This is a viewbook prepared in anticipation of a military parade likely to be held on or around 10 October 2020 by the DPRK in celebration of the 75th anniversary of the founding of the Workers' Party of Korea.

The main focus of this viewbook is on the DPRK’s ballistic missile systems, but it also includes some heavy artillery pieces and air defense systems that have been presented during previous parades.
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1. Short- to Medium-Range Ballistic Missiles
**HWASONG-5 AND HWASONG-6**

| Short- to Medium-Range Ballistic Missile | Liquid Fuel |

**DESIGNATIONS**  Hwasong-5 and Hwasong-6  
**RANGE**  Short-range  
**VEHICLE**  MAZ-543 (Soviet four-axis off-road truck)  
**FIRST KNOWN TEST**  1984

The Hwasong-5 and Hwasong-6 are the DPRK variants of the Soviet-era Scud-B and Scud-C. There are only minor visual differences between the Hwasong-5 and Hwasong-6. They were first tested in the 1980s and are considered to be nuclear-capable. The ROK estimates that the DPRK possesses around 500-600 such missiles.*

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This variant of the Hwasong-6 has a precision guided warhead and was first publicly tested on 29 May 2017. Unlike typical Scud missiles, the warhead separates from the missile body after engine burnout and, aided by onboard satellite positioning systems, finetunes its trajectory to carry out a precision strike. It is unknown if this type is in production or if it is intended to have a nuclear strike role.
SCUD-ER (SCUD-EXTENDED RANGE)

| Short- to Medium-Range Ballistic Missile | Liquid Fuel |

Four Scud-ERs on MAZ-543 launchers during an exercise, 6 March 2017
Source: KCTV

DESIGNATIONS
- Official designation unknown (possibly Hwasong-9, but cannot be confirmed);
- Referred to as “KN04” by the United States

RANGE
- Medium-range

VEHICLE
- MAZ 543 truck (four axes)

FIRST KNOWN TEST
- Possibly in the 2000s

This advanced variant of the Hwasong-6 has a wider, longer and lighter body to store more propellant and a warhead that separates after engine burnout. A separable warhead improves stability of the trajectory and reduces radar signature. This missile could be nuclear capable.
Hwasong-7

This was the DPRK’s first medium-range ballistic missile. It is nuclear capable and powered by a larger engine that uses Scud-level technology but produces roughly twice the thrust. The ROK estimates that the DPRK possesses around 200-300 such missiles.*

Alleged to be the DPRK's first solid-fuel ballistic missile based on the Soviet-era OTR-21 Tochka. Its development status is unknown.
KN23

Short- to Medium-Range Ballistic Missile  Solid Fuel

The KN23 bears a close resemblance to the Russian 9K723/Iskander and has demonstrated accuracy during test firings targeting a small island off the DPRK’s eastern coast. It is possibly nuclear capable and has a quasi-ballistic trajectory that makes it harder to intercept. Four tests involving 8 missiles have reportedly been carried out between May and August 2019.
The KN24 was tested three times between 10 August and March 2020 with a total of six missiles fired. Its development status is unknown, but it is presumed to be deployed soon. It is possibly nuclear capable and has a quasi-ballistic trajectory that makes it harder to intercept.
PUKGUKSONG-1

**Short- to Medium-Range Ballistic Missile**  |  **Solid Fuel**

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Two-stage, solid-fuel submarine-launched ballistic missile (SLBM). A complete test (from ejection to reentry) was carried out in August 2016 on a lofted trajectory. There have been no tests since. It is considered to be nuclear capable.

**DESIGNATIONS**  |  Pukguksong-1; Referred to as "KN11" by the United States

**RANGE**  |  Medium-range

**VEHICLE**  |  Sinpo-class experimental submarine

**FIRST KNOWN TEST**  |  2016
The Pukguksong-2 is a land-based variant of the Pukguksong-1. A two-stage solid-fuel medium-range ballistic missile, it was tested twice in 2017. The tracked chassis allows for off-road mobility and may increase chances of survivability.
PUKGUUKSONG-3

Short- to Medium-Range Ballistic Missile | Solid Fuel

Pukguksong-3 ejection test, reported to have taken place on 2 October 2019
Source: KCTV

Two-stage, solid-fuel submarine-launched ballistic missile (SLBM), test fired only once in 2019. There have been no tests since and its current development status is unknown. It has yet to be presented at a military parade.

