

# PRESS RELEASE

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automatica, Messe München, June 24–27, 2025, Booth A4.311 (with Estun Automation)

## **Innovative Robotics Software "Botfellows Dynamic Safety" Eliminates the Need for Safety Fences**

**Trade show debut for the start-up Botfellows GmbH: Since September 2024, the spin-off from Fraunhofer IWU has been advancing the development of innovative robotics software as an independent company. The focus is on the intelligent solution Botfellows Dynamic Safety, which is directly integrated into robot control systems and replaces physically fenced-off workspaces between humans and (industrial) robots with dynamic safety zones. At automatica, visitors can experience a live demonstration featuring an industrial robot operating without safety fences, thus ensuring outstanding productivity.**

The Botfellows team – Dr.-Ing. Mohamad Bdiwi (CEO), Sebastian Krusche, Paul Eichler, and Jayanto Halim – have worked closely together at Fraunhofer IWU for many years. Their approach relies on high-tech solutions where flexible – dynamically changing, situationally optimal – safety zones replace rigidly defined work areas: The Botfellows software dynamically adjusts the movements of lightweight or industrial robots by reducing their speed – if necessary, down to a complete stop – only when people approach the workspace. When the combined sensor and camera system detects no collision risk, the robots move along their planned paths at regular speed. Numerous practical tests have validated the Botfellows research results on safe human-robot collaboration; for the first time, their software solution is now an integral part of the control system of a robot manufacturer.

### **Seamless Integration into Robot Control**

The robotics specialists from Chemnitz collaborate with the Chinese manufacturer Estun. Botfellows Dynamic Safety is directly integrated into the control system, eliminating the need for additional interfaces. Simple implementation and operation were key development goals: "This is the key to enabling highly flexible automation while ensuring maximum safety – because our software perfectly integrates into the robot control instead of increasing its complexity," emphasizes Bdiwi.

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## Human-robot collaboration (HRC) in Palletizing Combines the Strengths of Humans and Robots for More Efficient and Flexible Processes

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Thanks to the Botfellow's solution, production planners can realize various scenarios within a shared workspace without separating safety fences:

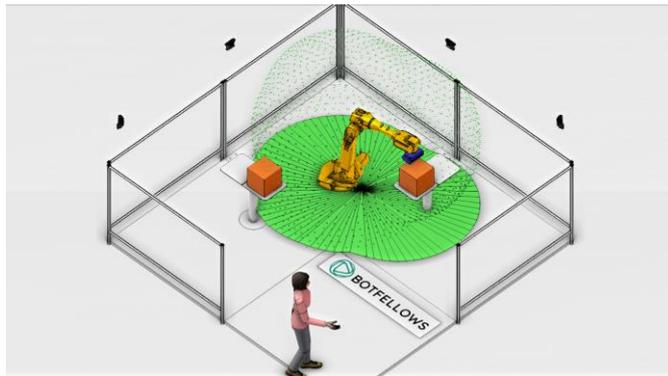
- **Coexistence:** Humans and robots work in parallel within a shared work area without the need for a safety fence. The robot handles automated palletizing tasks such as stacking and sorting boxes, while the human performs quality control or replenishes materials nearby.
- **Cooperation:** Humans and robots share the same workspace and alternate tasks over time. The robot is responsible for stacking heavy boxes onto the pallet; meanwhile, the human worker focuses on adding small, delicate products and stabilizing the pallet. This division of labor allows flexible adaptation to different product types.
- **Collaboration:** Humans and robots work simultaneously in the same workspace, directly complementing each other. The robot lifts and hands heavy or bulky boxes while the human precisely positions them on the pallet, fills gaps, and checks the final alignment. This form of teamwork increases the efficiency and ergonomics of the palletizing process.

### In a Nutshell: Advantages of Botfellow's Dynamic Safety

- **Reduced Costs:** Eliminating physical safety fences significantly lowers investment and maintenance costs as well as space requirements;
- **Maximum Flexibility:** Manufacturers can quickly and easily adjust production layouts without moving safety barriers;
- **Increased Productivity:** The dynamic adjustment of safety zones enables fast and safe robot operation close to humans.

Botfellow's and Estun will continue to advance integration solutions – laying the foundation for even more user-friendly control systems aimed at safe and flexible robotics applications.

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**Fig. 1 "Botfellows Dynamic Safety"** creates the basis for efficient and safe human-robot coexistence through dynamic speed and distance monitoring. As an integral part of robot control, it continuously processes kinematic data and uses advanced sensor technology to calculate and implement minimal safety distances.  
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**Abb. 2 Two Botfellows:** Sebastian Krusche (left), Dr.-Ing. Mohamad Bdiwi.  
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