

THE  
POWER  
OF  
TESTING

ANALYSE, TEST  
AND OPTIMISE YOUR  
PALLET LOADS

»A health-check of your  
delivery packaging  
protects you against the  
worst case scenario  
and additionally  
enables packaging  
optimisation.«



# Challenge the configuration of your pallet load

**DISCOVER OUR SOLUTIONS FOR OPTIMISING YOUR TRANSPORT LOCK.**



## **Reduce material consumption**

Minimise the amount of packaging material to meet your specific needs.



## **Increase efficiency**

Optimise your pallet loads with tailored recommendations to improve transport security.



## **Guarantee load security**

Ensure your packaging can withstand the stresses of transport.



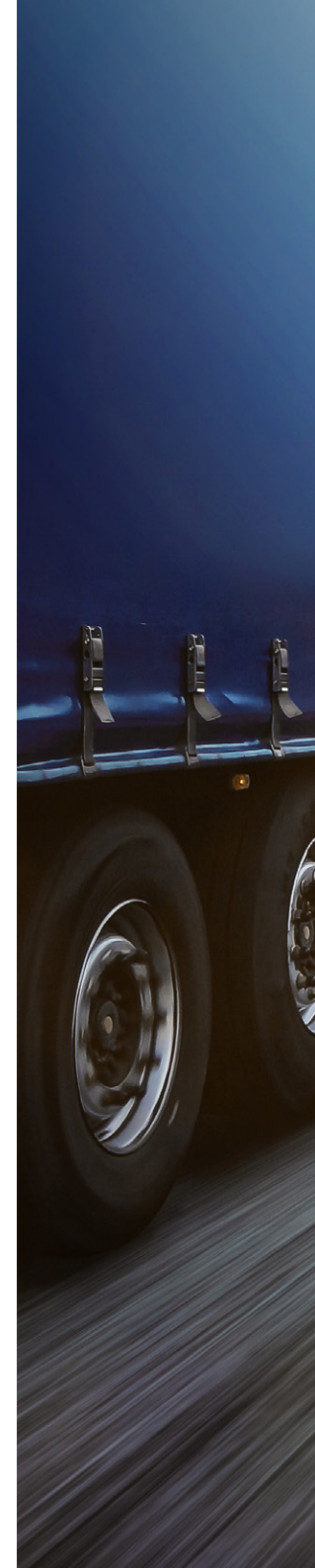
## **Lower your carbon footprint**

Reduce your carbon footprint with a CO<sub>2</sub> calculation for your transport packaging.

# Put your pallet loads to the test

On the way to their destination, pallet loads are subjected to a multitude of different stresses. It is therefore crucial to choose the right transport packaging. The consequences of an accident range from damaged goods to endangerment or, in the worst case, personal injury. As the party responsible for placing the palletised goods on the market, you are liable for its transport safety – this can have far reaching legal consequences. To help you choose the right packaging for your transport route, we test your loads for transport safety in our TechCenter. The various tests cover more than basic safety requirements and enable targeted improvements of the packaging in terms of security, costs and sustainability. If the results of TechCenter testing show that the current transport security system is adequate, further tests can be conducted to minimise the amount of packaging material to meet your specific needs. A combination of packaging methods is a possible outcome. To improve sustainability, you can optionally use our CO<sub>2</sub> product calculator to precisely determine the emissions generated by the packaging and associated material. This provides tailored recommendations to help you effectively reduce transport emissions.

WE OFFER TAILORED ADVICE FOR OPTIMAL TRANSPORT PACKAGING. WE SUGGEST THE BEST CHOICES FOR PRIMARY AND SECONDARY PACKAGING. WE HELP YOU FIND THE PERFECT CONFIGURATION FOR YOUR PALLETISED GOODS.





