

Preliminary Market Consultation

Title: Flight Management Trajectory Predictor – Preliminary Market Consultation

Reference No.: ECTL_PMC_241219

General: EUROCONTROL is an intergovernmental organisation with 41 Member and 2 Comprehensive Agreement States. We are committed to building, together with our partners, a Single European Sky that will deliver the air traffic management (ATM) performance required for the twenty-first century and beyond.

One such component that EUROCONTROL proposes to its partners, is the ESCAPE air traffic control simulator developed by the Innovation Hub for its R&D and airspace design real time simulation projects. With more than 25 years' experience, ESCAPE possesses a wide set of capabilities and high-performance figures.

With future ATC systems becoming more open and connected to external services, with the increase in automation or the introduction of new mobiles like drones, major changes are required in the simulator to address R&D and airspace projects.

The Steer(in) project aims at building upon ESCAPE experience and assets to develop the next generation of the simulator. The strategic objectives of the project are to:

- Become the reference simulator for R&D and airspace design,
- Reduce development, maintenance, and operating costs
- Enlarge the community of users to improve the return on investment for the community.

To reach this goal, many activities have already been launched including work on the future Human-machine interface.

This analysis aims to open discussion with parties so EUROCONTROL can better understand what the possibilities in the market concerned.

Technical subject matter: This Preliminary Market Consultation is focussed on the future development of the Flight Management Trajectory Predictor (FMTP) component of the future Steer(in) simulator.

SUPPORTING EUROPEAN AVIATION

Member States: Albania, Armenia, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Monaco, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Republic of Moldova, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye, Ukraine, United Kingdom.

Comprehensive Agreement States: Israel, Morocco.

The FMTP component will serve as the backbone for Flight Data Processing (FDP) functionalities within the future EnRoute/ATC system integrated into the Steer(in) platform. Its primary role is to manage and process flight plans and trajectories used by other Steer(in) system components. FMTP is designed to handle a single simulated Air Traffic Services Unit (ATSU) and manage flight plans across its Area of Interest (AoI), while remaining agnostic to specific ATSU responsibilities.

Key FMTP Functions:

Flight Plan Management: Includes creation, modification, and deletion based on external requests, with capabilities such as:

- Unique key assignment and trajectory computation.
- Handling deviations, flight progress, and controller input orders.
- Managing statuses like active, inactive, or deleted.

What-If Flight Plans:

- Allows the simulation and evaluation of alternative flight plans.

Limitations:

- FMTP does not handle coordination and transfer management, which is assigned to a separate component.

External Interfaces & Dependencies

- FMTP will interface with other Steer(in) platform components via a Java-based middleware library offering APIs. These interfaces will facilitate:

Core Interactions:

- Such as flight plan creation/modification/deletion, and controller input.

Event Handling:

- Consuming events like flight progress and deviations, and publishing updates to flight plans.

Platform Management:

- Including lifecycle requests, time management, logging, and airspace data distribution.

As part of this Preliminary Market Consultation, a **Technical Document** is attached. This document aims at giving an initial set of needs to stimulate dialogue between stakeholders and the project team. Companies are not expected to provide an analysis of the document and can decide to consider it or not.

The purpose of sharing this draft is to encourage participants to:

- Provide **complementary insights** on the listed needs.
- Suggest **alternative solutions** that may better address the outlined objectives.

This document aims to foster innovation and constructive exchanges. Its content shall be considered as guidelines to better understand our needs.

Deadline:

This Preliminary Market Consultation will finish on 30 April 2025 at 15:00 CET.

Companies interested in the subject matter shall make their intentions known via the below listed points of contact.

Via this Preliminary Market Consultation, Companies are not asked to produce specific content or material. They are free to decide what they want to present to EUROCONTROL and in which format.

Point of Contact:

Interested parties, please contact:

All external emails to be sent to:

contact.steerin@eurocontrol.int,

CC : france.reeb@eurocontrol.int & emanuele.giampietri@eurocontrol.int