



GAME CHANGING HIGH RESOLUTION MID
WAVE INFRARED CONSTELLATION FROM
SATELLITE VU

THERMAL 2023 - 10 MAY

TOBIAS REINICKE (SATVU)

ANDREW HASLEHURST (SSTL)



TIMELINE



2024
Launch 2nd Satellite - Clone

JUNE 2023
Launch 1st Satellite - Pathfinder

2022
Built out senior team
Delivery platform, patents
camera IP secured

2021
Series A: total funding £20m

2025+
Launch further 6 satellites

Q4 2023
Commercial operation - begin recognising
revenue from imagery and data sales

APRIL 2023
>\$130m Early Access agreements
40 person team in place

2021
Aerial flights of camera
Tech risk reduction
POCs with customers

WITH CXO AND DEEP INDUSTRY EXPERIENCE



ANTHONY BAKER | CEO

- CEO & leadership roles
- 3 successful exits
- Global satellite experience



TOBIAS REINICKE | CTO

- Pixels to Info
- Experience in platform development



CAMILLA TAYLOR | CFO

- Climate / tech scale-up CFO
- Investment manager
- B2B SaaS, hardware, energy



ALAN BETTRIDGE | CCO

- Experienced global commercial leader
- ESG Impact SaaS
- Financial markets tech, data & analytics



ALEX GOW | SALES DIRECTOR



TIMOTHY PUCKORIUS | VP SALES



MARIA GHIRONI | HEAD OF PRODUCT



JAMES O'CONNOR | HEAD OF ENGINEERING



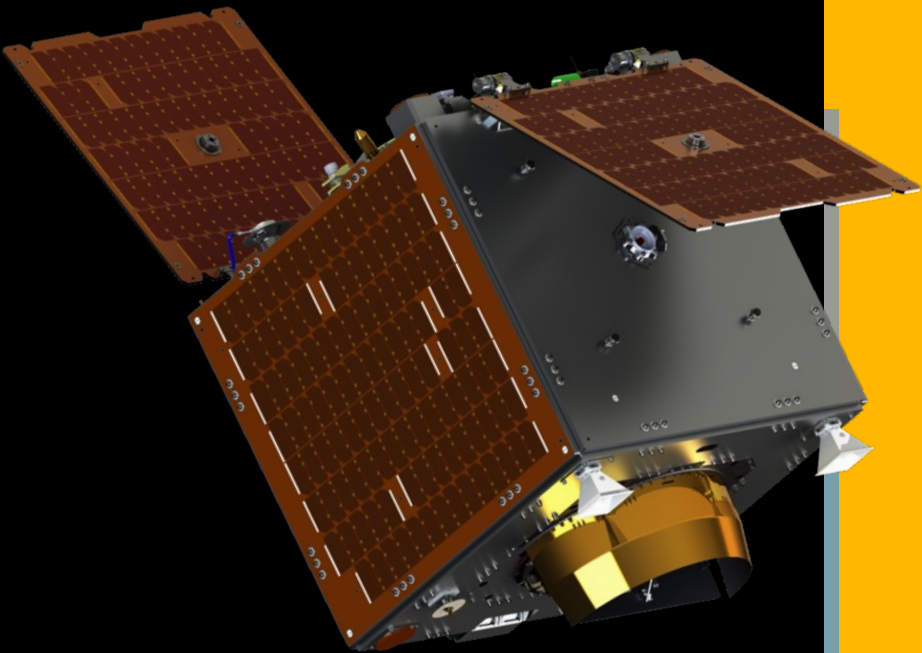
SCOTT HERMAN | STRATEGIC ADVISOR



MARTIN WOOSTER | THERMAL ADVISOR, KCL



**SATELLITE VU
UNIQUE INFRARED
CONSTELLATION**



SPECIFICATIONS:

HIGH RESOLUTION - 3.5M GSD

MID-INFRARED - 3.4-5.0 μ M

SENSITIVITY - <2K @ 300K

VIDEO - UP TO 60 SEC @ 25 FRAMES/SEC

DAY & NIGHT IMAGING (INC DAY FILTER)

CONSTELLATION:

