## SiA-100
Synthetic Vision System

Saab's Synthetic Vision Systems, SiA-100, is developed to increase flight crews situational awareness and contributes to the overall safety. It utilizes precise navigation and integrity monitoring in order to provide a synthetic depiction of the external environment regardless of the current weather or time of day. The content of the SVS scene is continously updated in real time, giving pilots increased awareness of the surrounding terrain. It is intended for use during all flight phases. It can be displayed on Head Down Displays (HDD), Head-Up Display (HUD) and Head-Mounted Display (HMD).

This is SiA-100
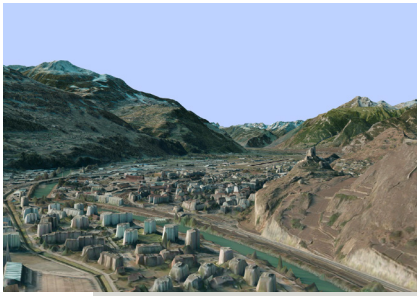
Degraded visibility is a common cause of aviation accidents. Runway incursions, controlled flight into terrain (CFIT), and loss of control in flight due to spatial disorientation are all examples of accidents that can be related to poor visibility. By providing a synthetic, clear-day view of the real-world environment, even in operational conditions with low natural visibility, the SVS increases the flight crew's situational awareness and reduces their workload. This helps reduce accidents related to degraded visibility.
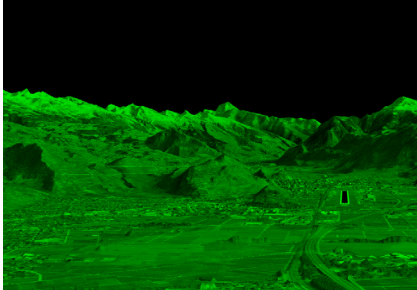
The core functionality of the SVS is the depiction of terrain, obstacle, and runway environment features. The terrain is rendered in high detail, with photorealistic textures. Further visual information can be included, such as navigation guidance and highlighted depictions of objects that pose potential collision hazards. The SVS also provides an interface for other applications to display objects in the 3D scene. In addition to depicting environmental features, the SVS has capabilities for tactical use, such as cursor-based retrieval of geo-position.
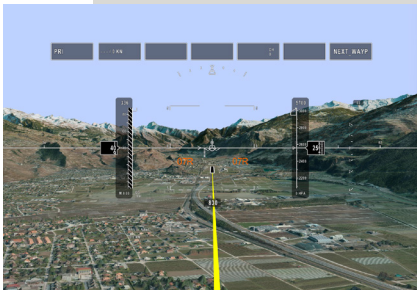
One example of a scenario where the SVS helps operations in low visibility conditions is in proximity to airports. To operate in airport environments, certain landmarks need to be visible to the flight crew. The SVS provides navigation guidance and enables the display of landmarks important for take-off, approach, and landing operations. Even when these landmarks are not visible with natural eyesight, the SVS, combined with collision detection systems, airport ground control, and positioning systems, enables airport operations to be performed in low visibility conditions. The system aids in reducing the flight crew workload.
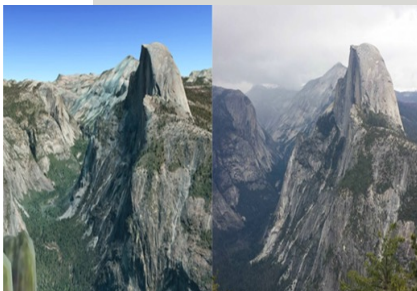
The SVS is developed in cooperation with pilots, addressing known concerns during low visibility conditions.

Key Features

- Increase the probability to effectively complete the mission
- Increase safety at night/terrain and in any weather
- Offers unique and superior resolution and accuracy compared to any other certified available data set
- Developed to harness the full potential of the photo realistic high resolution 3D database

- Compatible with multiple data formats
- Scalable to support different CPUs
- ARINC 653 compatible software
- Can be configured for single- or multi core and single- or multi partition
- Patent-protected

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