DIDEX
DRONE IMAGERY & DATA EXPERT
Drone Imagery & Data Expert
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Drone Imagery & Data Expert

MISSIE / VISIE

Intuïtieve data, duurzaam verzameld vanuit de lucht

In kaart brengen, opmeten en inspecteren van natuur & infrastructuur

STRATEGIE

Klanten helpen verduurzamen

Blijvend innoveren in vluchtuitvoering en beeldopname/verwerking

DIDEX

Vluchtuitvoering, beeldopname en dataverwerking

Focus op thermale en multispectrale sensoren met bijbehorende dataverwerking

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KLANTEN

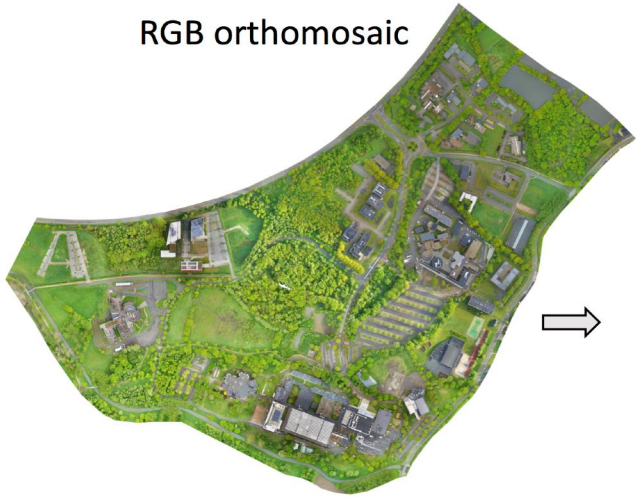
- **KENNISINSTELLINGEN EN PROEFINSTITUTEN**
- **LAND-, TUIN- EN BOSBOUWSECTOR**
- **RECYCLING INDUSTRIE**
- **BOUWSECTOR** (AANNEMERS – LANDMETERS – ARCHITECTEN)
- **VERZEKERAARS**
- **OVERHEDEN**

SENSOREN RGB EN MULTISPECTRAAL

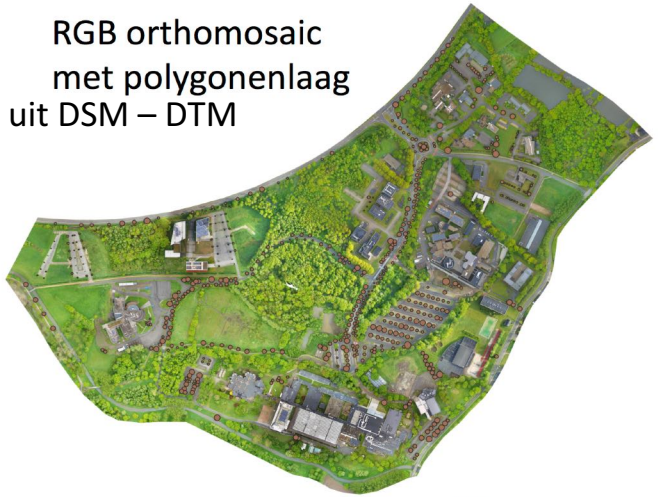
RGB kleurensensor

Zenmuse X4S / X7

RGB orthomosaic



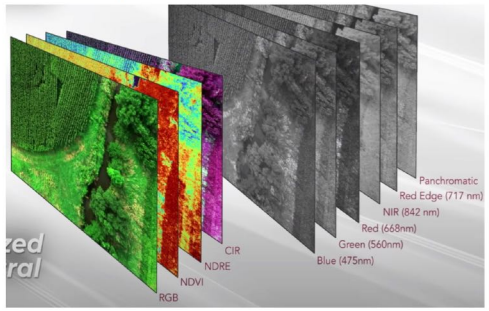
RGB orthomosaic
met polygonenlaag
uit DSM – DTM



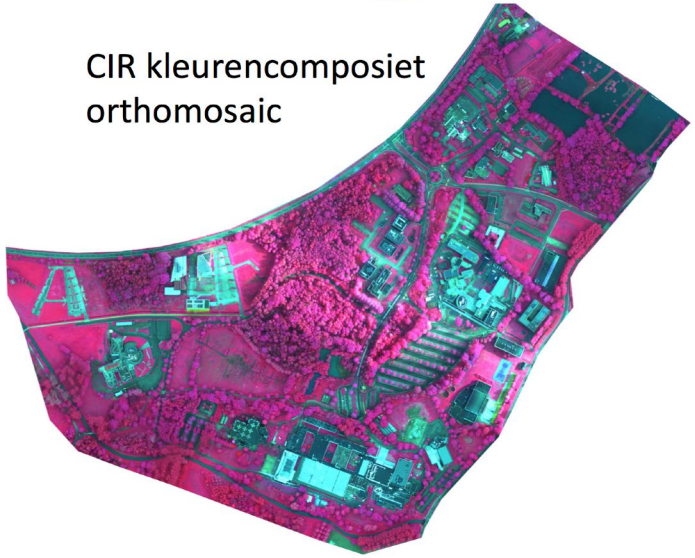
Multispectrale sensor

MicaSense RedEdge-P

Multispectrale rasterbanden



CIR kleurencomposiet
orthomosaic



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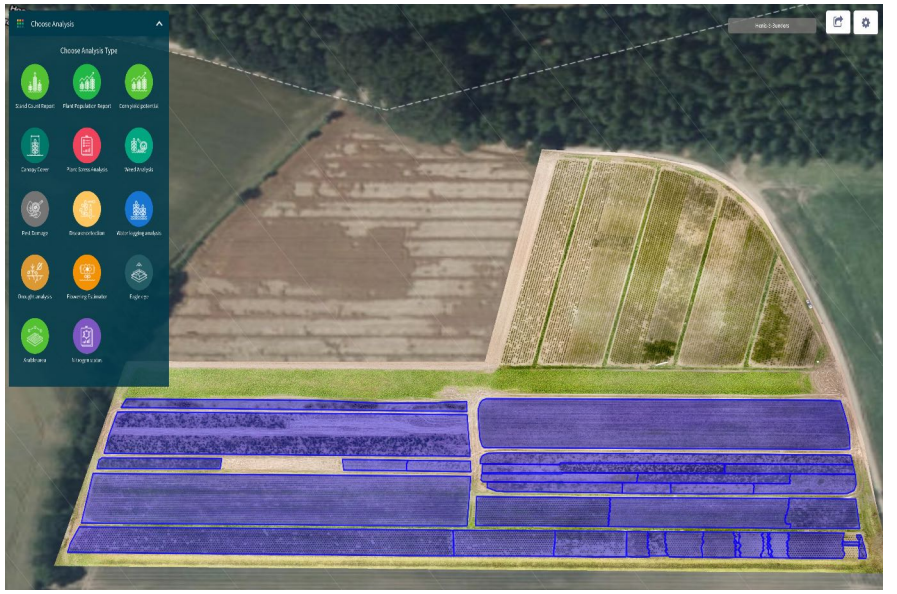
PLANTENTELLING / INVENTARISATIE SIERTEELT, BOMEN, …



Plants Per Plot - - Yves Latin

Bestand Bewerken Weergeven Invoegen Opmaak Gegevens Extra Add-ons Help Laatste bewerking is 4 dagen geleden uitgevoerd door Nemanja Vuruna

