



**Air Navigation Services  
of the Czech Republic**



ORDER

SRPI R/5174/2026

Order Nr.:

168/2026/IO/176

**Buyer:**

Air Navigation Services of the Czech Republic  
Navigační 787  
252 61 Jeneč

**Seller:**

Deutsches Zentrum für Luft- Raumfahrt e.V.  
Lilienthalplatz 7  
38108 Braunschweig, Germany  
Bank and all details: See Annex 1 to order

Identification Nr.: 49710371  
TAX Register. Nr.: CZ699004742  
Bank: KB  
Bank Account Nr.: 1162200106/0100  
Registered in the Commercial Register of the  
Municipal Court in Prague, Section A, Insert 10771

Elaborated: [REDACTED]  
Phone: [REDACTED]

Date: 20.05.2026

**Place of delivery:**

Air Navigation Services of the Czech Republic  
Navigační 787  
252 61 Jeneč

Place of workshop/-s: DLR Braunschweig (contractor)

Subject of delivery: as follows

We order: Concept Validation for the Remote Tower Center consultation + Final Report

All order/ contractual conditions and obligations: See Annex 1 to order

Price: Maximum price 21.713,60 EUR VAT excluded. For details see Annex 1.

Delivery period: See Annex 1 to order

Warranty term: 12 months from delivery date

Payment: See Annex 1 to order  
of the protocolar document (both parties signature).

Invoice and Order shall be sent by email to the following address: fakturace@ans.cz

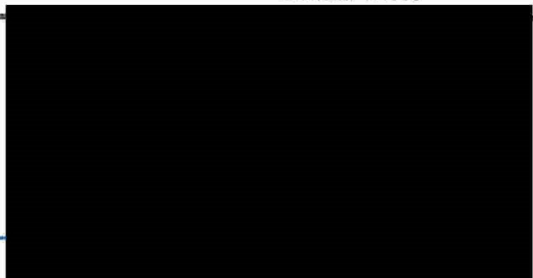
Details: via Annex 1 to order

The person taking over on behalf of the customer is [REDACTED]

Annex 1: Specification, price and basic conditions

Annex 2: RTC Project - ANS of CR - Project Overview and Expert Consultation

Domain: 17.008



Seller - date, signature, common seal      German Aerospace Center      Buyer - date, signature, common seal

Contract Managing Process North  
Lilienthalplatz 7  
38108 Braunschweig  
Germany

## Annex 1: Specification, price and basic conditions

### 1. Subject matter

- 1.1 Systematic and independent consultation and validation of the RTC concept to verify its applicability, benefits, risks, and limitations, which include, in particular:
- 1.1.1. the preparation, organization, and delivery of workshops, ("**1<sup>st</sup> Workshop**")
  - 1.1.2. the preparation, organization, and delivery of workshops, ("**2<sup>nd</sup> Workshop**")
  - 1.1.3. the preparation, organization, and delivery of workshops, ("**3<sup>rd</sup> Workshop**")
  - 1.1.4. the delivery of a final report, as further specified in Article 6 ("**Final Report**")  
(the „**Work**“).
- 1.2 After the 1<sup>st</sup> Workshop has taken place, the Client may decide whether to request a 2<sup>nd</sup> Workshop and/or a 3<sup>rd</sup> Workshop. If the Client requests a 2<sup>nd</sup> Workshop and/or a 3<sup>rd</sup> Workshop to be conducted, the Client shall send a request to the Contractor to conduct the 2<sup>nd</sup> Workshop and/or 3<sup>rd</sup> Workshop via communication carried out (i) by electronic (digital) means (e.g., by e-mail).

The Request to hold the 2<sup>nd</sup> Workshop and 3<sup>rd</sup> Workshop may be sent by the Client via two separate Requests. Through the Request, the Client may also formally notify the Contractor that the Client does not require the 2<sup>nd</sup> Workshop and/or 3<sup>rd</sup> Workshop to be held. If the Request to hold the 2<sup>nd</sup> Workshop and/or 3<sup>rd</sup> Workshop is not delivered within 5 months of the completion of the 1<sup>st</sup> Workshop, it shall be deemed that the Client does not require the 2<sup>nd</sup> Workshop and/or 3<sup>rd</sup> Workshop to be held.

