Sensor Type	Typical Data Products	Use Case Examples	Relative Cost Range	Limitations and Considerations
Visible Spectrum Camera	High-resolution nadir and oblique aerial photography High-resolution video High-resolution orthomosaic imagery Photogrammetrically derived Digital Surface Models (DSM) and Digital Terrain Models (DTM) Three-dimensional models Three-dimensional point cloud data (typically a .LAS or .LAZ file format)	Photogrammetry (measuring of lengths, heights and observation of features) from orthomosaic imagery Mensuration (geometric measurements) Generating surfaces and volumes Slope calculations for access or stability Surficial flow modelling Hydrologic analysis Video and photographic inspections Hazardous and confined space inspections Horizontal feature inspections Vertical infrastructure inspections Habitat mapping Stereographic viewing	$-$$$	Typically restricted in areas where dense vegetation canopies exist. Additional characteristics around time of day should be considered.
Multispectral Camera	High-resolution orthomosaic imagery Multi-spectral composite imagery	Vegetation mapping Habitat mapping Identification of certain gases Water quality assessment	$$-$$$	Cost, payload weight, and wavelength required for required task are all significant considerations. Multispectral instruments are typically restricted in areas where dense vegetation canopies exist. Additional characteristics around time of day, seasonality should also be considered.
Hyperspectral Camera	Hyperspectral data cube	Mineral or metals identification Vegetation mapping Habitat mapping Identification of certain gases	$$$$-$$$$$	Requires large processing capabilities and specific technical knowledge. Hyperspectral instruments are typically restricted in areas where dense vegetation canopies exist.

Sensor Type	Typical Data Products	Use Case Examples	Relative Cost Range	Limitations and Considerations
Thermal/Long-Wave Infra-Red (LWIR) Camera	High-resolution thermal video High-resolution thermal images (oblique and nadir) Orthomosaic thermal imagery map	Equipment inspections Wildlife surveys Identification of groundwater seeps Mapping of surface water mixing zones Identification of abandoned mine entrances Vegetation mapping Soil moisture mapping Snow/ice cover mapping	$-$$$	Thermal/LWIR sensors are typically restricted in areas where dense vegetation canopies exist. Additional characteristics around time of day, seasonality and field temperatures should also be considered.
Light Detection and Ranging (LiDAR)	Three-dimensional point cloud data (typically a .LAS or .LAZ file format) Digital Surface Models (DSM), Digital Terrain Models (DTM), Digital Elevation Models (DEM)	Hydrologic modelling Bare-earth measurements of volumes and surfaces (effective in vegetated areas) Identification of surficial features under canopy cover Vegetative canopy measurements Wetland mapping Mensuration (geometric measurements) Generating surfaces and volumes Slope calculations for access or stability Surficial flow modelling Hydrologic analysis	$$-$$$$$	Cost, payload weight, and point density are considerations for LiDAR. Point density per area is a consideration depending on the required task, and is often correlated with costs. LiDAR does not penetrate water.

*Table does not include less-common remote sensing devices such as magnetometers, gravimeters, and others.