Field name

	A	B	C	D	E	F	G
1	Field name	Plant Name	Plot name	Plot Number	Plant Form	Total area (ha)	Number of plants
33	s Herenelderen loonwerker	Thuja plicata 'Martin	a	1		0.17	452
34	s Herenelderen loonwerker	Thuja plicata 'Martin'	b	1		0.36	1178
35	s Herenelderen loonwerker	Buxux Rocoxxo	c	2		0.012	241
36	s Herenelderen loonwerker	Buxus Sempervirens	c	2 / 3	bol en kubus	0.12	3014
37	s Herenelderen loonwerker	Abies nordmanniana	d	1		0.13	556
38	s Herenelderen loonwerker	Pinus nigra nigra	e	1		0.12	279
39							
40	Millen Ulrix	Juniperis chin. 'Stricta'	a	10		0.0422	394
41	Millen Ulrix	Pinus DK/Dyrehaeve	c	5 / 6	struik / bol	0.0693	577
42	Millen Ulrix	Pinus cembra 'glauca'	c	11		0.0207	146
43	Millen Ulrix	Pinus aristata	c	1		0.0207	139
44	Millen Ulrix	Pinus mugo 'allgäu'	c	10		0.0071	90
45	Millen Ulrix	Pinus mugo 'Varella'	c	3		0.0405	403
46	Millen Ulrix	Pinus mugo 'Winter Gold'	c	4		0.046	965
47	Millen Ulrix	Pinus l. Compact Gem/Pinus l. 'Satellit'	?	12 / 13		0.0656	602
48	Millen Ulrix	Pinus mugo 'Gnom'	c	14		0.0121	221
49	Millen Ulrix	Pinus mugo 'Mops'	c	15		0.0563	845
50	Millen Ulrix	Pinus mugo 'Winter Gold'	c	16		0.0307	501
51	Millen Ulrix	Pinus mugo 'Varella'	c	17		0.0098	133
52	Millen Ulrix	pinus mugo 'Carsten'	c	18		0.0186	167
53	Millen Ulrix	Pinus nigra 'Green Tower'	e	19		0.0135	64
54	Millen Ulrix	Taxus baccata	d	1		0.52	9975
55							
56	Millen	Taxus baccata	c	1	bol	0.0982	434
57	Millen	Taxus baccata	c	2		0.0772	653
58	Millen	Juniperus scop. 'Blue Arrow'	d	1		0.22	2189
59	Millen	Picea glauca 'Conica'	d	2		0.16	1463
60	Millen	Picea glauca 'Sander's Blue'	d	3		0.0656	1065
61	Millen	Taxus med. 'Hillii'	d	4		0.0044	7
62	Millen	Thuja occ. 'Pyramidalis Compacta'	d	5		0.0118	182
63	Millen	Prunus lus. 'Angustifolia'	e	1		0.22	4096
64	Millen	Taxus b. 'Fastigiata Aurea'	f	1		0.14	1936
65	Millen	Taxus b. 'Fastigiata Robusta'	f	2		0.059	256
66	Millen	Taxus b. 'David'	f	3		0.0943	448
67	Millen	Taxus med. 'Hillii'	f	4		0.18	3856
68	Millen	Picea glauca 'Conica'	g	1		0.0596	383
69	Millen	Thuja pl. 'Atrovirens'	h	3		0.0619	316
70	Millen	Thuja pl. 'Martin'	h	4		0.0589	458
71	Millen	Taxus baccata	j	1	kegel	0.0203	118
72	Millen	Taxus baccata	j	2	bol	0.3	2707
73	Millen	Thuja occ. 'Smaragd'	k	1		0.17	1244
74	Millen	Juniperus scop. 'Blue Arrow'	h	1		0.21	1601

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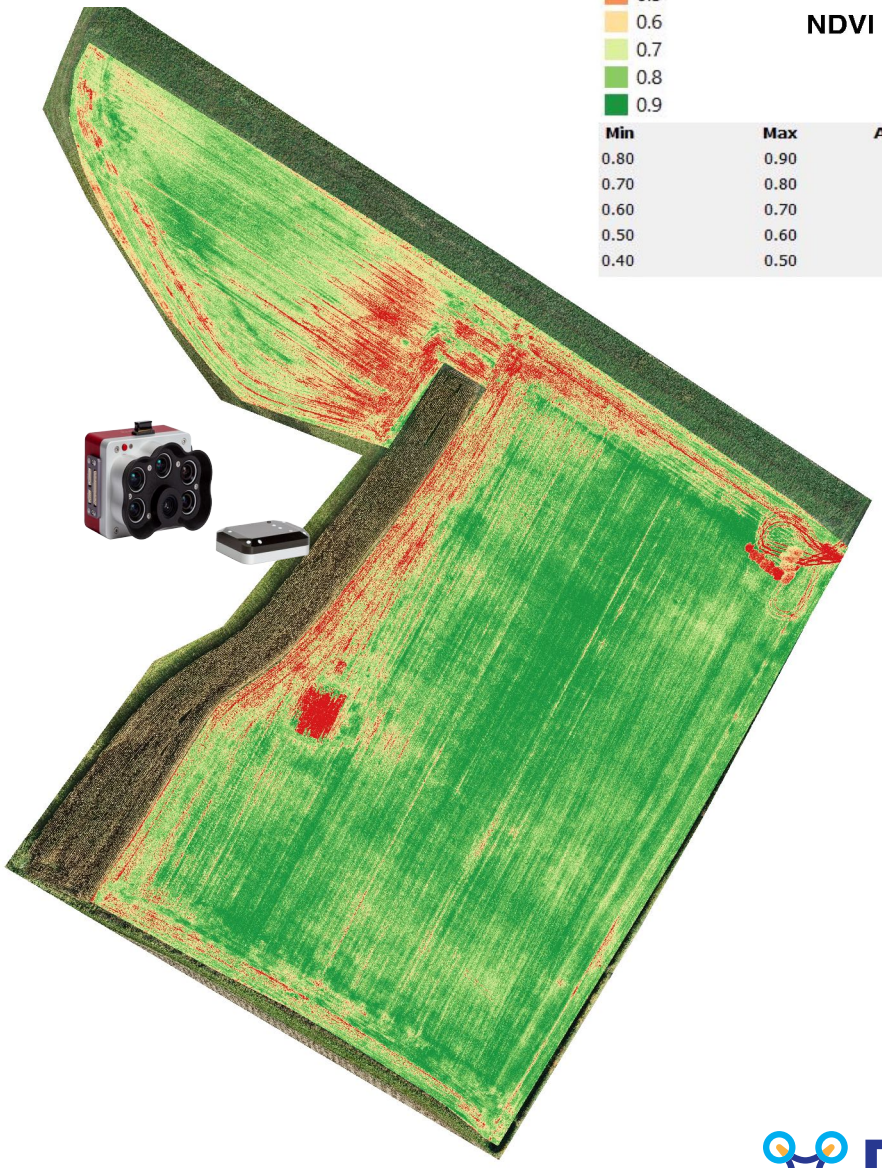
NDVI OP GROENBEMESTER / LOKALISEREN GRONDSTAALNAME

$$Normalized\ Difference\ Vegetation\ Index\ (NDVI) = \frac{Band\ 5_{(NIR)} - Band\ 3_{(Red)}}{Band\ 5_{(NIR)} + Band\ 3_{(Red)}}$$



20211022_Voetbalveld2022_Bodemscan

NDVI index

0.4
0.5
0.6
0.7
0.8
0.9

Min	Max	Area [ha]	Area [%]
0.80	0.90	4.37	52.60
0.70	0.80	2.17	26.15
0.60	0.70	0.91	10.90
0.50	0.60	0.53	6.33
0.40	0.50	0.33	4.02

