



*Enveil Recognized for*

**2021**

**Technology Innovation Leadership**

Global Privacy-enhancing  
Technologies Industry

*Excellence in Best Practices*

## Strategic Imperatives

Frost & Sullivan identifies three key strategic imperatives that impact the fintech industry: industry convergence, new business models, and disruptive technologies. Every company that is competing in the fintech space is obligated to address these imperatives proactively; failing to do so will almost certainly lead to stagnation or decline. Successful companies overcome the challenges posed by these imperatives and leverage them to drive innovation and growth. Frost & Sullivan’s recognition of Enveil is a reflection of how well it is performing against the backdrop of these imperatives.



## Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each award category before determining the final award recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. Enveil excels in many of the criteria in the privacy-enhancing technologies (PET) space.

AWARD CRITERIA	
<i>Technology Leverage</i>	<i>Business Impact</i>
Commitment to Innovation	Financial Performance
Commitment to Creativity	Customer Acquisition
Technology Incubation	Operational Efficiency
Commercialization Success	Growth Potential
Application Diversity	Human Capital

### Company Background

Founded in 2016, Enveil is a data security company that specifically protects “Data in Use” (i.e., data being processed or used). Enveil works in the Privacy Enhancing Technologies or PETs space (a family of technologies that enable users to preserve privacy throughout the data processing lifecycle). The company uniquely leverages a technology called homomorphic encryption to allow users to perform encrypted operations (i.e., during searches, sharing, or collaboration) as though it were plain text. Enveil

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**- Jeffrey Castilla, Best Practices Research Team Leader**

has its headquarters in Fulton, Maryland (United States [US]), with a London, England subsidiary. The company serves businesses across industries, focusing specifically on government, financial services, and healthcare applications. Enveil also received its Series A funding in 2020, led by strategic investors such as Mastercard, Capital One Ventures, Bloomberg Beta, Refinitiv, and C5 Capital.

### Responding to an Unmet Need

Most organizations process data and extract insights by performing searches and layering analytics over it. Sometimes they take advantage of synergies by collaborating and consolidating their data resources first, then running the searches and analytics over them. However, oftentimes fear (e.g., exposing their data assets to vulnerabilities in untrusted environments) or risk and compliance regulations preclude

these organizations from sharing their data. Thus, they are either unwilling or unable to surrender positive control of their data assets.

Enveil addresses this unmet need through its flagship product line, ZeroReveal®. In its third generation<sup>1</sup>, ZeroReveal® is a lightweight software application that deploys above the data via an application programming interface (API) within users' existing systems in the cloud, on-premise, or anywhere in between. Advanced technology (i.e., homomorphic encryption) empowers organizations to encrypt and run searches, analytics, and machine learning models without ever decrypting them during processing. Since it does not require users to change how they store or format their data, they can collaborate and share their data assets in a completely decentralized way while still retaining positive and auditable control over them. This capability fundamentally changes the paradigm of how and where organizations can securely and privately leverage data assets.

ZeroReveal® includes two key products: ZeroReveal Search and ZeroReveal Machine Learning. ZeroReveal Search essentially allows users to encrypt searches or watch lists and then run them without decrypting them, allowing users to obtain the information they need without violating privacy restrictions. Enveil's newer product line, ZeroReveal Machine Learning, complements ZeroReveal Search by protecting machine learning models. It allows users to run their trained models in an environment they do not own, over data they do not own, and return the results without ever exposing their models to vulnerabilities. Both products fit within the form factor of Enveil's ZeroReveal® Compute Fabric. This two-party proxy layer software allows Enveil's products to be lightweight and completely API-based while respecting the existing enterprise systems and tooling for things like access and audits.

ZeroReveal® carries various global certifications from entities such as National Information Assurance Partnership (NIAP) Common Criteria and Commercial Solutions for Classified Program (CSfC). NIAP is a 31-member country certifying body that designates independent certification labs to test products, substantiating the process with hundreds of public security documentation pages. CSfC certifies the company to deploy on any classified system within the US government, attesting that Enveil's products are secure and function properly in highly-regulated environments. Enveil is also very proud of its designation by the World Economic Forum (WEF) as a technology pioneer, which is a two-year honor. Enveil was one of only six cybersecurity companies that WEF selected, and it was the only company that secures Data in Use and solutions around PETs.

