DEFENCE ECONOMICS

■ **Defence budget % GDP**

Global defence expenditure increased as a proportion of GDP, rising from 1.85% in 2019 to 2.08% in 2020, as military budgets were maintained despite economic contractions resulting from the coronavirus pandemic. Average defence spending among European NATO members has increased as a proportion of GDP, from 1.25% of GDP in 2014 to 1.52% in 2019 and 1.64% in 2020. This rise reflects changing threat perceptions after Russia annexed Crimea in 2014, but despite the 7.0% average economic contraction expected in 2020, it remains under NATO's recommendation that its members spend 2% of GDP on defence.

■ **Middle East spending stalls**

Defence spending in the Middle East and North Africa contracted for the third consecutive year in 2020, in line with subdued oil prices, falling to US$150 billion (excluding security expenditure). Also, the region's share of global defence spending fell to 8.9% from a peak of 10.5% in 2017. This comes despite the region allocating the world's highest proportion of economic output to defence, 5.2% of GDP, compared to the global 2020 average of 2.08%.

■ **Russian spending stagnates.**

Russia, also economically dependent on oil prices, managed a sizeable 3.8% real increase in 2020 core 'national defence' budget but only a negligible nominal 1.4% for 2021, which translates to a 3.6% cut in real terms. Total Russian military expenditure (including pensions, military housing health and social support) is set to fall from over 4.1% of GDP in 2020 to under 3.8% of GDP by 2023.

■ **Financial pressure in Europe, but spending grows**

The commitment by major European defence markets – France, Germany, Italy and the UK – to continue increasing defence budgets in 2021 signals intent to avoid the cuts implemented after the 2007-08 financial crisis. The UK's November 2020 announcement of £16.5bn (US$21.1bn) in additional defence funding over the 2021-2025 may reduce the affordability gap in the UK's ten-year Equipment Plan. France and Germany, meanwhile, enacted sizeable investment programmes in 2020 to support domestic defence industries and continued with existing military financial plans for 2021.

■ **Quick adjustments in Asia but stronger growth expected**

Growth in Asia-Pacific defence expenditure slowed to 4.3% from 4.6% in 2019 as several countries in Asia (including Indonesia, South Korea and Thailand) made downward adjustments to 2020 defence budgets. However, many countries simply downgraded planned defence spending growth rather than implementing cuts.

LAND WARFARE

■ **US Army Multi-Domain Task Force**

Despite the restrictions imposed by the coronavirus pandemic on large-scale military training and exercises, the US Army successfully validated its first Multi-Domain Task Force (MDTF) as part of INDOPACOM in late 2020. Bringing together long-range artillery, space, cyber, intelligence, information operations, and intelligence, surveillance and reconnaissance (ISR) UAV capabilities into a brigade-level formation, the MDTF concept is a key part of the army's modernisation plans. A second MDTF is planned to activate in Europe, followed by another for INDOPACOM.

■ **Russian Ground Forces restructuring**

In late 2020, the Russian Ground Forces continued its restructuring efforts by forming two new Motor-Rifle Divisions – the 18th in Kaliningrad and the 19th in North Ossetia. At present these new divisions are below establishment strength and largely represent reorganisations of pre-existing brigades and regiments in these locations. However, like previously re-established divisions before them, both can be expected to stand up new sub-units and expand their equipment inventories.

■ **India/China tension:**

A military stand-off over the disputed border in Ladakh began in mid-2020. This stand-off reportedly saw the first operational use of India's XVII Mountain Strike Corps headquarters in August. Meanwhile, China's ground forces in the Xinjiang Military District have continued to receive modernised equipment, including new armoured vehicles and artillery.

