



# Synthetic Teammates for Realtime Anywhere Training and Assessment

Team Training - a cornerstone of mission readiness - can extract a heavy price in time, cost, and access. Coordination of personnel, instructors, and dedicated facilities means limited access to training and a one-size-fits-all timeline that artificially governs the training of individual warfighters.

Through a novel integration of speech-interactive synthetic teammates, intelligent tutoring, and scenario-based training, Synthetic Teammates for Realtime Anywhere Training and Assessment, or STRATA, overcomes conventional training limitations by providing fully deployable, effective, and engaging training that offers on-demand practice for individuals and teams with or without instructors – and – with or without the team.

## Deployable, Distributed Team Training

As part of DARWARS — DARPA's Training Superiority program that is creating persistent, online training — STRATA provides on-demand team training anytime, anywhere. STRATA enables deployable, distributed team training, with low-footprint, low-cost, portable hardware.

STRATA's novel capability gives users a simulated environment where they can master mission-critical skills — by training with a mix of other users and synthetic teammates in place of missing human players. By employing the iGEN® cognitive agent toolkit, STRATA provides synthetic teammates that exhibit tactically-realistic interactions and that can interact in spoken dialogue with users.

## CAS World

The initial STRATA product provides team training for Close Air Support (CAS), giving STRATA users the option to assume the role of aircrew or observers (Forward Air Controllers and Joint Terminal Attack Controllers). In the aircrew role, a STRATA user flies an attack aircraft accompanied by a synthetic wingman and coordinates the strike digitally and verbally with a FAC or JTAC – who could be another user or a synthetic agent. In the observer role, the STRATA user is the FAC or JTAC, and coordinates the strike through digital and spoken communications with the tactical air team, whether the aircraft are being flown by users or synthetic pilots. In either role, STRATA collects performance measures automatically and provides each user with a tailored debrief.



## STRATA Product Integration

STRATA provides local or distributed team training, with or without the entire team present, by integrating intelligent tutoring, scenario tools, and interactive synthetic teammates into existing or developmental simulations. Using such standard interoperability protocols as HLA, STRATA can be integrated with a broad range of technologies, from high-fidelity simulators to game-based PC trainers. STRATA capabilities continue to expand into new application domains and simulation environments, including:

- CAS training for F/A-18 users in the AirBook simulation environment
- CAS part-task training for networked users in X-Plane, a PC simulation
- FAC and JTAC training in the Cleared Hot application from the MOVES Institute at NPS
- USAF Undergraduate Pilot Training using FlightGear, a PC simulation.



DARPA Training Superiority (DARWARS) Program  
Program Manager: Dr. Ralph Chatham  
DARPA/DSO  
3701 North Fairfax Drive  
Arlington, VA 22203-1714  
Phone: 703.696.7501  
rchatham@darpa.mil.



CHI Systems Inc.  
Program Manager: Dr. Benjamin Bell  
CHI Systems, Inc.  
1035 Virginia Drive Suite 300  
Fort Washington, PA 19034  
Phone: 215.542.1400  
bbell@chisystems.com

For more information about STRATA visit:  
<http://strata.chisystems.com/>  
or contact: strata@chisystems.com