### 2. Price

- 2.1 The contractual **maximum** total price for the Work is as follows:

- 2.1.1. The price for the 1<sup>st</sup> Workshop is [REDACTED]
- 2.1.2. The price for the 2<sup>nd</sup> Workshop is [REDACTED]
- 2.1.3. The price for the 3<sup>rd</sup> Workshop is [REDACTED]
- 2.1.4. The price for the preparation and delivery of the Final Report is [REDACTED]

(1<sup>st</sup> Workshop Price and 2<sup>nd</sup> Workshop Price and 3<sup>rd</sup> Workshop Price and Final Report Price collectively hereinafter referred to as the "**Price**")

- 2.2  $\text{Price} = 1^{\text{st}} \text{Workshop Price} + 2^{\text{nd}} \text{Workshop Price} + 3^{\text{rd}} \text{Workshop Price} + \text{Final Report Price}$
- 2.3 The Price covers all costs, charges, duties, licenses and all other expenses related to the performance of Work and covers all other services, rights, installation, configuration and delivery provided by the Contractor. The Price does not include travel and accommodation expenses for the Client's representatives at the workshop venue.

### **3. Payment terms**

- 3.1 Payment to the Contractor shall be made in EUR - Euro to the Contractor's account, based on a tax document - an invoice issued by the Contractor.
- 3.2 The Client shall pay the Contractor the 1<sup>st</sup> Workshop Price based on an invoice issued by the Contractor upon full completion of the 1<sup>st</sup> Workshop.
- 3.3 If the 2<sup>nd</sup> Workshop is required by the Client, the Client shall pay the Contractor the 2<sup>nd</sup> Workshop Price based on an invoice issued by the Contractor upon full completion of the 2<sup>nd</sup> Workshop.
- 3.4 If the 3<sup>rd</sup> Workshop is required by the Client, the Client shall pay the Contractor the 3<sup>rd</sup> Workshop Price based on an invoice issued by the Contractor upon full completion of the 3<sup>rd</sup> Workshop.
- 3.5 The Client shall pay the Contractor the Final Report Price based on an invoice issued by the Contractor upon delivery of the Final Report to the Client.
- 3.6 The invoice must meet all the requirements for a tax document as set forth in the VAT Act, include a reference to the Client's invoice reference number.
- 3.7 The invoice must be sent to the Client's address: **fakturace@ans.cz**.
- 3.8 The Client will make payments only to the Contractor's bank account specified in Article 7. This bank account number must be stated on every invoice issued by the Contractor; Any change to the Contractor's account must be announced to the Client.
- 3.9 Payments between banks located in different countries, such payments shall be made via SEPA payment or (if a SEPA payment is not possible) the bank fees for international payments shall be shared between the Parties on a SHA basis, i.e., each Party shall bear the bank fees of its own bank.
- 3.10 The Contractors tax domicile is in Germany.
- 3.11 The Clients tax domicile is in the Czech Republic.
- 3.12 The VAT Act and, where applicable, Directive 2006/112/EC shall apply to the application of VAT for performance under the Contract. In the event that the Client is obligated, in accordance with Act No. 586/1992 Coll. on Income Taxes, as amended, or with the relevant double taxation treaty, to withhold or remit tax upon payment of the contract price, the Contractor shall receive payment after such deduction has been made.
- 3.13 The Client shall not be liable for the Contractor's tax obligations, including obligations to the tax authorities of the Czech Republic.
- 3.14 The minimum invoice maturity is 30 days.

### **4. Terms of performance and milestones**

- 4.1 The Contractor agrees to complete and deliver the Work to the Client by the following milestones:
  - 4.1.1. 1<sup>st</sup> Workshop - no later than  $T_0 + 1$  month, whereas  $T_0$  is the date of publication of the Contract in the Register of contracts.
  - 4.1.2. 2<sup>nd</sup> Workshop – no later than 30 days after delivery of the Request for delivery of the 2<sup>nd</sup> Workshop to the Contractor.
  - 4.1.3. 3<sup>rd</sup> Workshop – no later than 30 days after delivery of the Request for delivery of the 3<sup>rd</sup> Workshop to the Contractor.
  - 4.1.4. Final Report within 21 days of the date of (i) the 2<sup>nd</sup> Workshop completion; or (ii) the 3<sup>rd</sup> Workshop completion or (iii) the date on which it becomes clear, pursuant to Article 1.2 above, that the 2<sup>nd</sup> Workshop and/or the 3<sup>rd</sup> Workshop will not take place.

