



ATON Addresses a Critical Space Situational Awareness Gap in Africa and the Middle East

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Founder & CEO

Who Are We

- ATON Space Technology is a pioneering Saudi space technology company specializing in the precise tracking and surveying of satellites and space debris across all orbital regimes from Low Earth Orbit (LEO) to Highly Elliptical Orbit (HEO).
- We deliver real-time, 24/7/365 global data to enhance satellite safety and improve space traffic management.
- As the first commercial company to bridge the SSA gap across all longitudes of Africa and the Middle East, ATON provides critical services including collision alerts and satellite maneuver planning.
- Our data is distinguished by exceptional accuracy from locations with over 300 clear nights per year and minimal light pollution.
- Headquartered in Riyadh, Saudi Arabia, ATON is deploying monitoring stations across six countries in the Middle East and Africa.

24/7/365

Real-time global data

300+

Clear nights/year

6

Countries covered

1st

Commercial SSA in ME &
Africa

It Is Time For Change

54,500+

Objects > 10 cm
in Earth's orbit

1.2M+

Objects 1–10 cm
high-risk fragments

140M+

Objects < 1 cm
unseen but lethal

Recent High-Profile Incidents

Oct 2025- United Airlines Flight 1093—a Boeing 737 MAX 8 flying from Denver to Los Angeles, was hit by space Debris

25 September 2025, A large cylindrical fragment of reentered space debris with a 1.2-meter diameter and a 1.7-meter length was found in Puerto Tirol (Chaco Province, Argentina)

30 December 2024, a 500 kg ring space debris with a 2.5 meter diameter fell over Mukuku Village of Makueni County at around 15:00 (EAT).

Oct 2024 — Intelsat 33e broke up in GEO generating 500+ debris pieces

Feb 2009 — First-ever catastrophic satellite collision (US Iridium × Russian Kosmos)

*"Space debris is among humanity's six
critical risk factors"*

— United Nations Report, 2023

Space Debris Is Becoming a Major Problem

Orbital Collision Risk Projection for the first half of the year (2024-2030)

Year	Estimated Maneuvers	Collision Risk Score	Risk Level
2024	25670	0.25	Low
2025	144404	1.44	Moderate
2026	317688	3.18	High
2027	698915	6.99	Critical
2028	1537613	15.38	V. Critical
2029	3382750	33.83	V. Critical
2030	7442050	74.42	V. Critical

Risk to Satellites

Increasing risk of collisions between space debris and operational satellites across all orbital regimes

SSA Gap in MENA & Africa

Africa and the MENA region have significant deficits in Space Situational Awareness — critical infrastructure left unprotected

Global Impact

Lack of SSA jeopardizes space activities worldwide, threatening communications, navigation, and national security

How ATON Fills the Gap

01

Deploy Optical Ground Stations

- 6 locations across Gulf & Africa near equator
- 300+ clear nights/year
- Phase 1 active — KSA, Egypt, South Africa

02

AI/ML-Powered Data Processing

- Electro-optical telescopes
- Tracks objects ≥ 10 cm
- Photometric & astrometric data
- Automated collision prediction

03

Real-Time Global Data Delivery

- 24/7/365 operational
- Collision alerts & CDMs
- Satellite maneuver planning
- SSA + STM protocol support

STATION LOCATIONS

Saudi Arabia

ACTIVE

Egypt

ACTIVE

South Africa

ACTIVE

Morocco

PLANNED

Oman

PLANNED

Nigeria

PLANNED

From Tracking to Protection

Space Situational Awareness → Collision Avoidance → Satellite Maneuver Plan



1 Detect "Something is in the sky"



Ground-based optical telescopes and space-based sensors continuously survey the sky and detect objects.

2 Identify "What is it?"



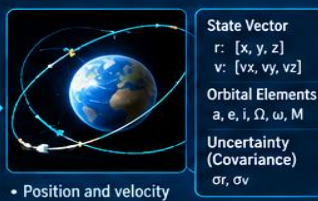
The observation is correlated with the space-object catalog to determine the object type.

3 Characterize "What are we looking at?"



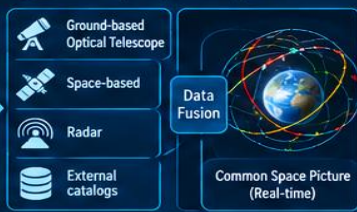
- Estimated size and brightness
- Object type and signature
- Behavior and historical data
- Orbit regime and operational status

4 Orbit Determination "Where will it be?"



- Position and velocity
- Orbital elements
- Uncertainty / covariance
- Propagation over time

5 Tracking & Data Fusion "Keep the picture updated"



Observations from multiple sources are fused to a single, continuously updated track.

