



---

**WITOL®**

Tolerance Compensation Fasteners



«WITOL® tolerance compensation systems ensure the perfect connection of a wide range of components.»



## WITOL® SYSTEMS

# Precise compensation of manufacturing tolerances

WITOL® tolerance compensation systems allow a solid connection of two components with each other.

Applied in three easy steps

Any manufacturing tolerances are compensated precisely and tension-free. WITOL® solutions are available for a wide range of components and are applied in three easy steps:

### STEP 1

Positioning of the WITOL® fastener on the work-piece below. Inserting the screw through the resting part into the WITOL® fastener.



### STEP 2

The screw rotation activates the WITOL® and closes the gap automatically.



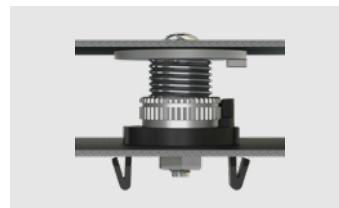
### STEP 3

A defined torque can be applied to achieve the preload.



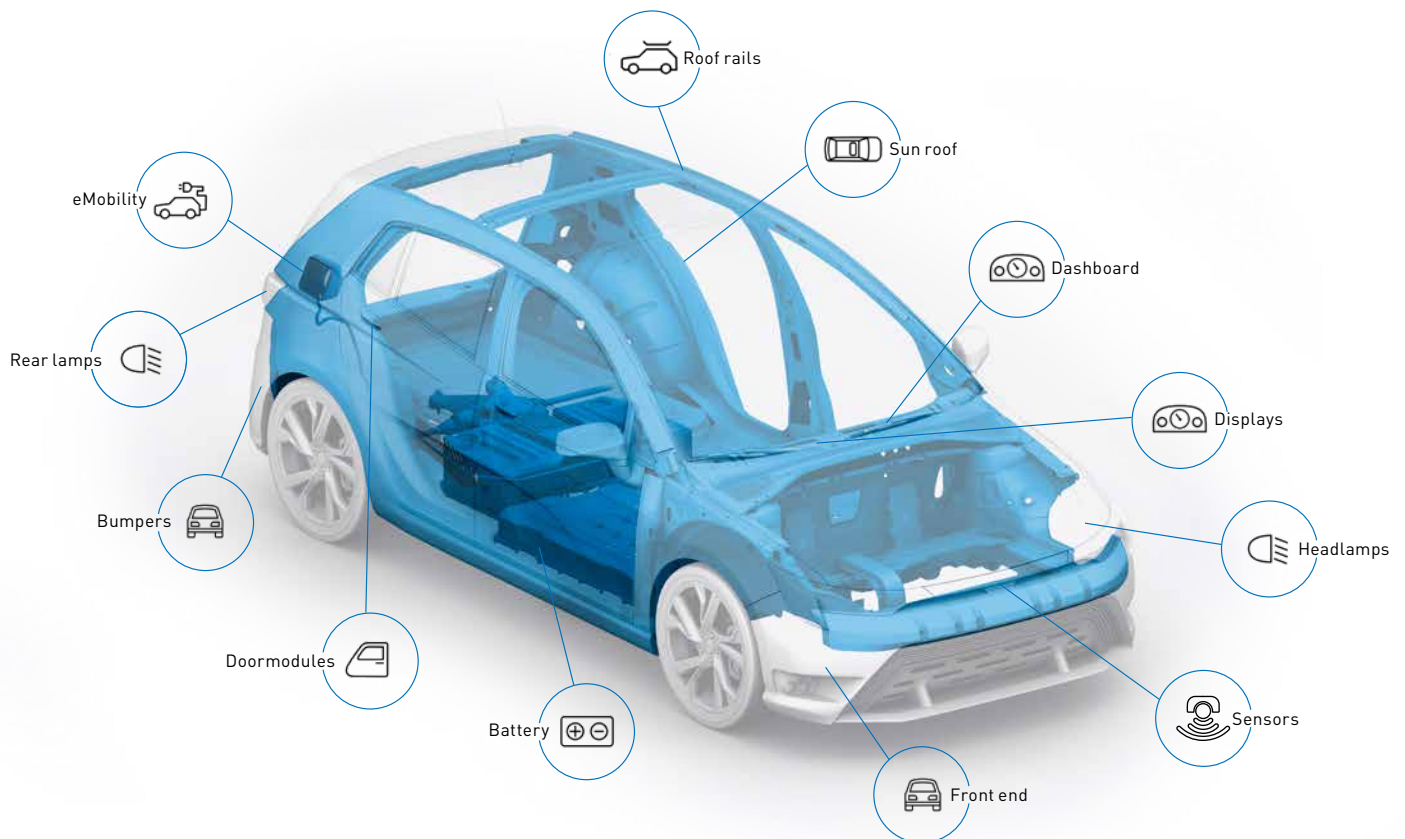
### RESULT

A robust and tension-free connection is accomplished.



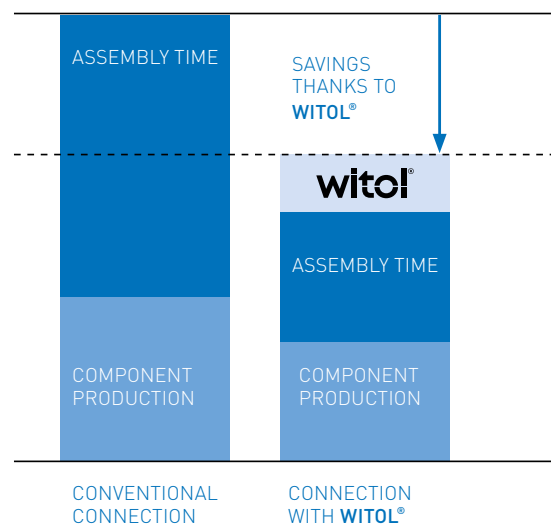
## One System. Many application options.