LAUNCHING JUNE 2023

8 SATELLITE CONSTELLATION - 2 IN SSO, 6 IN MIO

**10 - 20 REVISITS/DAY OVER SAME TARGET
(DEPENDANT ON LATITUDE)**

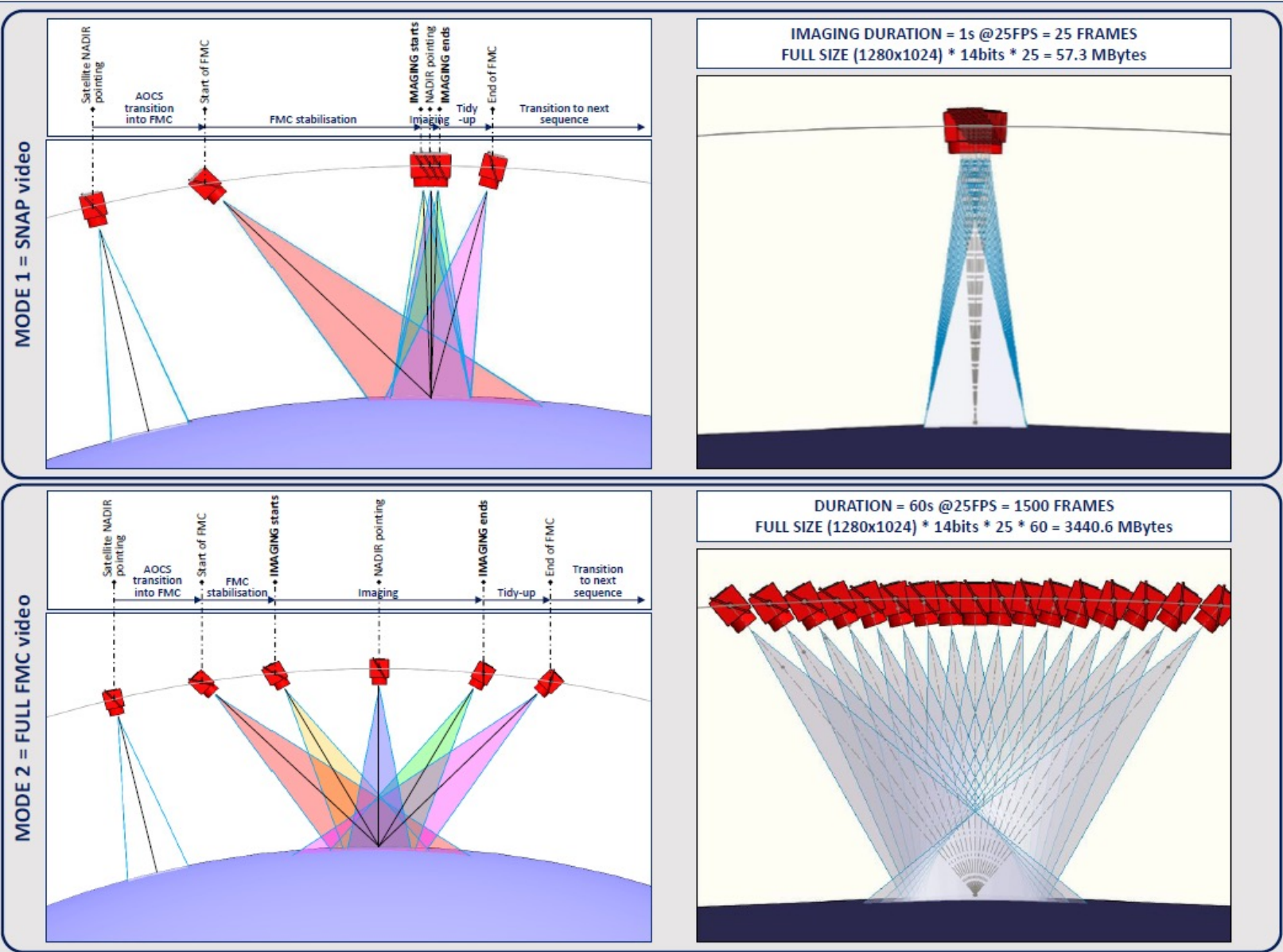
GLOBAL COVERAGE

AGILE BUS TO ENABLE 'STARE' MODE

**FULLY TASKABLE FROM WEB-BASED PLATFORM
AND API**

FORWARD MOTION COMPENSATION MECHANISM

IMAGING MODES DEFINITION



Point and stare

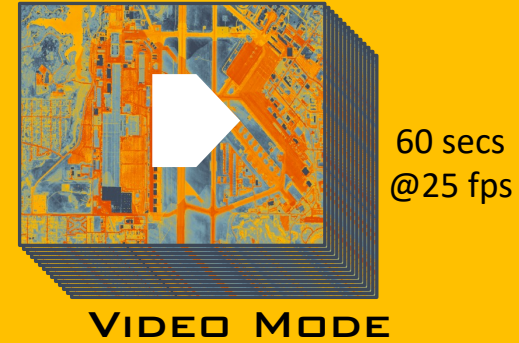
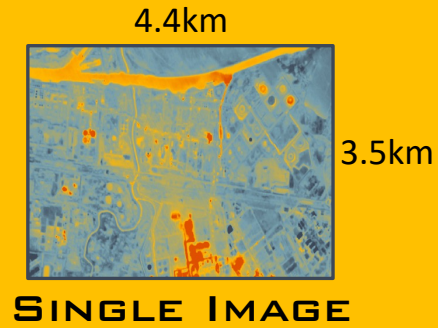
The satellite can dwell and image over a target by pitching the spacecraft at the appropriate rate to compensate for the forward motion of the satellite as it passes over the target within its Field of Regard.

This imaging operation assures acquisition of sufficient spectral information to meet image quality requirements.

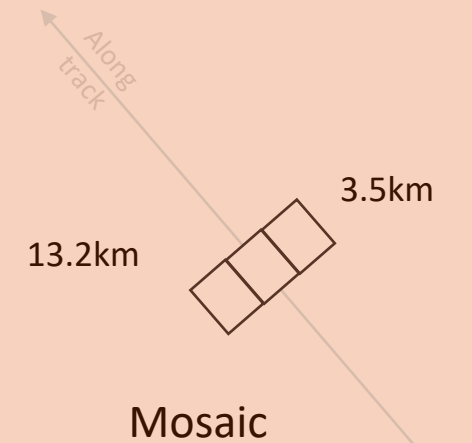
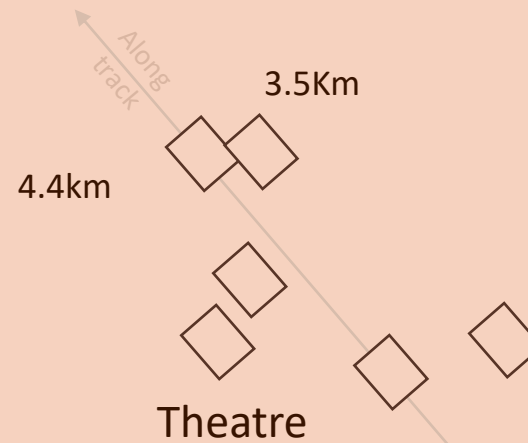
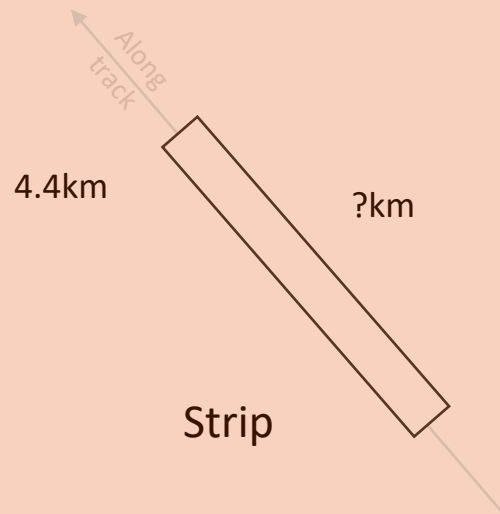
Forward Motion Collection (FMC) modes will impact the system's agility and capacity collection metrics.

