

N Korea threatens 'physical response' to US-South Korea anti-missile system

8 hours ago

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North Korea has threatened a "physical response" after the US and South Korea announced an agreement to deploy an advanced missile defence system.

The Terminal High Altitude Area Defense (THAAD) system would be solely to counter the threat from Pyongyang.

A statement by the military in North Korean state media sets out the "unwavering will of our army to deal a ruthless retaliatory strike."

The North regularly makes such threats against the South and the US.

The rhetoric is normally ratcheted up at times of high tension. When the US imposed sanctions last week on North Korean leader Kim Jong-un, Pyongyang described the move as an "open declaration of war".

In depth: North Korea's missile programme

What nuclear capability does the North have?

Is South Korea equipped to defend itself?

Just one day after the announcement about THAAD the North **test-fired a ballistic missile from a submarine off its eastern coast**, but South Korea's military says the launch was a failure.

It is not yet clear when the system would be deployed, where it would be sited and who would have final control.

What is the Terminal High Altitude Area Defense System (THAAD)?

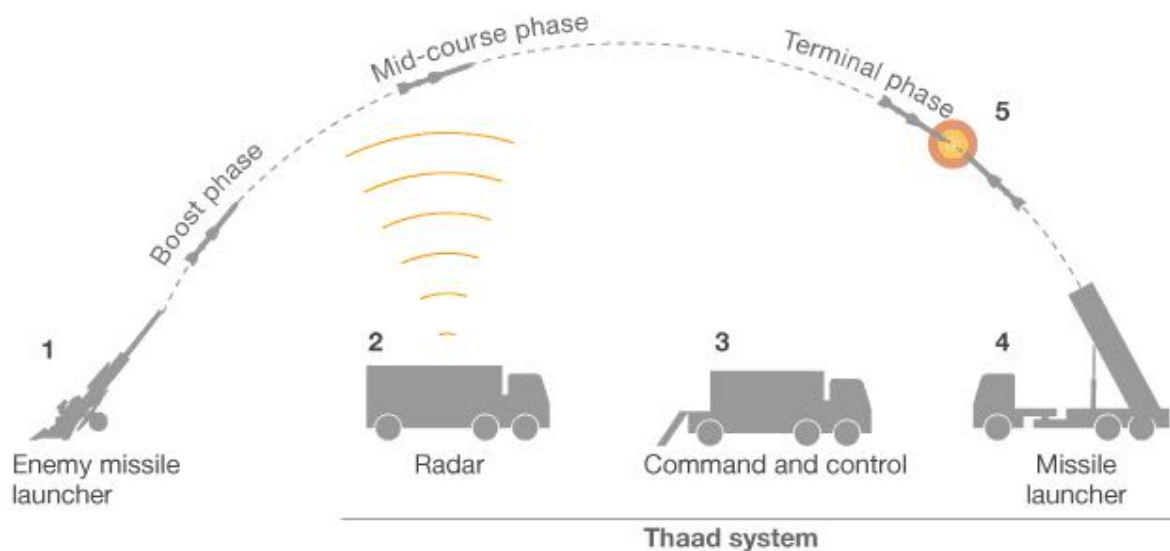
Shoots down short- and medium-range ballistic missiles in the terminal phase of their flight

Uses hit-to-kill technology - where kinetic energy destroys the incoming warhead

Has a range of 200km and can reach an altitude of 150km

US has previously deployed it in Guam and Hawaii as a measure against potential attacks from North Korea

How the Terminal High Altitude Area Defense System (Thaad) works



Source: Federation of American Scientists, US Department of Defense

1. The enemy launches a missile
 2. The Thaad radar system detects the launch, which is relayed to command and control
 3. Thaad command and control instructs the launch of an interceptor missile
 4. The interceptor missile is fired at the enemy projectile
 5. The enemy projectile is destroyed in the terminal phase of flight
- The launcher trucks can hold up to eight interceptor missiles.

Thaad launcher



The statement from the artillery bureau of the North's military said it would take a "physical counter-action to thoroughly control THAAD... from the moment its location and place have been confirmed in South Korea" .

The THAAD system is also opposed by Beijing and Moscow, who see it as the US hardening its military presence in the region. On Friday China said the system will harm peace and stability, and lodged a protest with the US and South Korean envoys.

But the US and South Korea argue it is necessary in the wake of intensifying threats from the North which, although banned from such activity by the UN, has conducted a series of missile tests and in January carried out its fourth nuclear test.

North Korean submarine ballistic missile

test 'fails'

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Image copyright AP

Image caption North Korea has conducted a series of missile launches in recent months North Korea has test-fired a ballistic missile from a submarine but it failed in its initial flight stage, South Korea's military says.

