Digital healthcare solutions
Shaping the future of care

The increase of chronic diseases, along with the necessity of reducing hospitalization time and healthcare costs and dealing with the global shortage of healthcare professionals, are creating the need for systems that enable remote patient and therapy adherence monitoring, telemedicine, and assisted diagnostics.

Today, any medical device can be easily connected through a variety of wired and wireless technologies, allowing for a seamless and secure data exchange between the patient and healthcare providers.

Available computing and sensor technologies enable new and faster insights into patient-generated data, providing long-term patterns search, with cloud and AI-based systems, as well as immediate reaction to sudden deviances, with intelligent devices and edge computing.

The medical device then becomes a component of a wider ecosystem of digital technologies, that can enable new use cases, based on continuous sharing and elaboration of therapy data.

At Flex, we help you design and build your next breakthrough connected system.

With 10+ years in design and manufacturing of connected medical devices, our capabilities in digital healthcare include:

Connectivity and IoT technologies

Product cybersecurity analysis of the entire system

UI/UX design, human factors interface

Regulatory and privacy compliance

Mobile app development (native and cross-platform)

Data analytics, AI, edge and cloud computing

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Project Case 1: Dose-tracking digital system

Challenge

Provide a dose-tracking digital system for a mechanical, disposable, and unconnected autoinjector, usable for different drugs and therapies

Solution

- Realization of a reusable add-on for the autoinjector, providing electronics and connectivity
- HFI and formative study, design exploration to fit patient needs
- Dedicated mobile app providing patient guidance and injection reports
- Integration of system components with a data analytics solution, providing dose tracking functionality and therapy adherence check, customizable based on patient and type of drug

Technology

- Low-cost, low-power BLE connectivity add-on for the mechanical autoinjector
- iOS and Android mobile platforms in native languages
- Third-party cloud application customization and integration with the system components

Project Case 2: Insulin dose calculation

Challenge

Simplify insulin dose calculation, usually done manually by the patient

Solution

Realization of an insulin dose recommendation system, consisting of:
- Patient mobile app for manual entry of measured glucose level and next meal description (Class II medical device)
- Mobile app that allows the doctor to control glucose levels and therapy data, provide additional prescriptions, and manage users (Class II medical device)
- Integration with two different digital therapy solutions providing the algorithm that calculates the next suggested insulin dose, based on patient characteristics and therapeutic policy

Technology

- iOS and Android mobile platforms in native languages
- SAMD class-II medical device clearance by FDA
- Web application customization and integration through custom APIs

Why Flex?

Accelerate time to market while reducing R&D investments by partnering with Flex. We'll share our cross-industry expertise, knowledge, and experience in the design, development, and manufacturing of your digital healthcare system. Our services can help you develop your next connected product, scale to volume production and provide the supporting supply chain and forward/reverse logistics. Our global scale also provides regional presence so we can tailor our solutions to your project and product requirements.

Let's collaborate to create the extraordinary in digital healthcare
For more information, visit **flex.com/healthcare**

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