

# AMC Portal v.5.0



DRONE UP! WE ARE READY.

INFORM BEFORE FLIGHT

UTM principles - UAS operation represents potential dangerous activity to air traffic and other activities in airspace → UAS operations shall be segregated (collision risk)

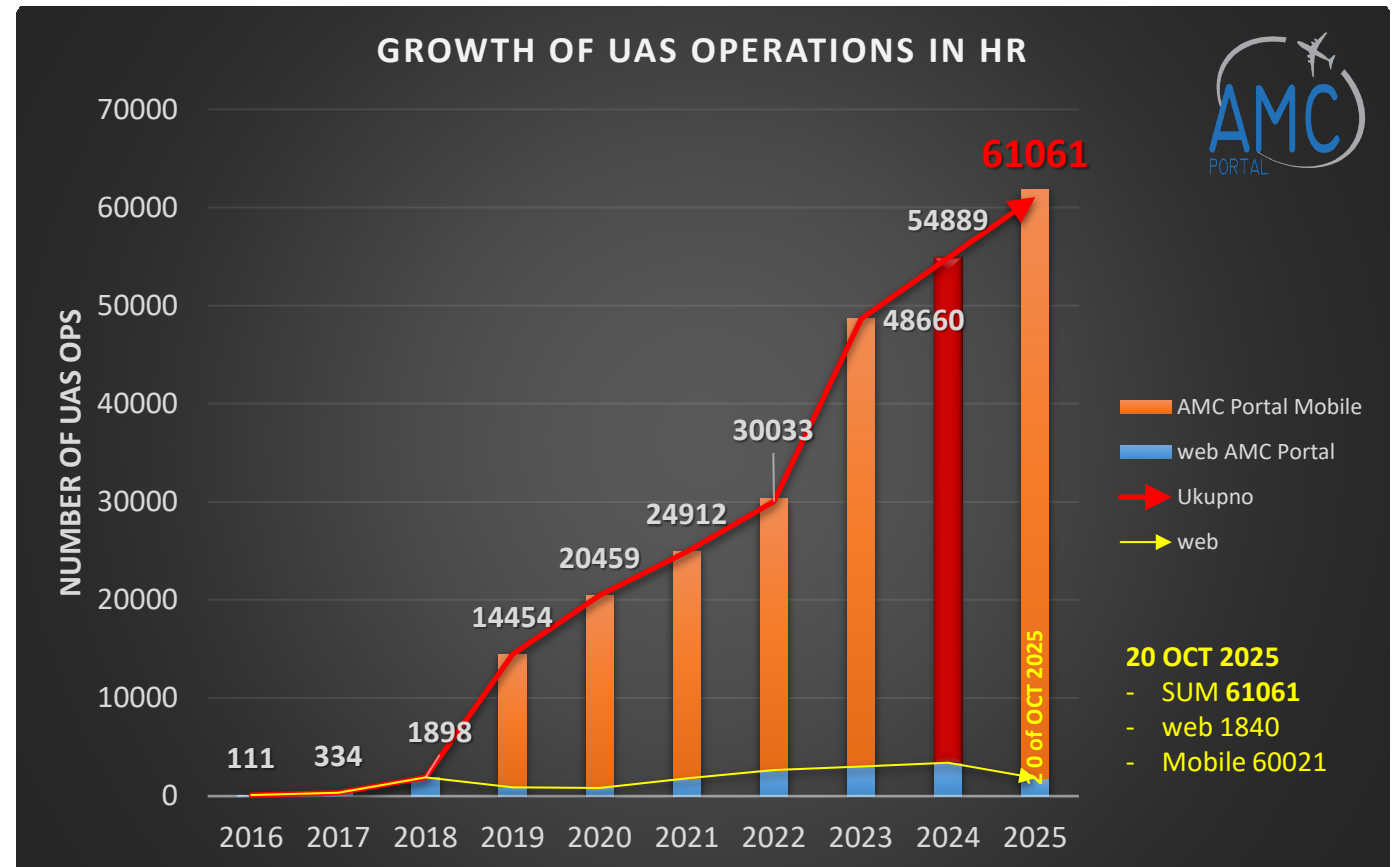
- MAY 2015 → National Ordinance on UAS
- **MAY 2017 → AMC Portal (A-FUA)**
- NOV 2018 → Revizija Pravilnika
- **JAN 2019 → AMC Portal Mobile (UTM)**
- JAN 2019 → EU 945, 947 regulative
- APR 2021 → EU 664,665, 666 – U-SPACE
- **MAR 2023 → New ASM Ordinance – introduction of UAS GEO Zones (UAG, ULG, URG, UTR)**

## EU 947/2019

- ✓ UAS operator registration
- ✓ UAS pilot certification
- ✓ Geoinformation (Geo-awareness service)
- ✓ **Remote identification (CE marking)**
- ✓ UAS operation categorization
- ✓ UAS geographical zones

## EU 664,665,666/2021

- ✓ CISP
- ✓ U-SPACE
  - **Network identification service;**
  - ✓ Geo-awareness service;
  - ✓ UAS flight authorization service;
  - ❖ Traffic information service (air traffic)



- ✓ More than 10000 registered UAS users
- ✓ Flight approval via AMC Portal System

