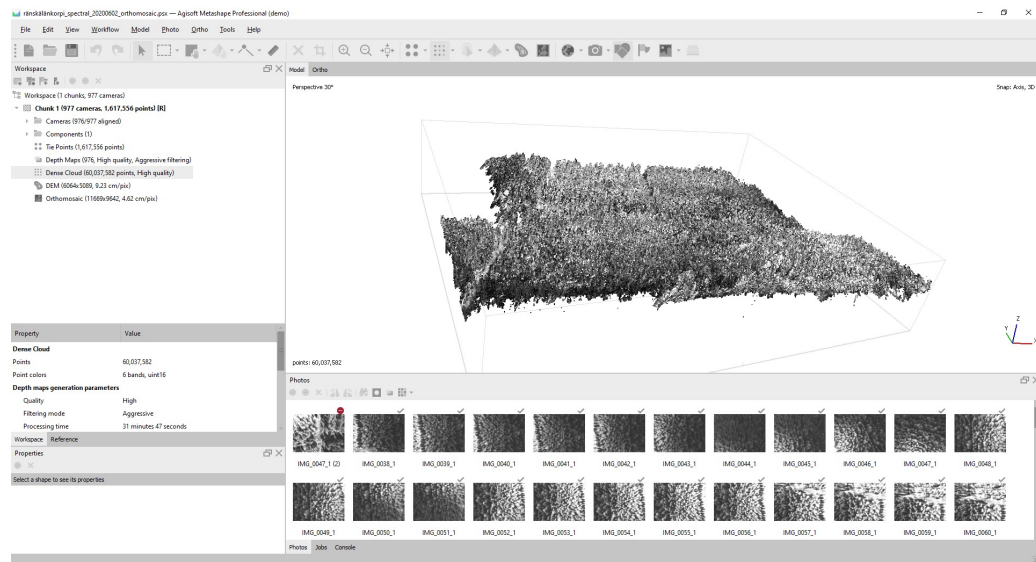


Agisoft Metashape in cPouta virtual machine

Ville Tuominen

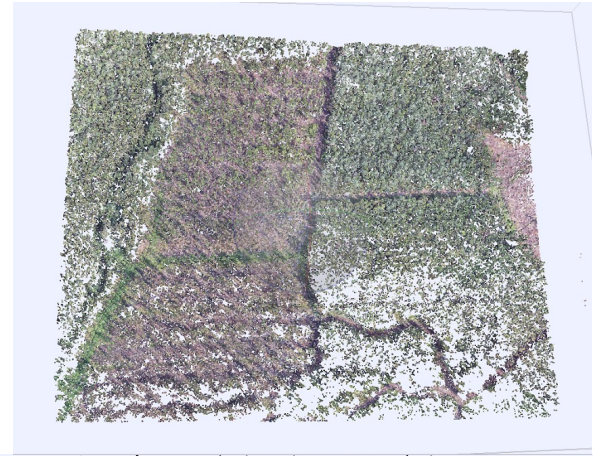
Agisoft Metashape

- Desktop software for generating 3D models and point clouds from images using photogrammetry



