

Nano Bubbles

Patent Landscape Report

This sample report showcases a landscape of advancements in Nano Bubbles technology by analyzing 15869 patent from 2010 to 2025.

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Sample

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Executive Summary

This sample report showcases a landscape of advancements in Nano Bubbles technology by analyzing 15869 patent from 2010 to 2025. The analysis reveals:

Explosive Growth

Patent activity grew ~9× in 15 years; filings peaked in 2020 with 1,700+ new patents.

72% of all patents were filed since 2017, with 3,771 applications still pending.

Geographic Dominance

China leads with 7,621 patents; the U.S. follows with 1,906—together ~60% of filings and dominates chemical & air-based generation; The U.S. leads ultrasound and O₂/N₂/O₃ applications.

Technology Focus

The focus in nanobubbles patents is on physical/chemical processes and water treatment—especially gas-liquid mixing, flotation, ozone treatment, oxidation, and flow-mixing systems—reflecting ongoing advances in generation and application methods.

Market Potential

The market potential for nanobubbles is strong, with rising patent and commercial activity signaling growing demand across water treatment, agriculture, aquaculture, and healthcare.

Methodology

The methodology employed in this report integrates AI-driven data analytics, machine learning algorithms, and expert human analysis, thereby ensuring a thorough and precise assessment of patent trends within this technology sector.

Data Collection

The analysis initiates with the collection of patent metadata from reputable global patent databases, including:

- WIPO PATENTSCOPE (World Intellectual Property Organization)
- Lens.org
- USPTO (United States Patent and Trademark Office)
- EPO (European Patent Office)
- National Patent Offices

These datasets encompass structured metadata, including patent titles, abstracts, claims, classifications (e.g., IPC, CPC), applicants, publication dates, citations, and legal status.

AI & Machine Learning Analysis

Using proprietary artificial intelligence (AI) and machine learning models developed by STIMAnalytics, the acquired patent data undergoes the following processing stages:

- Text Mining and Natural Language Processing (NLP): Extracting critical technical terms, concepts, and innovation themes from patent documents.
- Clustering and Classification: Categorizing patents into relevant technological groups and subgroups.
- Trend Analysis: Identifying growth trajectories, emerging technologies, and shifts in innovation focus over time.
- Network Analysis: Mapping interrelationships among applicants, technologies, and jurisdictions.
- Predictive Insights: Forecasting future technological advancements and market trends based on historical and contemporary patenting activities.

Reporting Infrastructure

The analytical results are subsequently integrated into a robust reporting infrastructure, which autonomously generates structured reports and interactive dashboards. These outputs are further enriched with:

- Visual Analytics (charts, graphs, maps)
- Strategic Insights
- Technology Roadmaps
- Company and Academic Profiles

Expert Review

Finally, all reports undergo a rigorous quality assurance process conducted by domain experts and technical editors to ensure:

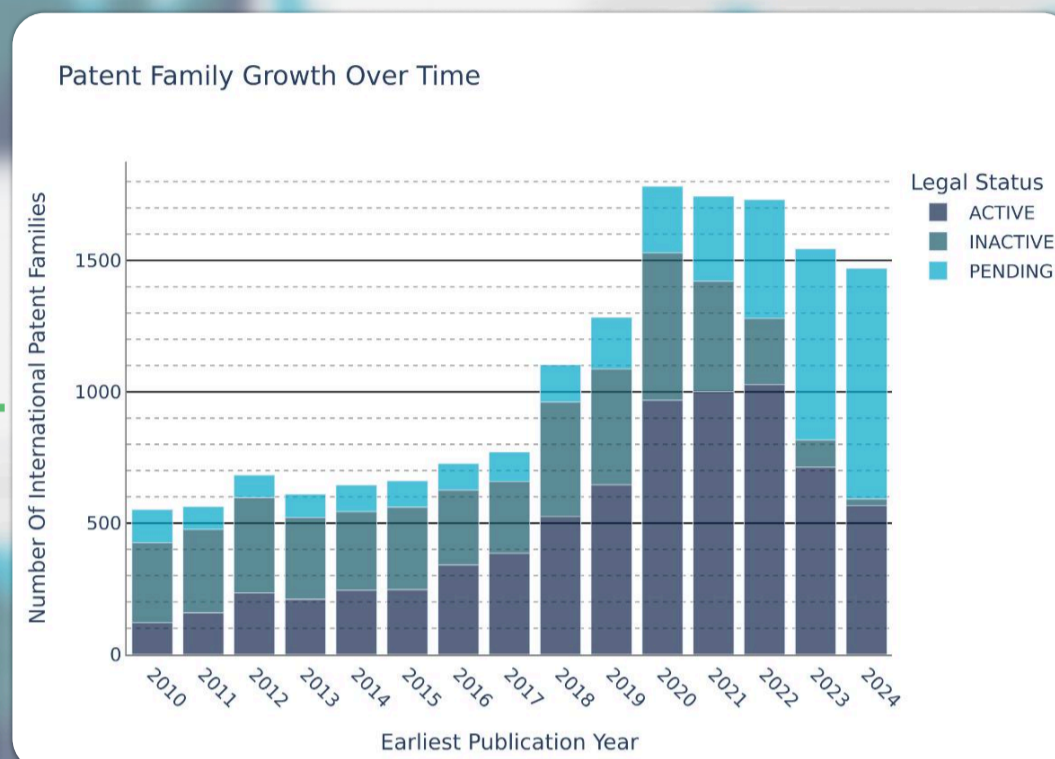
- Accuracy of technical interpretation
- Consistency in terminology and classification
- Relevance of strategic insights
- Professional formatting and readability

