Speeding up UAS Development with new Solution from Carmenta

Gothenburg, Sweden, 29 April 2025 – **Demands for rapid development and deployment of drone capabilities in the defence industry are increasing sharply. At DSEI 2025, Carmenta, a leading provider of geospatial software solutions, is set to launch Carmenta UAS Mission Kit, an innovative new offer aimed at significantly reducing development time and risk for Uncrewed Aerial Systems (UAS) mission applications.**

Rapid Deployment to meet increasing demands
In today's rapidly evolving global landscape, the need for efficient and reliable technology for drone missions has never been more critical. With increasing demands for advanced reconnaissance, target tracking, and resupply missions, organisations are under pressure to quickly deploy functional and adaptable technology for drones.

Reduce Development Time
Carmenta UAS Mission Kit is tailored specifically for UAS applications and allows organisations to kick-start development of customised solutions. By cutting hundreds or even thousands of development hours, this will make it possible for users to deploy functional UAS mission applications more rapidly.

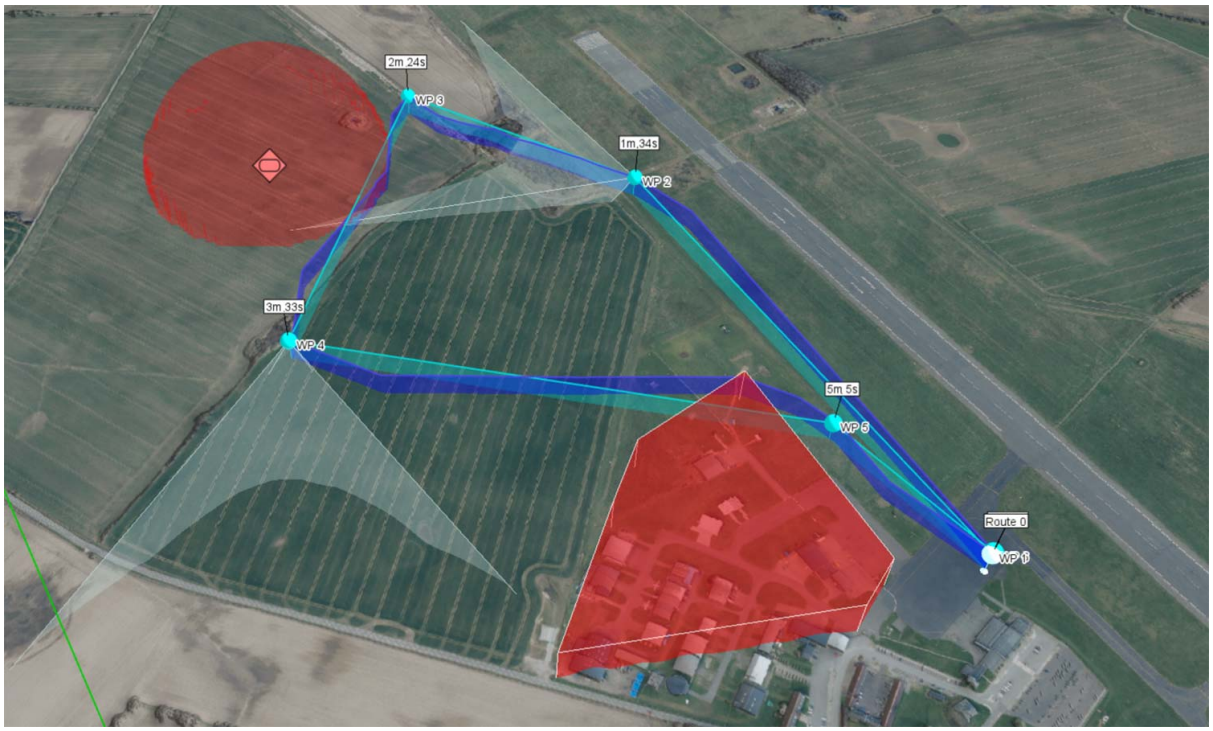
The solution is built on Carmenta's proven technology, Carmenta Engine, and the company's experience of developing similar platforms. It includes ready-to-use code examples, comprehensive course material, and support from Carmenta's experienced engineers throughout the development phase.