ACQUISITION MODES - DAY & NIGHT

Current



Under development

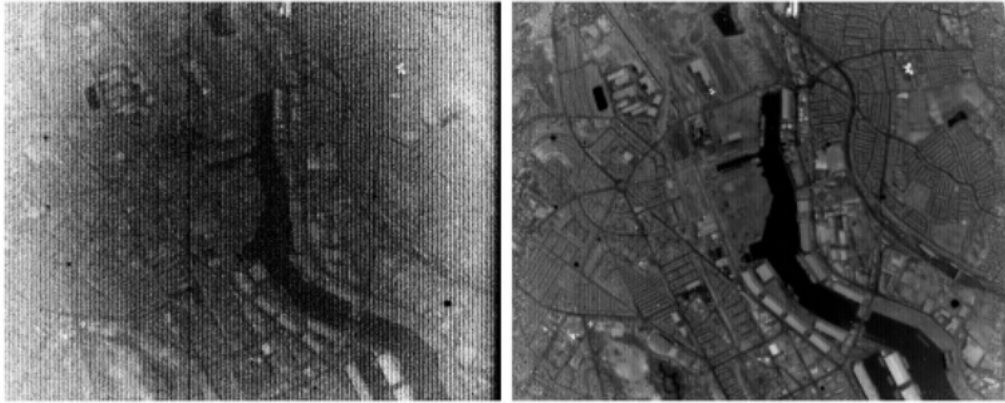


**DATA &
PRODUCT
CREATION**

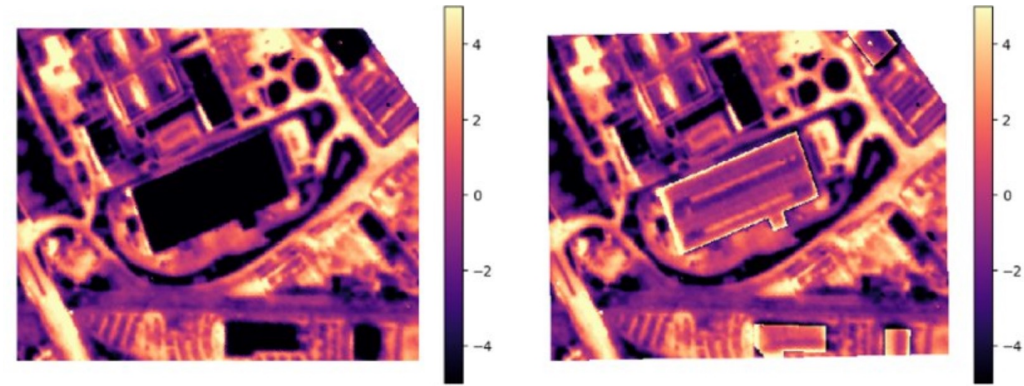


CORE DATA PRODUCTION

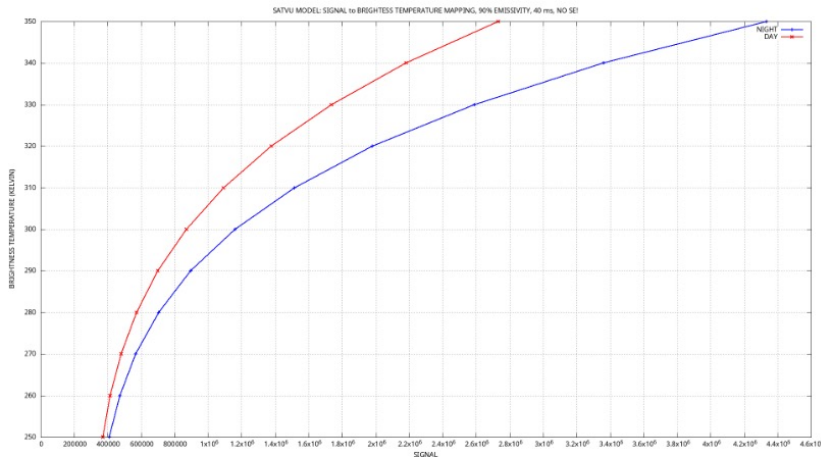
Non-uniformity correction (NUC)