Delivery Formats

The final outputs are delivered in two formats:

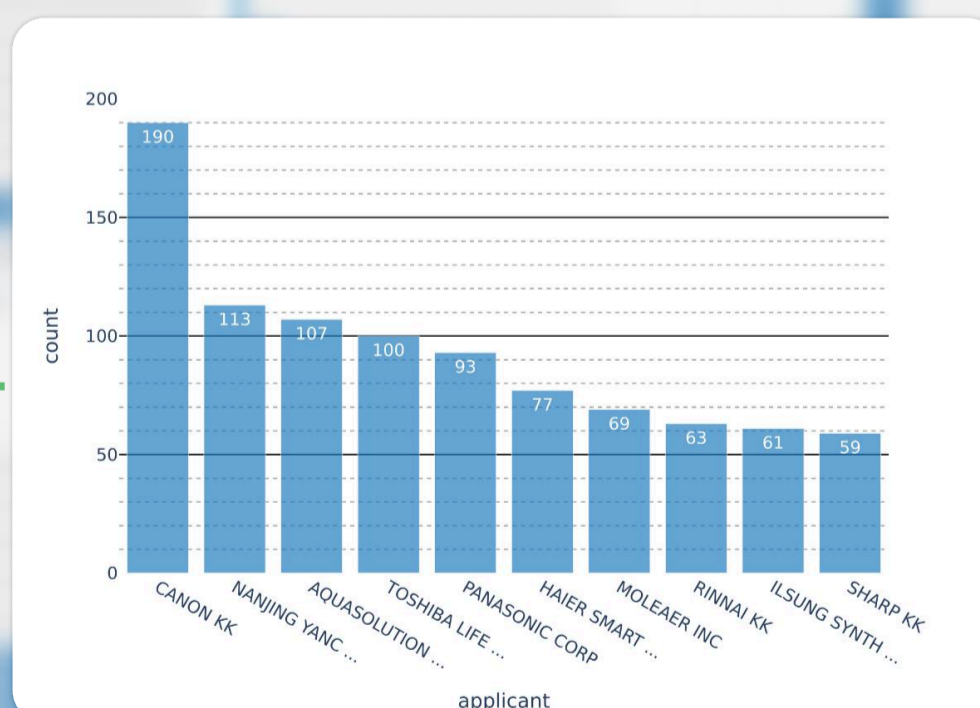
- Written Report (PDF): A comprehensive, publication-ready document featuring executive summaries, technology breakdowns, market insights, and key player profiles.
- Interactive Dashboard: A web-based platform enabling users to explore patent trends, filter by technology, applicant, jurisdiction, and time period, and generate customized reports.

Patent Landscape Overview



Patent filings grew steadily from 2010, surging after 2018. Most recent filings are still pending, hinting at an active innovation pipeline. Active filings peaked around 2020–2022, showing strong momentum in recent years.

