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FEASIBILITY OF CONSTRUCTING AN-225 «MRIYA»**Nikita Kuno***National Aviation University, Kyiv**Scientific advisor – Shevchuk Dmytro, ScD, professor*

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The need for freight and passenger transportation is always rising, making the aviation sector one of the most active economic sectors. In this context, the issue of transportation and logistics efficiency is becoming an increasingly essential one. Using huge aircraft like the AN-225 "Mriya" is one way to solve the issue. This aircraft, which was developed in Ukraine in the 1980s, is capable of transporting up to 250 tons of cargo. The ability to build the AN-225 "Mriya," the biggest airplane in the world, depends on a variety of circumstances. We shall examine the viability and potential of developing the AN-225 "Mriya" in this study.

Statistics show that demand for air travel is increasing by 5% yearly on average [1]. The AN-225 "Mriya" is currently the only aircraft in the world that can carry greater cargo. As a result, the development of such aircraft can greatly reduce the difficulty of delivering huge cargo, including machinery, equipment, and other items. We adopted a statistical approach, namely a comparison of cargo transportation indicators across various aircraft types, to support the research findings scientifically.

The AN-225 "Mriya," the biggest airplane in the world, is one of the principal subjects of our research. We also looked at the characteristics of other big planes, including the AN-124 "Ruslan," the Boeing 747, and the Airbus A380 [2,3,4,5].

We employed a statistical approach to compare the technical specifications of the aircraft, namely the indicators of cargo transportation, flying speed and range, fuel consumption, and other technical data. The primary design elements of the AN-225 and other aircraft were also examined. The biggest and heaviest airplane in the world is the AN-225 "Mriya." Its size allows it to carry the heaviest cargo that would not fit on other aircraft. The AN-225 has the highest carrying capacity of any big aircraft—up to 250 tons.

The AN-225 also has the greatest range, with a top speed of over 800 km/h and a range of up to 15,000 km. Nevertheless, the AN-225 uses substantially more fuel per ton of goods transported than do smaller aircraft, which lowers the effectiveness of its employment across short distances and in densely populated areas. The question of whether it is necessary to construct a new aircraft of this type after the destruction of AN-225 emerges. The development of a new aircraft of this kind

may be suited for addressing the challenges of a large volume of cargo transportation given the high rates of cargo transportation and the greatest flying range.

Summary

However, it is important to take into account that the AN-225 uses more fuel per unit of cargo transportation than other aircraft, which may have an impact on both the cost of cargo transportation and the cost of running the aircraft.

It is also important to take into account the potentially high cost of manufacturing a new aircraft of this kind. Hence, provided that the operating expenses are optimized and a new aircraft is built at a reasonable cost, the building of a new AN-225 aircraft may be suitable. This requires taking into consideration a number of variables, including market demands and anticipated demand for air travel, market competitiveness, the effectiveness of employing a new aircraft in comparison to current models, and the cost of developing a new aircraft.

The cost of running and developing a new aircraft, however, might be high, thus the project's profitability and return on investment must be taken into account. The expansion of air travel and meeting the demands of freight transportation on a global scale might advance significantly in the event that the project for the production of the new AN-225 aircraft is carried out successfully.

References:

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