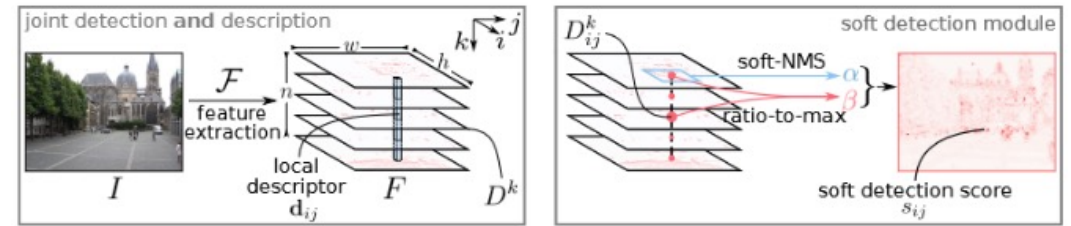
Atmospheric and Emissivity correction



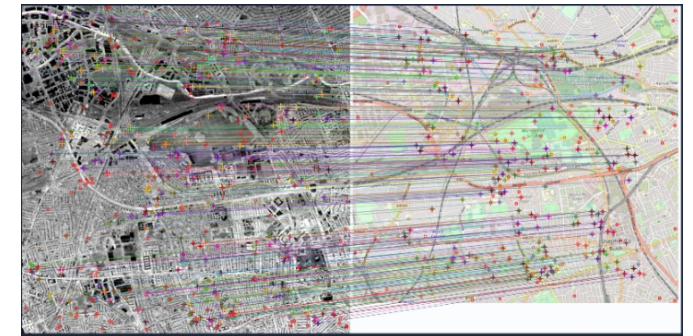
R&D towards calibration to absolute brightness values

