

Head-up Guidance System (HGS™)
with Enhanced Flight Vision System (EFVS)

WHEN CONDITIONS
ARE AT THEIR WORST,
YOU'RE AT YOUR BEST

Real-time, eyes-forward capability that
enhances safety and operations



BETTER VISION, GREATER PRECISION



Collins Aerospace offers business aircraft owners and manufacturers a Head-up Guidance System (HGSTM) custom designed to meet the unique needs of each aircraft platform. These systems are the latest head-up display technology available for business aviation.

Envision flights with:

- Greater situational awareness and safety
- Lower decision heights
- No weather inhibitions

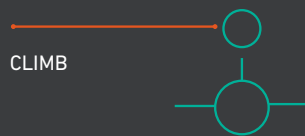
Head up, eyes forward

- Provides a conformal display
- Shows the flight path in all flight stages
- Enables greater awareness of the aircraft energy state



FLIGHT PATH INDICATOR

- Inertially derived
- Instantaneous indication of where the aircraft is going



CLIMB



DESCEND AND FLY LEFT



GUIDANCE CUE

- Uses landing aid (ILS, GLS) and IRS to compute and position cue



PERFECT

ENERGY MANAGEMENT



FAST, BUT DECELERATING



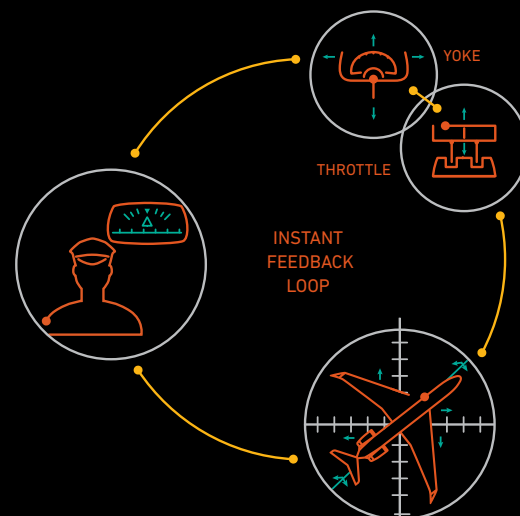
SLIGHTLY SLOW & DECELERATING



STABLE

Seamless extension of the pilot: Pilot in the loop

- Enables eyes-forward flying, reducing reaction time
- Provides the best aircraft feedback system
- Enables approach visualization
- Improves training methods
- Increases situational awareness



EFVS: Exceeding human vision

- See through weather and low-visibility conditions
- Reduced decision height
EFVS approach and EFVS landing/rollout
- Remove the surprise of a runway incursion



Reduced operating minima

TECHNOLOGY	APPROACH TYPE	DECISION HEIGHT
HUD	CAT I	200 ft
	SA CAT I	150 ft
EVS	EFVS approach	100 ft*
	EFVS landing	Rollout*

*After 200 feet, confirmation of approach lighting system via the EVS

HGS and EVS: Verified value for safety and your bottom line

- Fewer diversions:
 - Save on fuel and reduce go-arounds
- Improved safety:
 - Eliminates/reduces hard, short and long landings as well as runway excursions
 - Prevents obstacle collisions on runways
- Saves maintenance and insurance costs:
 - Reduces wear and tear on wheels, tires, brakes, flaps and engines
 - Can lower insurance premiums

Twice the performance: Dual HUD becoming available

- Enables the right-seat pilot to perform at the same capability as the left-seat pilot
- Avoids waiting time for low-visibility operations (LVO) qualifications that lead to:
 - Delays, diversions and disruptions



Triple the vision power of your pilots with unmatched Synthetic Vision System (SVS)

- Three layers
 - Terrain
 - Obstacles
 - Airports and runways
- Weather independence
- Worldwide database