Comprehensive Features for drones
Carmenta UAS Mission Kit provides a base architecture for UAS mission applications and leverages the advanced functionalities of Carmenta Engine, such as overlaying live georeferenced video, painted video with image stitching "on-the-fly", visibility analysis, terrain analysis, and planning tactical stealthy UAS routes. These features enable the efficient and risk-mitigated development of high-demand drone applications for both military and high-end civil use.

Field-tested and Trusted Technology
With decades of experience and a commitment to innovation, Carmenta has established itself as a trusted partner in the field of geospatial software solutions. The company's technology is field-tested, flexible and performant, making it a reliable choice for organisations looking to enhance their UAS mission capabilities.

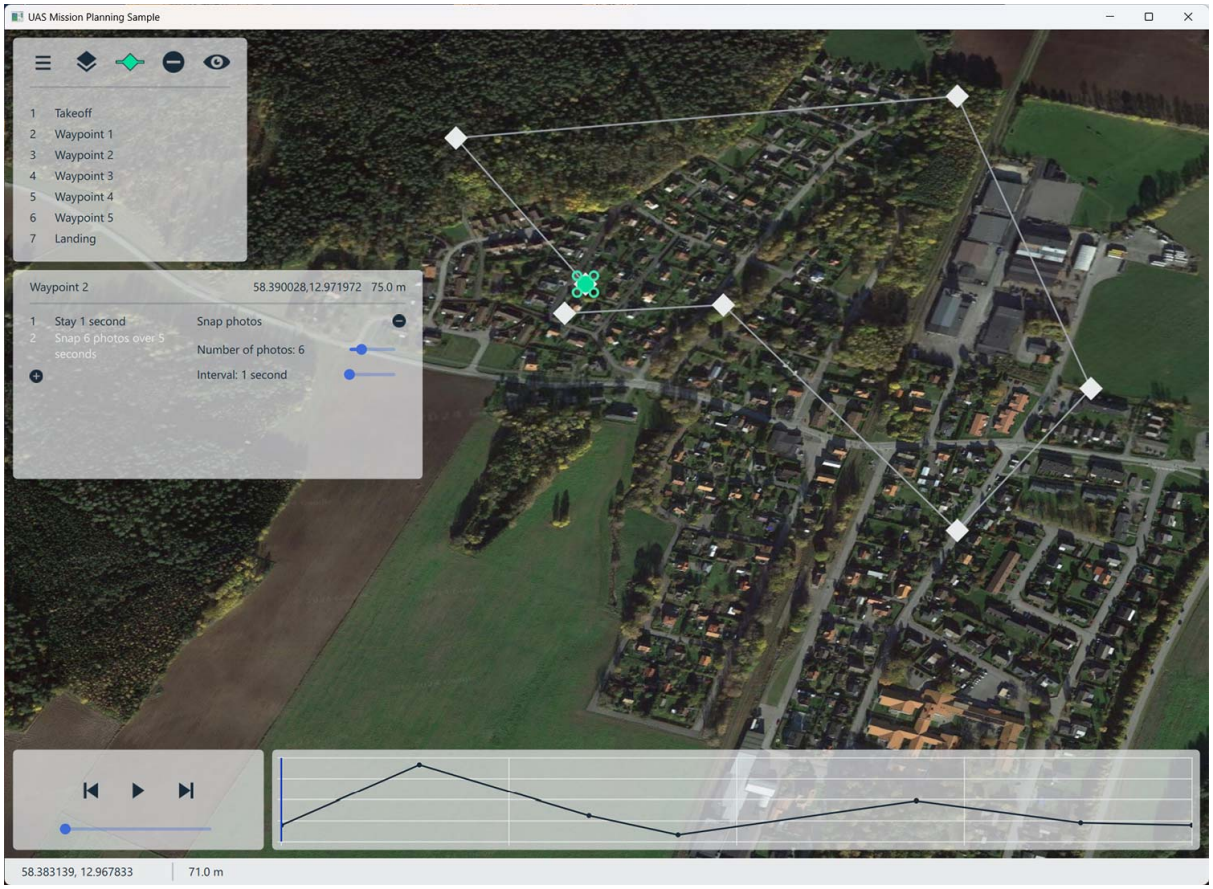
Functionalities

(images in high resolution attached separately):