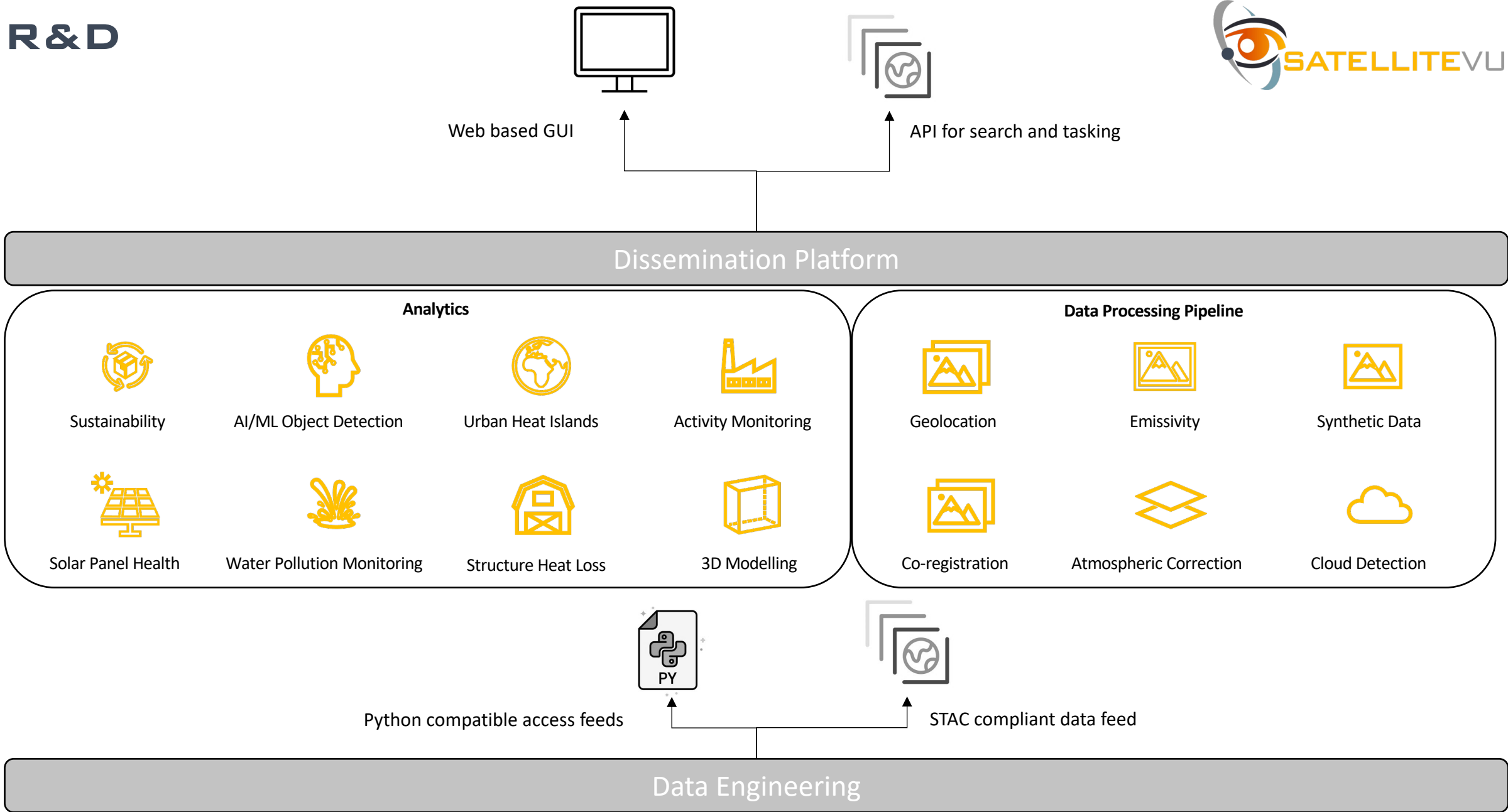


Geometric correction



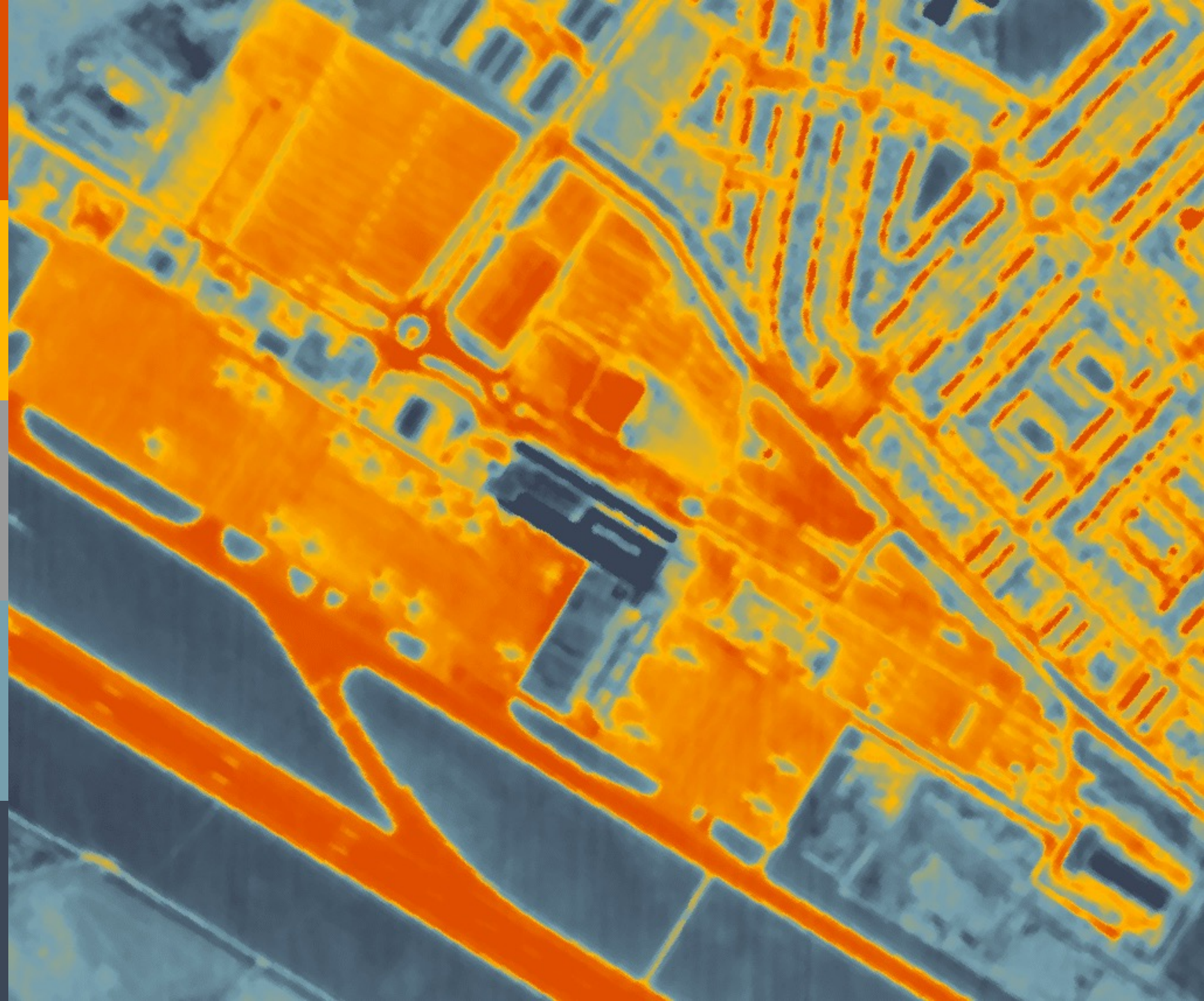
25m CE90 accuracy
Roadmap: sub pix