## **5. 1<sup>st</sup> Workshop, 2<sup>nd</sup> Workshop and 3<sup>rd</sup> Workshop specification**

- 5.1 The Contractor will conduct the 1<sup>st</sup> Workshop for the Client. The 1<sup>st</sup> Workshop will be held in person and will last at least 7 hours. The 1<sup>st</sup> workshop will be held at the Contractor's office located at DLR Braunschweig. The 1<sup>st</sup> workshop will be organized so that 8 - 15 people (Client representatives) can attend.
- 5.2 The date for the 1<sup>st</sup> Workshop proposed by the Contractor must be approved by the Client. If the Client does not agree with the proposed date for the 1<sup>st</sup> Workshop, the Contractor is required to propose a new date.
- 5.3 The scope of the 1<sup>st</sup> Workshop must comply with the specifications set forth in Annex 2 Project Overview and Expert Consultation.
- 5.4 The Contractor is required to provide all technical support necessary for the 1<sup>st</sup> Workshop and to ensure the participation of at least two representatives from the Contractor's side who have experience in RTC validation.
- 5.5 All communication during the 1<sup>st</sup> Workshop will be conducted in English. The Contractor is required to ensure that all persons participating in the 1<sup>st</sup> Workshop on its behalf speak fluent English.
- 5.6 If the Client delivers to the Contractor a Request to conduct the 2<sup>nd</sup> Workshop and/or 3<sup>rd</sup> Workshop, the 2<sup>nd</sup> Workshop and/or 3<sup>rd</sup> Workshop shall be held under the same conditions as those set forth in this Article for the 1<sup>st</sup> Workshop. In such a case, the results and outcomes of the 1<sup>st</sup> workshop and/or the 2<sup>nd</sup> workshop (if a 3<sup>rd</sup> workshop is to be organized) will also be taken into account when preparing scope for the 2<sup>nd</sup> workshop and/or the 3<sup>rd</sup> workshop.

## **6. Final Report**

- 6.1 Final Report shall include:
  - 6.1.1. an evaluation of the 1<sup>st</sup> Workshop and/or 2<sup>nd</sup> Workshop and/or 3<sup>rd</sup> Workshop (if the 2<sup>nd</sup> Workshop and/or 3<sup>rd</sup> Workshop takes place) outcomes
  - 6.1.2. an evaluation and analysis of the possibilities for implementing the RTC concept in the Client's environment, including potential alternative recommendations.
- 6.2 The Final Report will be prepared in English and delivered to the Client in a PDF format that supports keyword search.
- 6.3 The Final Report will be delivered to the Client via Verified Communication.

## **7. Parties**

### **Client:**

#### **Air Navigation Services of the Czech Republic (ANS CR)**

a state enterprise existing and organized under the laws of the Czech Republic, having its registered office at: Navigační 787, 252 61 Jeneč, Czech Republic,  
Company Identification Number: 497 10 371  
Tax Identification Number: CZ699004742  
IBAN: CZ12 0300 1712 8000 0008 8153  
SWIFT code: CEKOCZPP  
Registered in the Commercial Register of the Municipal Court in Prague, Section A, Insert 10771,

**Contractor:**

**Deutsches Zentrum für Luft- und Raumfahrt e.V.**

non-profit association existing and organized under the laws of Germany  
having its registered office at: Linder Höhe, 51147 Cologne, Germany

VAT number: DE121965658

Bank: Commerzbank AG, Cologne

IBAN: DE77370400440500116900

BIC: COBADEFF370

Represented by: its Executive Board that is represented by the signatories

# **RTC Project — Air Navigation Services of the Czech Republic**

## **Project Overview and Expert Consultation**

*Validation of operational concept through structured expert workshops*

# 1. Project context

Air Navigation Services of the Czech Republic (ANS CR) is preparing a Remote Tower Centre (RTC) to provide aerodrome control services for four regional aerodromes currently operated from dedicated physical towers. The project includes procurement of an integrated RTC system, and the development of the operational and safety concept required for regulatory approval under EASA frameworks and Civil Aviation Authority of the Czech Republic (CAA CR) oversight.

Parameter	Detail
Organisation	Air Navigation Services of the Czech Republic (ANS CR)
RTC location	Premises of TWR Ostrava/Mošnov (LKMT)
Aerodromes served	Ostrava/Mošnov (LKMT) · Brno/Tuřany (LKTb) · Karlovy Vary (LKKV) · České Budějovice (LKCS)
Regulatory framework	EASA · Civil Aviation Authority of the Czech Republic (CAA CR) · EU 2017/373
Project phase	Concept development — prior to ITT (Invitation to Tender)
Traffic data available	2025 data for LKMT, LKTb, LKKV, LKCS — >50 000 flight records; vehicle movement records not available

## 1.1 RTC implementation approach

The implementation of RTC is planned as a phased, multi-stage process aligned with the ANS CR investment plan and regulatory approval timeline.

