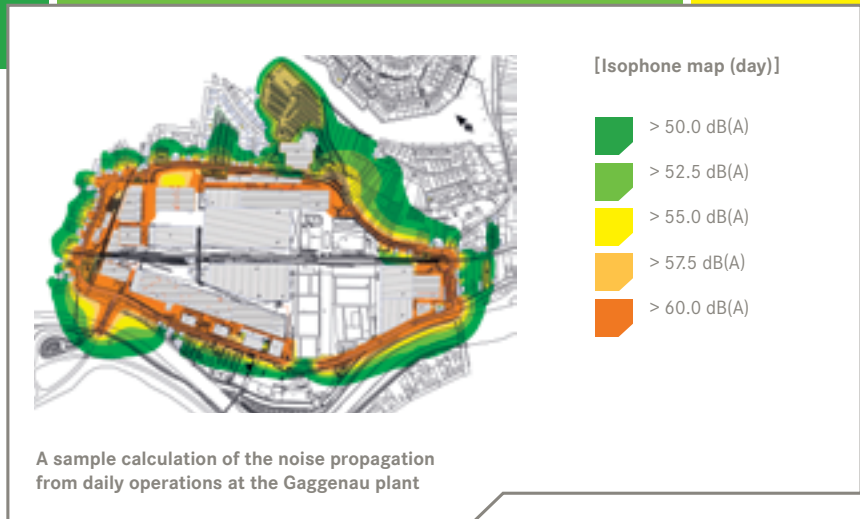


&lt; 45



## Quiet, Please!

Wherever people are working, there's bound to be noise. But Daimler has come up with innovative measures to reduce the noise **emissions** of its locations in Germany in order to protect its neighbors. Thanks to construction modifications and acoustic supervision, Daimler can look back on a quiet year.

**Text** Rainer Brenner

**SINDELFINGEN 49°N/9°E** — “In recent years we haven't received any complaints about noise,” says Martin Schäckeler, who is responsible for noise control at the Daimler plant in Sindelfingen. “Through our noise control activities we want to help make sure that things stay that way.” Together with Volker Strese, the plant's environmental officer, Schäckeler implemented an innovative measure years ago by continually monitoring the noise level in the plant. Seven weatherproof microphones have been positioned on the roofs of selected buildings to measure noise. Every five minutes, this data is combined with current weather data and automatically evaluated in a central computer. By means of this process, the total noise propagated by the plant is calculated

and constantly monitored. If this value changes significantly, the source of the problematic noise can be easily located. Incidentally, this monitoring of noise emissions (noise at the sound source) with ultramodern measuring devices has an interesting side effect that's relevant to the maintenance of the plant machinery in Sindelfingen: By tracking down acoustic deviations from the norm, defective or worn-out machinery parts can be identified and repaired early on. That not only reduces the risk of breakdowns but also greatly helps to lower servicing and maintenance costs. The permanent monitoring process is complemented by regular checks of the approximately 1,850 individual sound sources, whose data is documented in a sound source register.

dB(A)

< 60 dB(A) day  
< 45 dB(A) night

**But what exactly is noise? And how loud is too loud?** A healthy human ear can perceive sounds above 0 dB(A), and for most of us the pain threshold lies at 120 dB(A). In Germany, the maximum legally permitted level of noise immission (noise at the measuring point) during daylight hours outside plant complexes in mixed-use areas is 60 dB(A). That's the approximate equivalent of the room-level volume of a TV or a normal conversation. The noise immission limit for nighttime is 45 dB(A). Compliance with the legal limits is regularly monitored at all Daimler plants by an auditor who makes random measurements on the plant roofs above the individual sound sources. In addition, sound immissions in the neighboring residential areas are also measured. Because many Daimler plants in Germany are not located in purely industrial areas, noise protection is a major issue at most of the company's locations. In addition to systematic production monitoring, the sound emission of each new piece of machinery is checked before it is commissioned.

**It's getting quiet in Germany.** Noise reduction is also a high priority in other Daimler production plants. At the Gaggenau plant, for example, noise levels are checked before every new construction project and every commissioning of new machinery. Noisy jobs, such as dumping metallic waste into containers, are done in sound-insulated halls at the plant. Numerous individual measures, when added up, mean a quieter environment for the neighbors. For example, the replacement of a cooling tower at the Gaggenau plant in 2008 reduced the noise emissions at this point by 28 dB(A). At the Düsseldorf plant, noise emissions were reduced by building a special 350-meter (1,150-foot) protective wall that helped to lower the noise level beyond the wall from 47 dB(A) to 45 dB(A). The installation of new muffler elements in the sources of outgoing air in the paint shop reduced the noise emissions by 30 dB. What's more, the resulting improved air flow saved valuable energy. The Daimler plant in Bremen also faced some acoustic problems. In order to protect the environment the plant managers had increasingly switched to train transportation for outgoing deliveries, but the loading of the trains, and their squealing brakes, led to increased noise emissions in the adjacent residential neighborhood. Here too, a new sound protection wall like the one in Düsseldorf helped to reduce noise. The annoying

squealing of the trains as they went around a narrow curve was reduced by means of a special surface treatment for the rails. However, at most plants the biggest challenge is the noise made by deliveries and the traffic within the plant complex. "The access roads were optimized, and in recent years the trucks have simply gotten quieter – that's how we managed to reduce the traffic noise," reports Klaus Heldt, an employee at Daimler's Corporate Environmental Protection unit. "All the same, the noise emissions generated by our supplier traffic, especially in the early morning, is still a problem. And so is the unloading of freight, which is always a noisy process."

Production-related noise will certainly continue to be a serious problem in the coming years, but it's not an insoluble one. Thanks to preventive measures and some creative ideas, the neighbors of Daimler plants in Germany won't have to sacrifice their well-deserved peace and quiet either today or in the future. \

#### [360 DEGREES ONLINE]



Noise becomes a strain for anyone if it continues over the long term. You can find out why this issue is taken very seriously at Daimler, and what concrete measures the company is taking to reduce noise emissions, at: [daimler.com/sustainability](http://daimler.com/sustainability)

- [1] A report on the noise protection measures being taken at Daimler Trucks North America.
- [2] An overview of the measures being taken to reduce noise emissions at Daimler locations in Germany.
- [3] Interview with Martin Schäckeler, Environmental Protection/Environmental Technology at the Sindelfingen plant, on noise protection measures.

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