



# Online Assessment of Air Traffic Control Candidates

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# Air Traffic Controller Worker Requirements

- **Prioritization:** The ability to identify activities that are most critical and require immediate attention.
- **Situational Awareness:** Being cognizant of all information within a four-dimensional space (i.e., separation standards plus time).
- **Planning:** The ability to determine the appropriate course(s) of action to take in any given situation.
- **Execution:** The ability to take timely action in order to avoid problems and to solve existing problems.
- **Dynamic Visual-Spatial:** Ability to deal with dynamic visual movement
- **Intermediate-Term Memory:** The ability to remember pertinent information over a 1-10 minute period Visual-Spatial Reasoning
- **Visualization:** The ability to translate material into a visual representation of what is currently occurring.
- **Visual Scanning:** The ability to quickly and accurately search for information on a computer screen, radar scope, or computer printout
- **Thinking Ahead:** The ability to anticipate or recognize problems before they occur and to develop plans to avoid problems.
- **Time sharing/Multi-tasking:** The ability to perform two or more job activities at the same time.
- **Rule Inference:** The ability to efficiently apply transformational rules inferred from the complete portions of the stimulus array to the incomplete portion of the array.
- **Perceptual Speed & Accuracy:** Ability to perceive visual information quickly and accurately and to perform simple processing tasks with (e.g., comparisons).
- **Decisiveness:** The ability to make effective decisions in a timely manner.

# Air Traffic Scenarios Test

The interface displays an air traffic control scenario on a black background with green text and symbols. The radar area is bounded by a green frame with labels A, B, C, and D at the corners. Two aircraft are shown as semi-circles with horizontal lines through them, labeled 'e' and 'f'. Aircraft 'e' is at the top center, and aircraft 'f' is at the bottom center. Labels 'F4e←', 'F4B↓', 'F4f↓', and 'F1B↑' are positioned around the aircraft. A '5 Miles' scale bar with a white arrow is located on the right side of the radar area. Below the radar area are several control panels:

- Landing Headings:** A panel with two rows: 'e →' and 'f →'.
- REPEAT:** A button labeled 'REPEAT'.
- Heading:** A numeric keypad with buttons for 7, 0, 1, 6, 2, 5, 4, 3.
- Speed:** Three buttons labeled 'F', 'M', and 'S'.
- Level:** Four buttons labeled 4, 3, 2, and 1.
- Pilot Readback:** A text box containing 'Roger, Level 4'.
- Sector Message:** An empty text box.



# Online Air Traffic Controller Selection Issues

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- **Cheating/ Applicant Identity**
- **Test security**
- **Hardware failures**
- **Internet Speed and Test Timing**



# An Overview of Computer-based/ Online Air Traffic Controller Selection

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- United States (FAA)
- Netherlands (Luchtverkeersleiding Nederland)
- Australia (Airservices Australia)
- Denmark (Naviair)



## United States - FAA

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FAA's current ATC hiring:

- **FAA Approved Educational Programs**  
(No previous Air Traffic Control experience required)
  - Air Traffic Collegiate Training Initiative (AT-CTI) Program
  
- **Current or Former Federal Employees with Air Traffic Control Experience**
  - Former FAA Air Traffic Control Specialists (Who Were Fired As a Result of the 1981 Strike)
  - DOD Civilian Controllers
  - Former Military individuals eligible for a Veterans Readjustment Appointment (VRA)
  - Retired Military Air Traffic Control Specialist



## United States - FAA

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- AT-SAT, which is a dynamic and interactive battery of eight computerized tests that was developed in the mid-late 1990's
- Designed to measure the cognitive, perceptual, and psychomotor abilities critical to successful air traffic controller performance.
- Website provides basic information about ATC Occupation and Openings
- No online selection



# Netherlands (Luchtverkeersleiding Nederland)

- LVNL uses a website for recruitment and image-building
- This website stimulates interaction and makes contact with potential controllers
- Website Features:
  - Sound and movement
  - Radar screen to generate technical learning
  - Extensive application form
  - Self-selection Test