#### **OUR BENEFITS FOR YOU:**

- + Maximum security
- + Cost minimisation for primary, secondary and transport packaging
- + Sustainability with specific optimisation of packaging
- + Adaptation to individual transport routing
- + Test reporting based on international norms and standards
- + Testing and optimisation of machinery and packaging materials from a single source
- + Reduction of transport damage and complaints





# Allround security

## 4 TESTING TOOLS

The Mosca TechCenter is equipped with four test stations to analyse a wide variety of stresses to determine how they impact on transport security. These include a tilt testing tool, a horizontal stability tester to measure horizontal acceleration and deceleration, an impact tester for impact or crushing forces and a vertical vibration system. There is also a camera-supported evaluation unit that records and analyses deformations during stability testing. A data logger is used in the TechCenter to record and compile the required data on shocks, vibrations and acceleration during transport. A key advantage of this data logger is that we can accompany your real transport route and find out which specific stresses your product needs to withstand during transportation. We can then help you to adapt your palletised goods to achieve optimum performance.

### 1. Tilt Testing Tool

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### 2. Horizontal Stability Tester

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### 3. Inclined Impact Tester

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### 4. Vertical Vibration System

»These tools enable us to provide our customers with the specific tests required for their transport routing.«

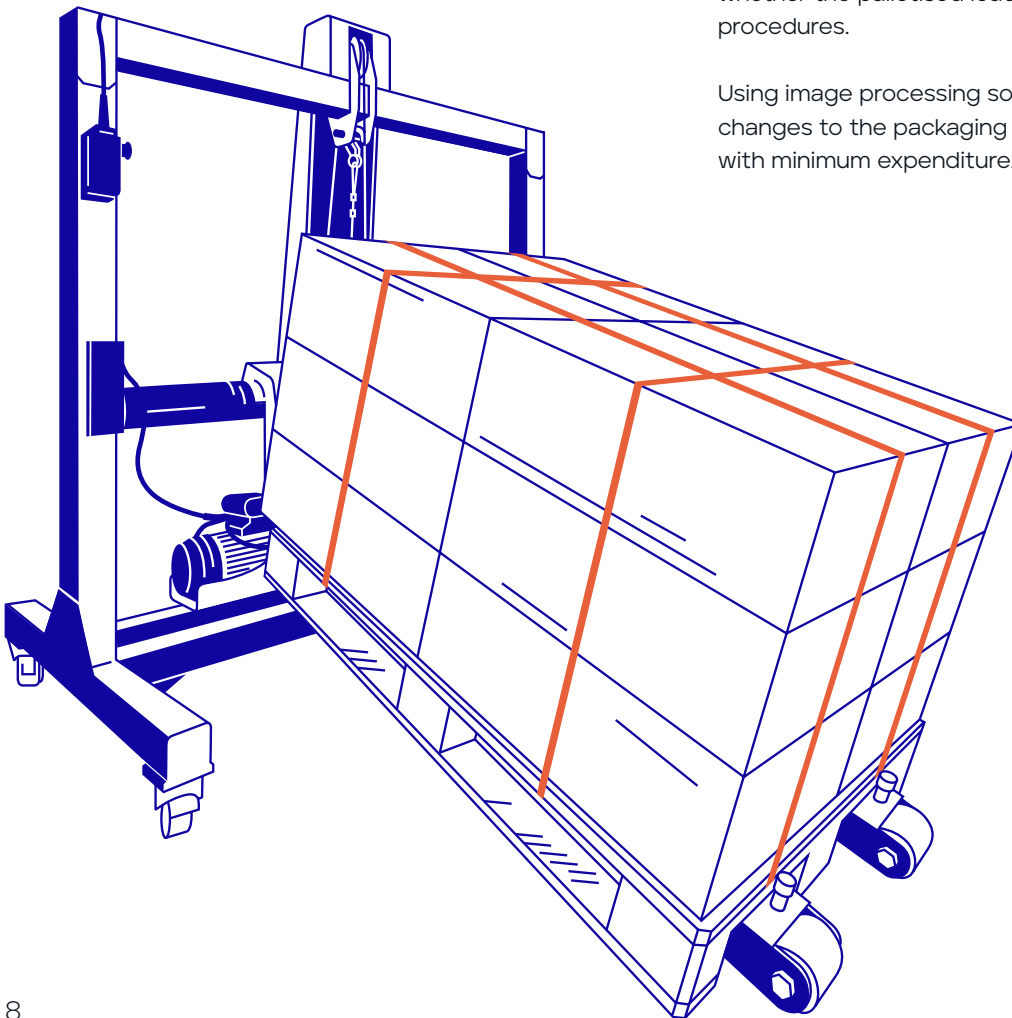
**Johannes Wieder**  
Sales Manager Logistics

