



Drones: opportunity between terrestrial methods and aerial photography

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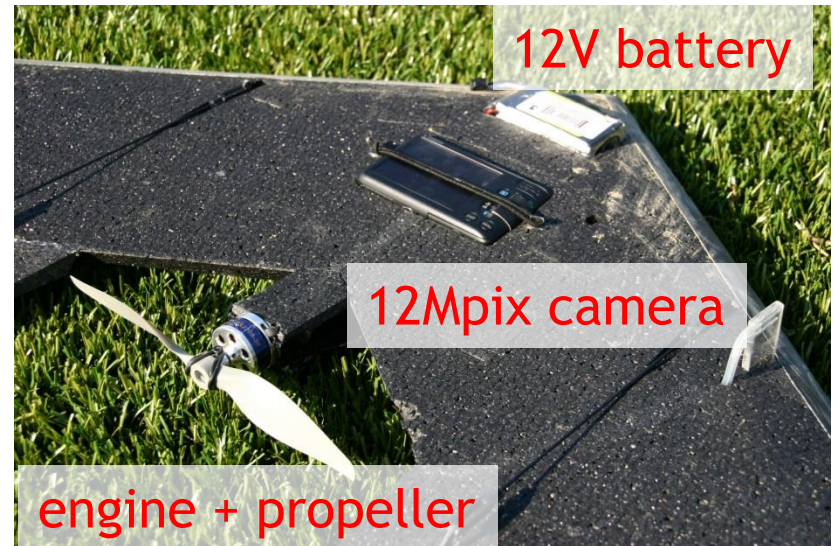
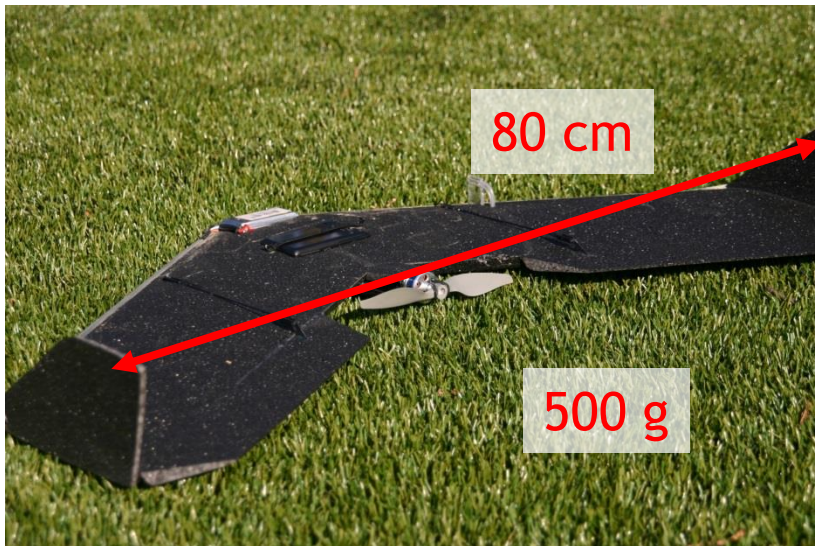
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- 📍 Since August 2012, start-up for drone based photogrammetry services Easy2map SA

The screenshot displays the Easy2map website interface. At the top left is the logo 'EASY²MAP' with the tagline 'THE EASY WAY TO MAP YOUR WORLD !'. A horizontal navigation bar contains five buttons: 'SOCIETE', 'VOS BESOINS', 'NOS SERVICES', 'DEMANDE D'OFFRE', and 'CONTACT'. Below the navigation is a large aerial photograph of an industrial or agricultural site. Overlaid on the bottom left of the photo is a text box titled 'Opérations de vol' which states: 'Easy2map dispose d'une expérience de deux ans avec le type de drone actuel, ce qui lui permet d'anticiper toutes les situations possibles. Les vols sont exécutés avec diligence, précision et régularité par notre équipe.' To the right of the photo, under the heading 'Produits cartographiques', there is a list of services: 'Orthophoto (pixel 5 à 30cm)', 'Modèle numérique de Surface (MNS)', and 'Modèle Numérique de Terrain (MNT)', with a note 'Précision de ~15-20cm'. Below this, under 'Domaines d'application', there are two items: 'Cartographie 3D de petites surfaces peu ou pas boisées (1-300 ha)' and 'Documentation (travaux exécutés, as-built drawings, recolements), suivi de chantiers et évolution (zone naturelle, végétation, construction, événement ...)'. At the bottom of the page, there are three buttons: 'Vos besoins', 'Proche de chez vous', and 'Demander une offre'.

