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# AI-Driven Nutritional Formulation Market Forecasts to 2032 – Global Analysis By Technology (Machine Learning for Predictive Formulation, NLP for Ingredient Labeling & Consumer Feedback, Computer Vision for Ingredient Quality & Recognition, Formulation Software with AI-Driven Optimization, Biomarker-Linked AI Engines for Personalization and AI-IoT Integration for Real-Time Nutritional Monitoring), Application, End User and By Geography

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## Abstracts

According to Stratistics MRC, the Global AI-Driven Nutritional Formulation Market is accounted for $1.29 billion in 2025 and is expected to reach $4.13 billion by 2032 growing at a CAGR of 18.0% during the forecast period. AI-powered nutritional formulation uses machine learning, predictive models, and deep data analysis to design highly targeted nutrient blends for foods, supplements, and wellness products. By processing information on consumer diets, biological indicators, ingredient interactions, and metabolic behavior, AI delivers faster and more accurate formulation insights. It enables developers to fine-tune ingredient ratios, lower R&D costs, and enhance nutritional performance by forecasting how formulations will function in real life. Brands apply these tools to create solutions focused on immunity, weight control, energy, or mental clarity. Overall, AI strengthens product innovation and ensures that personalized nutrition solutions better meet consumer needs and health objectives.

According to Forward Fooding (2025), data shows that predictive analytics in food formulation could save up to $127 million annually by 2030 through reduced waste. McKinsey estimates cited in the report suggest that AI could unlock up to $500?billion in

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annual global value, particularly by doubling the speed of innovation across industries, including food manufacturing.

**Market Dynamics:**

Driver:

Rising demand for personalized nutrition

Rising interest in personalized dietary solutions is significantly boosting the AI-driven nutritional formulation market. Consumers now want nutrition plans and products designed according to their unique health markers, genetics, lifestyle patterns, and wellness priorities. AI plays a crucial role by analyzing diverse datasets—including biomarkers, dietary history, and continuous health readings—to build precise and individualized formulations. This trend is strengthened by growing awareness of preventive health, increasing chronic illness cases, and the desire for better long-term wellness outcomes. As expectations for highly accurate personalization increase, companies are turning to AI-based platforms to create customized supplements, functional foods, and tailored nutrition programs, accelerating market expansion.

Restraint:

High implementation costs

The substantial cost associated with adopting AI technologies is a key limitation in the AI-driven nutritional formulation market. Organizations must invest heavily in AI software, data storage systems, analytics engines, and reliable datasets to achieve effective outcomes. Smaller manufacturers often find these expenses challenging, restricting their ability to integrate AI into product development. Additional recurring costs—including maintenance, cybersecurity, training, and software upgrades—further increase financial pressure. These high expenditures create disparities between large companies and smaller firms, limiting widespread AI adoption. Consequently, only businesses with strong financial resources can adopt advanced AI-driven formulation tools, slowing the overall growth of market implementation.

Opportunity:

Expansion of personalized nutrition platforms

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The growing popularity of personalized nutrition platforms offers a strong opportunity for the AI-driven nutritional formulation sector. As individuals seek nutrition plans tailored to their biological data, lifestyle choices, and wellness objectives, AI makes high-level personalization both efficient and scalable. Brands can use AI models integrated with wearables, health apps, and genetic or microbiome assessments to deliver continuous insights and customized nutrient solutions. This unlocks options such as personalized supplement packs, bespoke diet programs, and subscription-based nutrition services. With digital health adoption rising globally, AI-enabled personalization can reshape consumer nutrition experiences and generate substantial market expansion for companies leveraging these advanced technologies.

Threat:

Rapid technological obsolescence

The fast pace of technological change represents a significant threat to the AI-driven nutritional formulation industry. AI models, computing tools, and analytical frameworks are frequently updated, forcing companies to invest continuously in system upgrades. These rapid advancements raise operational costs and shorten the lifespan of existing technologies. Smaller firms often fall behind due to limited resources, leading to competitive inequality. Outdated AI tools can generate unreliable formulation results, potentially harming brand reputation. Constant upgrades, retraining of algorithms, and integration of new data systems create additional complexity. This ongoing need for technological adaptation increases pressure on organizations and restricts stable long-term planning.

Covid-19 Impact:

The COVID-19 pandemic created strong momentum for the AI-driven nutritional formulation market by elevating consumer interest in immunity enhancement, personalized nutrition, and preventive wellness. As individuals sought scientifically informed dietary guidance, AI-enabled formulation tools became valuable for designing precise supplements and functional foods. Increased reliance on telemedicine, digital health platforms, and nutrition-tracking apps further supported AI adoption. Although restrictions disrupted supply chains and slowed physical R&D processes, the heightened demand for tailored nutrition solutions ultimately outweighed these setbacks. The pandemic encouraged greater investment in AI technologies and reinforced the long-term role of data-driven nutrition in both healthcare systems and consumer health markets.