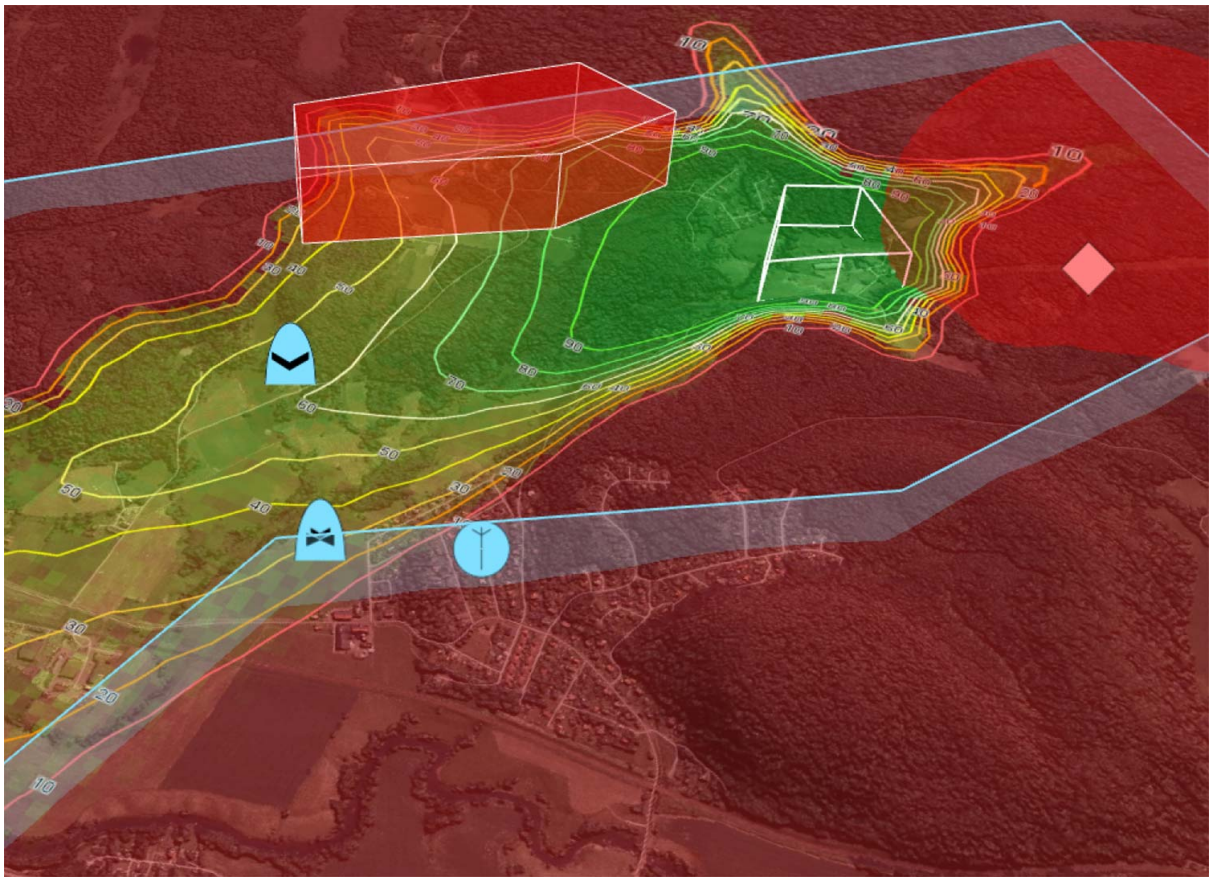


The route that the drone takes between waypoints is automatically generated and displayed as soon two waypoints or more are created. The best route is automatically generated based on user constraints (like obstacles and fixed waypoints) and mission goals (what to observe).
In this image the route that is displayed in blue avoids obstacles and follows the terrain.
Route curtains are used to make the height of the route more understandable.

