Innovative adhesive solutions for the automotive industry

Strong connections for a more sustainable future

The automotive industry is in a state of transformation where innovative and more sustainable solutions are being given top priority. Adhesive tapes in various designs are part of this development and are contributing to the industry's ability to meet the diverse and, to a certain extent, new requirements.

The driving force behind greater efficiency and sustainability

The market for automotive adhesive tape is steadily growing. Forecasts show that the global market size will increase to approx. EUR 4 billion by 2030, driven by an annual growth rate of 7%.

tesa, a close partner of the automotive industry, already developed over 1,000 adhesive applications - and the innovation pipeline is filling up. Over the coming years, more adhesive solutions for motor vehicle components, displays and the emerging battery cell market will come out, and to help with this, tesa is working closely with both its partners and its customers. Adhesive applications in the area of electric mobility in particular are picking up speed. Whether it be installing and isolating battery cells, wiring in electric vehicles or inserting touchscreens and displays, tesa has already made a strong start in this segment and will continue to drive forward the development in order to grow together with the industry.

Sustainable solutions are top priority

The possible areas of application for adhesive solutions range from design elements and electronic components to wiring harnesses in vehicles and major applications in the area of electric mobility. For both manufacturers and producers, the issue of sustainability is the number one priority: How can vehicles be made lighter to reduce consumption? Which adhesive solutions can be used to bond applications and detach or recycle them in the case of touch-ups and defects or once they have reached the end of their life cycle?

Here, tesa has already developed suitable solutions, which have sprung up from its interdisciplinary collaboration with international teams. More than 600 tesa employees - including chemists, physicists and engineers from various fields in Germany, China and the USA - are driving forward the implementation of new products and system solutions.

Bond & Detach: An innovative solution for the electric vehicle of the future

Connect, repair, recycle: With the tesa Bond & Detach® range, components can be reliably bonded and, where required, detached again for repairs or recycling purposes without leaving any residue. The technology for bonding lithium-ion batteries, which has already been used and patented more than two billion times now in smartphones, is also a suitable solution for use in electric vehicles - for bonding battery cells and for use with electronic components in vehicle interiors. tesa is in close dialogue with partners and customers to put the innovations from this area into practice.

Greater freedom for displays and touchscreens

tesa also guarantees a strong bonding of infotainment and assistance systems in cars and is contributing to a more sustainable development of components. By bonding displays and touchscreens, mechanical connections can be replaced, and the Bond & Detach technology also makes it possible to remove components again without any problems. Optically clear adhesive tape also ensures that the picture quality of the displays and touchscreens remains bright. Even integrated curved displays can be bonded in this way without any difficulty.

tesa provides **high-tech tapes** for **electric mobility**

Automated solutions and efficient production processes

tesa is not only an established partner of the automotive industry, it also uses the right approaches and has the right solutions for holistic, automated production processes.

Together with its partners, the company has already developed numerous innovative applications for customers, making production quicker, more flexible and cheaper.

Examples include its automated hole covering on auto bodies using adhesive pads, tapes for targeted pressure relief in the case of fire, and fully automated assembly lines for battery packs. The latter innovation was successfully launched onto the market recently in collaboration with two other companies.

For greater security in vehicles

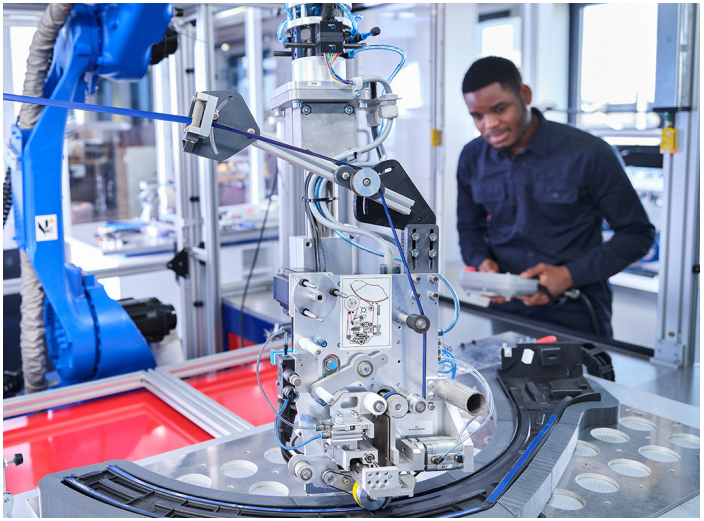
Adhesive tapes can also provide suitable solutions and greater security with regard to the increased fire hazard in electric vehicles. tesa continues to develop its portfolio of flame-retardant tapes for this. Here, the focus remains on products that do not increase the risk of fire and instead are self-extinguishing within a short time without any halogens involved. In the event of a fire, they produce less toxic smoke, which for fires is the main source of hazard in terms of someone's health.

