

Prague: a fitting setting for a mobile mapping innovation



Prague recently served as the testing ground for the integration of Mosaic's 360-degree camera system with SmartDelta's mobile mapping software. Known for its rich history and stunning architecture, the city was the ideal location to showcase the fusion of these geospatial technologies. According to Mosaic and SmartDelta, the results demonstrate that this solution has the potential to be a

game-changer in a wide range of mobile mapping applications.

The Czech capital boasts a rich history of trailblazing surveyors and astronomers, including renowned figures like Tycho Brahe and Johannes Kepler. Notably, the oldest known maps of the Czech Lands date back to 1518 (map of Bohemia), 1561 (map of Silesia) and 1569 (map of Moravia). Additionally, Prague can claim the honour of publishing the first textbook for surveyors, back in 1617. Its characteristic buildings, picturesque streets and enchanting beauty add an extra dimension to any mapping project, and the collaboration between [Mosaic](#) and [SmartDelta](#) was no exception.

Dual-purpose cameras

[Mosaic's 360-degree camera systems](#), including the Mosaic 51 and Mosaic X models, were designed to be standalone units, with internal GPS, built-in GPU and CPU for onboard storage. As an extra bonus, however, these dual-purpose cameras come with an AUX port, allowing them to be integrated with additional sensors or used in tandem with other devices.

Seamlessly integrating sensor systems

The Mosaic X camera in particular boasts unmatched 360-degree imaging capabilities, capturing high-resolution panoramic images with precision and resilience. Moreover, it is seamlessly compatible with other industry-standard sensors such as GNSS, IMU, Lidar and more. SmartDelta's mobile mapping software plays a vital role in this integration, like a conductor orchestrating data collection and processing from a symphony of sensors.



The beautiful city centre of the Czech capital, Prague, recently played host to the testing of the integration between Mosaic's 360-degree camera system and SmartDelta's mobile mapping software. (Image courtesy: Mosaic)

Prague as the testing ground

Prague's diverse urban landscape served as the perfect backdrop for this experiment. The test vehicle was fitted with the Mosaic X camera system as well as a suite of advanced sensors including:

- the [Applanix LVX GPS/INS](#) for positioning and orientation to enable precise georeferencing
- the [Xenics Gobi 640](#) thermal camera for thermal imaging
- the [Ouster Lidar](#) for high-resolution 3D mapping to produce detailed point cloud data
- the large-range and high-resolution [Hesai Lidar](#) sensor, enabling confident navigation in complex environments.

As the integration test unfolded, data from all sensors flowed seamlessly, recorded in real time using SmartDelta's MMS recorder. The software synchronized the data and ensured precise time stamps and georeferencing. What stood out was the simplicity of the setup. Standardized interfaces supported easy installation, and SmartDelta's intuitive user interface facilitated the rapid configuration and calibration of sensors. The standalone capability of the Mosaic X camera streamlined the process by eliminating the need for an extra computer during data capture.

In the post-processing stage, SmartDelta's software integrated the data from multiple sensors, aligning data streams and creating a comprehensive 3D map of the test area. This allowed users to make informed decisions based on accurate and up-to-date information.

Potential for transformative data collection and processing

The integration test demonstrated the ability of SmartDelta's versatile software to empower the real-time collection, integration and analysis of data from multiple sensors in combination with the Mosaic X camera.

This integrated solution opens up opportunities in a wide range of mobile mapping applications, from transportation, infrastructure inspection and urban planning, to firefighting and environmental monitoring. According to Mosaic and SmartDelta, thanks to easy setup, accurate and stable data collection, and efficient post-processing, this innovation could signal a future in which data collection and processing are not just efficient, but also transformative.



Mobile mapping vehicle and surveying crew captured beneath the JirÅ½sek Bridge, spanning the majestic Vltava River in Prague. (Image courtesy: Mosaic)

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