

dimensional evaluation, where the 50% values of the sections are plotted against  $cd$ . The value of the regression line at a given  $cd$  value is compared to the limit value. The QT-script for the statistical evaluation is a sophisticated program with several functions for calculating the statistical values and for creating the bar plots. It is designed to run both in GUI and silent mode, so that simulations and post-processing can be done together in one batch run.

**COMPARISON WITH MEASUREMENTS**

From a type test with a Stadler railway vehicle the distribution of the  $QN$  values was roughly known. In SIMPACK, a track irregularity was created with a similar distribution, simulations were performed and the results were statistically evaluated as described above. The estimated maximum values from a simulation and from the actual measurement show a good correlation (see Fig. 8).

**PROSPECTS**

In the future the standard will allow simulation results to replace measurements. This will allow savings in time, money and energy — all needed for performing costly type tests. SIMPACK not only allows for statistical evaluation of the data (according to the European Standard EN 14363) by using QT-scripts but, also makes a pleasing graphical visualisation in the SIMPACK PostProcessor possible.

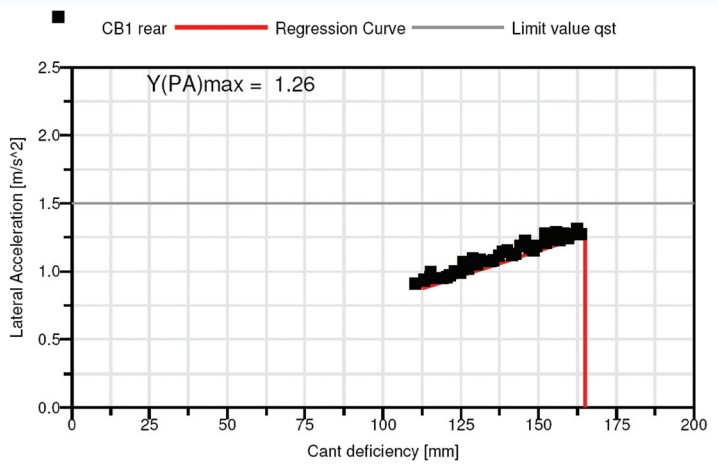


Fig. 7: Two-dimensional statistical analysis

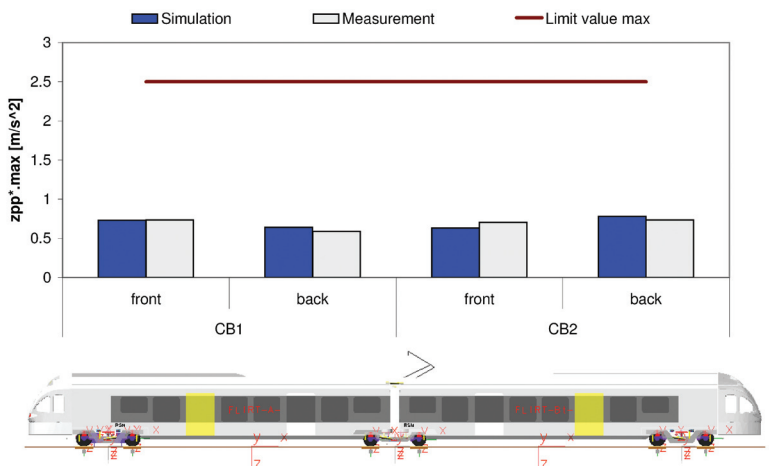


Fig. 8: Comparison with measurements

For more information about STADLER RAIL AG please visit: [www.stadlerail.com](http://www.stadlerail.com)

# SIMPACK AG goes Green



For many years now SIMPACK has been playing an important role in supporting clean energy and

transportation technologies. Manufacturers in the wind turbine sector, railway industry and in the automobile sector (with the introduction of environmentally friendly vehicles), have all been using SIMPACK to improve efficiency and durability.

Because we live in a world where the sum of individual actions is having a severe global impact, SIMPACK AG has made the decision to switch to 100% clean renewable energy. Non-renewable energy from coal and nuclear

power plants, which carry long lasting risks, will no longer be supported by SIMPACK AG. The move to clean energy is an important step showing SIMPACK's commitment to the global environment and all of mankind.

Not only does SIMPACK support the design and development of more efficient greener products, but also the use of clean energy for everyday business. SIMPACK software is now much greener.



(source and © Steven Mulski)