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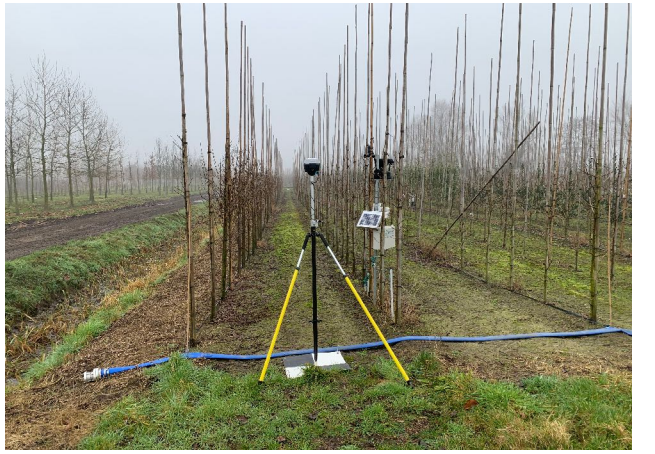
DATACAPTATIE EN VERWERKING VOOR PROEFINSTITUTEN

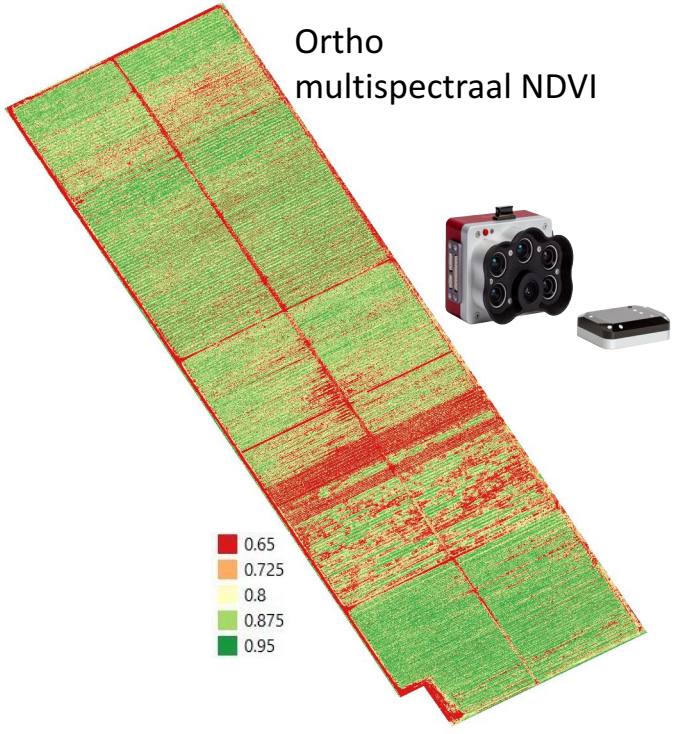
Blauwe bessenplantage



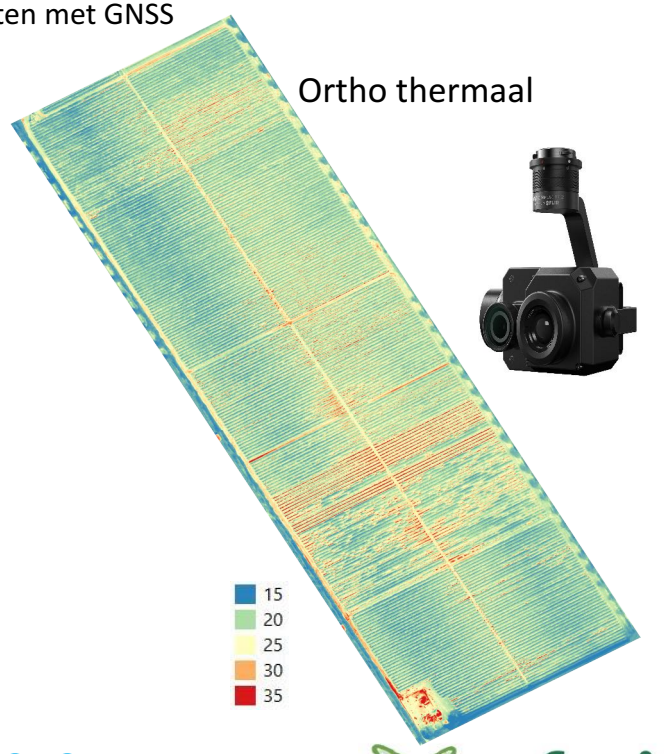
Inmeten grondcontrolepunten met GNSS

Ortho RGB

Ortho multispectraal NDVI



Ortho thermaal



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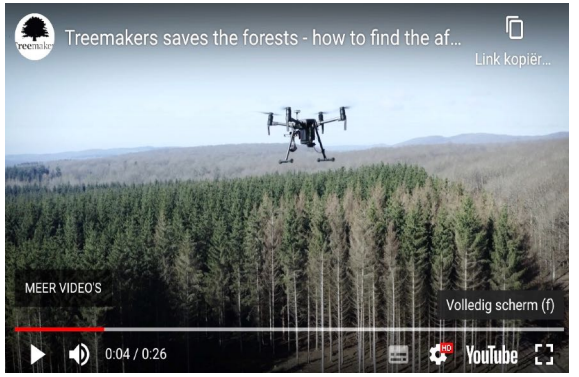
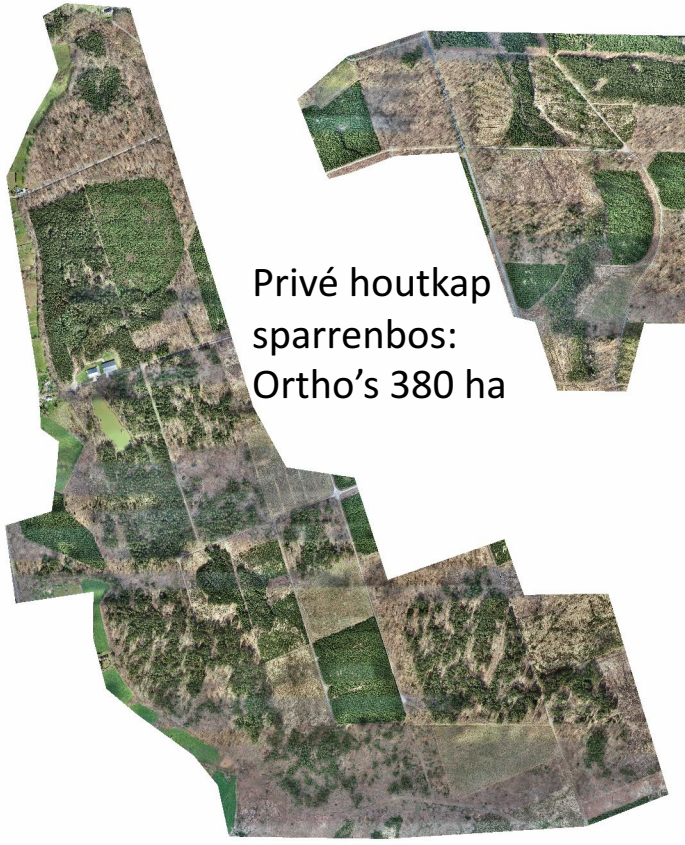
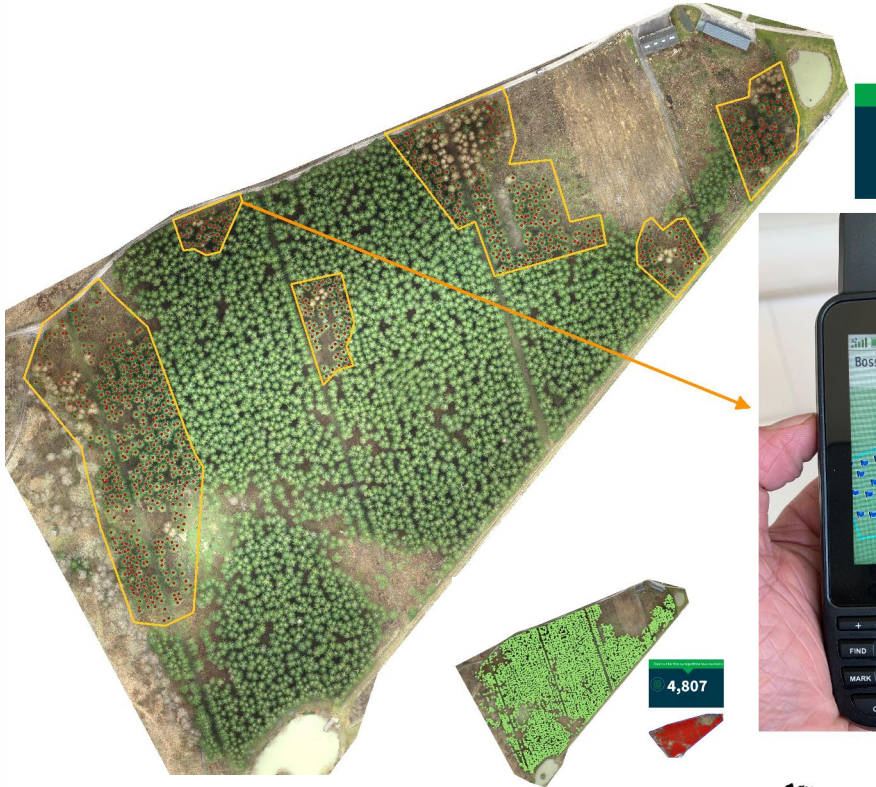
pcfruit PROEFCENTRUM FRUITTEELT VZW

