Adventelva A

Processing Report
10 March 2021

Survey Data

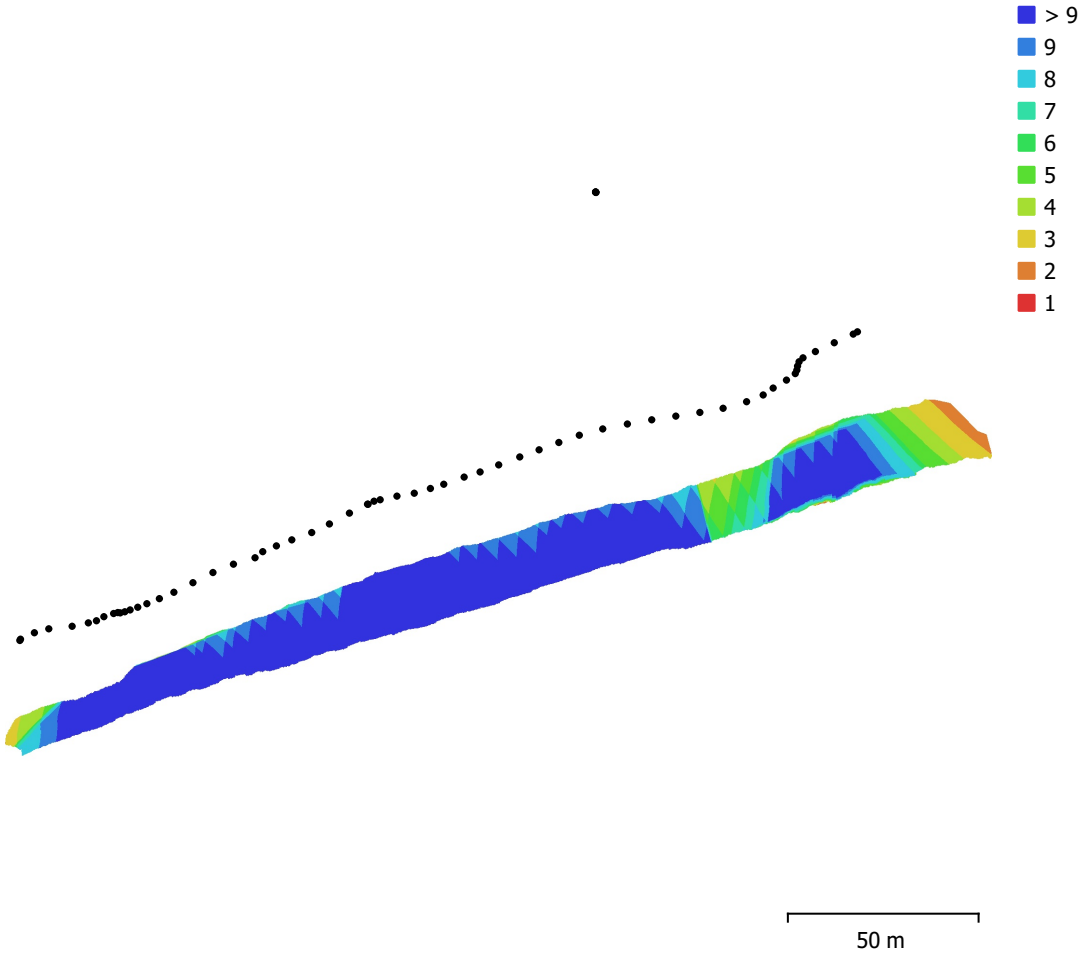

Fig. 1. Camera locations and image overlap.

Number of images:	65	Camera stations:	65
Flying altitude:	26.7 m	Tie points:	167,789
Ground resolution:	5.76 mm/pix	Projections:	505,737
Coverage area:	3.9e+03 m²	Reprojection error:	0.331 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
L1D-20c (10.26mm)	5472 x 3648	10.26 mm	2.41 x 2.41 µm	No

Table 1. Cameras.