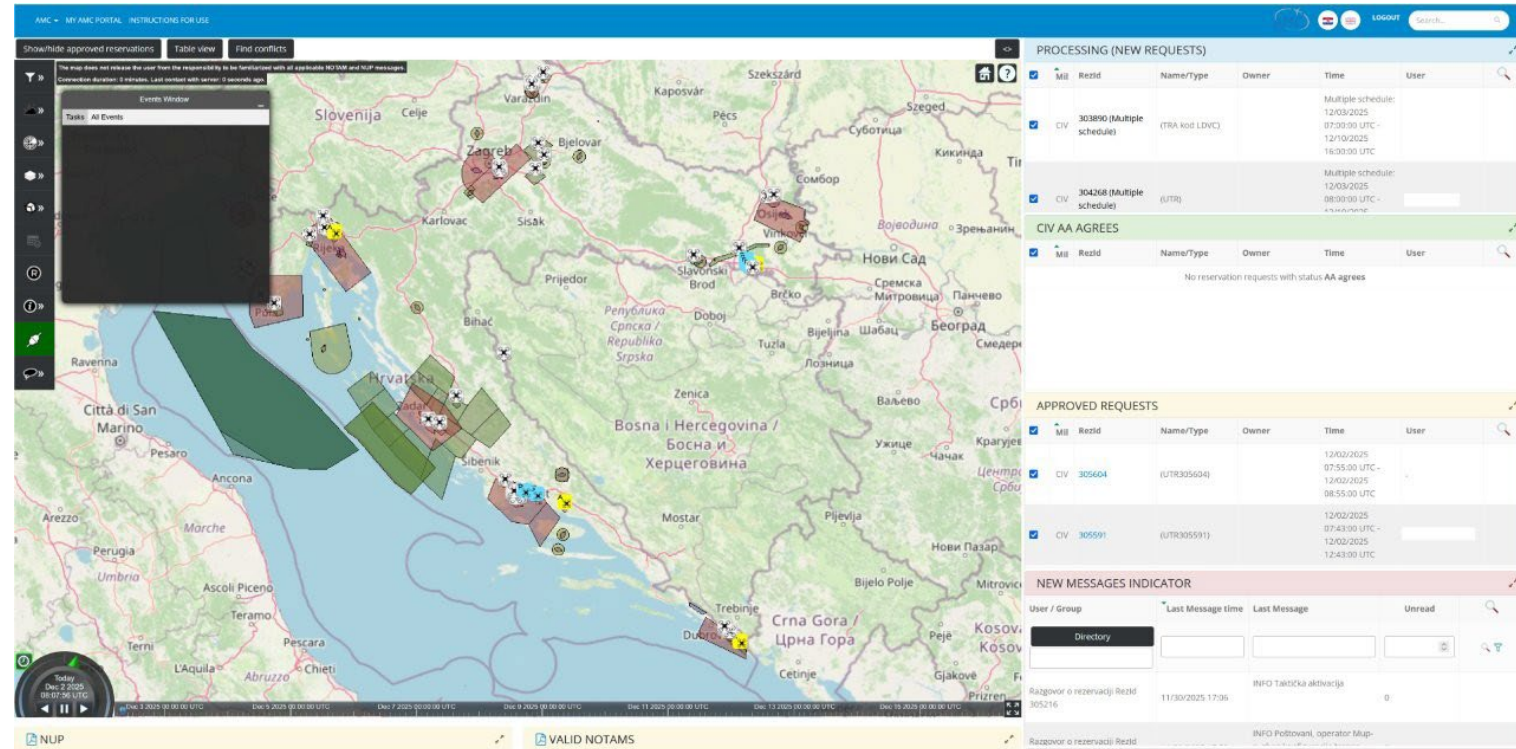
- Nova arhitektura sustava
- Poboľšane tehnologije upravljanja podacima
- Povećana redundantnost sustava
- Unaprijeđena sigurnosti sustava
- Unaprijeđena stabilnost i odziv sustava
- Ispravljeni nedostaci uočeni u dosadašnjem radu
- Zadržan vizualni identitet (prijelazna faza)
- Poboľšano upravljanje verzijama i nadogradnjama
- Osigurana skalabilnost sustava za narastajuće potrebe

- NOTAM
- NUP
- Registracija UAS korisnika
- Novi modul upravljanja korisnicima sustava
- Redizajn ASM sučelja (ASM 2 i ASM3)
- Aktivacija dodatnih funkcionalnosti mobilnih aplikacija
- Statistički modul
- Povijesni pregled situacije
- Izrađena sučelja za 3 razine civilnih korisnika (basic, advanced, premium)
- Omogućena izmjena korisničkih podataka
- Korisnički paneli
- Prikaz radarskih podataka
- Integracija sa sustavima za detekciju UAS-a
- Editor struktura zračnog prostora
- Notifikacija ispravnosti rada sustava i prikaza podataka



- Klasifikacija korisnika
- Grupiranje korisnika
- Upravljanje grupama i ulogama
- Automatska dodjela sučelja i funkcionalnosti (web, mobilne aplikacije)
- Preglednost dodijeljenih prava uloga
- Grupni i individualni pristup u skladu s potrebama
- Povezivanje korisnika u organizacije
- Statistika korisnika
- Blokiranje korisnika po potrebi

- Nova sučelja za CIV AA i AMC
- Podjela na taktički i pred-taktički process
- Preglednost zahtjeva
- ASM 2
  - Predani, u obradi, suglasnost AA, Odobreni
  - Popis i pretraživanje zahtjeva
  - Interna komunikacija na ASM 2 razini
  - Rad sa kratom stanja
  - Alat za mjerenje udaljenosti i površina
  - Automatski NOTAM obrazac
  - Unaprijed definirani obrazac odobrenja
  - Slika structure na obrascu
  - Slika strukture/a u tabličnom prikazu



