



Multiple Independently-targetable Reentry Vehicle (MIRV)

Multiple Independently-targetable Reentry Vehicles (MIRVs) were originally developed in the early 1960s to permit a missile to deliver multiple nuclear warheads to different targets. In contrast to a traditional missile, which carries one warhead, MIRVs can carry multiple warheads. For instance, a Russian MIRVed missile under development may be able to carry up to [16 warheads](#), each in a separate re-entry vehicle. Warheads on MIRVed missiles can be released from the missile at different speeds and in different directions. Some MIRVed missiles can hit targets as far as [1,500 kilometers](#) apart.

Land-based MIRVed missiles could potentially be more tempting targets than traditional land-based missiles fitted with only a single warhead, because an attacker can take out several of their enemy's warheads at once. This targeting dilemma doesn't typically present for submarine-based missiles since they are difficult to track while on deterrence patrol.

Although MIRVs were not initially intended to defeat [ballistic missile defenses](#), they are much more difficult to defend against than traditional missiles and are considered effective BMD countermeasures.

Who has them?

The development of MIRV technology is not easy. It requires the combination of large missiles, small warheads, accurate guidance, and a complex mechanism for releasing warheads sequentially during flight.

The United States was the first country to develop MIRV technology, [deploying](#) a MIRVed Intercontinental Ballistic Missile (ICBM) in 1970 and a MIRVed Submarine-Launched Ballistic Missile (SLBM) in 1971. The Soviet Union quickly followed suit and by the end of the 1970s had developed their own MIRV-enabled ICBM and SLBM technology.

Today, the [United States](#), the [United Kingdom](#), and [France](#) use MIRV technology on SLBMs. [China](#) has MIRVed ICBMs, while [Russia](#) deploys both MIRVed ICBMs and SLBMs.

Who is interested in them?

India and Pakistan are experimenting with MIRV technology. In January 2017, Pakistan reportedly [tested](#) a MIRVed missile, the medium-range Ababeel. India, meanwhile, completed its first successful [flight test](#) of a MIRVed Agni-5 ICBM in March 2024.

North Korea's missile development also points toward an interest in MIRV capability. In October 2024, the DPRK [tested](#) the Hwasong-19, an ICBM with greater apparent size and boost capability than its Hwasong-18 predecessor, and likely intended to carry a MIRVed payload.

Learn more about MIRVed missiles by checking out [our infographic](#).