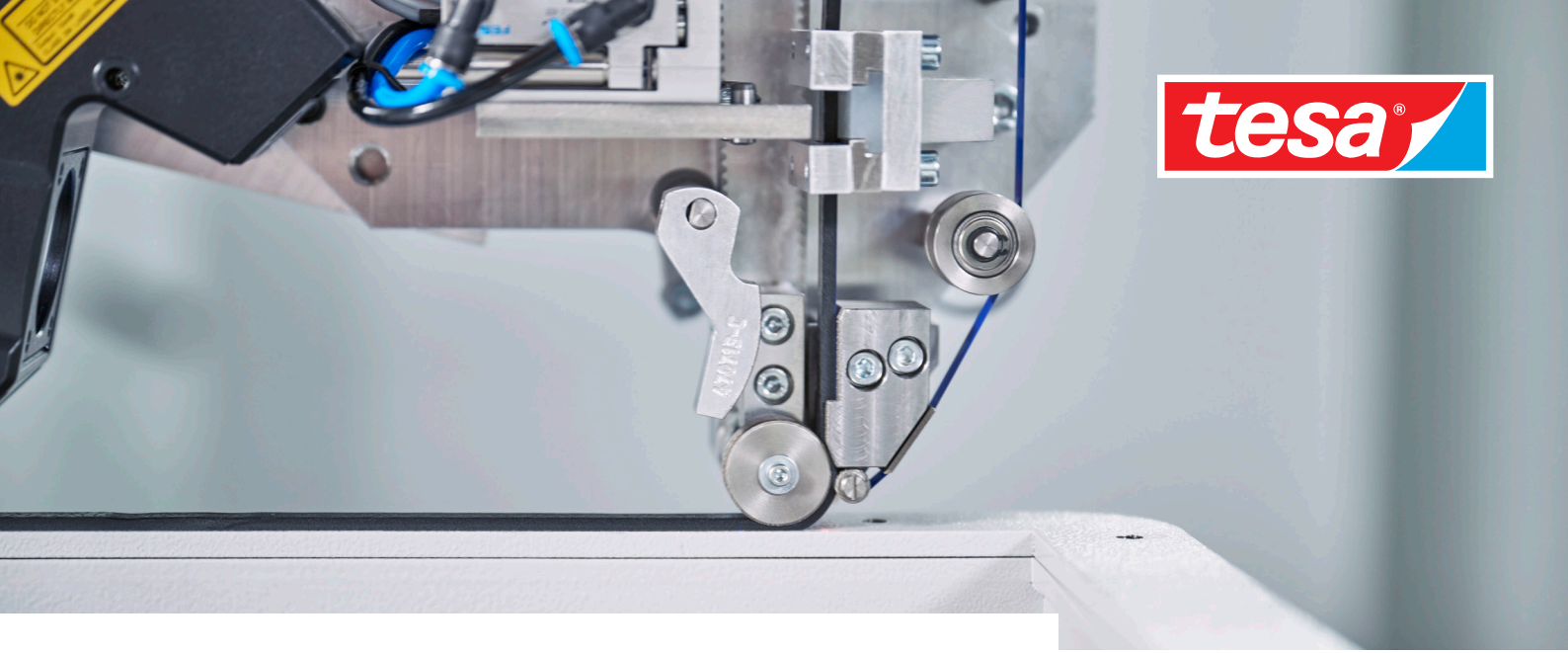
Hand in hand with science

tesa is working closely with renowned international research institutions to develop new approaches.

A current example is the collaboration with Fraunhofer FFB. Their close partnership is driving forward innovative tape applications in battery cell technology, kickstarting new projects and strengthening the transfer of technology between science and business.

The collaboration is substantiated by regular interdisciplinary dialogue, joint studies, project work and workshops.





Summary

The rapid development of the automotive industry is opening up a wealth of opportunities to manufacturers like tesa. New technologies and materials are required to reduce the weight of a vehicle and thus contribute to sustainability.

The industry requires components that can be bonded quickly, efficiently and permanently, and in doing so can also be removed to enable them to be repaired or recycled. In addition to this, they must also meet requirements that have changed as a result of electric drives, for example, for bonding battery cells.

Adhesive tapes are all-rounders and will become increasingly important in the automotive industry over the coming years