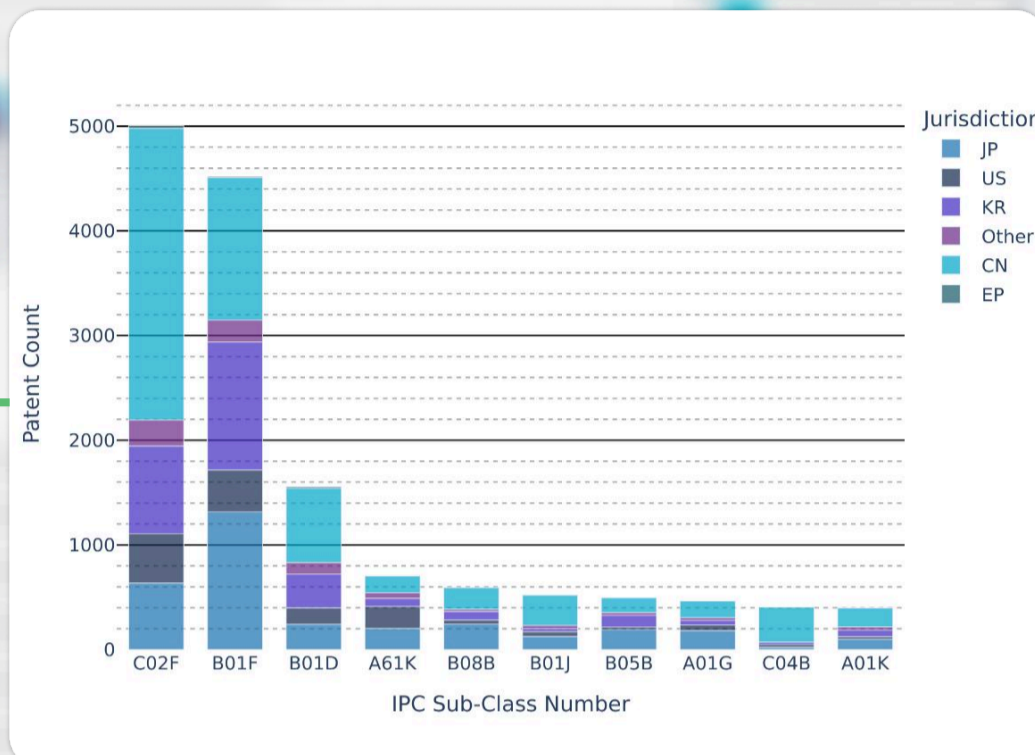
Top Patent Applicants



Canon KK leads patent filings by a wide margin, followed by Nanjing Yanc and Aquasolution. A diverse mix of tech and appliance companies signals active innovation across multiple sectors within this domain.

