

Acquiring centimetre-accurate camera coordinates in project INDIGO



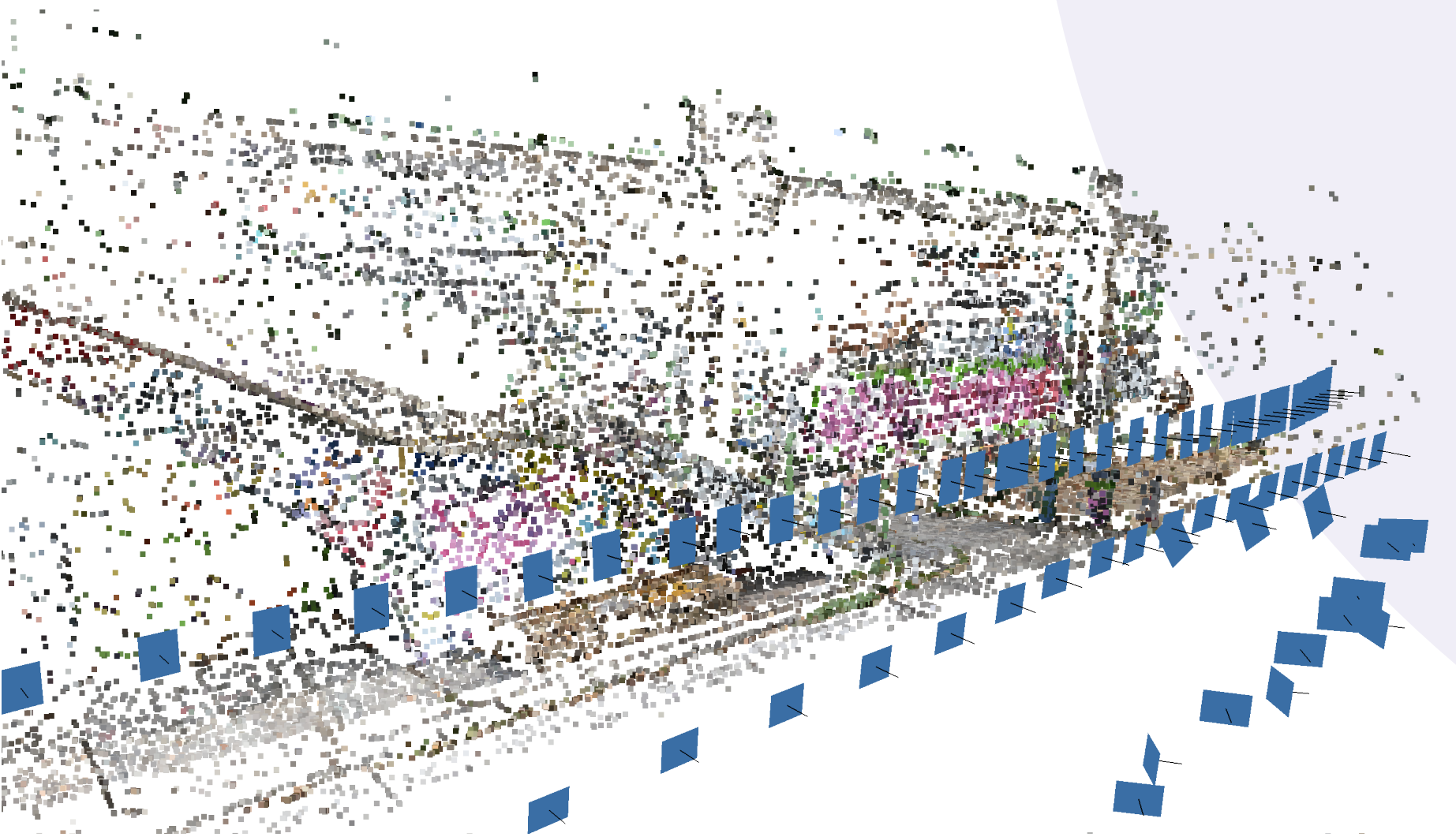
