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## Russian Equipment and Technology Transfers to North Korea: A Cause for Concern?

*By Nah Liang Tuang*

### SYNOPSIS

*Russia is likely assisting North Korea with military modernisation. Still, simple resource constraints will limit the conventional capabilities and strategic impact of any improvements to Pyongyang's armed forces notwithstanding some propaganda gains.*

### COMMENTARY

Media reports indicated that the Democratic People's Republic of Korea (DPRK/North Korea) has been sending thousands of shipping containers worth of [artillery ammunition](#), along with unknown quantities of [short-range ballistic missiles](#) and [anti-tank vehicles](#), to Russia to bolster Moscow's war efforts in Ukraine. The media has also estimated that the DPRK sent [10,000](#) soldiers from its Korean People's Army (KPA) to fight alongside Russian troops in Ukraine.

But while the Western media has covered how this military assistance from the DPRK is [worsening the frontline situation](#) or causing [civilian deaths](#), less coverage has been directed at what the Russian government has done or will do to reward the DPRK for its support. There is limited public analysis on the extent to which Russian technological aid to Pyongyang can impact the balance of conventional military power on the Korean peninsula despite this being of direct influence on the prospects for stability in DPRK relations with the Republic of Korea (ROK/South Korea).

### Moscow's Rewards to Pyongyang Thus Far

For all the backing that DPRK President Kim Jong-un has given to bolster the Russians militarily, he would most probably request Moscow for higher-order technology transfers related to [nuclear weapons, intercontinental ballistic missiles \(ICBMs\), spy satellites and nuclear submarines](#).

Inasmuch as Moscow will deny ever supplying such technology to Pyongyang, this commentary will assume that at least some nuclear weapons technology might get transferred. However, nuclear weapons technology will not be discussed because robust nuclear deterrence and extended nuclear deterrence already protect the US, ROK and Japan, which are the DPRK's declared adversaries. Hence, even if Pyongyang's nuclear arsenal gets stronger due to Russian help, the balance of power on the Korean peninsula will not be affected. As for spy satellites, they have no innate offensive capability and thus do not affect the inter-Korean balance of power. This commentary will, therefore, discuss missiles and nuclear submarines only.

As for conventional weapons, the Kremlin has already transferred [surface-to-air missile systems](#) to North Korea to strengthen the latter's [antiquated](#) ground-based air defence network. Additionally, Russian Su-27 and Mig-29 fighter jets, which are still reasonably modern, will be [transferred](#) to replace the [outdated](#) aircraft of the Korean People's Army Air Force (KPAAF).

### **Limited Impact of Russian Technology and Equipment Transfers**

Based on the best available [estimates](#), North Korea's Gross Domestic Product (GDP) ranks amongst the lowest in the world, reflecting the economy's extreme weakness. As such, notwithstanding DPRK President Kim Jong-un's prioritisation of military spending, the country can only afford a paltry military budget of less than [US\\$2 billion](#). Kim cannot ignore the cold reality of tight funding restrictions on his national security ambitions.

If Moscow had offered Pyongyang ICBMs in return for the latter's military assistance in Ukraine, these could potentially be fitted with conventional warheads and used as grandiose intimidation tools to demonstrate potential intercontinental nuclear strike capabilities. As it is, Russia's use of an [intermediate-range missile](#), which could carry a nuclear warhead, in an attack on a Ukrainian city caused concern in Western circles. However, even if Russian President Vladimir Putin is prepared to bestow ICBM technology on Kim Jong-un, it must be stressed that each ICBM would cost the latter [US\\$30 million](#), placing considerable limits on the size of Pyongyang's long-range missile arsenal and curtailing their strategic impact or coercive influence.

Next, nuclear-powered submarines have longer ocean-going endurance compared to conventional diesel-fuelled ones. If the Korean People's Army Navy (KPAN) had nuclear submarines built with Russian technology, any transfer would potentially enhance its ability to threaten South Korean or US naval forces. But, as with ICBMs, nuclear submarines are highly cost-prohibitive.

Using India's *Arihant*-class submarines, which cost [US\\$2.9 billion](#) each as a reference, it would make the construction of even a single nuclear submarine for the KPAN a costly multi-year affair. Also, with a single nuclear submarine, which is all the DPRK can theoretically afford, it would be somewhat vulnerable since it can be tracked and eliminated when eventually surfacing for resupply or maintenance. Consequently, Moscow providing Pyongyang with nuclear submarine technology would have a negligible effect on the regional naval balance of power.

As for surface-to-air missile systems, three factors limit their impact on the Korean

peninsula: i) they are intended to defend North Korean airspace and so pose no direct threat to the ROK, ii) Russia needs all the air defence systems it can muster to protect itself from Ukrainian drone and missile attacks, and so is unlikely to send many air defence systems to North Korea, and iii) if the KPAAF decides to reverse engineer the Russian systems for domestic manufacturing, they will be cost-prohibitive at around [US\\$150-300 million per unit](#).

Lastly, even if the Kremlin decides to provide a significant number of Su-27 and Mig-29 to the KPAAF, it would be an open question as to how many jet fighters can be actively supported. Setting aside the pilot training issue, it should be noted that the [operating costs](#) of the Su-27 and Mig-29 are US\$12,000 each per hour.

More importantly, this is in addition to the costs associated with repair, overhauling, or replacement of major components – a recent quotation for the overhauling of six Mig-29 engines was valued at [EUR 118,370,000](#) or US\$123,104,800 – and does not cover the cost of missiles and bombs (easily costing hundreds of thousands of dollars per jet) that such aircraft must carry to be militarily useful.

Hence, the number of Russian-supplied jets the KPAAF can practically deploy to refresh its fleet might be low, thereby having a negligible impact on the airpower balance vis-à-vis the ROK-US alliance.

### **Alarm and Fear are Perhaps Unwarranted**

Having seen that potential Russian military assistance in terms of ICBM and submarine technology transfers, along with aid comprising air defence missiles and jet fighters, do not substantially affect the balance of power on the Korean peninsula, it is perhaps helpful to examine holistically but briefly what the North Korean military is capable of, and what its implied purpose is.

To enable the KPA to achieve significant objectives, competent support from the KPAN to facilitate amphibious landings against the ROK is needed. Likewise, the KPAAF must be able to support ground offensives.

However, the KPAN is incapable of maritime force projection, possessing insufficient vessels to protect an amphibious invasion force from being destroyed by the ROK navy. As for the KPAAF, its value is mostly a demonstrative effect, especially in unnerving public sentiments outside North Korea.

When this lack of sea and air power projection capability is coupled with the sizeable spending needed for missile and nuclear programmes, it can arguably be deduced that the DPRK's military, besides being an instrument for domestic control, is a defensive force armed with threatening missile capability for deterrence. The strategic play is psychological, based on rattling of public confidence and sentiments.

Hence, while the current infusion of Russian military aid into the DPRK flouts UN sanctions, it does little to change the strategic balance on the Korean peninsula.

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