Visual Inspection System

Patent Landscape Report

Sample

This sample report showcases a landscape of advancements in Visual Inspection System technology by analyzing 5433 patent from 2010 to 2025.

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Executive Summary

This sample report showcases a landscape of advancements in Visual Inspection System technology by analyzing 5433 patent from 2010 to 2025. The analysis reveals:

Explosive Growth

Patenting has grown ~9× over the last 14 years, peaking in 2024 with 691+ new filings.
80% of all filings occurred since 2015, with 1,551 applications still pending—signaling strong momentum.

Geographic Dominance

The United States leads with 3,163 patents (~58% share), followed by China with 1,274.
U.S. portfolios are more globally distributed while China's activity is more domestically focused; together they represent >80% of filings.

Technology Focus

Focus centers on image analysis (G06T7), optical material analysis (G01N21), image/video recognition (G06V10), and sorting (B07C5) alongside ML-driven defect detection.

Market Potential

The market shows robust growth: automatic visual inspection is projected from $14.71B (2022) to $38.74B by 2030 (~12.9% CAGR), with AOI/surface vision and broader machine-vision segments also expanding.

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

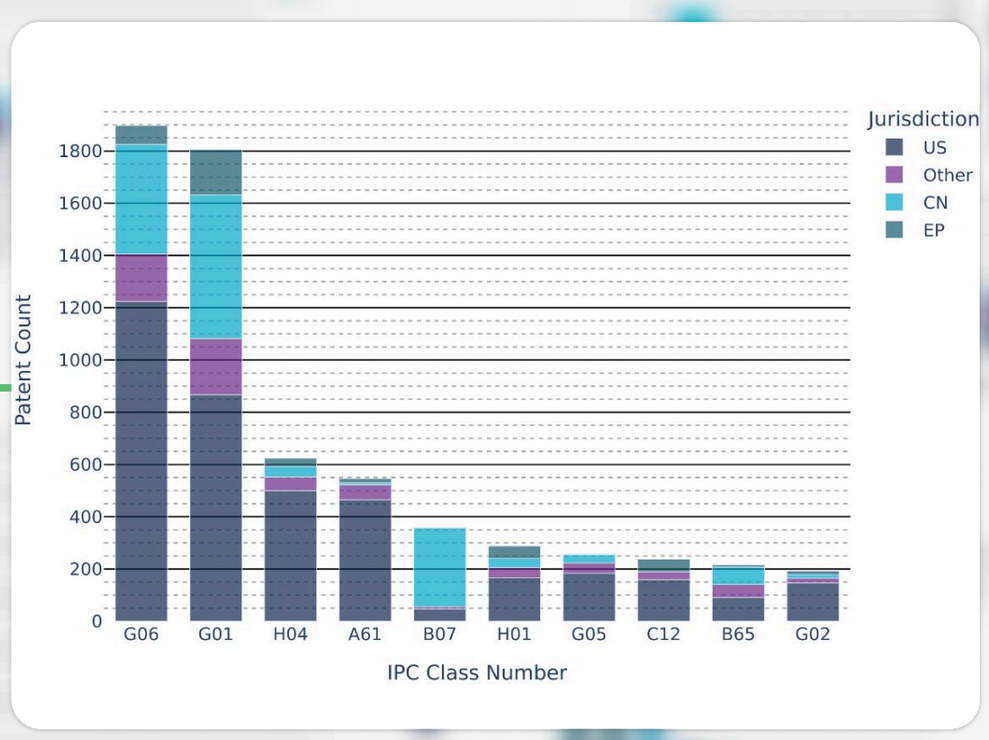
Delivery Formats

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.