■ **US global dispositions**

Combined US authorised personnel totals in Iraq, Syria and Afghanistan are now at their lowest levels since initial operations began in Afghanistan in 2001. The Department of Defence announced the completion of planned reductions to 2,500 in Afghanistan and 2,500 in Iraq by mid-January 2021. The US presence in Syria is now believed to be between 500 and 700 personnel in Northeastern Syria and at Al Tanf on the Jordanian border. The Biden administration in early 2021 halted the troop withdrawal from Germany ordered by the Trump administration in mid-2020. This is now contingent on a broader reassessment of US global dispositions ordered by the Biden administration; this may be consequential not just for the eventual size and location of the US military footprint but also for the operational capacity of some of the armed forces that work closely with US forces.

NAVAL AND MARITIME

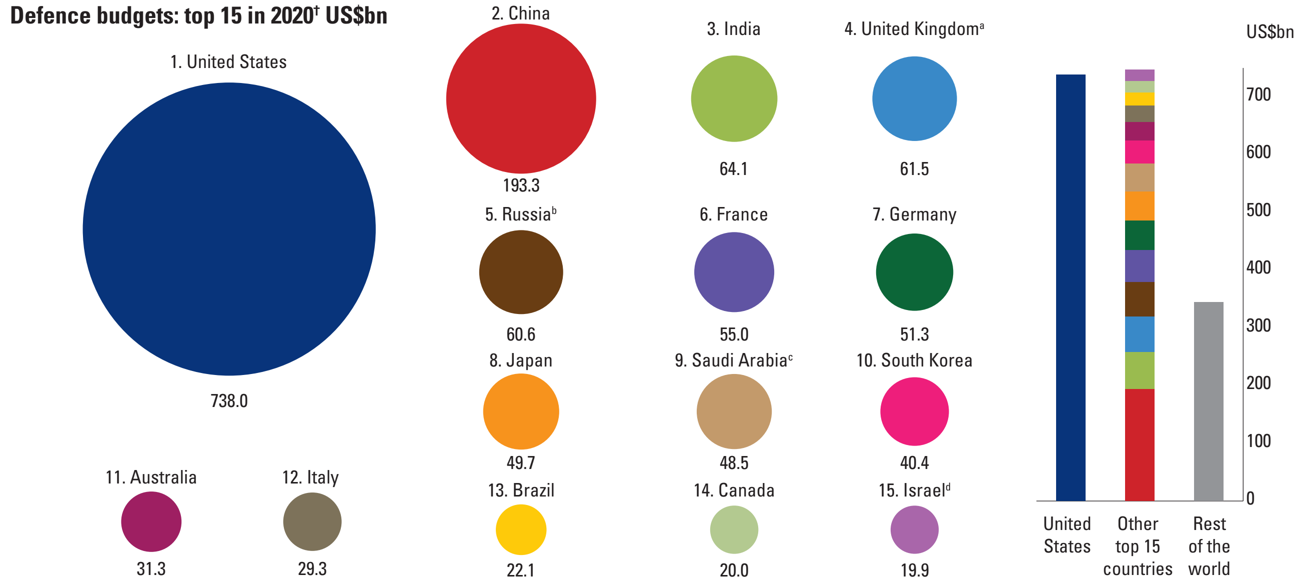
■ **Aircraft carriers in Europe**

European aircraft-carrier-based power projection capabilities are being enhanced. In January 2021, the United Kingdom declared initial operating capability for its new Carrier Strike Group based on the F-35B *Lightning* II-equipped HMS *Queen Elizabeth*. The Italian carrier *Cavour* is undertaking trials to deploy the F-35B, while the F-35B-capable amphibious assault carrier *Trieste* is expected to commission in 2022. France announced plans to develop a new carrier, and plans to deploy the *Charles de Gaulle* east of Suez in 2021, as does the UK with HMS *Queen Elizabeth*.