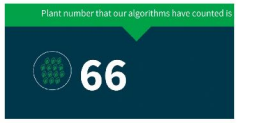
BESTRIJDEN ‘LETTERZETTER’ KEVER IN PRIVE SPARRENBOSSEN

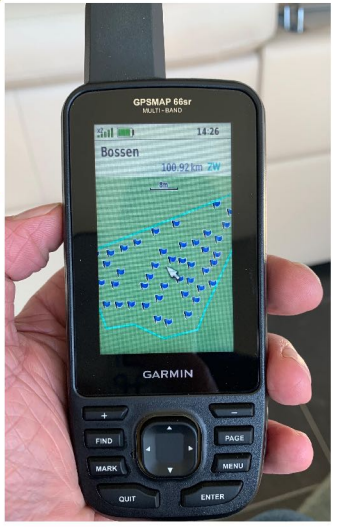




Privé houtkap
sparrenbos:
Ortho’s 380 ha







Treemakers

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BESTRIJDEN ‘LETTERZETTER’ KEVER IN PRIVE SPARRENBOSSEN

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SOLITAIRE BOMEN IN KAART VOOR LANDSCHAPSAANNEMER

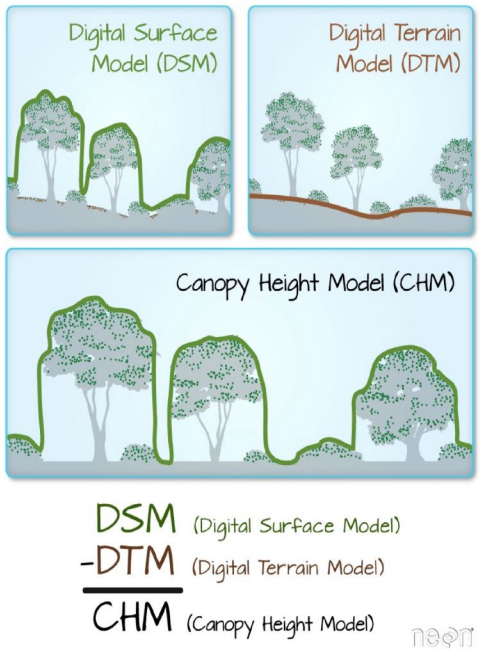
Boompunten vectordata aanmaken met AI / ML platform