It says the missile was launched in waters east of the Korean peninsula - the latest in a recent series of tests.

It comes less than three months after a previous attempt to launch a missile from a submarine failed.

North Korea, believed to be developing nuclear weapons, is banned by the UN from any use of ballistic missiles.

'Anti-missile system'

"The SLBM (submarine-launched ballistic missile) was ejected from the submarine normally, but is estimated the initial flight was unsuccessful," the South Korean military said in a statement.

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"Our military strongly denounces such provocative acts by North Korea," it added.

The missile had been launched at about 11:30 local time (02:30 GMT) off North Korea's port

of Sinpo.

- [In depth: North Korea's missile programme](#)
- [What nuclear capability does the North have?](#)
- [Is South Korea equipped to defend itself?](#)

The US and South Korea on Friday [agreed to deploy a missile defence system to counter threats from Pyongyang](#).

It remains unclear exactly where the Terminal High Altitude Area Defense (THAAD) anti-missile system will be sited and who will have final control.

Earlier this week, the US imposed sanctions on North Korean leader Kim Jong-un - a move Pyongyang described as an "open declaration of war".

This was the first time sanctions have been used against Mr Kim by the US, as it declared him directly responsible for human rights abuses in his country.

Pyongyang has reportedly warned that it will close down all diplomatic channels with the US unless the blacklisting is revoked.

In January, North Korea conducted its [fourth nuclear test](#), claiming it to be its first using a hydrogen bomb.

Shortly after that Pyongyang launched a satellite, widely seen as a test of long-range missile technology.

North Korea missiles 'a serious threat' after new tests

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Image caption

North Korean leader Kim Jong-un has claimed a series of technological breakthroughs in developing missiles

Japan has warned North Korean missiles pose "a serious threat" after the country carried out new tests in defiance of international sanctions.

North Korea launched two missiles within hours of each other, with one flying about 400km (250 miles) and reaching an altitude of 1,000km.

A confirmed successful test would mark a step forward for North Korea after four failed launches in recent months.

South Korea, the US and Nato have also expressed alarm over the latest tests.

What nuclear capability does the North have?

Is South Korea equipped to defend itself?

Special report: North Korea's missile programme

Both launches are believed to have been intermediate-range Musudan missiles, whose range of about 3,000km is enough to hit South Korea, Japan and the US territory of Guam in the Western Pacific

A suspected first launch failed, South Korean officials said, travelling about 150km before landing in the sea.

But the second showed what Japanese Defence Minister Gen Nakatani called "some capability".

"I believe the missiles are a serious threat to our country," he said.



North Korea, which is developing nuclear weapons, is banned by UN resolutions from any use of ballistic missile technology.

In January it conducted its **fourth nuclear test**, claiming it as its first use a hydrogen bomb. Shortly after that it launched a satellite, widely seen as a test of long-range missile technology.

Washington watches on, by Jonathan Marcus, BBC Defence & Diplomatic Correspondent



Image copyright

EPA

Image caption

North Korea has never conducted a full flight test of a Musudan missile

This is at least the fifth test of the Musudan medium-range missile in the past few months and while most have ended in failure, one of the latest pair fired does seem to have travelled at a high trajectory for some 400km.

The Musudan appears to be based on the technology of an old Russian Soviet-era submarine launched missile. It is carried on a wheeled launcher and was first seen in parades back in 2003, though it was never test-fired until April of this year.

Experts believe the weapon is intended to be able to strike US bases on Guam, but North Korea's ultimate goal is to be able to threaten the continental United States. North Korea's progress is mixed and erratic. But it is clearly determined and its missile and associated nuclear weapons programme means that its rocket tests are being carefully watched by Washington.

South Korea's Joint Chiefs of Staff said Seoul and the US were "carrying out an in-depth analysis" of the second missile, and did not say whether they considered it a success.

Several analysts were less cautious though. Jeffrey Lewis, of the California-based Middlebury Institute of International Studies, **tweeted**: "That's a successful test folks."

In other reaction:

South Korean president, Park Geun-hye, condemned North Korea's "reckless provocations"

The US warned the tests would only increase international efforts to stop North Korea's weapons programme

Nato Secretary General Jens Stoltenberg **said** the launches "undermine international security and dialogue"

China, North Korea's only major ally, said the North "should avoid doing anything to further worsen tensions".

North Korea is thought to have dozens of Musudans but has never conducted a full-

distance test.