Phase	Target	Description
Phase 1	Q1 2030	RTC operational for LKKV, LKTb, LKMT. Existing ATM system (TR8) with new RTWR camera technology. Primarily single-RTWR mode. Option: Multi-RTWR for 2 aerodromes simultaneously may be introduced subject to CAA CR approval.
Phase 1.1 (option)	After Phase 1	Multi-RTWR for 2 aerodromes during night hours and selected winter days — as a first operational multi configuration.
Phase 2	~2032	Transition to new integrated ATM system (TopSky-One). Camera system remains. Option: Multi-RTWR for up to 3 aerodromes.
Phase 2.1	After Phase 2	Full multi-RTWR capability including LKCS. (LKCS is not yet controlled at time of writing but has scheduled IFR charter traffic.)

## 1.2 RTC operational concept

The RTC system consists of the following working positions:

- 4 live RTWR modules, used for provision of ATS
- 1 hot stand-by spare module, ensuring operational continuity
- 1 SIM/test module, used for training and testing purposes, with the possibility of integration into live operations if needed

Each RTWR module represents a single working position occupied by one ATCO. All modules are identical and fully interchangeable. The concept supports:

- single RTWR operations (1 ATCO = 1 aerodrome)
- multi-RTWR operations (1 ATCO = up to 3 aerodromes), within defined operational and safety limits

Multi-RTWR is not the default mode of operation. Its operational use is conditional upon traffic complexity, system status and regulatory approval.

A key element of the concept is the Traffic Manager Position (TMP), which provides system-level situational awareness and workload management. TMP is responsible for:

- monitoring traffic and operational complexity across all aerodromes
- predicting workload development
- initiating mitigation actions to prevent ATCO overload — e.g. executing transition from multi to single operations, initiating traffic regulation

TMP is supported by a dedicated Traffic Managing Tool (TMT), which integrates all relevant operational data (including flights without FPL) and provides a unified view of demand, capacity and predicted workload across the RTC. All movements at RTC aerodromes are PPR-based, which forms the data foundation for the TMT.

The RTC concept also includes a shared Clearance Delivery Dispatcher (CDD) function, co-located at the TMP working position. The CDD is equipped with a VCS and appropriate access to FDPS, and is capable of issuing delivery clearances for all active aerodromes within the RTC. The CDD function contributes to workload reduction and standardisation of clearance delivery, particularly in multi-RTWR operations.

Depending on operational conditions, the TMP and CDD functions may be performed by dedicated personnel or absorbed by an extra ATCO. The overall concept is based on the principle of maintaining safe workload levels for all ATCOs at all times, with TMP, TMT and the shared CDD function acting as key enablers for safe and efficient multi-RTWR operations.

## 2. Purpose of this consultation

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ANS CR is seeking structured expert consultation to support concept development ahead of the ITT for the visual information system (VIS) and the operational concept for the RTC. The consultation takes the form of workshops in which the provider shares relevant experience from SESAR research projects and implementations at other ANSPs, and engages with the specific questions and hypotheses developed by ANS CR.

The expected format is workshops resulting in a written report with findings and recommendations. A subsequent human-in-the-loop simulation is planned but is not part of this consultation scope.

*The consultation provider is expected to bring documented experience with remote tower operations — including human factors research, Panorama system design, VCS architecture in multi-aerodrome environments, and operational concept development.*

## 3. Consultation topics

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The following topics reflect the key open questions in ANS CR's concept development. For each topic, ANS CR has developed working hypotheses based on operational data and desktop analysis. The consultation is expected to challenge, refine or confirm these hypotheses based on the provider's experience and research findings.

### 3.1 Panorama display — layout and camera mast geometry

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**A**

#### **Panorama layout in multi-aerodrome mode — horizontal vs. vertical split**

*How should the panoramic VIS display be arranged when controlling multiple aerodromes simultaneously — aerodromes side by side (vertical split of the width) or stacked (horizontal split of the height)? What are the human factors implications of each layout for attention management, eye movement and target detection on the runway? This directly frames the technical specification for the VIS system ITT.*

**B**

#### **Camera mast position and spatial orientation**

*Do differences in camera geometry and runway dimensions across aerodromes — mast distance, camera height, runway length — create systematic perceptual biases in how ATCOs judge distance, speed and runway occupancy? ANS CR aerodromes differ significantly in runway length (2 150 m at LKKV vs. 3 511 m at LKMT) and will likely have different mast positions. Aircraft and vehicles will therefore look and move differently on each panorama. In multi-RTWR operations, where the controller switches rapidly between aerodromes, this may affect judgement consistency. What mitigations are needed — and should mast distance be standardised across aerodromes as a hard ITT requirement?*