SOLITAIRE BOMEN IN KAART VOOR LANDSCHAPSAANNEMER

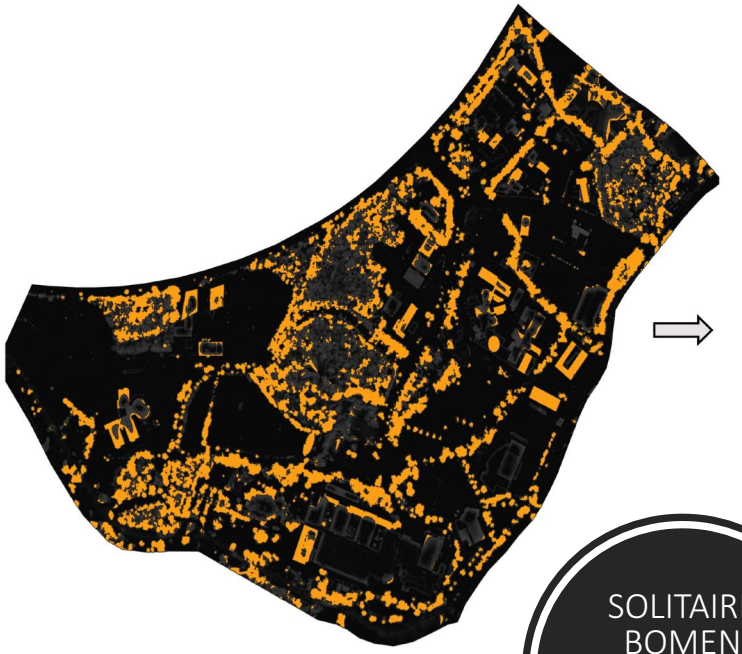
Vectordata boomkruinen en boomhoogten

SOLITAIRE BOMEN IN KAART VOOR LANDSCHAPSAANNEMER

DSM - DTM



Vectoriseren raster



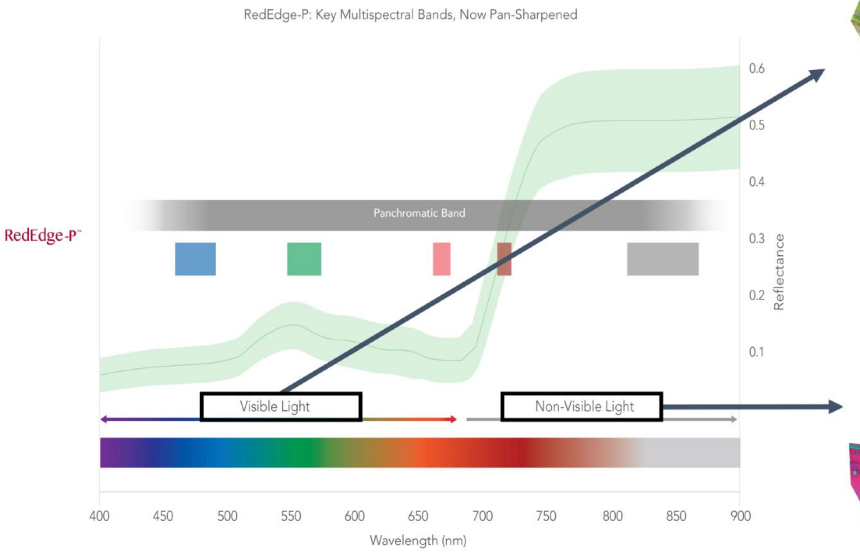
Opkuisen overbodige data

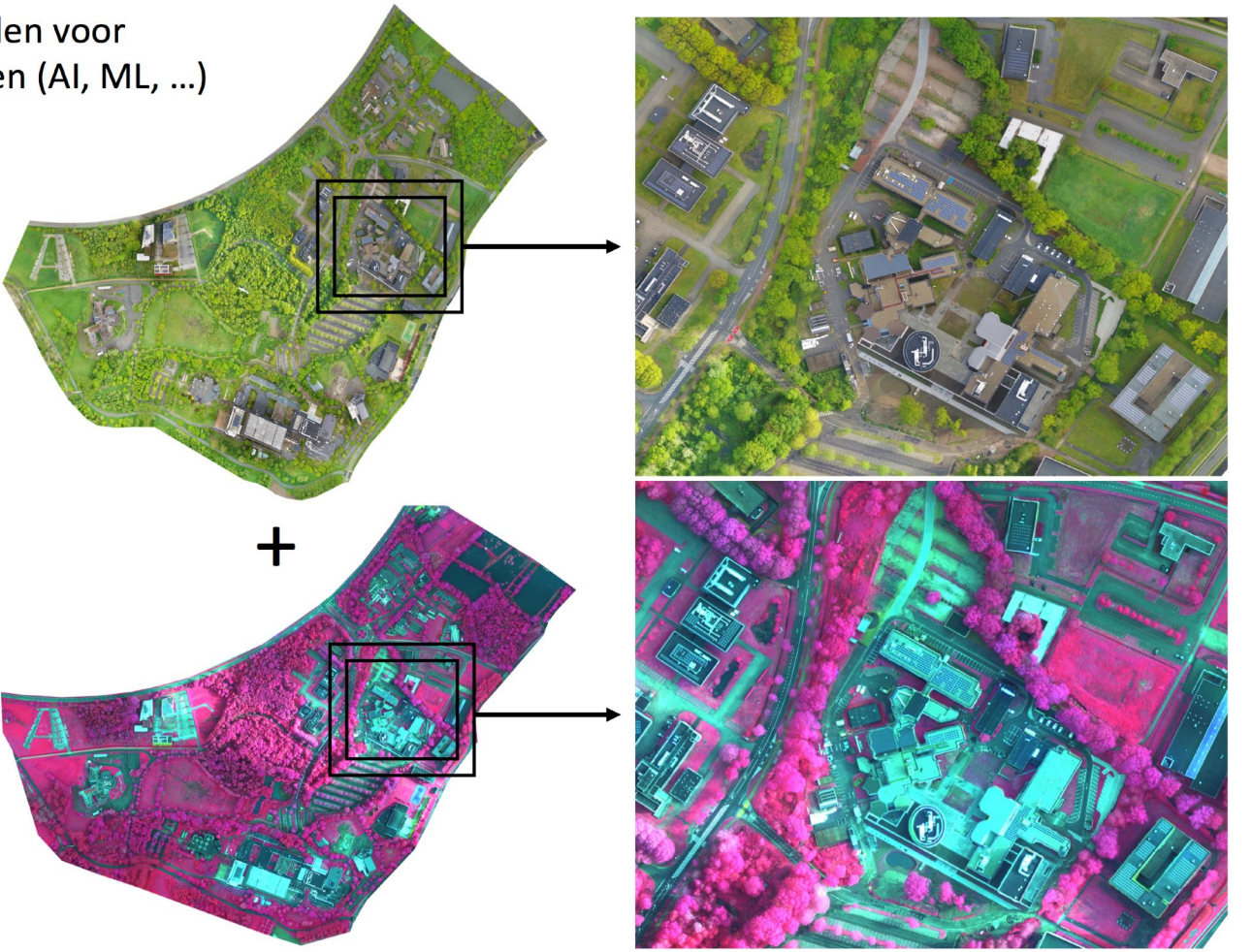
SOLITAIRE BOMEN

VECTORISEREN

SOLITAIRE BOMEN IN KAART VOOR LANDSCHAPSAANNEMER

Samenvoegen (mergen) RGB + MSP rasterbanden voor nauwkeuriger classificatie-algoritmen methoden (AI, ML, …)





SOLITAIRE BOMEN IN KAART VOOR LANDSCHAPSAANNEMER

IMPORT VOLGENS CODERING

Bomen_ALLE_info_CSV - Excel (Produc

Bestand Start Invoegen Help Vertel wat u wilt doer

KENNISGEVING De meeste functies zijn uitges

A1 shapeid,partid,x,y,zone_color,group_colo,rn,DN,radius,area,Hoogte_max,Boomsoort

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	shapeid,partid,x,y,zone_color,group_colo,rn,DN,radius,area,Hoogte_max,Boomsoort												
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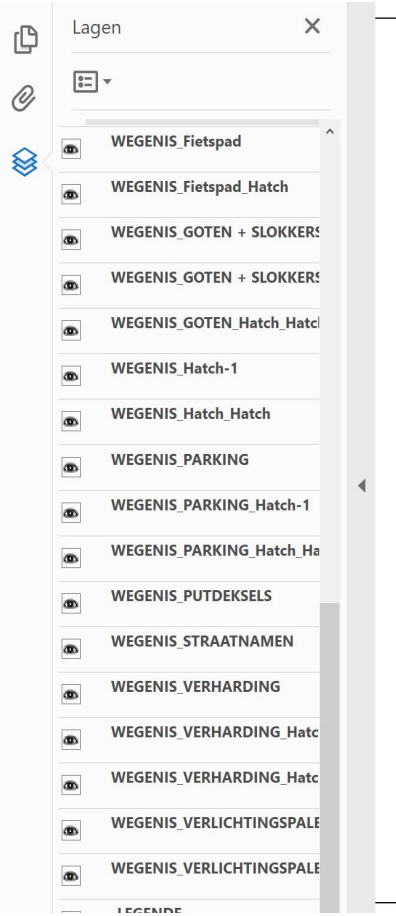
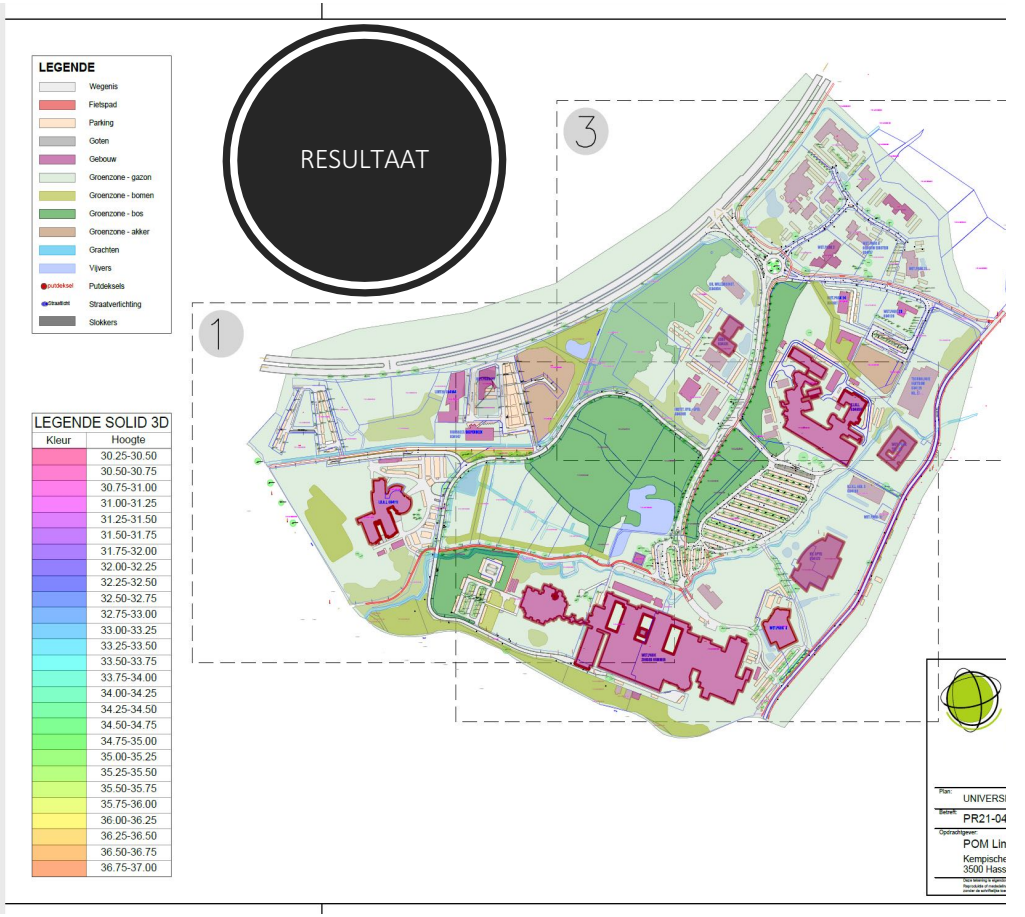
Bomen_ALLE_info_CSV

