

Smart Reusable System Offers Potential Savings in the Millions

Five years of research by FH Wien der WKW and BOOXit reveal significant potential to improve costs, efficiency, and working conditions in logistics.

Vienna, September 14, 2026 – Lower costs, shorter transportation times, and substantially less walking in warehouses: Since 2021, the Institute for Digital Transformation and Strategy (IDS) at FH Wien der WKW and the Upper Austrian startup BOOXit have been investigating how digitally connected reusable systems can make logistics more efficient, sustainable, and human-centered.

The research findings to date show considerable potential. Calculations for a delivery process between a pharmaceutical wholesaler and pharmacies, involving more than 20,000 trips per year, indicated potential annual savings of approximately EUR 1.37 million. At the same time, trips that currently take three to eight hours could be shortened by an average of approximately 1.25 hours. There are also clear benefits for employees. In a simulation of a warehouse process, a system based on BOOXit shelving reduced the walking distance required from 3,845 to 335 meters. This could speed up processes while substantially reducing physical strain.

“Our findings show that smart reusable systems can address several logistics challenges at once: They reduce packaging waste, enable more efficient and more highly automated processes, and can also improve working conditions,” says Walter Mayrhofer, Head of IDS at FH Wien der WKW.

From Prototype to Smart Logistics System

When the collaboration began in 2021 with the [DigiPharmaLogNet](#) research project, the BOOXit system existed only as a 3D-printed prototype. Since then, several research projects have adapted the concept for different applications—from pharmaceutical and parcel logistics to resilient logistics systems for particularly demanding operating conditions.

One key finding has emerged across the projects to date: Reusable systems realize their potential above all when containers are reliably returned to circulation and their movements can be tracked digitally. This is precisely the focus of the ongoing [SIBORC](#) research project. Digital twins and artificial intelligence are used to simulate and optimize complex reusable container cycles. In addition to economic and environmental effects, IDS is also examining the impact on employees and organizations.

Next Step: Testing in Real-World Operations

After five years of joint research, the focus is now shifting toward practical application. *“We have provided scientific support throughout the development from an initial prototype to a comprehensive digital logistics system. The crucial next step is to test it under real-world conditions,”* says Gerald Schneikart, Project Leader and Senior Researcher at IDS. *“We want to investigate whether the potential demonstrated in simulations and research projects can also be realized in day-to-day operations.”*

“Our collaboration with FH Wien der WKW across several research projects was characterized by a deep understanding of this disruptive logistics technology,” says BOOXit CEO Peter Entenfellner. *“Working under challenging external conditions, the research team led by Walter Mayrhofer and Gerald Schneikart took a highly pragmatic, solution-oriented approach to exploring our system’s*

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capabilities and addressing practical challenges in logistics processes, producing research findings that can be applied in practice.”

The collaboration is also continuing through the [HumAlnLog](#) competence team, launched in 2026. Funded by the City of Vienna, the research project focuses on human-centered technologies and AI assistance systems for delivery and transportation logistics. BOOXit is involved as an industry partner. The focus of the joint research is thus increasingly shifting from technological development to how smart logistics systems can be used in practice in ways that are economically viable, sustainable, and human-centered.

Images:

Gerald Schneikart and Walter Mayrhofer from FHWien der WKW with Peter Entenfellner from BOOXit at the BOOXit product presentation on September 8, 2026, in Ebensee (from left).

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Walter Mayrhofer from the Institute for Digital Transformation and Strategy at FHWien der WKW giving his presentation in Ebensee.

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