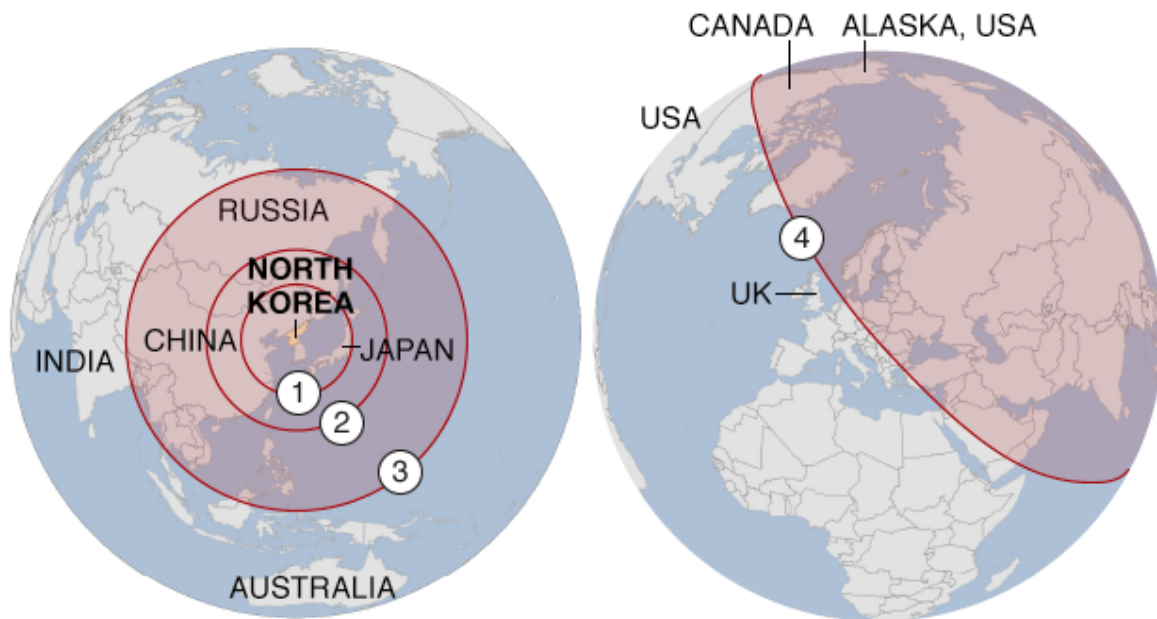
The four other missiles tested in the past two months either exploded mid-air or crashed.

The Musudan missile

North Korean missile ranges

Maximum estimated/calculated

- ① **Nodong** 1,300km
- ② **Taepodong 1** 2,000km
- ③ **Musudan** 4,000km
- ④ **Taepodong 2** 8,000km



Source: George C. Marshall Institute

BBC

The Musudan, also known as the Nodong-B or the Taepodong-X, is an intermediate-range ballistic missile.

Estimates differ dramatically on its range, with Israeli intelligence putting it at 2,500km and the US Missile Defense Agency estimating about 3,200km.

Other sources put its upper limit at 4,000km.

The lower range of the Musudan would enable it to hit the whole of South Korea and Japan. At its upper range it would be able to target US military bases on Guam.

North Korea 'tests banned missiles'

3 minutes ago

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AP

Image caption

Four recent North Korean missile launches - such as this one last month - are said to have failed. **Reports from South Korea say the North has tested two banned missiles, with the first launch ending in failure.**

South Korean military officials say the two rockets are both powerful, intermediate-range Musudans.

Four other missiles tested in the last two months are reported to have either exploded mid-air or crashed.

North Korea, which is pursuing a nuclear weapons programme, is banned by UN resolutions from any use of ballistic missile technology.

The fate of the second missile tested was not immediately clear.

Surrounding countries had detected preparations for a launch in the past few days and warned that it was about to happen.

The Musudan has a reported range of 3,000km (1,800 miles) - enough for it to hit South Korea, Japan and the US base of Guam.



Image copyright

REUTERS

Image caption

North Korean leader Kim Jong-un looks at a rocket warhead tip (undated image)

North Korea is thought to have about 50 of them, the BBC's Korea correspondent, Steve Evans, reports.

North Korea's opponents had watched with trepidation as the first missile was truck moved into a launching position.

Japan said it would shoot down a missile if its trajectory was over the country.

The failure of the first missile illustrates the technological difficulties North Korea faces as it develops a nuclear arsenal and the means to attack distant targets, our correspondent says.

Repeated testing also illustrates a determination to succeed, he adds.

