CustomPacker aims at developing and integrating a scalable and flexible robotic packaging assistant that aids human workers while packing mid to upper sized and mostly heavy goods.

During the project, different concepts and technological solutions for an adaptable and changeable packaging system using standard components will be designed and evaluated. A research demonstrator will be set up to provide an integration platform, where the different developed software and hardware components can be tested in a factory-like environment. The decrease of the production cycle time in a benchmark scenario with a human-robot co-operation in an industrial packaging line by automating the packaging phase will be measured.

CustomPacker at a glance

CustomPacker is a research project focused on developing and integrating a scalable and flexible robotic packaging assistant that aids human workers while packing mid to upper sized and mostly heavy goods.

With an optimization of ergonomic working conditions for humans, a functional demonstration of the installation and a qualitative and quantitative profitability analysis of this project will disseminate the human-robot collaboration to a wide range of European SMEs. The project results are not only relevant for manufacturers of electronic consumer goods (especially for heavy and/or fragile products, which are up-to-now packed manually) but also for other industry sectors and scenarios.

Increased productivity by exploiting direct human-robot cooperation overcomes the need and requirements of current safety regulations.

CustomPacker is highly customizable and flexible for mid- to upper-sized electronic consumer goods using industrial robots.
Main objectives

To design and assemble a robotic packaging workstation mostly using standard hardware components (no need for special solutions).

To create a setup for packaging a high variety of products and components (size, weight and form).

To provide a scalable system architecture.

To make teaching strategies available for the human worker allowing adapting the packaging station to handle and pack new products.

To open new ways of how industrial robots are deployed, namely the collaboration of human workers together with robot "co-workers".

About the Consortium

The experienced international industry-driven consortium will start with a scaffolded blueprint for a packaging station including industrial robots.

The project consortium covers all relevant partners including a robot manufacturer, specialists for robot integration, human-machine interaction, worker surveillance, industrial workflow management, a system integrator, and an end-user for testing and verification for the developed system.

Scientific objectives

The objective is flexible collaboration in hand-in-hand cooperation between a human worker and an industrial robot as envisioned by the project's vision: flexible teaching. Non-experts in robotics should be able to teach in different product variants in an appropriate way.

Universal handling: A gripping device will be set up capable of dealing with different types of package (size, form, weight), focusing on fragile TV sets at the beginning.