



Te Matataua

The Scouting Party of Air Power

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Military Airlift Capacity

Is there enough capacity to meet demand?

Air mobility is a force multiplier as it enables rapid force projection, and by maintaining the momentum of manoeuvre, mass x velocity, it allows timely movement of troops and materiel to objective and geographic points of advantage.

Determining the right level of airlift capacity is a difficult problem for military forces, as it may be relatively easy to meet the steady rate of regular exercises and training evolutions; but, anticipating the level of force projection and sustainment in one, or two, locations concurrently is complex. This is compounded with the uncertainty of which operating concepts are likely to be adopted in the age of anti-access and area denial deterrence strategies, and hybrid warfare¹. Regardless, military airlift supplements land transport and sealift options, and at times can be assisted by civil air charter.

As an island nation, New Zealand projects its forces using RNZAF airlift and/or RNZN sealift capabilities. Occasionally, these resources will be supplemented using allied military assets, or civilian air and sea carriers. Once in theatre, the Army may opt to use terrestrial transport options (personnel carriers, trucks, and trains) to stage and manoeuvre troops. If expedient to do so, RNZAF helicopters and fixed wing aircraft will deploy to assist manoeuvre within an area of operations. And therein lies the main

point: air mobility is primarily about enabling rapid force projection, logistic support, and manoeuvre. Certainly, air mobility is also used to support disaster relief efforts, and government agency activities.



Chartered AN-124 delivering two NH-90's to Ohakea

Military airlifters come in a variety of sizes, from light 10-tonne payload aircraft up to super-heavy behemoths capable of carrying over 100 tonnes². Utility helicopters also fall within the air mobility role, and are generally used for tactical manoeuvre of land forces. The wide range of capacities and

capabilities of airlifters need to be carefully assessed such that an optimal fleet size is maintained to meet the operational concept of a country's forces. So, what is the broad state of the world's airlift capacity?

China felt the impact of insufficient air mobility as it struggled to provide airlift support to the Sichuan earthquake of 2005. Disaster relief support, coupled with its transition from a low-tech in-country defence force to a high-tech expeditionary force, has necessitated the development and introduction of the Y-20 Kunpeng heavy airlifter. The Y-20 will comprise just one part of its future fleet as it adds more advanced, and even larger airlifters to diversify its airlift capability.

¹ A mixture of conventional and unconventional warfare.

² For purposes of comparison, this bulletin divides airlifters into broad categories: light, <10t (tonnes maximum payload); medium, ≈15-40t;

heavy, ≈60-80t; and super-heavy, >100t. In practice, an airlifter may carry much less than its maximum to increase range and improve performance.

The African continent faces airlift challenges, where the African Union (AU) - an institution charged, amongst other responsibilities, with the common defence of Africa - is trying to overcome difficulties transporting forces throughout its vast landscape. This was shown through the inability of the AU to rapidly deploy 3000 peacekeepers to Mali. Land transport is daunting due to the long distances, poor roads, rugged geography, and pockets of instability. Therefore, a pan-African airlift solution is likely to provide the quickest and safest means of force projection, logistic support and manoeuvre. But, the cost of buying and maintaining fleets of modern airlifters is prohibitive for many African countries; which is a problem for most countries around the world. A partial solution may lie in using a common and cost-effective platform, such as the Airbus C-295, which is operated by 17 African countries. Future capacity may be increased by pooling aircraft, using air charters, and negotiating airlift support agreements with organisations such as NATO.

Europe also suffers from limited airlift capacity when surging forces into crisis areas. The bulk of Europe's military airlifters are of the light and medium types, which are slowly being supplemented by the larger A400 airlifter. France's deployment of forces to Mali during 2013 required airlift assistance from 13 countries; moving forces from France, and within Africa.

The European Airlift Centre coordinates military airlift of European Union countries, thus enhancing rapid response capabilities of the collective by pooling its resources. But even this is not enough, as the EU contracts up to 1600 flying hours per year of the Antonov 124; a super-heavy airlifter able to carry up to 150 tonnes of freight.

The capacity of the AN-124 is in demand around the world, including the NZDF as its NH-90 helicopters were delivered using them. With only a few companies offering AN-124 heavy-lift services, they play a key role in large force projection operations. However, Volga-Dnepr, a Russian contractor offering AN-124 services, discontinued supporting NATO operations in January 2019, potentially reducing the heavy-lift capacity of European forces.

The Russian airlift fleet size has been declining for decades, as older aircraft are withdrawn without replacement. The IL-76 is the backbone of the fleet,

providing heavy lift of its forces, including its airborne units with para-droppable infantry fighting vehicles. But as its vehicles got heavier, it prompted an upgrade program to increase the lift capacity of its aircraft to the IL-76MD variant. The AN-124 provides super-heavy airlift options for Russian forces, which supplements road and rail transport in-country. Fleet replacement costs may impede further improvements in Russian airlift capacity.

Arguably, the USAF are the champions of force projection, with its large fleet of medium, heavy, and super-heavy airlifters. This was shown during Desert Storm and Shield, when about half-million personnel and over 550,000 tonnes of freight was airlifted into theatre using military, and commercial aircraft. But, USAF heavy lift air capacity is largely capped since production of the C-17 ceased. Recent upgrades to the C-5 Galaxy increases its payload capacity. But, it remains to be seen if the USAF fleet is large enough to support state-on-state type conflicts. The need to airlift heavy armour and large field hospitals may remain for some time yet.

Australia has invested in a modern and balanced fleet of approximately 40 airlifters, from the light C-27J battlefield airlifter to medium and heavy types. Their air mobility fleet, combined with utility helicopters, is capable of battlefield manoeuvre, and long-range expeditionary force projection and sustainment.

Clearly, there is demand for increased airlift capacity by the world's military forces. Demand arises from the need to upgrade or replace aged fleets, and to build a balanced airlift fleet to project and sustain forces, while maintaining the tempo of battlefield manoeuvre. Sealift and air charters will always supplement military airlift; but, if the future sees the return to state-on-state conflict then more armour and heavy equipment will require rapid transport to staging areas than in the past. If so, then the potential lack of heavy, and super-heavy airlift capacity may be a constraint to future rapid force projection.

Key Points

- [Military airlift supplements land transport, and sealift.](#)
- [Military airlift capacity may be insufficient to meet current and future requirements.](#)
- [The high cost of modern airlifters may be affecting airlift capacity.](#)

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