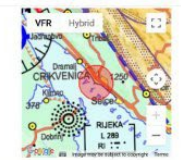
The screenshot displays the AMC Portal interface. On the left, a map shows flight paths and reservation areas over the Balkan region, including parts of Slovenia, Croatia, Bosnia and Herzegovina, and Serbia. The map includes various cities and airports marked with icons. On the right, there are several data tables and sections:

- PROCESSING (NEW REQUESTS):** A table with columns: Resid, Name/Type, Owner, Time, User. It lists multiple reservation requests with their respective times and users.
- CIV AA AGREES:** A section indicating that no reservation requests currently have status AA agrees.
- APPROVED REQUESTS:** A table with columns: Resid, Name/Type, Owner, Time, User. It lists approved reservation requests with their times and users.
- NEW MESSAGES INDICATOR:** A section for user messages, including a 'Directory' button and a table with columns: User / Group, Last Message time, Last Message, Unread. It shows messages related to reservation requests and tactical activations.

At the bottom of the interface, there are status indicators for 'NUP' and 'VALID NOTAMS'.

- Doradena preglednost podataka
- Poboljšani filteri podataka
- Prikaz strukture na karti
- Arhiviranje zahtjeva
- Izvoz podataka
- Povijesni prikaz izmjena podataka
- Zaključavanje obrasca
- Izvoz strukture u AIXM formatu
- Mogućnost vremenskih perioda
  - OD-DO
  - Dnevni period aktivnosti
  - Spajanje više struktura i njihov prikaz
  - Prikaz i kopiranje točaka poligona

## Reservations of airspace (active)

Request ID	AMC status	Request submitted	Zone type	Activity type	Start	End	Request submitted by	Contact	Email contact	Auto approval	Type	The user processing request	Deleted
ReqID=300363	Approved (tactical status None)	18/12/2025 11:00:11	UTR	UTR operations	18/12/2025 06:00:00	18/12/2025 18:00:00	john300363		john300363@amc.hr	<input checked="" type="checkbox"/>	C		<input checked="" type="checkbox"/>
ReqID=300362	Processing (tactical status None)	21/11/2025 07:00:42	UTR	UTR operations	20/11/2025 06:00:00	13/12/2025 20:00:00	adm300362		adm300362@amc.hr	<input type="checkbox"/>	C		<input type="checkbox"/>
ReqID=300361	Processing (tactical status None)	20/11/2025 12:12:09	AD HCC	Group and mass rules	10/12/2025 18:00:00	30/12/2025 18:00:00	john300361		john300361@amc.hr	<input type="checkbox"/>	C		<input type="checkbox"/>
													
ReqID=300193	Processing (tactical status None)	20/11/2025 07:30:36	UTR	UTR operations	20/11/2025 06:00:00	09/12/2025 17:00:00	john300193		john300193@amc.hr	<input type="checkbox"/>	C		<input type="checkbox"/>
ReqID=300192	Processing (tactical status None)	20/11/2025 07:37:40	UTR	UTR operations	20/11/2025 06:00:00	09/12/2025 17:00:00	john300192		john300192@amc.hr	<input type="checkbox"/>	C		<input type="checkbox"/>
ReqID=300087	Processing (tactical status None)	19/11/2025 16:00:25	UTR	UTR operations	21/11/2025 07:00:00	11/12/2025 17:00:00	john300087		john300087@amc.hr	<input type="checkbox"/>	C		<input type="checkbox"/>
ReqID=300086	Processing (tactical status None)	19/11/2025 16:03:46	UTR	UTR operations	21/11/2025 07:00:00	11/12/2025 15:00:00	john300086		john300086@amc.hr	<input type="checkbox"/>	C		<input type="checkbox"/>
ReqID=300285	Processing (tactical status None)	15/11/2025 09:48:14	UTR	UTR operations	21/11/2025 07:00:00	11/12/2025 15:00:00	john300285		john300285@amc.hr	<input type="checkbox"/>	C		<input type="checkbox"/>
ReqID=300294	Processing (tactical status None)	16/11/2025 16:39:26	UTR	UTR operations	01/12/2025 06:00:00	06/12/2025 15:00:00	john300294		john300294@amc.hr	<input type="checkbox"/>	C		<input type="checkbox"/>
ReqID=300274	Processing (tactical status None)	17/11/2025 11:39:46	UTR	UTR operations	01/12/2025 07:00:00	06/12/2025 15:00:00	john300274		john300274@amc.hr	<input type="checkbox"/>	C		<input type="checkbox"/>
ReqID=300246	Processing (tactical status None)	17/11/2025 11:47:31	UTR	UTR operations	01/12/2025 07:00:00	06/12/2025 15:00:00	john300246		john300246@amc.hr	<input type="checkbox"/>	C		<input type="checkbox"/>
ReqID=300043	Processing (tactical status None)	17/11/2025 09:21:13	UTR	UTR operations	02/12/2025 05:00:00	22/12/2025 21:00:00	john300043		john300043@amc.hr	<input type="checkbox"/>	C		<input type="checkbox"/>
ReqID=300128	Processing (tactical status None)	16/11/2025 12:49:20	UTR	UTR operations	24/11/2025 07:00:00	06/12/2025 17:00:00	john300128		john300128@amc.hr	<input type="checkbox"/>	C		<input type="checkbox"/>
ReqID=300165	Approved (tactical status None)	15/11/2025 14:21:47	UTR	UTR operations	21/11/2025 07:00:00	06/12/2025 15:00:00	john300165		john300165@amc.hr	<input checked="" type="checkbox"/>	C	john3762	<input checked="" type="checkbox"/>
ReqID=300147	Processing (tactical status None)	12/11/2025 20:23:32	UTR	UTR operations	21/11/2025 06:00:00	06/12/2025 16:00:00	john300147		john300147@amc.hr	<input type="checkbox"/>	C		<input type="checkbox"/>

