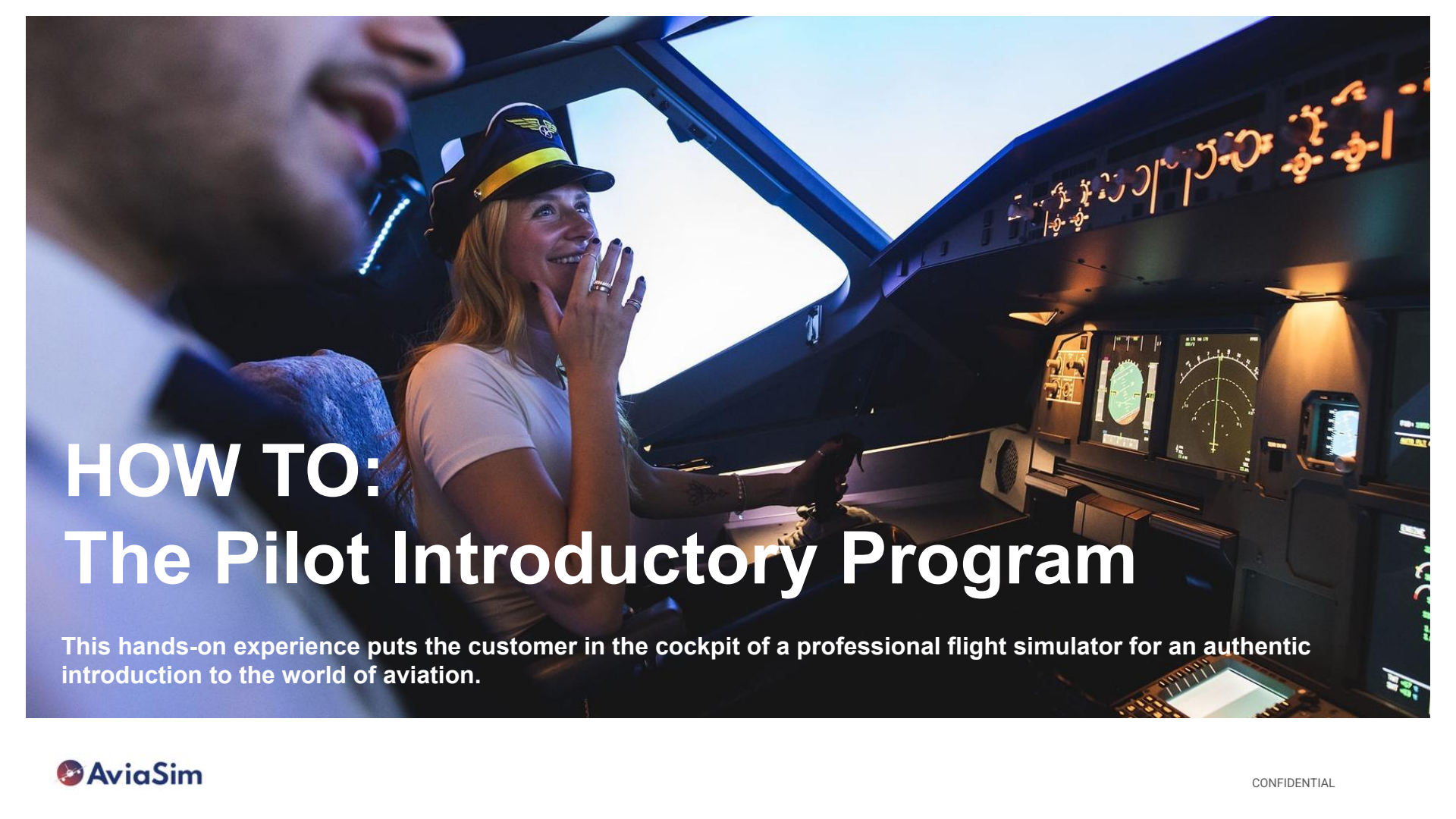




HOW TO: The Pilot Introductory Program

This hands-on experience puts the customer in the cockpit of a professional flight simulator for an authentic introduction to the world of aviation.

