

3Dsurvey 2.15.0 processing productivity benchmarks

Project parameters (drone aerial survey):

Camera - FC6310 (8.8mm); Image size – 16 MP (4864 x 3648); File size (JPG) – 7.5 MB

Number of images - 100

Side/Forward overlap - 70%; Flight altitude – 320m; GSD – 8 cm; Area - 1.35 sq. km

	Quality	PPP (Point per pixel)	Average Points /sq.m	Number of Points	GPU	CPU	3Dsurvey 200	3Dsurvey 500	3Dsurvey 1000	3Dsurvey 3000	3Dsurvey 5000
OS							Windows	Windows	Windows	Windows	Windows
Storage							Storage X Standard	Storage X Standard	Storage X Standard	Storage X Standard	Storage X Standard
GPU							1 x TESLA T4	1 x TESLA T4	2 x TESLA M60	4 x TESLA T4	4 x TESLA M60
CPU							Cascade Lake 24C 8 vCPU 2.5GHz	Cascade Lake 24C 32 vCPU 2.5GHz	Intel Xeon E5-2686 32 vCPU 2.3GHz	Cascade Lake 24C 48 vCPU 2.5GHz	Intel Xeon E5-2686 64 vCPU 2.3GHz
RAM							32	128	244	192	488
Bundle Adjustment	Normal					v	3m 40s	2m 0s	4m 31s	1m 48s	8m 1s
Dense Reconstruction	Low	1point / 64 (8x8) pix	4	648,327	v	v	5m 8s	3m 58s	3m 5s	1m 47s	2m 40s
Dense Reconstruction	Medium	1point / 16 (4x4) pix	16	14,110,120	v	v	41m	30m	26m	15m	19m
Dense Reconstruction	High	1point / 4 (2x2) pix	20	36,222,429	v	v	1h 15m	53m	47m	26m	33m
Dense Reconstruction	Extreme	1point / 1 pix	64	51,341,642	v	v	2h 9m	1h 27m	1h 17m	42m	57m
Full 3D Mesh	High-High-Full					v	29m	21m	23m	20m	26m

3Dsurvey 2.14.1 processing productivity benchmarks

Project parameters (drone aerial survey):

Camera - FC6310 (8.8mm); Image size – 16 MP (4864 x 3648); File size (JPG) – 7.5 MB

Number of images - 100

Side/Forward overlap - 70%; Flight altitude – 320m; GSD – 8 cm; Area - 1.35 sq. km

	Quality	PPP (Point per pixel)	Average Points /sq.m	Number of Points	GPU	CPU	3Dsurvey 200	3Dsurvey 3000
OS							Windows	Windows
Storage							Storage X Standard	Storage X Standard
GPU							1 x TESLA T4	4 x TESLA T4
CPU							Cascade Lake 24C 8 vCPU 2.5GHz	Cascade Lake 24C 48 vCPU 2.5GHz
Number of images							100	100
Image size (MP)							17	17
File size (MB)							7	7
Image file format							JPEG	JPEG
RAM							32	192
Bundle Adjustment	Normal					v	6m	2m
Dense Reconstruction	Low	1point / 64 (8x8) pix	4	651,314	v	v	6m	2m
Dense Reconstruction	Medium	1point / 16 (4x4) pix	16	14,110,120	v	v	41m	14m
Dense Reconstruction	High	1point / 4 (2x2) pix	20	36,147,324	v	v	1h 15m	26m
Dense Reconstruction	Extreme	1point / 1 pix	64	51,236,913	v	v	2h 9m	46m
Full 3D Mesh	High-High-Full					v	29m	22m

3Dsurvey 2.13.2 processing productivity benchmarks

Project parameters (drone aerial survey):

Camera - FC6310 (8.8mm); Image size – 16 MP (4864 x 3648); File size (JPG) – 7.5 MB

Number of images – 650; Side/Forward overlap - 70%; Flight altitude – 320m; GSD – 8 cm; Area - 9 sq. km

	Quality	PPP (Point per pixel)	Average Points /sq.m	Number of Points	GPU	CPU	3Dsurvey 500	3Dsurvey 3000	3Dsurvey 3000
OS							Windows	Windows	Windows
Storage							Storage X STANDARD	Storage X STANDARD	LOCAL D
GPU							1 x TESLA T4	4 x TESLA T4	4 x TESLA T4
CPU							Cascade Lake 24C 32 vCPU 2.5GHz	Cascade Lake 24C 48 vCPU 2.5GHz	Cascade Lake 24C 48 vCPU 2.5GHz
RAM							128	192	192
Bundle Adjustment	Normal				v	v	27m	24m	23m
Dense Reconstruction	Low	1point / 64 (8x8) pix	4	2,830,475	v	v	28m	14m	13m
Dense Reconstruction	Medium	1point / 16 (4x4) pix	16	76,326,212	v	v	4h 15m	2h 20m	1h 55m
Dense Reconstruction	High	1point / 4 (2x2) pix	20	183,399,942	v	v			3h 30m
Full 3D Mesh	High-High-Full					v			1h 25m
True orthophoto	0.01cm/px				v	v			24m

3Dsurvey 2.13 processing productivity benchmarks

Project parameters (drone aerial survey):

