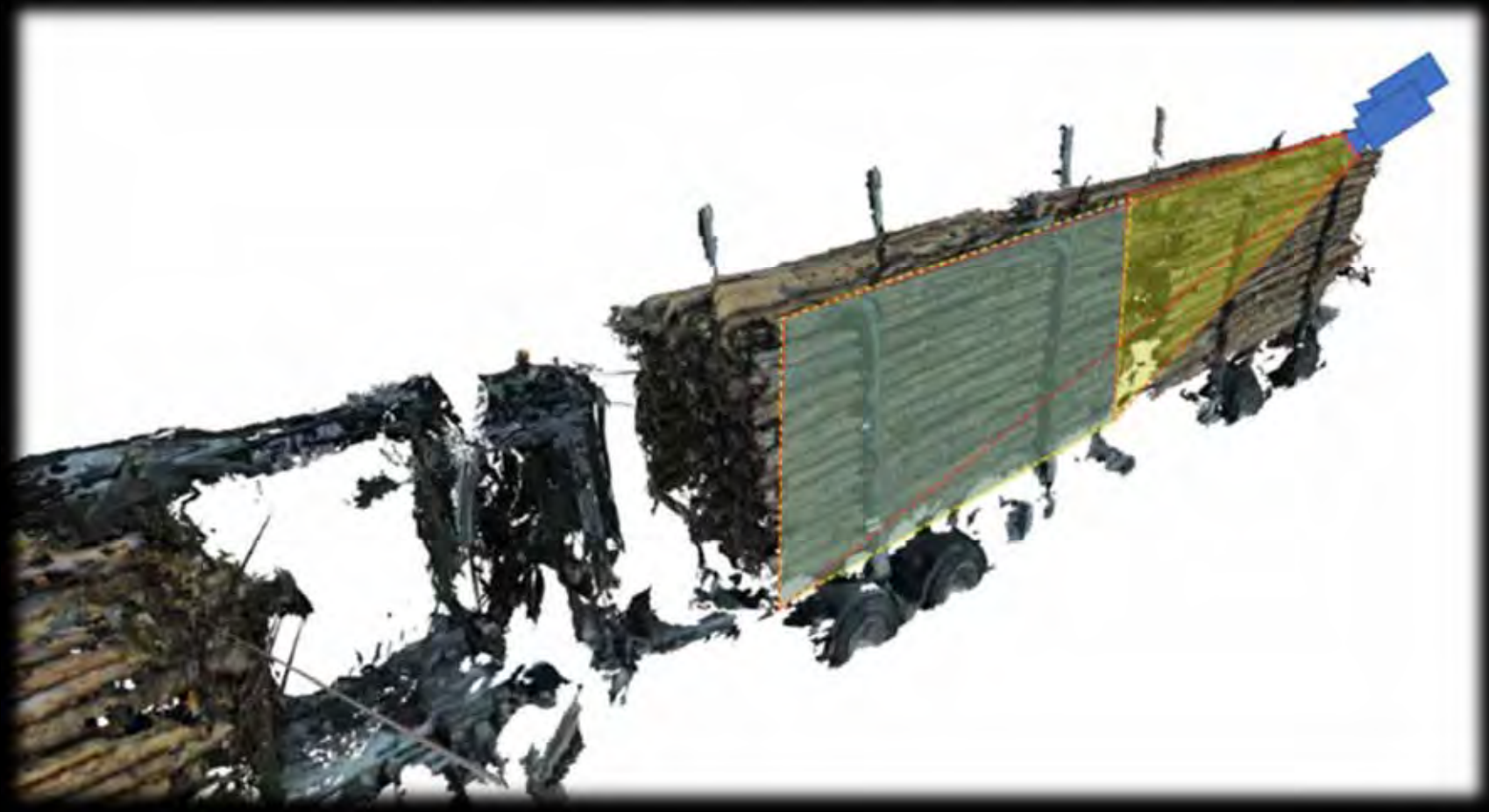
Challenges for measurement