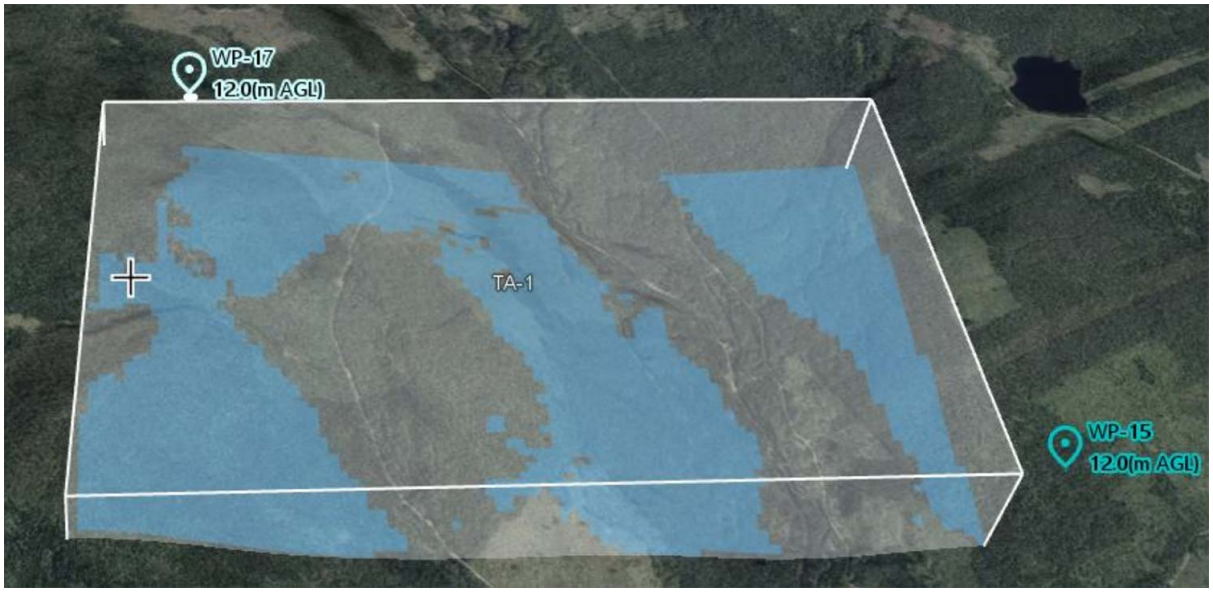
Objects such as restriction areas and enemy viewsheds are used to classify which areas are suitable for flight. This image exemplifies two restriction areas, where one is selected, and one enemy viewshed.



Waypoints represent locations that the drone must stop at, like take-off and landing point, but also locations where an action must be performed, for example where a video recording should begin or end. This image shows an example of planned waypoint actions.

