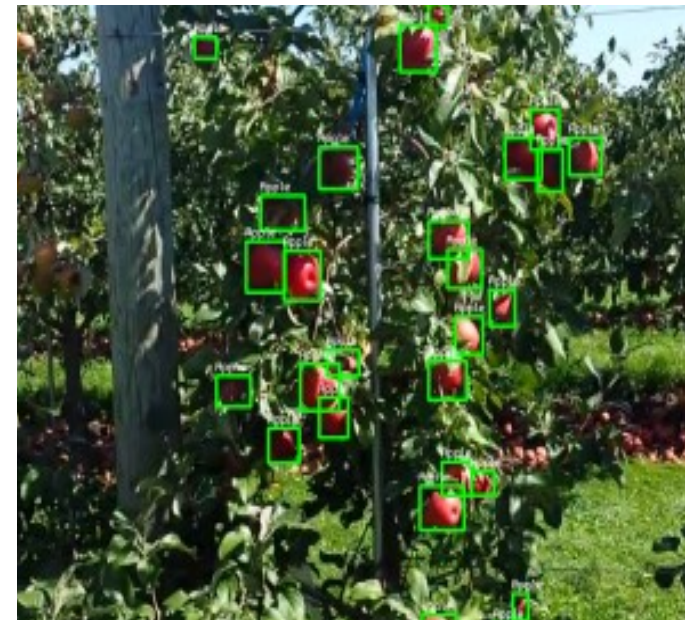
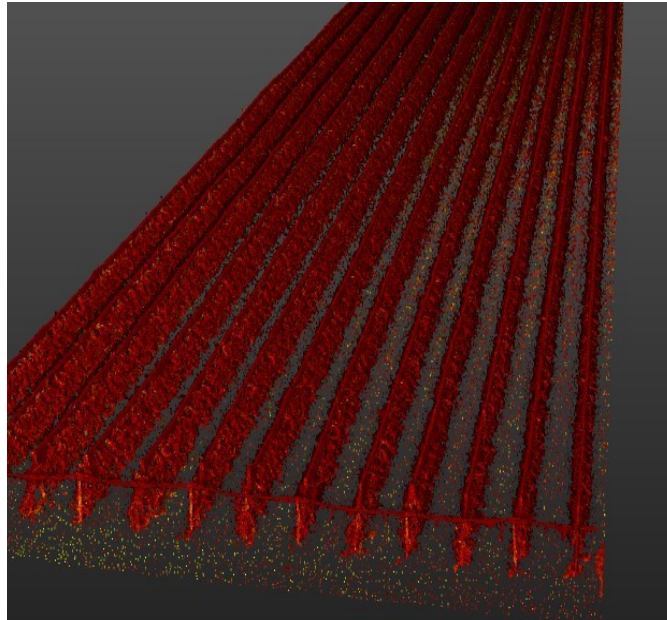
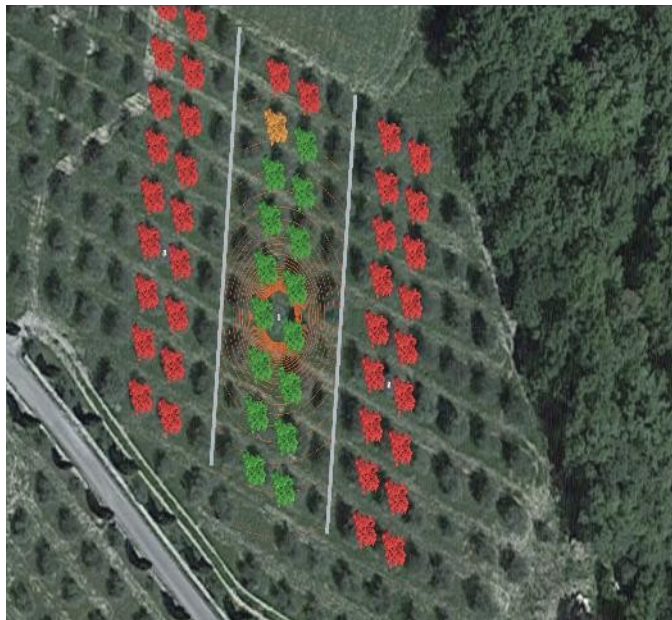


