## Sustainability that pays off.



# **3D imaging ensures environmentally friendly car seat production**



3D imaging avoids waste of raw materials and energy

A 3D vision system from STEMMER IMAGING and GIPS Vision avoids the production of faulty foams such as those used in car seats and prevents a significant waste of material. The 3D inspection system detects errors before they occur ensuring savings on large quantities of natural raw materials and energy.

### Avoid waste of raw materials and energy

The cores of car seats are usually made of injection moulded polyurethane foam blocks. They include various components that need to be manually inserted into the mould. This manual process can lead to errors such as missing or misplaced components. These errors are hard to detect once the foam block has been produced and they lead to a significant waste of raw materials and energy as a solidified faulty part cannot be used again. Detecting errors before they occur Dakota is the name of a vision system used for the 3D inspection of polyurethane blocks. This application, developed due to the close partnership between system integrator GIPS Vision and STEMMER IMAGING France, ensures a more environmentally friendly use of raw materials and energy. It detects errors before they occur as it is applied immediately before mould injection. Thus, it avoids the production of faulty foams and prevents a significant waste of material. On the foam production line the Dakota system comes immediately after insertion and checks directly before injection whether every component in the mould is inserted and well positioned and depending on the result validates or declines the next step of foam injection. This prevents the production of incomplete parts.

> BLUE COMPETENCE Alliance Member



The parts inserted in the mould before injection include various forms

"The 3D vision system ensures a more environmentally friendly use of raw materials and saves energy that would otherwise be completely wasted when processing faulty parts."

#### Peter Stiefenhoefer Marketing & Public Relations Manager STEMMER IMAGING

#### **3D imaging**

In principle, the 3D imaging system is based on laser triangulation. The injection mould is scanned by a laser illumination. A camera captures up to 1,000 laser profiles per second with a width of 2,000 pixels. The system creates a 3D image of the mould and its inserts, which allows for their localisation in three dimensions. The evaluation of the 3D image allows a reliable conclusion as to whether all parameters meet the requirements and the injection moulding process can be initiated.

#### Contact:

STEMMER IMAGING GmbH Gutenbergstr. 9-13 D-82178 Puchheim +49 89 809020 +49 89 80902-116 info@stemmer-imaging.de www.stemmer-imaging.de

#### Facts:

- Increases material and energy efficiency
- Reduces faulty parts
- Ensures correct car seat function
- Increases production reliablility
- Increases profitability