

Sector Snapshot

Cleanroom Technology

Consumables

ARGONAS

Sector Segmentation

Construction and Design

Customized Cleanrooms

Modular and Mobile
Cleanrooms

Equipment

HVAC-Systems, HEPA- and
ULPA-Filters, FFUs, Laminar
Airflow Systems, Furniture

Controls, Validation and Certification

Real-time monitoring systems, access control systems,
environmental sensors, measurement & certification

Consumables

Mainly protective clothing and cleaning supplies

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Sector Definition

- **Purpose:** Essential for ensuring contamination control, maintaining sterility and complying with regulatory standards in controlled environments
- **Key Customers & Applications:** Industries like biotech, pharma, medical devices, semiconductors, electronics and food production
- **Products/Services:** Cleanroom suits, gloves, shoe covers, face masks, hoods, goggles, cleaning chemicals and wipes among others



Key Standards

- **Industry Requirements:** Standards vary by product, affecting airflow, filtration, and handling; focus on particles (semiconductors), micro-organisms (food), and germs (medicine)
- **Standards:** ISO 14644 (ISO 1-9), VDI 2083, GMP Guide (EU, classes A-D)
- **Compliance:** Independent audits by e.g. TÜV, Fraunhofer ensure standards, purity, and competitiveness



Market Size & Growth

- **Global Cleanroom Market***: Valued at USD 7.6 bn in 2023, projected to reach USD 14 bn by 2033 (CAGR 6.2%)
- **Main Growth Areas**: Pharma (largest, fastest-growing), biotechnology (rising in pharma production), and semiconductors & electronics (consumer electronics, defence)
- **By Segment**: Disposable protective clothing leads and is growing fastest, driven by the expanding biotech, pharma, and medical device sectors



Market Structure

- **Global Players:** The cleanroom consumables market is dominated by major global players like DuPont, Kimberly-Clark, Ansell, and Ecolab, while smaller and medium-sized companies also contribute to the competitive landscape
- **Regional Dynamics:** The market sees strong demand in North America, Europe, and Asia-Pacific, with emerging markets driving growth due to expanding manufacturing and healthcare sectors



Selected Key Players



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Underlying Key Drivers

- **Industry Growth:** Driven by innovations in 5G, AI, personalized medicine, and advanced manufacturing, with rapid growth in Asia-Pacific markets
- **Regulatory Compliance:** Strict government standards for contamination control in critical industries like pharma, biotech and semiconductors
- **Global Investments & Healthcare Growth:** Government initiatives like the U.S. CHIPS Act and expanding biopharma/healthcare sectors



Recent Key Trends

- **Technological Advancements:** Smart materials, real-time monitoring, and eco-friendly solutions enhance contamination control and efficiency
- **Growth in Emerging Markets:** Expanding industries supported by local investments in Asia-Pacific drive demand for cleanroom consumables
- **Sustainability Focus:** Eco-friendly and reusable consumables address contamination control and environmental goals



Transaction Market

Historical Activity:

- Cleanroom Consumables transactions have been moderate but steadily growing, driven by growing interest in the sector and the broader application across various industries
- Aligned with the growth dynamics of key end-industries and adoption of controlled environment practices, the US and Europe lead the deal activity, with Germany gaining relevance as a target country



Transaction Market

Key Drivers of Potential Deal Activity:

- Relevance and growth dynamics of relevant end-industries are increasing in Germany and broader Europe
- Regulatory frameworks drive the need for significantly more cleanroom solutions
- Cost as well as innovation pressures in the space should encourage consolidation into larger and more competitive organisational structures

Transaction Market

Outlook & Potential Opportunities:

- We generally expect a clear case for consolidation amongst the fragmented universe of smaller players
- Next to industry trends, succession issues will also play into deal rationales
- So far, there is limited activity of buy- & build platforms specifically focused on the space. In this context, consolidation angles may also stretch into the broader single-use or related fabric and material segments



Selected Deals



pure¹¹
clean room
consumables

Sale to



dastex
REINRAUMZUBEHÖR

02/10/24



CRTM
CleanRoomProducts GmbH

Sale to



dastex
REINRAUMZUBEHÖR

12/12/24



micronclean
QUALITY TODAY - INNOVATION TOMORROW

Sale to




Lindström

31/10/24



MIKROCLEAN

Sale to



mewa

11/03/24



DAYASSOCIATES
a Thomas Scientific, LLC company

Sale to



Thomas Scientific

02/08/23



dastex
REINRAUMZUBEHÖR

Sale to



Riverside

30/03/23



STAXS®
CONTAMINATION CONTROL EXPERTS

Sale to



HANIEL

09/05/22



Service Matters

Sale to



CWS

01/10/21

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