pom Limburg

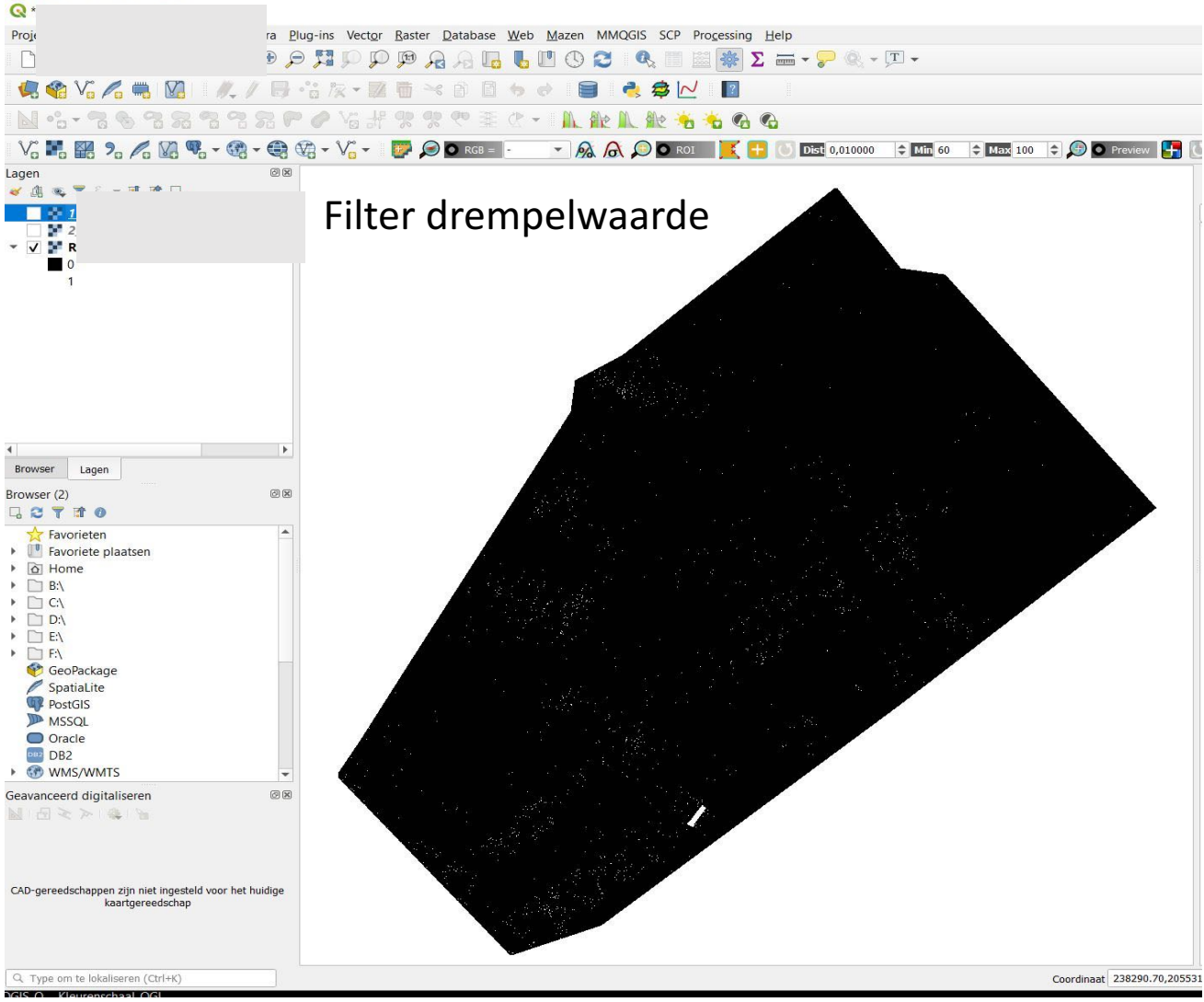
SOLITAIRE BOMEN IN KAART VOOR LANDSCHAPSAANNEMER





ONKRUIDDETECTIE MET CLASSIFICATIE ALGORITME DIDEX

Onkruid classificatie
in rode pixels



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GEÏNTEGREERDE DRONE LiDAR TEST BOOM- EN GRONDPUNTEN

Uitsnede gebied

Boompunten uitsnede

Grondpunten terrein uitsnede

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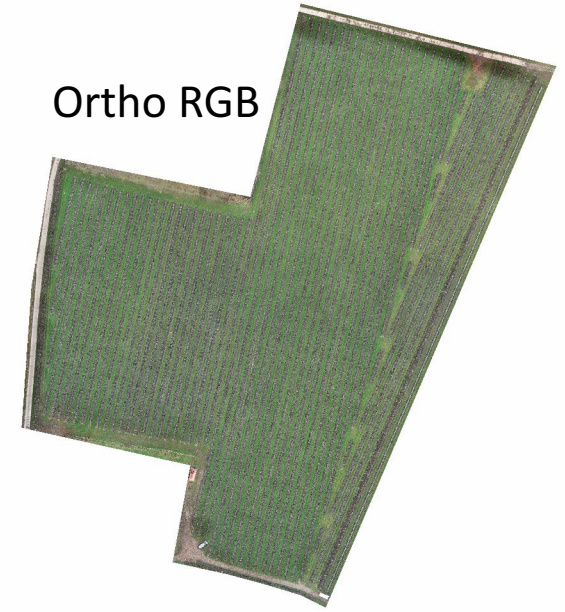
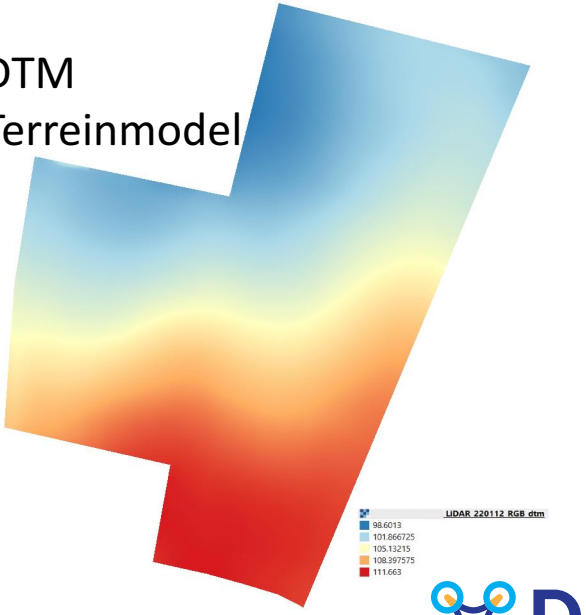
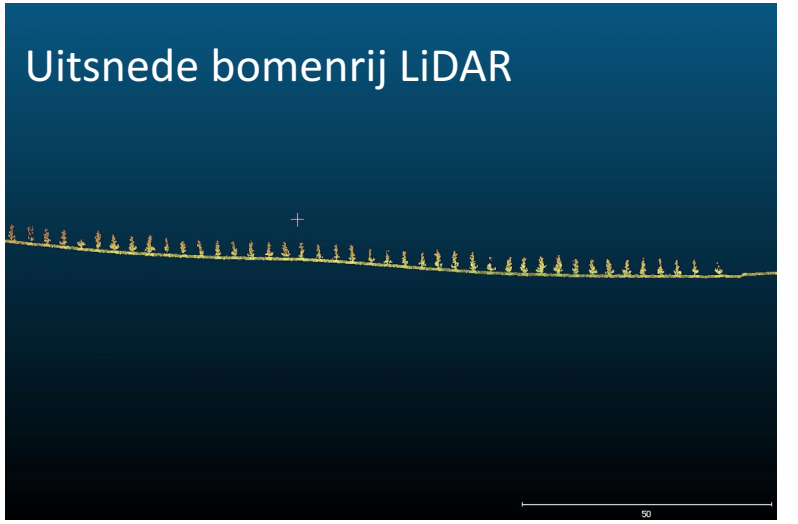
DRONE LiDAR TOEPASSINGEN IN DE FRUIT- EN SIERTEELT