Tue Jun 14, 2016 1:51pm EDT

Related: [World](#), [North Korea](#)

Exclusive: North Korea may be 'significantly' upping nuclear bomb output - report

WASHINGTON | By [David Brunnstrom](#) and [Jonathan Landay](#)



North Korean leader Kim Jong Un gives field guidance to the newly built Ryugyong Kimchi Factory in this undated photo released by North Korea's Korean Central News Agency (KCNA) on June 10, 2016. KCNA/ via Reuters

North Korea may be significantly expanding its nuclear weapons production and could have added six or more weapons to its stockpile in the last 18 months, a U.S. research institute said on Tuesday.

The Washington-based Institute for Science and International Security (ISIS) estimated last year that North Korea had 10 to 16 nuclear weapons at the end of 2014. It based that conclusion on an analysis of the country's production of weapons-grade uranium and plutonium recovered from spent nuclear fuel.

In revised estimates contained in a report provided to Reuters, the institute's David Albright and Serena Kelleher-Vergantini said North Korea may have added another four to six weapons since then, for a total of 13 to 21 or even more today.

The report said the 13 to 21 estimate did not take into account the possible production of additional highly enriched uranium at a second centrifuge plant thought to exist in North Korea.

"Nonetheless, this exercise, despite not being comprehensive, shows that North Korea could be significantly increasing its nuclear weapons capabilities," the report said, adding that most of the increase could be attributed to the production of weapons-grade uranium.

The report came a week after a senior U.S. State Department official told Reuters that North Korea had restarted production of plutonium fuel, indicating that it planned to pursue its nuclear weapons program in defiance of international sanctions that followed its fourth

nuclear test in January.

Plutonium also can be used to make nuclear weapons.

The institute's report said the group independently confirmed activity inside the radiochemical laboratory at North Korea's Yongbyon nuclear site.

It said commercial satellite imagery from June 8 did not show direct signs, but noted "indirect signatures associated with plutonium-separation" there.

These included the removal of tanks previously spotted in front of the laboratory's reception building and signs that a coal-fired steam generation plant may have been active on June 8.

The report also noted signs of external activity at a site the institute identified as a possible isotope-separation facility that could be used to produce tritium for thermonuclear weapons that North Korea has said it intends to develop.

North Korea vowed in 2013 to restart all its nuclear facilities, including the main reactor and a smaller plant at Yongbyon, which was shut down in 2007 as part of an international disarmament-for-aid deal that later collapsed.

North Korea announced at a rare congress of its ruling Workers' Party last month that it would strengthen its nuclear weapons capability.

(Reporting by David Brunnstrom and Jonathan Landay; Editing by Richard Chang)

N Korea's Yongbyon plutonium site likely reactivated says IAEA



Image copyright
REUTERS

Image caption

This image from 2008 shows Yongbyon before the main cooling tower was demolished when the reactor was taken offline

North Korea appears to have restarted its nuclear facility at Yongbyon, the International Atomic Energy Agency (IAEA) has said.

The Yongbyon site processes spent fuel from power stations and has been the source of plutonium for North Korea's nuclear weapons programme.

The reactor was shut down in 2007 but Pyongyang said last year that **it was operational again.**

It has since conducted its fourth test of a nuclear weapon.

That and **its multiple missile tests** broke existing international sanctions and provoked further measures from the UN and individual countries.

Vehicle movement

The IAEA has no access to North Korea after being thrown out in 2009, so relies largely on satellite data.



Image copyright

SPL

Image caption

IAEA relies on satellite images of the site, like this one from 2004

But the agency's head, Yukiya Amano, said recent images indicated "activities related to the five-megawatt reactor, expansion of enrichment facilities and activities related to reprocessing".

Vehicles have also been seen moving at the site and there are indications of warm water being discharged, which would suggest cooling operations.

Other North Korean observers have also said in recent months that the plant appears to be working again.

At North Korea's recent ruling party congress, leader Kim Jong-un reinforced his policy of economic development coupled with a strong nuclear programme.

Yongbyon nuclear complex

Reactor was shut down in July 2007 as part of a disarmament-for-aid deal
International inspectors banned in April 2009 when North Korea pulled out of disarmament talks

A uranium enrichment facility was revealed in 2010. An American nuclear scientist said centrifuges appeared to be primarily for civilian nuclear power, but could be converted to produce highly enriched uranium bomb fuel

In 2013, North Korea said it would restart the nuclear reactor, the same year it conducted a nuclear test. It is believed to have shut it down for a period in 2014.

Experts believe that reactor could make one bomb's worth of plutonium per year

North Korea missile launch off east coast 'fails'

34 minutes ago

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Asia



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REUTERS

Image caption

United Nation measures ban North Korea from the use of any ballistic missile technology

North Korea has attempted to fire a ballistic missile off its east coast but the launch appears to have failed, South Korean military officials say.

