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Non-Directional Beacon (NDB) Market Forecasts to 2032 – Global Analysis By Type (En-route NDBs, Terminal NDBs, Approach NDBs and Locator NDBs), Component (Antenna Systems, Transmitters, Power Supply Units, Control & Monitoring Systems and Support Infrastructure), Power Output, Frequency Range, End User and By Geography

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Abstracts

According to Stratistics MRC, the Global Non-Directional Beacon (NDB) Market is accounted for $446.41 million in 2025 and is expected to reach $712.16 million by 2032 growing at a CAGR of 6.9% during the forecast period. A Non-Directional Beacon (NDB) is a ground-based radio transmitter used in aviation navigation that emits signals in all directions. Aircraft equipped with Automatic Direction Finders (ADF) use these signals to determine the bearing to or from the station. NDBs provide essential navigational guidance for en-route, approach, and holding procedures, particularly in areas lacking advanced navigation infrastructure, and remain valuable as a backup to satellite-based systems.

Market Dynamics:

Driver:

Demand for redundant navigation in remote areas

The persistent requirement for robust backup navigation systems in geographically isolated regions lacking reliable GNSS coverage is a primary market driver. Aviation authorities mandate redundant navigation aids like NDBs to ensure safety-of-life

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operations where terrain or limited infrastructure compromises satellite signals. This operational necessity sustains demand, particularly for approaches and en-route guidance in challenging environments like mountainous or Polar Regions, ensuring continuity of service. Moreover, NDBs provide critical resilience against GNSS jamming or spoofing vulnerabilities.

Restraint:

Demand for redundant navigation in remote areas

The aviation industry's strategic shift towards Performance-Based Navigation (PBN), primarily reliant on GNSS, is driven by ICAO mandates and initiatives like NextGen and SESAR is a restraint to the market. This transition reduces dependence on traditional ground-based aids, including NDBs. Operators and ANSPs are progressively decommissioning older NDB installations due to higher operational costs and spectrum inefficiency compared to satellite navigation. Additionally, the focus on PBN routes diminishes the operational necessity for standalone NDBs, constraining new installations.

Opportunity:

Hybrid systems integration

A significant opportunity lies in integrating NDBs within hybrid navigation architectures. Modernizing legacy NDB infrastructure to interface seamlessly with GNSS and other systems enhances overall network resilience and provides layered redundancy. This approach leverages existing investments while supporting the PBN transition, particularly for backup validation or in specific operational scenarios where ground-based aids offer advantages. Furthermore, integrating NDB data into modern control & monitoring systems improves operational efficiency and fault tolerance, extending asset viability.

Threat:

Maintenance costs for aging infrastructure

Many existing beacons are nearing end-of-life, requiring frequent repairs and component replacements, which are often costly due to parts obsolescence. Skilled technicians capable of servicing legacy analog systems are becoming scarce. These

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rising costs pressure ANSP budgets, accelerating the cost-benefit analysis favoring decommissioning over refurbishment, especially where GNSS coverage is deemed sufficient, posing a direct threat to installed base longevity.

Covid-19 Impact:

The COVID-19 pandemic severely impacted the NDB market through widespread disruptions. Aviation activity plummeted, leading to deferred maintenance schedules and budget reallocations away from navigation infrastructure upgrades by ANSPs and airlines. Supply chain interruptions hampered the delivery of critical components for both maintenance and new installations. Furthermore, reduced capital expenditure delayed planned modernization or hybrid integration projects. This period accelerated strategic reviews, potentially hastening decisions to decommission older NDBs rather than invest in upkeep during the downturn.

The en-route NDBs segment is expected to be the largest during the forecast period

The en-route NDBs segment is expected to account for the largest market share during the forecast period due to the extensive existing infrastructure supporting long-haul and remote air routes globally. Despite the PBN transition, the critical need for reliable navigation over vast oceanic and sparsely populated land areas, where GNSS backup or primary NDB use remains operationally essential, sustains this segment. Moreover, the high cost and logistical complexity of replacing en-route beacons compared to terminal aids contribute to their continued dominance in terms of installed base and associated service revenues.