Ortho RGB



DTM
Terreinmodel



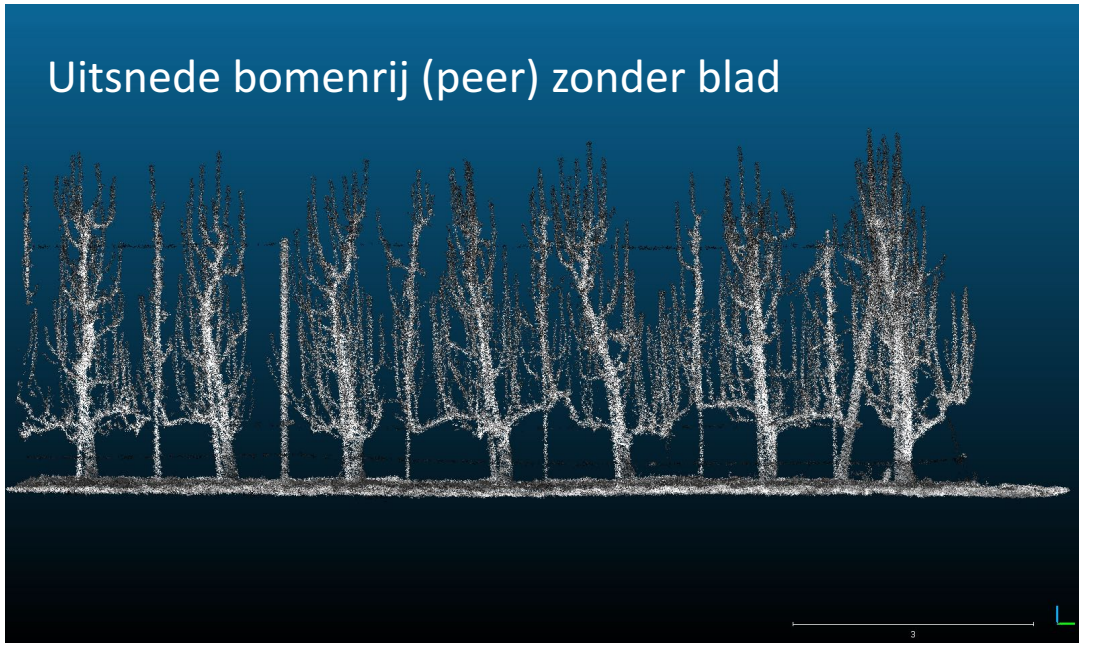


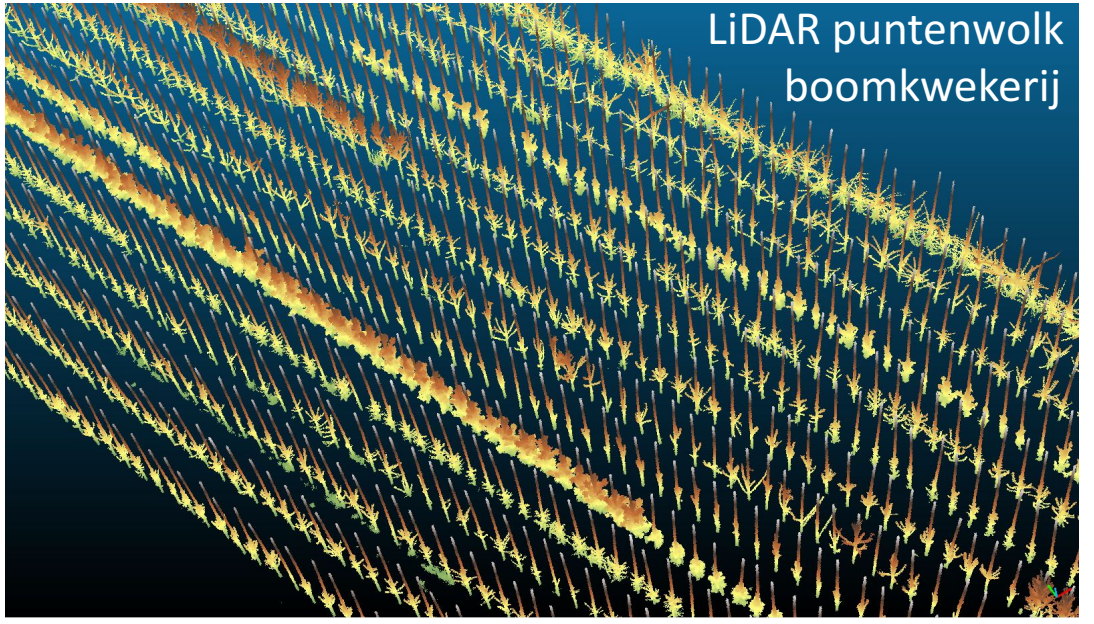
DIDEX
DRONE IMAGERY & DATA EXPERT

argus vision

pcfruit
PROEFCENTRUM FRUITTEELT VZW

DRONE LiDAR TOEPASSINGEN IN DE FRUIT- EN SIERTEELT





DIDEX DRONE IMAGERY & DATA EXPERT

argus vision

pcfruit PROEFCENTRUM FRUITTEELT VZW

DRONE LiDAR DATA NAAR TAAKKAART VARIABELE WORTELSNOEIER

pcfruit
PROEFCENTRUM FRUITTEELT VZW

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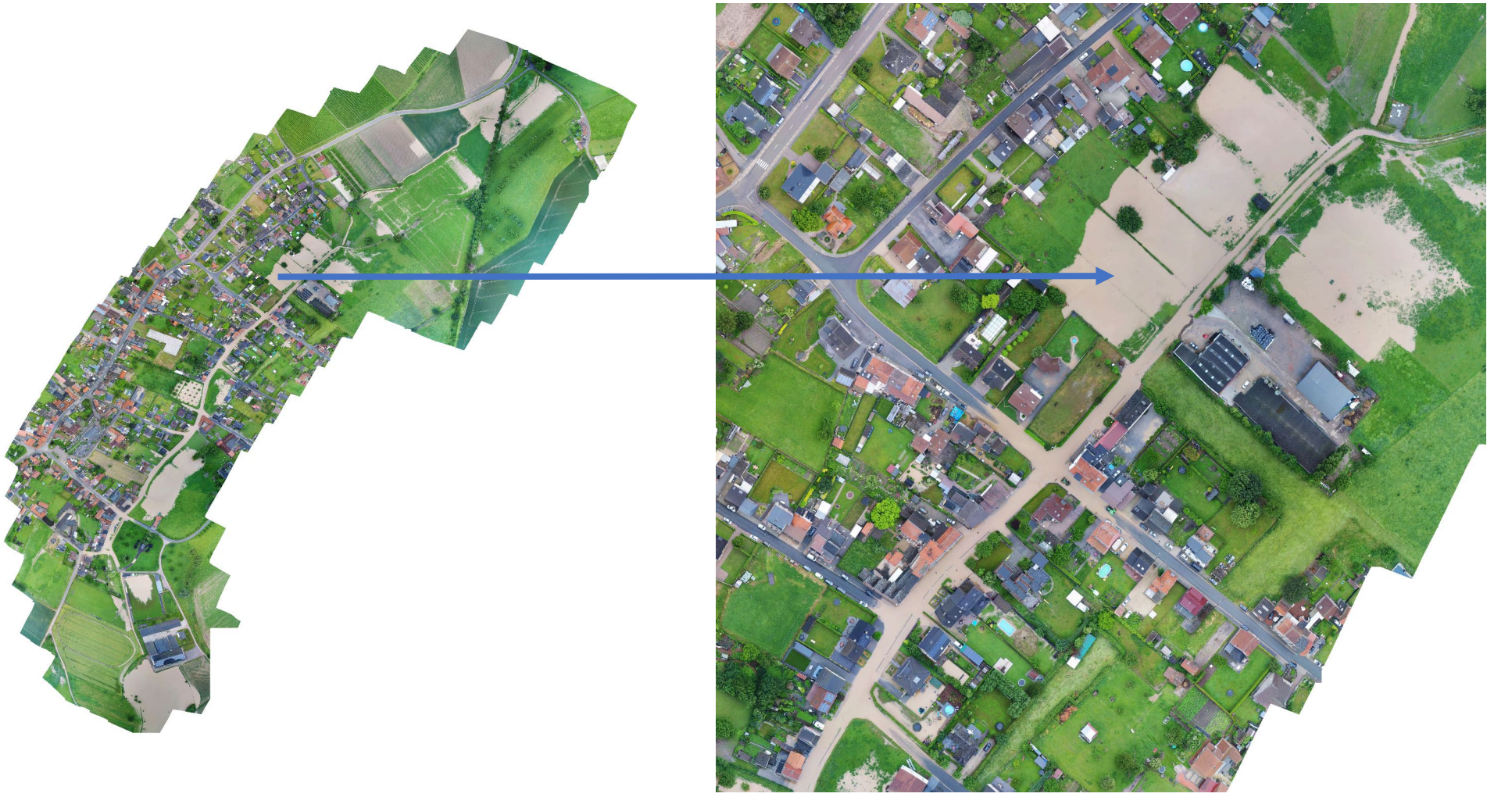
