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CEOS-ARD self-assessment progress report
Level-2 Land Surface Temperature

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LSI-VC-20
14-16 September 2026

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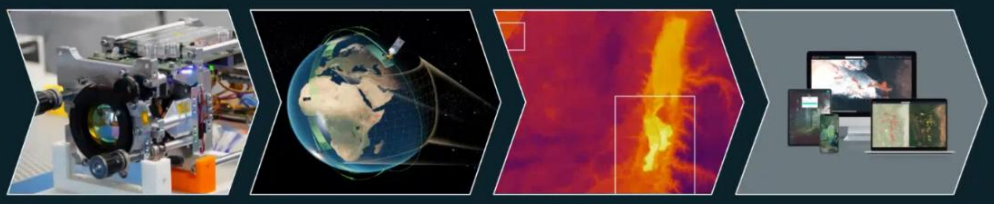
Hi, we are OroraTech

2018 Founded in Munich

170+ Employees on **5** continents

800+ Users in **25** countries

35+ Satellite sources
19 Own payloads in orbit



Patented thermal camera

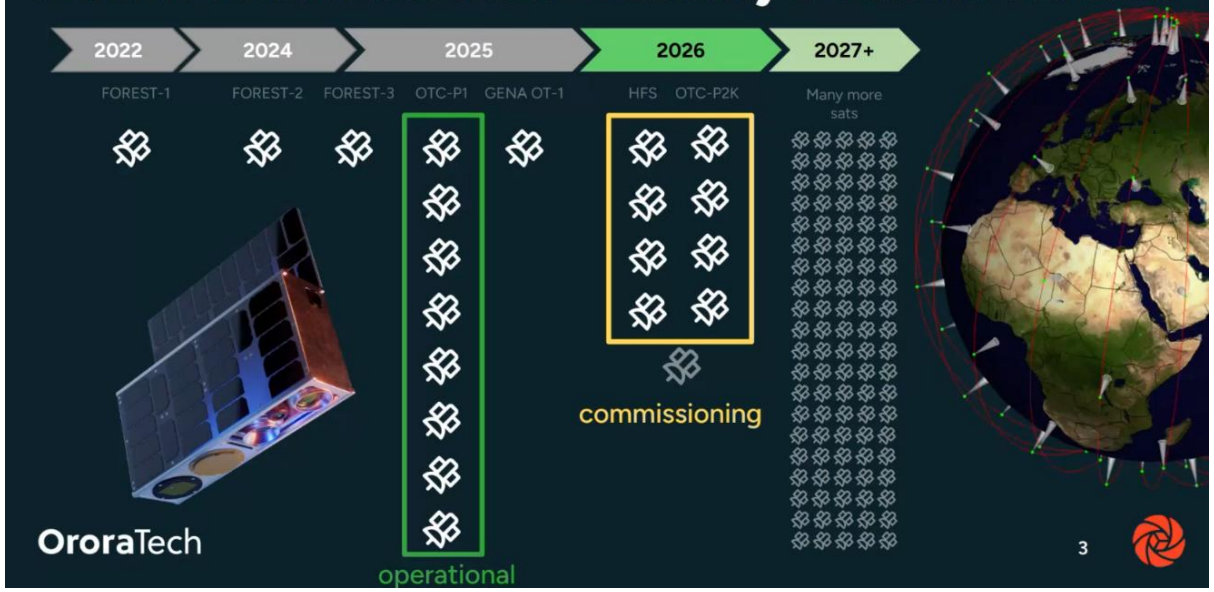
Unique constellation for real-time data

On-Board Processing

Visualization, API

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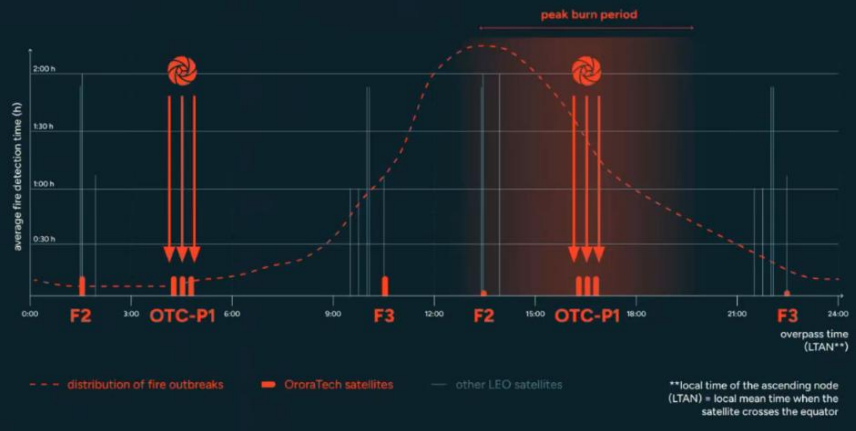
Towards 15 minutes revisit - currently 19 satellites in orbit