DESIGNATIONS
Pukguksong-3; Referred to as “KN26” by the United States

RANGE
Medium-range

VEHICLE
Presumably intended for a missile submarine converted from a Chinese type-033/Romeo class submarine

FIRST KNOWN TEST
2019

Construction of a new ballistic missile submarine at Sinpo Shipyard
Source: KCTV
2. Intermediate-Range Ballistic Missiles
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<th>Liquid Fuel</th>
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**HWASONG-10**

*Hwasong-10 shown at a parade on 10 October 2015. Source: ONN*

**DESIGNATIONS**  
Hwasong-10; commonly referred to as "Musudan" or "BM-25"

**RANGE**  
Intermediate-range

**VEHICLE**  
MAZ-547 (six axes), which was used to carry the Hwasong-12 in 2017

**FIRST KNOWN TEST**  
2016

Single-stage intermediate-range ballistic missile with liquid propellant. After a string of failures in 2016, the project is likely to have been cancelled in favor of the Hwasong-12.
Intermediate-Range Ballistic Missile | Liquid Fuel

Hwasong-12 shown in a parade on 15 April 2017
Source: Sogwang

**DESIGNATIONS**
- Hwasong-12;
- Referred to as "KN17" by the United States

**RANGE**
- Intermediate-range

**VEHICLE**
- MAZ-547 (six axes)

**FIRST KNOWN TEST**
- 2017

Single-stage intermediate-range ballistic missile with liquid propellant. The missile was successfully flight tested three times in 2017. It is nuclear-capable.
3. Intercontinental-Range Ballistic Missiles
The two configurations of the Hwasong-13 ICBM heavily relied on engine technologies of the Hwasong-10. They are likely to have been abandoned in favor of the Hwasong-14 and Hwasong-15.
Intercontinental-Range Ballistic Missile

<table>
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<th>Designations</th>
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<td>RANGE</td>
<td>Intercontinental-range</td>
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<tr>
<td>VEHICLE</td>
<td>WS51200 (eight axes)</td>
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<td>FIRST KNOWN TEST</td>
<td>2017</td>
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Two-stage, liquid propellant ICBM. It is based on the Hwasong-12 with a small liquid engine added to power the second stage. WS51200 trucks were shown to carry it during its only two reported tests in 2017 before the trucks were modified to carry the Hwasong-15. The DPRK is believed to have six WS51200 trucks imported from China.*

The Hwasong-15 is a two-stage, liquid-propellant mobile ICBM. It uses the same engine technology as the Hwasong-12 and Hwasong-14 for its first stage. The second stage is presumed to have a new unknown engine. The Hwasong-15 was only flight tested once, on 29 November 2017. Official DPRK reports claim that the new system can carry a "super-large heavy warhead which is capable of striking the whole mainland of the US."
4. Other Weapon Systems
Two missile models with large canisters were displayed in a parade in April 2017. It is uncertain whether the two models represent real projects. There is speculation that they indicate intermediate and intercontinental range solid-fuel ballistic missile projects. The second missile model (shown on right) utilized the WS51200 truck, which was later used to carry and launch the Hwasong-14 and subsequently modified to accommodate the larger Hwasong-15.
## 240 MM MULTIPLE ROCKET LAUNCHER

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<th>Long-Range Multiple Rocket Launchers</th>
<th>Solid Fuel</th>
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This artillery is the DPRK’s first multiple rocket launcher that can directly hit the greater Seoul area. Similar types of launchers with fewer tubes are also in service.

**DESIGNATIONS** 240 mm multiple rocket launcher  
**VEHICLE** Commercial trucks  
**FIRST KNOWN TEST** In the 1980s

240 mm multiple rocket launcher in a parade on 10 October 2015  
Source: ONN

Official name plate on the system reads “240 mm multiple rocket launcher (22)”  
Source: ONN
The KN09 guided multiple rocket launcher is presumed to have transitioned from testing to deployment in 2018. The system was first shown at a parade on 10 October 2015.
The KN25 multiple rocket launchers have used both wheeled and tracked chassis. With a diameter of ~600 mm, the system might be nuclear capable. Though it is commonly referred to as a multiple rocket launcher system, the rockets are de facto ballistic missiles.
## KN06

<table>
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<th>Air Defense Weapon System</th>
<th>Solid Fuel</th>
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**DESIGNATIONS**  
Official designation unknown; Referred to as “KN06” by the United States

**VEHICLE**  
Commercial trucks

**FIRST KNOWN TEST**  
2016

Surface-to-air missile system that was announced as operational following a reported test on 28 May 2017. The system bears a resemblance to early types of the Soviet S-300 air defense missile systems.

**Launcher with 3 missiles displayed on 10 October 2015**  
Source: ONN

**KN06’s fire control radar displayed in a parade on 10 October 2015**  
Source: ONN
OPEN NUCLEAR NETWORK

opennuclear.org

One Earth Future's Open Nuclear Network programme is a non-aligned, non-governmental entity that seeks to increase security for all States by ensuring that nuclear decision makers have access to high quality, shareable open source information which enables them to make the best decisions in the face of escalating conflict.

Laura ROCKWOOD  Director  LRockwood@oneearthfuture.org
Melissa HANHAM  Deputy Director  MHanham@oneearthfuture.org
Katsuhisa FURUKAWA  Senior Analyst  KFurukawa@oneearthfuture.org
Clayton BESAW  Senior Analyst  CBesaw@oneearthfuture.org
Veronika BEDENKO  Analyst  VBedenko@oneearthfuture.org
Matthew FRANK  Analyst  MFrank@oneearthfuture.org
Jaewoo SHIN  Analyst  JShin@oneearthfuture.org
Tianran XU  Analyst  TXu@oneearthfuture.org
Marion LINGER  Office Coordinator  MLinger@oneearthfuture.org