1. m/h  
46 ft

DE PROCEDURE

GELUID UIT

DE PRAKTIJK  
ZO WERKT 'T  
EEN DAG UIT HET LEVEN

606 m/h  
2623 ft

IT'S AN ART

563 m/h  
2254 ft

DE OPLEIDING

606 m/h  
2623 ft

Kijk [hier](#) naar onze bedrijfsvideo

EEN VAK APART op  
NB: 54°50'38"  
OL: 7°44'11"  
vraag\_



## Australia (Airservices Australia)

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Airservices Australia website provides description of the ATC occupation, requirements for the job, and applicant assessment information

- **Step 1:** Complete detailed online application
  - Education
  - Aeronautical Experience
  - Air Traffic Experience
  - Other Work Experience
  - Key Skills



## Australia (Airservices Australia)

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- **Step 2:** Selected applicants will be asked to complete one or both of the online cognitive abilities test & self-description questionnaire.
  - This information will be used to assess the cognitive, arithmetic and verbal reasoning capability of individual candidates, as well as their potential suitability and job fit for Air Traffic Control.
  - Each test requires up to 30 minutes of uninterrupted time.
- **Step 3:** One full day of psychometric testing for candidates who scored the highest on the online cognitive abilities test & self-description questionnaire.



## Denmark (Naviair)

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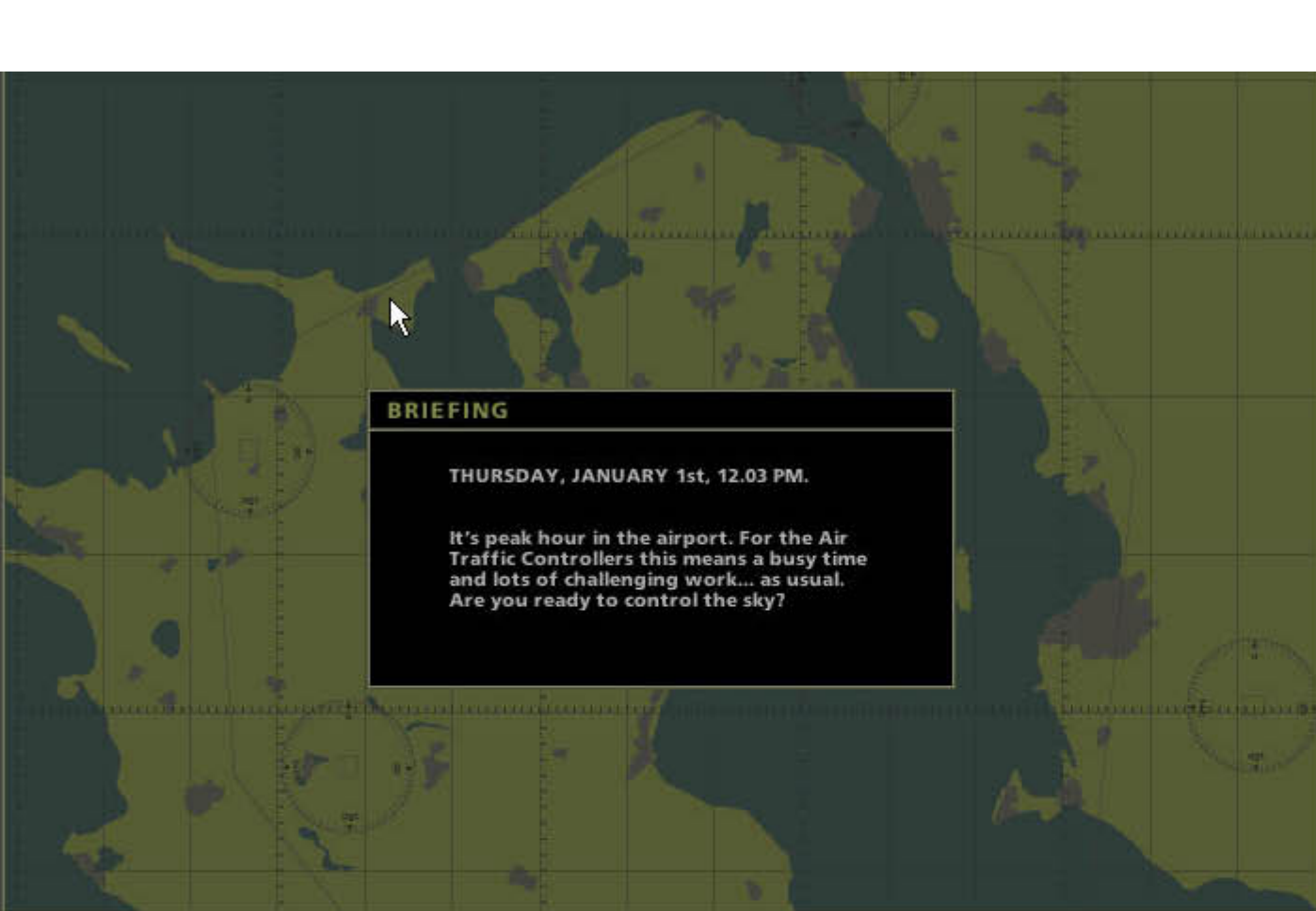
- Naviair developed a website to increase awareness of the profession and training of ATCs and to obtain more qualified applicants
- This website provides a pre-selection opportunity by asking potential applicants to “Test Yourself”
- System generates instant and automatic feedback
- Those who scored above norm receive encouraging e-mail from head of recruitment
- Website contents:
  - Information
  - “Control the Sky”
  - “The Logical Test”