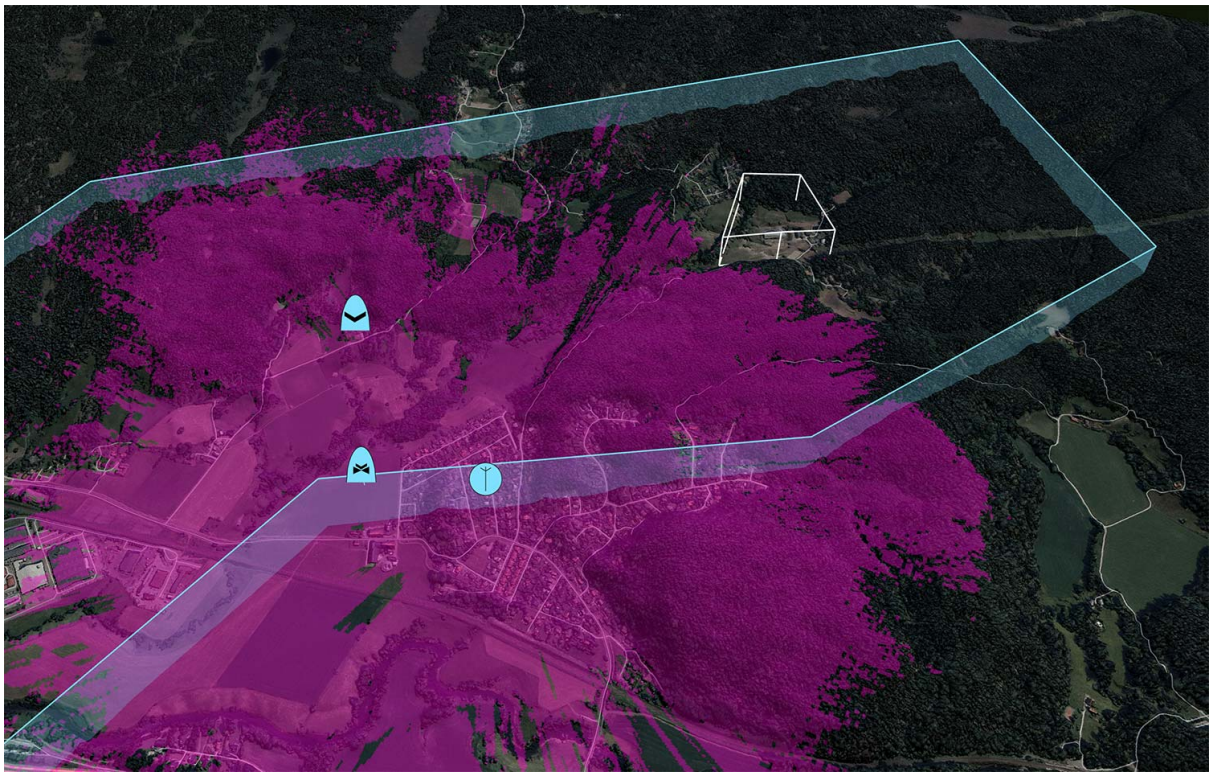


An intervisibility analysis can be used to aid waypoint placement. This image shows an intervisibility analysis with an observer altitude of 80 m and a target height of 2 m.