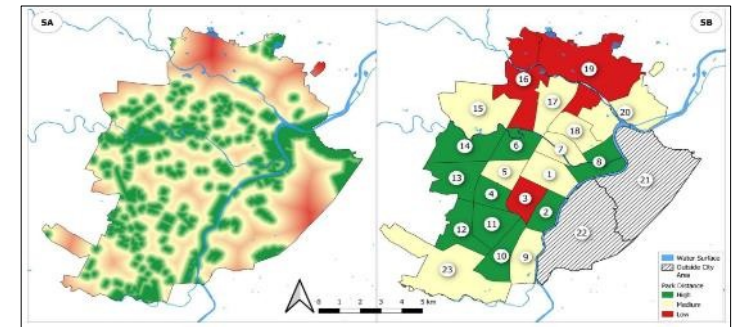
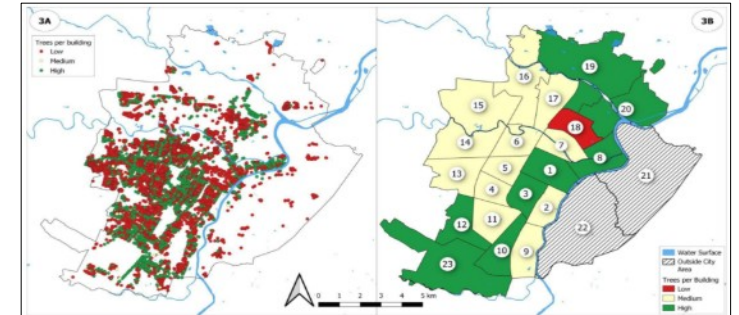
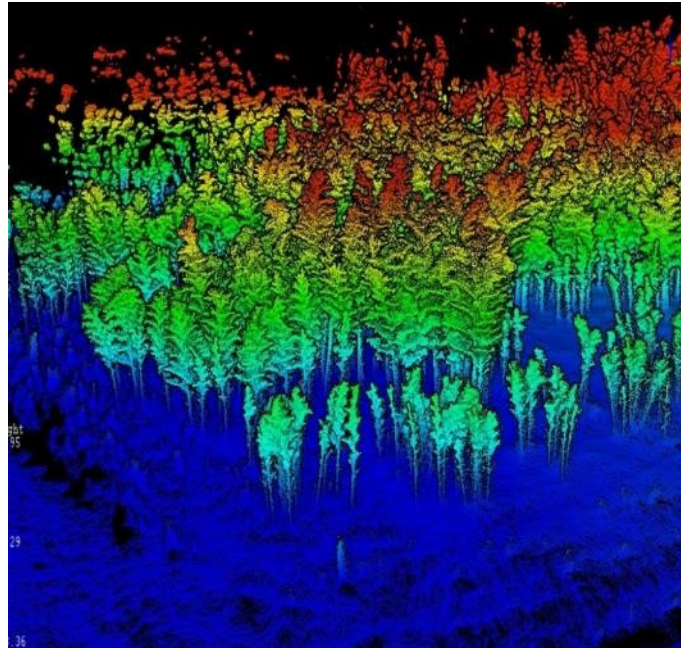
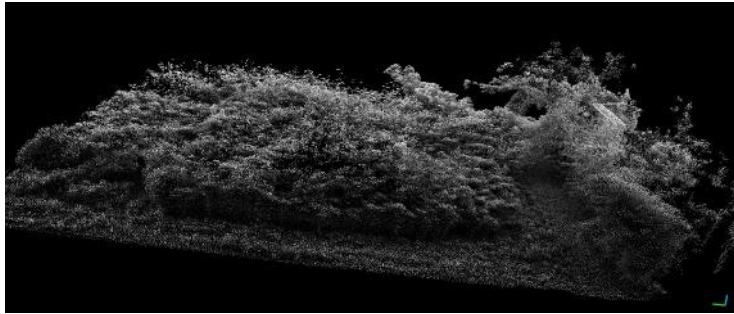


# Soluzioni avanzate di Digital Twin, I.A. e Earth Observation in agricoltura



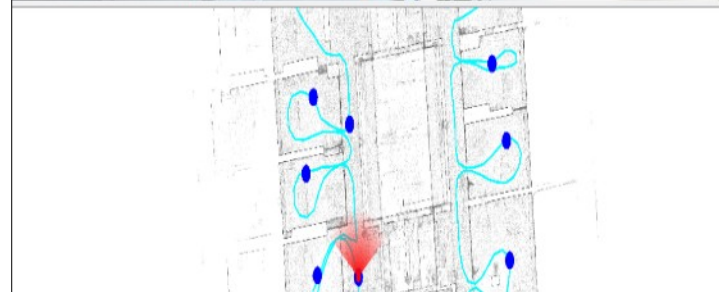
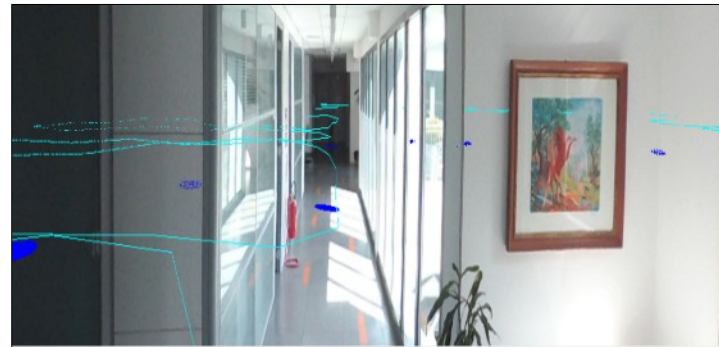
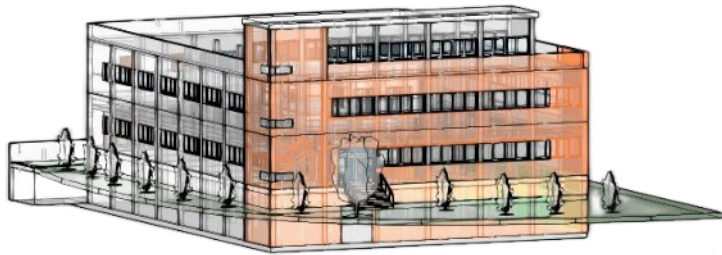


