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BIOECONOMY RESEARCH

Harvester position data how precise is it ?

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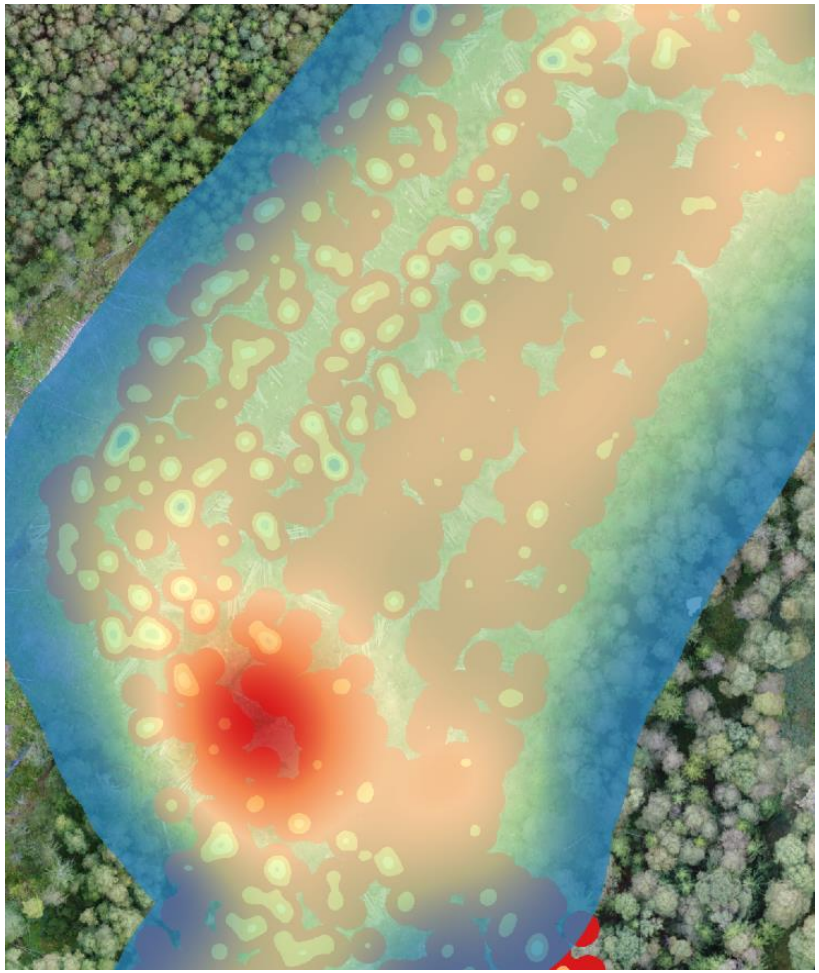
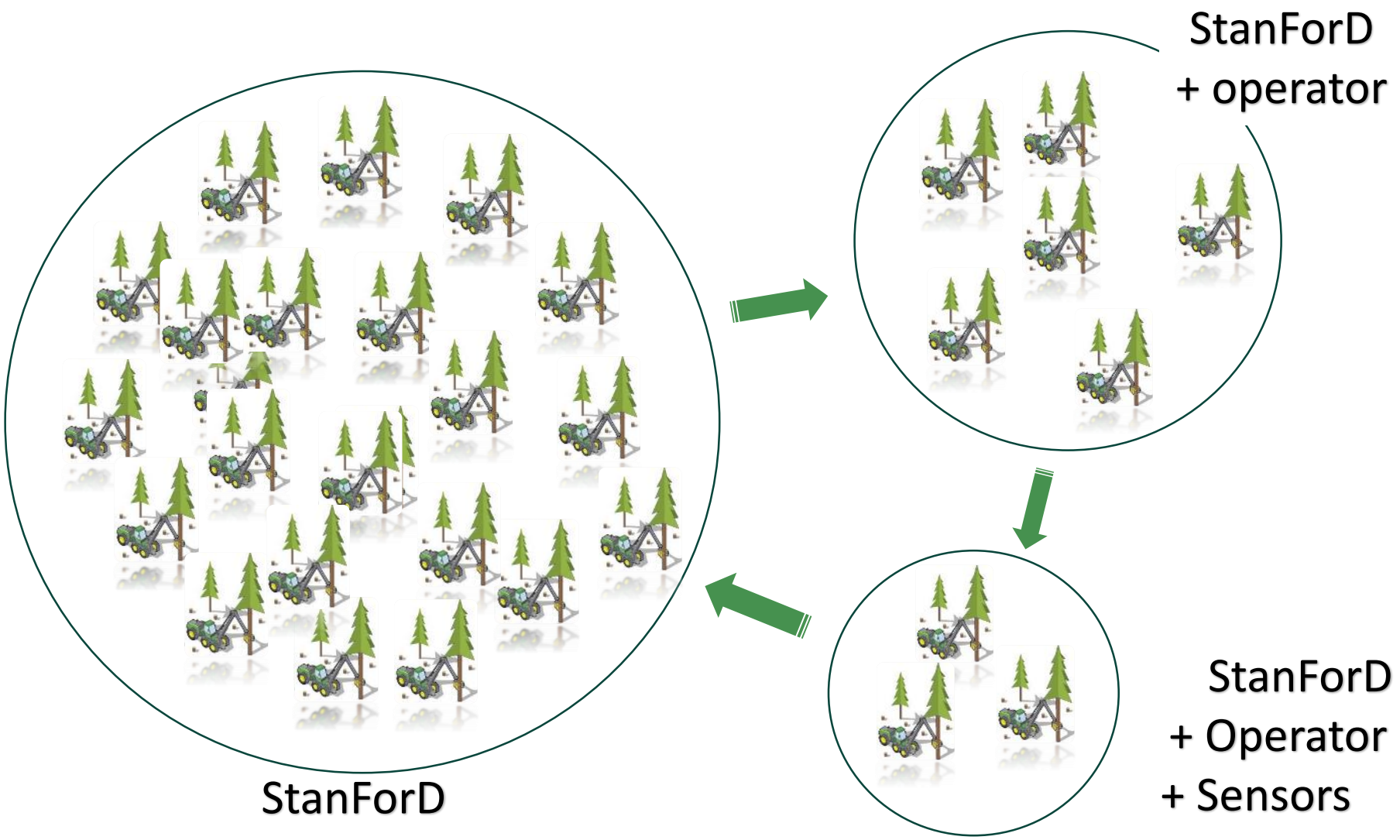
Motivation

