RTX

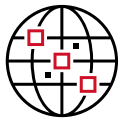
At RTX, we're a team of explorers united in our goal to push the boundaries of known science and solve the world's most complex problems.

We design. We engineer. We code. We research. We patent. We test. We learn. We iterate. We manufacture. We produce.

We are advancing aviation, building smarter defense systems and creating innovations to take us deeper into space. Progress is not inevitable. It is initiated – by tirelessly asking the hard questions and finding answers.

Progress defines the future and defines us – because the progress we make matters.

Every second of every day, an aircraft carrying RTX technology takes flight

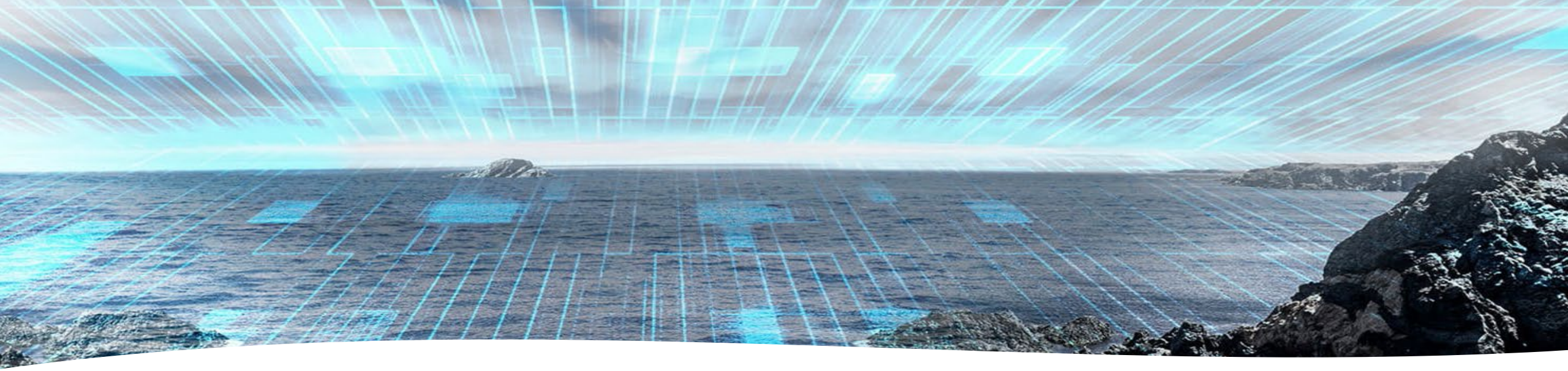


90% of all Department of Defense and commercial space launches are supported by our products

1 billion gallons of fuel have been saved by our increasingly efficient aircraft engines

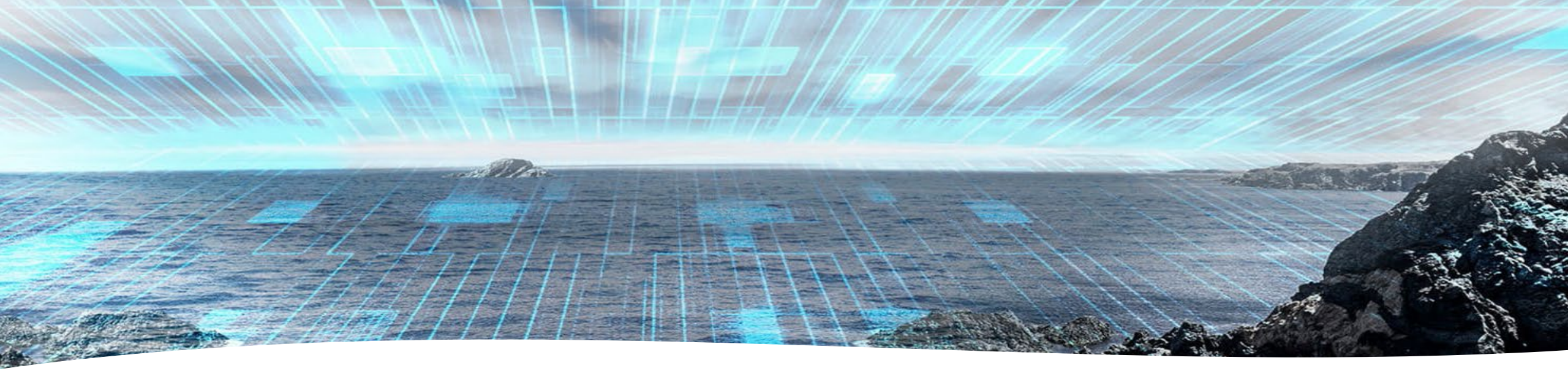
11 million air travel passengers are supported every day by our safe and efficient aviation systems

70% of the airborne communications for the U.S. and allied nations are supported by our technology



Classification of RF Signals Captured in Flight using GPU-Accelerated Python Scripts

- **Description**: This project is designed for undergraduate students specializing in data science and related fields. The primary objective is to develop GPU-accelerated Python scripts capable of classifying RF signals captured during flight. The project will incorporate advanced data science techniques, signal processing, and machine learning algorithms to achieve its goals, leveraging the CADS (Cognitive Algorithm Deployment System) platform and collaborating with members of the CADS team.
- **Citizenship Status**: US Citizens required



Classification of RF Signals Captured in Flight using GPU-Accelerated Python Scripts

- **Project Objectives**:
  1. **Develop GPU-Accelerated Python Scripts:**
     - Utilize GPU programming to enhance the performance of signal classification algorithms.
     - Implement and optimize Python scripts for real-time processing of RF signals.
  2. **Classify RF Signals:**
     - Analyze RF signals training set comprised of MATLAB Simulation data
     - Develop classification models to accurately identify different types of RF signals.
  3. **Test and Validate Models:**
     - Conduct rigorous testing to ensure the reliability and accuracy of the classification models.
     - Validate the performance of the models using a manually collected data set of RF signals.
  4. **Flight Testing:**
     - If the project reaches a mature stage by mid-second semester, conduct a test flight in Tucson, AZ, to collect real-world RF signal data.
     - Deploy and test the developed application during the flight to evaluate its performance in a live environment.