

ZIM Success Story

Central Innovation Programme for SMEs

Cooperation Projects 108



A Gentle Way to Harvest Windfall Fruit

Fruit collection machine designed for high-volume operations

For the owners of fruit-growing operations, September marks the start of some particularly intensive weeks every year. The estimated annual volume harvested across Germany can amount to as much as a million tonnes, weather permitting – and that's only apples! This means that the country produces one of every 10 apples harvested in the EU. Meanwhile, the collection of windfall fruit is one of the main challenges high-volume operations face. Fruit that has fallen off the tree is typically used to produce must, which is why it needs to be as intact as possible, undamaged, and free of contaminants.

The goal of the transnational cooperation project in question was to replace the time-consuming, labour-intensive, and above all, physically demanding process of collecting fruit by hand with a much more efficient mechanical technique.

The product and its innovation

In cooperation with its French partner, Valnov (which did not receive funding), the German company Feucht Obsttechnik GbR has developed a high-performance machine that is capable of collecting large quantities of windfall fruit (apples, pears, oranges, and other types to be used for must) more quickly without damaging the produce.

Its key features include:

- Two components in opposite alignment that collect fruit without damaging it
- A separate filtering chain that removes leaves, grass, soil, and other unwanted elements
- Conveyor belts that can reach as high as six metres, which enables them to transfer fruit over the top of the adjacent row of trees into a wagon operating in parallel

This project was supported by the German Federal Ministry for Economic Affairs and Energy based on a resolution passed by the German Bundestag.

Project duration: October 2009 to August 2011

The Central Innovation Programme for SMEs (ZIM) provides support for innovative technologies and industries all across Germany in a variety of arrangements:

- Individual ZIM projects
- ZIM cooperation projects
- ZIM cooperation networks

For information and advice on cooperation projects:

AiF Projekt GmbH
Tschaikowskistraße 49
13156 Berlin, Germany
Phone +49 (0) 30 48163-451

www.zim.de



Image 1: Apples in transport following collection



Image 2: A typical orchard



Image 3: An OB Future I harvesting apples

- ➔ Three rotors that constantly clear the entire path in front of the machine to prevent fruit from being crushed under its wheels
- ➔ Video monitoring of the vehicle's front-right rotor and the overhead conveyor belt (includes a view of the wagon)

The partners

Feucht Obsttechnik GmbH of Burgstetten (southern Germany), a family-owned –business enterprise that was founded in 1983, has been developing and manufacturing fruit-harvesting equipment for over 30 years. It currently employs 17 people.

The Valnov company of Le Mesnil-Rogues (northwest France) also designs and produces agricultural machines, particularly for use in harvesting fruit and unloading various goods. It was founded in 1955 and has 12 employees at present.

Contact information



Feucht Obsttechnik GmbH
 Jürgen Feucht
 Europastraße 16
 71576 Burgstetten
 Phone: +49 (0) 7191 64195
 www.feucht-obsttechnik.de

Valnov
 25 Route du 30 Juillet
 50450 Le Mesnil Rogues
 Phone +33 233911250
 www.valnov.com



Depending on how much fruit is on the floor, the harvesting machine can gather up to 40 tonnes of fruit per hour – a rate previously unachieved anywhere in the world. This makes the machine highly efficient, especially in large-scale growing operations.

Market and customers

Europe is not the only place where a general trend from traditional orchards towards more concentrated operations can be observed. For fruit-growing companies like these, high-performance harvesting equipment is essential. Feucht Obsttechnik has begun selling its new harvester internationally, and thanks to the results of its ZIM project, it has become significantly more competitive in the field of fruit-harvesting machines. The company has sold 10 of these units so far, generating revenues of €2.5 million in the process. Its recent success has also enabled it to hire six new employees.

Legal information

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