# Of Flying Cars and AI Training Capabilities

Imagine the training boost of a simulator flying through a synthetic airspace populated with AI pilots and air traffic control (ATC) role players. These role players aren't just background noise; they interact with and respond to students just like real people. Alternatively, visualize a smartphone app that lets ground school students rehearse with ATC outside of class. The training industry has often imagined advancements like these, but they've always resided on briefing slides labeled "not ready." Historically, this technology was the flying car of the training world or an experiment that might emerge from the basement of the science building.

Well, you can revise those briefings to say "ready for take-off." ASTi's SERA product line provides a range of AI- and speech-enabled capabilities. The product adapts to training phases from ground school to primary and advanced flight training, and it supports customized scenarios to meet specific military needs. SERA integrates with new or existing simulators, and it's configurable for a range of fidelity levels and budgets, from full-flight trainers to virtual reality (VR) simulators, as slated for future DoD programs. To learn more about SERA, go to **seraatc.com**, or contact **sales@asti-usa.com**.

**Stop by Booth #2620, and we'll strap you into a VR simulator that takes you through an ASTi-augmented, synthetic airspace. Flying is believing.**
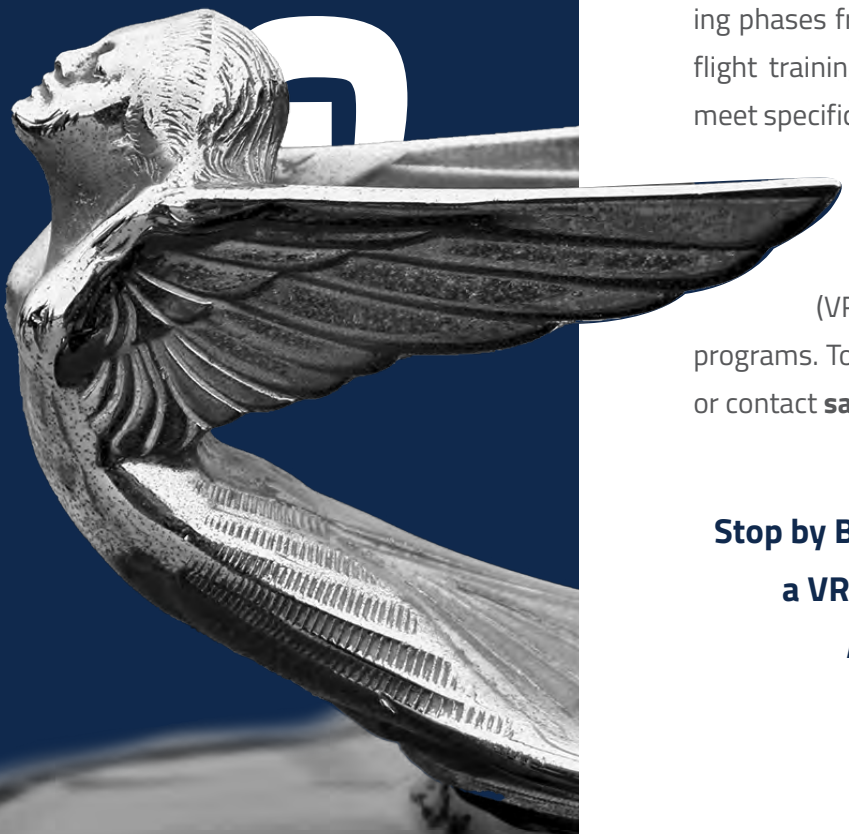
# Pilot PT: Exercise Your Communication Skills

Commercial and military flight training programs face a long-standing, critical problem: beginner pilots don't receive enough experience communicating with ATC. Many times, they aren't exposed to the complex phraseology of real-world communication until they start flying actual aircraft. English as a Second Language students struggle even more so with linguistic errors. The consequences of this training gap are significant. Training slows down and becomes more expensive, while student throughput dwindles, reducing pilots' availability and effectiveness. Sometimes, flight safety incidents occur.

In 2019, ASTi launched its latest product, the Pilot Phraseology Trainer (Pilot PT). Pilot PT is an online training system that empowers student pilots to learn radio communications with simulated ATC. Instead of rehearsing with instructors or other students, trainees can interact with ATC avatars enabled with AI and speech recognition. This convenient tool improves students' skills early on—well before they start flying. Thanks to cloud-based deployment options, students can practice "sets and reps" on their computers or mobile devices anytime, anywhere.

## PILOT PT OFFERS MANY BENEFITS:

- Automation that decreases instructors' workload and time commitment
- A standardized methodology that improves training and safety
- Increased program performance
- Decreased training costs
- Applicability to commercial and DoD flight training

## NEWS FLASH!

In August 2019, the U.S. Air Force's AFWERX entrepreneurship program awarded ASTi a Small Business Innovation Research grant. This award assesses the Phraseology Trainer's suitability for other military communication applications. ASTi plans to develop modules for additional training areas, such as close air support, call for fire, and medevac.

# Simulated Radios: Better Than the Real Thing

## Simulated hardware is less expensive, frees up live radios and equipment, and offers live, virtual, and constructive (LVC) training benefits.

Much of the latest buzz in the training industry focuses on software-only solutions and VR, but many programs still need a physical representation of operational gear. Fortunately, ASTi has extensive experience replicating custom radios for a variety of training scenarios. For example, we recently delivered 26 simulated AN/PRC-117G radio panels to the Fires Center of Excellence mission simulation center at Jared Monti Hall in Ft. Sill, OK. This hardware works with our Voisus product to create replicas that look and behave just like real radios. The new panels replaced a previous vendor's solution, increasing reliability and improving fidelity for the center's Call For Fire Trainer (CFFT) III systems.