How to use this guide

Review this guide to see what you'll be teaching your customers in the Pilot Introductory Program. This will help you plan and conduct your flight simulations effectively.

The sections **in purple** are internal notes for you and are not meant for the student's final presentation.

DO NOT USE THIS PRESENTATION WITH YOUR CUSTOMER. This is meant for training purposes only. You will find the official presentation on the intranet. (aviasim-intranet.site)

Here are a couple of useful websites you might want to explore:

skyvector.com for map

metar-taf.com for real weather

simbrief.com for flight plan

fltplan.com for Canadian charts

Program Overview: What to Expect

01

Flight Fundamentals

Learn essential principles of flight and key instruments

02

Pilot Communication

Master standardized aviation terminology and ATC interactions

03

Flight Planning

Prepare a complete flight plan from departure to destination

04

Simulator Mission

Take command for a full flight scenario with instructor guidance

Each session is 100% personalized to your interests, experience level, and learning pace—combining theory with hands-on practice throughout all four hours.

Understanding the Fundamentals

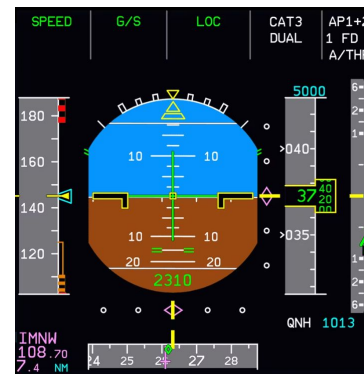
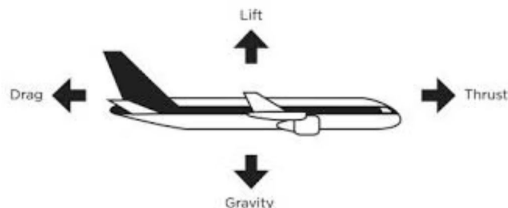
Key Flight Instruments

- **Altitude indicators**
"Explain the altimeter"
- **Airspeed indicators**
"Explain the airspeed indicator"
- **Attitude director**
"Explain the attitude director"
- **Heading indicators**
"Explain the heading indicator"



Aerodynamic Forces

- **Lift**
"Explain how lift works"
- **Weight**
"Explain why weight is important"
- **Thrust**
"Explain where it comes from"
- **Drag**
"Explain good and bad things about drag"



- **How they interact during flight**
"In steady, unaccelerated flight, these forces are in a state of balance. The goal is to make Lift equal to Weight, and Thrust equal to Drag. To climb, we increase thrust. This makes thrust greater than drag, which increases our speed. As our speed increases, our wings generate more lift, which makes lift greater than weight, and the airplane begins to climb. To descend, we do the opposite. We reduce thrust. This makes drag greater than thrust, and our speed decreases. As a result, lift becomes less than weight, and the airplane starts to descend."

Understanding the Fundamentals

Flaps and Slats

- **To increase lift at slower airspeeds**
“Explain why we would want to increase lift when we are slow”
- **To increase drag**
“Explain why we would want to increase drag”
- **Delay airflow separation (Slats)**
“At slow speeds and high angles of attack, the air wants to stop flowing smoothly over the wing, which causes a stall. Slats “re-energize” the airflow, helping it stay attached”

Spoilers

- **To increase the descent rate without gaining speed**
“Spoilers create a lot of drag, letting us lose altitude faster without accelerating.”
- **To assist with roll control**
“They can also assist with roll control, as they can be raised on one wing to help ailerons during turns.”
- **To “dump” lift**
“The spoilers instantly destroy this lift, putting the full weight of the aircraft firmly on the landing gear.”
- **To increase aerodynamic braking**
“The spoilers act as a massive air brake, creating a huge amount of drag that helps to slow the aircraft down”



Modern Aviation Technology

Autopilot & Auto-thrust

- **Reduces Pilot Workload**
“By taking over routine tasks like maintaining a constant heading, altitude, or airspeed, these systems free up pilots to focus on higher-level tasks”
- **Enhances Fuel Efficiency**
“Both systems are programmed to operate the aircraft in the most efficient manner possible.”
- **Improves Safety and Precision**
“Autopilot and auto-thrust can hold a flight path and speed with greater precision than a human pilot, especially during long flights.”
- **Increases Passenger Comfort**
“These systems maintain a steady, stable flight, which minimizes turbulence and sudden changes in altitude or speed.”