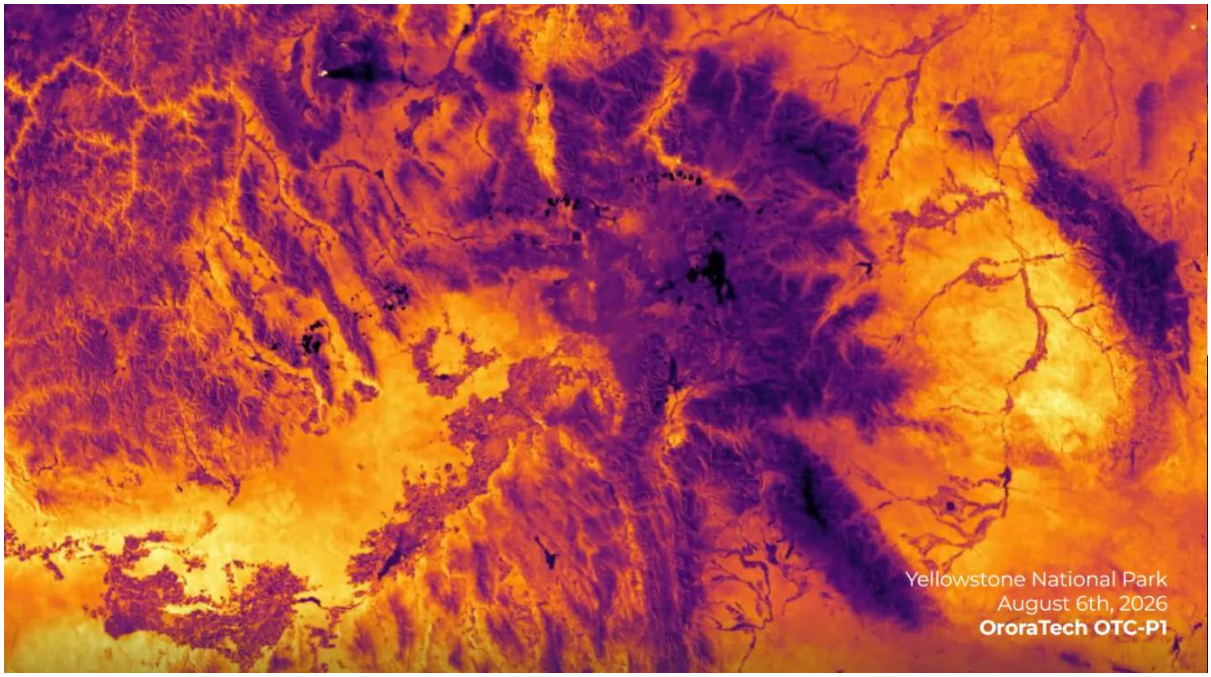
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Seeing what others miss: satellites in new orbits

OroraTech satellites are closing the thermal data gap



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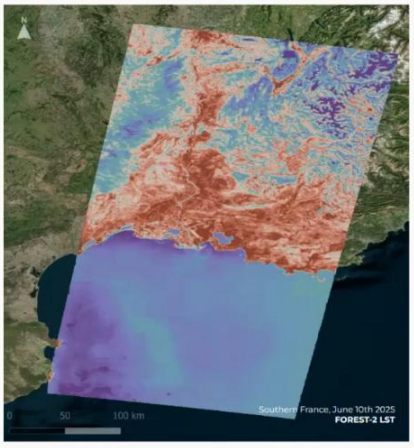


Level 2 Land Surface Temperature

Data Sheet

Spatial resolution	200 m
Swath	200 x 400 km (scene size)
Geolocation Accuracy (CE90)	<400m
Temperature Accuracy (RMSE)	<3K
Algorithm	Physics-based, single-band retrieval using the radiative transfer equation on LWIR
Additional datasets	Cloud mask Image footprint (GeoJSON)
Delivery method	via STAC
Format	COG GeoTiff (EPSG:4326) NetCDF (unprojected)

STAC



289 K — 309 K

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CEOS-ARD self-assessment against PFS 6.0

Level-2 Land Surface Temperature

Goal Compliant (12)	Threshold Compliant (12)	Nearly There (4)	Not Yet (4)
1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.12, 1.13, 1.15, 2.1, 2.3, 2.7	1.1, 1.2, 1.9, 1.14, 1.16, 1.17, 2.4, 2.5, 2.8, 3.1, 3.2, 3.3	1.10, 1.11, 3.4, 4.1	1.0, 1.18, 2.2, 2.6

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General Metadata

#	Item	Status
1.0	Compliance Version	Not Yet
1.1	SI Traceability	Not required
1.2	Metadata Machine Readability	Threshold
1.3	Data Collection Time	Goal
1.4	Geographical Area	Goal
1.5	Coordinate Reference System	Goal
1.6	Map Projection	Goal
1.7	Geometric Correction Methods	Goal
1.8	Geometric Uncertainty of the Data	Goal
1.9	Instrument	Threshold

#	Item	Status
1.10	Spectral Bands	Nearly There
1.11	Sensor Calibration	Nearly There
1.12	Measurand Uncertainty	Goal
1.13	Measurand Encoding	Goal
1.14	Algorithms	Not required
1.15	Auxiliary Data	Goal
1.16	Processing Chain Provenance	Threshold
1.17	Data Access	Threshold
1.18	Valid Pixels	Not Yet

Per-Pixel Metadata

#	Item	Status
2.1	No Data	■ Goal
2.2	Incomplete Testing	■ Not Yet
2.3	Saturation	■ Goal
2.4	Cloud	■ Threshold

#	Item	Status
2.5	Cloud Shadow	Not required
2.6	Surface (land/water/snow/ice)	■ Not Yet
2.7	Solar and Viewing Geometry	■ Goal
2.8	Terrain Occlusion	Not required



Radiometric, Atmospheric and Geometric Corrections

#	Item	Status
3.1	Measurand	■ Threshold
3.2	Corrections for Atmosphere	■ Threshold
3.3	Emissivity and Anisotropy	■ Threshold
3.4	Measurand Uncertainty	■ Nearly There
4.1	Geometric Correction	■ Pending



CEOS-ARD self-assessment against PFS 6.0

Level-2 Land Surface Temperature



- ✅ 75% of items threshold or better.
- ✅ Most of the remaining gaps are quick to address, though some will require more effort.

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