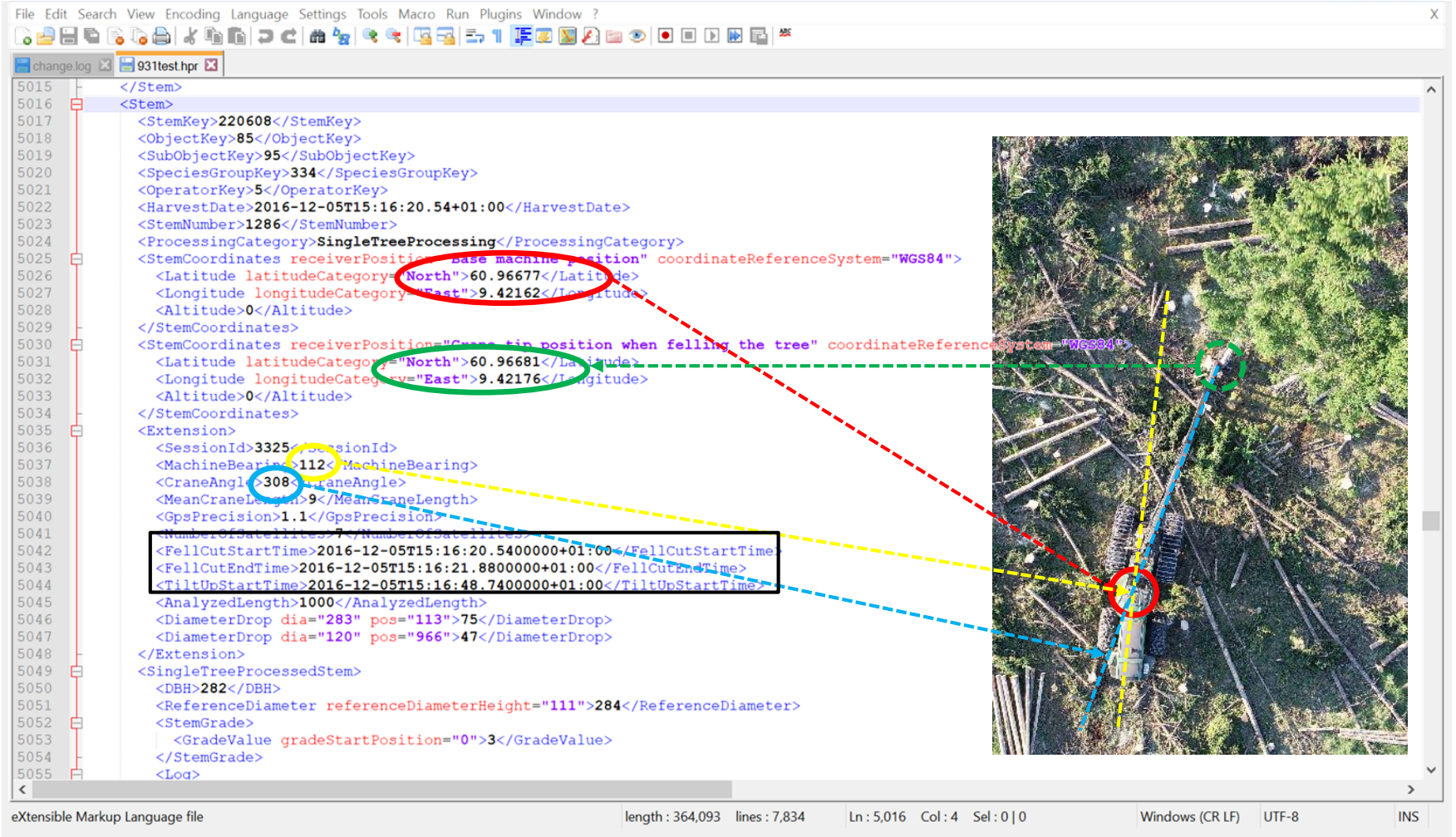
- Big data implies automated data capture
- Harvesting head calibration provides estimate of accuracy, but estimates of associated positional accuracy are limited
- Estimation of accuracy need in mapping location of rot in the stand



