

**NG-GREEN**  
INNOVATIONS



# 30% SAVINGS IN DEVELOPMENT COSTS through digital product development

**The Lower Austrian SME  
NG Green Innovation GmbH  
relies on LCM's digital product  
development  
for the design of its multifunctional  
milling machine.**

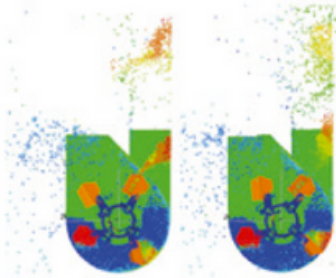
NG Green develops and manufactures multifunctional milling machines for conveying a wide variety of bulk materials, such as snow, sand, compost, and more. The unique feature—and the core of its innovation—is the patented impeller. It allows bulk material to be blown through a chute efficiently and without damage.

The impeller enables energy savings of more than 70% compared to other technologies while delivering the same throughput. In addition to significantly improved efficiency, the bulk material is conveyed without damage—it is thrown, not shredded. With this, 30% SAVINGS IN DEVELOPMENT COSTS through digital product development, dust exposure is reduced, and use with sensitive bulk materials becomes possible.

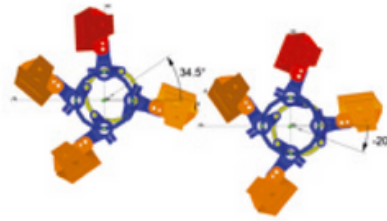
Achieving energy savings of up to 70% requires the optimal coordination

of impeller geometry and operating parameters for each type of bulk material, as well as the dimensions and inclination of the chute.

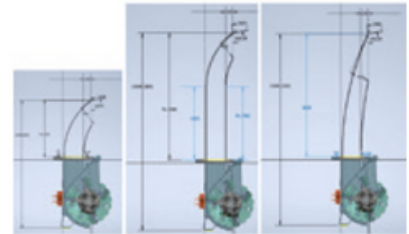
The previously applied “traditional” approach—designing according to customer specifications, building prototypes, testing, and subsequent optimization based on test results—had the disadvantage for NG Green that the actual performance data of the multifunctional milling machine could only be verified during testing, after the time-consuming construction of the prototype.



▲ Simulation of the patented impeller in operation using HOTINT software developed by LCM



▲ Different chimney variants



▲ Impeller with different ejection point settings

If the required performance data was not achieved, further optimization had to be carried out or an entirely new prototype had to be built – costing NG Green valuable time and money. As a result, profit margins decreased, and meeting delivery deadlines became a constant challenge.

NG Green was looking for a partner to reduce development costs and ensure the achievement of planned performance data. LCM's expertise in digital product development and simulation offered NG Green the solution for cost reduction and time savings.

In 2016, the successful collaboration between NG Green and LCM began. In around 40 working hours, LCM created a simulation model of the impeller. Initial simulation tests on geometry, blade behavior, and the optimal throwing time were carried out.

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The evaluation of the performance data simulated by LCM through tests on the newly created prototype convinced NG Green of the advantages of digital product development and LCM's implementation capabilities.

## FACTBOX DIGITALE PRODUKTENTWICKLUNG

**Digital product development enables enormous cost savings through virtual representations in the form of models and simulations.**

- Detailed simulation models reduce the number of physical prototypes needed.
- Tests and optimizations can be carried out efficiently and at low cost in advance.
- A reduced number of prototypes also decreases the scope of tests and trials.
- Problems and signs of wear can be identified in the digital model with less effort than in the physical prototype.

„We quickly realized that, through digital product development together with LCM, we could save both time and money.“

Hanna Gansch  
CEO  
NG Green Innovation GmbH

During the collaboration between NG Green and LCM, development costs were reduced by around 30%. NG Green values the straightforward and reliable cooperation with LCM.

In addition to further developing the multifunctional milling machine, NG Green is planning to develop a mini milling machine. LCM will continue to play a key role in its development and optimization.

## ABOUT NG GREEN INNOVATION GMBH

The Lower Austrian SME NG Green Innovation GmbH is bringing proven technologies into the 21st century with its patented impeller, setting new standards in terms of efficiency and environmental protection. NG Green's main product is the multifunctional milling machine "Fräsinator," with additional products currently in development.

[www.fraesinator.com](http://www.fraesinator.com)