**TEST DIG SELV**  
[www.flyveleder.com](http://www.flyveleder.com)

**KAN DU HOLDE  
JORDFORBINDELSEN?**

**NAVIAIR**



**BRIEFING**

**THURSDAY, JANUARY 1st, 12.03 PM.**

**It's peak hour in the airport. For the Air Traffic Controllers this means a busy time and lots of challenging work... as usual. Are you ready to control the sky?**

▶ **CONTINUE**

0 nm 5 nm 10 nm



Scenario 2 loaded..

Controller: mheil  
TIME: 14:22

NORMAL

VIEW #2  
LABELS ON

▶ HELP





## Welcome Mike Heil

You have chosen to take a small part of the assessment to become an Air Traffic Controller with Naviair. This "test yourself" platform is delivered by Career Harmony in close co-operation with Naviair, and is part of an effort by Naviair to attract potential applicants for education as an Air Traffic Controller in Denmark. We wish you good luck.



Continue →

General Instructions



## Welcome Mike Heil

You will be presented with a series of 2 assessment tools that measure highly relevant aspects of an air traffic controller's job.

Please allow yourself approximately 20 minutes to complete all of the assessments.

You may exit at any time, and then resume from where you left off. This will not affect your score.

You will be guided through each step, and no prior preparation is required.

In order for us to assure you a successful and accurate assessment, we suggest that you work independently.

Please be aware that some of your original scores may be re-evaluated.

Press "Continue" when you are ready to view the instructions for the first assessment tool.

Continue →



General Instructions

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

14:25

Test Instructions

Enter the next number in the series:

8, 10, 14, 20, 28, 38, ...

Answer :



### Instructions

The following assessment tool is designed to measure your abstract reasoning ability.

Each item consists of two rows of figures. The upper row is a series of three or four figures, and has a set of 5 answers below it. Your task is to study the upper row. It is made up according to a certain rule or order. You are to determine the rule that binds the elements together. Click on the answer in the second row that fits the rule, and most correctly continues the series.

For example:



The rule in this example is to progressively add one character to each box from left to right.



The fourth box should, therefore, look like this:

**Test time:** 10 minutes

**Total items:** 30

Before we begin, please familiarize yourself with the type of items in this assessment tool by studying the following 2 examples.

### Example 1:



Continue →



Test Instructions



A sequence of five boxes: a vertical line, a corner shape, a square with a missing top side, a square, and a question mark.

Five numbered options below:

- 1: A square with a double border.
- 2: A square with a double border, slightly offset.
- 3: A square with a double border, slightly offset.
- 4: A square with a double border.
- 5: A square with a double border, slightly offset.

Navigation arrow in the bottom right corner.



# Summary

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- Computer-based testing for ATCs
  - Testing centers
  - Online recruitment
  - Online applications
  - Online self-selection
  - Online screening
  
- Strategies for addressing concerns about online selection:
  - Provide applicants with opportunity to self-select
  - Prescreen based on application and short online assessment
  - Conduct full assessment at secure facility with proctors
  - Download full assessment tests onto computer to eliminate internet speed/test timing issues