# 1

## TILT TESTING TOOL FOR TILT TESTING

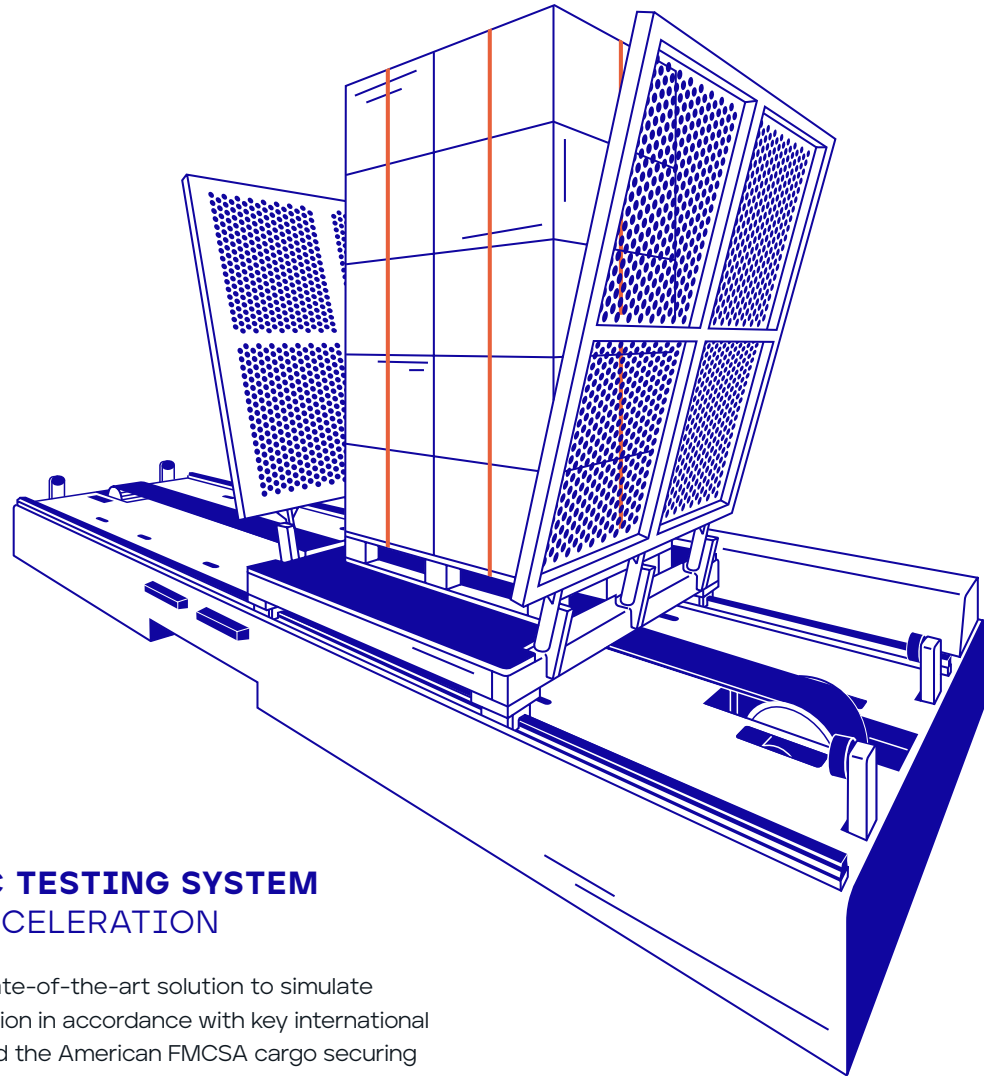
The tilt testing tool was developed to specifically evaluate load stability during transport. As part of our recommended test routine, the tilt testing tool is the initial basic indicator for a quick assessment of quality control. In other words, we check to see if your current transport packaging is safe. The results of this test can be used to instantly determine whether the palletised load should undergo further testing procedures.