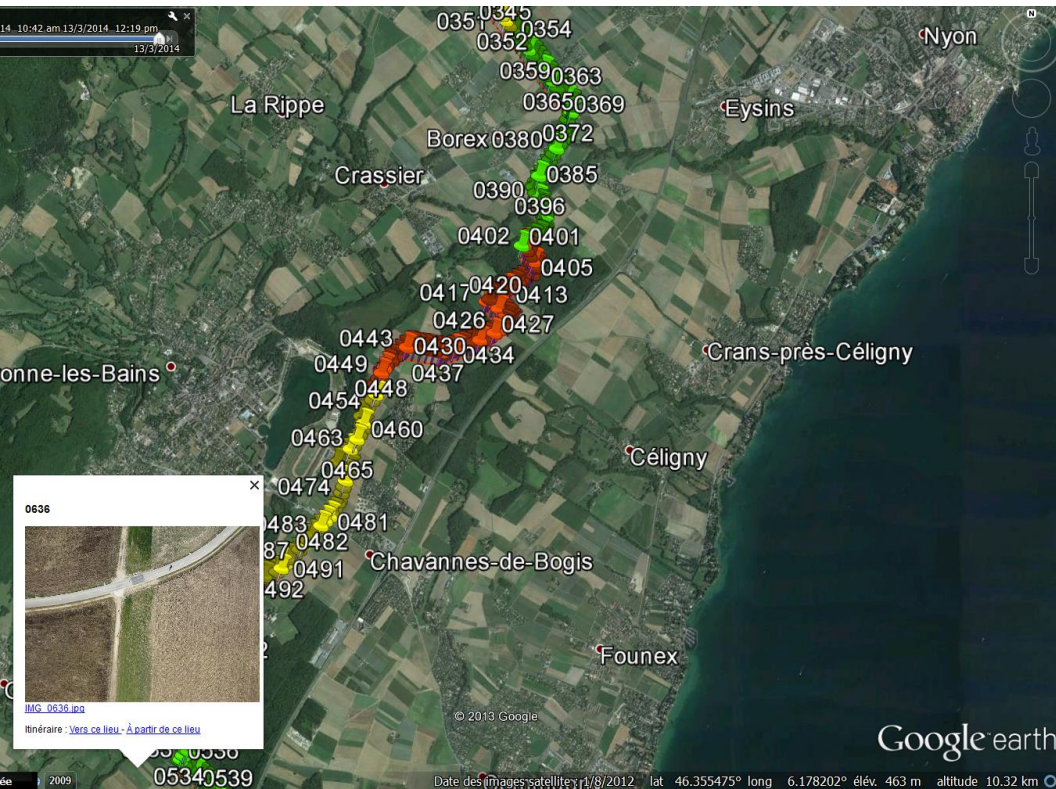
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- From October 2010, senseFly SwingletCAM drone
- Since August 2012, start-up for drone based photogrammetry services
- April 2014: fleet of 10 drones (SC v1, v2 and eBee), 100+ mandates realised, 150+ kCHF of annual revenue



Demand and supply

- 📍 Photographic documentation of construction sites
 - Repeated and systematic flight of one or several lines
 - Orthomosaic as background for “as-built” survey and plans



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 - Complex, urban orthomosaic, including land cover