Camera Calibration

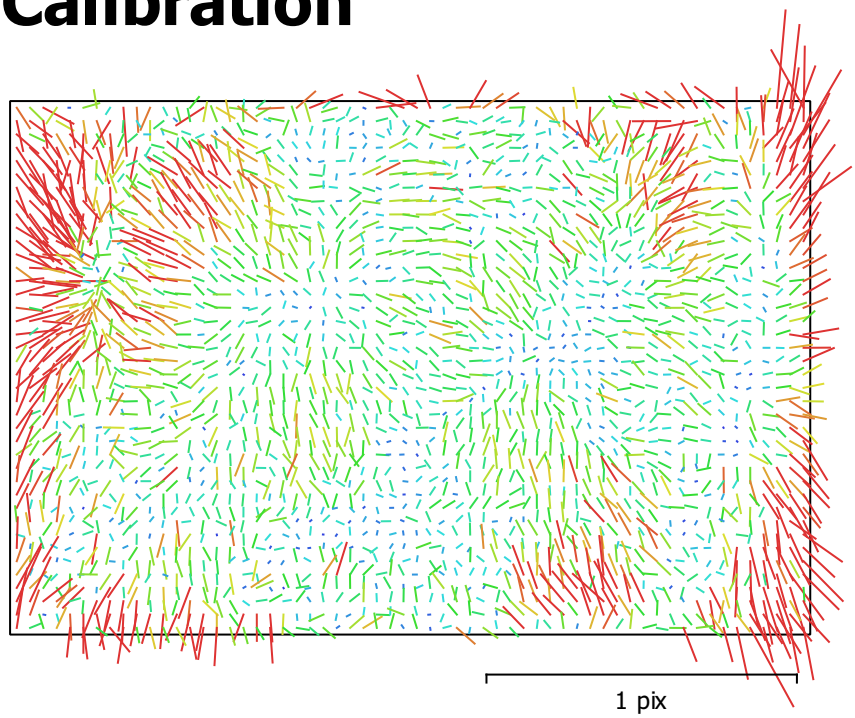

Fig. 2. Image residuals for L1D-20c (10.26mm).

L1D-20c (10.26mm)

65 images

Type	Resolution	Focal Length	Pixel Size
Frame	**5472 x 3648**	**10.26 mm**	**2.41 x 2.41 µm**

	Value	Error	Cx	Cy	K1	K2	K3	P1	P2
F	**4256**								
Cx	**41.5299**	0.38	1.00	-0.07	-0.02	0.02	-0.02	0.90	-0.13
Cy	**20.6257**	0.34		1.00	0.24	0.07	-0.08	-0.05	0.66
K1	**0.00192842**	4e-05			1.00	-0.69	0.65	0.02	-0.03
K2	**0.0339215**	0.00013				1.00	-0.98	0.03	0.05
K3	**-0.0336803**	0.00016					1.00	-0.03	-0.07
P1	**0.00220392**	2.5e-05						1.00	-0.13
P2	**-0.00350836**	1.3e-05							1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

