

# Global Military Power Assessment Report 2025: A Comprehensive Data-Driven Analysis of Manpower, Defense Spending, Air, Naval and Strategic Resources

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## Abstract

This report presents a comprehensive, data-driven assessment of global military power for the year 2025, integrating key indicators related to manpower strength, defense expenditure, air and naval capabilities, and strategic energy and geographical resources. Using interactive Power BI dashboards, the analysis evaluates military readiness and comparative strength across countries and regions worldwide.

The study examines critical dimensions such as active, reserve, and paramilitary personnel distribution; defense budgets at regional and national levels; air and naval asset composition; and the availability of strategic resources including energy production, infrastructure, and geographical coverage. Visual analytics techniques are employed to transform complex datasets into clear, actionable insights, enabling comparative evaluation and trend identification.

By combining military, economic, and resource-based metrics, this report highlights global power imbalances, regional dominance patterns, and strategic dependencies. The findings aim to support informed understanding of contemporary defense dynamics and demonstrate the role of data visualization and analytics in geopolitical and strategic analysis.

## 1 Introduction

In an increasingly complex and interconnected world, military strength is no longer defined solely by the size of armed forces, but by a strategic combination of manpower, defense expenditure, technological capabilities, infrastructure, and access to critical natural resources. Understanding these multidimensional factors is essential for evaluating national security readiness and global power dynamics.

This report provides a comprehensive analysis of global military power for the year 2025 using a data-driven approach supported by interactive Power BI dashboards. The study integrates key military indicators such as active, reserve, and paramilitary personnel, defense budgets, air and naval assets, and strategic geographical and energy resources. By visualizing and comparing these parameters across countries and regions, the report enables a structured assessment of relative military capabilities worldwide.

The objective of this analysis is to transform complex and large-scale defense data into meaningful insights that support comparative evaluation, pattern recognition, and informed interpretation. Beyond numerical comparison, the report emphasizes the role of data analytics and visualization in enhancing transparency, strategic awareness, and evidence-based understanding of global defense and security trends in the contemporary geopolitical landscape.

## 2 Need of the Analysis

Effective environmental management relies on accurate, interpretable data. For the Yamuna Canal system there is a critical gap between the raw water-quality measurements collected by various agencies and actionable insights required for remediation. Although multiple parameters (Dissolved Oxygen, Biological Oxygen Demand, Total Coliform, pH, etc.) are recorded at many monitoring stations, the data often remains fragmented, inconsistent, or under-utilized due to its volume and complexity.

This analysis addresses the following problems:

- In the contemporary global landscape, military power plays a critical role in shaping geopolitical stability, national security policies, and international relations. With increasing defense expenditures, rapid

technological advancements, and evolving security challenges, there is a growing need for structured and data-driven evaluation of global military capabilities.

- Traditional assessments often rely on isolated metrics or qualitative judgments, which may not capture the full scope of military strength. This analysis addresses the need for an integrated framework that combines manpower, defense budgets, air and naval assets, infrastructure, and strategic resource availability. By consolidating these dimensions into a unified analytical model, the study enables objective comparison and deeper understanding of global defense dynamics.
- Furthermore, the use of Power BI and visual analytics responds to the need for clarity and accessibility in complex datasets. Interactive dashboards allow policymakers, researchers, and analysts to identify regional disparities, dominance patterns, and strategic dependencies more effectively. Overall, this analysis is essential for promoting informed decision-making, enhancing transparency, and demonstrating the practical application of data analytics in defense and geopolitical studies.

### 3 Motivation Behind Choosing the Report / Area

The motivation behind selecting global military power analysis as the focus of this study arises from the increasing complexity of modern defense systems and the growing influence of military, economic, and resource-based factors on global stability. In today's geopolitical environment, military strength is no longer defined by troop numbers alone, but by an interconnected framework of defense spending, technological assets, infrastructure, and strategic resource availability.

This area was chosen to explore how large-scale, multidimensional defense data can be transformed into meaningful insights using data analytics and visualization tools. The availability of publicly accessible defense and resource datasets provided an opportunity to apply Power BI for real-world analytical problem-solving, enabling comparative analysis across countries and regions.

Additionally, this domain offers strong relevance for data science applications, as it involves handling complex datasets, identifying patterns, and presenting insights in an interpretable and decision-oriented manner. By selecting this area, the project aims to bridge the gap between raw defense data and strategic understanding, demonstrating how data-driven approaches can enhance transparency, analytical thinking, and informed interpretation of global power dynamics.

### 4 Objective of the Analysis

1. To analyze and compare global military power for the year 2025 by evaluating key indicators such as manpower strength, defense expenditure, air and naval capabilities, and strategic resources across countries and regions.
2. To transform complex military and defense datasets into meaningful insights using Power BI dashboards, enabling clear visualization, comparative assessment, and pattern identification.
3. To derive actionable insights through Power BI dashboards, including visualizations, DAX-based KPIs, and interactive filters for enhanced interpretation and comparison.
4. To demonstrate the practical application of data analytics and visualization in understanding geopolitical and defense dynamics, supporting informed interpretation and evidence-based analysis.

### 5 Report Details

This report is developed using a comprehensive dataset sourced from Kaggle, containing country-wise and region-wise data related to global military power and strategic resources for the year 2025. The dataset includes variables such as manpower strength (active, reserve, and paramilitary personnel), defense budgets, air and naval assets, energy production, infrastructure coverage, and geographical attributes.

