# How artificial intelligence is transforming global markets



The increasing influence of artificial intelligence (AI) and automation is shaping several global markets, including Virtualized Radio Access Networks (vRAN), GaN Monolithic Microwave Integrated Circuits (MMIC), luxury jewelry, gasifier balance of plant (BOP) components, and Automatic Identification and Data Capture (AIDC) technologies. Each of these markets is experiencing notable growth due to the demand for more efficient processes and innovative solutions driven by AI and automation.

The vRAN market, valued at approximately USD 8.2 billion in 2022, is projected to grow at a compound annual growth rate (CAGR) of around 18.5% from 2023 to 2028. This growth is largely attributed to the increasing need for flexible and cost-effective network solutions essential for managing rising data traffic, particularly with the expansion of 5G technology. AI and automation play crucial roles by facilitating intelligent network management, predicting congestion, and streamlining operations. These advancements enable better resource allocation, reduced operational costs, and quicker deployment times, crucial in an era demanding adaptability to fluctuating network necessities.

Similarly, the GaN MMIC market, valued at USD 3.2 billion in 2022, forecasts a robust CAGR of 15.6% through 2028. This surge is driven by the growing need for high-performance electronic components in telecommunications, radar, and satellite communications. The integration of AI in design and manufacturing processes improves efficiency, reduces time-to-market, and enhances product quality, prompting a diverse range of applications across various sectors.

The luxury jewelry market, estimated at around USD 27 billion in 2022, is set to grow with a projected CAGR of 5.3% up to 2027. Factors influencing this market include increasing disposable incomes and a shift towards sustainable and ethically sourced products. AI enhances customer engagement through technologies like virtual try-ons, while automation improves the precision of manufacturing processes using advanced techniques such as 3D printing, resulting in faster production and less waste.

In the gasifier BOP components sector, the market was valued at USD 1.2 billion in 2022, anticipating a growth CAGR of 6.5% from 2023 to 2028. The demand for sustainable energy solutions is a fundamental driver, supported by AI technologies that optimise operational efficiency and reduce downtime through predictive maintenance and automated control systems. The ability to monitor and manage gasification processes in real time is expected to significantly contribute to the market's expansion.

Another rapidly growing segment is the AIDC market, which was valued at approximately USD 64.3 billion in 2023, with projections suggesting it could reach USD 136.6 billion by 2030. The expected CAGR for this sector is around 11.4%, bolstered by demand for efficient data collection technologies in industries such as retail, healthcare, and logistics. AI-driven advancements in AIDC enhance data accuracy and operational efficiency, allowing for real-time inventory management, precise patient tracking, and effective quality control in manufacturing environments.

Across these industries, the integration of AI and automation technologies not only improves operational capabilities but also fosters growth by addressing the evolving demands for efficiency, sustainability, and customer satisfaction in a competitive global market.

Source: [Noah Wire Services](https://www.noahwire.com)

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