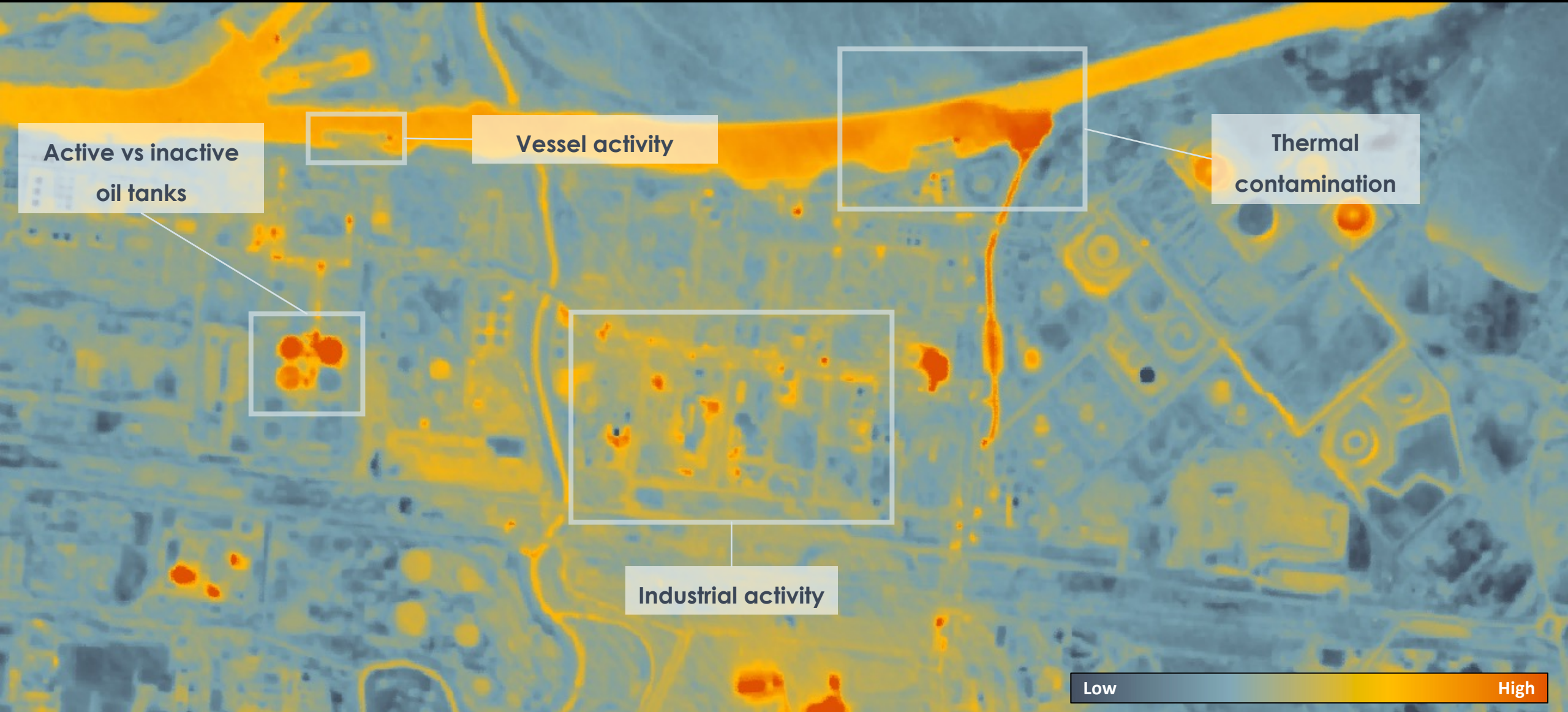


THERMAL IMAGING EXAMPLES

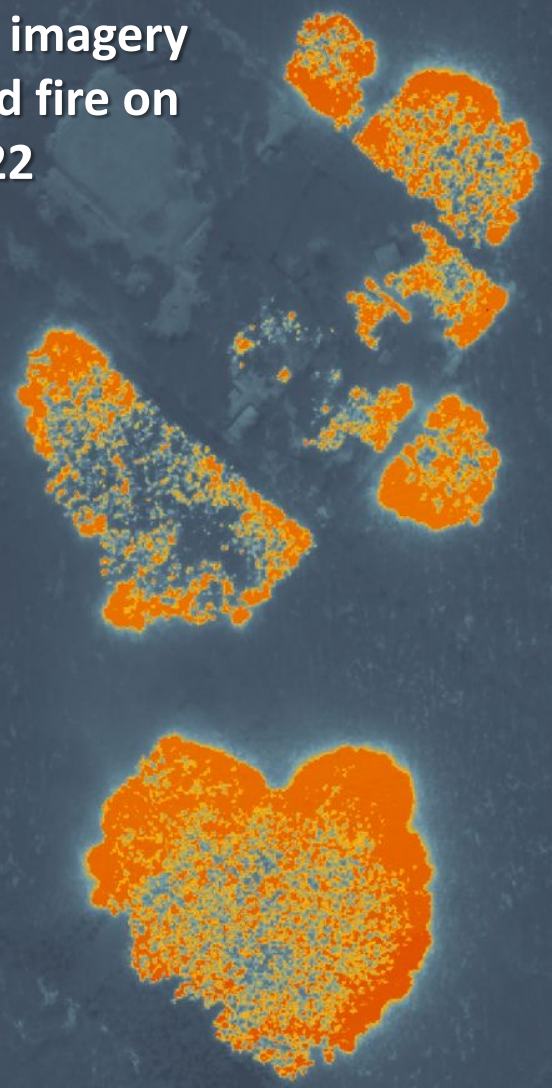
Aerial flight examples using
Engineering model of
spacecraft sensor