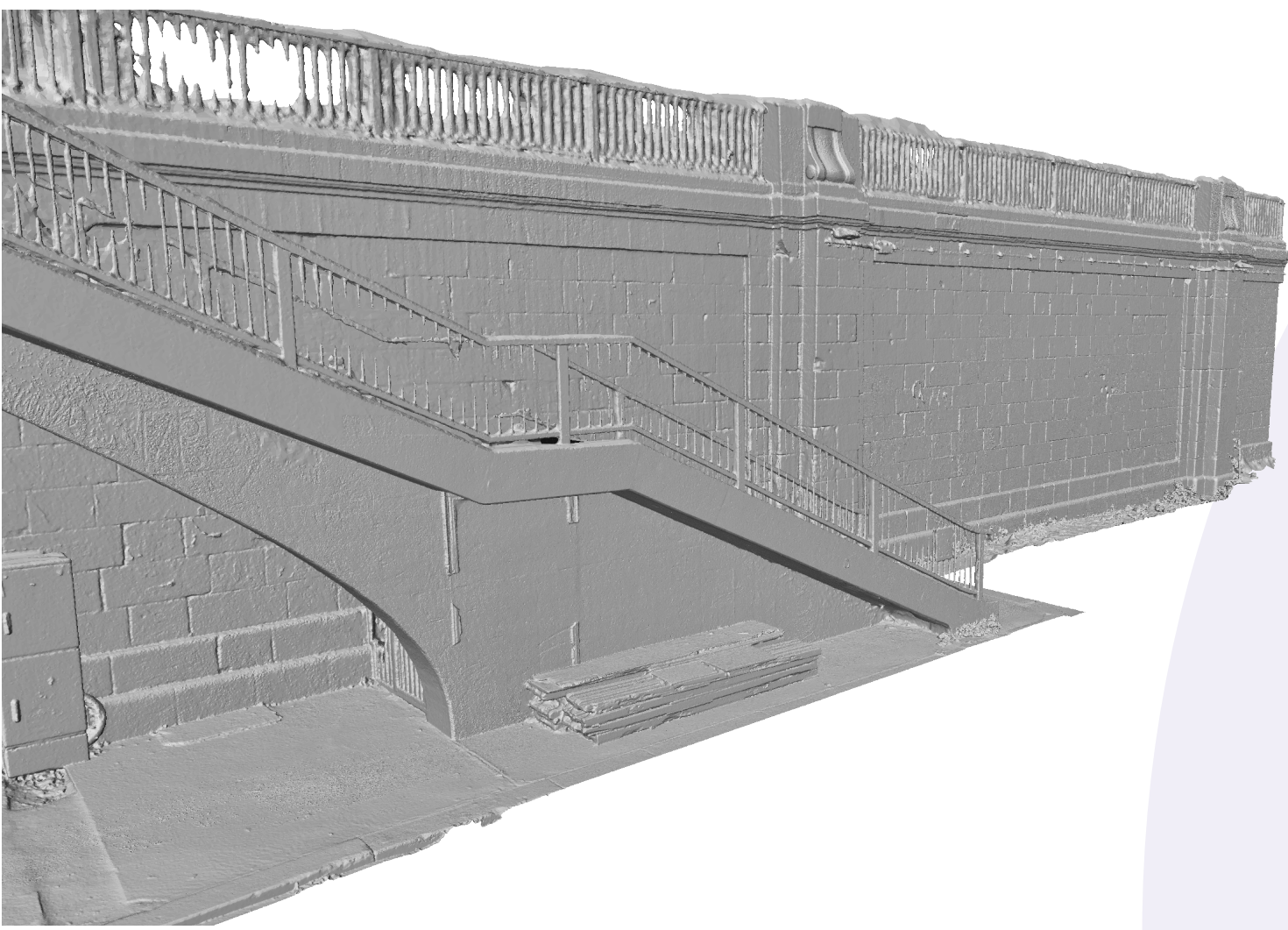
INDIGO is funded by the Heritage Science Austria programme of the Austrian Academy of Sciences (ÖAW)

