

COMPARE AND CONTRAST: EVS VS. SVS

Although the two technology-driven supplemental vision systems discussed in the main article are designed with safety and operational enhancements in mind—and they both display their output in the cockpit—that’s where the similarities end. One (EVS) uses a camera mounted externally to provide a real-time image of the aircraft’s surroundings while the other depends on accurate position and velocity generated by the onboard systems to create a virtual image of what should be outside.

SVS

Synthetic vision was developed by the USAF in the late 1970s and 1980s in support of advanced cockpit research, and by NASA in the 1990s as part of its Aviation Safety Program. In turn, NASA initiated industry involvement in early 2000 with major avionics manufacturers. The technology provides situational awareness to operators by using terrain, obstacle, geo-political, hydrological and other databases.

EVS

Meanwhile, enhanced vision is a related technology incorporating information from airborne sensors (e.g., near-infrared cameras, millimeter wave radar) to provide vision in limited visibility environments. It also is relatively new but available on a wide range of non-commercial aircraft, from Falcons and Gulfstreams down to Cessnas.

We’re working on an upcoming feature article exploring these two technologies in greater detail.



Top, Avidyne’s Release 9 software is depicted on an MFD, providing both SVS (the upper half of the screen, in color) and EVS (the monochrome inset below it). Garmin’s G1000 also can do EVS, as depicted in the bottom image. This is from a Cirrus SR22.