Swarm Technology for UAS Mapping

The vision of multiple drones mapping remote areas autonomously is realized by the Swiss senseFlyâ€™s ground control software. This technology was then adapted by senseFlyâ€™s R&D team and first sucessfully demonstrated in June 2013 at the Paris Air Show when two eBees mapped Le Bourget (watch the video in the article). It is now fully integrated in senseFlyâ€™s ground control software eMotion 2. Operators can use a single interface to control multiple drones which allows greater areas to be covered in less time.

The technology behind senseFly's multiple drone operation system first emerged in 2010 at the Laboratory of Intelligent Systems, [EPFL](#) when a team of robotic researchers showcased the first outdoor aerial collective system involving up to 10 robots flying together.

These drones have automated in-flight collision avoidance and will share start and landing waypoints while coordinating their altitudes.

Other enhancements in the system include:
- 3D flight planning. Constant over ground distance on steep terrain minimises the image pixel resolution variation, thus providing better image quality & results.
- Google Earth visualisation. The ability to check a flight plan within a 3D environment increases the safety of the operation.
- Flight data management. Review previous flights, find flight logs and corresponding images, create geotags and transfer projects for automatic image reconstruction.
- 3D viewer and editor for image processing. Provides the ability to view and edit in a unique 3D environment in order to improve processing results.
- Optional Canon S110. Great lens, user access to RAW files, manual setting of exposure parameters.

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