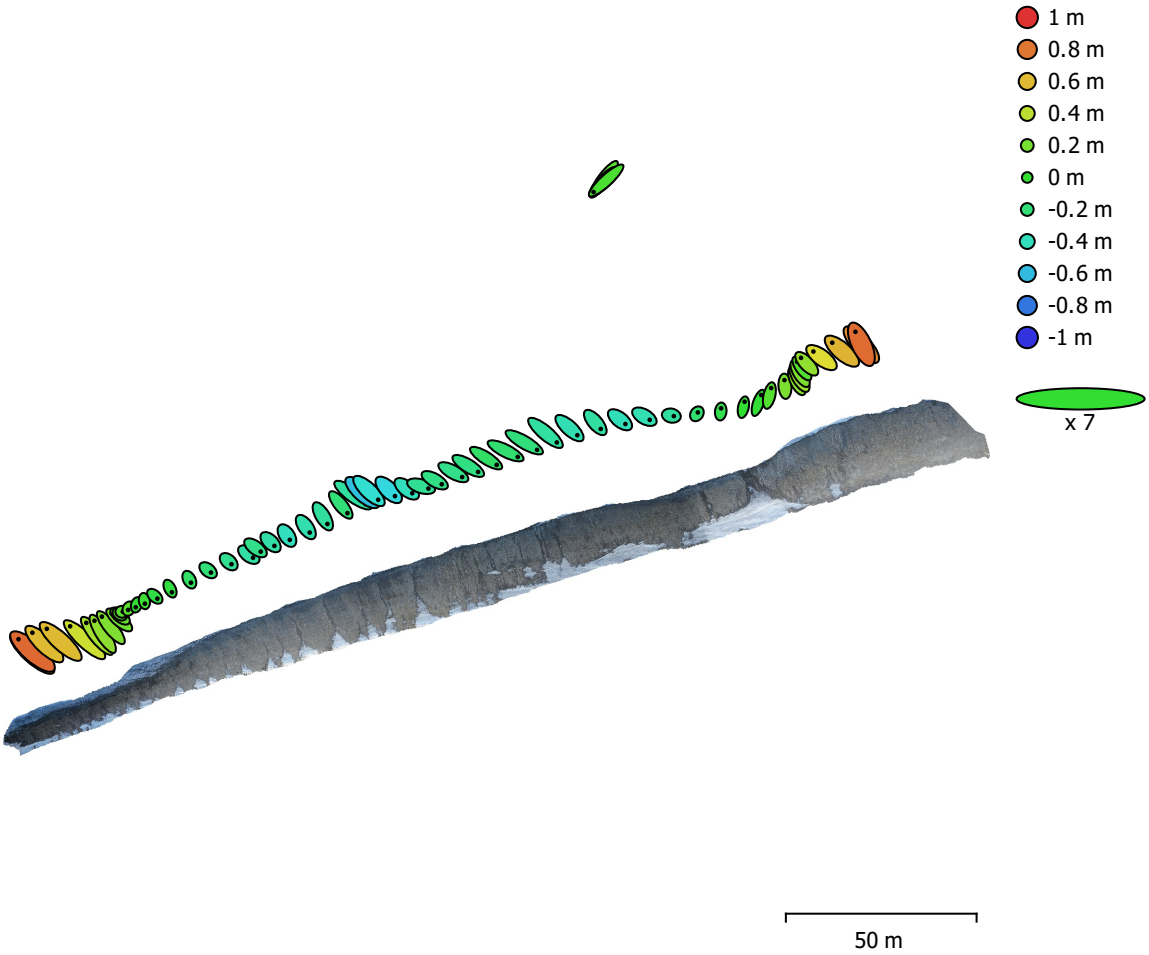

Fig. 3. Camera locations and error estimates.
Z error is represented by ellipse color. X,Y errors are represented by ellipse shape.
Estimated camera locations are marked with a black dot.

X error (cm)	Y error (cm)	Z error (cm)	XY error (cm)	Total error (cm)
57.8604	56.5147	34.781	80.8811	88.0424

Table 3. Average camera location error.
X - Longitude, Y - Latitude, Z - Altitude.