PRECISION Data collection strategy



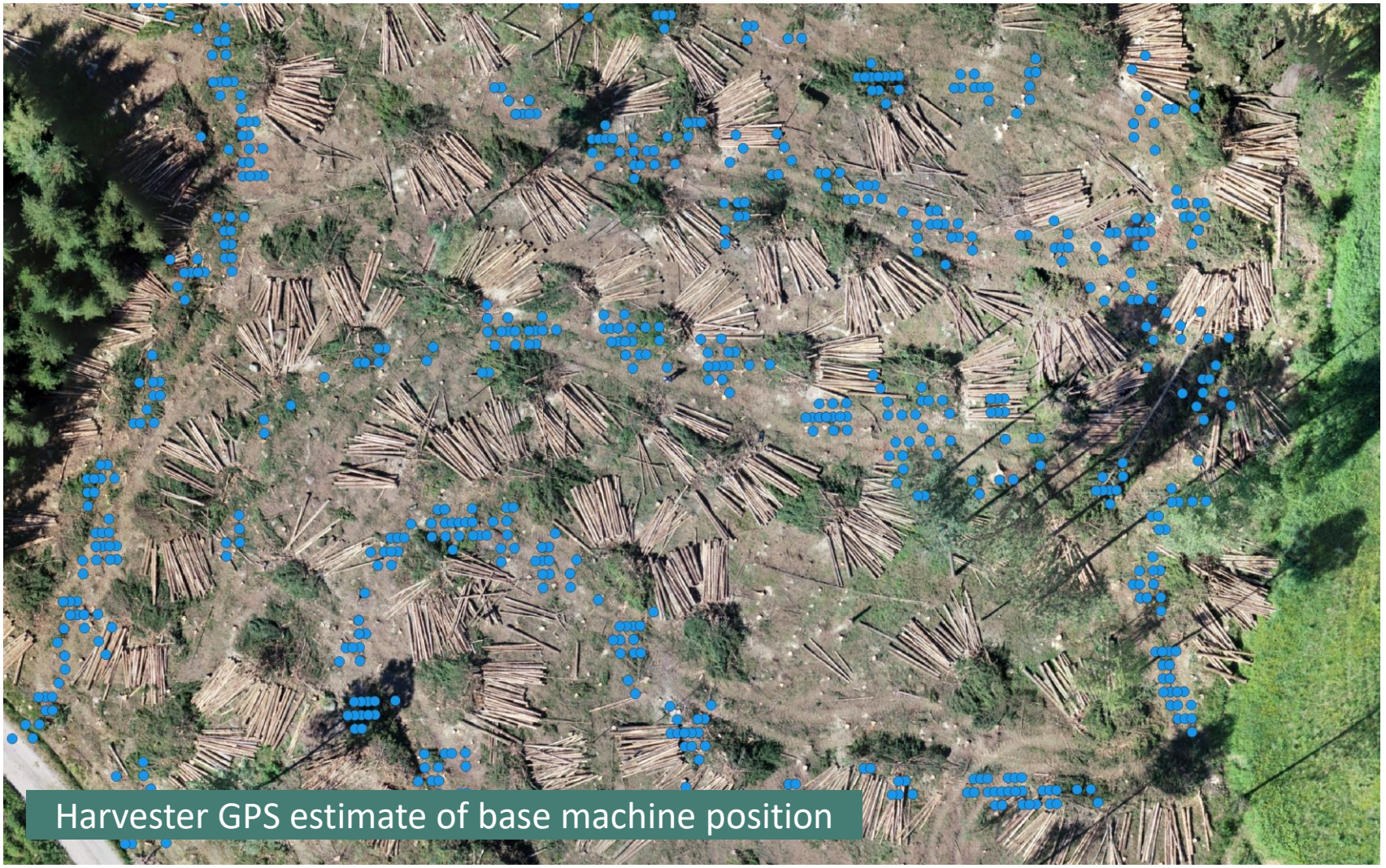
Improve base machine position for calculating head position estimate