# Rilievi evoluti per Biomassa, Servizi Ecosistemici e Nature Based Solutions





# Soluzioni Digitali per BIM e Facility Management





## Le tecnologie utilizzate



dati satellitari Ottici  
e Meteo



DJI Mavic 3  
Multispectral RTK



antenna GNSS  
GeoMax Zenith60



laser scanner slam  
GEOslam ZEB HORIZON



laser scanner  
terrestre Trimble X7



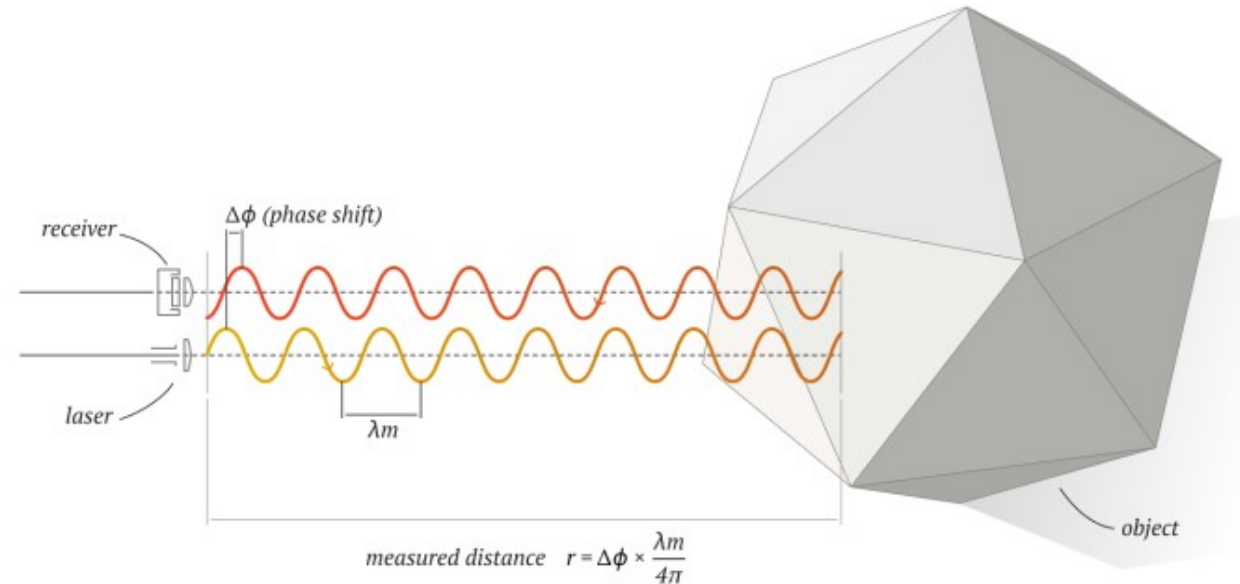
## Il Laser scanner

Il laser scanner è uno strumento in grado di acquisire coordinate tridimensionali di punti regolarmente distribuiti su oggetti in modo automatico e con grande densità. Molte macchine sono dotate anche di una fotocamera in grado di colorare il dato acquisito.