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3rd Heritage Science Austria meeting: 23 September 2022

(7) Create products

From the georeferenced photo network a 3D mesh, point cloud or orthophotos can be produced in the desired CRS



Use the logged camera positions to georeference and scale the photo network
With many photos, centimetre accuracy is achievable

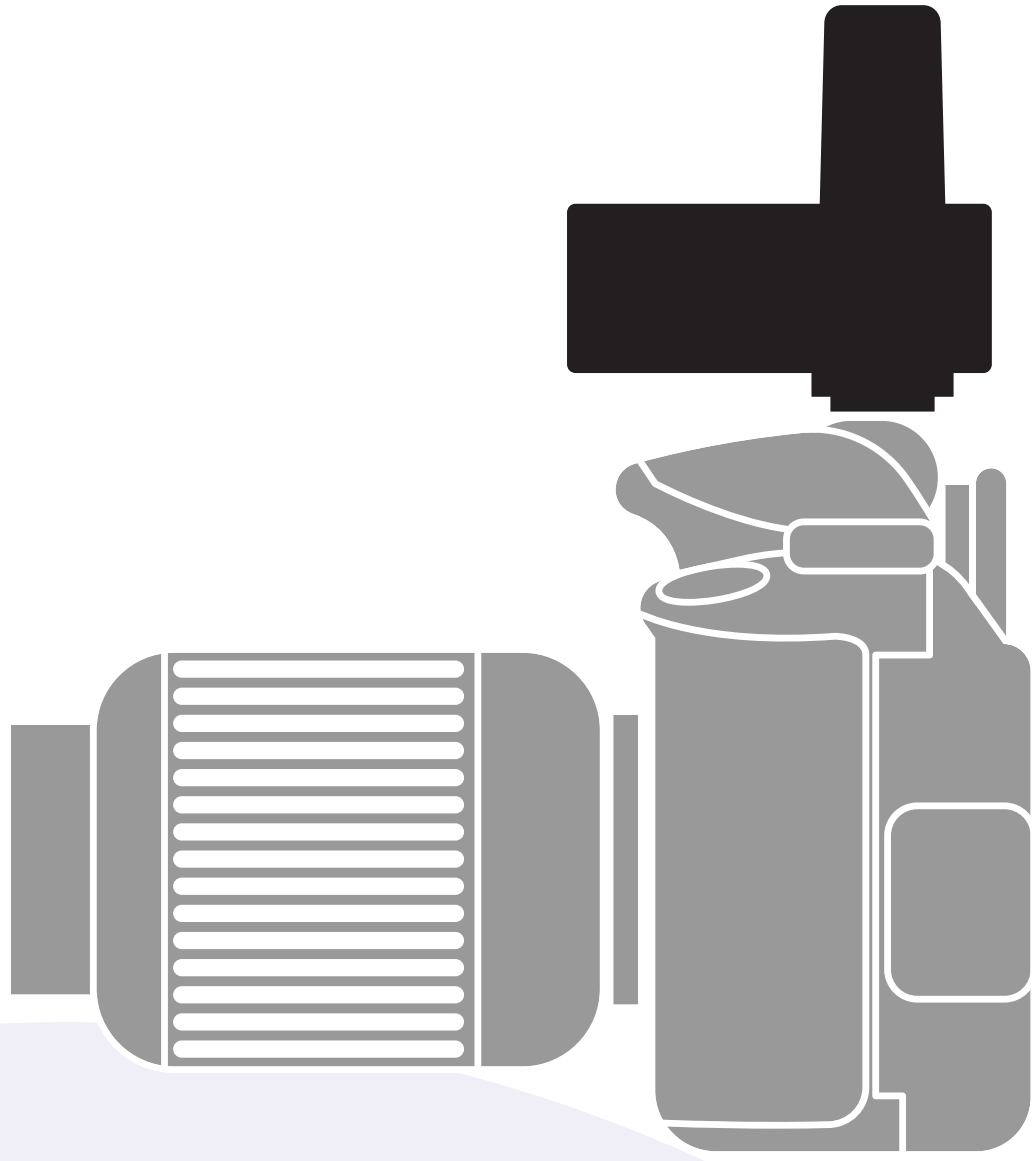
(6) Process device data & photos

Download camera positions & rotations over WiFi from the device's webserver via a browser