Flight Management System

- **Improved Fuel Efficiency**
“The FMS calculates the most efficient flight path, airspeed, and altitude for a given route.”
- **Reduced Pilot Workload**
“Automating tasks such as navigation, flight planning, and performance calculations.”
- **Enhanced Navigation Precision**
“Instead of just reacting to events, situational awareness tools help users identify potential risks and threats early.”



Modern Aviation Technology

Fly-by-Wire Systems

- **Increased Safety**
“The computer constantly processes data and can make thousands of tiny corrections every second to keep the plane stable.”
- **Reduced Weight and Improved Efficiency**
“Instead of heavy mechanical parts, we use lightweight electrical wires.”
- **Enhanced Performance**
“The computer can make the control inputs more precise than a human ever could.”

Flight Envelope Protection

- **Enhanced Safety & Predictable Performance**
“The computer won't let you fly outside the safe envelope. If you try to pull up too sharply or bank too steeply, the system will automatically intervene to prevent a stall or structural stress”

Situational Awareness Tools

- **Improved Decision-Making**
“By consolidating vast amounts of real-time data—like weather, traffic, and system status—into a single, easy-to-understand display.”
- **Proactive Threat Management**
“This system doesn't just react; it anticipates. It can recognize the signs of a developing threat, like an impending mid-air collision, and automatically take action to prevent it”



"It's a "common language" that ensures everyone understands critical information the same way, everywhere in the world"

“Clear, concise communication prevents misunderstandings. Standardized phrases speed up communication.”

Standard Words: Use the exact words and phrases prescribed. Avoid informal language."



Sterile Cockpit



What is "Sterile Cockpit"?

It's a period where non-essential communication and activities are prohibited.

"Think of it as a "quiet time" for serious flying.

Only conversations directly related to the safe operation of the aircraft are allowed."

When is it Active?

During all operations below 10,000 feet (or 18,000 feet)

"Taxiing; Takeoff and Landing; Climbing (until above the sterile cockpit altitude); Descending (when approaching or below the sterile cockpit altitude); Any other phases designated by regulations or company policy where high focus is required."

Why it's Crucial:

- Focus on flying
- Error prevention
- Teamwork

"Focus on Flying: During critical phases of flight.