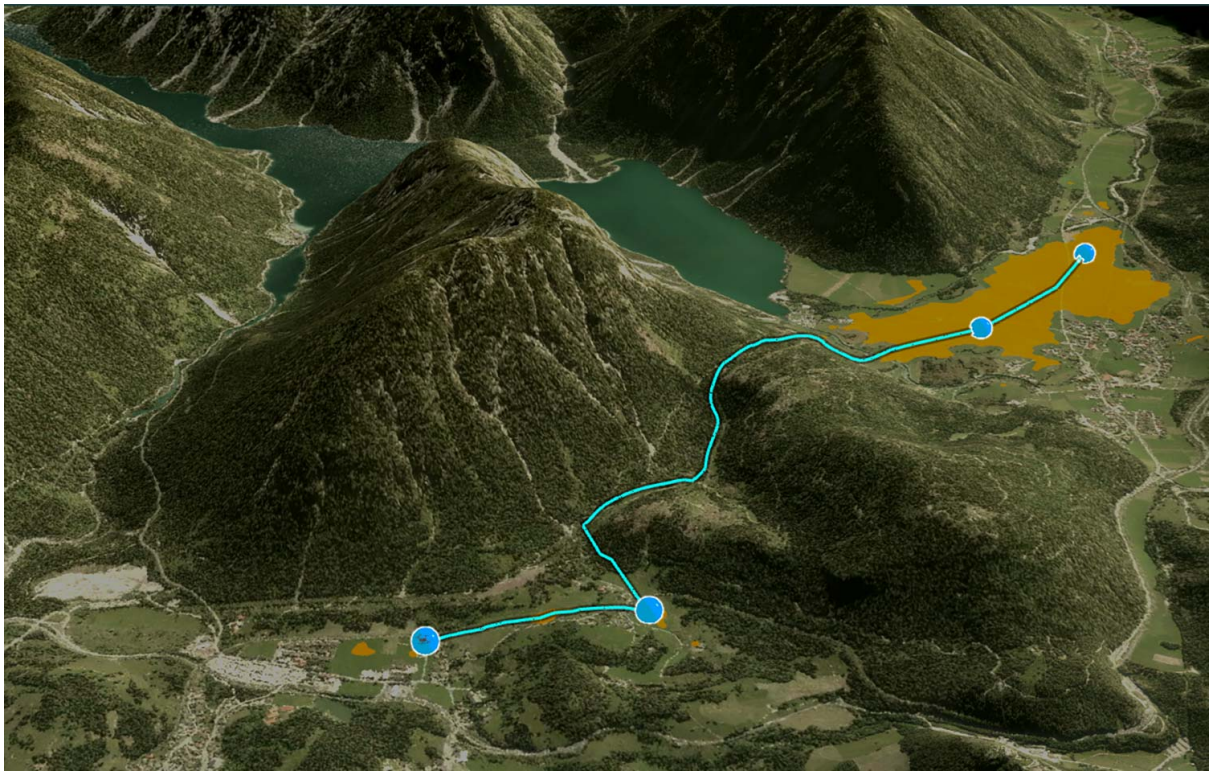


This image shows line-of-sight analysis over a target area from two selected waypoints. The

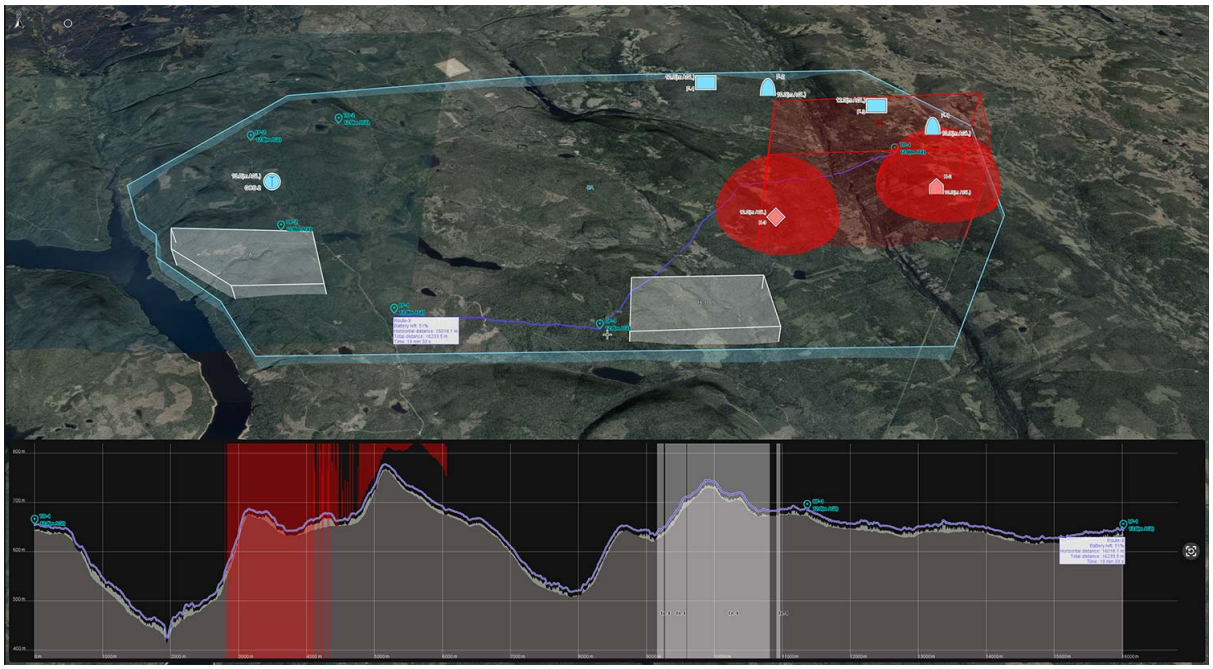
visible area is displayed in blue, and the altitude of the observing waypoints will affect the result.



This image shows use of radio coverage analysis to display in purple the area where we have good enough radio coverage.



This image shows how good landing zones can be calculated based on terrain data (elevation change) and land classification, and displayed as a map layer.



A vertical profile bar displays the vertical profile of the route. The information presented is ground elevation profile, including surface elevation along the route, as well as areas entities intersected by the route or close to the route.

About Carmenta

Carmenta Geospatial Technologies provides software development tools to empower visualization and analysis of dynamic geospatial information in time-critical applications. Carmenta's products are used across the world by system integrators and system providers in the defense, uncrewed systems, maritime, and public safety sectors. Headquartered in Sweden, Carmenta also has subsidiaries in Germany, France, the UK and the US.