Digital Elevation Model

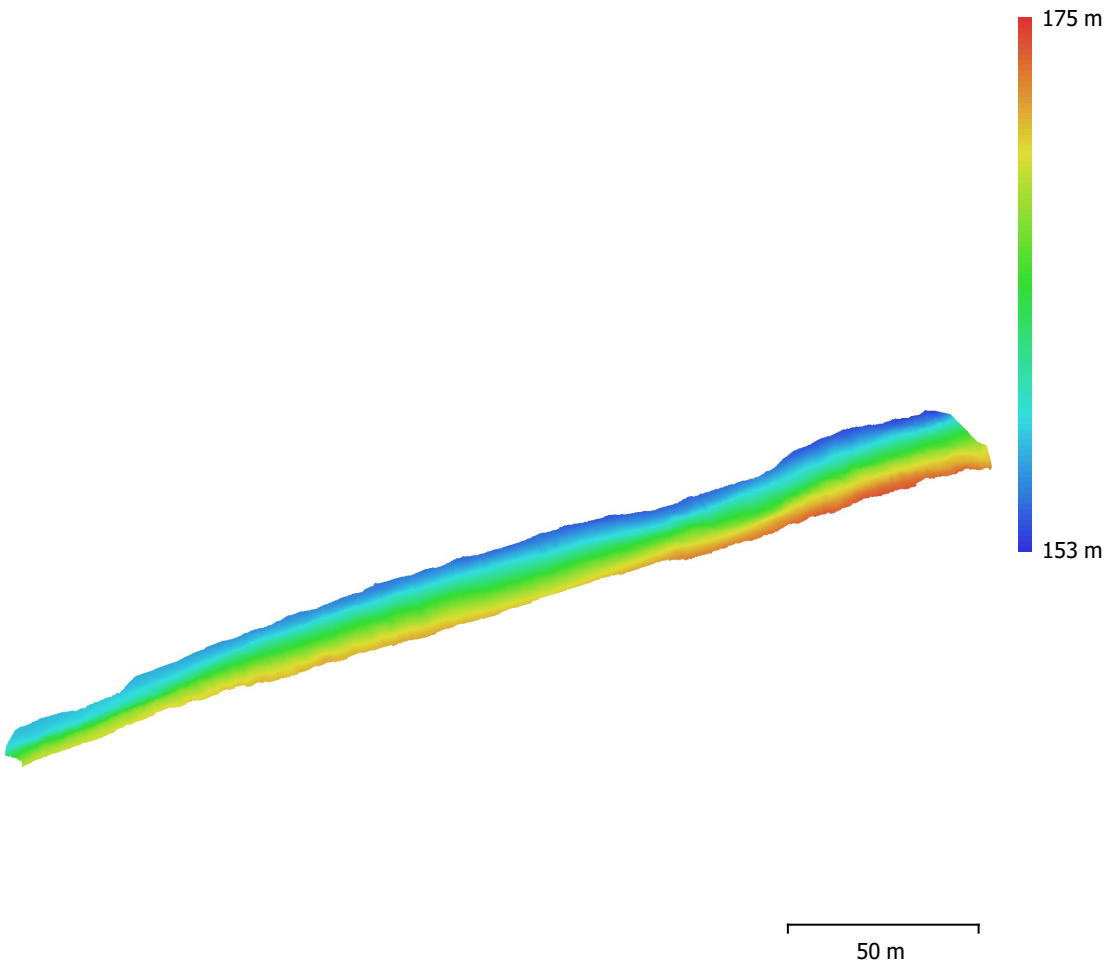

Fig. 4. Reconstructed digital elevation model.

Resolution:	8 cm/pix
Point density:	156 points/m²

Processing Parameters

General	
Cameras	65
Aligned cameras	65
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll
Point Cloud	
Points	167,789 of 192,929
RMS reprojection error	0.193314 (0.330776 pix)
Max reprojection error	0.699274 (14.7886 pix)
Mean key point size	1.71983 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	3.2511
Alignment parameters	
Accuracy	Highest
Generic preselection	No
Reference preselection	No
Key point limit	40,000
Tie point limit	10,000
Guided image matching	No
Adaptive camera model fitting	Yes
Matching time	14 minutes 11 seconds
Matching memory usage	397.82 MB
Alignment time	2 minutes 2 seconds
Alignment memory usage	61.00 MB
Optimization parameters	
Parameters	f, cx, cy, k1-k3, p1, p2
Adaptive camera model fitting	Yes
Optimization time	5 seconds
Software version	1.6.3.10732
File size	13.97 MB
Depth Maps	
Count	65
Depth maps generation parameters	
Quality	High
Filtering mode	Mild
Processing time	6 minutes 25 seconds
Memory usage	1.15 GB
Software version	1.6.3.10732
File size	350.25 MB
Dense Point Cloud	
Points	75,261,332
Point colors	3 bands, uint8
Depth maps generation parameters	
Quality	High
Filtering mode	Mild
Processing time	6 minutes 25 seconds
Memory usage	1.15 GB
Dense cloud generation parameters	
Processing time	17 minutes 38 seconds

Memory usage	5.31 GB
Software version	1.6.3.10732
File size	957.26 MB
Model	
Faces	756,690
Vertices	380,439
Vertex colors	3 bands, uint8
Texture	16,384 x 16,384, 4 bands, uint8
Depth maps generation parameters	
Quality	High
Filtering mode	Mild
Processing time	6 minutes 25 seconds
Memory usage	1.15 GB
Reconstruction parameters	
Surface type	Arbitrary
Source data	Depth maps
Interpolation	Enabled
Strict volumetric masks	No
Processing time	1 hours 17 minutes
Memory usage	7.53 GB
Texturing parameters	
Mapping mode	Generic
Blending mode	Mosaic
Texture size	16,384
Enable hole filling	Yes
Enable ghosting filter	Yes
UV mapping time	4 minutes 40 seconds
Blending time	4 minutes 9 seconds
Software version	1.6.3.10732
File size	347.34 MB
Tiled Model	
Texture	3 bands, uint8
Depth maps generation parameters	
Quality	High
Filtering mode	Mild
Processing time	6 minutes 25 seconds
Memory usage	1.15 GB
Reconstruction parameters	
Source data	Dense cloud
Tile size	256
Face count	Medium
Enable ghosting filter	No
Processing time	51 minutes 30 seconds
Memory usage	2.91 GB
Software version	1.7.1.11797
File size	387.66 MB
System	
Software name	Agisoft Metashape Professional
Software version	1.7.1 build 11797
OS	Windows 64 bit
RAM	127.78 GB
CPU	Intel(R) Core(TM) i9-9900K CPU @ 3.60GHz
GPU(s)	GeForce RTX 2080