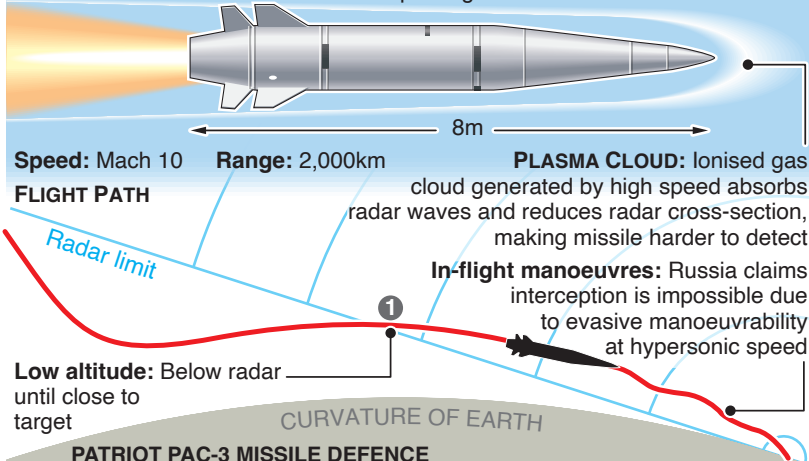


# Kinzhal missile versus Patriot interceptor

Russia has hit, though likely not destroyed, a Patriot battery after Ukraine claimed to have used the U.S.-made missile defence system to shoot down six Kinzhal hypersonic missiles

**DELIVERY:** *Su-34, Su-24M, MiG-31K* interceptors and long range *Tu-22M* supersonic bombers

**KH-47M2 "KINZHAL" (Dagger):**  
Nuclear-capable ground strike missile



**Speed:** Mach 10

**Range:** 2,000km

**PLASMA CLOUD:** Ionised gas cloud generated by high speed absorbs radar waves and reduces radar cross-section, making missile harder to detect

**FLIGHT PATH**

**In-flight manoeuvres:** Russia claims interception is impossible due to evasive manoeuvrability at hypersonic speed

**Low altitude:** Below radar until close to target

**CURVATURE OF EARTH**

## **PATRIOT PAC-3 MISSILE DEFENCE**

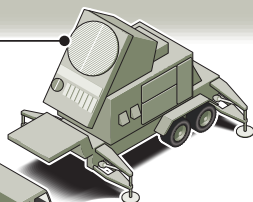
**Range:** 70km

**1 Detection:** Multifunction phased array radar can search for up to 100 simultaneous aerial threats. ***Radar range of 150km is insufficient to detect Kinzhal launched at maximum range***

**2 Engagement control station (ECS):** Weapons control computer calculates intercept point and relays it to launcher

**4 Flight:** Missile, tracked by radar, is guided by ECS and its own homing sensors. ***To intercept Kinzhal, course can be corrected during flight***

**5 Terminal phase:** Ka-band seeker locks on target, activates flight controls and primes warhead. ***PAC-3 features hit-to-kill technology essential to intercept Kinzhal, not available on PAC-2***



**3 Launcher:** Missiles – ready in nine seconds – fired towards intercept point