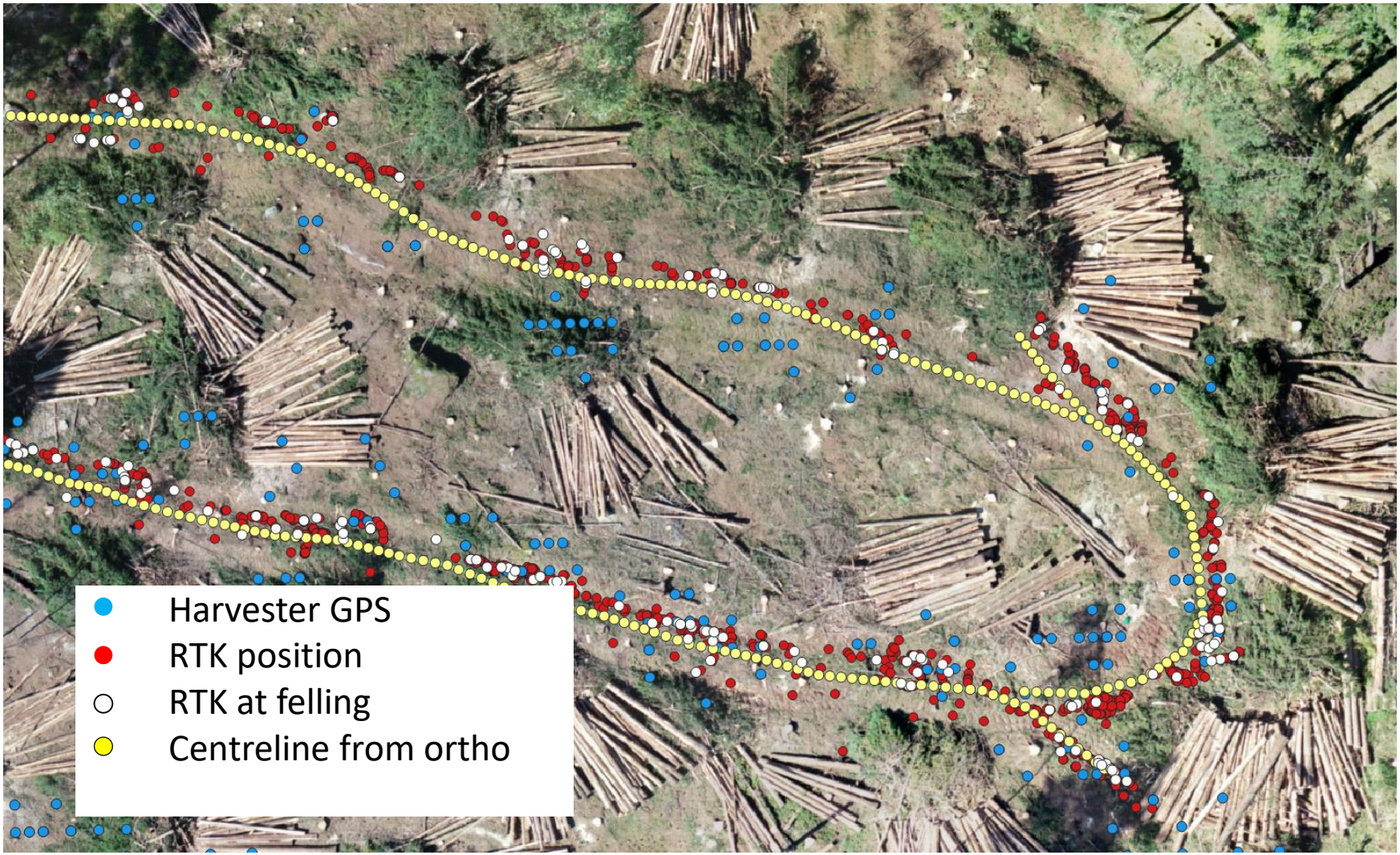
Comparison with RTK GNSS

- Topcon GR5 with SIM card for real-time correction
- Comparison 1: Standard GPS vs centreline
- Comparison 2: Standard GPS vs RTK

Field evaluation



Field evaluation

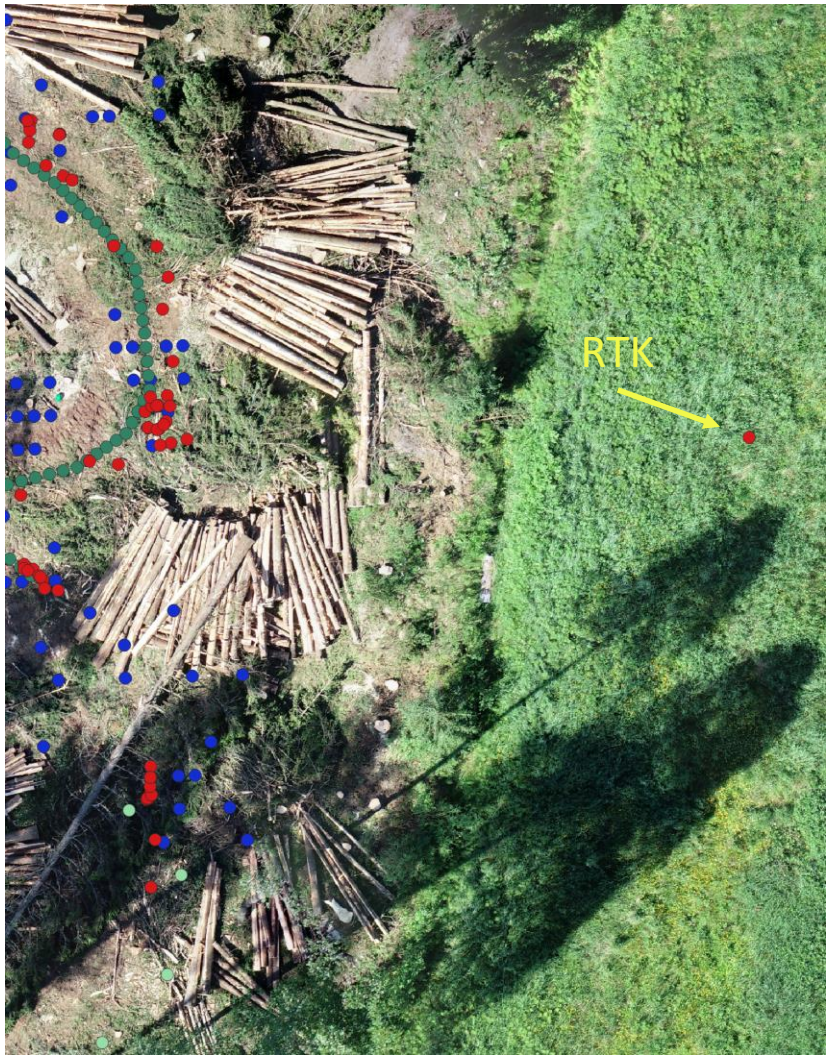


Results


Distribution of GPS error
Mean (2.53), SD (1.93)
30 %
25 %
20 %
15 %
10 %
5 %
0 %
Observations
1
2
3
4
5
6
7
8
9
10
Error (m)

Discussion

- Estimates were much more precise then expected – possibly due to stand and stand aspect
- Visible machine trail on orthophoto provides a good reference for adjusting estimates
- Longer term testing in varying topography needed to provide reliable estimates



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