Example use case

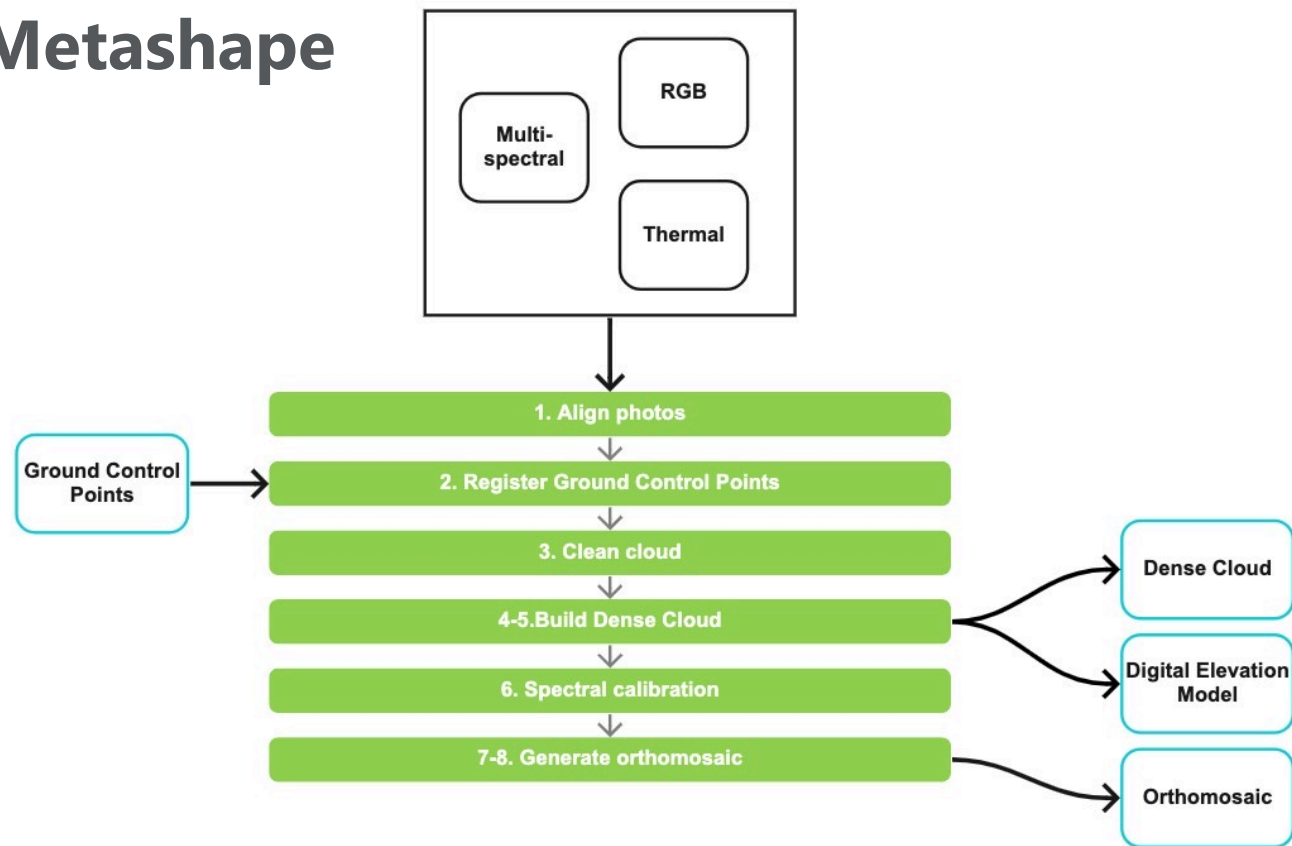
- Forest research
- Generating orthomosaic and dense cloud from photos taken using drone
 - Pictures have high overlap
- RGB, thermal and multispectral cameras
- Study site is approximately 500 x 500 meters in size



points: 1,084,146,170

Unpublished results

Workflow in Metashape

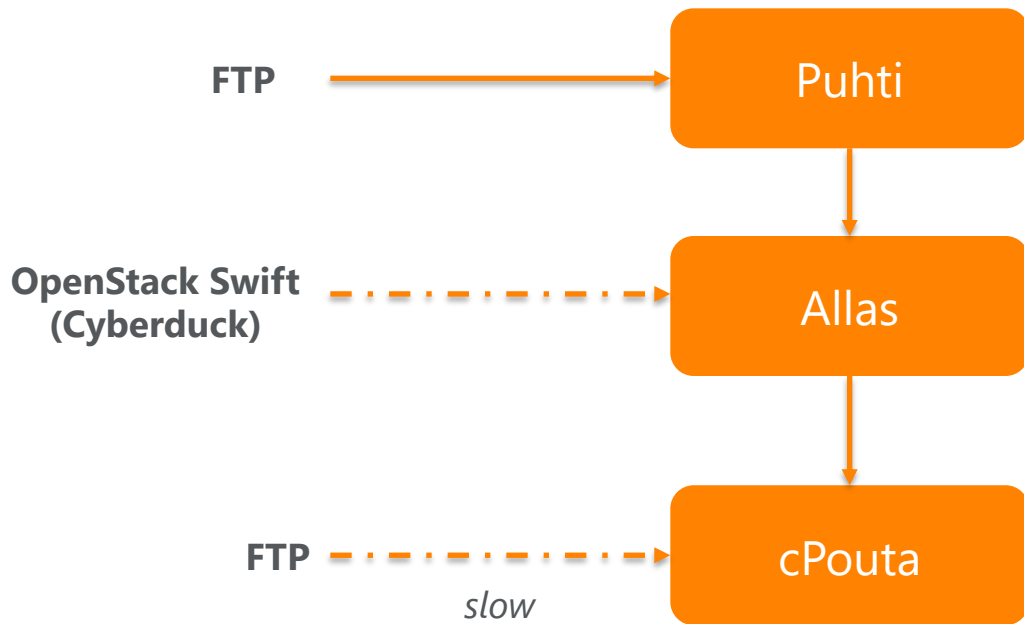


cPouta Virtual Machine

- **gpu.1.1gpu**
 - 14 cores
 - 112 GB RAM
 - 1 NVIDIA Tesla P100 GPGPU
 - 1 TB persistent storage
 - Ubuntu 16.4 (to support GPU)
- Connection using SSH tunnel using MobaXterm
 - Authentication with ssh-keys and ip whitelisting

Data transfer

- **Using a-commands**
 - a-put
 - a-get
- **Transfer speeds with Allas are fast**



Observations

Pros

- Sufficient computing speed, different flavors available
- No need for local computing power
- Available for multiple users

Cons

- Data transferring requires multiple steps
- For larger data sets, more storage and possibly more power might be needed
- For other software, newer Ubuntu version would be useful