## ASM 3

Najava skore aktivacije

Taktičko upravljanje svim strukturama

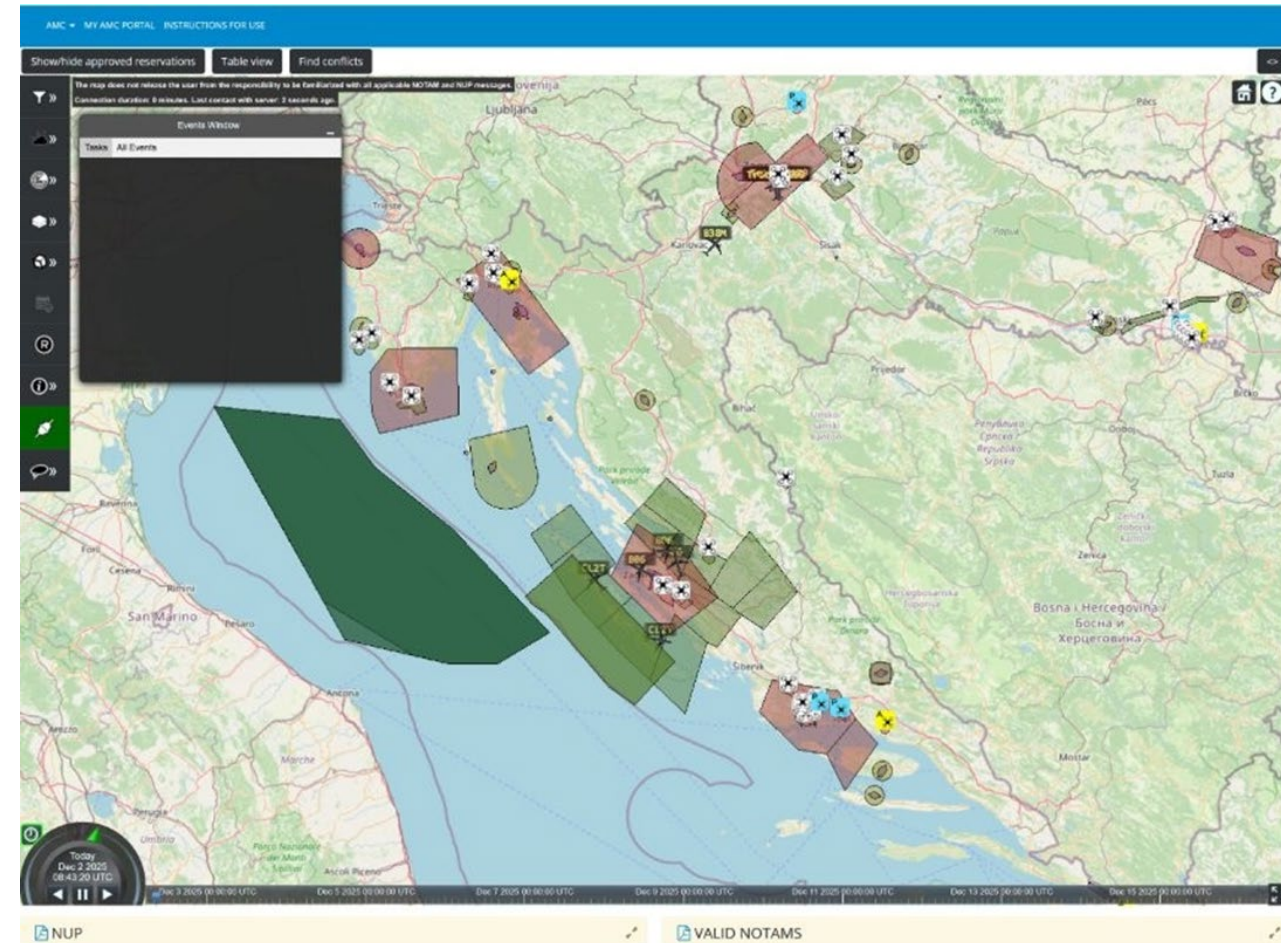
Interna komunikacija na ASM razini 3

Poboljšane funkcionalnost uspostave zona zabrane

