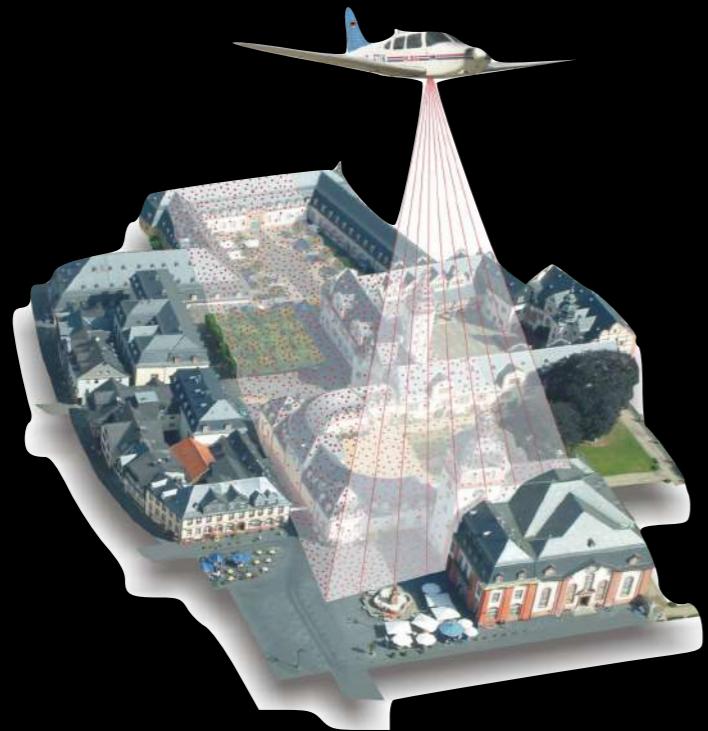


# Pointcloud Data Aquisition

*/scanning*

Topology Fall 20



airborne Laserscanning (ALS)



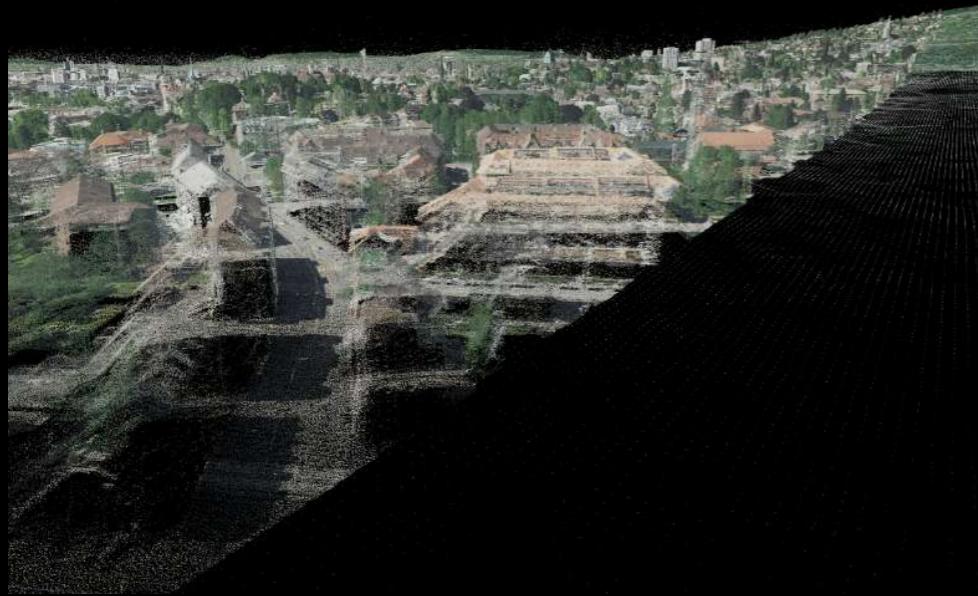
mobile Laserscanning (MLS)



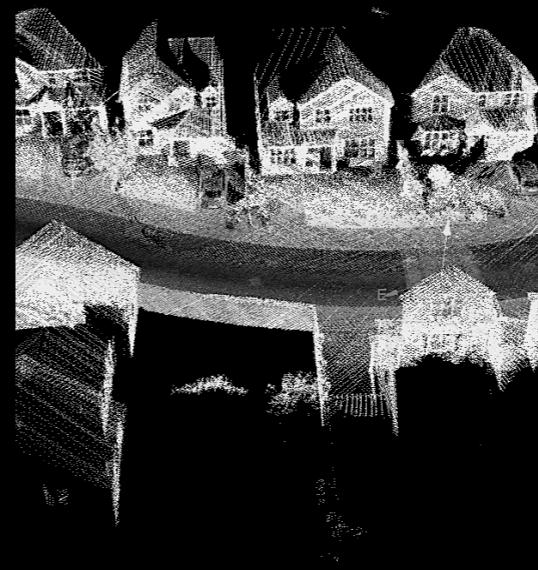
long-range terrestrial Laserscanning (TLS)



short-range Laserscanning (TLS)