**C**

#### **Field of view and VFR circuit traffic**

*What field of view is required to safely monitor VFR circuit traffic? Is a threshold-to-threshold view sufficient, or is a wider base-leg-to-base-leg view necessary? What are the implications of PTZ cameras and automated camera movement for workload?*

## 3.2 Simultaneous movement thresholds

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### **D** How to define and count simultaneous movements

*ANS CR has developed data-derived thresholds based on 2025 operational data. Key open question: how should each movement type be counted for capacity purposes — IFR arrivals/departures, IFR training (instrument approaches, opposite RWY use), non-standard IFR (e.g. ILS flight check), VFR in CTR, VFR circuit patterns, vehicles/persons on manoeuvring area (with or without ADS-B)?*

### **E** Multi-aerodrome workload and staffing configurations

*How do different CDD and TMP configurations influence ATCO performance and operational efficiency in multi-RTWR operations (primarily 2 aerodromes, later up to 4)? Configurations to be considered: no CDD / no TMP; combined TMP/CDD position staffed by non-ATCO personnel; combined TMP/CDD position staffed by an ATCO; and separate dedicated CDD and TMP(ATCO)..*

### **F** Attention switching and runway incursion detection

*In multi-aerodrome operation, how long does it take for a controller to detect an event on the secondary aerodrome display? Does the pre-clearance scan procedure create a blind spot during which an incident on the active runway could go undetected? What are the mitigations — runway incursion alerting, audio alerts, scan discipline? What experience do other ANSPs have?*

### **G** Shared Clearance Delivery (CDD) concept

*ANS CR is considering a single CDD position serving all RTC aerodromes on one shared frequency — a concept currently in use at LKMT only. Key questions: does a shared CDD frequency introduce unacceptable confusion risk (stepping on, identity confusion between aerodromes)? What is the safe activation threshold for the CDD position? What are the experiences of other ANSPs with shared clearance delivery in multi-aerodrome environments? How should the ATIS phrase mechanism for CDD activation be designed?*

## 3.3 Voice communication system — frequency coupling

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This is an area where ANS CR has identified open architectural questions with direct safety and operational implications. Experience from other RTC implementations is specifically sought.

### **H** Frequency coupling between aerodromes

*In multi-aerodrome operation, how should frequencies be coupled? Specifically: do pilots at all aerodromes hear each other on the same frequency, or does only the ATCO hear all aerodromes? What are the safety implications of a shared vs. isolated frequency architecture?*

### **I** Aircraft and vehicle frequency integration

*Today at ANS CR aerodromes, vehicles operate on a separate frequency from aircraft. European practice is moving towards a single frequency for both aircraft and vehicles. What are the operational and safety implications of each approach in an RTC context? Who hears whom: do pilots hear vehicle calls from other aerodromes, or only the ATCO?*

### **J** Backup radio and contingency communication

*Today, controllers have battery-powered portable radios as a fallback. In an RTC, the controller is physically remote from the aerodrome. How is backup communication handled in existing RTC implementations? What are the recommended contingency procedures when primary VCS fails?*

**K**

**Vehicle callsigns and TWY/apron designations in multi-aerodrome context**

*Should vehicle callsigns be unique across all RTC aerodromes, or is the aerodrome callsign prefix sufficient? Should TWY and apron designations be harmonised or kept distinct across aerodromes to avoid confusion in multi-aerodrome operation?*

## 3.4 CWP console layout — integrated vs. non-integrated

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L

### VIS+ASD integration and the TR8→TS-1 transition

*What are the human factors implications of non-integrated vs. integrated VIS and ASD solutions in remote tower operations? Specifically, does operating VIS and ASD as separate applications — requiring the controller to switch attention between two independent systems — measurably increase workload or error rate compared to a fully integrated solution? ANS CR is considering a non-integrated approach and seeks evidence-based guidance on whether integration should be treated as a hard requirement in the ITT technical specification, or whether procedural mitigations can adequately compensate for the lack of integration.*

## 3.5 Traffic Managing Tool (TMT) and PPR

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ANS CR is developing a concept for a Traffic Managing Tool (TMT) — a capacity monitoring and slot management interface integrated into the controller working position. The core idea is to give the ATCO a real-time overview of planned traffic load across all RTC aerodromes, and to manage PPR (Prior Permission Required) slots for arriving and departing VFR and IFR flights. The tool would allow the ATCO — or a managing ATCO — to see upcoming movements in a time window, identify load peaks, and re-slot PPR flights within defined rules (pre-tactical and tactical phases). The concept is based on the assumption that all movements at RTC aerodromes are PPR-based, which is not the practice currently at ANS CR regional aerodromes.