■ **US maritime posture**

In December 2020 the US Navy, Marine Corps and Coast Guard unveiled a new maritime strategy that promises a more integrated and assertive forward presence. Intended to counter challenges

Defence budgets: top 15 in 2020[†] US$bn



[a] Includes Armed Forces Pension Scheme; [b] Total defence expenditure including National Guard, Federal Border Service and military pensions; [c] Excludes security expenditure; [d] Includes US Foreign Military Assistance. Note: US dollar totals are calculated using average market exchange rates for 2020, derived using IMF data. The relative position of countries will vary not only as a result of actual adjustments in defence spending levels, but also due to exchange-rate fluctuations between domestic currencies and the US dollar. The use of average exchange rates reduces these fluctuations, but the effects of such movements can be significant in a number of cases. Security spending removed from Middle East estimates (including Saudi Arabia and Iraq). Armed Forces Pension Scheme and Special Appropriations (pensions) added to UK and Australia budgets respectively.

from Russia and especially China, force modernisation plans associated with the strategy include the integration of uninhabited systems. It also talks of prioritising future warfighting readiness over near-term demand, though continuing high demand for naval deployments underscores the challenges of delivery.

■ **Strategic submarine developments**

Plans to modernise ballistic missile submarine capabilities are of growing significance though they will consume considerable resources. The production phase for the new US *Columbia*-class nuclear-powered ballistic-missile submarine (SSBNs) has now begun; the United Kingdom's *Dreadnought* programme is under way; and Russia is planning a force of at least ten *Borey* (Project 955)/*Borey*-A (Project 955A) SSBNs. China and India are modernising their SSBN capacity, while France is in the early stages of planning its next-generation SSBNs. There is continued speculation over North Korea's ballistic-missile submarine plans.

■ **Navigating the extremes**

Navies are focusing increasing attention on the capacity to operate in extreme Arctic conditions, driven by rising global competition and also environmental change. Canada will commission the first of its *Harry DeWolf* Arctic offshore patrol ships in 2021 while the US should start construction of its first new-generation icebreaker. The US and UK navies conducted manoeuvres in the Barents Sea in 2020 while Russia conducted a major exercise in the Bering Sea.

MILITARY AEROSPACE

■ **China and the US: refuelling projects**

China and the US are pursuing projects to extend the range and persistence of their air platforms. China continued flight testing the Y-20U, a tanker aircraft based on the Xian Y-20A heavy transport during 2020. Meanwhile in December, the US began flights of the Boeing MQ-25 *Stingray* uninhabited tanker platform fitted with an air-to-air refuelling pod. It was flown for the first time in September 2019.

■ **UK air-to-surface missile progress**

The UK moved to provide greater air-to-surface punch for its F-35B *Lighting* II fighter ground attack aircraft at end of 2020, with the award of a £550 million (US$749 million) production contract for the *SPEAR* (Selective Precision Effects At Range) 3 stand-off missile. Production is due to start in 2023. The missile, which has a stand-off range of over 140 kilometers, is intended to be used to engage a broad target-set, including mobile air-defence systems.

■ **Crewed and uninhabited teaming**

A number of projects are looking to provide uninhabited aerial vehicles (UAVs) intended to be used in concert with crewed combat aircraft. As 2020 ended, fast taxi trials took place of Australia's *Loyal Wingman* UAV, although plans for a first flight slipped into early 2021. The Boeing design is one of three being considered for the USAF's *Skyborg* programme, along with proposals from General Atomics and Kratos. The concept also features in both European next-generation combat aircraft programmes.

■ **Combat lessons**

The potential offensive value and the need for capable defence against uninhabited aerial vehicles and loitering munitions was underscored by the short war over Nagorno-Karabakh. Better trained, equipped, and prepared Azeri forces included the widespread use of UAVs and loitering munitions against poorly defended Armenian ground targets.

■ ***Apache* to replace *Tiger***

Australia announced it would buy the AH-64E *Apache Guardian* in January 2021 as the successor to the army's *Tiger* attack helicopters. The *Tiger* was selected in preference to the AH-64 and two other types, in September 2001, to meet an Australian requirement for an armed reconnaissance helicopter.