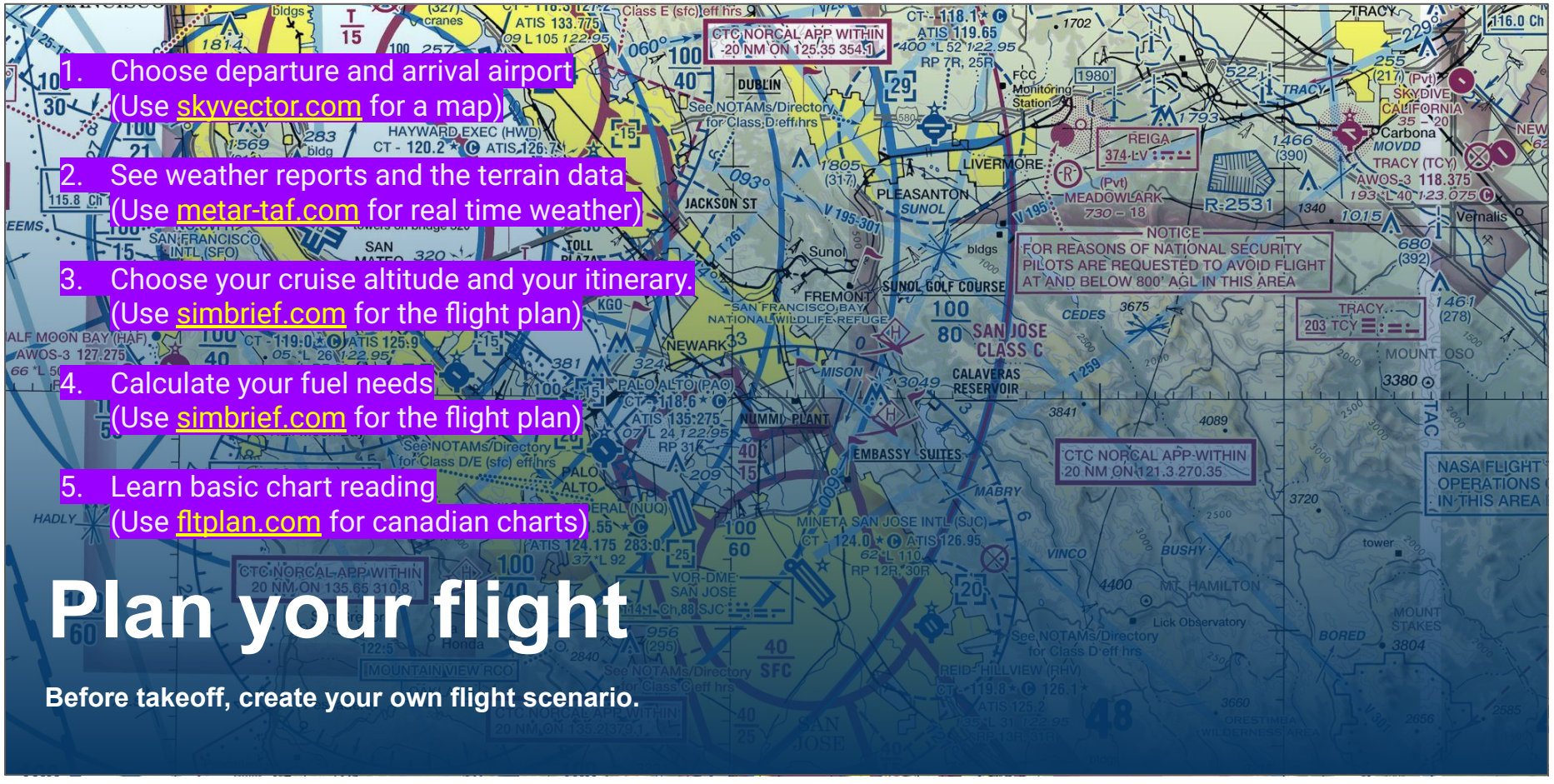
Error Prevention: Distractions increase the risk of mistakes.

Teamwork: It ensures the flight crew is working together efficiently and without unnecessary interruptions."

What's NOT Allowed:

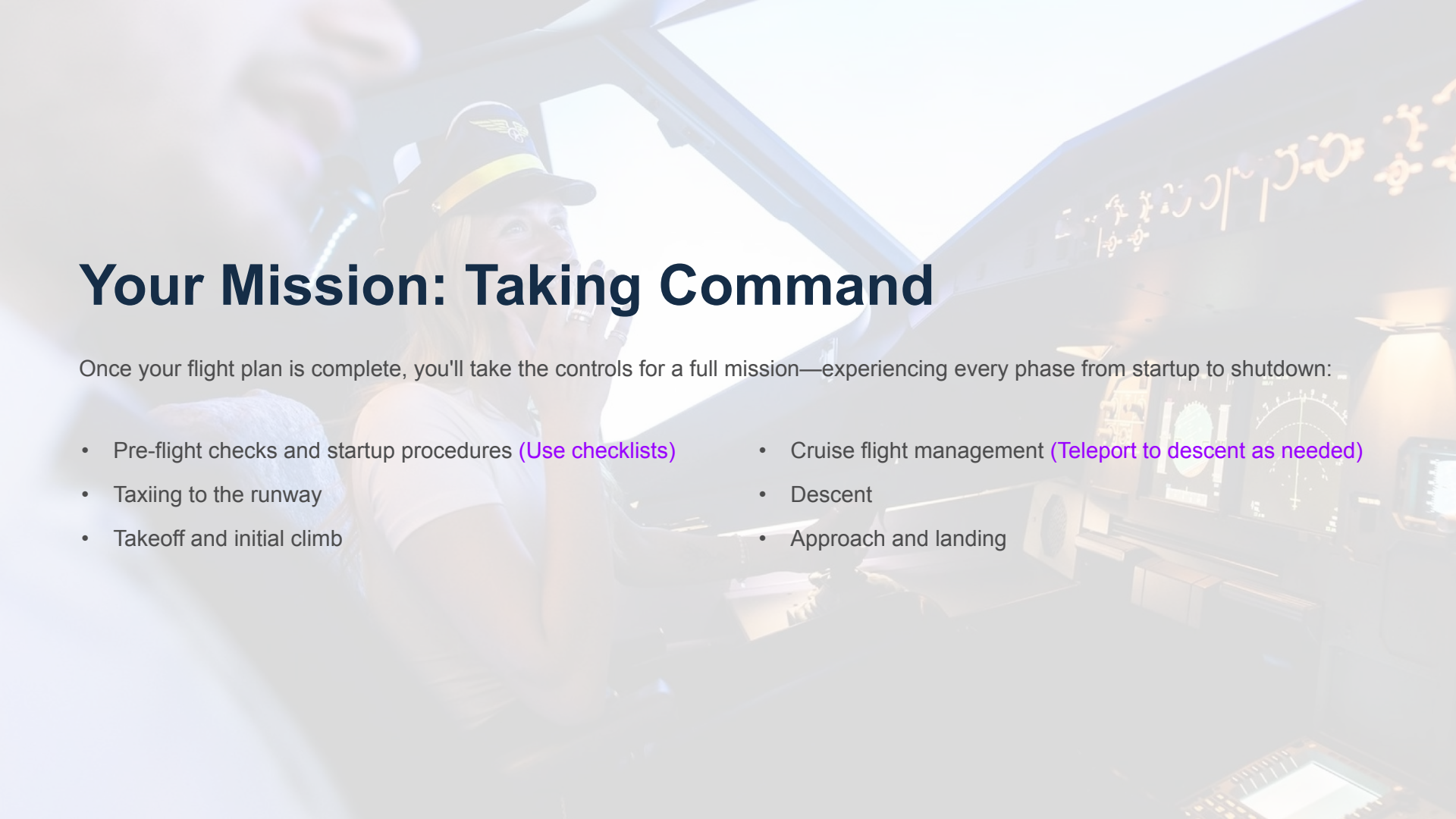
- Personal conversations
- Reading non-essential materials
- Eating or drinking
- Performing non-essential paperwork
- Any activity that diverts attention from flying the aircraft.



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1. Choose departure and arrival airport
(Use skyvector.com for a map)
 2. See weather reports and the terrain data
(Use metar-taf.com for real time weather)
 3. Choose your cruise altitude and your itinerary.
(Use simbrief.com for the flight plan)
 4. Calculate your fuel needs
(Use simbrief.com for the flight plan)
 5. Learn basic chart reading
(Use fltplan.com for canadian charts)

Plan your flight

Before takeoff, create your own flight scenario.

A woman wearing a pilot's uniform, including a cap with wings and a headset, is seated in the cockpit of an aircraft. She is looking out the window with a focused expression. The cockpit is filled with various instruments, dials, and control panels. The background is slightly blurred, emphasizing the pilot and the cockpit environment.

Your Mission: Taking Command

Once your flight plan is complete, you'll take the controls for a full mission—experiencing every phase from startup to shutdown:

- Pre-flight checks and startup procedures (Use checklists)
- Taxiing to the runway
- Takeoff and initial climb
- Cruise flight management (Teleport to descent as needed)
- Descent
- Approach and landing