

NATIONAL AGENCY FOR CADASTRE AND LAND REGISTRATION  
National Center for Cartography  
ROMANIA



NATIONAL REPORT OF ROMANIA TO EUREF 2023  
Miluța FLUERAȘ





# CORS Network ROMPOS | Current Status & 2023 upgrade plan

2

Operating stations

75

8 receivers upgraded in 2020  
17 receivers with Galileo  
+20 stations from neighboring countries

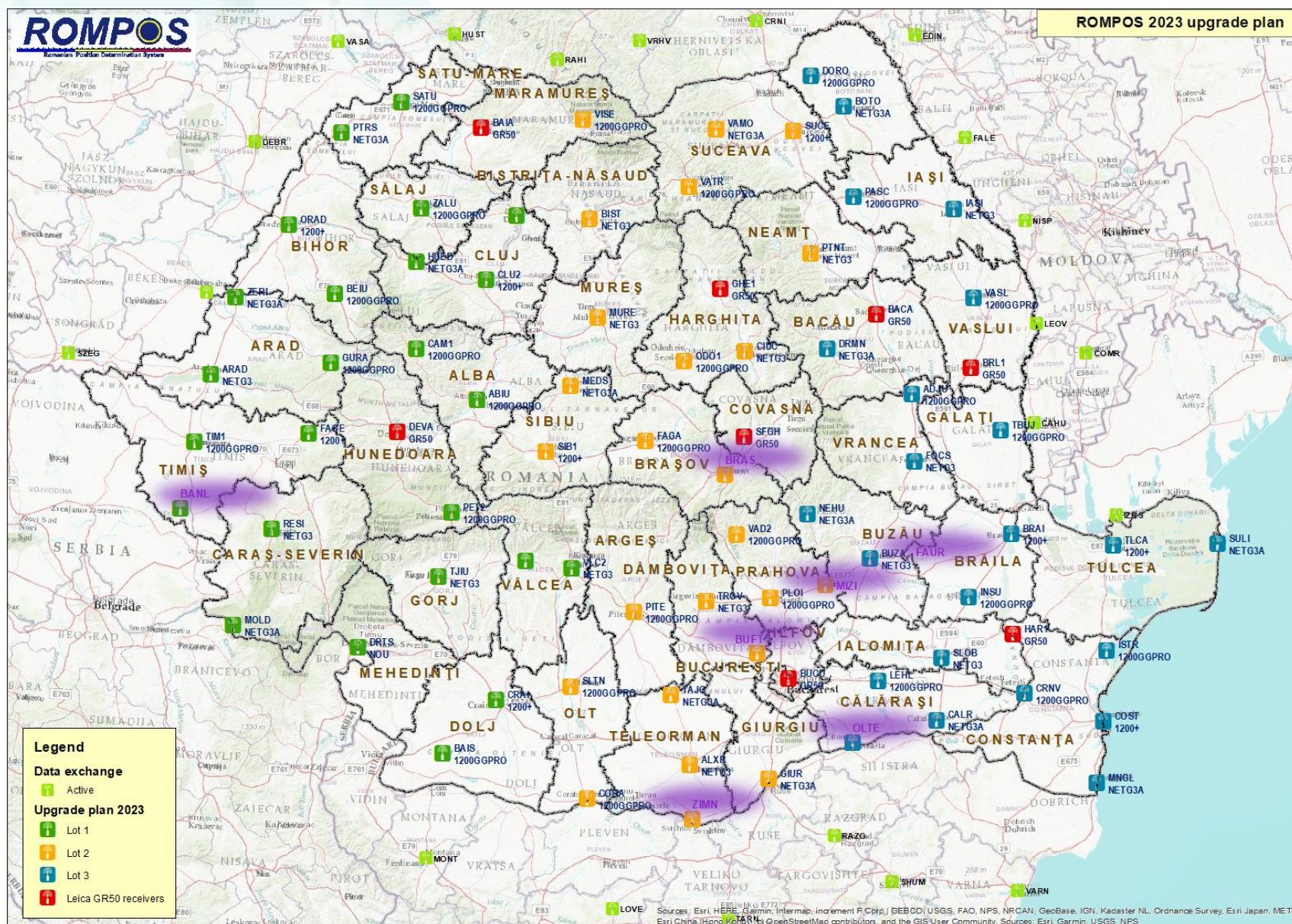