Improved safety is possible

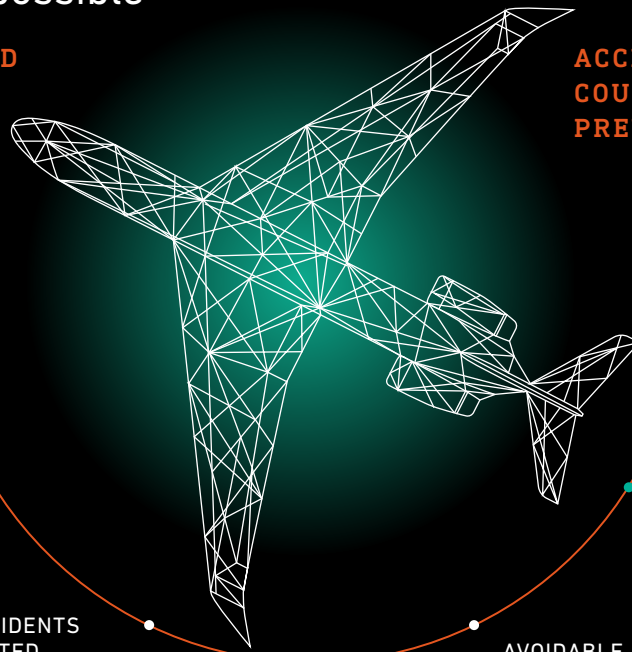
ACCIDENTS INVESTIGATED

123 LOSS OF CONTROL

341 TAKEOFF AND LANDING

519 OTHER

983 TOTAL ACCIDENTS INVESTIGATED



ACCIDENTS THAT LIKELY COULD HAVE BEEN PREVENTED WITH A HUD**

69%

TAKEOFF AND LANDING

LOSS OF CONTROL 57%

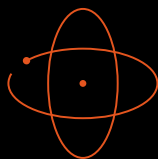
OVERALL 38%

TOTAL AVOIDABLE ACCIDENTS 374

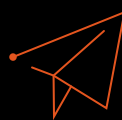
Fly and land with greater confidence



Real-time, eyes-forward capability



Improves safety



Enhances operations



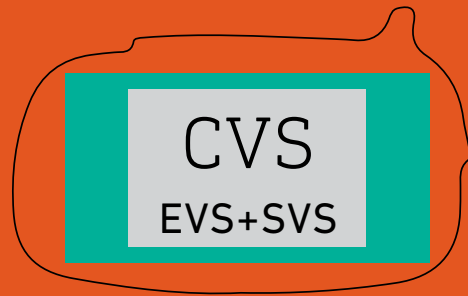
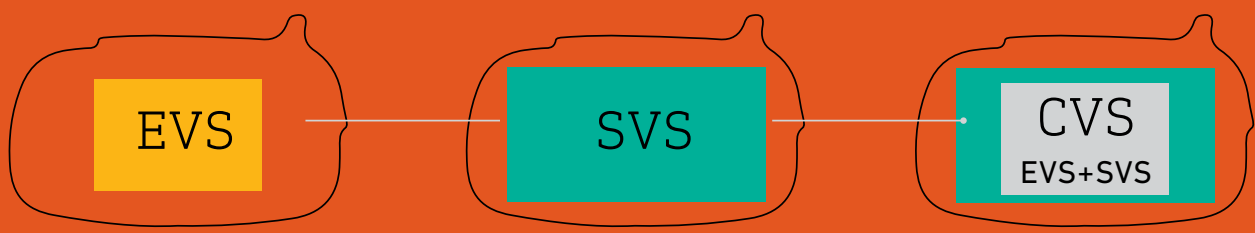
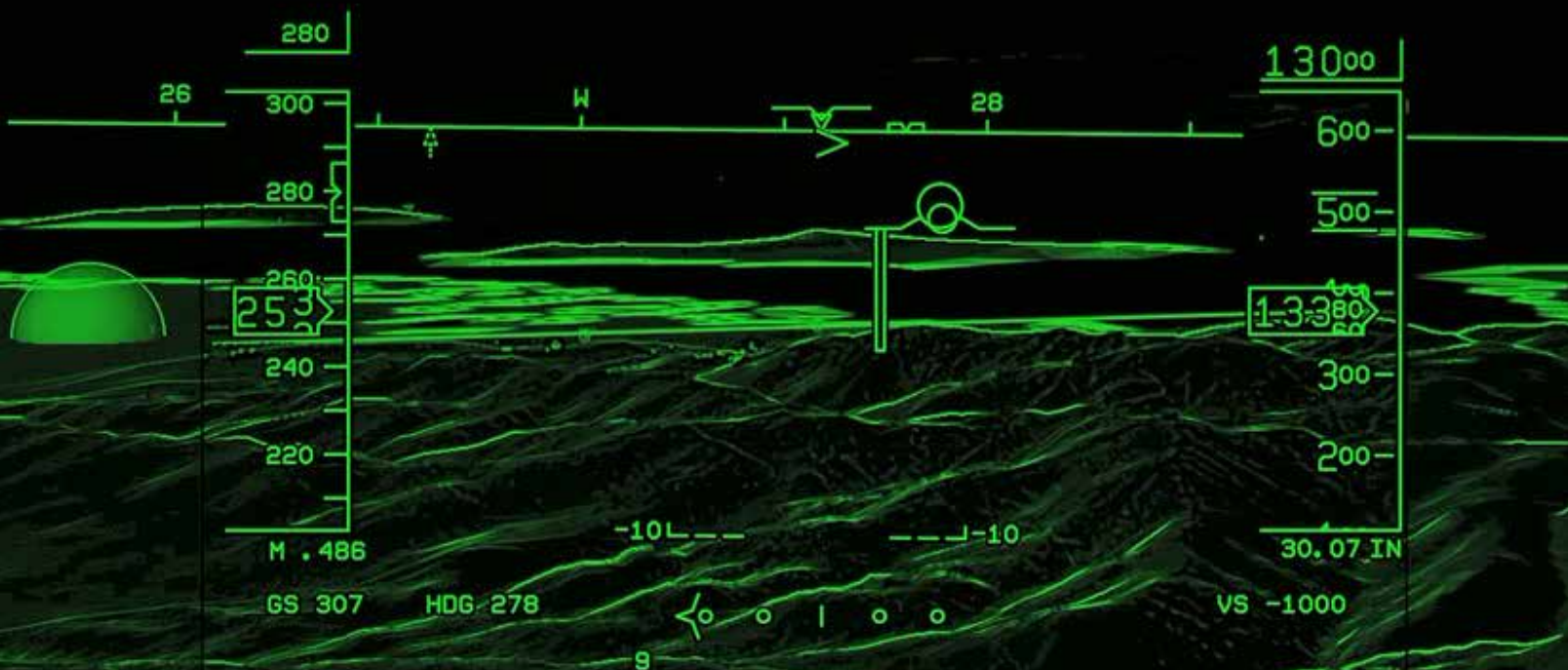
Maximizes the efficiency of pilot training



Economic benefit

Combined Vision System (CVS): True combined vision

Collins' advanced algorithm detects, extracts and optimally presents content to the pilot.



Don't settle for "complementary" vision systems

Equip with one that is truly combined

To learn more, go to
collinsaerospace.com/HGS

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