The data was cleaned, structured, and modeled in Power BI to ensure accuracy and consistency. A variety of visualizations were used to present insights effectively, including bar charts, stacked bar charts, pie charts, donut charts, clustered column charts, horizontal comparison charts, and geographical map visuals. These graphs enable clear comparison across countries and regions, trend identification, and proportional analysis of

military and strategic indicators.

The dashboard is organized into three distinct pages, each designed with a specific analytical focus:

#### Page 1: Manpower Strength Analysis

This page focuses on human military resources and includes visualizations such as active personnel by country and region, distribution of active, reserve, and paramilitary forces, and regional manpower contribution. The objective of this page is to analyze workforce availability and regional dominance in terms of military manpower.

#### Page 2: Air, Naval, and Economic Power

The second page highlights military hardware and economic strength. It includes graphs representing fighter, attack, and transport aircraft by country and region, naval fleet composition, submarine strength, and defense budget comparisons at national and regional levels. This page provides insight into technological capability and financial investment in defense.

#### Page 3: Energy and Geographical Resources

The third page analyzes strategic support factors such as oil, coal, natural gas production, land area, serviceable airports, roadways, railways, and coastline coverage. These visualizations emphasize how energy resources, infrastructure, and geography contribute to a nation's overall strategic and military capability.

Overall, the report integrates multiple dimensions of military power into an interactive, data-driven framework. By structuring the analysis across three focused dashboard pages, the report enables a comprehensive and systematic understanding of global military strength and strategic resources.

## Overall Interpretation and Policy Recommendations

The integrated analysis of global military power for 2025 reveals significant disparities in defense capabilities across countries and regions. Military strength is shown to be highly multidimensional, with dominance influenced not only by manpower size but also by defense expenditure, technological assets, infrastructure, and access to strategic energy and geographical resources. Regions with higher defense budgets and advanced air and naval capabilities demonstrate greater operational readiness, while manpower-rich regions highlight the importance of human resources in sustaining large defense forces. The visualization-based approach highlights clear patterns of regional concentration in defense spending, air and naval assets, and strategic resources. It also underscores the interdependence between military strength and supporting factors such as energy production, transportation infrastructure, and geographical advantages. Overall, the findings confirm that balanced investment across manpower, technology, and strategic resources is essential for sustained military capability.

- **Promote Balanced Defense Investment:** Policymakers should adopt a balanced approach that integrates manpower development, technological modernization, and infrastructure expansion rather than focusing on a single dimension of military strength.
- **Enhance Regional Cooperation and Resource Security:** Regions with limited strategic resources should prioritize alliances, joint defense initiatives, and energy security strategies to reduce dependency and strengthen collective defense capabilities.
- **Leverage Data-Driven Decision Making:** Governments and defense planners should utilize data analytics and visualization tools to monitor defense trends, assess capability gaps, and support evidence-based policy formulation.
- **Invest in Infrastructure and Strategic Assets:** Strengthening transportation networks, energy production, and logistical infrastructure can significantly enhance operational readiness and long-term military sustainability.

## 6 Socio-Economic Impact

Military power and defense preparedness have a significant influence on socio-economic development at both national and regional levels. Defense expenditure directly affects economic allocation, employment generation, industrial growth, and technological innovation. Countries with higher investments in defense often stimulate domestic industries such as manufacturing, aerospace, logistics, and information technology, leading to job creation and skill development. At the same time, the analysis highlights the trade-off between defense spending and social sector investments. Excessive military expenditure may

limit budgetary allocation to education, healthcare, and social welfare, particularly in developing regions. Therefore, understanding the balance between national security requirements and socio-economic priorities is essential for sustainable development. The study also emphasizes the role of infrastructure and energy resources in shaping socio-economic stability. Strong transportation networks, energy production capacity, and strategic geography not only support military operations but also enhance trade, connectivity, and regional economic growth. Furthermore, transparent and data-driven assessment of military capabilities promotes informed public discourse, accountability, and evidence-based policymaking. Overall, this analysis demonstrates that military strength is closely linked to economic resilience and social development. A balanced, data-informed defense strategy can contribute to national security while supporting long-term socio-economic stability and sustainable growth.

## 7 Conclusion

This report presents a comprehensive, data-driven assessment of global military power for the year 2025 by integrating manpower strength, defense expenditure, air and naval capabilities, and strategic energy and geographical resources. Through the use of interactive Power BI dashboards, complex and large-scale datasets were transformed into meaningful visual insights, enabling clear comparison and structured interpretation across countries and regions.

The analysis demonstrates that military power is multidimensional in nature and cannot be accurately evaluated using isolated indicators. Nations with balanced investment in human resources, technological assets, infrastructure, and resource security exhibit greater strategic resilience and operational readiness. The findings further highlight regional disparities in defense capabilities and emphasize the interdependence between military strength, economic capacity, and supporting socio-economic factors.

Overall, this study underscores the value of data analytics and visualization in modern defense and geopolitical analysis. By adopting an evidence-based and transparent analytical approach, the report contributes to informed understanding, strategic awareness, and responsible policy formulation, while also showcasing the practical application of data science tools in addressing real-world global challenges.