Upgrade plan for 2023

7

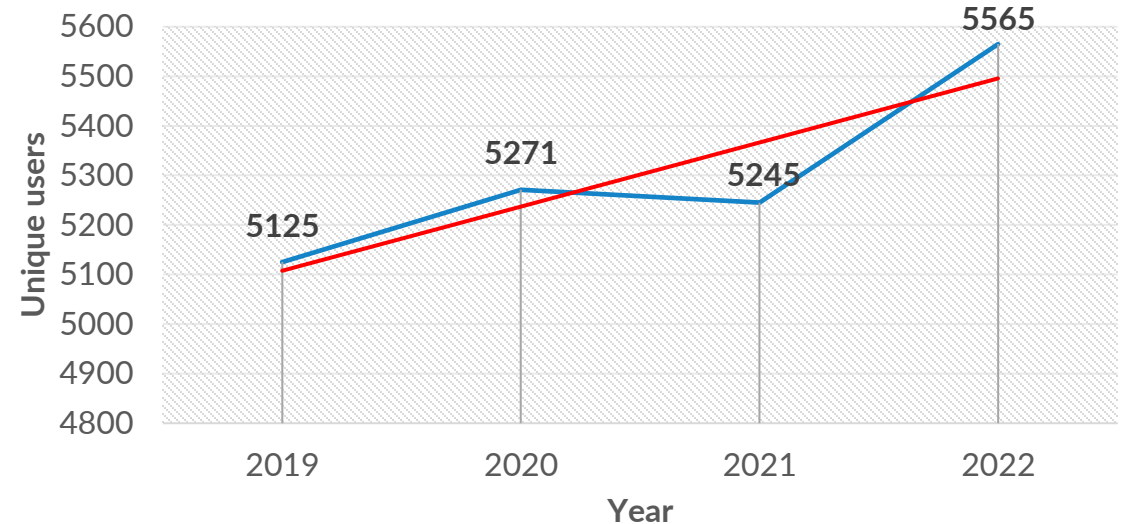
New stations

67

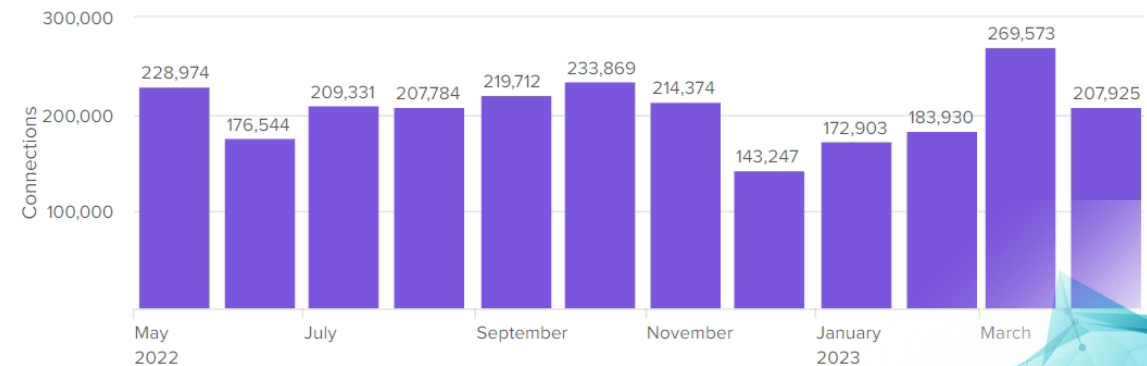
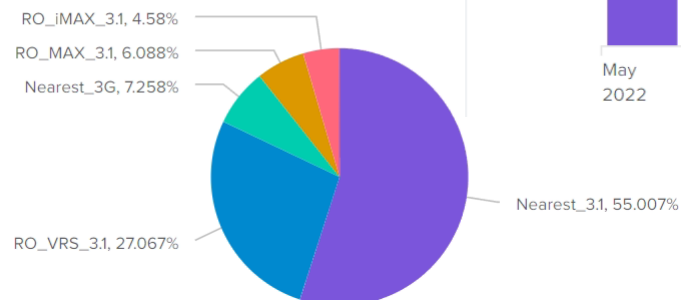
Stations will be upgraded







Most used RT products for the last 12 months



The RTK network usage has manifested a growing trend in the last 4 years, having over 5000 unique users every year.