*ANS CR has developed an interactive prototype of the TMT with four layout variants. The key open question is whether such a concept exists elsewhere — either in remote tower operations or in other low-traffic aerodrome environments — and what the human factors experience is with capacity tools integrated directly into the controller working position.*

M

### TMT concept — does it exist elsewhere?

*ANS CR is proposing a novel concept: a PPR-based capacity and slot management tool integrated into the RTWR controller working position. The ATCO sees a rolling time window of planned movements across all RTC aerodromes and can re-slot PPR flights to balance load. Is there documented experience with a similar concept — either in remote tower operations or at PPR-based aerodromes? What are the human factors implications of adding a slot management interface to an already complex multi-aerodrome working position? Does the tool add unacceptable workload, or does it reduce cognitive load by making the traffic picture explicit?*

N

### PPR in practice — experience and safety implications

*What are the operational experiences with PPR at remote tower or low-traffic aerodromes? What time buffers do pilots typically deviate from advised PPR slots? Are there documented cases where PPR-slot adherence created safety-relevant situations — for example, aircraft rescheduled into a time window with deteriorating weather or increased traffic? What capacity monitoring approaches have proven effective in practice?*

## 3.6 Degraded modes

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O

### VIS failure and contingency in multi-aerodrome operation

*Can controllers reliably detect a partial or total VIS failure in a timely manner? When one aerodrome's VIS fails in multi-aerodrome operation, what is the recommended contingency — can single flights still be accepted at the affected aerodrome under specific conditions? What procedures have other ANSPs established?*

## 4. What ANS CR provides

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ANS CR will provide the following inputs to support the consultation:

- Aerodrome layout charts, runway dimensions and orientations, elevations, and circuit parameters for all four aerodromes.
- Candidate CWP console layouts (TR8 and TopSky-One variants, single and multi-aerodrome) — designed jointly by operational and technical staff.
- Traffic Managing Tool (TMT) concept and interactive prototype.
- Operational data analysis results — simultaneous movement statistics, night-time multi-aerodrome profiles, seasonal variation.

## 5. Candidate CWP console layout — reference design

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The following layouts are provided as visual context for the consultation. Two system variants are shown — TopSky-One (TS-1, target state, fully integrated) and TR8 (interim solution, existing radar display). Each has a single-aerodrome and a multi-aerodrome view.

The panoramic VIS display (top of each layout) is always fixed in front of the controller. The subject of consultation is the arrangement of tools on the console below: ASD, strips, VCS, meteo/AWOS, LCS, and the TMT panel.

# TopSky-One — single aerodrome

PANORAMA — cca 220°

TWI/APN marking (overlay)   RRRSM distance lines   apron closure (sync SMAS/EFS)

auto RWY closure on EFS/ASD action   surveillance labels + tracks   visual detection   PTZ PIP + light gun

RWYCC 6/6/6 · ATIS: K · ILS Z 22 · QNH 1024

Now: 17:12 · Sunset: 18:42 · to sunset: 1h 30min

RRSM ✓

VFR ✓

METEO

WIND 04/08 · VIS >10km  
QNH 1024 · T+12.0P+04

LCS CONTROL

Stop bars: OFF  
ALS: 3 · RWY: 3 · TWY: ON

TMT / PPR

Capacity: 12/15 month

CHMILVPSNOWTAM

ALPPRNPSChars/AIP

Info sys.Log

Info system

Aircraft · Aerodromes · Special procedures · NOTAM

VFR
RRSM
NAV

Information display · min 27"

ASD — TopSky-One TopSky-One · min 27"

Radar (ARTAS) + SNET  
QFU · QNH · Wind · ATIS info · sensor status (5 NM or 3 NM)  
Simplified lighting control: direction · +/- intensity · signalling on/off

? U-Space integration (CIS+) — UAS activity display?