(5) Download device data

(1) Mount device

The camera's hot shoe is used for mounting and camera synchronisation



RTK GNSS receiver
GPS & Galileo satellites
L1/L2/L5 multi-band
RTK

IMU
3-axis gyroscope
3-axis accelerometer
3-axis magnetometer

Position

Rotation



Feedback

LEDs & status display

FILE BROWSER		Back to Settings
Deleting Check	1	#4658260
2022819_92328.txt	2	2,482122709,163796193,157488,3,0,1,0,28
2022824_8198.txt	3	6,482122701,163796228,157554,3,0,1,0,28
info.txt	4	10,482122705,163796247,157508,3,0,1,0,28
	5	14,482122709,163796272,157244,3,0,1,0,28
	6	16,482122713,163796284,157251,3,0,1,0,28
	7	18,482122713,163796291,157317,3,0,1,0,27
	8	20,482122713,163796292,157298,3,0,1,0,27
	9	22,482122708,163796294,157239,3,0,1,0,28
	10	24,482122696,163796287,157218,3,0,1,0,28
	11	26,482122682,163796286,157313,3,0,1,0,28
	12	28,482122678,163796276,157620,3,0,1,0,28
	13	30,482122681,163796279,157758,3,0,1,0,28
	14	32,482122689,163796281,157828,3,0,1,0,26
	15	34,482122699,163796290,157830,3,0,1,0,27
	16	36,482122710,163796302,157799,3,0,99,1,27
	17	38,482122712,163796312,157771,3,0,98,1,27
	18	40,482122716,163796321,157752,3,0,96,1,27
	19	42,482122716,163796323,157717,3,0,95,1,28
	20	44,482122721,163796323,157694,3,0,94,1,28
	21	46,482122725,163796316,157709,3,0,92,1,28
	22	48,482122730,163796304,157726,3,0,91,1,28
	23	50,482122737,163796284,157735,3,0,90,1,28
	24	52,482122746,163796266,157752,3,0,88,1,27
	25	54,482122752,163796249,157706,3,0,87,1,27
	26	56,482122757,163796240,157655,3,0,86,1,27
	27	58,482122760,163796235,157597,3,0,85,1,27
	28	60,482122761,163796236,157545,3,0,84,1,27

GNSS: Global Navigation Satellite System
EPOSA: Echtzeit-Positionierung-Austria
CRS: Coordinate Reference System
IMU: Inertial Measurement Unit
GPS: Global Positioning System
RTK: Real-Time Kinematic

ACRONYMS

(2) Configure RTK

Input RTK provider (e.g. EPOSA)
Provide settings for correction data

Scene2Map NTRIP-Client

NTRIP CLIENT ACTIVATION

☐ OFF

POSITION 3d

RTK STATUS NO

Status

WiFi Network Client Access Data

This NTRIP Client requires access to an Internet enabled Network!

If access fails, an account will be created ("NTRIP_Client_..." with PW "NTRIP")

Address:

Password:

Save

NTRIP Caster Settings

Network Name:

Port:

Mountpoint:

Username:

Password:

Save

Send my Position

(Required if your Caster provides VRS (Virtual Reference Station))

Repeat time: ☐ 1 sec ☐ 2 sec ☒ 10 sec ☐ 20 sec

Apply

Restart NTRIP (Client for changes to take effect)

Restart

@Martin Wieser 2022

Set and fix focusing
Deactivate electronic and optical image stabilisation

(3) Prepare camera



Follow a specific set of rules:
- oblique & perpendicular photos
- no change in focus or zoom
- different subject distances
- cover entire image sensor

(4) Acquire photos