

AIR TRAFFIC CONTROL SIMULATOR

The Comprehensive Training Simulator
for Navigating Safer Skies





AIR TRAFFIC CONTROL SIMULATOR

ST Engineering's Air Traffic Control (ATC) Simulator is a groundbreaking, fully scalable, high-fidelity training solution that transforms the landscape of ATC training, testing, and procedural development. Designed to equip air traffic controllers with the skills necessary for effective and safe management of air traffic, it offers highly realistic radar, procedural, and aerodrome simulations. Our Air Traffic Control Simulator is customisable to accommodate a wide range of training needs—from ab-initio to operational and refresher training—ensuring a seamless transition from simulated environments to real-world operations. Take flight with state-of-the-art training designed for both new recruits and experienced controllers, ensuring flawless performance in everyday operations and critical emergency situations.

ENGINEERED TO PREPARE YOU FOR THE MOST CHALLENGING ATC SCENARIOS

Master Rapid Decision-Making in Critical Situations

Challenge:

Air traffic controllers operate in a high-stakes environment where swift, accurate decisions are crucial, and errors can have severe repercussions.

Solution:

Our simulator mirrors real-world scenarios with precise accuracy, providing a risk-free environment for controllers to practice and master complex situations. This advanced training tool prepares them not only for daily operations but also for rare high-stress emergencies. By offering realistic and comprehensive training, our simulator ensures controllers are equipped with the skills and confidence needed to maintain safety and efficiency in the skies.

Overcome Learning Inefficiencies and High Operational Costs

Challenge:

Air traffic control training often suffers from disparate systems, leading to inefficient learning and high operational costs, which are unsustainable given the diverse needs of ATC professionals.

Solution:

Our simulator's All-In-One System offers a scalable and customisable solution. This versatile platform evolves with user needs, seamlessly switching between various simulation modes. This capability enables cost-effective and flexible training plans, suitable for comprehensive, integrated training programmes. Our simulator ensures consistent, high-quality training that meets the diverse requirements of ATC professionals, minimising inefficiencies and controlling operational costs.

Keep Pace with Technological Evolution

Challenge:

Trainers and trainees require dynamic tools that support effective learning and continuous improvement.

Solution:

Our simulator, equipped with an interface that supports customisable plug-ins, ensures swift and effective updates and upgrades. This keeps the training environment in sync with the latest industry standards and technological innovations. By providing a flexible and up-to-date training platform, our system empowers trainers to deliver high-quality instruction and enables trainees to stay current with the evolving demands of air traffic control, fostering a culture of continuous improvement and excellence.



Pioneer the Future of ATC Training

Enhance your air traffic controllers' skills with ST Engineering's cutting-edge Air Traffic Control Simulator. As air traffic increases, so do the demands and risks for controllers. This advanced simulator equips your team with the precision and confidence to manage any situation. Embrace the future of air traffic control training with our Air Traffic Control Simulator, where technology and training excellence converge to boost safety, efficiency, and readiness.

WHY OUR AIR TRAFFIC CONTROL SIMULATOR

Key Benefits



Supports Ab-initio, Advanced, Currency & Refresher Training of ATC Controllers



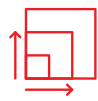
Immersive Training: Mimics Real-life Operational Environment



Cost Effective, Good ROI on Training & Increase Pool of Controllers



Platform for Testing & Evaluating



Scalable Scenario-based Training



Qualitative & Quantitative Training

Simulator Modes

Virtual Tower Simulator

- Seamless 360° visual environment
- Database of 3D models of all airports with accurate rendering of markings
- Database of 3D models for aircraft, vehicles and ships
- Glidepath Monitoring Tools for Instrument Landing Systems (ILS) and Precision Approach Radar (PAR)
- Automated Weather Observing System (AWOS)
- Day and night scenarios in different weather conditions
- Aircraft emergencies scenarios

Procedural Simulator

- Emulate procedural control operations and predefined flight paths for oceanic control

Configurable for Military Training

- Short Take-Off Vertical Landing (STOVL) operations
- Helicopter Manoeuvres
- Night Vision Mode

Radar Simulator

- Able to imitate live radar display of ATC radar controller position
- Surveillance Detection
- Radar Data Processing
- Flight Data Processing
- Automatic Dependent Surveillance-Broadcast (ADS-B)
- Wide Area Multilateration (WAM)
- Simulates ATS Interfacility Data Communication (AIDC) coordination and Controller Pilot Data Link Communications (CPDLC)

Voice Communication System (VCS)

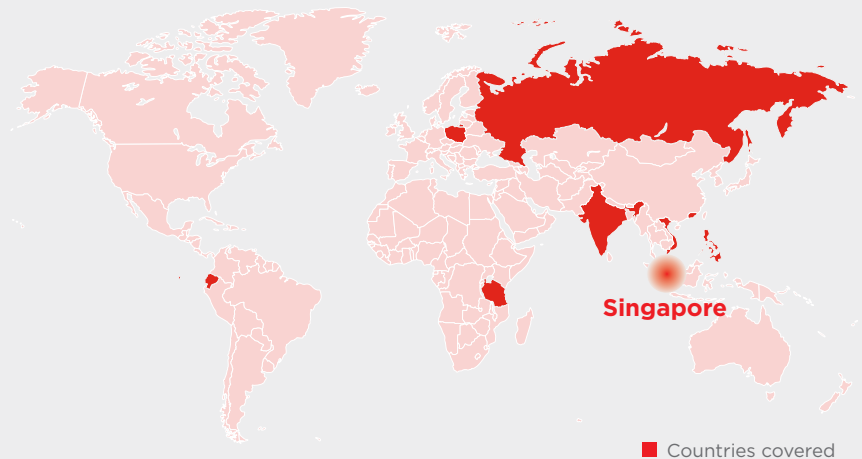
- Supports injection of noise and transmission failures
- Simulates ATIS broadcast
- Simulates Air-Ground and Ground-Ground communication functions
- Integrated voice recording and replay synchronisation
- Customisable voice recognition feature for easy addition or modification of phraseologies

ST ENGINEERING. YOUR PARTNER IN PRECISION AIR TRAFFIC CONTROL TRAINING

Achieve training objectives with our realistic and scalable simulator solutions. Streamline operations and focus on enhancing safety and efficiency.

Geographic Footprint

In a market teeming with advanced air traffic control simulators, ST Engineering stands out by offering state-of-the-art, customisable training solutions designed for both civilian and military applications globally. Our solutions are more than just tools; they are gateways to unparalleled operational readiness and safety.



IATA air travel forecast for the next 20 years

The number of world passengers:

Increase by **3.8%**
per year on average

Additional passenger journeys by 2043:

>4 Billion

Passenger

4.5B —————> **5.6B**
(2019) (2030)

Aircraft movement

39M —————> **50M**
(2019) (2030)

Source: IATA June 2024 report

Discover how ST Engineering can seamlessly integrate world-class simulation technologies into your training programmes, equipping your air traffic controllers with the confidence and skills needed to manage any scenario with precision and efficiency.

Proven Reliability:

ST Engineering's Air Traffic Control Simulators undergo rigorous testing and are used by ICAO-certified institutions and military academies globally, ensuring comprehensive and reliable ATC controller training.

Expert Insights:

Our team's extensive experience in air traffic control training requirements ensures that every system we deliver aligns seamlessly with client specifications and timelines, meeting the highest standards of excellence.

Integrated Solutions:

We offer end-to-end solutions, from design to implementation, including installation, training, and ongoing support. This ensures a seamless transition and sustained value through extensive knowledge transfer.

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