

Unleashing Infinite Potential: The colossal influence of IoT in Product Engineering

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By Sunil Sharma, Global Head of Data Science and Digital Engineering of CriticalRiver and Sreekumar Pillai, CTO of Experion Technologies

The exciting concept of Internet of Things or IoT paints a vivid picture of a wide network of 'things' that are interconnected and seamlessly share data or communicate with each other. IoT is not merely a buzz word, rather it stands as a transformative force in the Engineering realm particularly within the rapidly growing segment of Product Engineering. The term, IoT, was primarily coined by computer scientist Kevin Ashton in 1999. However, the widespread adoption and acceleration of the concept began in 2010s with the expedition of global tech advancements. Now, IoT creates a paradigm shift in how businesses operate by interconnecting devices and sharing valuable data.

Imagine a world where your car not only warns of upcoming traffic jams and suggests alternate routes but also proactively schedules maintenance, finds parking spots and communicates with surrounding vehicles. Keeping this in light Mr. Sunil Sharma, Global Head of Data Science and Digital Engineering of CriticalRiver, a digital technology consulting firm headquartered in the US, commented "The integration of the Internet of Things (IoT) into product engineering represents a monumental shift in the way businesses approach product development, offering a multitude of benefits that are reshaping industries and competitive landscapes."

It's a transformative force reshaping the trajectory of product engineering. The connected ecosystem that IoT creates, allows companies to collect real-time customer and product data, weaving an intricate web of information that can revolutionize their operations and services. The potential is immense, with estimates suggesting that the number of IoT devices will soar to 29 billion by 2030.

Mr. Sreekumar Pillai, CTO of Kerala-based Experion Technologies with deep domain expertise in Product Engineering, shares some real-life examples "To talk about some real-life transformations- Predictive maintenance, driven by IoT sensors, schedules proactive upkeep. Fuel efficiency boosts up as IoT analyses driving patterns, offering real-time tips to cut costs and emissions. Vehicle-to-Everything (V2X) communication enhances road safety, preventing accidents through instantaneous alerts. In-car personalisation with IoT tailoring experiences for individual preferences like adjusting seats, climate, and entertainment can be mastered. Usage-based Insurance, fuelled by IoT-enabled telematics, tracks driving behaviour for personalised policies, and the list goes on."

IoT has the capability to revolutionise businesses by enhancing security and safety. Through real-time alerts and continuous monitoring, IoT can significantly boost the security and safety of business operations. It also enables to offer personalised Products and Services since IoT devices can track and analyse customer data, enabling businesses to provide personalised recommendations for products and services. This not only enhances the customer experience but also opens new avenues for revenue generation. Excited with the endless possibilities posed by IoT, Mr. Sreekumar says, "Looking ahead, the possibilities seem boundless. Whether it is connected vehicles, wearables, smart appliances or Industrial IoT (IIoT), exciting times are ahead. The integration of Generative AI with IoT is paving the way for unprecedented product capabilities, heralding an era of increased connectivity, efficiency, and intelligence."

According to Fortune Business Insights, the global IoT market size is projected to grow from USD 662.21 billion in 2023 to USD 3,352.97 billion by 2030. Mr. Sunil Sharma also comments on IoT's future outlook, stating "As technology continues to advance, the role of IoT in product engineering is set to expand. The seamless connectivity and intelligent data analytics facilitated by IoT will open new avenues for innovation and progress. From smart homes to industrial automation, the influence of IoT will continue to redefine industries, creating more efficient, user-centric, and technologically advanced products."

In conclusion, the integration of IoT into product engineering is a transformative movement with profound implications for businesses. The Internet of Things (IoT) will surely play an increasingly important role in product engineering as we navigate the future and move toward a more technologically sophisticated and connected world.