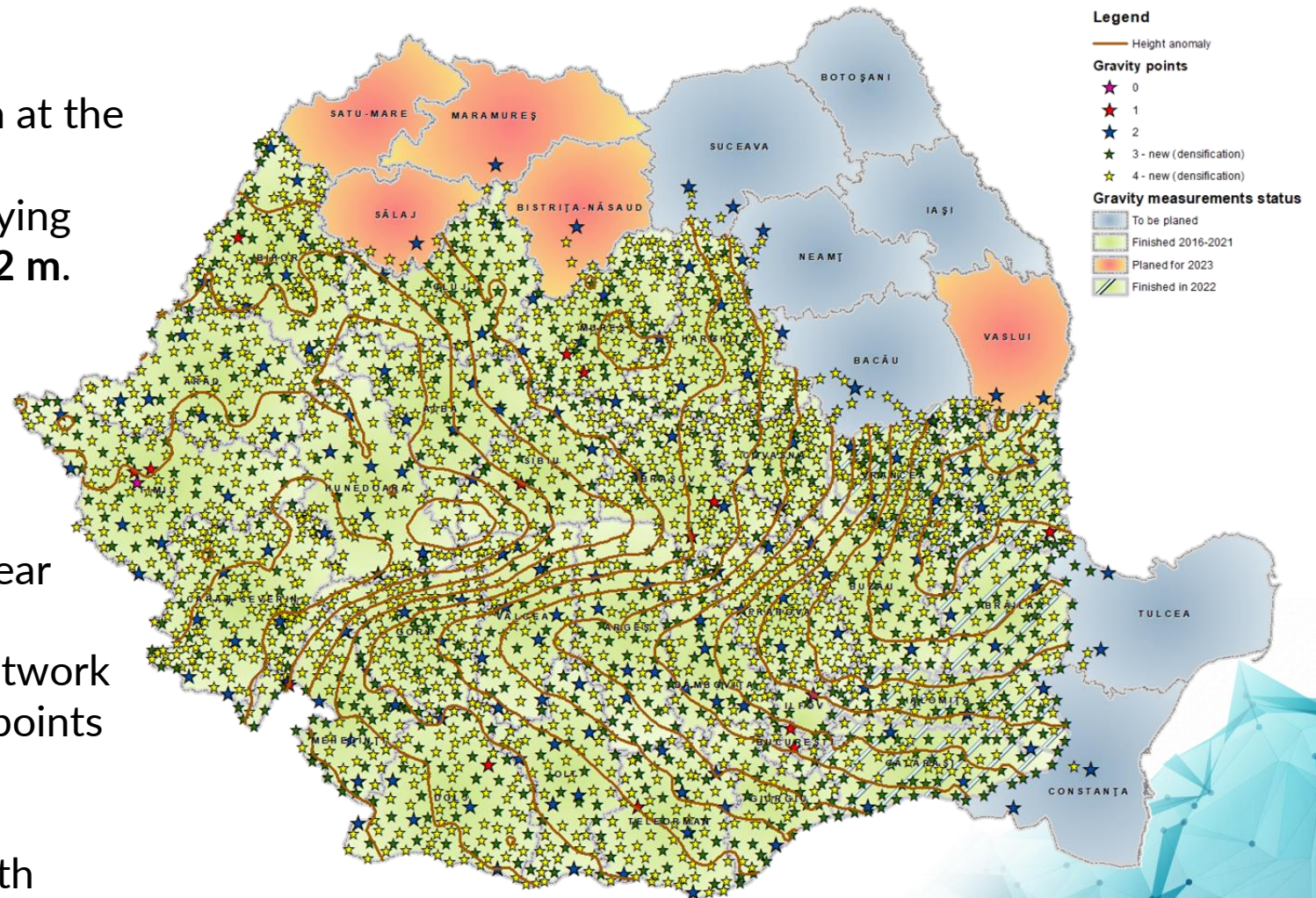
- Refactoring TransDatRO code in CUDA Python ( to be published soon) tested: 500mil points coordinate transformation in 3 seconds
- Started Bernese processing for ROMPOS – the processing strategy in development
- Updated the QC page of ROMPOS services (<https://app.rompos.ro/ro/status/>) – and a new update is underway

