

Double swath **AIRPHEN** Multispectral camera

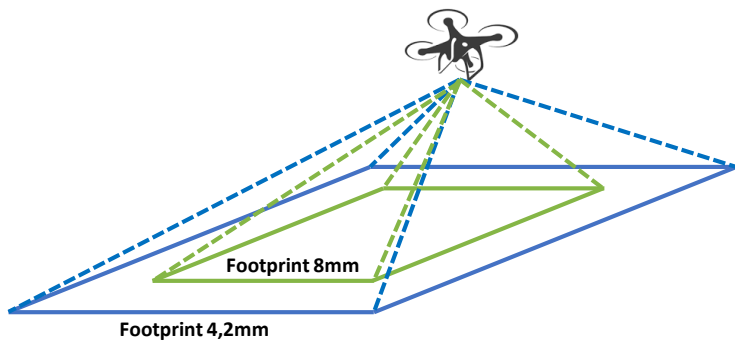
AIRPHEN: the Multispectral camera from HIPHEN



HIPHEN equipped its 6 bands **AIRPHEN** multispectral camera with a double swath feature: it increases the swath without compromising on the spatial resolution.

Principles of the double swath

- 5 cameras (corresponding to 5 bands: blue, green, red, red-edge, near-infrared) are equipped with 8 mm focal length (33° x 25°) providing high resolution, small distortion images.
- 1 camera is equipped with 4.2mm focal length (60° x 46°) providing the double swath. This camera corresponds to a green band
- The flight plan is designed to provide an overlap of 70-80% for the double swath camera (4.2mm focal length). This corresponds to 40-50% overlap for the five 8mm cameras.
- The photogrammetry software (such as Agisoft Photoscan) combines the 4.2 mm with the 8mm cameras for image alignment. It provides the multispectral orthoimage along with the 3D dense cloud.



Advantages of the double swath

- The distance between consecutive tracks can be increased by a factor of two for a given ground spatial resolution. It allows either to:
 - Double the coverage for approximately the same autonomy.
 - Or divide by two the time required to cover the same area.
- 3D point clouds are significantly improved in accuracy and completeness thanks to the improved spatial resolution and the larger angular sampling.