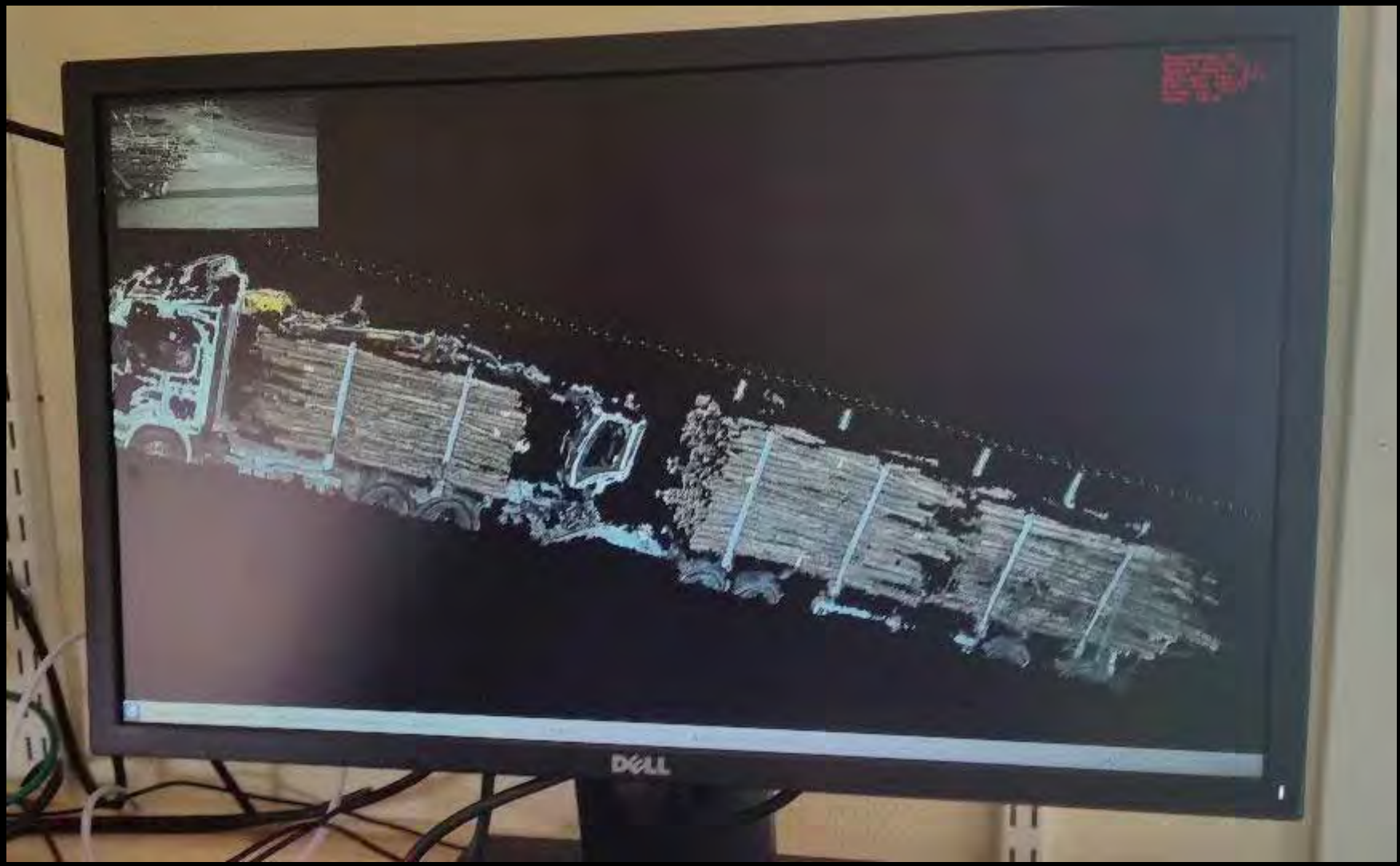
Remote scaling – how & why?


