



# 84% LESS DUST THANKS TO AIR CLEANING FROM THE EXPERTS



CUSTOMER

Giovanelli Fruchtimport AG



LOCATION

Frauenfeld (CH)



SECTOR

Wholesale fruit trade



DUST REDUCTION

84%

## AT A GLANCE

*“The air is noticeably cleaner for our employees, while we have also seen a marked improvement of the shelf-life of our fruit. This has clearly strengthened our position as a market leader, one of our chief aims for installing air cleaning devices from Zehnder Clean Air Solutions.”*

Sergio Giovanelli, Quality Assurance Manager

### CHALLENGES

Giovanelli Fruchtimport AG is the leading importer and distributor of fresh fruit and speciality food in Switzerland.

The business of handling and packaging fruit creates a variety of dust types, which can have an impact on the quality and shelf-life of these delicate products. The dust also puts a strain on employees and reduces productivity. Another drawback is that a high particle concentration leads to increased wear of the machines and a greater need for maintenance. Finding an air cleaning device for the wholesale trader was vital.

### ABOUT GIOVANELLI FRUCHTIMPORT AG

Founded over 80 years ago and still under the leadership of the same family, Giovanelli Fruchtimport AG enjoys a hard-won reputation as Switzerland's leading importer and distributor of fresh fruit and speciality food products. From the company's base in Frauenfeld, they dispatch a dazzling variety of produce to major wholesalers and retailers across the country – from everyday apples and bananas to the most exotic tropical fruits and luxury items like chanterelle mushrooms and fine green asparagus.

### BENEFITS

The air cleaning devices from Zehnder Clean Air Solutions bind airborne dust particles before they can be inhaled by employees or settle on the goods or machines. This has significantly improved the working environment and increased the shelf life of fruit and vegetables. In addition, the clean working environment reduces the maintenance requirements for the machines. This will enable the company to strengthen and further expand its position as market leader in wholesale.





Sergio Giovanelli is the company's Chief Quality Officer. It is his task to ensure complete customer satisfaction in the notoriously tricky business of trading in delicate fresh produce: "We have always been able to control the cultivation and content of the fruit we sell. Now we can control the internal conditions of our warehouse and packing areas as well. Our investment in a clean-air environment was a significant part of our aim to strengthen our position as market leader."

Giovanelli AG chose to install a total of five Zehnder air cleaning devices in the company's warehouse and roasting plant. The goal was to permanently cleanse the air of both coarse and fine dust particles, which can directly affect product quality and longevity as well as staff and machinery.

## Beating the dust challenge

Fine and coarse dust particles are a fact of life in all workplaces and industrial installations. **The business of handling and packaging many types of fruit creates a variety of dust types, all of which can have a greater or lesser impact on the quality of these delicate products.** Dust also affects the working environment of the employees. Giovanelli AG faced three distinct issues:

- Reduced feelings of well-being among the company's staff, leading to reduced productivity
- Impairment of the physical appearance of the fruit and faster degradation as a result of dust inclusions
- Increased wear to machines and a greater need for maintenance

With its innovative and patented filter technology, Zehnder was able to offer Giovanelli AG proven solutions that could remove airborne dust particles before they are inhaled by staff or deposited on the valuable fruit and machinery.

It all began with a detailed assessment of the existing site conditions. This process was spread over several days in order to ensure accurate mean readings. These parameters then made it possible to design the optimal solution for the environment.

The solution for Giovanelli AG was based on a combination of the tried-and-tested E12000 and

E3000 Flimmer® filters. Once the system had been successfully installed – on time and on budget of course – the results were not slow in coming through.

