

e-Pack study: How does e-commerce influence food packaging?

- **The automation of order picking is essential for offering food products profitably online**
- **Robots can already reliably pick the majority of items today**
- **Packaging quality and design play a decisive role in robot picking**

Kremsmünster, Austria, August 2024. Good news for food retailers: In most cases, no new packaging needs to be developed for online retail to enable modern picking robots to grip it reliably. This is the result of a study conducted by packaging specialist Greiner Packaging together with TGW Logistics and the Innovation and Competence Center logistikum.RETAIL at the University of Applied Sciences Upper Austria.

The online grocery trade – also known as e-grocery – is growing steadily, and packaging is playing a decisive role in this. It not only influences handling efficiency but also customer satisfaction and the carbon footprint.

Experts therefore looked at the future of e-grocery packaging as part of the e-packaging study. They investigated whether packaging designed for stationary retail is also suitable for the online sector. In addition to evaluating general data, the project team interviewed retailers and conducted intensive tests with the TGW picking robot RovoFlex.

“Although many different packages were tested, the picking performance of RovoFlex was impressive. However, modern gripping technologies and machine learning must be used to achieve this performance,” emphasizes Michael Schedlbauer, Vice President Business Development Grocery at TGW Logistics.

The main result of the e-packaging study is that irregular packaging shapes and sizes and materials that can be easily damaged cause problems in automated handling. Lids also posed a challenge in the initial test phase, but almost all packaging can now be handled successfully. The following basic principles apply:

- **Standardization:** Uniform packaging sizes and shapes facilitate the automation of processes.
- **Choice of materials:** Robust materials that offer both protection and simplify handling.
- **Design:** Optimized design for machine handling, simple closure mechanisms, and clear grip points.

Automation as a driver for increasing efficiency

The analysis of the interviews with retail companies shows that the respondents consider damaged goods to be a negligible problem. If damage does occur, it is mainly due to incorrect handling of the products during the last leg of the transport process. The most common complaints from end customers are shattered glass bottles and broken thin plastic packaging such as yogurt cups.

Companies are generally very positive about automation in order picking because it increases efficiency and helps solve the acute labor shortage. When using robots in order picking, the critical requirement is that they must be able to pick a wide variety of products. However, pure online specialists often shy away from the costs of such projects.

Michael Schedlbauer emphasizes: "Thanks to machine learning, picking robots are not only getting better and better in a short space of time, but in future they can also be used to put goods on shelves at night, for example. There are special configurations for this."

Based on their analyses, those responsible for the research project assume that automation will play a more significant role in the packaging and shipping process in the future than it does today. The main drivers are labor shortages and efficiency gains. Robots and employees will work together: Robots will take over physically strenuous, monotonous standard processes. Humans handle special tasks, corrections, and monitoring.

Success factor in the e-food industry

According to the study, there is currently still little interest in the topic among both food manufacturers and retailers. However, the proportion of online food orders is increasing – especially in urban centers. "Anyone who wants to be successful with e-food will no longer be able to avoid the topic of automation in the future," Schedlbauer emphasizes.

The automation of packaging processes offers a number of advantages:

- **Speed:** Automated systems can pack and prepare food for dispatch more quickly, thereby reducing delivery times.
- **Error reduction:** Human errors are minimized, customer satisfaction is increased, and the number of returns is reduced.
- **Increased efficiency:** In the long term, automated systems reduce operating costs as they can be active around the clock without a break.

Text & images:

Text document as well as images in high-resolution quality for download:

<https://greinerpackaging.canto.de/b/LOC1U>

Credit: © Greiner Packaging



Image caption: The online grocery trade – also known as e-grocery – is growing steadily, and packaging is playing a decisive role in this.

PRESS RELEASE
August 28, 2024

Greiner Packaging

Credit: © TGW Logistics

Reproduction is free of charge provided the source is acknowledged and for press reports that primarily deal with TGW Logistics Group GmbH. No free reproduction for advertising purposes.



Image caption: The RovoFlex picking robot from TGW increases efficiency in online grocery retail through fast and precise order picking.

About Greiner Packaging

Greiner Packaging is one of the leading European manufacturers of plastic packaging in the food and non-food sector. For over 60 years, the company has stood for a high level of solution competence in development, design, production, and decoration. Greiner Packaging meets the challenges of the market with two business units: Packaging and Assistec. While the former stands for innovative packaging solutions, the latter focuses on the production of customized technical parts. Greiner Packaging employs over 4,800 people at 30 locations in 19 countries worldwide. In 2023, the company achieved an annual turnover of 845 million euros (incl. joint ventures). This is almost 40% of Greiner's total turnover.

www.greiner-gpi.com

Greiner Packaging Media Contact:

Peter Dobosz
Global Expert PR & Content Marketing

Greiner Packaging International GmbH
Gewerbestraße 15, 4642 Sattledt, Austria
Mobile: +43 664 4110735
E-Mail: p.dobosz@greiner-gpi.com

About TGW Logistics:

TGW Logistics is a leading international provider of intralogistics solutions. For 50 years, the Austrian specialist has been implementing highly automated systems for its international customers: from A for Adidas to Z for Zalando. As a system integrator, TGW handles the planning, production, and implementation of complex logistics centers, including mechatronics and robotics, control systems, and software.

TGW Logistics has branches in Europe, China, and the US and employs over 4,400 people worldwide. In the 2022/2023 financial year, the company achieved a total turnover of 955 million euros.

TGW Logistics Media Contact:

Alexander Tahedl
PR & Media Relations Manager

TGW Logistics Group GmbH
A-4614 Marchtrenk, Ludwig Szinicz Straße 3
Phone: +43 50 486 2267
Mobile: +43 664 88459713
E-Mail: alexander.tahedl@tgw-group.com