Provtrave

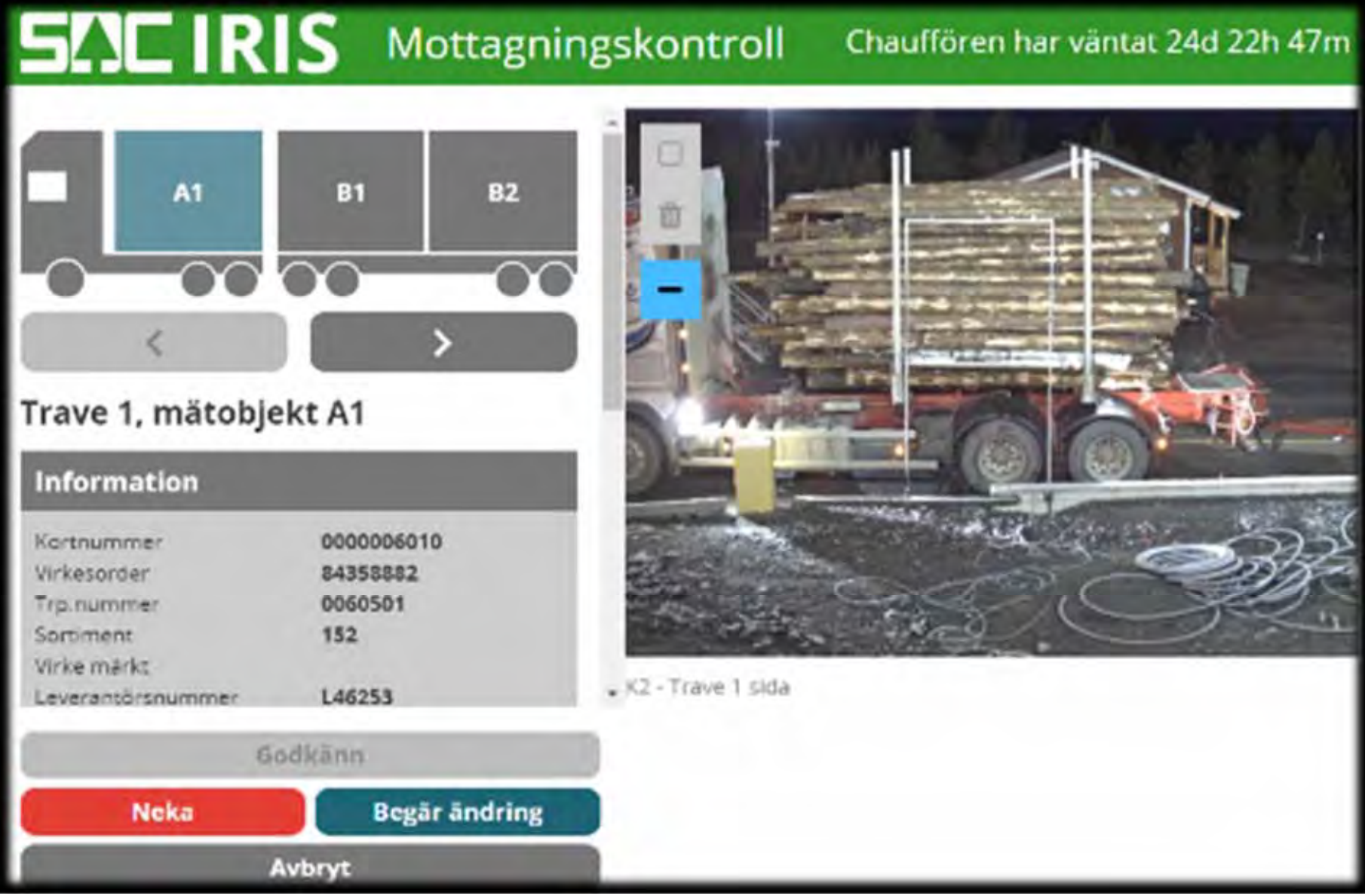
Step 1

Stereo cameras




DELL

Step 2

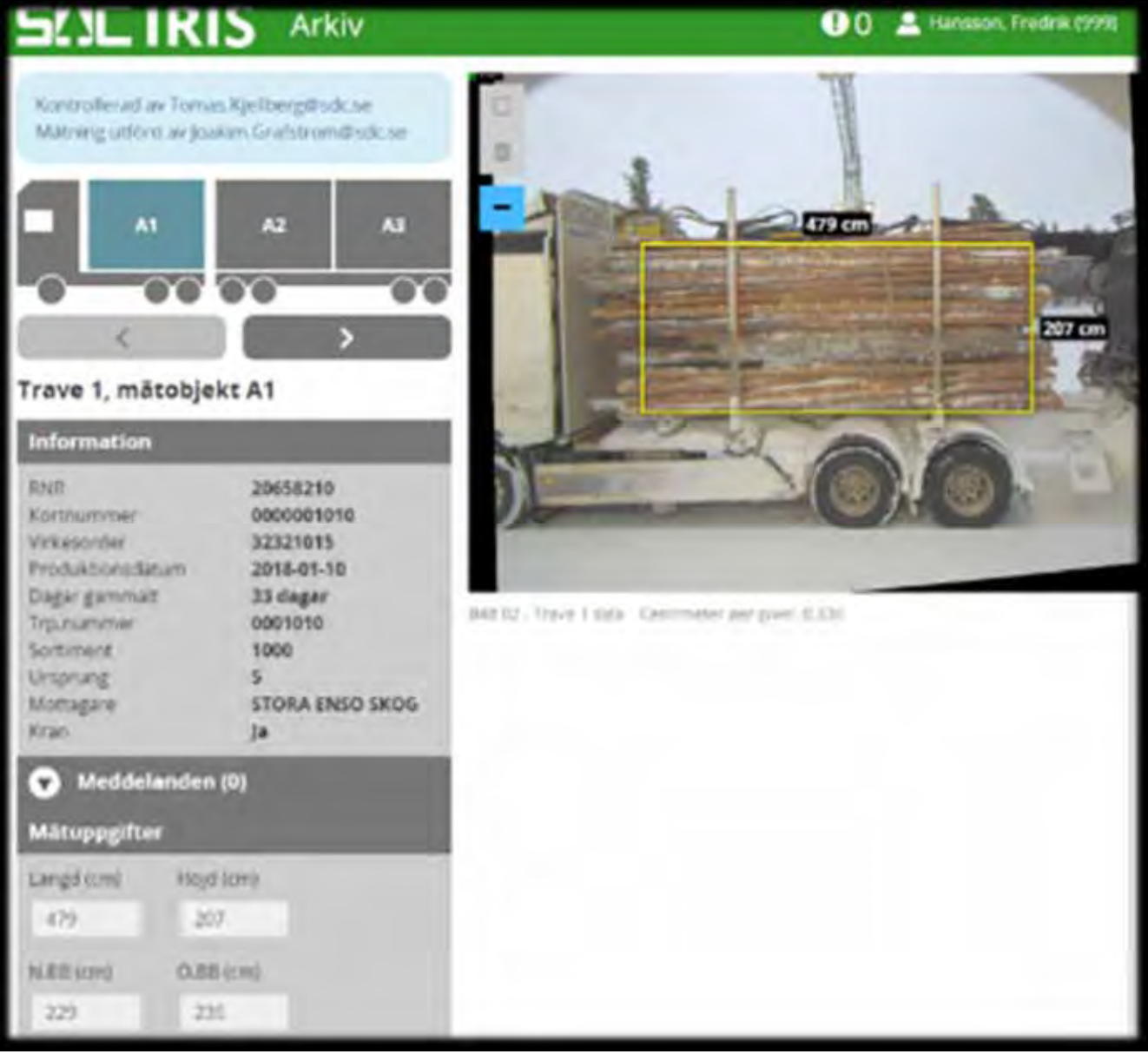

SAC IRIS
Mottagningskontroll
Chauffören har väntat 24d 22h 47m
A1
B1
B2
Trave 1, mätobjekt A1
Information
Kortnummer 0000006010
Virkesorder 84358882
Trp.nummer 0060501
Sortiment 152
Virke märkt
Leverantörsnummer L46253
K2 - Trave 1 sida
Godkänn
Neka
Begär ändring
Avbryt