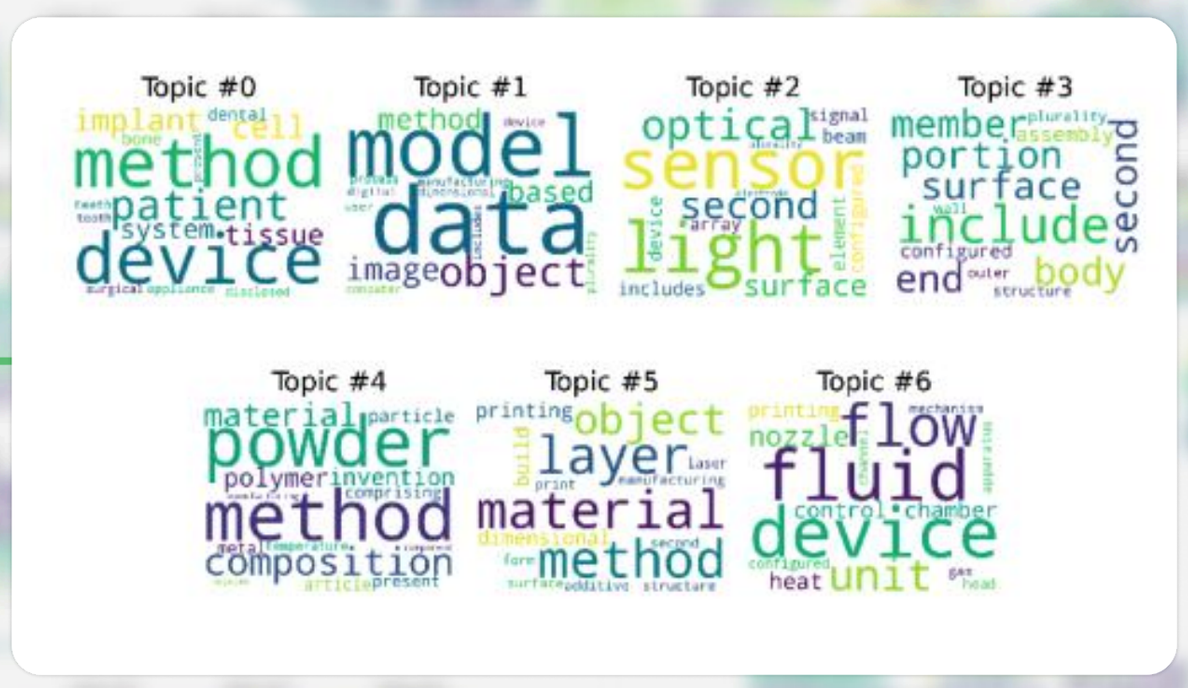
Technology Trends

Top Technologies by Sub-Class



Patent activity is dominated by classes G06 (computing) and G01 (measuring/ testing), with strong US and CN contributions. Other classes trail significantly, signaling a tech-heavy innovation focus across jurisdictions.

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.