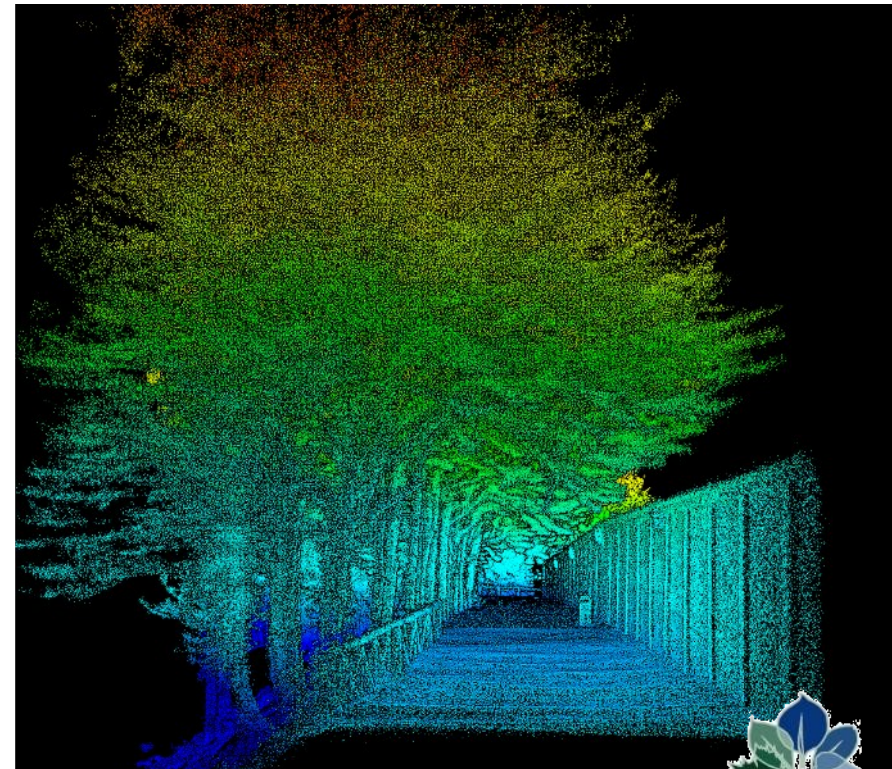
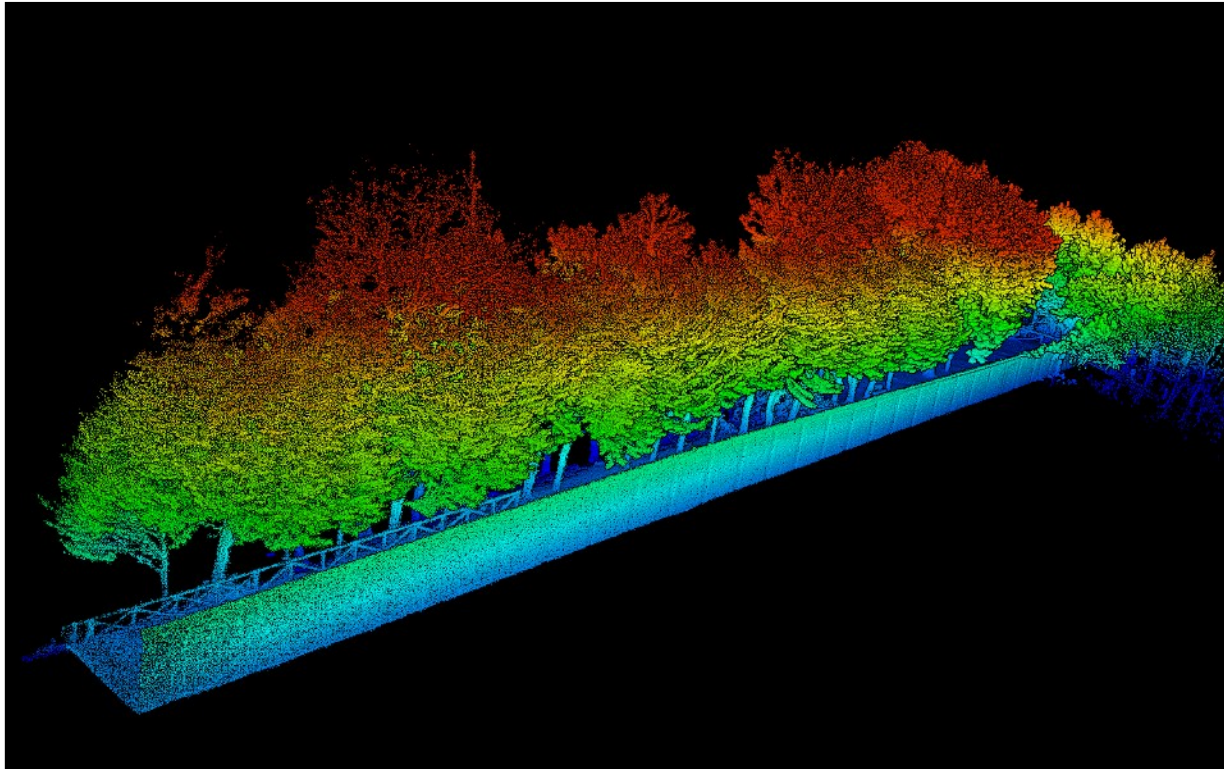
*laser scanner SLAM GEOslam ZEB HORIZON*