Identification is crucial

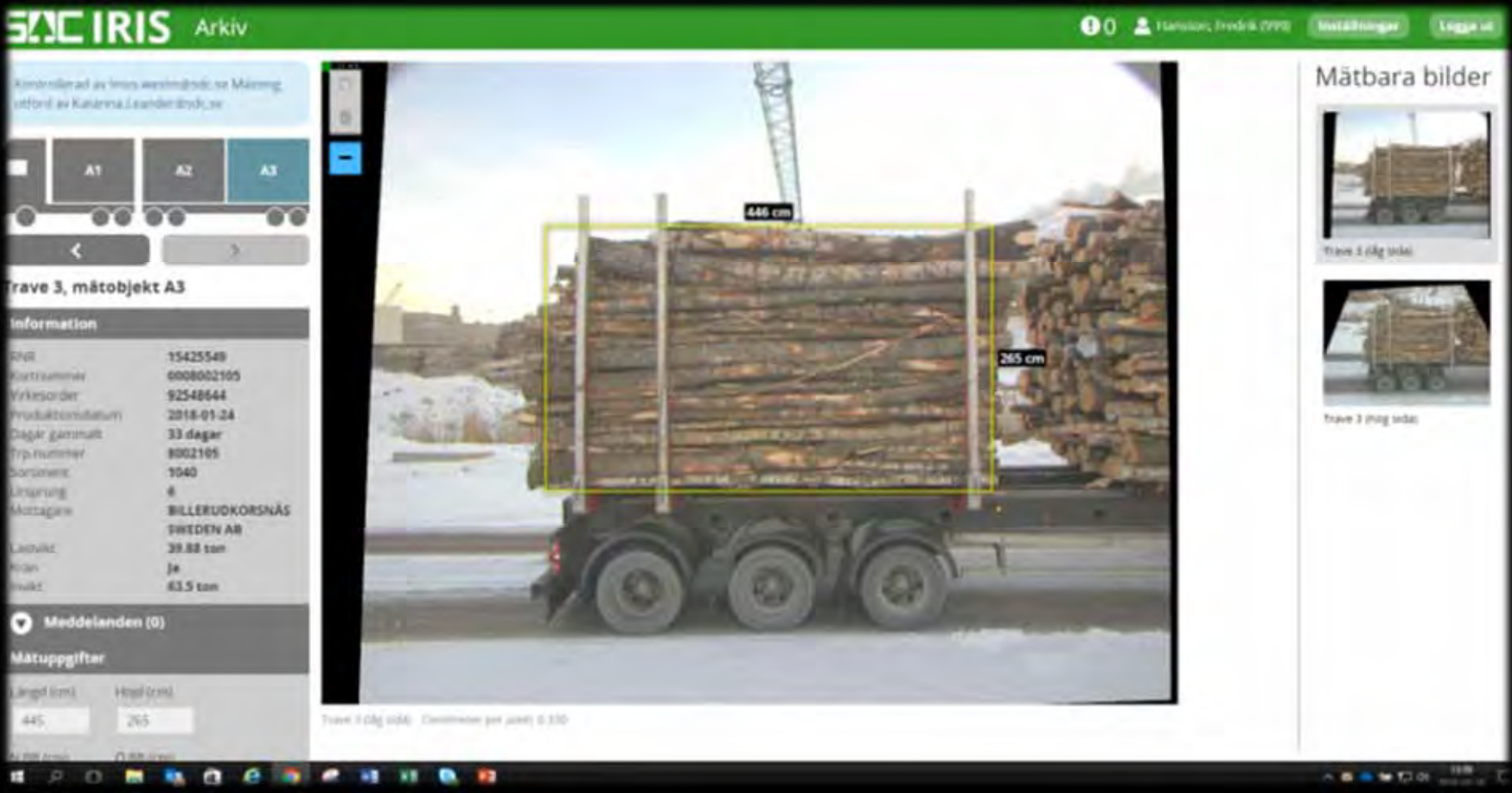
….as well as bunk width and divided piles