Prikaz radarskih podataka

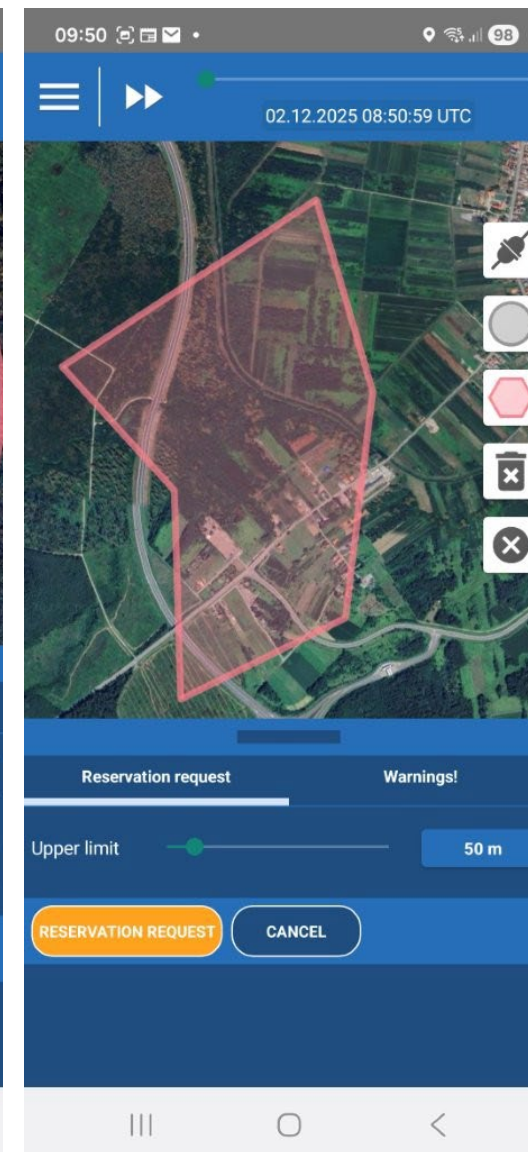
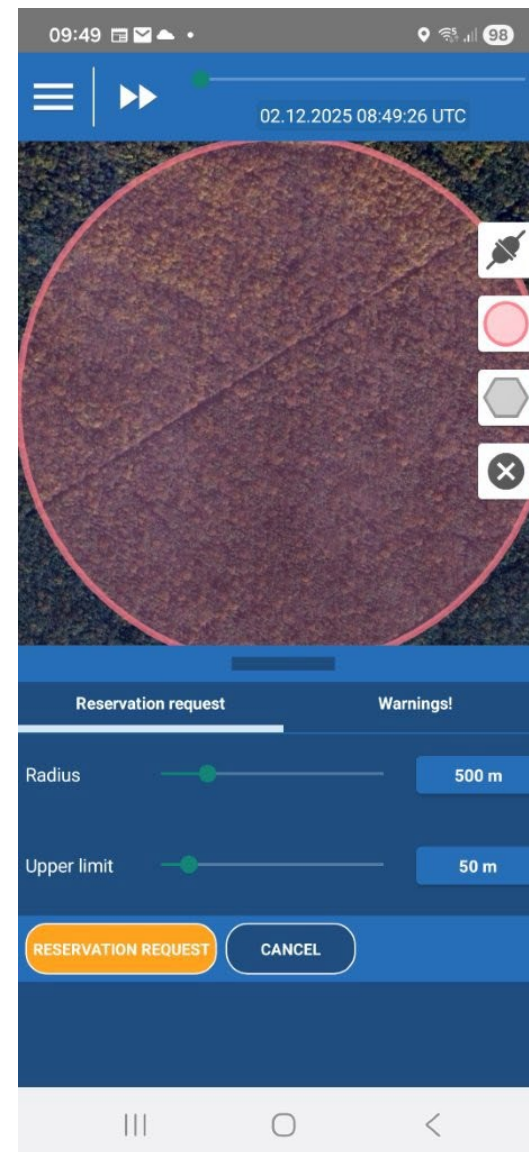
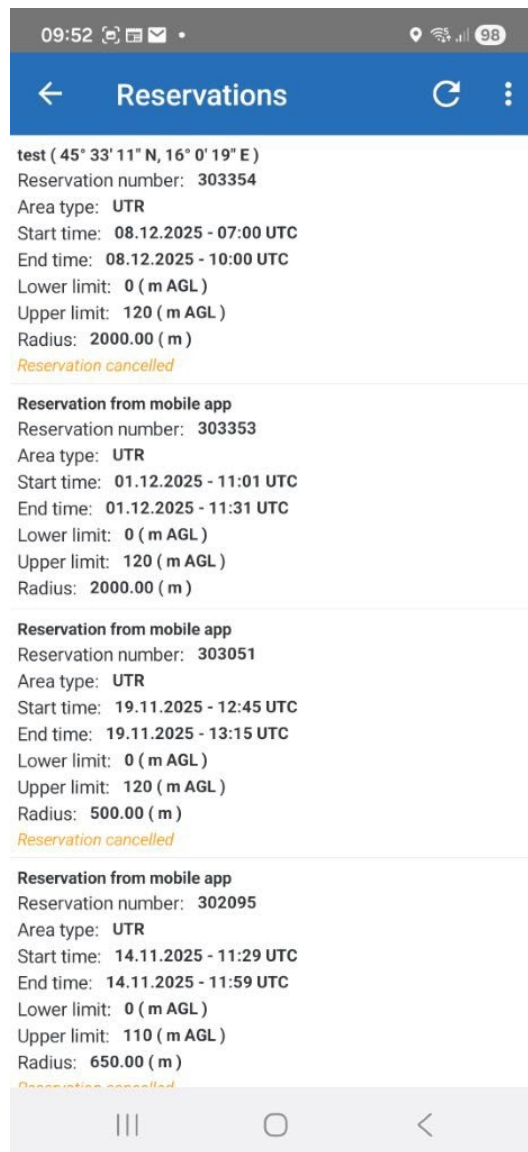
Prikaz DDS podataka u standardnom format