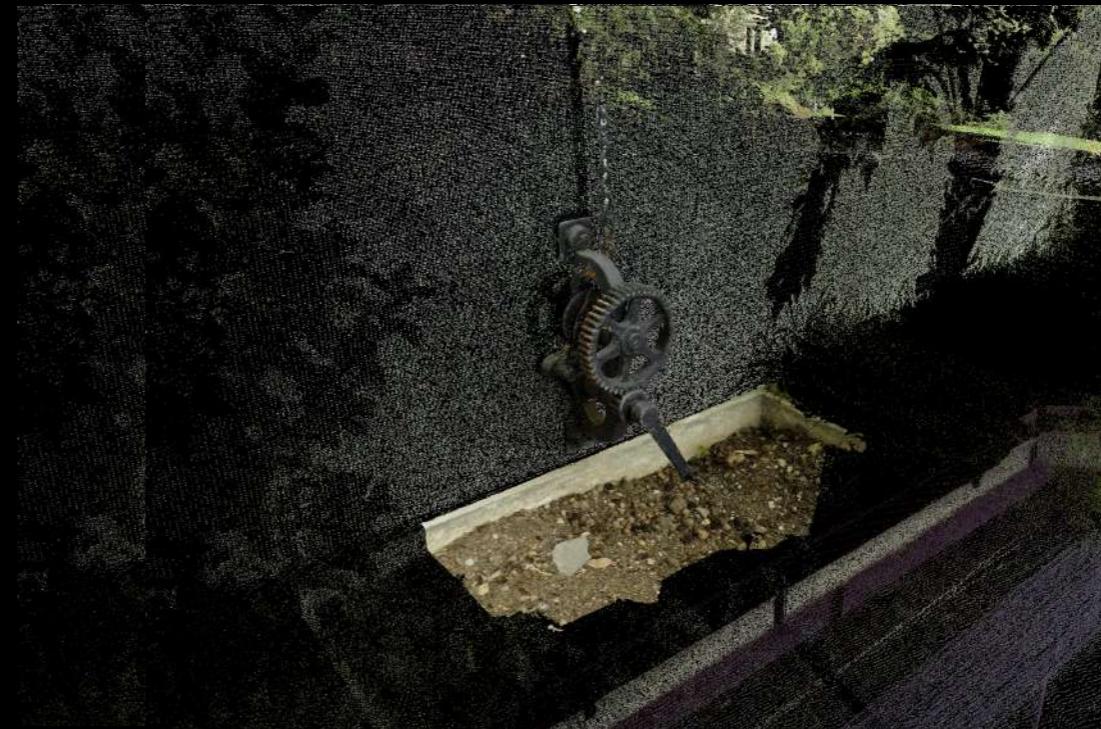
Swisstopo vs Cantonal Data



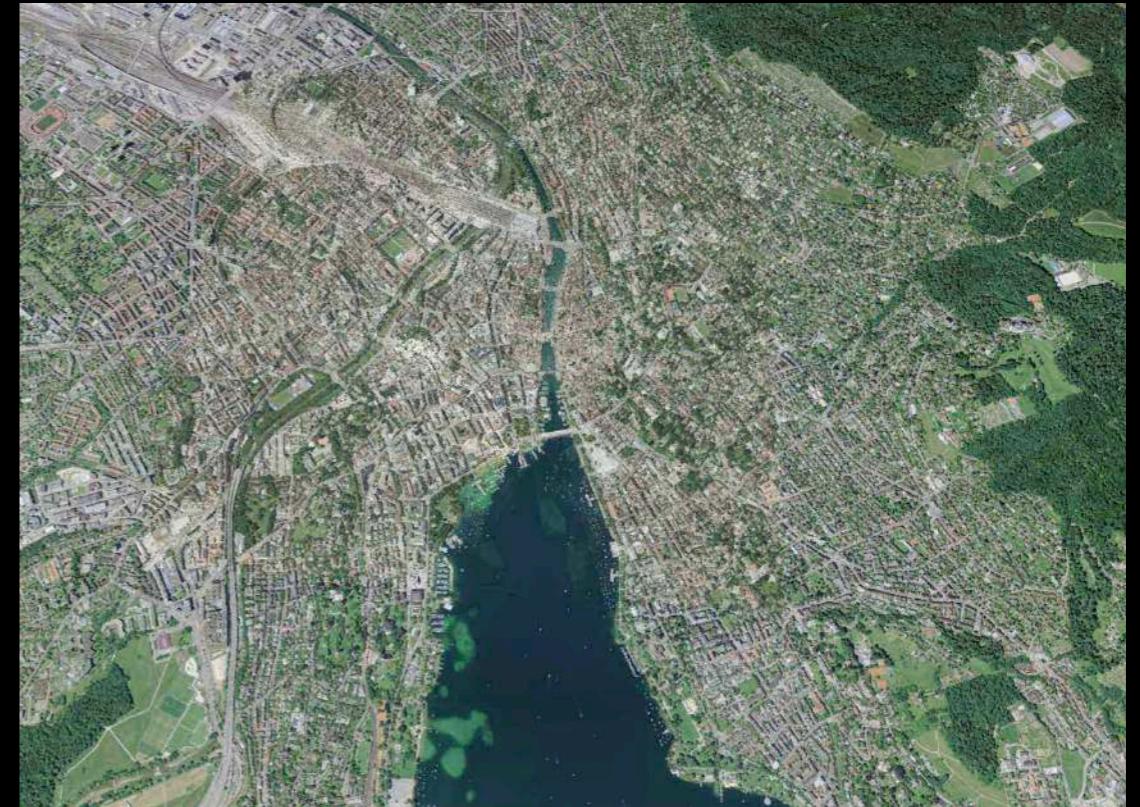
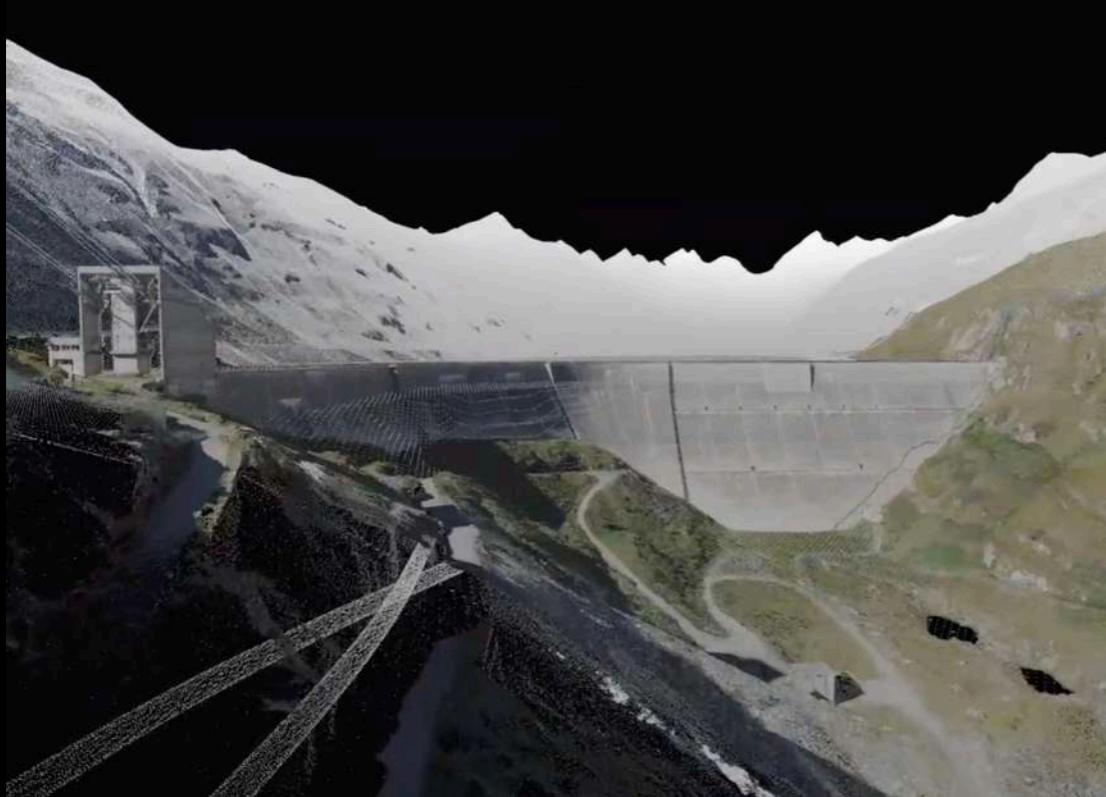
Mobile Data MLS



Cantonal Data vs. TLS



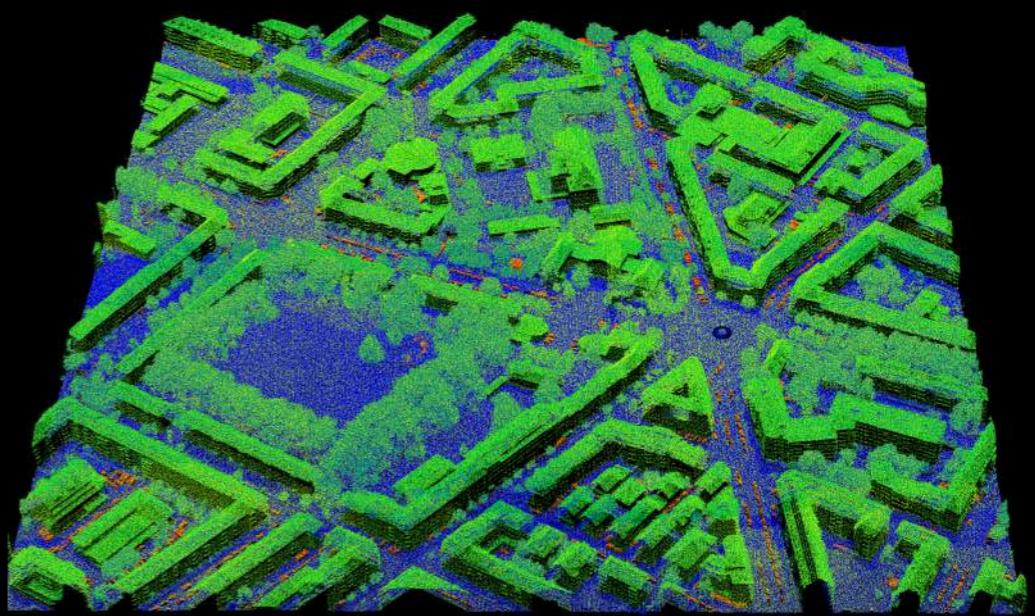
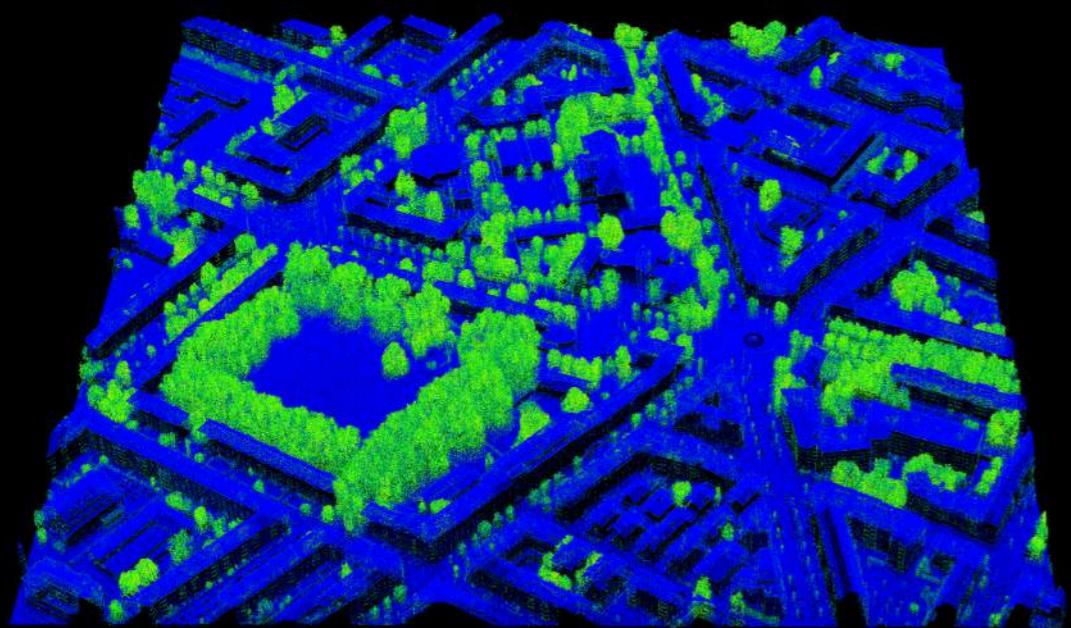
Photogrammetric Data