EXPOSING RELEVANT THERMAL CHANGES



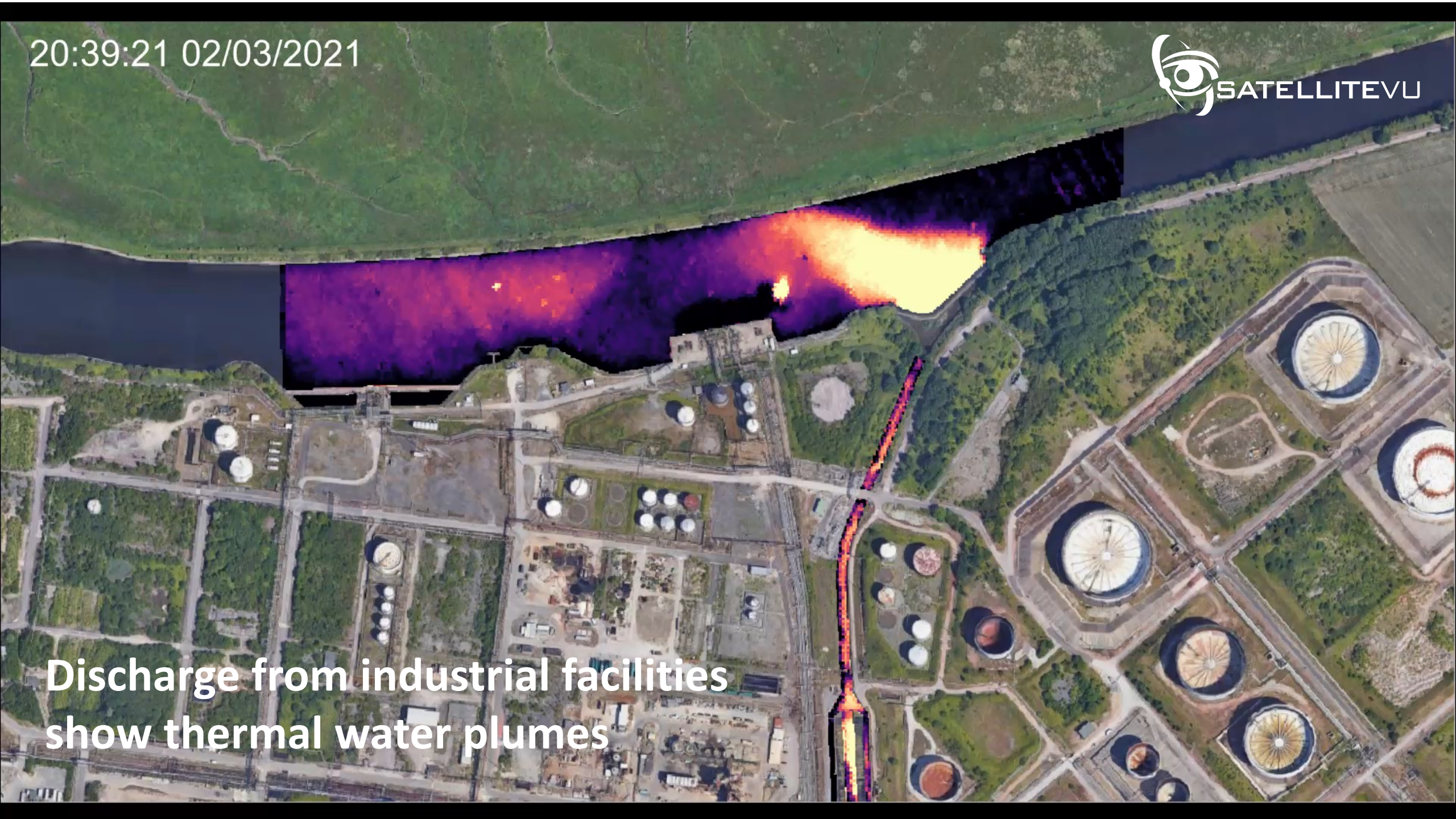
High-resolution
MWIR aerial imagery
of Grunewald fire on
4 August 2022