### Near Future

- Recomputing ROMPOS coordinates and validating the solution
- Activating Beidou Network Processing
- Fully operational 2<sup>nd</sup> layer for secure connection backup
- Providing a set of online processing tools
- Providing services for big data point cloud transformations



- 5 more counties to be finished this year
- TOTAL so far**
- **343** observations for points in old network
  - **3005** observations for densification points
  - Started procurement of an **absolute gravimeter** - to be finished this month

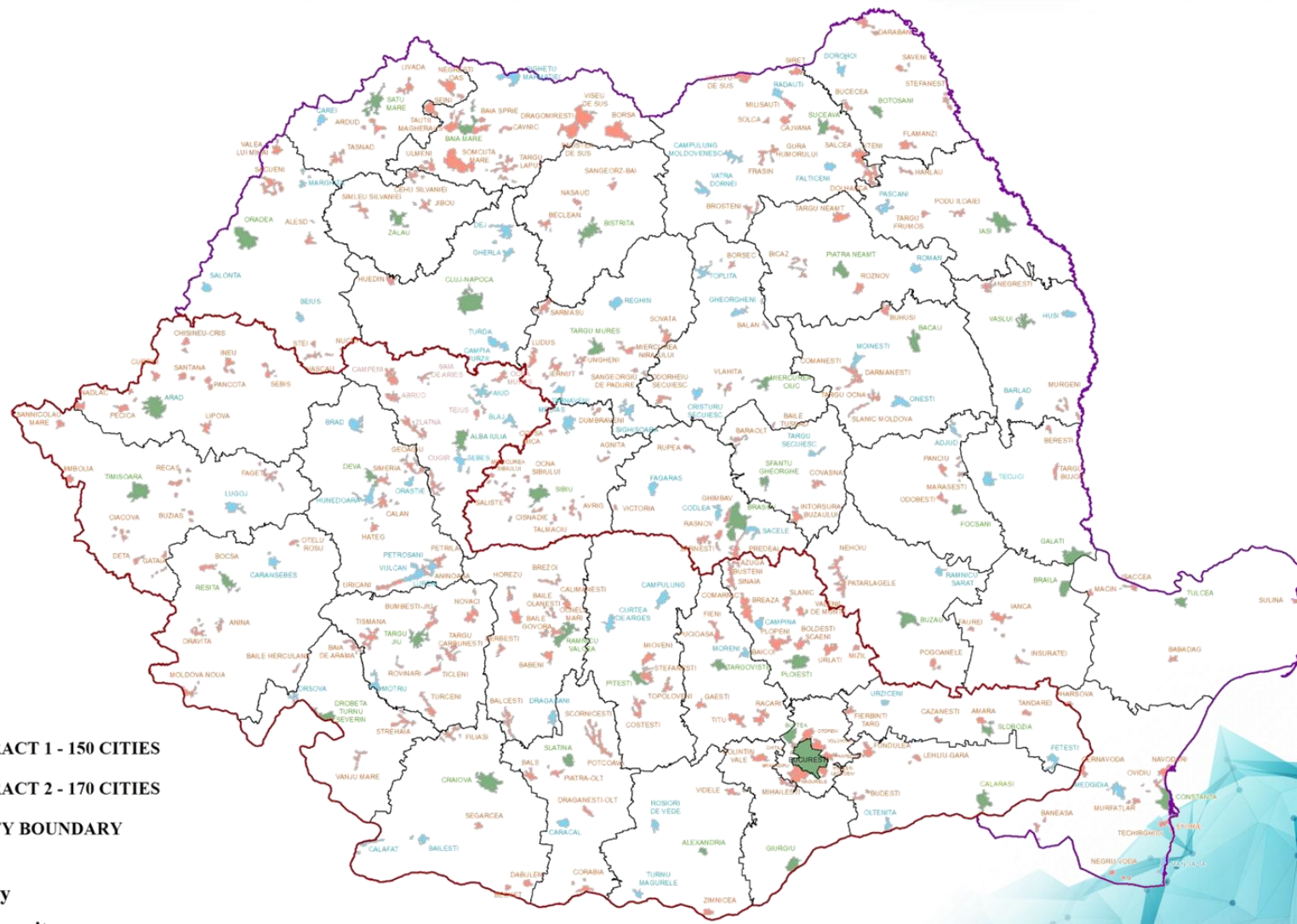




## Objectives:

- acquiring aerial images and performing aerial triangulation;
- generating the dense point clouds and the digital surface models;
- generating the true-orthophotos.

	CONTRACT NO.1		CONTRACT NO.2	
