

Russia's Burevestnik Nuclear-Powered Cruise Missile

1. Recent Development

- Russia has **successfully completed the final test** of the *Burevestnik* (9M730), a **nuclear-powered cruise missile**.
- President **Vladimir Putin** described it as a “**unique creation**” that no other country currently possesses.
- The test marks a **significant advancement** in Russia's weapons programme amid **ongoing tensions over Ukraine**.

2. Technical Overview

(a) Name and Classification

- **Russian Name:** Burevestnik (meaning *Storm Petrel*).
- **Russian Designation:** 9M730.
- **NATO Code Name:** SSC-X-9 *Skyfall*.

(b) Type

- **Nuclear-powered, nuclear-capable cruise missile.**

(c) Key Feature

- Uses a **miniature nuclear reactor** for propulsion → gives it **theoretically unlimited range** and **long-duration flight capability**.

3. Working Mechanism

(a) Launch System

- Initially propelled by a **liquid-fuel booster rocket** to reach cruising speed.
- After reaching desired velocity, the **nuclear propulsion system activates**.

(b) Propulsion Design

- Air enters through an **air inlet**, gets **compressed** by a **compressor**, and passes through a **turbine**.
- The **nuclear reactor** heats the air, creating **high-speed exhaust gases** for thrust.
- **Cooling airflow** prevents overheating of the system.
- The setup allows **continuous flight without refuelling**.

(c) Warhead Options

- Can carry **both nuclear and conventional warheads**, making it a **dual-use missile**.

4. Performance Highlights

- In the **October 21, 2025 test**, the missile:
 - Flew for **15 hours**.
 - Covered **14,000 km** (still not the maximum range).
- Designed for **global reach**, low-altitude flight, and **unpredictable manoeuvres** to **evade radar and missile defences**.

5. Strategic and Geopolitical Significance

(a) Strategic Impact

- **Unlimited range + nuclear propulsion** = ability to strike **any target on Earth**.
- **Low-altitude flight** makes detection by missile defence systems extremely difficult.
- Challenges existing **global missile defence frameworks**, especially those led by the **US and NATO**.

(b) Military Implications

- Enhances **Russia's strategic deterrence capability**.
- Reflects Moscow's **commitment to maintaining parity** with Western powers

despite sanctions and the Ukraine war.

- Infrastructure for **deployment and operational readiness** has been ordered by President Putin.

6. International Reactions and Concerns

- The missile's development has **renewed global fears** of an **arms race** involving nuclear-powered systems.
- Raises **environmental and safety concerns** due to potential radiation risks from crashed or malfunctioning missiles.
- Seen as a **response to U.S. missile defence systems** and **NATO's technological advances**.
- Adds complexity to **global arms control negotiations** and **non-proliferation efforts**.

7. Exam-Oriented Facts Summary

Feature	Details
Missile Name	Burevestnik (9M730)
NATO Code Name	SSC-X-9 <i>Skyfall</i>
Type	Nuclear-powered cruise missile
Power Source	Miniature nuclear reactor
Range	Theoretically unlimited
Launch System	Assisted by a liquid-fuel booster
Warheads	Nuclear or conventional
Test Flight (2025)	15 hours; 14,000 km covered
Operational Status	Infrastructure under construction
Strategic Importance	Can evade missile defence; deterrence against the West
Key Concern	Nuclear safety, arms race, destabilization of deterrence balance

8. Broader Context (UPSC Mains Relevance)

- **GS Paper II (International Relations):**
 - Impact on global arms control regimes like **New START** and **INF Treaty (withdrawn)**.
 - Russia-US relations and **strategic stability**.
- **GS Paper III (Science & Technology / Defence):**
 - Example of **nuclear propulsion technology** in weapon systems.

- Ethical and environmental concerns of **nuclear-powered armaments**.

9. Conclusion

The **Burevestnik missile** symbolizes a **new phase in strategic weapons development** — combining nuclear propulsion, stealth, and endurance.

While it enhances Russia's deterrence capabilities, it also **intensifies global security risks** and complicates the pursuit of **nuclear arms control and non-proliferation**.

[Facebook](#)

[Instagram](#)

[Youtube](#)

