

# Planetary Defense Network

## Project A.D.A. – Global Planetary Defense Network Against NEOs

The threat of impact from asteroids, comets, and other **Near-Earth Objects (NEOs)** has historically been one of the most devastating potential causes of mass extinction. **Project A.D.A.** considers this threat a top priority: its occurrence is rare, but the consequences would be catastrophic and irreversible for humanity and the biosphere.

Below is the comprehensive, informative, and action-oriented plan proposed by the project to protect the planet.

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### 1. Monitoring and Early Detection

A **global and permanent surveillance system** combines:

- Optical and radar telescopes on Earth.
- Dedicated observation satellites.
- Interconnected stations across all five continents.
- Space telescopes in solar orbit (Lagrange L1 point).

**Goal:** Catalog **100% of NEOs > 50 m** and **> 70% of 20–50 m** potentially hazardous objects.

*Current status (2025):* ~40% cataloged; the A.D.A. network would raise coverage to 95% within 5 years.

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### 2. Predictive Trajectory Modeling

State-of-the-art **artificial intelligence algorithms** process data in real time to calculate:

- Trajectory, velocity, size, density.
- Impact probability with **±10-meter accuracy** up to 10 years in advance.

Models update every 6 hours and trigger **automatic alerts** to the International Coordination Network.

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### 3. Deflection and Mitigation Strategies

Multiple tiered methods based on available lead time:

| Method            | Ideal Window                        | Real Example / Test |
|-------------------|-------------------------------------|---------------------|
| Kinetic Impact    | 5–15 years                          | NASA DART (2022)    |
| Gravity Tractors  | 10–30 years                         | ESA/NASA Concept    |
| High-Power Lasers | 3–10 years                          | DE-STAR (Proposed)  |
| Nuclear Charges   | < 2 years (last resort) UN Protocol |                     |

*Priority:* Non-explosive techniques; nuclear options only with unanimous UN Security Council approval.

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#### 4. International Coordination

**A.D.A.-UN Protocol** signed by:

- NASA, ESA, JAXA, CNSA, Roscosmos, ISRO, UAE Space Agency.
- Leading observatories (Vera C. Rubin, NEO Surveyor, ATLAS, Pan-STARRS).

**Structure:**

1. **Global Alert Center (GAC)** – Geneva.
2. **Regional Technical Committees** (Americas, Europe-Africa, Asia-Pacific).
3. **Common Funding Pool** (0.01% of global defense GDP → ~\$200M USD/year).

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#### 5. Population Preparedness

- **Pre-approved zonal evacuation plans** for impacts < 500 m.
- **A.D.A. Alert App** (multilingual, offline): notifies in < 60 s with safe routes.
- **Annual educational programs** in schools and workplaces.
- **Global drills** every 2 years (next: 2027, Mediterranean impact simulation).

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#### 6. Research and Simulations

- **Monte-Carlo simulations** of  $10^6$  scenarios/year.
- **Orbital tests** of tractors and lasers (Phase I: 2028–2032).

- **Open database** (NEO-DEFEND) with API access for researchers.
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## Conclusion

Planetary defense is **not optional—it is essential**. Project A.D.A. proposes a **planetary alliance** that integrates science, technology, and global governance to ensure a **coordinated, effective, and timely** response.

## Join the network:

[→ Register as a volunteer observer](#)

[→ Donate to the Common Fund](#)

*“One planet, one network, one future.”* **Project A.D.A. – Planetary Defense Network**