	Number of cities	Area (sqkm <sup>2</sup> )	Number of cities	Area (sqkm <sup>2</sup> )
Bucharest	1	262.25	-	-
Big cities	18	948	23	1460.25
Medium cities	26	673	36	976.75
Small cities	105	2377	111	2577.25



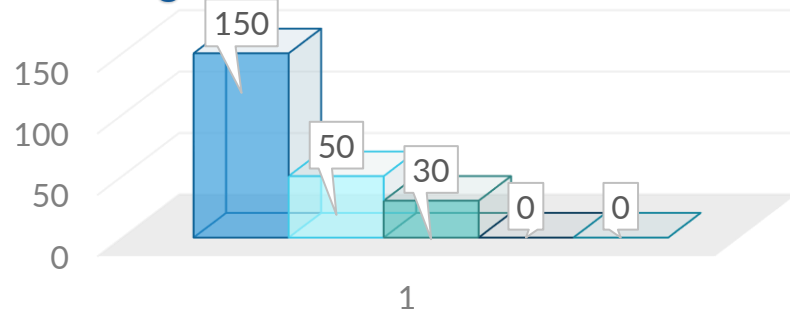
# PRODUCING TRUE ORTHO and DSM FOR 320 CITIES

## Types of products and their quality

Type	True-orthophoto resolution (cm)	True-orthophoto accuracy (cm)	DSM resolution (cm)	DSM accuracy (cm)
Bucharest	6	$\pm 15$	10	$\pm 20$
Big cities	5	$\pm 12$	10	$\pm 20$
Medium cities	10	$\pm 15$	12.5	$\pm 25$
Small cities	12.5	$\pm 20$	20	$\pm 30$

## STATUS

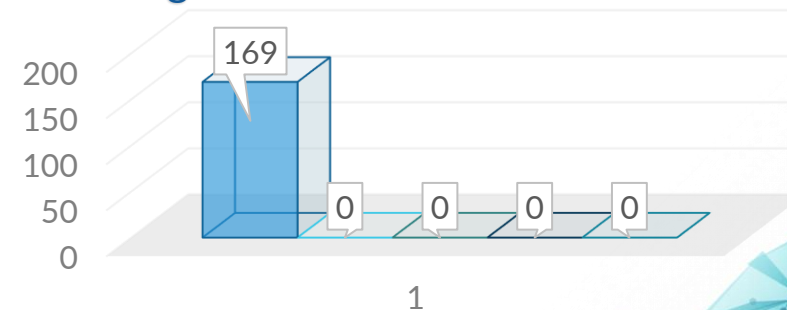
### CONTRACT NO. 1 Flight+measurements = 135 cities



DELIVERY 1 DELIVERY 2 DELIVERY 3  
DELIVERY 4 DELIVERY 5

Delivery 1 Flight plan  
Delivery 2 Photogrammetric flight  
Delivery 3 AT  
Delivery 4 DIM, DSM  
Delivery 5 True-orthophotos