Prikaz pozicije UAS-a koji dijele poziciju

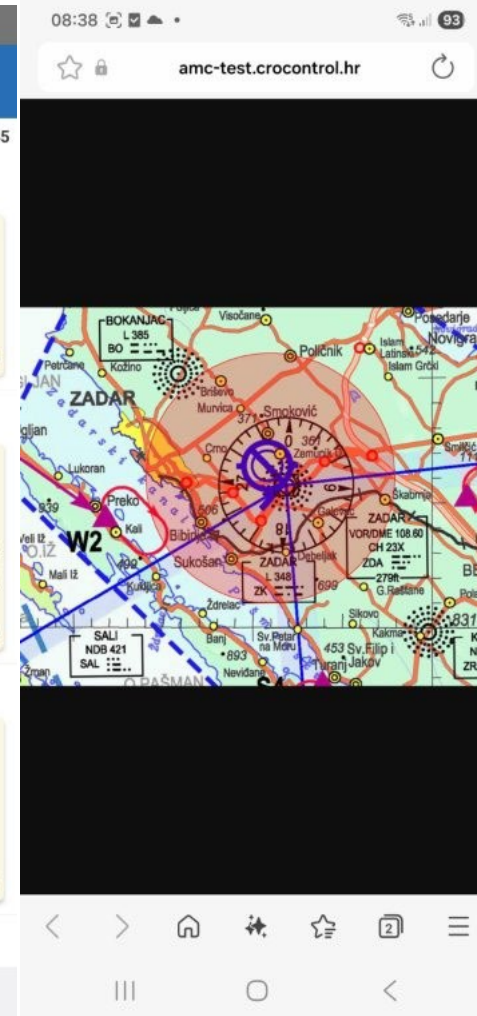
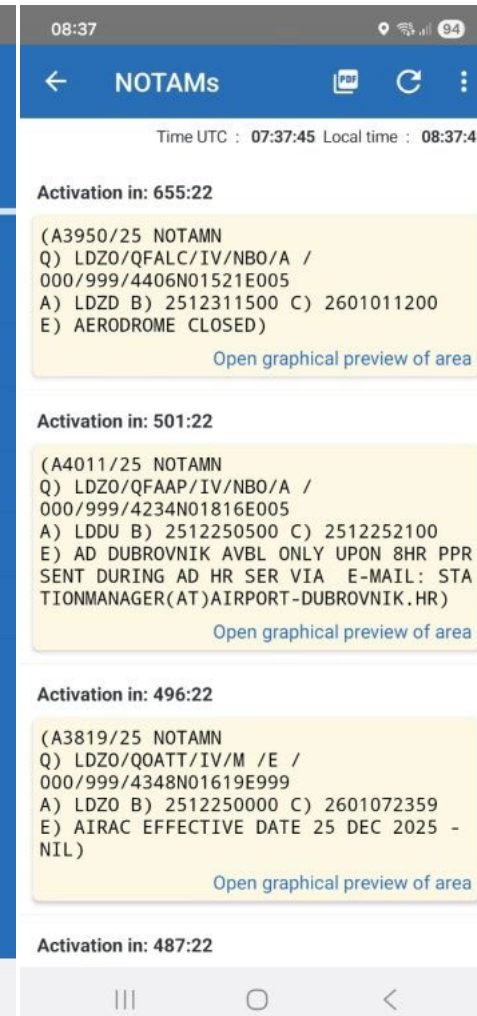
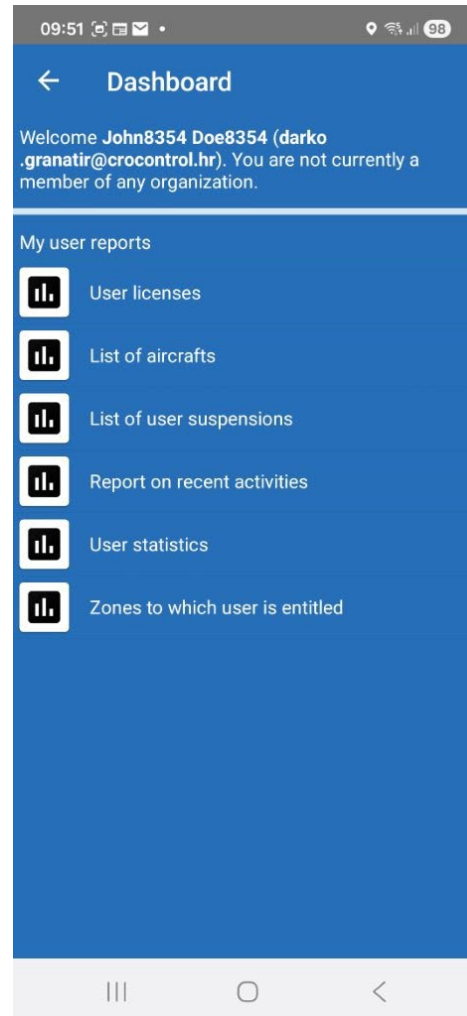