It is unclear what type of missile it was, but it follows three failed tests of the medium-range "Musudan" missile in April.

The North is banned by the UN from using any ballistic missile technology.

Tensions have run high in the region after Pyongyang's fourth nuclear test in January and numerous missile tests.

South Korea's Joint Chiefs of Staff said the attempted launch happened at 05:20 local time (20:50 GMT Monday) off the North's east coast, near the city of Wonson. A report in the Yonhap news agency quoted sources saying this fourth failed test may also have been of a Musudan missile.

A Musudan missile, in theory, has the range to reach Japan and the US territory of Guam, however the North has never successfully tested one.

North Korea's missile programme

Is South Korea equipped to defend itself?

A world leader in dramatic rhetoric

How potent are the threats?

The increased weapons activity started in the lead up to the North's **first congress of the ruling Worker's Party** in 36 years earlier this month.

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Media caption

What we learned from the North Korea party congress

During the congress, North Korea's leader Kim Jong-un extended an offer of military dialogue to the South. But Seoul dismissed the proposal as insincere.

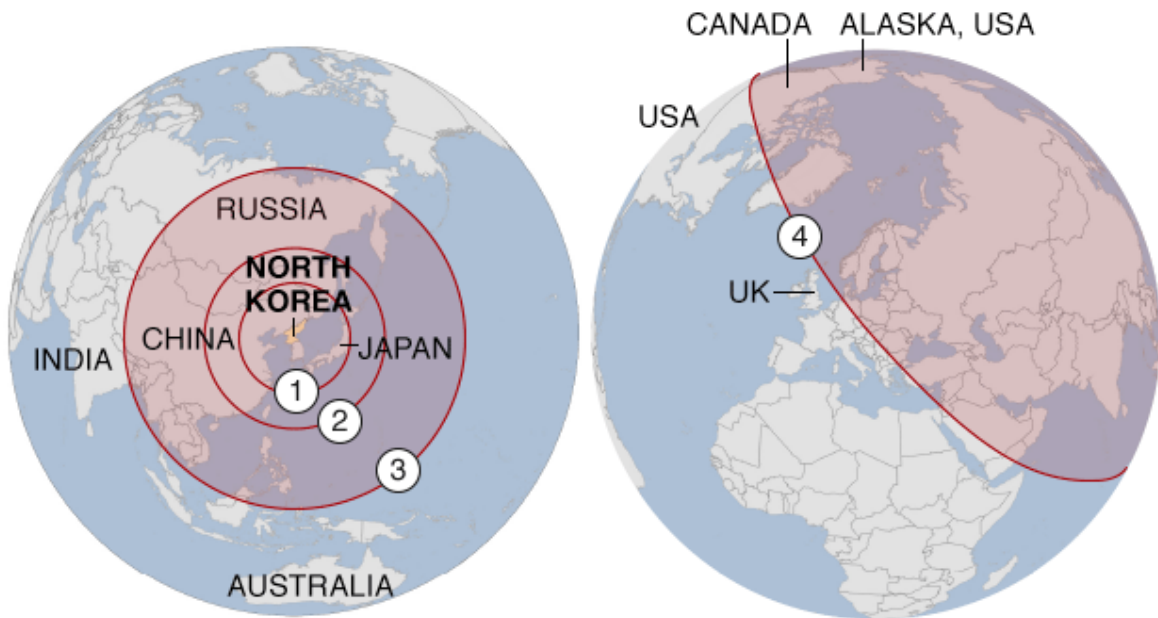
At the same meeting, Mr Kim also vowed to continue with the nuclear weapons programme.

Pyongyang has claimed a series of technical breakthroughs in recent months, including miniaturising a nuclear warhead to fit on a missile, that experts have treated with scepticism.

North Korean missile ranges

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- ① **Nodong** 1,300km
- ② **Taepodong 1** 2,000km
- ③ **Musudan** 4,000km
- ④ **Taepodong 2** 8,000km



Source: George C. Marshall Institute

BBC

North Korea's rocket launches



Image copyright

KCNA

February 2016: Launch of rocket **reportedly carrying satellite**

May 2015: North Korea announces it has **successfully tested a submarine-launched missile** for the first time, but scepticism is then poured on the claim

Dec 2012: North Korea launches three-stage rocket, says it successfully put a satellite into orbit; US defence officials confirm object in orbit

Apr 2012: Three-stage rocket explodes just after take-off, falls into sea

Apr 2009: Three-stage rocket launched; North Korea says it was a success, US says it failed and fell into the sea

Jul 2006: North Korea test-fires a long-range Taepodong-2 missile; US said it

failed shortly after take-off