PIP: SMAS

Ground overview

Stop bar control

RMCA alerts

RWY closure - VIS sync

ILS sensitive area

EFS — Electronic Flight Strips min 27" touchscreen

EFS: ARR / DEP / OVR / MLC  
Coordination data · CTOT compliance  
WTC timer · AFTN/AMHS integration

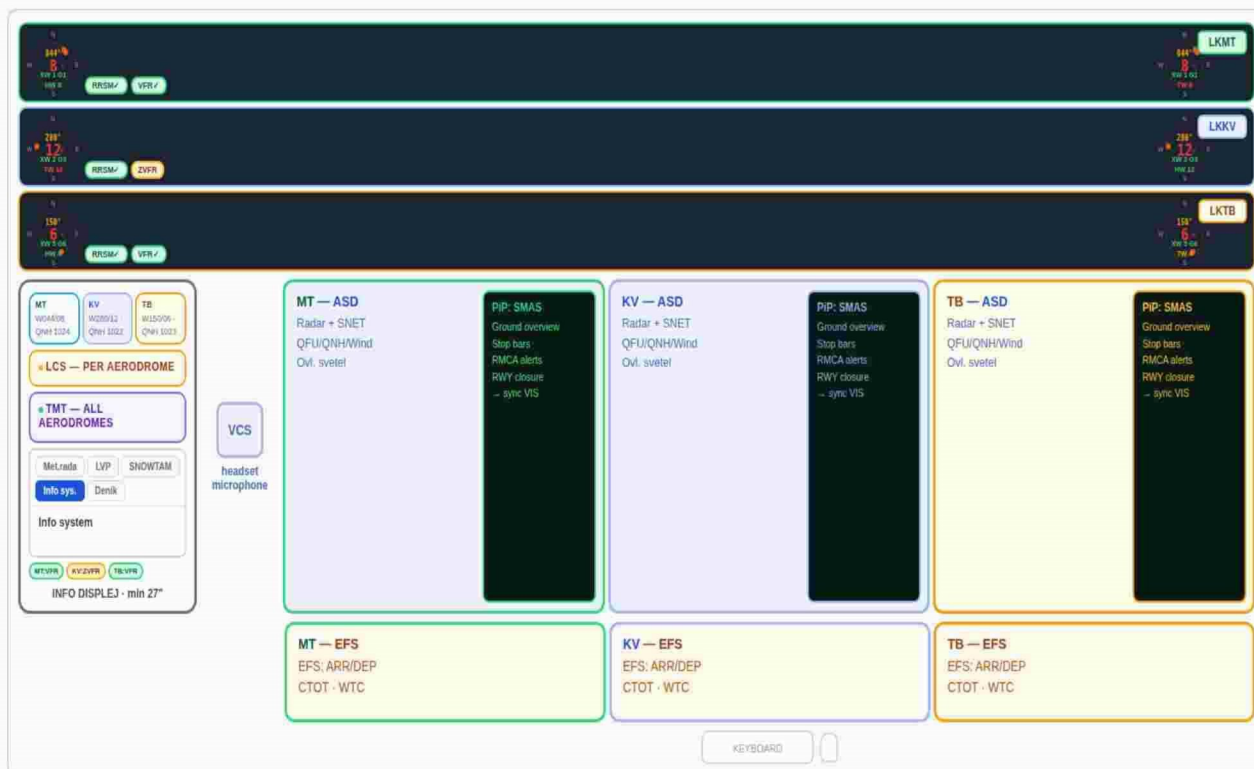
? TMT — separate display beside EFS, or integrated directly in EFS window?

KEYBOARD

VCS

headset microphone

# TopSky-One — multi-aerodrome (LKMT + LKKV + LKTB)



# TR8 — single aerodrome

PANORAMA — cca 220°

TWY/APN marking (overlay)   RRSM distance lines   apron closure (sync SMAS/EFSS)

auto RWY closure on EFS/ASD action   surveillance labels + tracks   visual detection   PTZ PIP + light gun

RMVCC 6/6/6 · ATIS: K · ILS Z 22 · QNH 1024

Now: 17:12 · Sunset: 18:42 · to sunset: 1h 30min

RRSM ✓   VFR ✓

**METEOR**

WIND 04408 · VIS >10km  
QNH 1024 · T+12/0P+04

**LCS CONTROL**

Strip bars: OFF  
ALS: 3 · RWY: 3 · TWY: ON

**TMT / PPR**

Capacity: 12/15 mov/h

CHMI | LVP | SNOWTAM  
AUP | PRNPS | Charts/AIP  
Info sys. | Log

**Info system**

Aircraft · Aerodromes · Special procedures · NOTAM

VFR   RRSM   NAV

Information display - min 27"

**TR8 — ASD + EFS integrated**

Radar (ARTAS) + SNET  
EFS: ARR/DEP/OVR/MLC  
CTOT · WTC timer · AFTN

P3D · TAR · MSSR · sensor status (5 NM or 3 NM)