Using image processing software we can make important changes to the packaging design and ensure reproducibility with minimum expenditure.





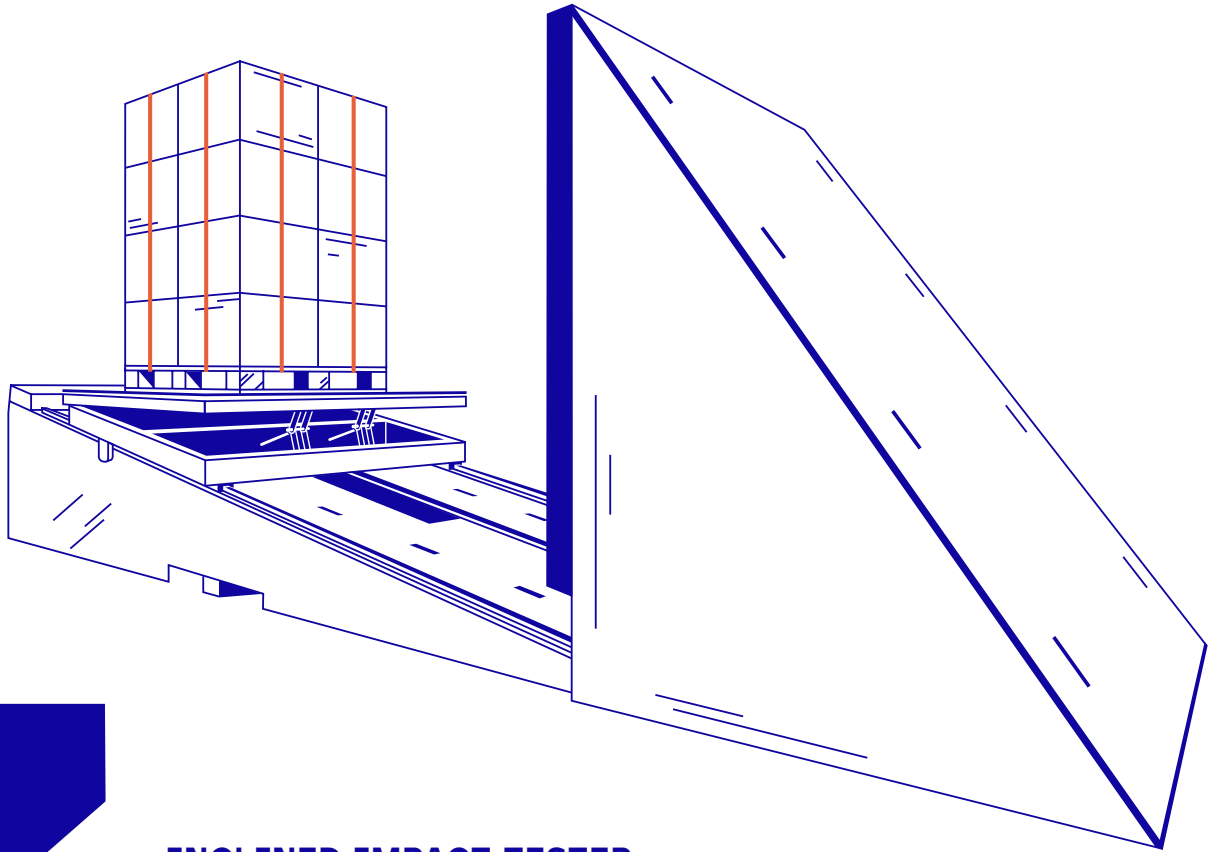
# 2



## **HORIZONTAL DYNAMIC TESTING SYSTEM FOR ACCELERATION/DECELERATION**

The horizontal stability tester is a state-of-the-art solution to simulate horizontal acceleration and deceleration in accordance with key international standards, such as EUMOS 40509 and the American FMCSA cargo securing requirements.

This real-time simulation shows the effects of a predefined rate of horizontal acceleration/deceleration on the stability of your cargo loads. Our transport simulation software generates a full report with detailed results, photos and videos. An integrated high-speed camera documents all deformations of the cargo loads at every stage of the testing sequence. This enables us to generate an analysis aimed at optimising your current transport packaging.



