

# Europe Insect Processing Systems Market By Type (Liquid Handling System, Drying System, Others), By Application (Feed, Food, Others), By Country, Competition, Forecast, Opportunities, 2019-2029F

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## Abstracts

Europe Insect Processing Systems Market was valued at USD 451.39 Million in 2023 and is anticipated to project robust growth in the forecast period with a CAGR of 4.29% through 2029.

The Europe Insect Processing Systems market is projected to experience substantial growth in the coming years, driven by rising food demand, increasing feed costs, and heightened awareness of the benefits of insect-based solutions. These systems offer a revolutionary approach to sustainable food production by harnessing the potential of insects as a viable protein source. They include advanced technologies and equipment designed for the efficient farming, processing, and utilization of insects for various applications such as human consumption and animal feed.

Central to these systems are sophisticated farming techniques that optimize insect growth in controlled environments. Facilities use climate control, balanced diets, and automated systems to rear species like mealworms, crickets, and black soldier flies, ensuring high-quality output. During processing, specialized equipment such as separators and drying units ensure hygiene and quality, critical for maintaining nutritional value and minimizing contamination.

Insect processing systems also integrate innovative technologies for extraction and conversion. Methods like protein extraction, lipid separation, and chitin recovery are employed to produce protein powders, oils, and chitin for diverse uses, including bioplastics and pharmaceuticals. The use of automation and robotics enhances

efficiency, scalability, and productivity by minimizing human intervention and ensuring consistent quality and safety standards.

## Key Market Drivers

### Increasing Demand for Sustainable Protein

The rising demand for sustainable protein sources has catalyzed a transformative shift in the European food industry, leading to the burgeoning growth of insect processing systems. Europe, known for its stringent environmental regulations and increasing focus on sustainable practices, has witnessed a remarkable surge in the development and adoption of insect processing systems. These systems represent an innovative approach to address the pressing challenges of food security, environmental sustainability, and the need for alternative protein sources within the region. The European market for insect processing systems has experienced substantial growth, primarily driven by several key factors. Insect-derived products have found diverse applications beyond human consumption. They are increasingly utilized in animal feed formulations, contributing to the sustainable development of the livestock industry. Additionally, insect-based fertilizers and bio-converters for organic waste management have gained traction, further expanding the market scope for insect processing systems. Moreover, there are some cultural barriers initially existed, European consumers are increasingly open to embracing insects as a viable protein source. Educational campaigns, culinary innovations, and a growing awareness of the environmental benefits associated with insect-based products have contributed to shifting consumer perceptions. According to the International Platform of Insects for Food and Feed (IPIFF), within the next 10 years the insect sector will become an integral part of the European agri-food chain. It is forecast that 1 in 10 fish consumed in the European Union (EU) will come from fish farms that use insect protein in their feed, 1 in 4 eggs consumed in Europe will come from insect-fed laying hens, 1 in 5 servings of chicken meat will come from insect-fed broilers, and 1 in 100 servings of pork will come from insect-fed pigs.

### Rising Awareness of Nutritional Benefits

The growing recognition of the nutritional benefits of insect consumption is reshaping perceptions of alternative protein sources. As global populations increase and environmental concerns intensify, the need for sustainable and nutritious food options becomes more urgent. Despite their traditional neglect in Western diets, insects are gaining global attention due to their impressive nutritional profile and potential to

address food security and sustainability challenges. They are rich in essential nutrients, including high-quality protein, healthy fats, vitamins, and minerals. For example, crickets and mealworms contain protein levels between 50% and 70% of their dry weight, which can rival or surpass traditional sources like beef and chicken. Additionally, insects provide omega-3 and omega-6 fatty acids, B vitamins, iron, and calcium, all crucial for human health.

Insects also offer significant sustainability advantages. They are highly efficient at converting feed into edible mass, requiring less water, land, and feed compared to conventional livestock. Their lower greenhouse gas emissions and minimal resource use align with sustainable food production practices. Insect-based ingredients can be processed into powders, flours, and oils, adding versatility to various food products and offering opportunities for innovative culinary applications. However, widespread acceptance is challenged by cultural barriers, food preferences, and psychological aversions. Addressing these challenges requires focused efforts in education, marketing, and culinary innovation to alter perceptions and promote insect-based foods. Initiatives such as culinary events, tastings, and educational campaigns aim to highlight the versatility and appeal of insect-derived products, while collaboration among the food industry, researchers, and regulatory bodies is crucial for establishing standards and building consumer trust. As awareness of insects' nutritional and ecological benefits grows, they represent a promising solution to global food and sustainability challenges.