- 300.000 punti/sec
- diametro 100 m
- camera 360°



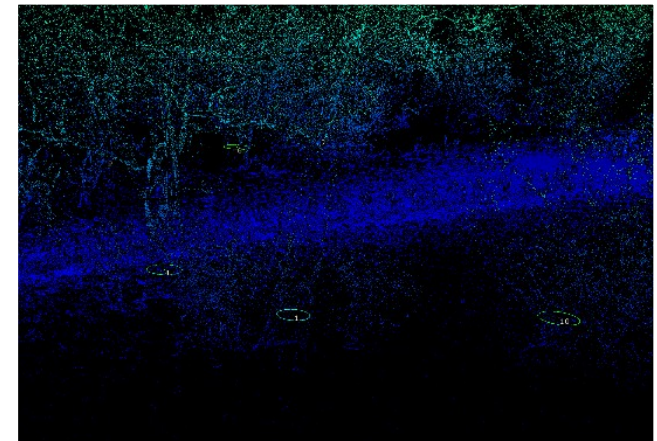
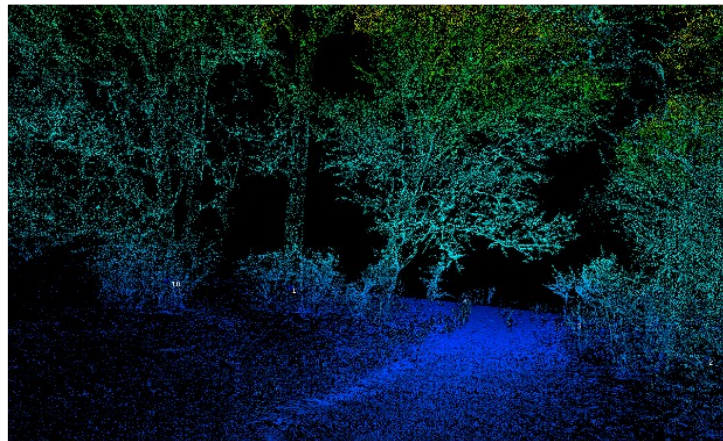
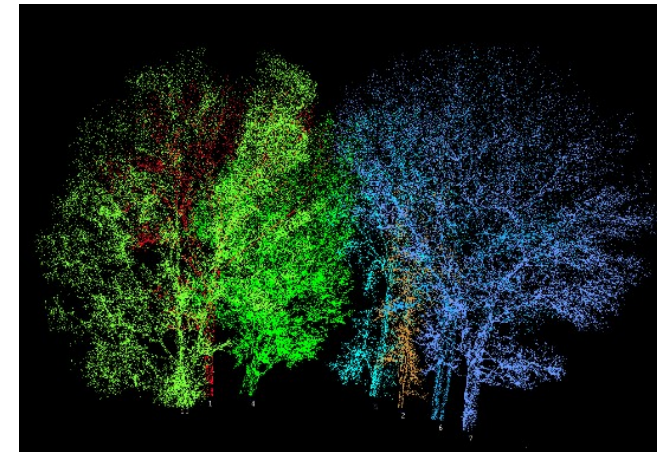
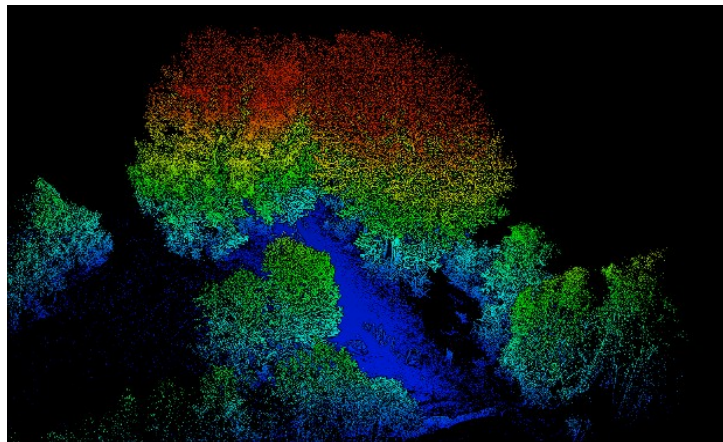