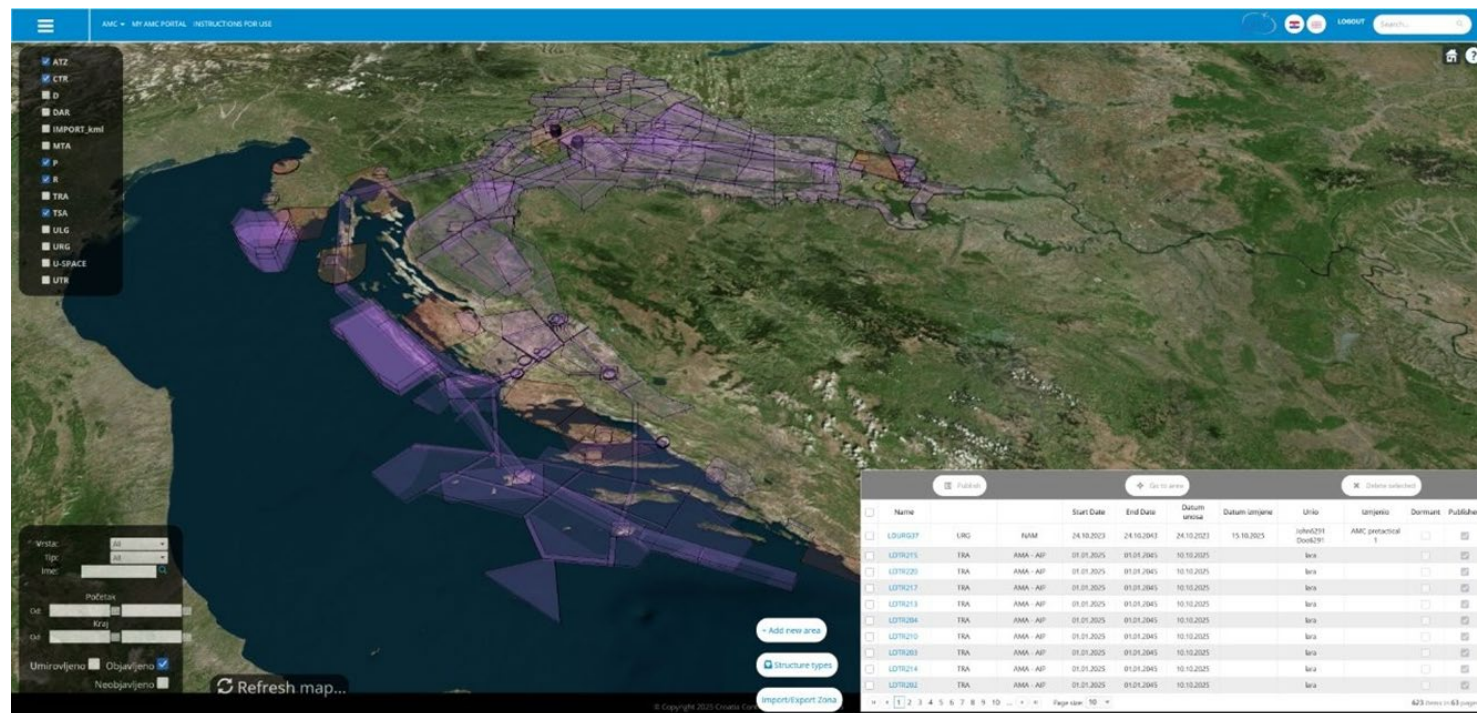
- Pregled rezervacija
- Rezervacijski mod
- Rezervacija poligona
- Pregled NOTAM-a



- Radna ploča:
  - Dozvole
  - Zrakoplovi
  - Suspenzije
  - Posljednje aktivnosti
  - Statistika
  - Prava na zone



- Dizajn struktura
- Uvoz/izvoz struktura
- Upravljanje životnim ciklusom
- Odabir načina prikaza
- Definiranje struktura
- Podrška za U-SPACE
- Mogućnost uvođenja novih vrsta
- Publiciranje i povlačenje struktura
- Analiza cjelokupnog zračnog prostora

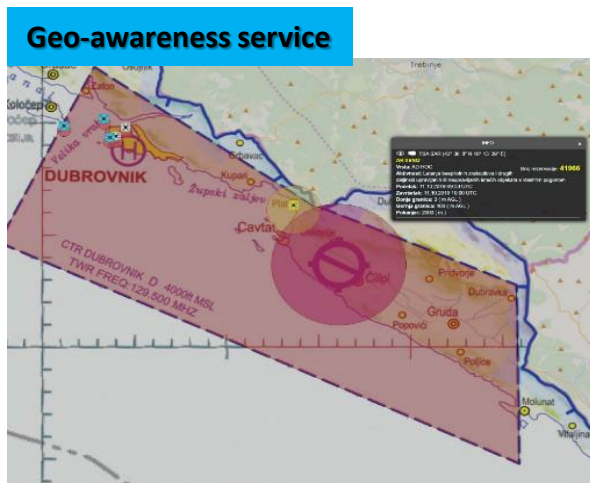


- Izrađena sučelja za vojne korisnike
- Izrada sučelja za državne korisnike
- Izrađena sučelja za 3 razine civilnih korisnika
- ACO sučelje i upravljanje operacijama unutar dodijeljene structure
- Sučelja za državne korisnike
- Podrška za operacije državnih UAS korisnika putem mobilnih aplikacija
- Dodatne funkcionalnosti posebnih aplikacija za državne korisnike
- CISP modul
- Priprema razmjene podataka za U-SPACE usluge
- Implementiran standard za razmjenu geo-podataka ED-268 I ED 318
- Prilagodba za povezivanje na nove verzije ASM sustava (LARA v4.0, v5.0)
- Podržan AIXM format za razmjenu podataka
- SWIM YP razmjene podataka
- Integracija sa DJI DOCK 3 sustavom
- Podrška za LIVE TRACK UAS-a
- Dodatne procedure za STATE i SPEC kategoriju u CTR-u
- MET podaci (METAR I TAF)

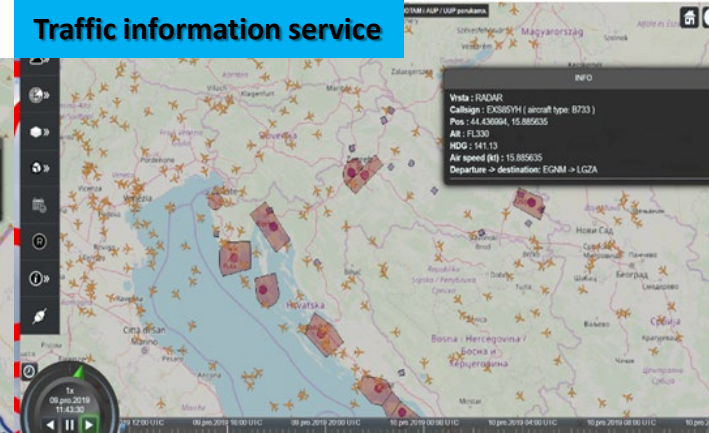
## EU 2021/664; EU 2021/665; EU 2021/666