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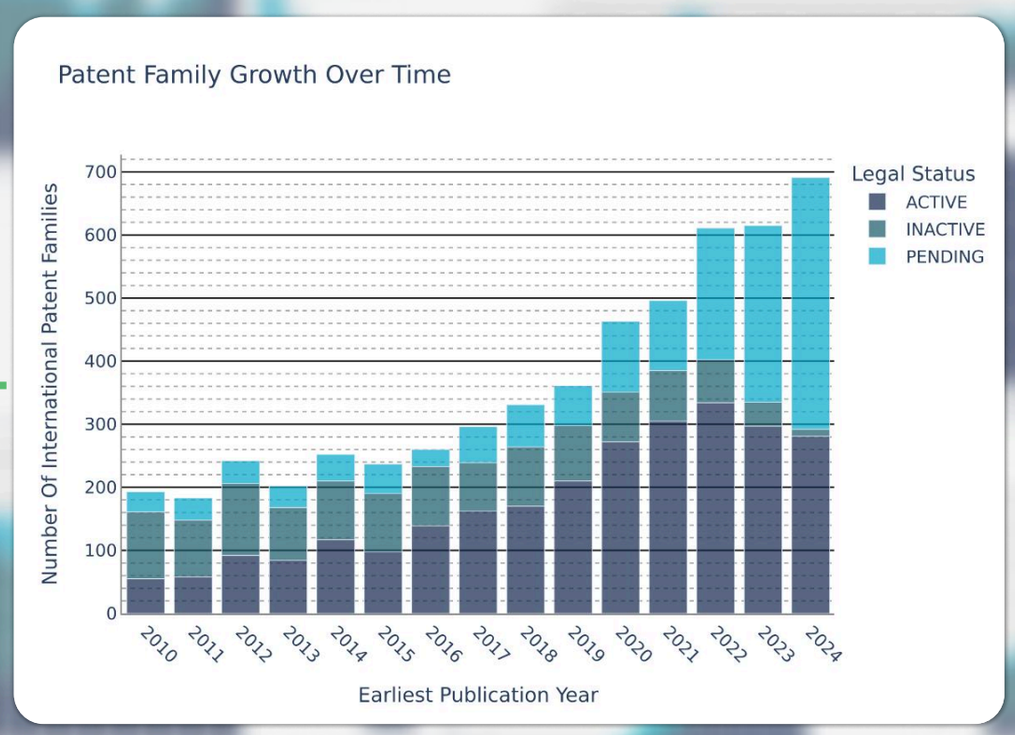
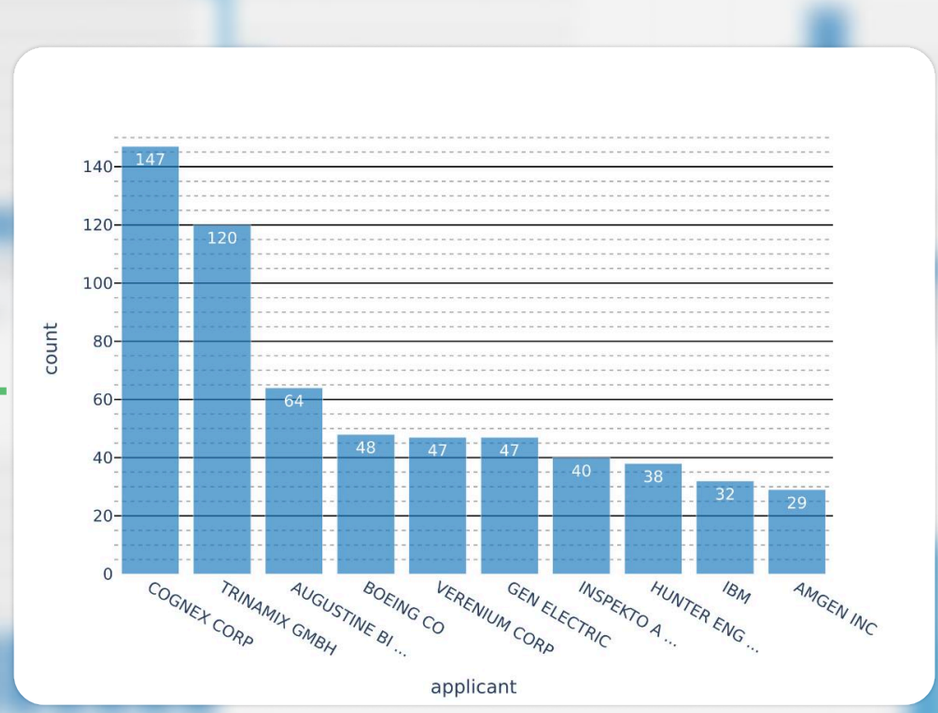
Technology Trends

Patent Landscape Overview



International patent filings are accelerating post-2019, with a surge in pending applications. This indicates growing innovation interest, though the dip in active filings after 2022 may signal longer grant timelines.

Top Patent Applicants



COGNEX CORP and TRINAMIX GMBH dominate applicant activity in this space, far outpacing peers. The sharp drop-off in counts after the top two suggests a highly concentrated innovation landscape.