# Sentiero Aceri Superga: RILIEVO - 1



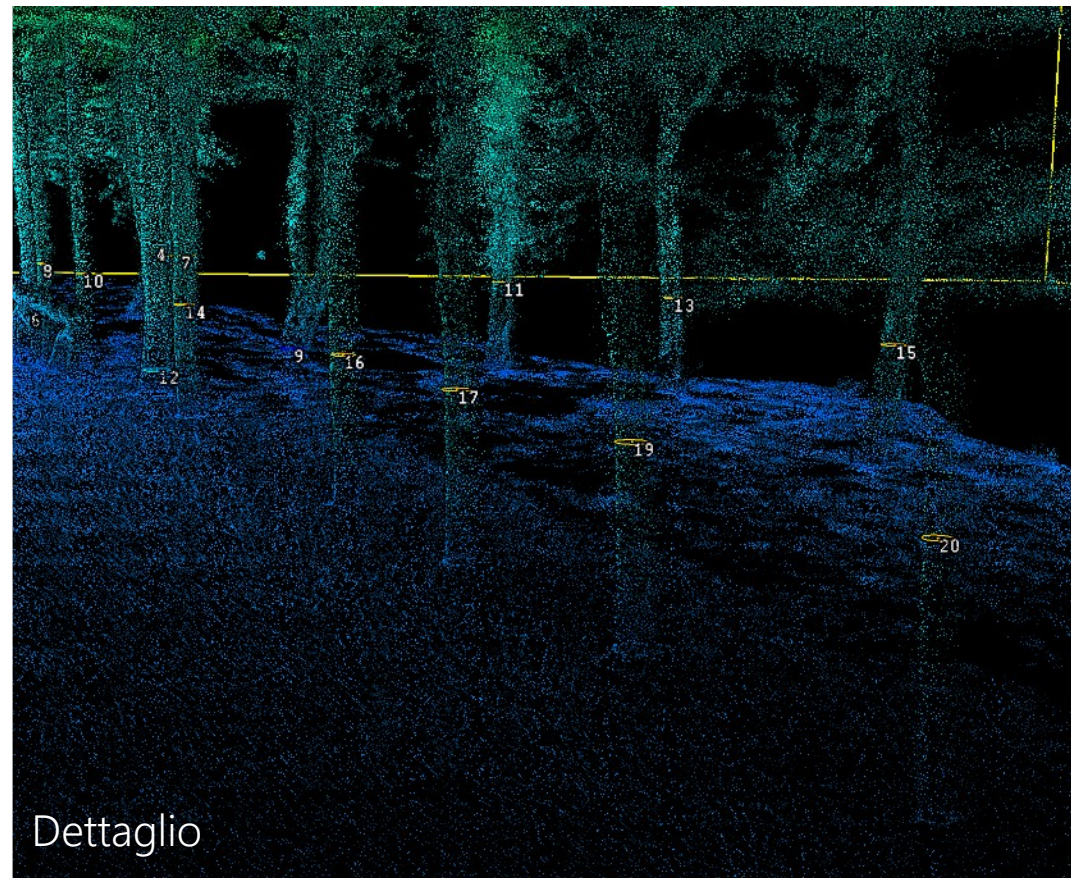
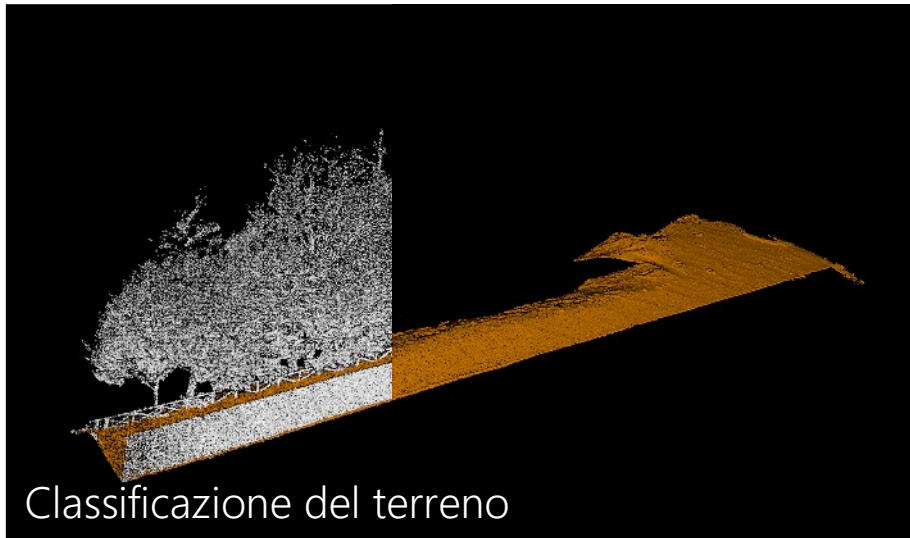