The numerous application possibilities can best be demonstrated using the example of an automobile, the industry for which WITOL® was originally developed.



## Benefits

- Applied in 3 easy steps
- Precise compensation of deviations and imprecisions
- Simplification of production steps
- Reduction of assembly times
- Elimination of complex alignment
- Optimization of total costs



## Fields of application for WITOL® in and on the car

- Dashboard
- Headlamps / Rear lamps
- Roof rails
- Door modules
- Bumpers / Front end
- Sun roof
- eMobility
- Battery
- Displays
- Sensors



Bumpers / Front end



Dashboard



Doormodules

## Further fields of applications

WITOL® Tolerance compensation fasteners can be used wherever tolerances in the form of cavities have to be compensated.

The application possibilities are almost unlimited. This is only a small selection of industries with predestined application possibilities:

- Agricultural
- Trailer industry
- Rail
- Caravans
- Furnitures
- Medical



Headlamps / Rear lamps



Sun roof



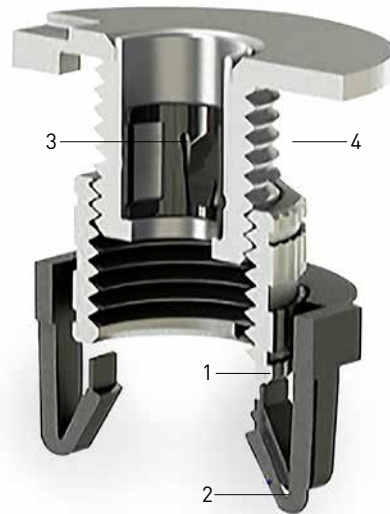
Roof rails



## Cleverly engineered, flexible in application

WITOL® compensation fasteners consist of a base element (1), a fastening element (2), a spring element (3) and a compensation element (4).

What is decisive for flexible use of the WITOL® is the different fastening element designs (2). These interfaces can be individually designed and are thus particularly well suited to the exacting quality requirements in different industries and strict demands in terms of precise gap dimensions, short assembly times, as well as simple and highly precise assembly.



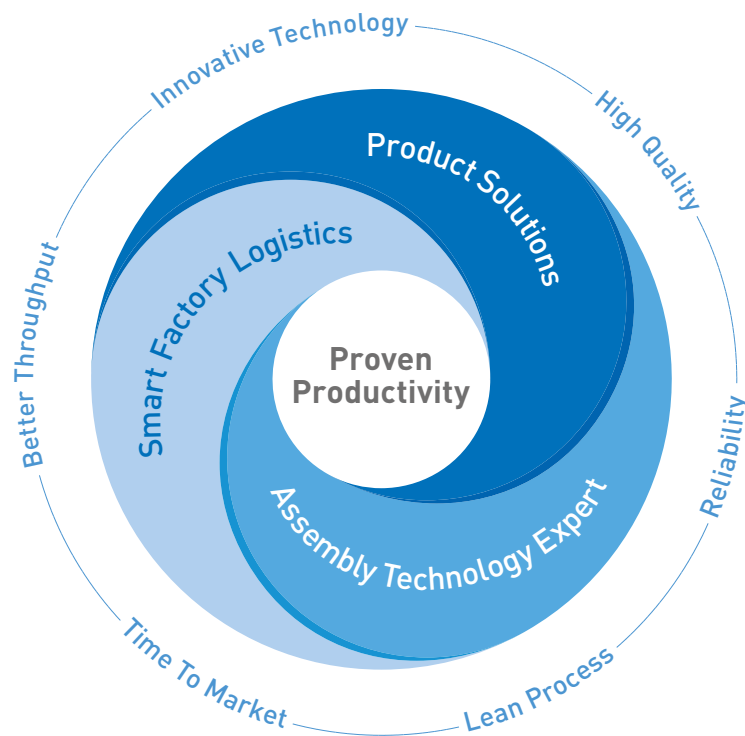
## Your individual project

Together with our partner WITOL® we can offer you intelligent fastening systems from the initial concept to serial production. The solutions can be 100% adapted to your interface in order to integrate them into the given environment. Special functions can also be integrated into the WITOL® so we can optimally realize your individual requirements.

## PROVEN PRODUCTIVITY – A PROMISE TO OUR CUSTOMERS

# The strategy for success

---



From years of cooperation with our customers we know what achieves proven and sustainable impact. We have identified what it takes to strengthen the competitiveness of our customers. Therefore we support our customers in three strategic core areas.

Firstly, when finding optimal **Product Solutions**, that is in the evaluation and use of the best fastening part for the particular function intended in our customers' products.

Second, our **Assembly Technology Expert** services deliver the smartest solutions for all possible fastening challenges. Our services cover from the moment our customers developing a new product, to

assembly process optimization as well as fastening technology education for our customers' employees.

And thirdly, optimising our clients' productions in a smart and lean way with **Smart Factory Logistics**, our methodology, with intelligent logistics systems and tailor-made solutions.

Understood as a promise to our customers, "Proven Productivity" contains two elements: Firstly, that it demonstrably works. And secondly, that it sustainably and measurably improves the productivity and competitiveness of our customers.

And this for us is a philosophy which motivates us every day to always be one step ahead.

---

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