# 3

## **INCLINED IMPACT TESTER FOR IMPACT AND CRUSHING FORCES**

The inclined impact tester is used to evaluate the protective capacity of transport packaging under the influence of impact and crushing forces during the distribution cycle. This impact test enables us to optimise packaging design for secured loads. The inclined impact tester uses gravity to evaluate the design of the transport unit with regard to the effects of horizontal impact or crushing forces. A velocity of up to 2.5 m/s is possible depending on the testing protocol.

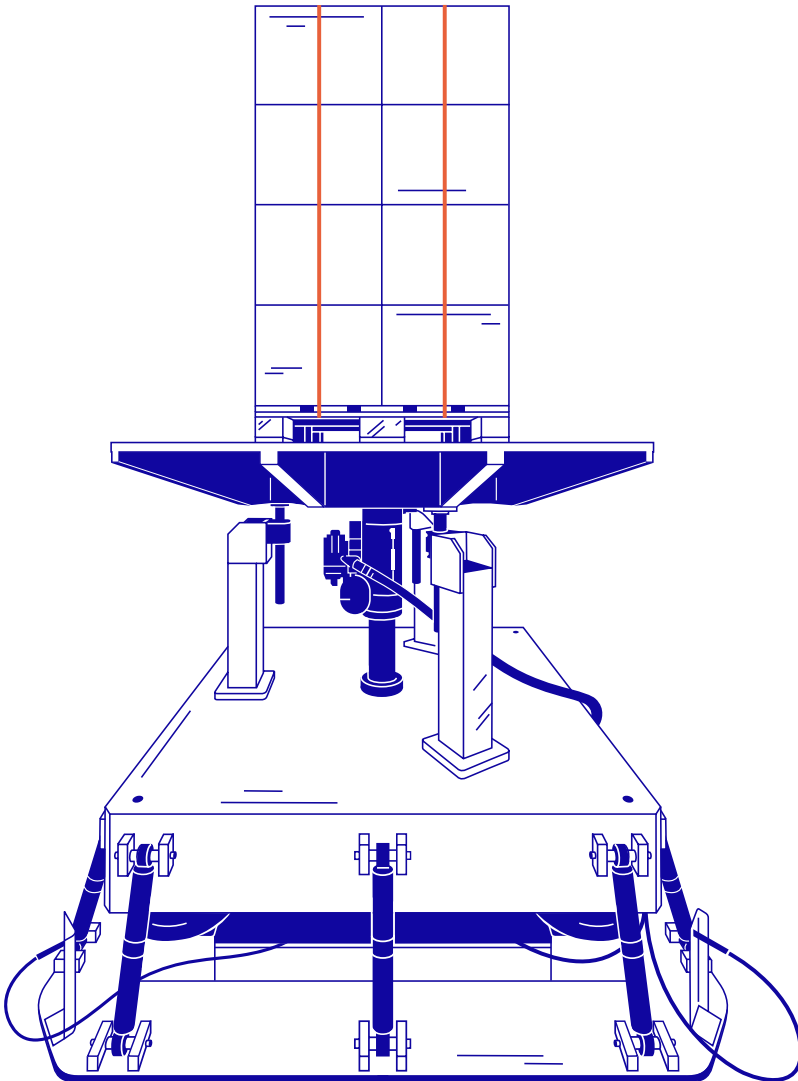
This test is carried out using the international protocols of the ISO, ASTM International and various ISTA procedures.

# 4

## VERTICAL VIBRATION SYSTEM FOR VERTICAL VIBRATIONS

This testing tool performs standard vertical vibrations and is capable of creating random vibration profiles. Using our data recorder, which can be attached to your pallet, all real-world conditions of a distribution cycle can be recorded and reproduced on the vertical vibration system. This way you have the opportunity to lower the costs associated with product / packaging damage or inadequate packaging design.

All vibration tests are carried out in accordance with key international standards (ISO, ASTM, EN 15552 and various STA procedures) along with government, industrial and company-specific norms.



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