## Parco delle Vallere Torino : RILIEVO - 2



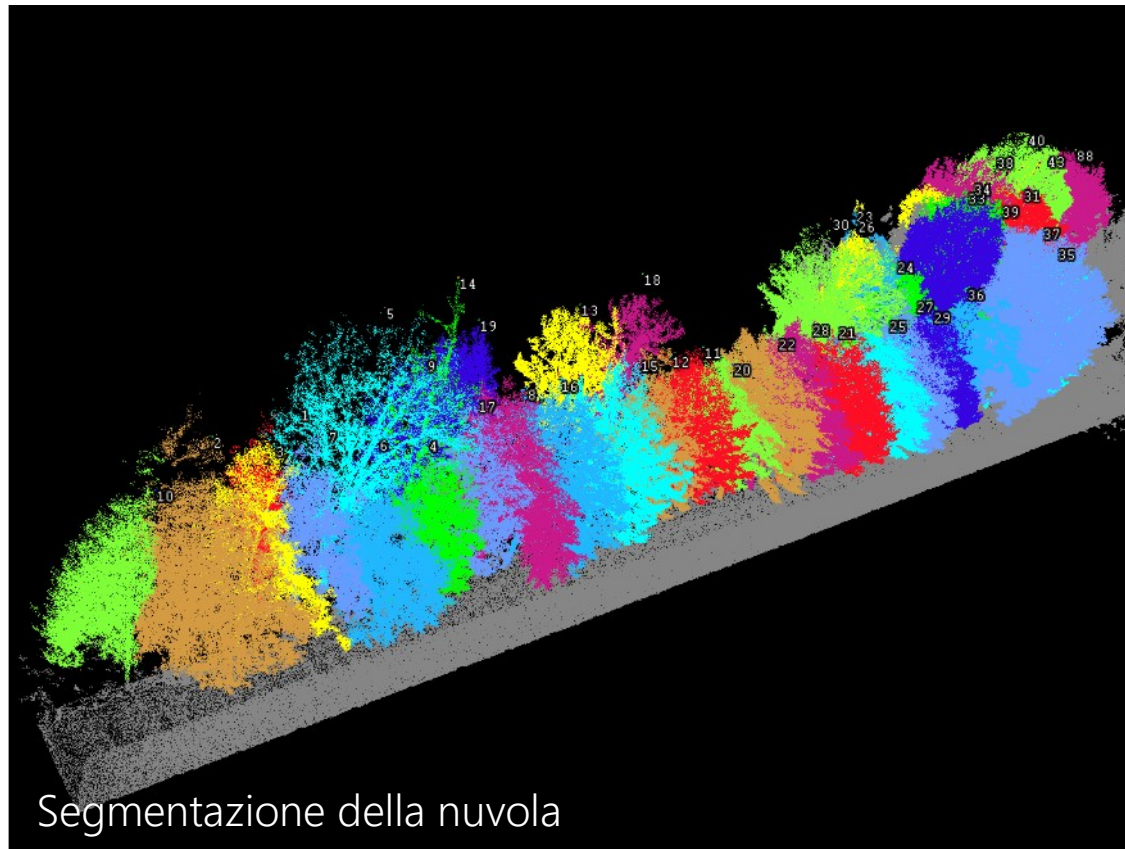


# Sentiero Aceri Superga: ELABORAZIONE - 1





# Sentiero Aceri Superga: ELABORAZIONE - 2



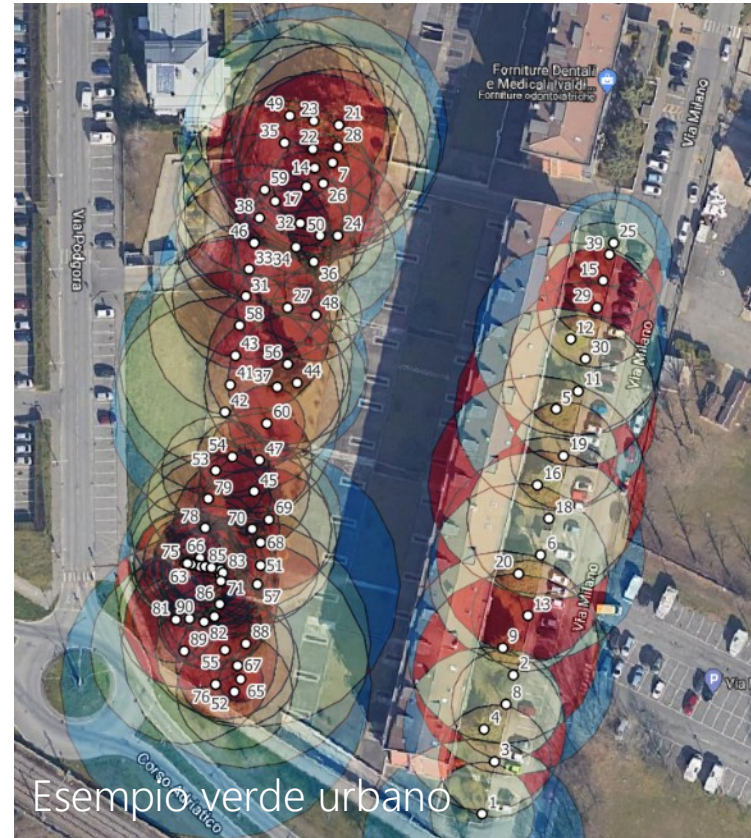
	A	B	C	D	E	F	G	H	I	J	K
TreeID	X	Y	Z	TreeHeight [m]	DBH(metre)	CrownDiameter [m]	CrownDiameter[S-N] [m]	CrownDiameter[E-W] [m]	CrownArea [m2]	CrownVolume [m3]	
1	-81.625	-4.380	1.298	13.00	0.265	4	5	3.6	12.9	75.4	
2	-88.223	-8.075	1.308	14.60	0.347	10.3	9.6	11.9	82.9	524.3	
3	-84.470	-7.381	1.295	13.10	0.154	6.8	5.6	10	36.7	190.5	
4	-74.612	-6.839	1.295	11.50	0.144	6.2	5	9.2	30.6	129.7	
5	-77.779	-4.342	1.304	18.60	0.553	10.9	11.9	10.6	93	660.4	
6	-77.960	-6.904	0.299	12.10	0.334	7.9	6	9.7	48.9	232.4	
7	-81.531	-7.372	1.297	13.40	0.210	6.3	5.1	8.7	31.3	165.4	
8	-67.877	-5.783	0.304	13.30	0.359	7.8	5.3	11.1	48.3	308	
9	-73.078	-3.160	0.099	14.10	0.395	6.2	6.3	7.4	30.5	165.7	
10	-90.880	-8.064	1.297	12.00	0.196	7.2	7.1	8.2	40.5	219.3	
11	-53.315	-4.387	1.294	13.70	0.223	8	5.4	10.6	50.4	304.7	
12	-56.244	-4.767	1.302	13.60	0.226	6.6	4.9	9.1	33.9	211.4	
13	-59.680	0.693	1.306	14.50	0.294	6.8	7.1	6.4	36	235.2	
14	-70.280	-0.495	1.305	17.70	0.309	5.1	6.6	5	20.8	131.5	
15	-59.126	-0.069	1.297	13.80	0.223	8.4	7.6	9.8	55.2	296.7	
16	-65.405	-5.712	1.298	13.50	0.230	7.8	5.9	10.5	48.1	256.1	
17	-71.719	-6.425	1.301	13.40	0.164	6	4.6	7.7	28.2	158.2	
18	-54.321	1.841	1.301	15.60	0.342	6.2	6.5	6.7	30.2	183.6	
