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IOT INTEGRATION FOR SAP SOLUTIONS IN HEALTHCARE

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ABSTRACT

The integration of the Internet of Things (IoT) with SAP solutions is transforming healthcare by enabling real-time data exchange, improved operational efficiency, and enhanced patient care. As healthcare systems become increasingly data-driven, the adoption of IoT devices—such as wearable sensors, remote monitoring tools, and smart medical equipment—facilitates seamless communication between patients, healthcare providers, and hospital management systems. SAP solutions provide a robust framework for managing the enormous influx of data generated by IoT devices, enabling predictive analytics, automated workflows, and better resource management.

This paper explores the potential of combining IoT technologies with SAP applications like SAP HANA, SAP IoT services, and SAP Health to improve decision-making and reduce operational bottlenecks in healthcare environments. Real-time data insights from connected devices help monitor patient vitals remotely, automate clinical processes, and trigger timely alerts to caregivers. Furthermore, the integration supports predictive maintenance of medical equipment, ensuring high system uptime and patient safety.

With a focus on interoperability, SAP's IoT-enabled solutions also foster collaboration among departments and streamline supply chain processes, ensuring the availability of critical resources like pharmaceuticals and medical devices. Security and data privacy challenges, particularly in compliance with healthcare standards like HIPAA, are also addressed through advanced encryption and access control mechanisms within SAP's ecosystem. The research underscores how IoT-SAP integration offers healthcare providers a competitive edge by delivering smarter, more efficient, and patient-centric services, paving the way for a connected and innovative future in healthcare.

KEYWORDS: *IoT Integration, SAP Solutions, Healthcare, Real-Time Data, Predictive Analytics, Remote Patient Monitoring, Smart Medical Devices, Automated Workflows, Predictive Maintenance, Healthcare Interoperability, Data Privacy, HIPAA Compliance, Connected Healthcare Systems, Resource Management, Patient-Centric Care*

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