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The nutrient profiling & balancing segment is expected to be the largest during the forecast period

The nutrient profiling & balancing segment is expected to account for the largest market share during the forecast period because it acts as the essential engine behind precise and effective formulation work. This segment focuses on assessing nutrient compositions, evaluating ingredient synergies, and determining optimal nutrient levels to build safe and performance-driven products. AI tools here process biochemical datasets, dietary behavior insights, and ingredient characteristics to design formulas that match desired health benefits. Since proper nutrient balancing is critical for developing supplements, functional foods, personalized diets, and meeting regulatory guidelines, businesses depend on these systems extensively. Its universal relevance and foundational importance position it as the largest market segment.

The personalized nutrition platforms segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the personalized nutrition platforms segment is predicted to witness the highest growth rate because consumers are shifting strongly toward data-driven, customized wellness solutions. These platforms use AI to analyze information from health trackers, genetic insights, biomarker readings, and lifestyle inputs to create highly targeted nutrition plans. The widespread use of digital wellness tools, remote health services, and continuous monitoring devices further boosts this segment's momentum. Demand for individualized supplements, dynamically adjusted diets, and personalized functional foods continue to rise. With increasing global focus on preventive healthcare, AI-powered personalization expands rapidly, making this segment the highest-growing within the nutrition technology ecosystem.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share owing to its mature healthcare systems, extensive use of digital health tools, and heavy R&D spending. The region's thriving nutraceutical, functional-food, and wellness industries make it ideal for leveraging AI in nutrient design. High consumer demand for tailored and preventive nutrition in the U.S. fuels adoption. A thriving ecosystem of AI startups, research centers, and tech companies further propels innovation. Favorable regulatory conditions for health-tech and data-driven solutions also support growth. These combined factors give North America a leading edge in

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scaling AI-enabled nutritional formulation across applications.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR. This surge is driven by growing health consciousness, widespread smartphone and wearable use, and rising incomes in nations such as China and India. More consumers in APAC are gravitating toward data-backed wellness choices, preventive nutrition, and tailored functional foods. At the same time, regional governments and entrepreneurs are ramping up investments in digital health and AI-driven platforms. Together, these factors make Asia?Pacific the most dynamic and rapidly expanding market for AI-based nutrition solutions, surpassing mature regions in growth momentum.

Key players in the market

Some of the key players in AI-Driven Nutritional Formulation Market include Suggestic, EatLove, Viome Life Sciences, DNAfit (Prenetics), DayTwo Ltd., PIPA AI, NutrifyGenie AI, Amway, Nutrigenie, BetterMeal AI, Heali AI, Habit, Bioniq, ZOE and Nutrino.

**Key Developments:**

In October 2025, Amway will invest USD 12 million in India over the next three to five years to set up stores across the country, which it expects to become among its top three global markets. The company, which has completed ten years of manufacturing in India, is looking to enhance exports from the country, Nelson, who is in his maiden visit to India since assuming the President and CEO role, told PTI Videos in an interview.

In January 2024, Bioniq is thrilled to announce its strategic partnership with Meta, the pioneering hybrid healthcare company combining Digital Therapeutics (DTx) with human-centric clinical care. Bioniq will be serving members under both of Meta’s platforms, GluCare.Health and Zone.Health. This collaboration marks a significant milestone in the quest for redefining healthcare services in the GCC, particularly in the realm of metabolic health, chronic disease management, preventive health, and longevity.

In May 2023, Suggestic announced that it has acquired Wishroute, a leading provider of human-powered engagement and healthy habit coaching. The acquisition allows Suggestic to expand its product and service offerings, enter new markets, and

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accelerate its growth in the Telewellness and Behavioral Engagement market.

Technologies Covered:

- Machine Learning for Predictive Formulation
- NLP for Ingredient Labeling & Consumer Feedback
- Computer Vision for Ingredient Quality & Recognition
- Formulation Software with AI-Driven Optimization
- Biomarker-Linked AI Engines for Personalization
- AI-IoT Integration for Real-Time Nutritional Monitoring

Applications Covered:

- Ingredient Selection Algorithms
- Nutrient Profiling & Balancing
- Custom Supplement Design
- Functional Food Engineering
- Allergen & Sensitivity Detection
- Sensory Modeling
- Health Outcome Prediction
- Adaptive Nutrition Feedback Systems

End Users Covered:

- Nutraceutical Product Manufacturers

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- Functional Food Innovators
- Personalized Nutrition Platforms
- R&D Labs & Contract Formulators
- Sports & Performance Nutrition Brands
- Pet Nutrition & Animal Health Companies
- Clinical & Therapeutic Nutrition Providers

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany
  - UK
  - Italy
  - France
  - Spain
  - Rest of Europe
- Asia Pacific

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- 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
- South Africa
- Rest of Middle East & Africa

**What our report offers:**

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- 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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