UAS flight authorization service



Geo-awareness service



Traffic information service

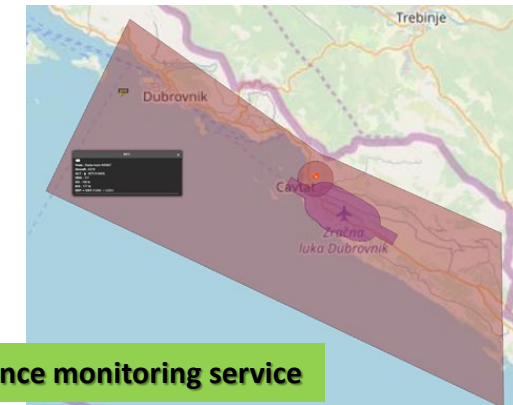
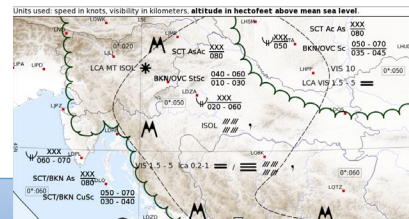


Network identification service

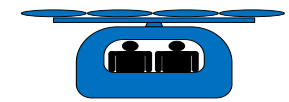
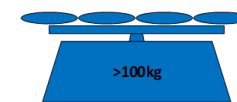
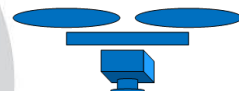
### Weather information service

TAF LDZA 081725Z 0818/0918 04002KT 6000 OVC010 TX07/0917Z  
 TN04/0905Z  
 BECMG 0819/0821 4000 BR OVC007  
 TEMPO 0821/0909 1000 BR OVC001  
 BECMG 0911/0913 6000 -RA BKN012 OVC045  
 PROB40 TEMPO 0913/0916 RA

METAR LDZA 081930Z VRB02KT 6000 OVC010 05/04  
 Q1011 BECMG 4000 BR



Conformance monitoring service



Where Member States designate U-Space airspace for safety, security, privacy or environmental reasons, such designation shall be supported by an airspace risk assessment. For each U-Space airspace, based on the airspace risk assessment, Member States may require additional U-Space services (Weather information service, Conformance monitoring service).

## Installed for R & D:

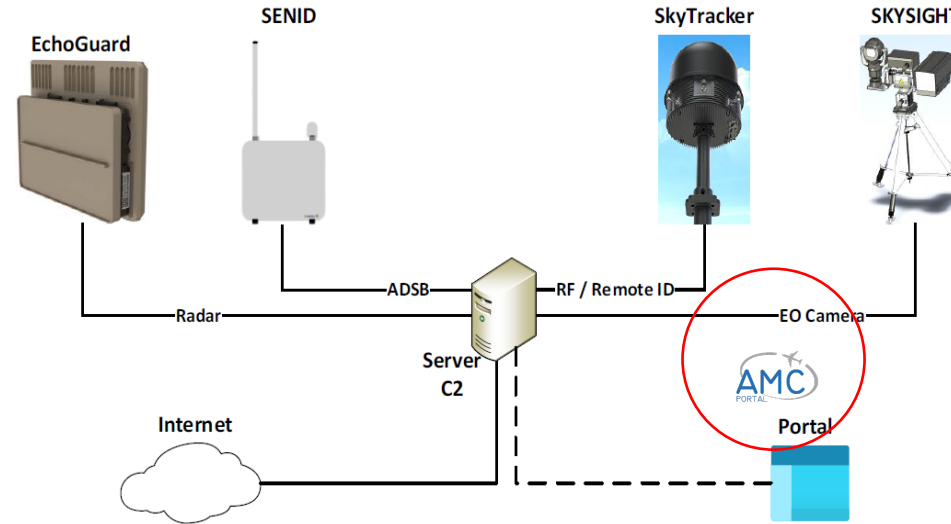
- Measurement of UAS operations in vicinity of airport, common flight of UAS (habits),
- R & D of DATA exchange between ATS and USSP,
- R & D possible DATA exchange and processes between SAFETY & SECURITY,
- Awareness to UAS users (we can see you).

## Drone detection system:

- C2 software
- Sensors:
  - Doppler radar,
  - Optical sensor (AI Camera),
  - RF sensor,
  - ADSB receiver,
- API:
  - To exchange picture with the AMC Portal:
    - Network ID (live track),
    - Status of detected UAS (Approved or Rogue)

## Proof of concept:

- EU 664,665,666 – U-SPACE:
  - Network ID,
  - Conformance monitoring,
- Effect on safety:
  - Identification of UAS operations,
  - Fast correlation (Legal or Rogue/conformance),
  - Possibility of automated report procedure to the Police
  - Measurement of sensor efficiency,
  - Capturing behavior of UAS operators – typical UAS flight.



## Smjernice EK:

- ANSP should not finance DPS solely from route charges. Such systems can be procured jointly with SECURITY stakeholders where financing is strongly divided between part that concerns SAFETY and SECURITY.