### ***Application Diversity***

Enveil addresses two main use cases in the commercial market. One is an umbrella use case in which the company enables secure data sharing and collaboration. This use case is particularly useful in the financial services sector, enabling cross-jurisdictional data sharing and collaboration. Frequently, different operating jurisdictions run into challenges when they need to share data while adhering to regulatory requirements. Enveil enables parties to collaborate using each other's data in a completely decentralized way while respecting these regulations at every point in the process. The company also provides the robust ability to perform encrypted "fuzzy matching," which identifies variations in spelling for various pieces of information (e.g., street names, first names, and last names). This technical capability is very useful when working with non-standardized, "dirty" data among multiple data owners.

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<sup>1</sup> <https://www.globenewswire.com/news-release/2021/02/23/2180534/0/en/Enveil-ZeroReveal-3-0-Delivers-Performant-Scalable-Privacy-Enhancing-Capabilities-for-Secure-Data-Search-Sharing-and-Collaboration.html>

The second umbrella use case in the commercial world relates to data monetization. As organizations search for ways to create new revenue streams, they seek to identify ways to monetize existing internal data assets. Enveil enables organizations to monetize existing data assets in a secure and private manner.

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**- Jeffrey Castilla, Best Practices Research Team Leader**

Enveil applies these use cases in several highly-regulated sectors such as financial services, security, healthcare, and insurance. The company allows users to search or process data without exposing sensitive/regulated information or opening themselves up to risk by exposing such data in untrusted environments. The company has found its technology particularly useful in the financial services sector, where global banks are frequently restricted from sharing privacy-related data. In the federal domain, government users often need to utilize data

in untrusted locations. The most common method for managing this task involves pulling third-party data into a protected environment so analysts can run secure searches. Because Enveil can protect the query, analytic, or machine learning models themselves, users can run their encrypted queries in the untrusted data environment and obtain results without exposing their interests or intents.

#### **Use Case: KYC/CDD for Onboarding**

Money launderers often exploit jurisdictional data sharing restrictions by presenting information that financial institutions can only evaluate within the context of their region. Privacy restrictions prevent banks and administrative bodies from viewing applicants’ data or histories in other regions outside their jurisdictions. This limitation can hinder the know-your-customer or customer due diligence screening processes for onboarding new customers. Enveil allows these institutions to reach out across jurisdictions to other branches of its own bank or even into other financial institutions through a collaborative intelligence framework. They thereby obtain a more holistic view and set of insights on customers while also respecting all of the data residency, localization, and regulatory requirements for each operating jurisdiction.

#### **Defining an Industry**

While there are other approaches to PETs and Data in Use applications (i.e., multiparty compute and trusted execution environments), homomorphic encryption is the most secure way of ensuring that operations (i.e., the content of the query and the content of the analytics) are never exposed. It is ideal for highly regulated spaces, particularly those with financial or legal consequences tied to compromised data or privacy.

For more than 40 years, industry players, researchers, technologists, scientists, and cryptographers have viewed homomorphic encryption as the “Holy Grail” of data encryption.<sup>2</sup> Until recently, it was considered to be computationally impractical. It would take hours or days to run searches on even small amounts of data. When breakthroughs in its utilization occurred, allowing it to be computationally

<sup>2</sup> D. Tourky, M. ElKawagy and A. Keshk, "Homomorphic encryption the “Holy Grail” of cryptography," 2016 2nd IEEE International Conference on Computer and Communications (ICCC), Chengdu, 2016, pp. 196-201, doi: 10.1109/CompComm.2016.7924692.

practical for the first time, Enveil's founder, Ellison Anne Williams, saw an opportunity to leverage homomorphic encryption for commercial applications and began the arduous journey of creating a completely new horizontal market.

Homomorphic encryption transforms the way companies do business. It is completely scalable, and users can leverage it at the speed of business. Encrypted results are returned in seconds versus days, as was once the case. Through its solutions, Enveil defines an industry and sets the stage for a new wave of industry participants. The company creates a new decentralized model of data sharing and collaboration that breaks down barriers. Typically, organizations that wish to collaborate need to pool data resources; however, risk, compliance, regulations, and competition can preclude them from doing so. Enveil allows data sharing and collaboration that would otherwise never be possible in such a decentralized way by enabling encrypted processing over data in their respective organizations and jurisdictions.