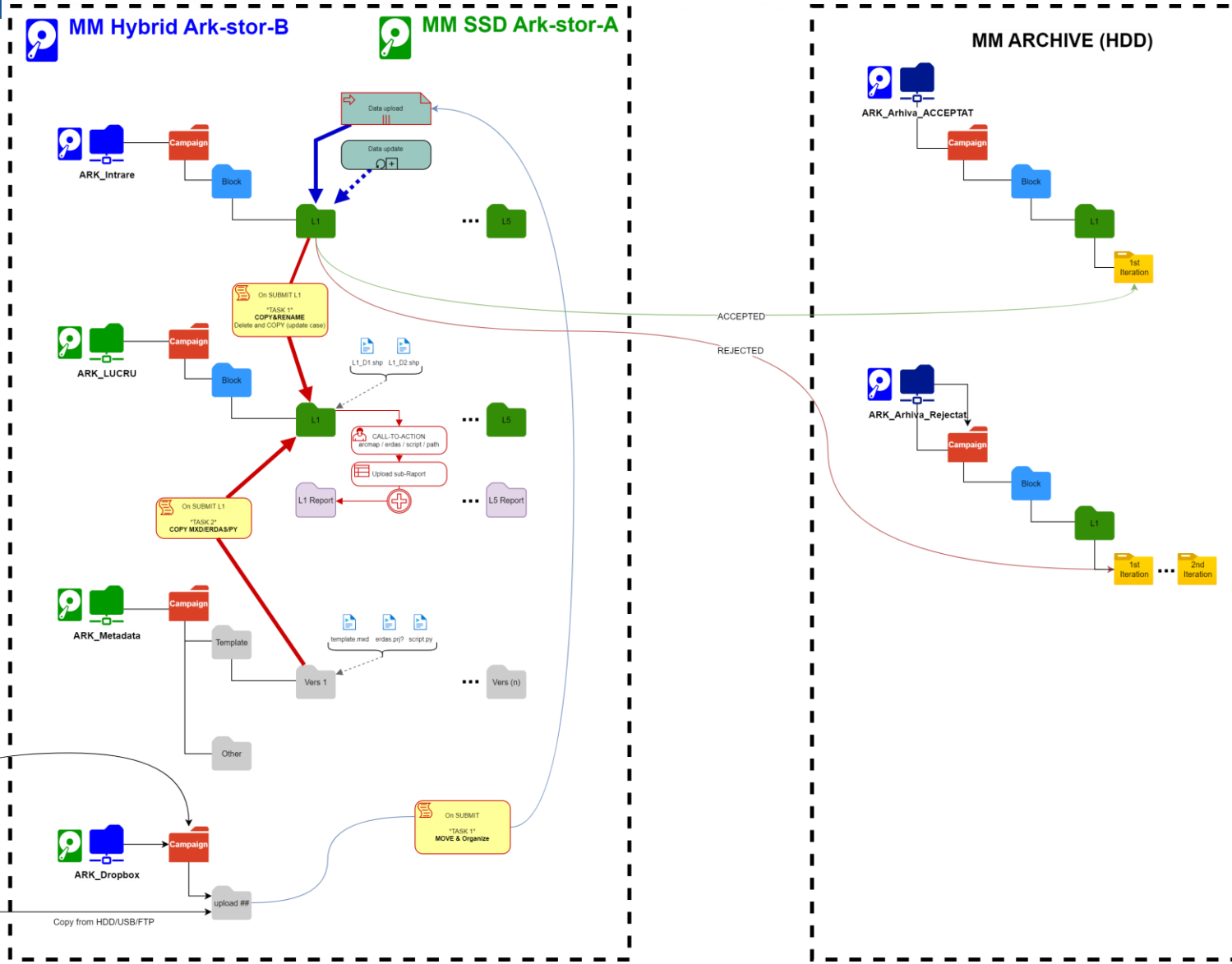
### CONTRACT NO. 2 Flight+measurements = 30 cities



DELIVERY 1 DELIVERY 2 DELIVERY 3  
DELIVERY 4 DELIVERY 5

# PRODUCING TRUE ORTHO and DSM FOR 320 CITIES

## APP for QC automation



- 70% from the QC workflow is fully automated from L1 – flight plan to the final product

## ENVIRONMENT

- Backend: C#, Asp.Net 6, Microsoft Reports
- Python 3.9
- Arcgis 10.8
- Erdas Apollo 2022
- M.app Enterprise

Thank you!