## Key Market Challenges

### Regulatory Compliance

Regulatory compliance is a critical aspect of scaling production within the insect-based product industry. As operations expand, ensuring adherence to safety and quality regulations becomes increasingly complex due to the larger scale of production and the need for standardized practices. Scaling up production necessitates the establishment of standardized operating procedures across various stages of insect farming, processing, and distribution. Implementing uniform practices ensures consistency, quality control, and compliance with regulatory requirements. This includes protocols for hygiene, handling, storage, and processing methods. Robust quality control measures become more intricate with increased production volumes. Implementing stringent quality checks at every stage, from sourcing feed to the final product, is crucial. This includes testing for contaminants, ensuring proper handling, and monitoring environmental conditions to maintain product integrity. Adhering to food safety protocols becomes increasingly challenging when scaling production. Comprehensive risk

assessments, hazard analysis, and implementation of Hazard Analysis and Critical Control Points (HACCP) systems are essential. These systems help identify potential risks in the production process and establish preventive measures to ensure food safety. Compliance with regulations imposed by local, national, and international governing bodies is imperative. Insect-based products must meet stringent food safety standards and regulations specific to the region or market they are targeting. Obtaining certifications such as Good Manufacturing Practices (GMP) or ISO standards demonstrates a commitment to quality and compliance.

## Key Market Trends

### Increasing Demand for Personalized Supplement

Technological advancements are revolutionizing the insect processing systems market, enhancing efficiency, innovation, and sustainability across all stages of insect cultivation and processing. Automation plays a key role in this transformation, with smart technologies and automated systems streamlining insect farming and harvesting. These innovations reduce labor costs and ensure consistent production by employing automated feeding systems, climate control, and monitoring sensors to create optimal growth conditions and conserve resources.

In extraction and processing, cutting-edge technologies improve the production of high-quality insect-derived ingredients, such as protein powders and oils. These advancements increase yields and enable the development of diverse products for animal feed, human nutrition, and industrial uses. Additionally, data analytics and precision farming techniques enhance operational efficiency by providing real-time insights into environmental conditions and insect behavior, leading to optimized resource use and improved sustainability.

The rise of closed-loop systems further contributes to sustainability by recycling water and organic waste, minimizing environmental impact. As technological integration continues, the insect processing industry is evolving towards more efficient and eco-friendly practices. These innovations drive productivity, reduce environmental footprints, and expand the range of high-quality insect-based products. The ongoing technological advancements are essential for the growth and diversification of the insect processing market, fostering a dynamic and sustainable industry.

## Segmental Insights

## Type Insights

Based on the type, the Liquid Handling System segment emerged as the dominant segment in the Europe Insect processing systems market in 2023. The dominance of the Liquid Handling System segment signifies the pivotal role it plays within the industry. Liquid handling systems encompass a wide array of equipment and technologies crucial for various stages of insect processing, particularly in handling fluids and liquids involved in extraction, separation, and processing of insect-derived components. Liquid handling systems are integral in the extraction of valuable components from insects, such as proteins, oils, and bioactive compounds. These systems facilitate precise and efficient handling of liquids, enabling the extraction of high-quality ingredients used in a diverse range of products, including animal feed, human nutrition, pharmaceuticals, and industrial applications. The dominance of this segment reflects the importance of efficient liquid handling in optimizing production processes, ensuring high yields, and maintaining product quality. Advanced liquid handling technologies enable precise control over volumes, concentrations, and mixing ratios, contributing to the development of innovative insect-based products with superior quality and functionality. Moreover, the prominence of liquid handling systems in the European market underscores the emphasis on technological advancements and automation within the insect processing industry. These systems incorporate sophisticated automation, robotics, and precision instruments to streamline liquid-based processes, reducing human error, minimizing waste, and enhancing overall operational efficiency.

## Country Insights

Germany emerged as the dominated country in the Europe Insect Processing Systems market in 2023, holding the largest market share in terms of value. Germany stands as a hub for innovation and technological advancements in various industries, including agriculture and food processing. Its robust research and development infrastructure foster continuous innovation in insect farming, processing technologies, and sustainable food production practices. The country's commitment to technological excellence drives advancements in insect processing systems, enhancing efficiency and product quality. Germany's commitment to sustainability aligns well with the ethos of insect processing systems. With growing concerns about environmental impact and the need for sustainable food sources, Germany's emphasis on eco-friendly practices positions it favorably in developing and adopting insect-based solutions that address these concerns.

## Key Market Players

HOSOKAWA MICRON B.V.

TUEV Rheinland Industrie Service GmbH

Fera Science Limited

NTEK srl

CIRS EU

Intertek Group Plc

Eurofins Scientific SE

#### Report Scope:

In this report, the Europe Insect Processing Systems Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

#### Europe Insect Processing Systems Market, By Type:

Liquid Handling System

Drying System

Others

#### Europe Insect Processing Systems Market, By Application:

Feed

Food

Others

#### Europe Insect Processing Systems Market, By Country:

Germany

France

Netherlands

Belgium

Austria

Switzerland

Luxembourg

United Kingdom

Spain

Italy

## Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Europe Insect Processing Systems Market.

## Available Customizations:

Europe Insect Processing Systems market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

## Company Information

Detailed analysis and profiling of additional market players (up to five).



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