Camera - FC6310 (8.8mm); Image size – 16 MP (4864 x 3648); File size (JPG) – 7.5 MB

Number of images - 100

Side/Forward overlap - 70%; Flight altitude – 320m; GSD – 8 cm; Area - 1.35 sq. km

							28-02-21	28-02-21	28-02-21	28-02-21	28-02-21
	Quality	PPP (Point per pixel)	Average Points /sq.m	Number of Points	GPU	CPU	3Dsurvey 200	3Dsurvey 500	3Dsurvey 1000	3Dsurvey 3000	3Dsurvey 5000
OS							Windows	Windows	Windows	Windows	Windows
Storage							Storage X enhanced	Storage X enhanced	Storage X enhanced	Storage X enhanced	Storage X enhanced
GPU							1 x TESLA T4	1 x TESLA T4	2 x TESLA M60	4 x TESLA T4	4 x TESLA M60
CPU							Cascade Lake 24C 8 vCPU 2.5GHz	Cascade Lake 24C 32 vCPU 2.5GHz	Intel Xeon E5-2686 v4 32 vCPU 2.3GHz	Cascade Lake 24C 48 vCPU 2.5GHz	Intel Xeon E5-2686 v4 64 vCPU 2.3GHz
RAM							32	128	244	192	488
Bundle Adjustment	Normal					v	5m 15s	2m 39s	5m 10s	2m 30s	8m 42s
Dense Reconstruction	Low	1point / 64 (8x8) pix	4	668,765	v	v	4m 47s	3m 56s	3m 6s	1m 43s	2m 23s
Dense Reconstruction	Medium	1point / 16 (4x4) pix	16	14,197,996	v	v	37m	30m	26m	13m	17m
Dense Reconstruction	High	1point / 4 (2x2) pix	20	36,228,163	v	v	1h 5m	50m	43m	23m	32m
Dense Reconstruction	Extreme	1point / 1 pix	64	69,504,567	v	v	1h 58m	1h 26m	1h 14m	41m	51m
Full 3D Mesh	High-High-Full					v	26m	20m	24m	19m	29m

3Dsurvey 2.11 processing productivity benchmarks

Project parameters (drone aerial survey):

Camera - FC6310 (8.8mm); Image size – 16 MP (4864 x 3648); File size (JPG) – 7.5 MB

Number of images - 100

Side/Forward overlap - 70%; Flight altitude – 320m; GSD – 8 cm; Area - 1.35 sq. km

							29-08-20	23-08-20	23-08-20	23-08-20	23-08-20
	Quality	PPP (Point per pixel)	Average Points /sq.m	Number of Points	GPU	CPU	Local PC	3Dsurvey 200	3Dsurvey 200	3Dsurvey 500	3Dsurvey 500
OS							Windows 10	Windows	Windows	Windows	Windows
Storage							Local disk	Storage X enhanced	Local D Project D	Storage X enhanced	Local D Project D
GPU							1 x GeForce GTX 1080	1 x TESLA T4	1 x TESLA T4	1 x TESLA T4	1 x TESLA T4
CPU							Intel(R) Xeon(R) W-2123 CPU 3.60GHz	Cascade Lake 24C 8 vCPU 2.5GHz	Cascade Lake 24C 8 vCPU 2.5GHz	Cascade Lake 24C 32 vCPU 2.5GHz	Cascade Lake 24C 32 vCPU 2.5GHz
RAM							16	32	32	128	128
Bundle Adjustment	Normal					v	18m	11m	17m	6m	6m
Dense Reconstruction	Low	1point / 64 (8x8) pix	4	338,716	v		6m	5m	5m	5m	6m
Dense Reconstruction	Medium	1point / 16 (4x4) pix	16	17,275,121	v		1h 32m	49m	47m	47m	40m
Dense Reconstruction	High	1point / 4 (2x2) pix	20	21,679,089	v		2h 42m	1h 21m	1h 18m	1h 14m	1h 4m
Dense Reconstruction	Extreme	1point / 1 pix	64	69,504,567	v		5h 48m	2h 33m	2h 30m	2h 12m	1h 55m
Full 3D Mesh	High-High					v	1h 0m	54m	49m	40m	30m

							24-08-20	24-08-20
	Quality	PPP (Point per pixel)	Average Points /sq.m	Number of Points	GPU	CPU	3Dsurvey 3000	3Dsurvey 3000
OS							Windows	Windows
Storage							Storage X enhanced	Local D Project D
GPU							4 x TESLA T4	4 x TESLA T4
CPU							Cascade Lake 24C 48 vCPU 2.5GHz	Cascade Lake 24C 48 vCPU 2.5GHz
RAM							192	192
Bundle Adjustment	Normal					v	7m	15m
Dense Reconstruction	Low	1point / 64 (8x8) pix	4	338,716	v		5m	5m
Dense Reconstruction	Medium	1point / 16 (4x4) pix	16	17,275,121	v		45m	41m
Dense Reconstruction	High	1point / 4 (2x2) pix	20	21,679,089	v		1h 11m	1h 6m
Dense Reconstruction	Extreme	1point / 1 pix	64	69,504,567	v		2h 21m	2h 0m
Full 3D Mesh	High-High					v	29m	31m