Step 3

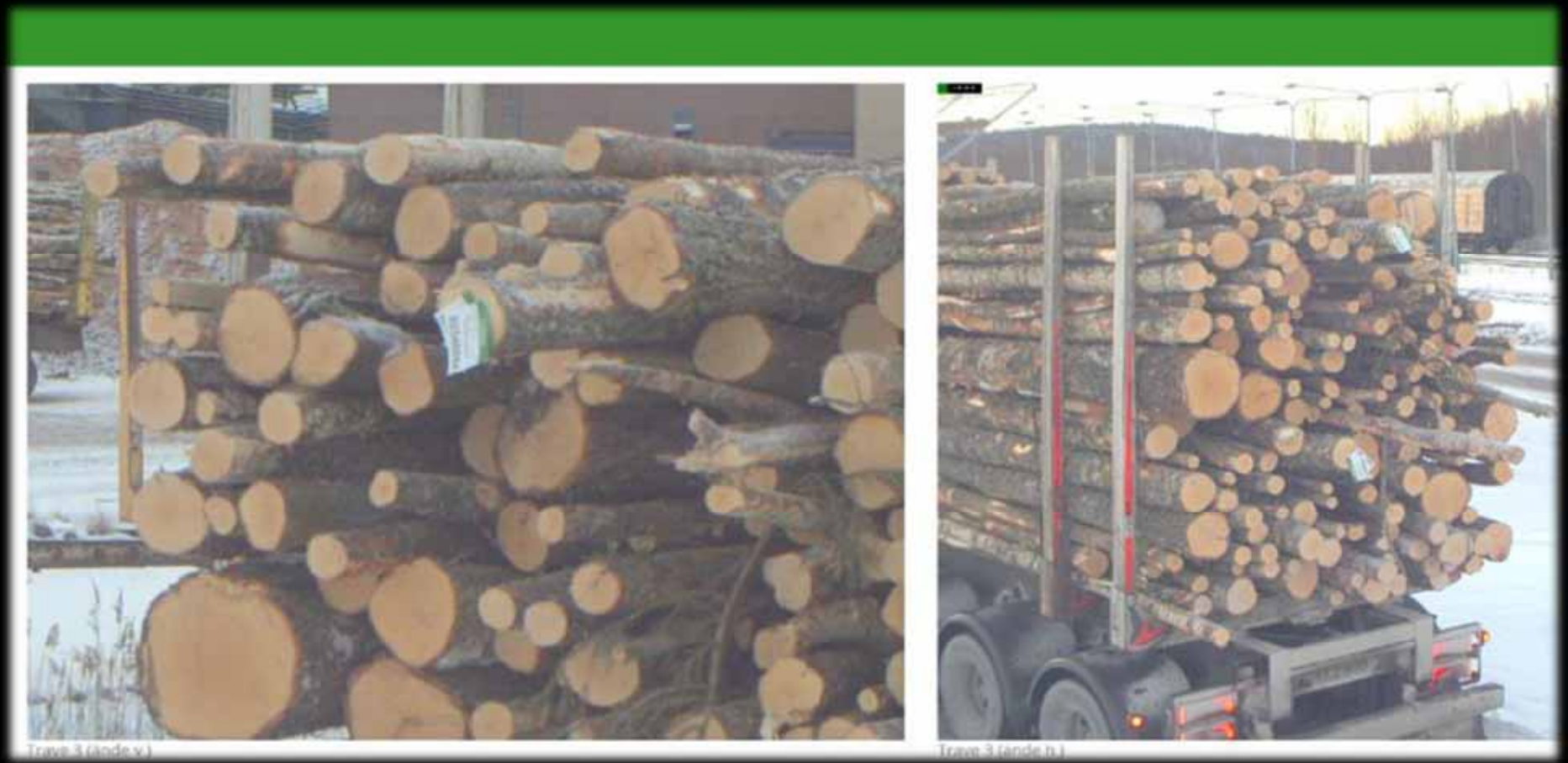
Step 4


SDC IRIS
Arkiv
0
Hansson, Fredrik (999)
Kontrollerad av Tomas.Kjellberg@sdc.se
Mätning utförd av Joakim.Grafstrom@sdc.se
A1
A2
A3
Trave 1, mätobjekt A1
Information
RNR 20658210
Kortnummer 0000001010
Virkesorder 32321015
Produktionsdatum 2018-01-10
Dagar gammalt 33 dagar
Trpnummer 0001010
Sortiment 1000
Ursprung 5
Markägare STORA ENSO SKOG
Kran Ja
Meddelanden (0)
Mätuppgifter
Längd (cm)
Höjd (cm)
479
207
N.BB (cm)
O.BB (cm)
229
235
479 cm
207 cm