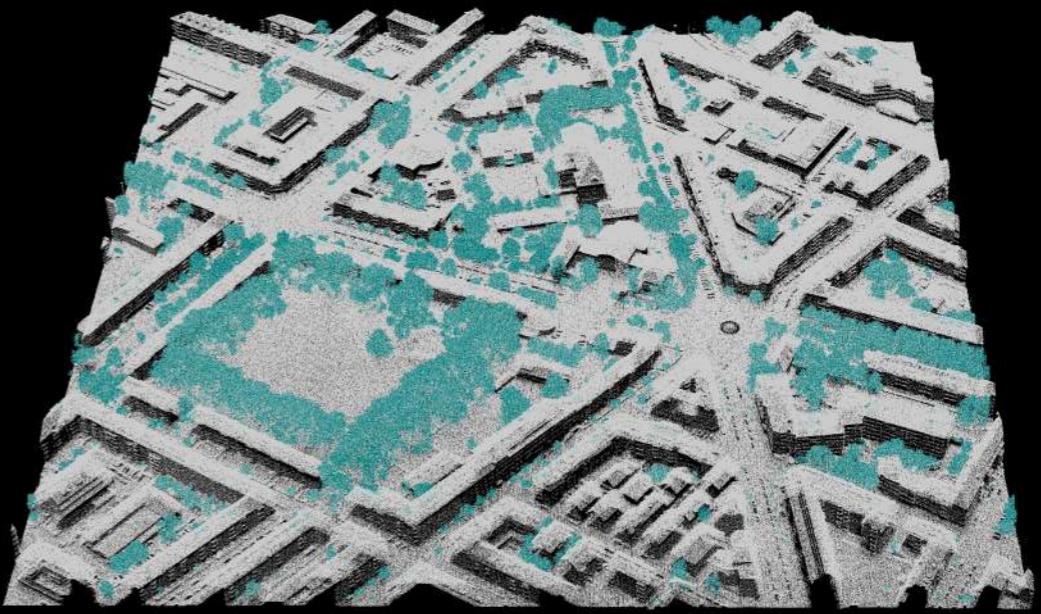
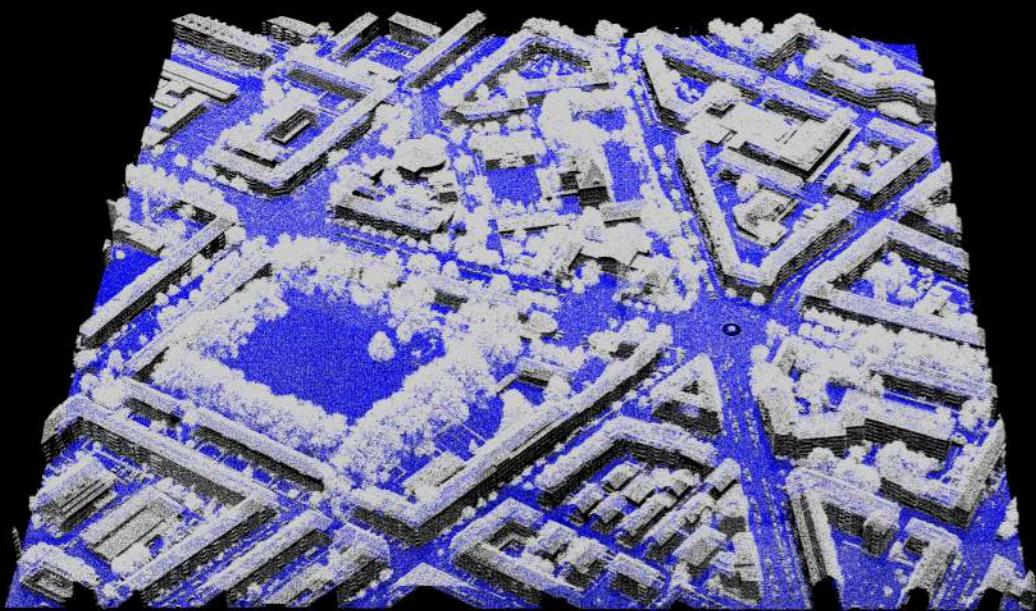
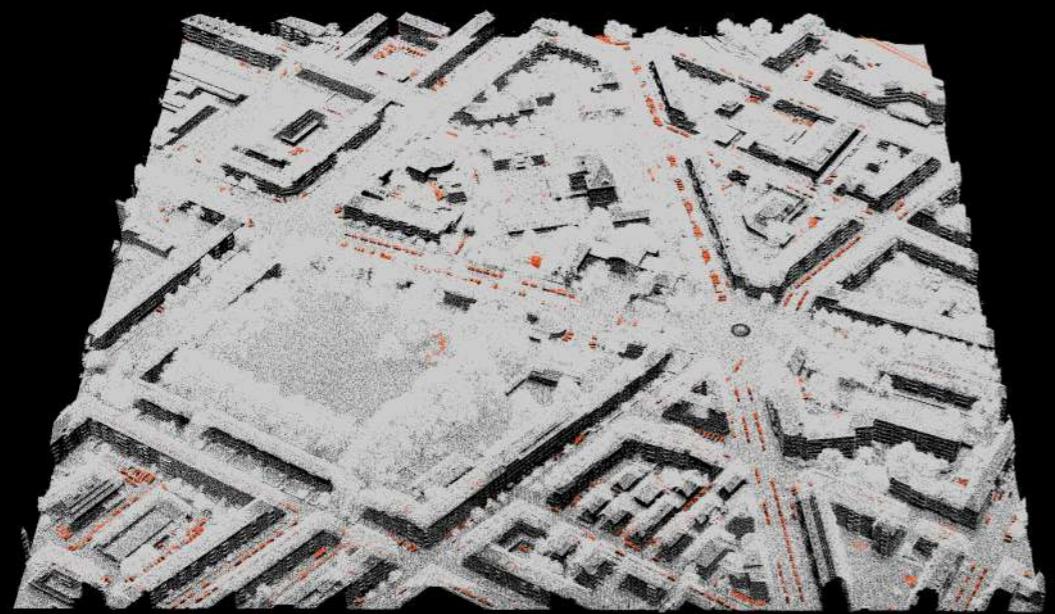
Swisstopo