DRONE IMAGERY & DATA EXPERT

KARTERING VAN OVERSTROMINGEN IN TEAM UNITS

In kaart brengen van overstroomde gebieden na hevige regenval voor overheidsinstantie (State flight)

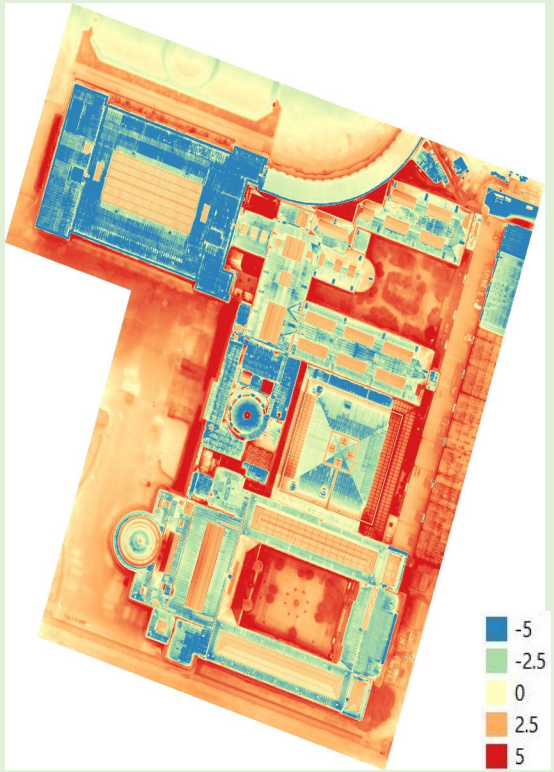
Vlucht: +/- 1u30 ter plaatse per gebied / Verwerking: +/- 20 min per gebied



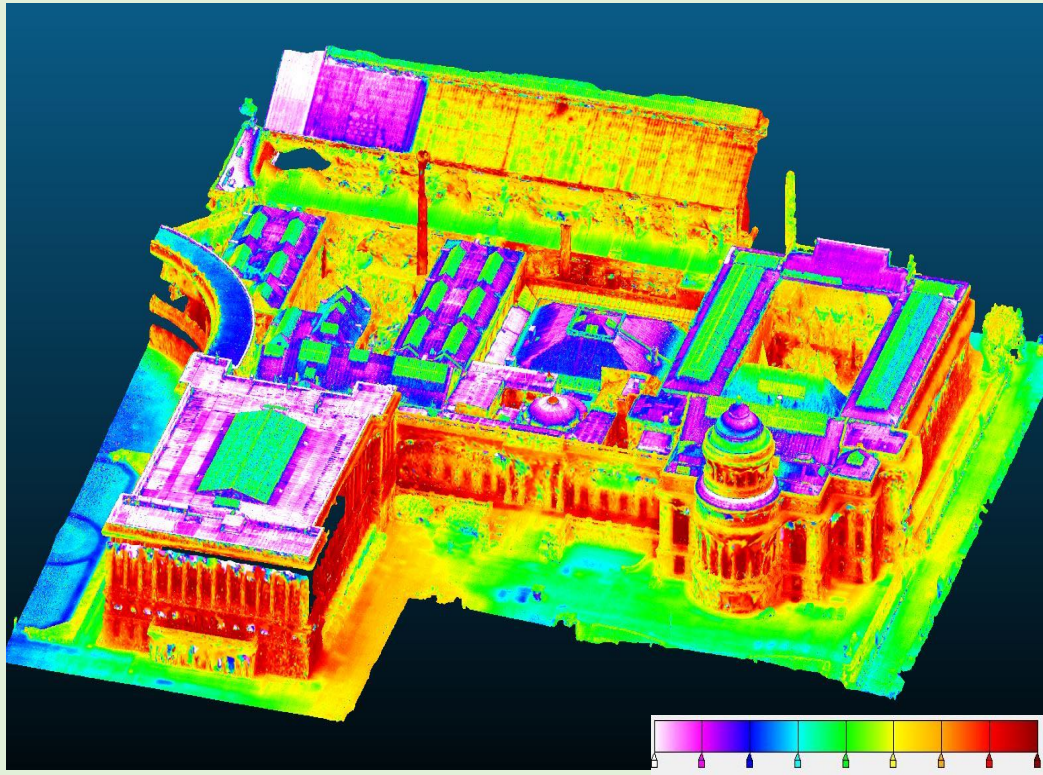
THERMOGRAFIE OP (OVERHEIDS) GEBOUWEN

2D RGB ortho

2D thermische ortho



3D thermische mesh



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