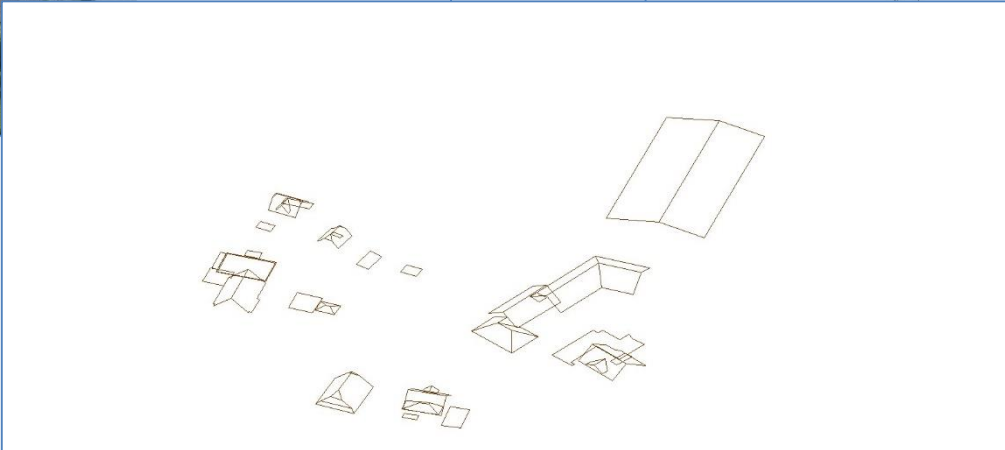
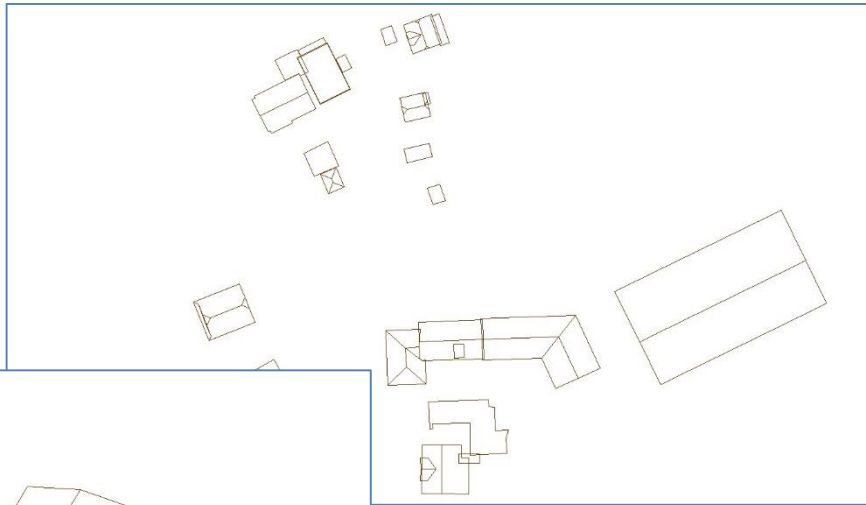
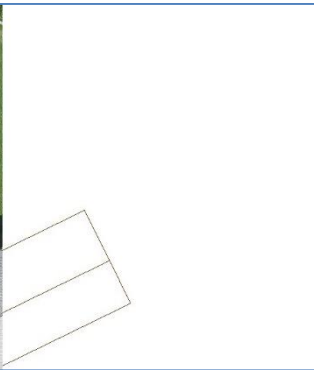
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 - Extremely synthetic result, ideal for architects