Cantonal Data



Classification



Classification



long-range Riegl Scanning

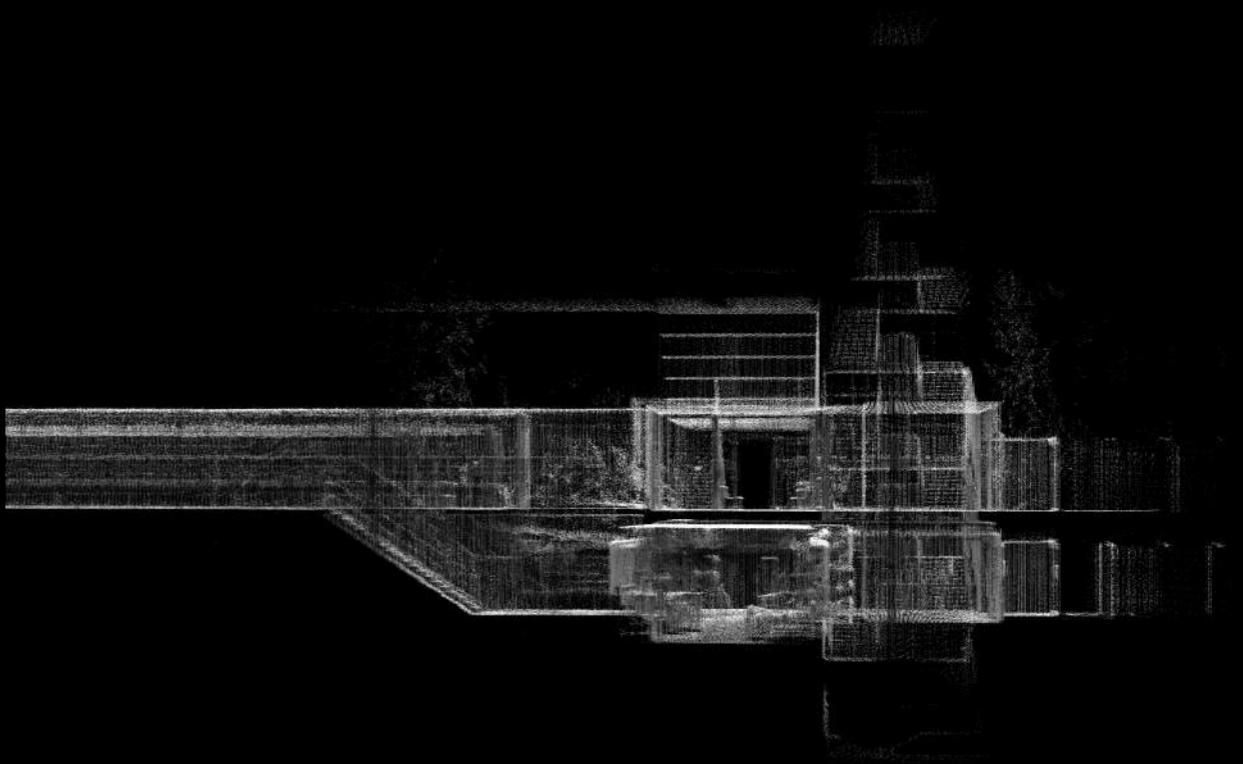


long-range Riegl Scanning

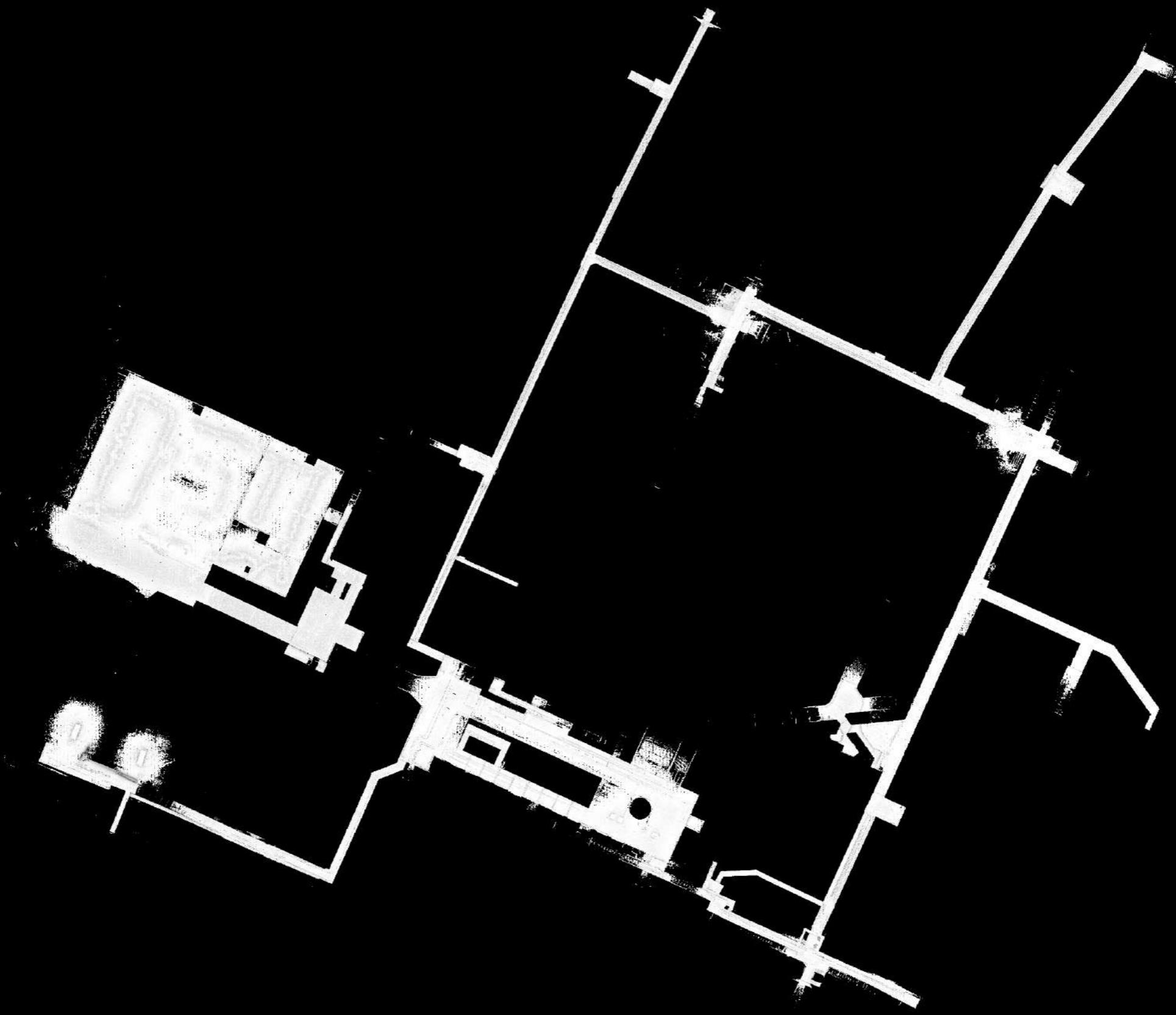