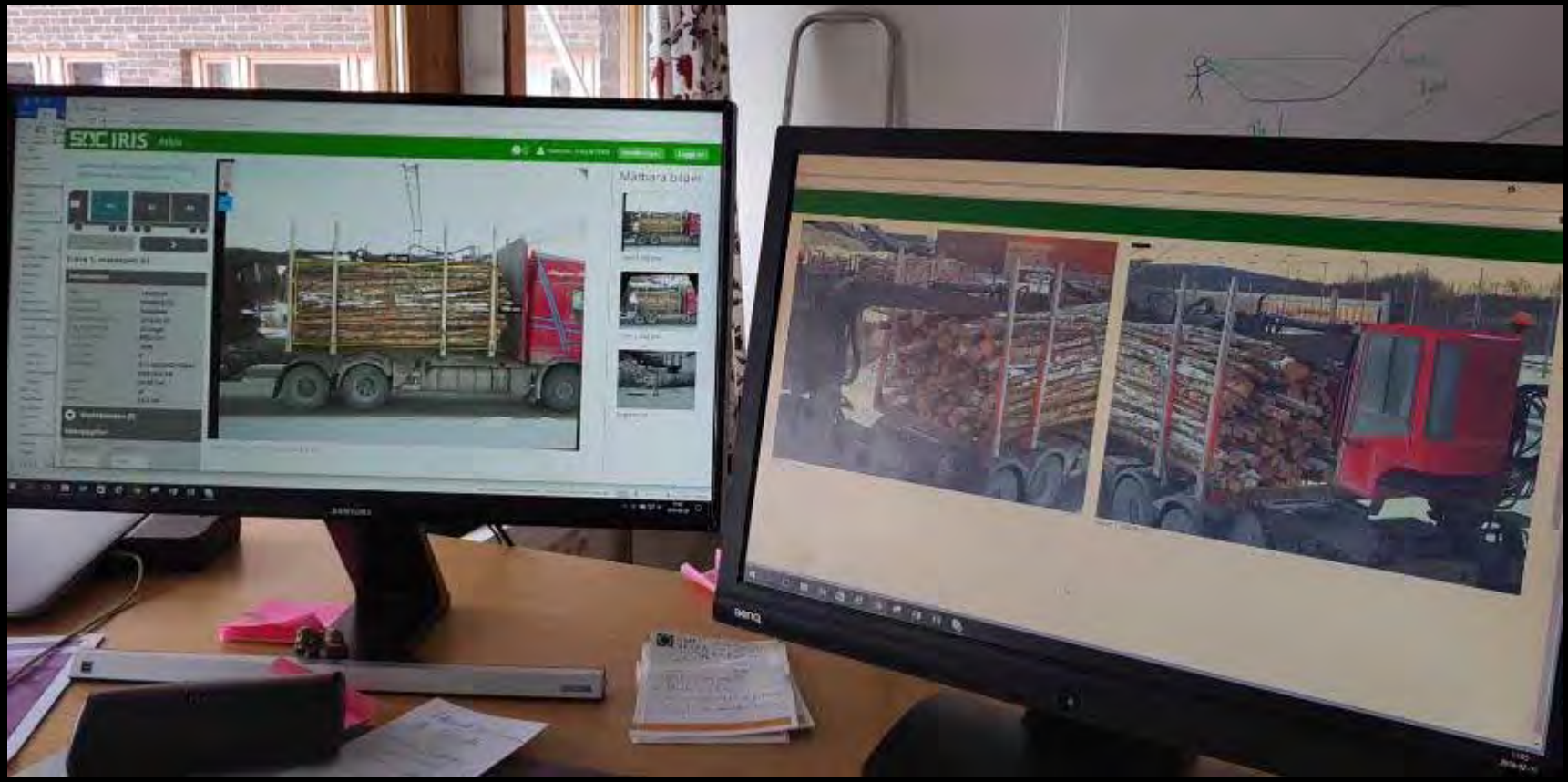
Measurement tool IRIS – two side views



…and two from the gable

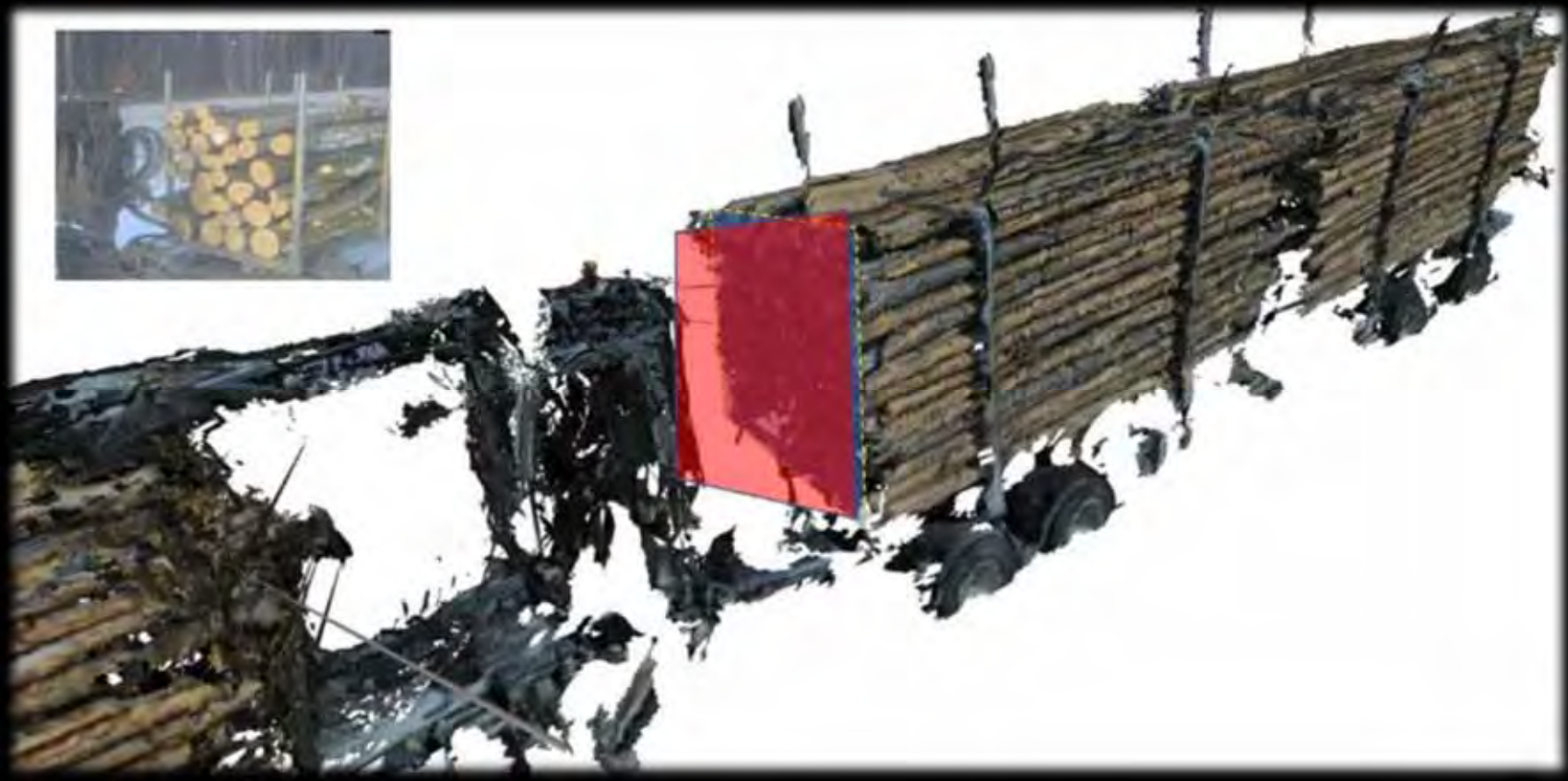


Double screens



Situation today

Next 1: Automatic log diameter



Next 2: Piled/boxed volume

Next 3: Machine learning

Boxed volume

Predictors

- Gable images
- Wood type/origin
- Log diameter distribution

Access to detailed data