High-resolution
MWIR aerial imagery
of Grunewald fire
with Google Map
overlay

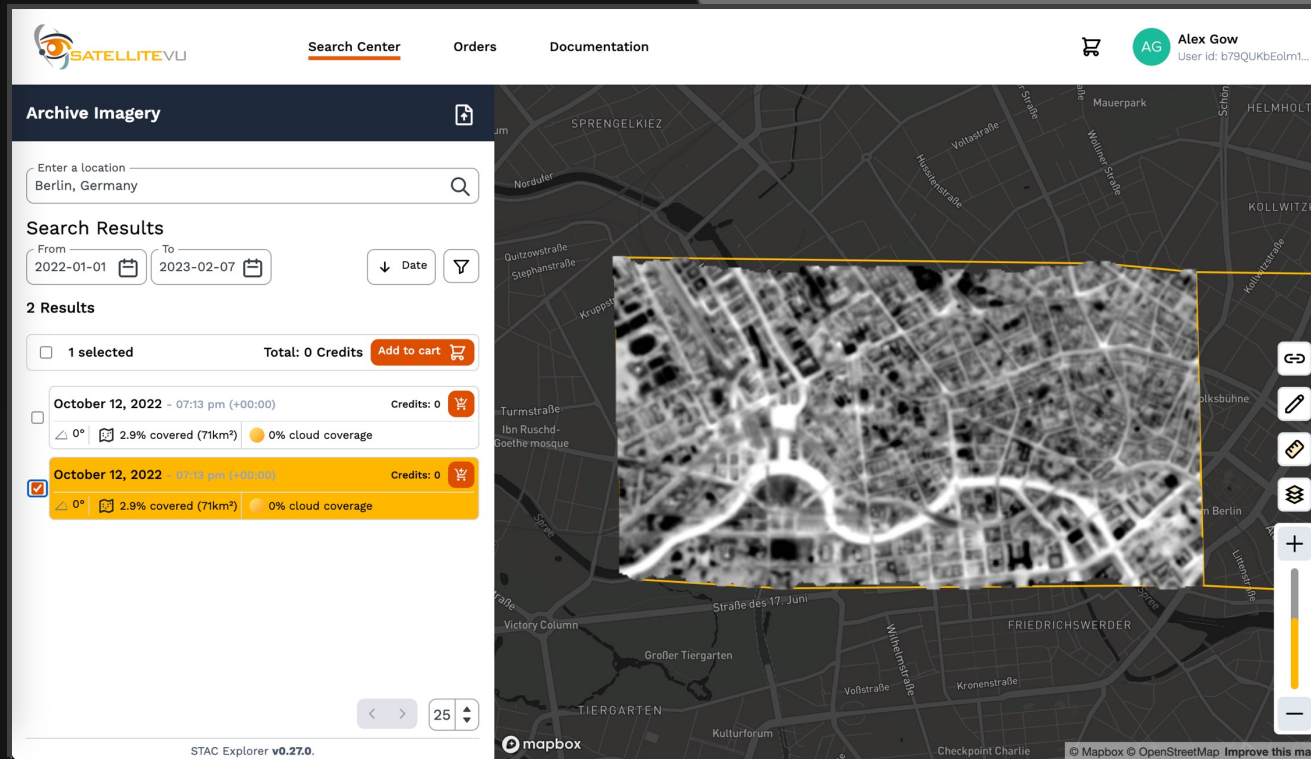


20:39:21 02/03/2021



Discharge from industrial facilities
show thermal water plumes

EARLY ACCESS PLATFORM



WEB BASED PLATFORM

Early access to aerial flight examples
and UI for archive & tasking

ARCHIVE API

API access to STAC
compliant data archive

TASKING API

Enable customer tasking via API for platform
integrations & automated workflows

CLOUD-BASE PLATFORM ON-DEMAND TASKING & DATA



One-Click Sensor Tasking

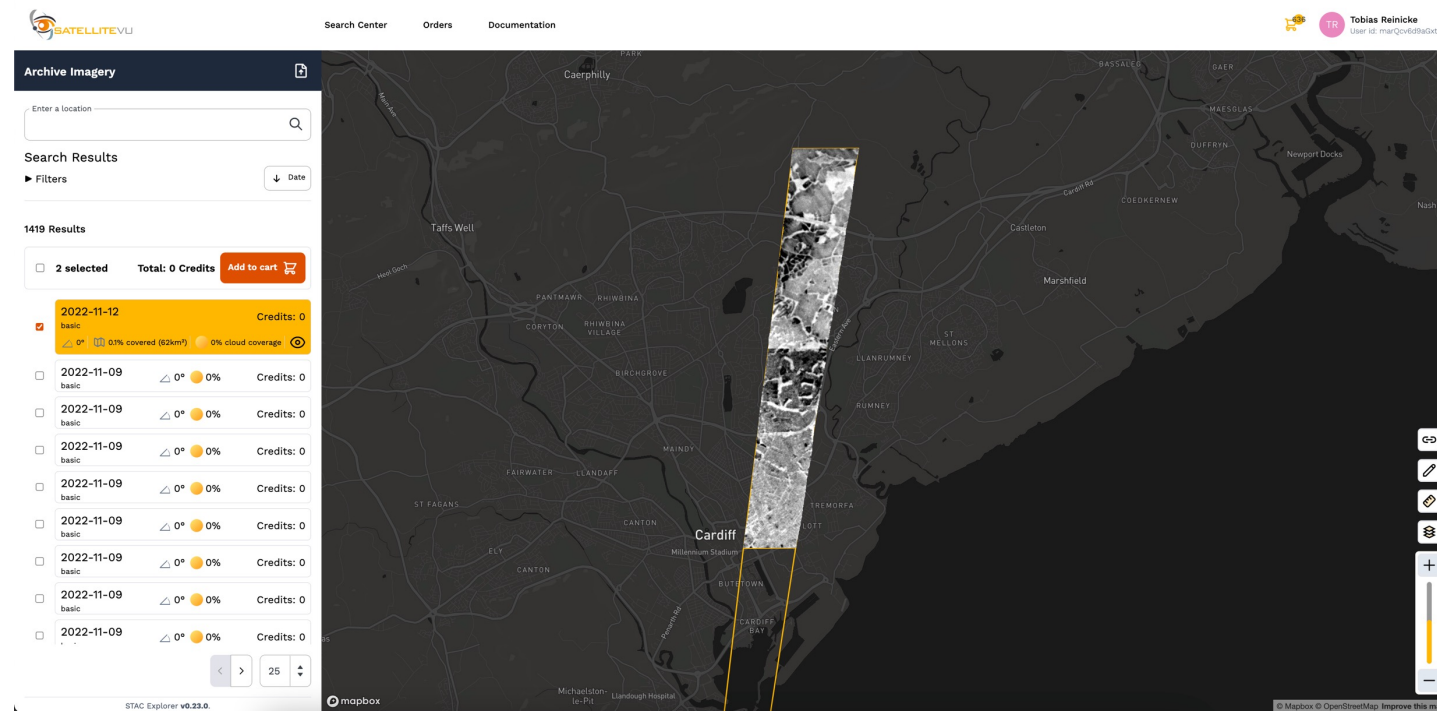
Our cloud-based platform enables users of all levels to easily and quickly plan, task collections and track all imagery orders on-demand

Search & Discovery

Users can search our catalog to find imagery from historical archives or images collections within the past few minutes

On-Line Hosting and Visualization

Satellite Vu's platform will manage the entire order process on-line that include tools for full resolution imagery visualization, product downloads, streaming, and order status



TEMPERATURE API – ENABLES INTEROPERABLE SOLUTIONS



USER DEFINES WATCH
LOCATIONS VIA WEB UI
OR API

INPUT:
POINT OR POLYGON



THRESHOLDS ARE SET TO
ALERT FOR TEMPERATURE
CHANGE & REPORT ON
VARIANCE

INPUT:
ALERT THRESHOLDS



IMAGES ARE COLLECTED
AND TEMPERATURE VALUES
REPORTED TO USERS VIA
API

OUTPUT:
NOTIFICATION &
TEMPERATURE VALUES

COMMERCIAL TRACTION

Early Access Option Program (EAP) –

Across 8 different sectors (Industrial Monitoring, Solar, Agriculture, Building Efficiency etc) we have >\$100M pre revenue commitments from over 60 interested parties with some highlights below.



CONSTELLATION OPTIONS

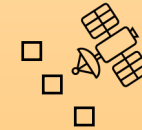
Responsiveness



Inter-Satellite Links

IOIO
IOIO

On-board
processing



Agile re-tasking

Quality



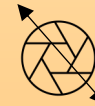
Higher frame
Acquisition Rate



Lower Orbit



Improved Detector



Larger Mirror

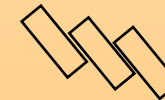
Capacity



Additional Bands



Scanning mirror



Imaging mode
enhancements



KEY TAKEAWAYS

- High-resolution 3.5m thermal imagery & video for activity monitoring
- High-revisit global coverage, up to 20 times per *day or night*
- 1st satellite launching June 2023
- Aerial flights trials underway

