

Intelligent Reusable Boxes for the Pharmaceutical Industry

FHWien der WKW and Fraunhofer Austria are conducting research with start-ups and logistics companies on a sustainable, efficient and secure pharmaceutical supply chain.

Vienna, February 21, 2022 – Automating logistics in the pharmaceutical industry, optimizing the supply chain and thus saving packaging material: This is the goal of the DigiPharmaLogNet project. Under the leadership of FHWien der WKW and with the participation of Fraunhofer Austria, innovative companies such as the logistics and IoT start-ups BOOXit OG and Compunity GmbH have joined together to achieve this goal. The plan is to further develop and digitize self-organizing reusable boxes. These are intended to make pharmaceutical logistics more sustainable, efficient and secure.

Providing pharmaceutical products quickly and flexibly

“The COVID-19 pandemic highlights the need for rapid distribution and flexible availability of pharmaceutical products,” explains Gerald Schneikart, DigiPharmaLogNet project manager of the Institute for Digital Transformation and Strategy (IDS) at FHWien der WKW. “The targeted use of self-organizing reusable boxes plays an important role in the digitization of pharmaceutical logistics. In addition to ensuring certain transport conditions such as temperature or seamless traceability, they enable more automation and sustainable optimization of the supply chain,” says Schneikart, specifying the goals of the project launched in October 2021.

Rethinking pharmaceutical logistics with digital technology

To make reusable containers economical, the use of innovative technologies such as sensor technology, RFID/NFC, data algorithms and assistance systems is essential. This, together with the innovative design of BOOXit container technology, opens up new possibilities for the pharmaceutical supply chain that are not viable with conventional cardboard boxes and plastic containers.

BOOXit CEO Peter Entenfellner lists intended improvements such as:

- saving packaging material through a reusable system
- optimized transport routes through dynamic control at the load carrier level
- automated tracking of temperature, humidity and position data
- the relief of employees through physical and digital assistance systems

Reusable containers instead of disposable cardboard boxes

Within the discussion about climate change, there are increasing demands for the use of reusable containers. The proposed load carrier system is intended to demonstrate the advantages of innovative technologies along the supply chain. The design of these reusable boxes favors the automation of logistics and enables functionalities that conventional cardboard boxes or plastic containers cannot provide. As examples, Entenfellner cites condition monitoring, tracking & tracing, load security, automation of the loading process, anti-theft protection through encryption and traceability. “This could enable a digitally supported reusable system to replace the single-use carton as well as other existing container systems,” says Peter Entenfellner.

PRESS RELEASE



Investigating impacts along the entire supply chain

The project will investigate theoretically and empirically the technical, ecological and economic effects along the entire supply chain – from pharmaceutical producers and wholesalers to pharmacies and hospitals. These findings form the foundation for the development of viable business models. Thus, this project lays the foundation for the digitization and automation of pharmaceutical logistics and subsequently of small goods logistics in general.

Networking of innovative project partners

DigiPharmaLogNet is funded by the COIN program “Networks” of the Austrian Research Promotion Agency (FFG). In accordance with the network idea underlying the project, attention was paid to the intensive integration of innovative partners:

- Institute for Digital Transformation and Strategy of FHWien der WKW (IDS) as consortium leader and development partner for business models, strategy and sustainability.
- the logistics start-up BOOXit OG for the development of self-organizing reusable boxes
- RUSSIA Fachspedition Dr. Lassmann GmbH and pharmaceutical wholesaler Richter Pharma as pilot users in pharmaceutical logistics
- Fraunhofer Austria Research GmbH/KI4LIFE for the topic of artificial intelligence
- the IoT startup CompUnity GmbH to map the technological aspects regarding sensor technology, data interfaces and Internet of Things (IoT).

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The use of intelligent reusable boxes in pharmaceutical logistics is being researched by the DigiPharmaLogNet project led by Gerald Schneikart of FHWien der WKW.

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