19	-66.979	0.996	1.297	13.80	0.258	6.1	6	6.6	29.6	165.9	
20	-49.851	-4.084	1.305	11.90	0.156	7.3	4.7	11.3	41.3	200.6	
21	-39.508	-3.032	0.401	13.10	0.385	7.8	7.1	8.2	48.1	274.9	
22	-45.765	-3.561	0.100	13.10	0.371	9	6.2	12.3	63.1	348.9	
23	-32.123	4.858	1.299	17.60	0.315	5.1	5.4	6.2	20.5	100.5	
24	-28.214	2.568	1.301	14.40	0.247	5.3	7.5	4.8	22.2	138.5	
25	-32.846	-2.014	0.803	12.40	0.251	7.7	5.7	10.3	46.8	250.3	
26	-31.150	-5.128	1.295	16.70	0.297	7.5	7.3	8.4	44.2	305.7	
27	-30.385	-1.826	0.401	13.70	0.343	7.4	5	11	42.8	253.3	
28	-42.572	-3.233	0.499	13.70	0.331	7.6	4.7	10.6	45.5	245.1	
29	-27.249	-1.560	1.301	12.40	0.250	7.3	5.2	9.6	41.5	245.1	
30	-36.826	2.775	1.299	18.20	0.518	9.5	11.1	8.6	71	491.9	
31	-2.949	11.430	1.402	15.20	0.624	12.5	14.9	11.5	122.6	1045.7	
32	11.552	16.968	1.302	12.60	0.436	7.8	7.5	8.3	47.3	233.9	
33	-3.277	16.281	1.401	17.20	0.298	9.2	11	9	67	646.3	
34	-13.467	9.073	1.399	15.40	0.455	8.3	7.2	10.9	54.1	386.7	
35	-10.981	0.955	1.401	13.60	0.182	8.4	7.3	9.7	55	331.7	
36	-23.348	-0.725	1.397	17.50	0.378	12.4	13.4	12.6	121	1106.1	
37	-14.287	0.742	1.401	15.40	0.694	8.9	8	10.6	62.6	396.9	
38	0.472	17.498	1.396	18.20	0.397	10	10.4	11	78.2	771.6	
39	-17.233	3.488	1.399	17.20	0.424	10.3	8	12.7	82.9	689	
40											

Dati tabellari (CSV)

- Altezza pianta
- Diametro a petto d'uomo
- Volume chioma
- Area di insidenza



# Sentiero Aceri Superga: ELABORAZIONE - 3





Grazie per l'attenzione