PIP: SMAS

**GCWS BACKUP**

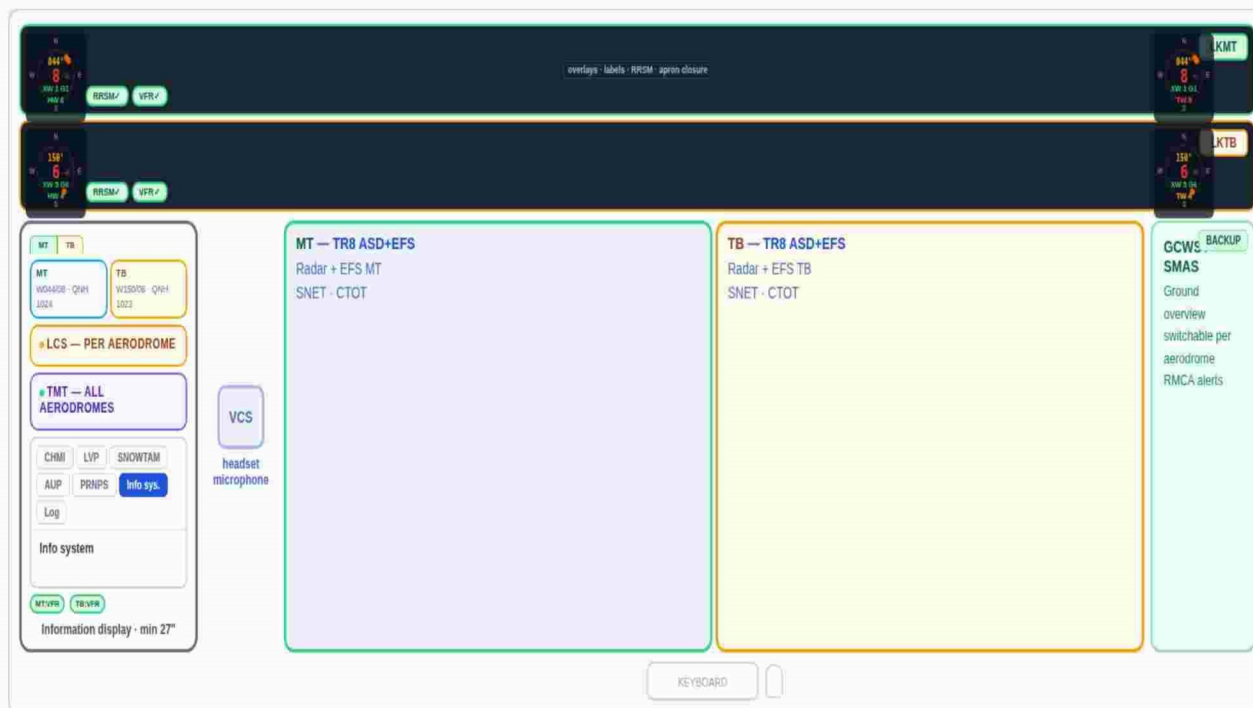
**SMAS**

- Ground overview
- RMCA alerts
- Stop bars - ILS s.a.
- Multiple RWY entry
- Closure - VIS sync

VCS   headset microphone

KEYBOARD

## TR8 — multi-aerodrome (LKMT + LKTB)



## 6. Aerodrome background

For reference: the four aerodromes have the following characteristics relevant to the consultation topics.

Aerodrome	RWY	Length	Elevation	Circuit alt.	Remarks
LKMT Ostrava	04/22	3 500 m	844 ft AMSL	TBD	Primary IFR aerodrome; RWY reconstruction planned; Phase 1 and 2
LKTB Brno	09/27	2 650 m	778 ft AMSL	1 800 ft AMSL	IFR aerodrome; mast candidate: north side of RWY (opposite current tower)
LKKV Karlovy Vary	11/29	2 150 m	1 989 ft AMSL	TBD	High VFR training intensity (C152 circuits); Phase 1
LKCS Č. Budějovice	03/21	2 500 m	1 417 ft AMSL	2 400 ft AMSL	Not yet controlled; scheduled IFR charter traffic; Phase 2.1

*TBD: circuit altitude for LKMT and LKKV to be confirmed from AIP and VFRC charts. Mast positions for all aerodromes under review.*

## 7. Proposed next steps

- Provider reviews this document and confirms scope and availability for the workshop format.
- ANS CR shares the detailed hypothesis list and operational data package for preparation.
- Joint agreement on workshop agenda — structured around the consultation topics in Chapter 3.
- Workshops held; provider prepares written report with findings and recommendations.
- Based on findings: decision on scope and timing of a follow-up phase involving human-in-the-loop simulation adapted to ANS CR environment.