The PRC-117G panels are the latest of many ASTi radio interfaces at the Mission Simulation Center. In addition to the PRC-117G, the center uses handheld devices, software-only clients, and SINCGARS and PRC-117F simulated panels. As demonstrated at Ft. Sill, the PRC-117G panels can provide functional realism to tactical radio operator, call-for-fire, and combat training across all branches of the U.S. military.

**Need to simulate a different radio? Contact us at sales@asti-usa.com**

# ASTi Upgrades P-8A Training System to Latest Network Standard

The P-8A Poseidon Training System has been an ASTi flagship program for over a decade. This sophisticated trainer boasts independent and connected training modes, a multitude of operators, and over 200 simulated radios. Therefore, it's no surprise that the P-8A establishes a baseline for the Navy's Next Generation (NG) of Naval Aviation Simulation Master Plan (NASMP) and high-level architecture (HLA) requirements. The NG combines NASMP and Naval Surface and Subsurface LVC assets into one standard, upgrading all assets from HLA 1.3 to HLA Evolved (HLAe).

To support this effort, ASTi updated its P-8A Telestra models and software from HLA 1.3 to HLAe. After extensive development and testing, we delivered a comprehensive solution that met stringent Navy and warfighter requirements. This upgrade increased the trainer's realism and interoperability, serving as a benchmark for other Navy aviation training assets (e.g., E-2D, F/A-18) transitioning to more complex LVC requirements.

**Already looking to HLA 4?  Let's talk.**

# ASTi Products Fast-Track Synthetic Training Programs

It's no coincidence that ASTi's product capabilities closely resemble the DoD NG requirements list. For 30 years, market needs have shaped our extensive, independent R&D efforts, pushing technology to its limits. In fact, our products' advanced, synthetic training capabilities demonstrate our commitment to warfighters' effectiveness and safety.

A long-term innovator in modeling and simulation, ASTi fast-tracks acquisition cycles for military modernization programs like the Army's Synthetic Training Environment (STE). ASTi is a small business and nontraditional defense contractor with a reputation for quick-reaction development and integration. If you need rapidly deployable innovations for the latest STE requirements, we're ready.

**To leverage our advanced capabilities for fast-turnaround programs, contact sales@asti-usa.com**

## Training whenever, wherever

- Low-overhead solutions that are easy to use
- Cloud-deployable, web-based simulation services offering training at the point of need
- AI entities serving as virtual role players, allowing independent practice

## Tabletop to full immersion

- Configurable options for many skill levels, suiting any training objective
- Realistic learning aids in many formats (e.g., web browsers, applications, simulator subsystems, IP communication systems)

## Fast-track deployment/lifecycle risk management

- In-stock COTS products that ease procurement and optimize fielding times
- Risk Management Framework (RMF) accreditation
- APIs and standards-based interfaces that simplify integration, accelerating time to market
- Enterprise-level support with low-risk program sustainment

# ASTi Modernizes Sim Diagnostic Toolkit

In 2019, ASTi brought its classic Redsim software back to life with Redsim 2, a suite of tools for Distributed Interactive Simulation (DIS) development, analysis, testing, and standards validation. These applications empower you to filter, route, transform, generate, and replay protocol data units (PDUs) on LANs and WANs. Many training programs, simulation centers, training infrastructures, and exercises use Redsim products. Examples include the Air Force Distributed Mission Operations Center, Distributed Training Operations Center, and Combat Air Force Distributed Mission Operations (CAF DMO) training assets and exercises.

## SO WHAT'S NEW?

Redsim 2 now runs on Windows 7 and 10 and supports DIS v7, PDU customization, and CAF DMO standards. It also expands support for Link-16 and Identification Friend or Foe PDUs. Since Redsim 2's revival, ASTi is always adding new features and improvements based on your feedback. For comments or inquiries, contact **sales@asti-usa.com.**

**To learn about Redsim 2 products, go to redsim.com.**

# ASTi's ELA Expands to 9,500 Licenses

The Enterprise License Agreement (ELA) is closing out 2019 with more DoD contract awards and installations than ever. The ELA is a subscription-based bundle of ASTi software licenses and support services. This bundle makes it easy to field, use, maintain, and update your communications infrastructure and training capabilities. Unlike other purchasing options, the ELA adapts to your program's ever-changing and sometimes unexpected requirements. Need an unlimited supply of software licenses for your program? No problem. Want on-site training, priority technical support, and software and information assurance maintenance? The ELA has you covered.

The U.S. Army's PEO STRI program uses its ELA to support a large-scale, battle-command training enterprise. PEO STRI renewed its subscription for a third time in 2019, expanding coverage to support:

- **9,500 licenses at over 25 locations**
- **Additional networked RoIP and VoIP services at USAR locations in three states**
- **Authority to Operate (ATO) recertification and sustainment**
- **RMF engineering services**

The USAFE also renewed its ELA, expanding the Warrior Preparation Center's communications across isolated, multilevel security networks. ASTi voice services link communications during live and simulated exercises for the U.S. Air Force, U.S. Army, U.S. Navy, and NATO.

# ASTi Evolves Eurofighter Capabilities

ASTi recently deployed HLAe capabilities for the Eurofighter Typhoon training program. These systems use ASTi's Telestra product for cockpit communications, audio, and sound simulation along with distributed radio communications through HLAe. The program leverages the Real-time Platform Reference Federation Object Model (RPR FOM) with custom modifications as needed. This combination of standards and technology ensures ASTi products accommodate domestic and international customers.

## ASTi

Delivering innovative audio
solutions that unify communications
across operational and training environments.

**asti-usa.com**