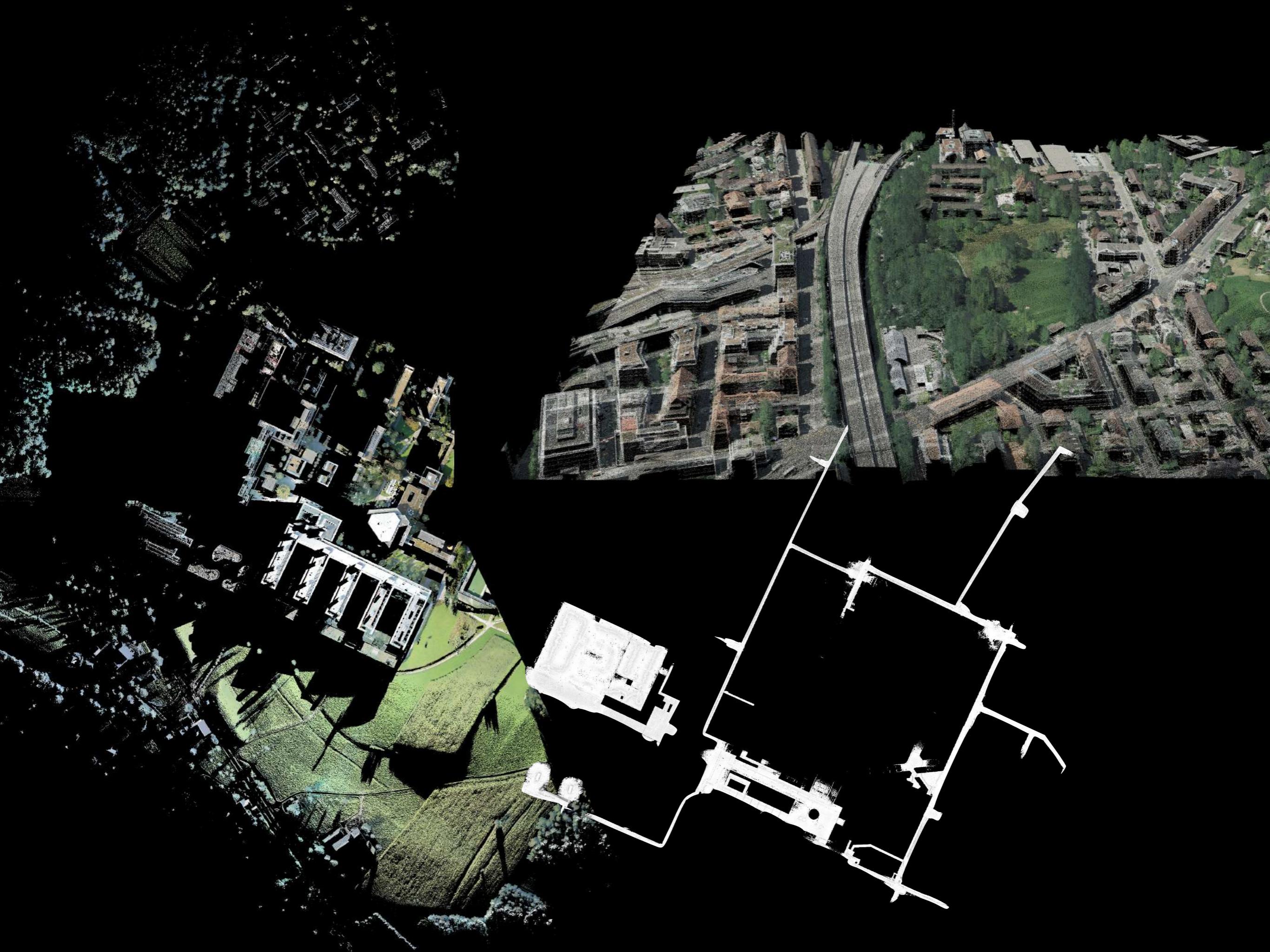
long-range Riegl Scanning



shot-range GeoSlam Scanning

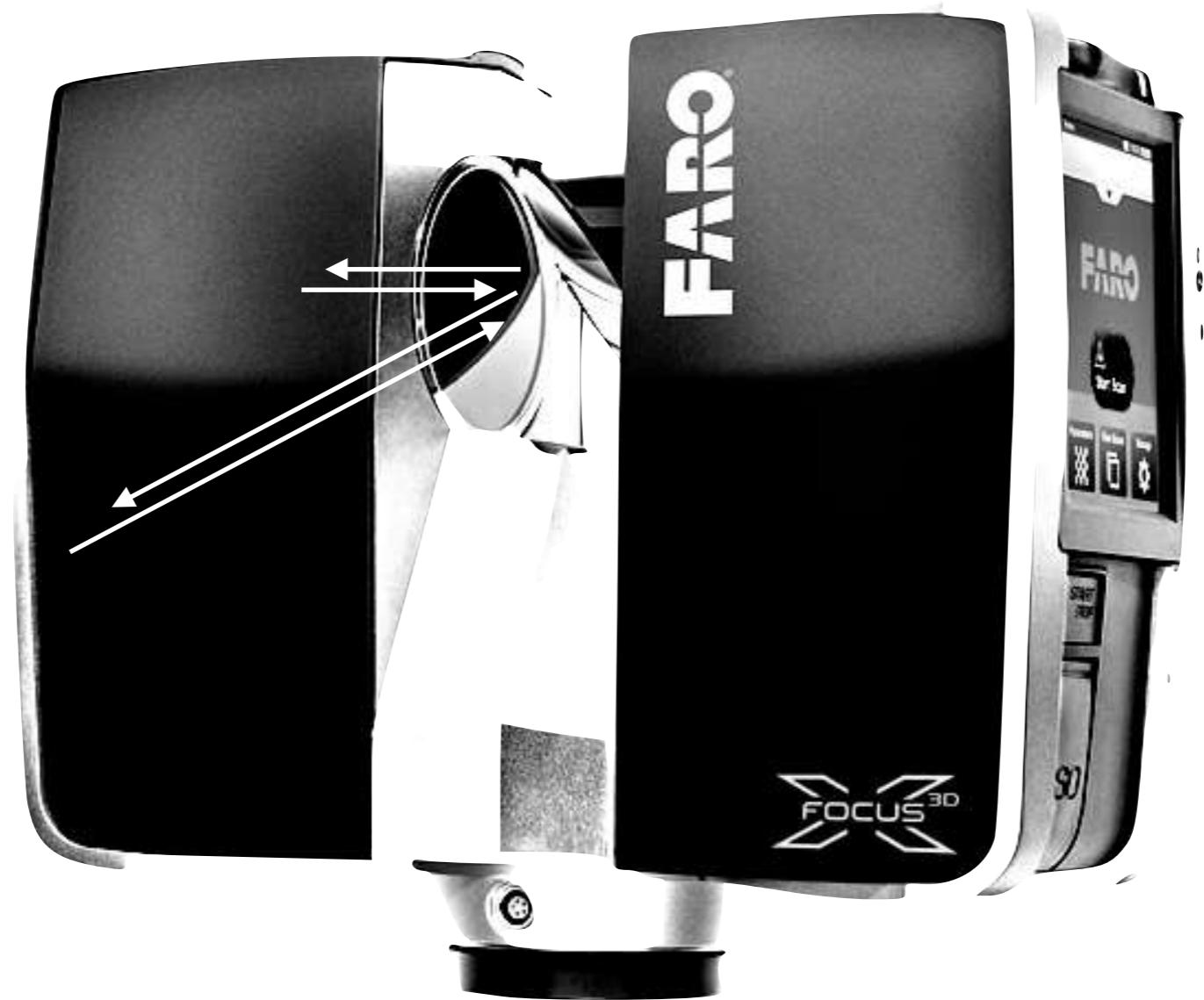


shot-range GeoSlam Scanning

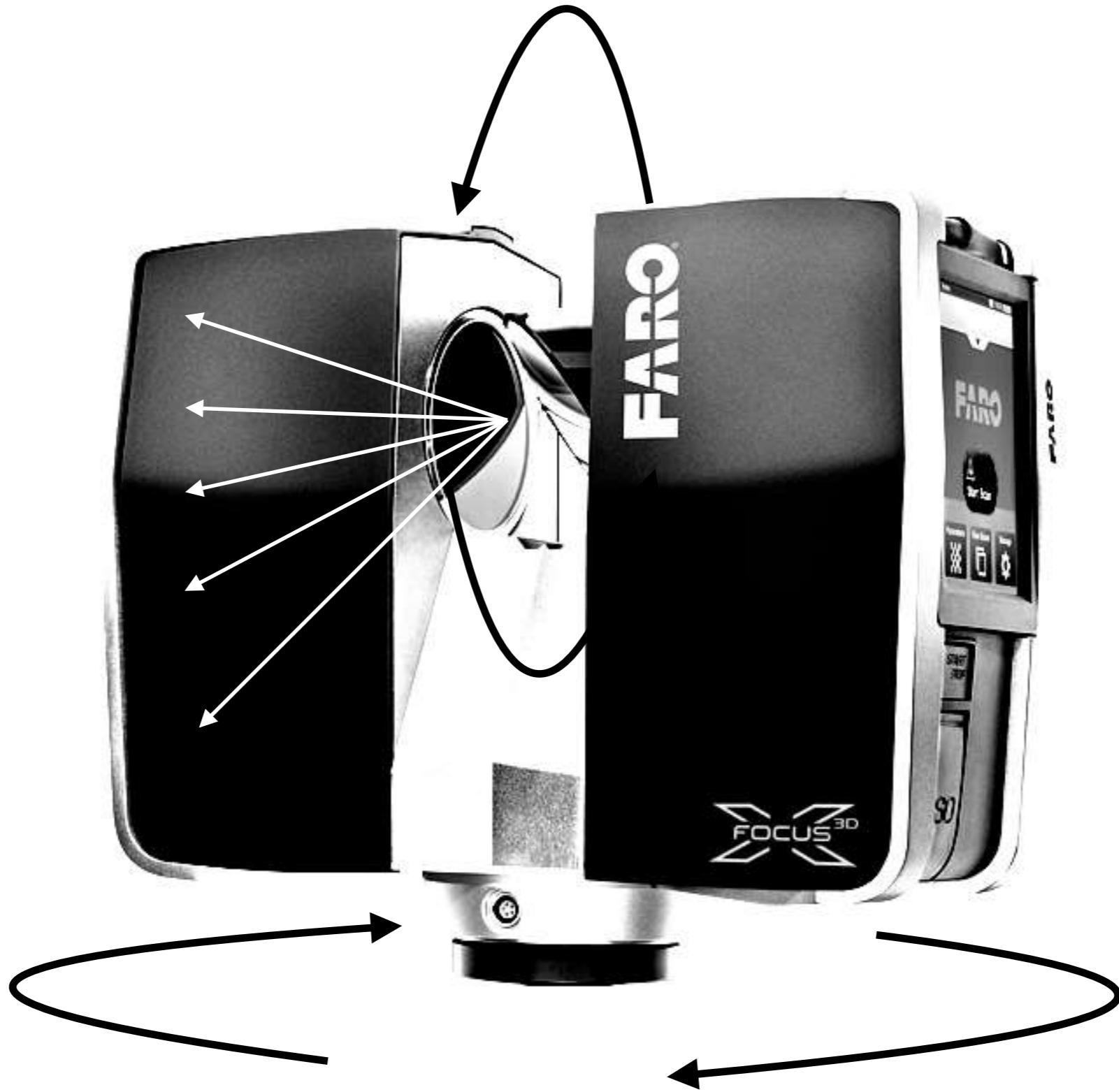