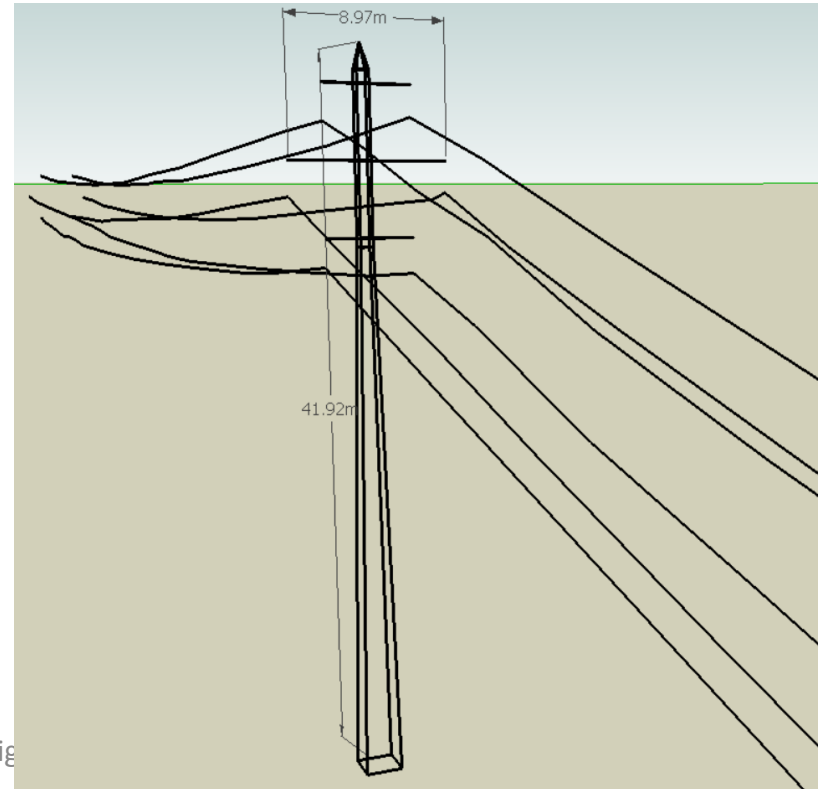


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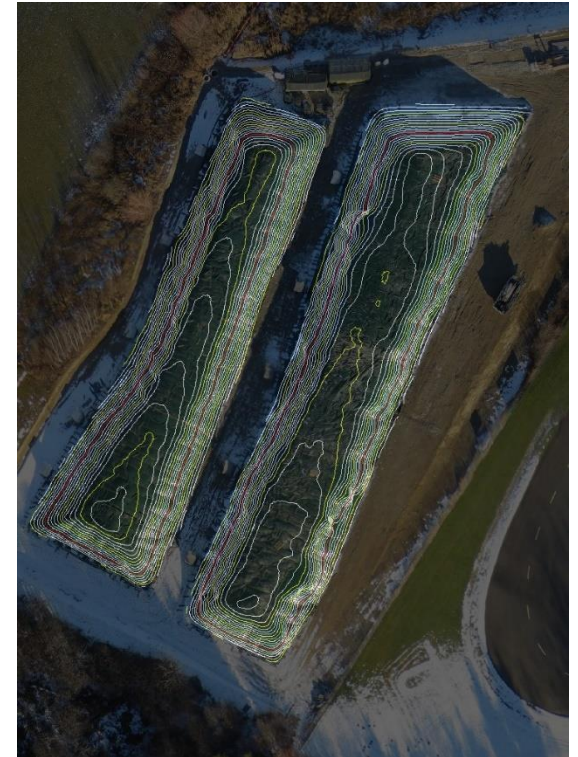
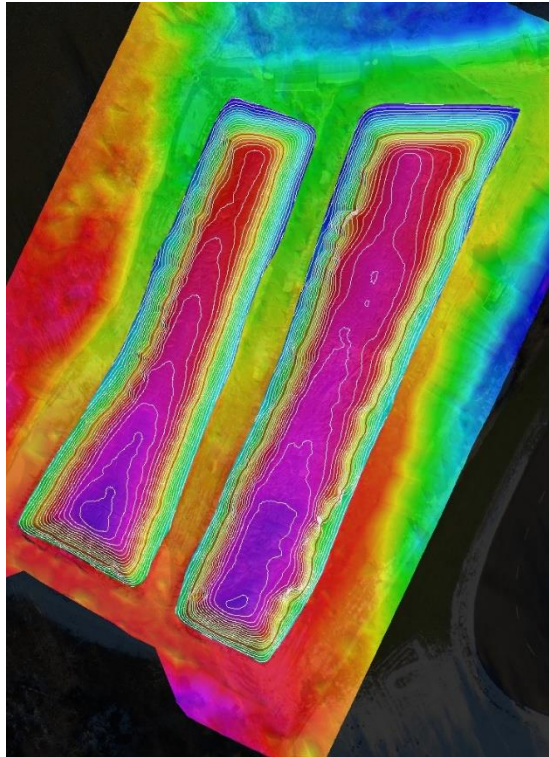


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Specification sheet for a good image acquisition...

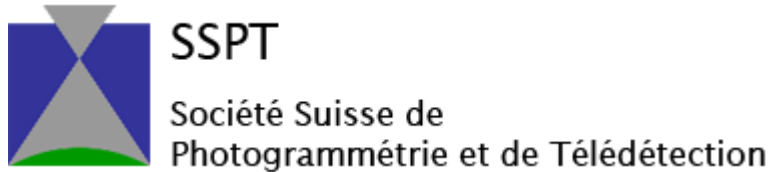
- 📍 **Current**
 - Of the month, or even of the day!
- 📍 **Detailed**
 - Identify from 20 cm, interpret from 1 m
- 📍 **Accurate**
 - Comparable to terrestrial methods, the aerial image as extension
- 📍 **Limited impact**
 - Noise & pollution, unhampered exploitation, air traffic
- 📍 **Affordable**
 - The cost shouldn't be an obstacle; become a motivation

Learnings & conclusion

- What was experimental 4 years ago is now an established, alternative and validated technology
- Technical aspects are gradually all solved, with room for punctual improvements
- The supply meets the demand and generates new ones
- A normalisation is needed (standards, rules, rights & duties)

SSPT and SFPT

- 📍 SSPT: Tuesday 3 June 2014, in the context of GEOSummit, workshop « Facts & Trends: utilisation des drones en Suisse »



- 📍 SFPT: 24 – 26 June 2014, Montpellier, conference



«Drones et moyens légers aéroportés d'observation : recherche, développement, applications, état de l'art»