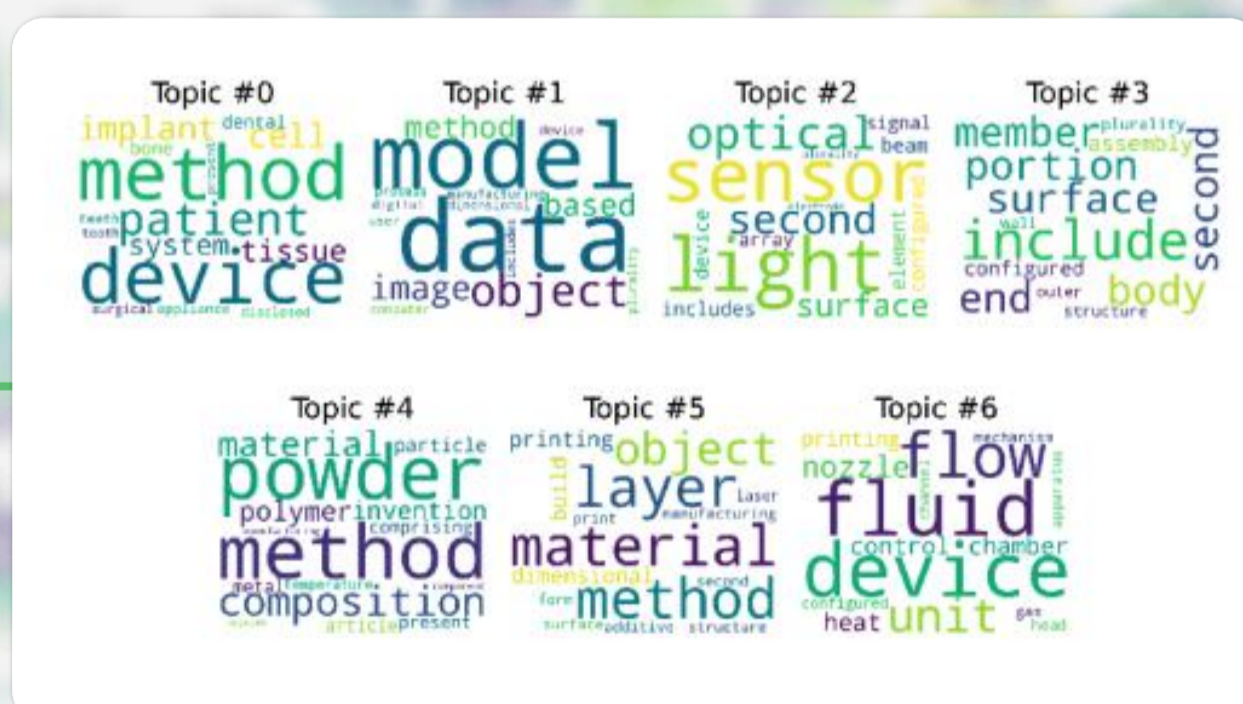
Technology Trends

Top Technologies by Sub-Class



C02F and B01F dominate patent activity, mostly driven by filings from China and Korea. These classes relate to water treatment and separation technologies, indicating strong innovation in sustainability and industrial processing.

Key Patent Themes



Strategic Recommendations:



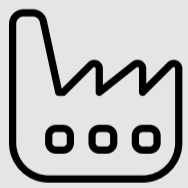
Policy Makers

1. Focus on fostering innovation in high-growth sectors.
2. Encourage investments in sustainable technologies.
3. Support industry-specific research and development initiatives.



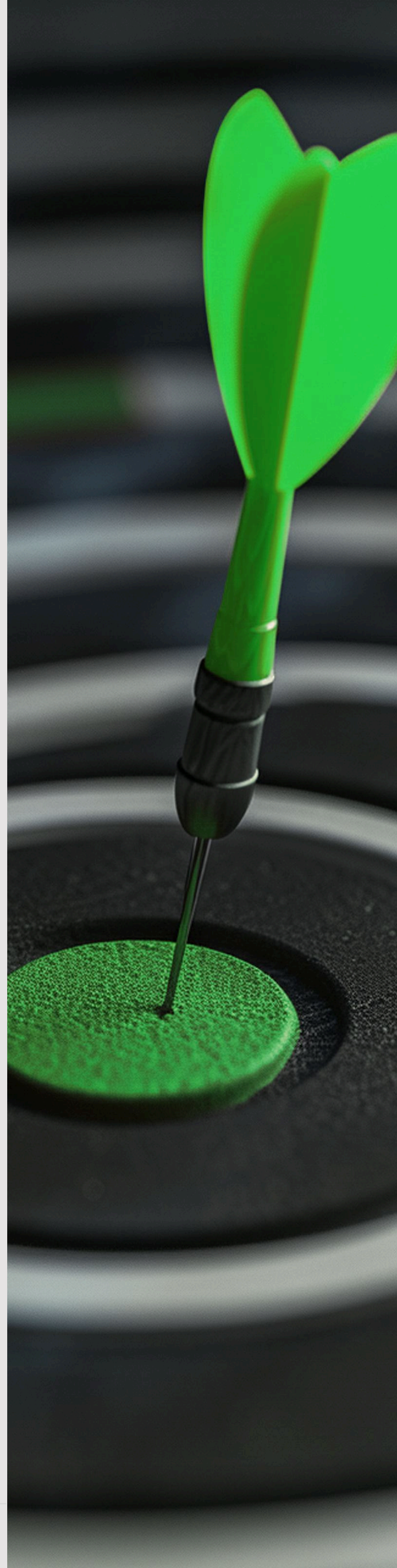
Investors

1. Prioritize companies with strong intellectual property in emerging technologies.
2. Monitor the latest advancements in new industrial applications and sectors.



Manufacturers

1. Embrace new technology adoption to improve operational efficiency.
2. Invest in scalable solutions for long-term growth.
3. Focus on sustainability and circular economy practices.

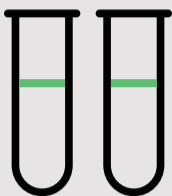


Our Industrial Expertise



Energy

Exploring innovations in the oil, gas, electricity, and renewable energy sectors.



Chemical

Advancing chemical processes, products, and catalysts for industrial applications.



Health and Pharma

Analyzing new pharmaceutical products, health services, and medical technologies.



ICT & Software

Examining trends in information and communication technology, software, and hardware.



Mining Industry

Investigating improvements in iron, steel, aluminum, copper, and other related industries.



New Materials

Researching advancements in advanced materials, nanotechnology, and their applications.

Our Global Allies



Nano Bubbles

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