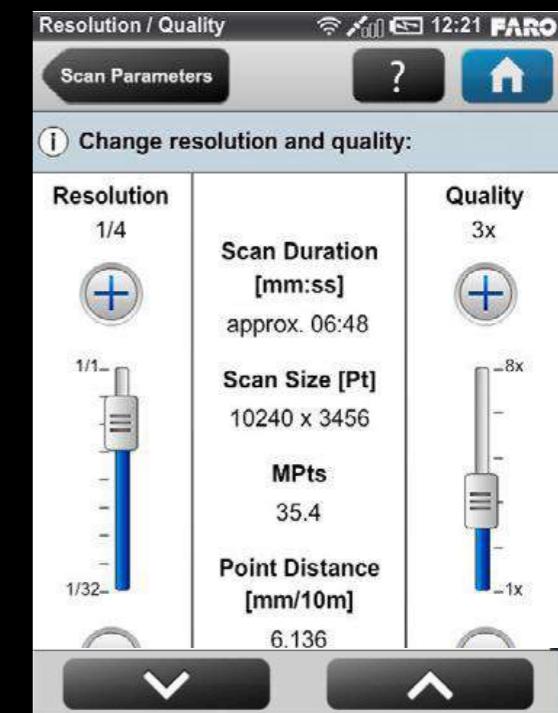
short-range Faro Scanning

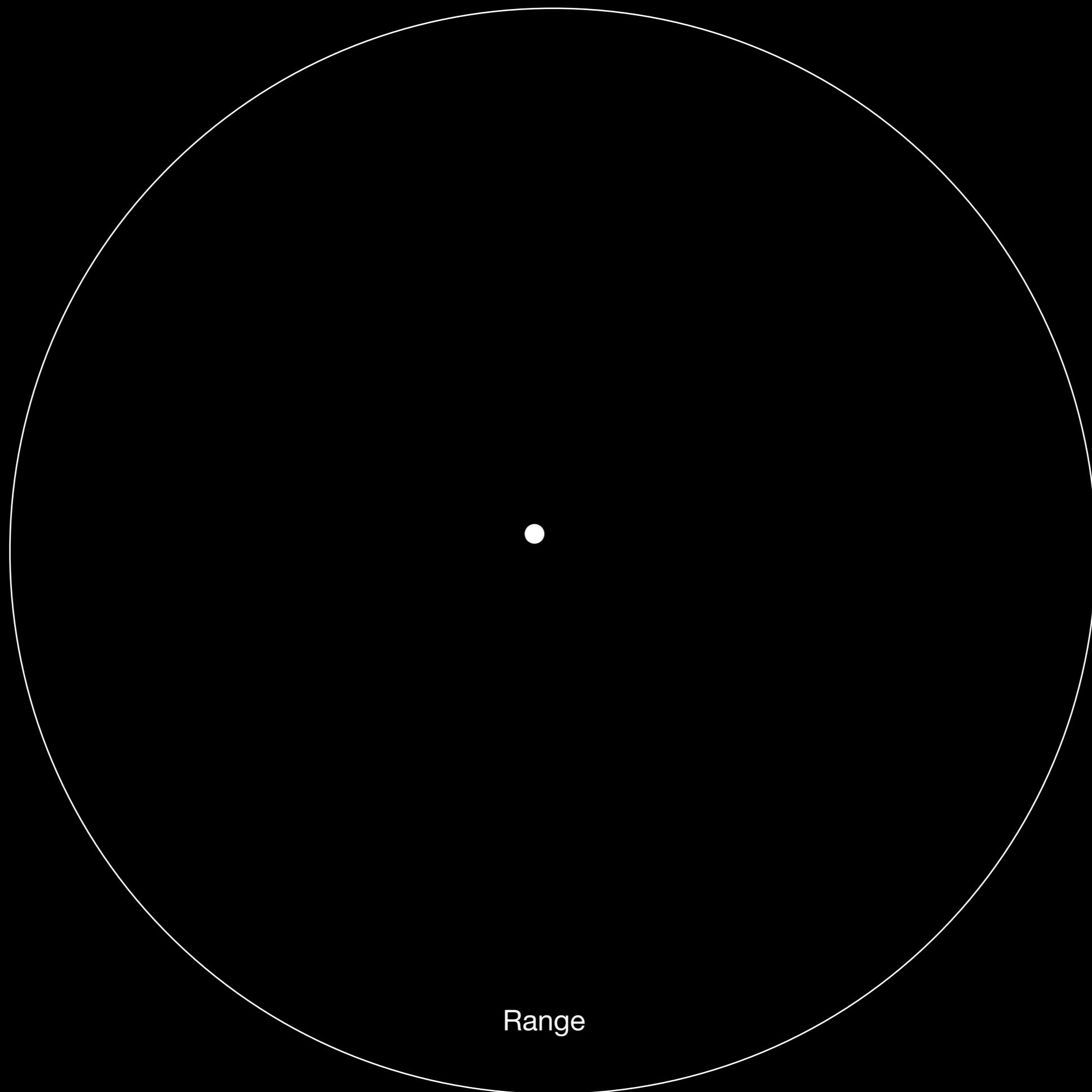


Distance Measuring through Light and Time



360° degree horizontal | -60°-180° degree vertical