6 Collision Awareness "Are the parts going to cross?"



- Compare trajectories of protected satellite and nearby objects
- Calculate TCA, miss distance, relative velocity, probability and uncertainty
- Prioritize conjunctions by risk

7 Risk Assessment "Do we need to act?"



Result: Maneuver / No-maneuver recommendation

8 Maneuver Planning "What should the satellite do?"



Generate and evaluate multiple maneuver scenarios.

9 Optimization "Find the best solution"



Selected maneuver is propagated forward to verify no new conjunctions are created.

10 Decision & Command "Protect the satellite"



Operational decision package for human approval and execution.

11 Post-Maneuver Verification "Did it work?"



Sensors reacquire the satellite and confirm the new orbit.



SENSE
(Detect)



IDENTIFY
(What is it?)



CHARACTERIZE
(What are we looking at?)



DETERMINE
(Where will it be?)



FUSE
(Keep updated)



PREDICT
(Will it collide?)



ASSESS
(Do we act?)



PLAN
(What to do?)



OPTIMIZE
(Best solution)



MANEUVER
(Protect)



VERIFY
(Did it work?)

SAFER ORBITS. A MORE SUSTAINABLE SPACE.

Our Services

1

Satellite Monitoring

Track and survey satellites and space debris across all orbits

2

Space Debris Database

Debris population at different orbits from LEO to HEO

3

Orbital Determination

Calculate and predict a satellite's future orbital position

4

Collision Avoidance

Prediction accuracy and orbit conjunction analysis

5

Satellite Maneuvering

Enabling collision avoidance and orbital corrections

6

Direct Operations Support

Accurate and real-time data for satellite operators

7

Space Flight Safety Maps

Visual representations of space environments for increased safety

8

Re-entry Analysis (RE)

Risk assessment of uncontrolled re-entry of man-made objects

9

Fragmentation Analysis (FG)

Detection and characterization of in-orbit fragmentations and break-ups

10

Courses & Training

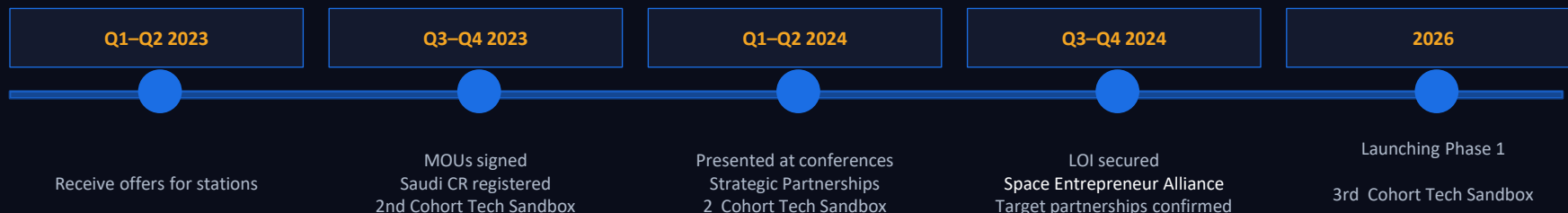
Training for operators on SSA, STM, and orbital mechanics — \$2,000/course

Strategic Partnerships & Support

Supporting Entities — الجهات الداعمة

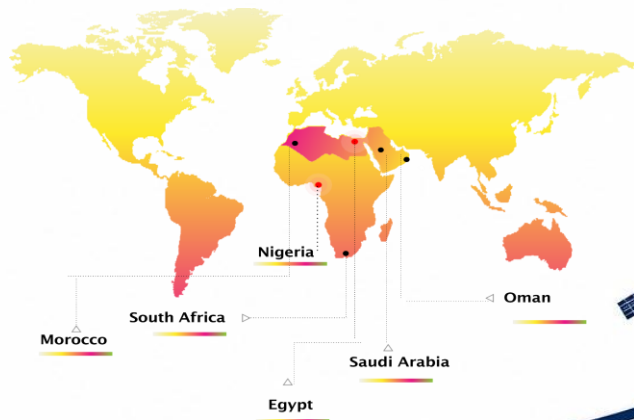


Traction & Milestones



Deployment Roadmap

Expanding Our Infrastructure.
Advancing Space-Based Capabilities.



Q4 2026

Deploying the
1st Station



Q3 2027

Deploying
5 Stations



Q3 2028

Deploying
2 Array Stations

2030

Deploying
2 Space-Based
Stations



Building Resilient Infrastructure. • Enabling a Secure Future.

Protecting all Orbit.

Join ATON for space safety and space sustainability in the Middle East, Africa, and the world.

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