The control & monitoring systems segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the control & monitoring systems segment is predicted to witness the highest growth rate, driven by the imperative to modernize legacy NDB ground infrastructure for improved efficiency, remote diagnostics, and integration within broader ANS networks. Investments focus on software-defined systems enabling centralized monitoring, automated fault detection, and reduced on-site maintenance needs. Additionally, the retrofitting of older NDB sites with modern control systems to extend lifespan and support hybrid operations significantly fuels this segment's accelerated growth.

Region with largest share:

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During the forecast period, the Asia Pacific region is expected to hold the largest market share, attributed to vast geographical expanses with challenging terrain and remote areas across countries like China, India, Australia, and archipelagic nations, where NDBs remain vital for navigation redundancy and coverage. Significant investments in aviation infrastructure expansion, alongside the presence of numerous aging NDB installations requiring ongoing maintenance and upgrades, contribute substantially to the region's leading market share.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR. Rapid aviation growth, increasing air traffic, and government initiatives to enhance airspace safety and connectivity, particularly in developing economies like India and Southeast Asian nations, are key drivers. This necessitates both maintaining existing NDB infrastructure and strategically deploying new or hybrid systems in remote locations. Moreover, significant investments in modernizing ANS infrastructure, including advanced control & monitoring systems, propel the region's accelerated growth rate.

Key players in the market

Some of the key players in Non-Directional Beacon (NDB) Market include Honeywell International Inc., Thales Group, Nautel Ltd., Systems Interface Ltd., Azimut JSC, Telerad, ARC Aviation Renewables, Flugcom, Tianjin Hairun Marine Technical Co., Ltd., Omega Integration Pte Ltd., ELNA GmbH, Vector InfoTech Group, Indra Sistemas S.A., Northrop Grumman Corporation, Cobham Aerospace Communications, Raytheon Technologies Corporation, S.I.T.T.I. S.p.A., Becker Avionics GmbH, Selex ES, and Rohde & Schwarz GmbH & Co KG.

Key Developments:

In June 2025, Indra Sistemas S.A. successfully completed delivery to the Australian Defence Force of 11 Instrument Landing Systems (ILS) and 6 Non-Directional Beacons across 12 sites.

In March 2025, Systems Interface Ltd. signed a major contract with the Romanian Government for nationwide air navigation NDB capability upgrades. The contract covers 7 Air Force locations across Romania with 13 Nautel Non-Directional Beacon systems

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including equipment shelters, power backup systems, telecommunications facilities, antennas and masts.

Types Covered:

- En-route NDBs
- Terminal NDBs
- Approach NDBs
- Locator NDBs

Components:

- Antenna Systems
- Transmitters
- Power Supply Units
- Control & Monitoring Systems
- Support Infrastructure

Power Outputs Covered:

- Low Power (oO1 kW)
- Medium Power (1–5 kW)
- High Power (>5 kW)

Frequency Ranges Covered:

- Standard Aviation LF Band (190–535 kHz)

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- Standard Aviation MF Band (1605–1800 kHz)
- Legacy/Non-Standard Bands

End Users Covered:

- Civil Aviation Authorities
- Defense & Military Agencies
- Commercial Airlines & Private Operators
- Maintenance & Service Providers
- Research/Meteorological Agencies
- UAV/Drone Navigation Systems

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany
  - UK
  - Italy

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- France
- Spain
- Rest of Europe

Asia Pacific

- Japan
- China
- India
- Australia
- New Zealand
- South Korea
- Rest of Asia Pacific

South America

- Argentina
- Brazil
- Chile
- Rest of South America

Middle East & Africa

- Saudi Arabia
- UAE
- Qatar

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South Africa

Rest of Middle East & Africa

What our report offers:
- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2024, 2025, 2026, 2028, and 2032
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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