

# Privacy Enhancing Technologies Market: Current Analysis and Forecast (2024-2032)

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## Abstracts

PETs are defined as any methods or tools that can be used to enhance the privacy of data while at the same time allowing the processing, sharing, or analysis of such data. Some of these technologies are homomorphic encryption, secure multi-party computation (MPC), differential privacy, and zero-knowledge proofs (ZKP) to ensure organizations maintain data privacy without having to reveal raw values.

The Privacy Enhancing Technologies Market is expected to grow with a significant CAGR of 25% during the forecast period (2024-2032). The demand for PETs is increasing in today's world because of increasing data risks and mandatory rules and regulations to protect and handle data security. These techniques include homomorphic encryption, SMPC (Secure Multi-Party Computation), and differential privacy to address this problem of safe use of data in a business environment. It is further supported by the increasing trend towards AI for analytics and privacy-conscious digital advertisement resulting in the need for privacy-preserving computation.

For example, in July 2022, Duality Technologies, the leader in privacy-preserving data collaboration announced the launch of their highly advanced open-source fully homomorphic encryption (FHE) library in cooperation with a who's who in cryptography. Intel, Samsung, the University of California - San Diego, and MIT join Duality in bringing to market this significant milestone in FHE.

Based on the component, the market is segmented into software and services. The software held a significant share of the market in 2023. PET software is used in businesses for data transfer, AI model training, and meeting compliance requirements such as GDPR. Also, the rising adoption of cloud-based PET solutions helps companies improve data security without the need for extensive

changes in IT infrastructure.

In July 2023, The Infocomm Media Development Authority of Singapore (IMDA) partnered with Google to launch privacy-enhancing technologies (PET) x Privacy Sandbox to support businesses that wish to pilot PET projects. PETs allow businesses to extract value from data and ensure the protection of personal data and other commercially sensitive information.

Based on typology, the market is segmented into cryptographic technologies, obfuscation technologies, statistical technologies, systems-based and accountability technologies, and miscellaneous technologies. Cryptographic technologies held a significant share of the market in 2023. The PET market expands due to being supported by cryptographic technologies for computation, encryption, and zero-knowledge proofs of privacy. To conduct computations on encrypted data while preserving the privacy of the said data, there is homomorphic encryption while securing MPC. Blockchain adoption is growing exponentially in blockchain, healthcare, and finance industries because of the importance of confidentiality in regulation. On October 13, 2022, Vaultree announced the release of its Data-in-Use Encryption for Google's AlloyDB. As a launch partner with Google's AlloyDB, the offering pairs the world's first fully functional Encryption-in-use solution powered by Vaultree with Google's AlloyDB for PostgreSQL. Users will now be able to trial running Vaultree's fully homomorphic and searchable encryption technology in the cloud, representing a breakthrough in encryption standards to enable next-generation encryption and data protection.

Based on the application, the market is segmented into compliance management, risk management, reporting & analytics, and others. Reporting & analytics are expected to grow with a significant CAGR during the forecast period (2024-2032). PETs mainly help in reporting as well as analyzing the encrypted data since the sensitive data is protected from unauthorized individuals. The increasing application of AI in analytics and big data requires the use of PET to address legal requirements when using valuable data. To maintain the privacy of customers, organizations use differential privacy and federated learning for analyzing customer's behavior. It is implemented in various sectors such as retail and health sector because such analyzing processes must be performed privately.

Based on end users, the market is segmented into BFSI, healthcare, telecommunication, government, retail, and others. BFSI (Banking, Financial Services, and Insurance) held a considerable share of the market in 2023. The adoption of PET is promoted by the BFSI industry by guaranteeing safe, protected banking and preventing fraud through Protection Laws. The significant factors contributing to the growth are an increase in the threat levels to cyber security, new and more stringent regulations, and the need for personal and secure banking through Internet channels.

For a better understanding of the market adoption of Privacy Enhancing Technologies, the market is analyzed based on its worldwide presence in countries such as North America (U.S., Canada, and the Rest of North America), Europe (Germany, France, U.K., Spain, Italy, Rest of Europe), Asia-Pacific (China, Japan, India, Rest of Asia-Pacific), Rest of World. Asia-Pacific is expected to grow with a significant CAGR during the forecast period (2024-2032). The Asia-Pacific market for PET technology is growing rapidly because data protection legislation keeps rising across regions particularly in China through the Personal Information Protection Law (PIPL) and India through the Digital Personal Data Protection (DPDP) Act. The demand for PETs in the finance and telecom sectors has grown because of privacy-oriented AI and digital banking solutions. Business organizations are expanding their investments toward blockchain-based identity solutions as well as secure AI training systems to boost data privacy. Public entities along with businesses implement secure multi-party computation (MPC) together with confidential computing solutions to safeguard their sensitive information.

Some of the major players operating in the market include IBM, Microsoft, Google, SAP, Cisco Systems, Inc., Sedicii Innovations Ltd., Enveil, Unacast, Silence Laboratories, and DECENTRIQ.

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