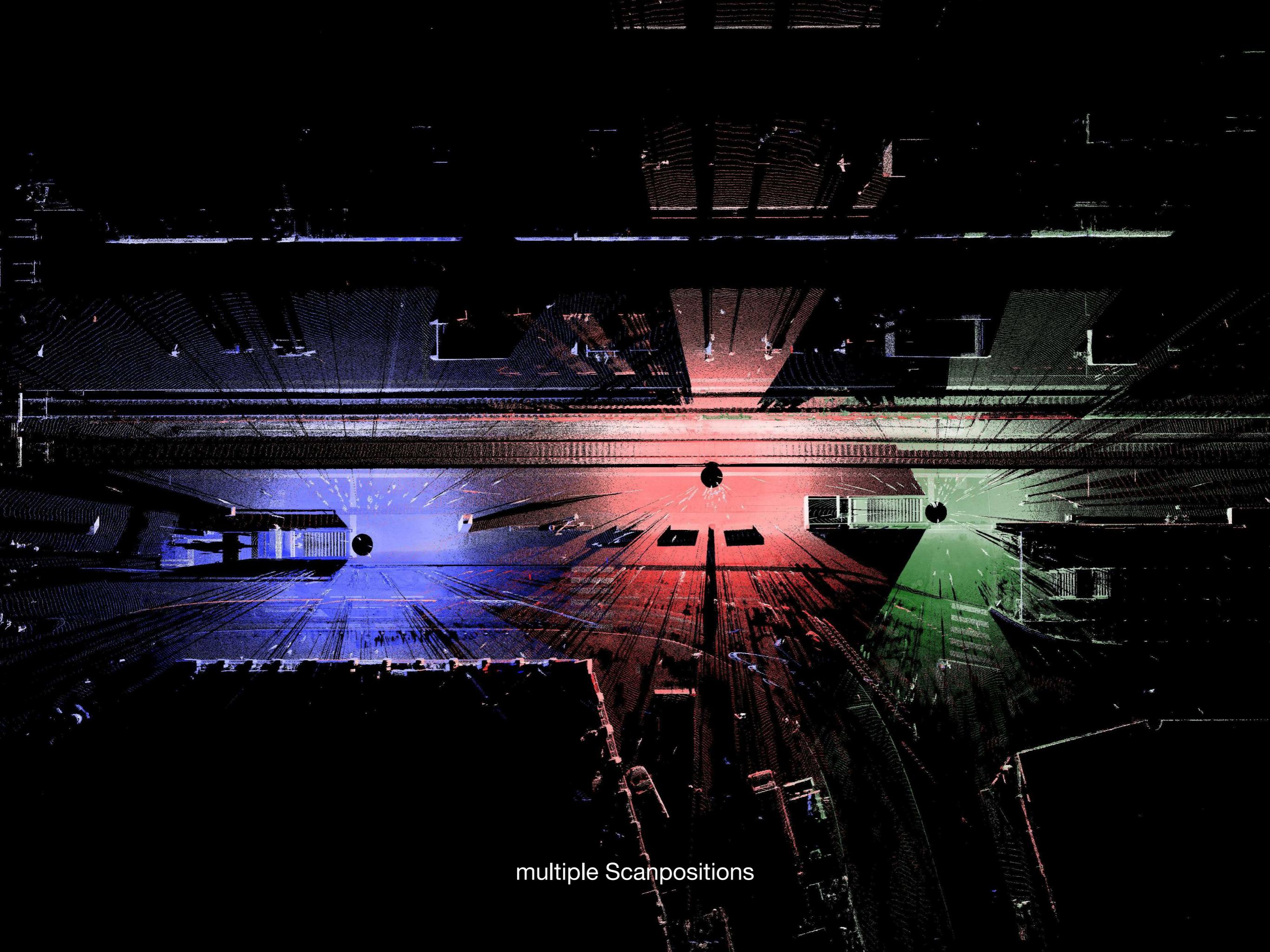
Shading



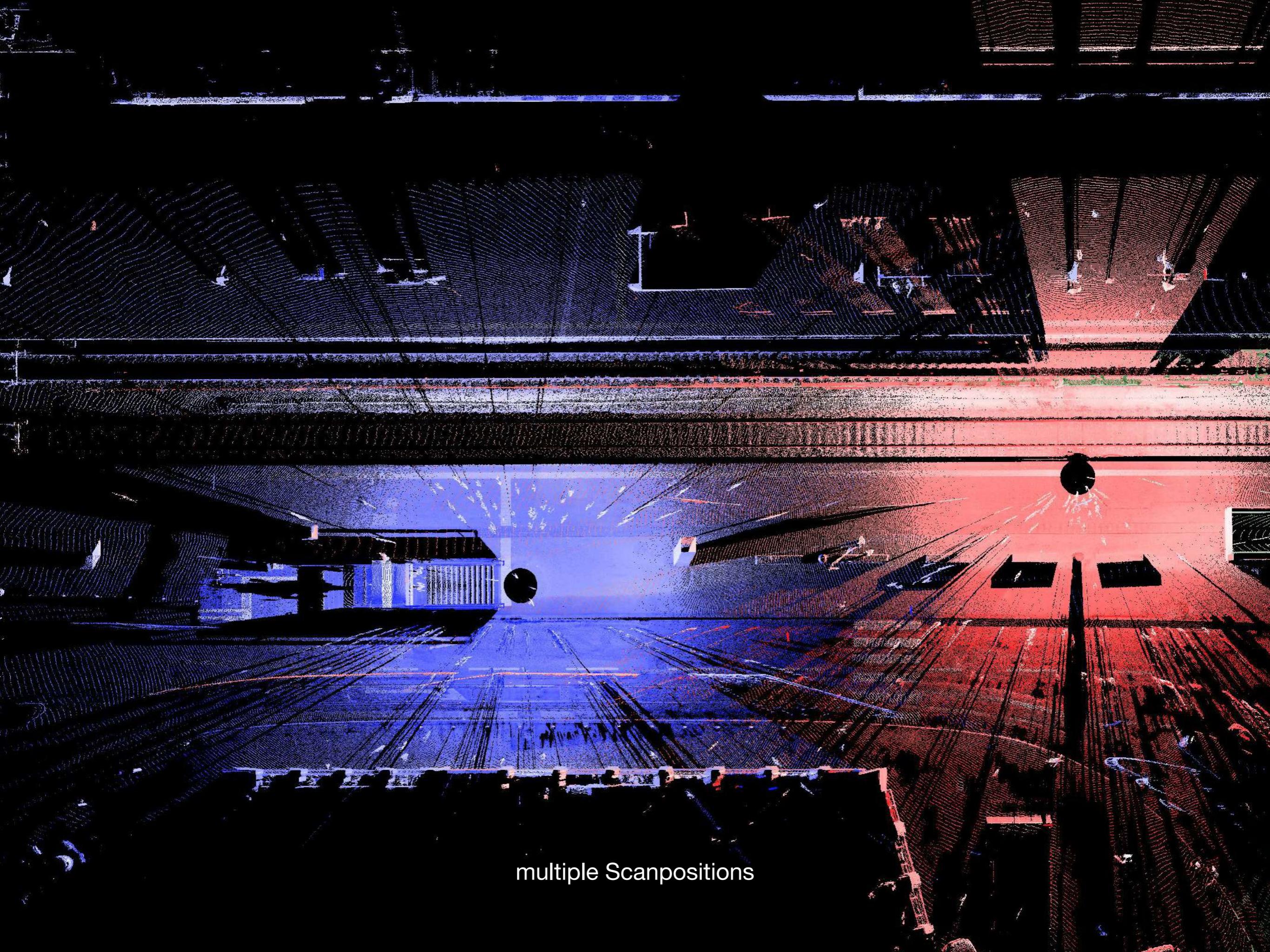
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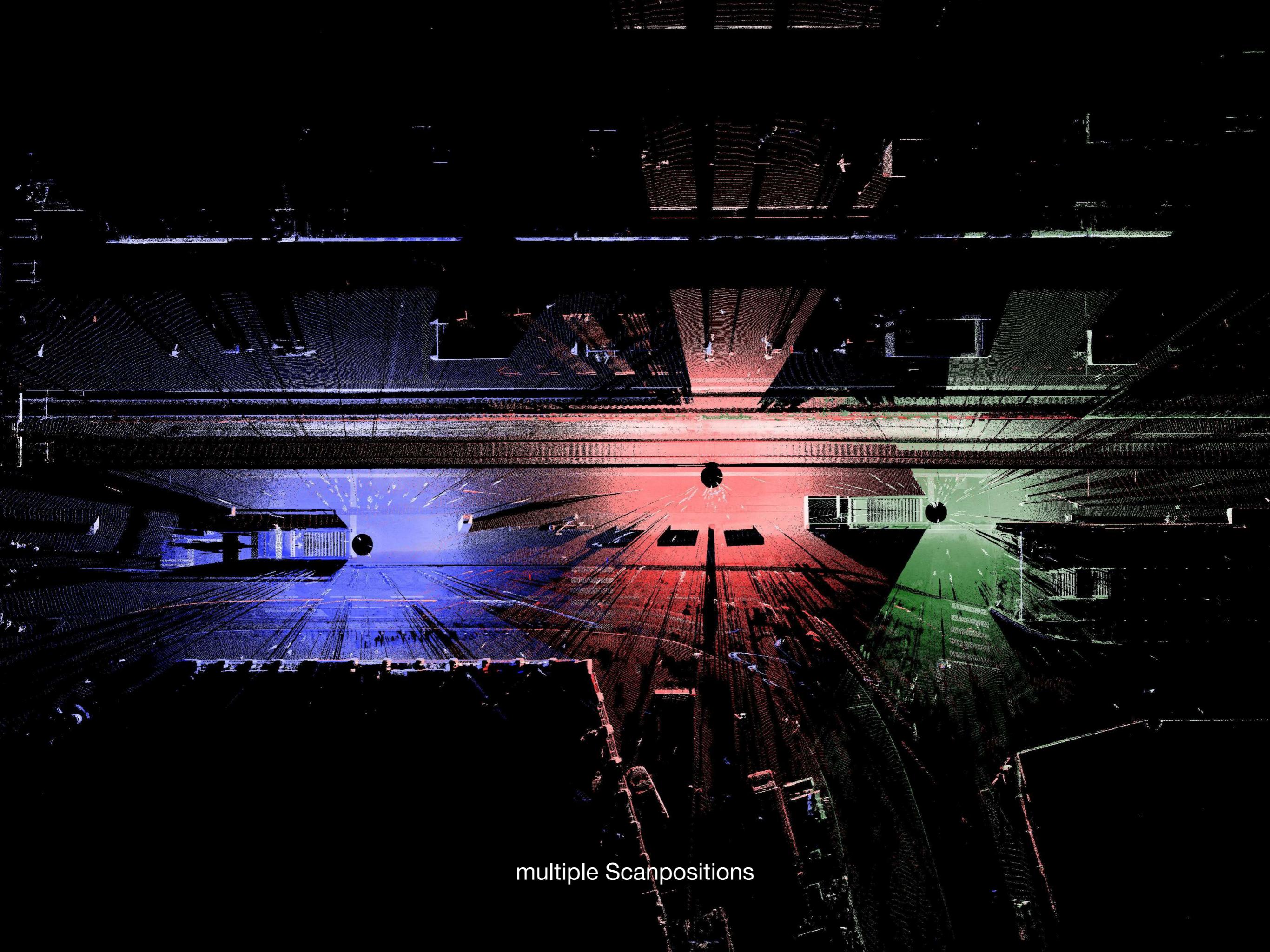
Shading