Thought leadership is a key component in building this industry. Enveil spends a significant amount of time educating the populace, evangelizing, and raising awareness about homomorphic encryption and its applications in the Data in Use PETs space. As the terms "homomorphic encryption," and "Data in Use," and "PETs" become increasingly commonplace, Enveil sees an opportunity to help its customers enable critical business functions more smoothly, efficiently, and securely. Additionally, through its continued exploration of the market, Enveil will continue to expand its products while paving the way for new market-entrant groups.

## Conclusion

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In the cybersecurity industry, privacy-enhancing technologies (PETs) protect people's identities and personal data. Many have long considered homomorphic encryption within the PETs category to be the "Holy Grail" of data encryption. Enveil uses homomorphic encryption to specifically protect Data in Use. The company's ZeroReveal® solutions enable a range of use cases across sectors, allowing businesses to share and leverage data while respecting regulatory restrictions. This approach fundamentally changes the paradigm of secure data sharing, collaboration, and monetization. Essentially, the company has embarked on a journey of creating a new horizontal commercial market, setting the stage for future market entrants.

Due to these efforts, Enveil cements its position as a leading technology provider in the industry. As a result, Enveil earns Frost & Sullivan's 2021 Global Technology Innovation Leadership Award in the privacy-enhancing technologies industry.

## What You Need to Know about the Technology Innovation Leadership Recognition

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Frost & Sullivan's Technology Innovation Award recognizes the company that has introduced the best underlying technology for achieving remarkable product and customer success while driving future business value.

### Best Practices Award Analysis

For the Technology Innovation Leadership Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

#### *Technology Leverage*

**Commitment to Innovation:** Continuous emerging technology adoption and creation enables new product development and enhances product performance

**Commitment to Creativity:** Company leverages technology advancements to push the limits of form and function in the pursuit of white space innovation

**Stage Gate Efficiency:** Technology adoption enhances the stage gate process for launching new products and solutions

**Commercialization Success:** Company displays a proven track record of taking new technologies to market with a high success rate

**Application Diversity:** Company develops and/or integrates technology that serves multiple applications and multiple environments

#### *Business Impact*

**Financial Performance:** Strong overall financial performance is achieved in terms of revenues, revenue growth, operating margin, and other key financial metrics

**Customer Acquisition:** Customer-facing processes support efficient and consistent new customer acquisition while enhancing customer retention

**Operational Efficiency:** Company staff performs assigned tasks productively, quickly, and to a high-quality standard

**Growth Potential:** Growth is fostered by a strong customer focus that strengthens the brand and reinforces customer loyalty

**Human Capital:** Commitment to quality and to customers characterize the company culture, which in turn enhances employee morale and retention

## About Frost & Sullivan

Frost & Sullivan is the Growth Pipeline Company™. We power our clients to a future shaped by growth. Our Growth Pipeline as a Service™ provides the CEO and the CEO's growth team with a continuous and rigorous platform of growth opportunities, ensuring long-term success. To achieve positive outcomes, our team leverages over 60 years of experience, coaching organizations of all types and sizes across 6 continents with our proven best practices. To power your Growth Pipeline future, visit Frost & Sullivan at <http://www.frost.com>.

## The Growth Pipeline Engine™

Frost & Sullivan's proprietary model to systematically create on-going growth opportunities and strategies for our clients is fuelled by the Innovation Generator™. [Learn more.](#)

### Key Impacts:

- **Growth Pipeline:** Continuous flow of Growth opportunities
- **Growth Strategies:** Proven Best Practices
- **Innovation Culture:** Optimized Customer Experience
- **ROI & Margin:** Implementation Excellence
- **Transformational Growth:** Industry Leadership



## The Innovation Generator™

Our six analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

### Analytical Perspectives:

- Mega Trend (MT)
- Business Model (BM)
- Technology (TE)
- Industries (IN)
- Customer (CU)
- Geographies (GE)