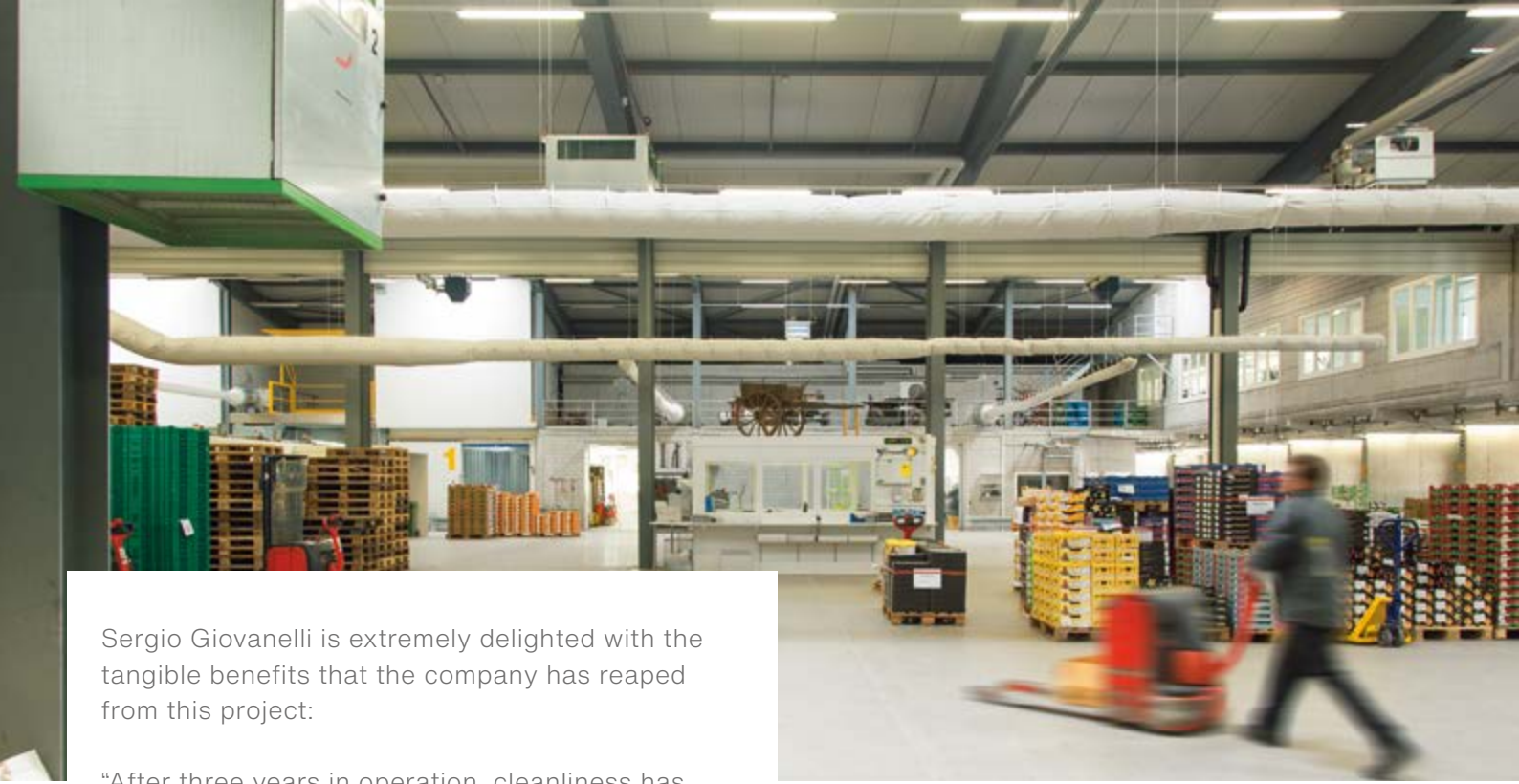
## Proven results for tangible added value

In a subsequent comparative study of the air quality pre- and post-installation, it was clear that the Flimmer® filters were separating a huge proportion of the PM10 dust class. **This is composed primarily of coarse dust, pollen and carbon particles.** Airborne particles in the "nano" class have also been significantly reduced.

Overall, the results of the study revealed an 84% lower average particulate pollution level than before. Prior to installing our air cleaning systems, the average values for airborne particulate matter were 77 µg/m<sup>3</sup>. After installation, that reading had improved to an average of 12 µg/m<sup>3</sup>. Similarly, peak loads could be reduced from 350 µg/m<sup>3</sup> to 100 µg/m<sup>3</sup>. Interestingly, the current average load of 12 µg/m<sup>3</sup> is actually less than a quarter of the normal 50 µg/m<sup>3</sup> carried by the air outside the company's buildings!

The Flimmer® filters also bind larger dust particles than the PM10 class. The figures given above are average values for the entire period during which the study was run and include weekends.





Sergio Giovanelli is extremely delighted with the tangible benefits that the company has reaped from this project:

“After three years in operation, cleanliness has greatly improved. **The air is noticeably cleaner for our employees, while we have also seen a marked improvement in the shelf life of our fruit.** This has clearly strengthened our position as market leader, which was one of our chief aims at the outset of the installation project.”