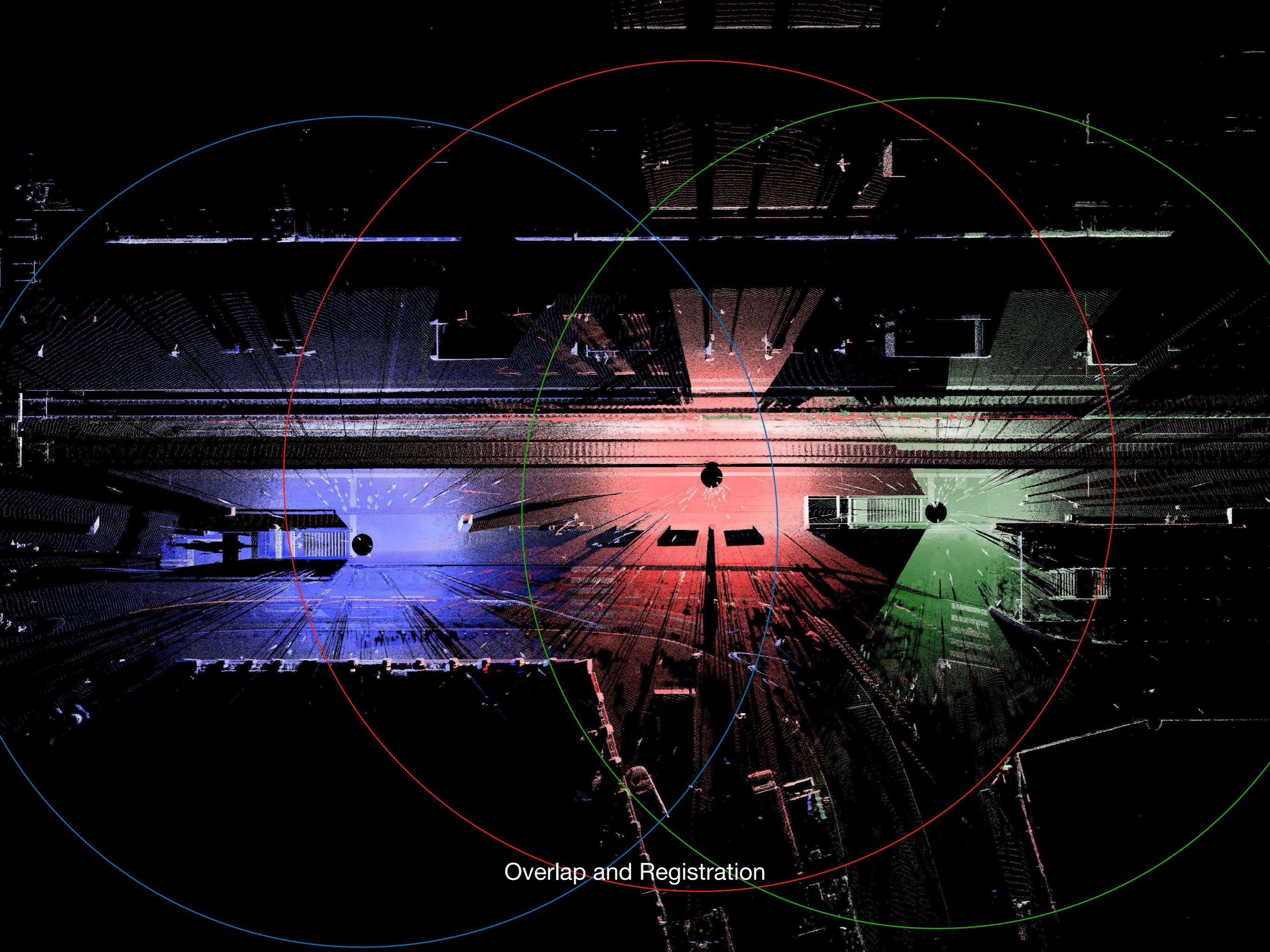
multiple Scanpositions



multiple Scanpositions



multiple Scanpositions



Overlap and Registration



Movement



Colorization

X	Y	Z	r	g	b	intensity
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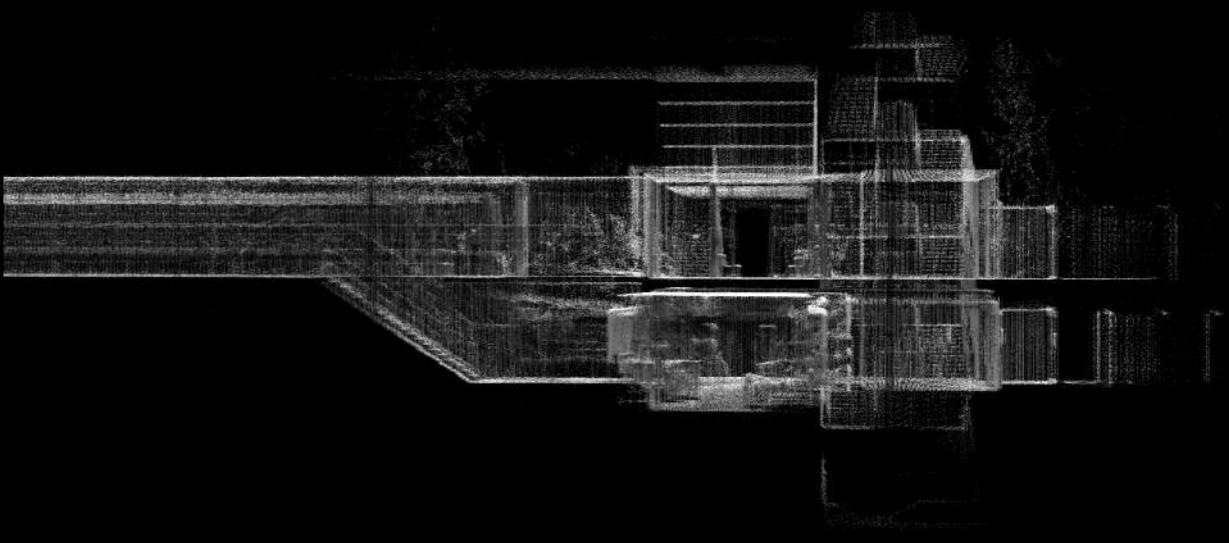
2682711.03495789	1247223.18659973	418.56298828	226	252	191	204.000000
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1 Point

X	Y	Z	r	g	b	intensity
2682711.03495789	1247223.18659973	418.56298828	226	252	191	204.000000
2682710.97827148	1247223.11280823	418.52395630	212	226	129	232.000000
2682710.83433533	1247222.98411560	418.18069458	204	207	128	209.000000
2682710.83589172	1247222.90220642	418.22171021	232	237	155	200.000000
2682710.87300110	1247222.95320129	418.22210693	209	208	128	203.000000
2682710.99639893	1247223.09446716	418.28509521	245	255	154	216.000000
2682710.81365967	1247222.94859314	418.19546509	227	248	169	212.000000
2682711.99418640	1247234.76582336	421.82015991	53	36	42	200.000000
2682749.21212769	1247203.89753723	411.76199341	73	64	23	215.000000
2682711.14270020	1247223.32575989	418.68060303	222	233	139	226.000000
2682710.88514709	1247223.01332092	418.35760498	216	232	157	203.000000
2682765.49163818	1247200.76344299	411.22009277	237	236	232	217.000000
2682711.09130859	1247223.24095154	418.43380737	229	200	122	226.000000
2682753.56912231	1247208.77558899	413.83728027	72	33	28	244.000000
2682755.16596985	1247208.93525696	412.21621704	75	96	17	218.000000
2682755.15518188	1247205.97135925	412.15841675	85	114	30	204.000000
2682748.56948853	1247202.77320862	413.93243408	127	135	88	227.000000
2682763.54519653	1247193.21064758	415.10836792	102	111	66	218.000000
2682751.54252625	1247205.77388000	411.69851685	141	158	87	233.000000
2682770.21066284	1247203.04914856	414.58175659	153	160	80	251.000000
2682747.62109375	1247203.53578186	411.82922363	57	80	28	198.000000
2682711.09902954	1247223.23100281	418.44250488	245	218	141	226.000000
2682711.08210754	1247223.20878601	418.47708130	251	219	134	229.000000
2682710.87295532	1247222.93669128	418.37652588	238	255	163	214.000000
2682710.76762390	1247222.92601013	418.20129395	223	236	154	212.000000
2682711.06509399	1247223.25245667	418.43579102	255	221	129	213.000000
2682758.40493774	1247199.44743347	413.35766602	127	146	91	220.000000
2682748.46412659	1247205.86903381	411.79159546	121	125	75	211.000000
2682710.97145081	1247223.06520081	418.47634888	245	236	141	225.000000
2682710.76303101	1247222.91093445	418.21743774	213	227	130	217.000000
2682710.97360229	1247223.08998108	418.48965454	214	226	118	235.000000
2682710.85484314	1247222.95790100	418.36813354	201	223	122	216.000000
2682722.97999573	1247224.60118103	438.51419067	252	252	250	228.000000
2682761.88870239	1247198.26084900	411.38919067	98	99	57	222.000000



~60 Million Points



~10 Million Points