



Siemens Gamesa technological solutions

## DinoTails® Next Generation Noise reduction technology

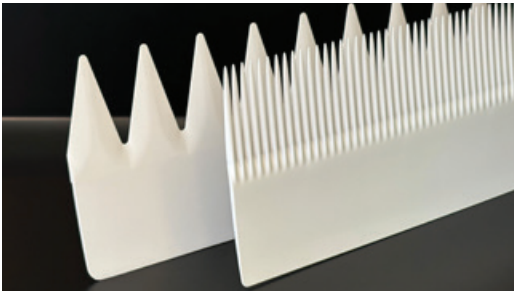
As your onshore wind energy technology provider, we are continuously innovating and developing technologies to improve the performance, and sustainability of our products, backed by more than 40 years of experience and nearly 146 GW installed and over 91 GW maintained across the globe. We enhanced the efficiency of our wind turbines through solutions adapted to each project and its varying site conditions. One of these solutions is DinoTails® Next Generation.

Operation of turbines within certain noise levels is crucial for a significant percentage of onshore wind projects. To comply with local noise regulations, many wind turbines must run at curtailed power outputs, thus producing less energy (typically 2-4% AEP per dB). However, silent wind turbines can produce more power, which results in lower LCoE.

Siemens Gamesa introduced the DinoTails® concept in 2000. As an aerodynamic blade add-on, it reduces the sound power levels by using a serrated trailing edge mounted at the blade.

### Inspired by nature

As a result of ongoing innovation, Siemens Gamesa has advanced this concept further with DinoTails® Next Generation, which employs a novel approach. Inspired by the silent flight of owl, this technological solution enhances the beneficial effect of the serrated edge by incorporating finer serration teeth which improve the acoustic performance of the component while also improving the mechanical robustness of the solution. These fine serrations generate smaller flow structures than previous DinoTail versions, thereby further reducing noise.



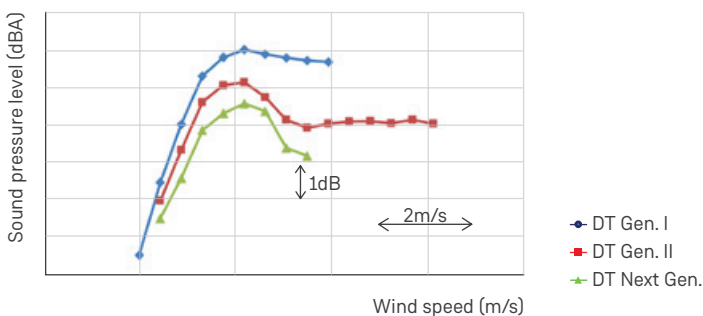
### Siemens Gamesa technology

Siemens Gamesa has tested DinoTails® Next Generation using advanced validation methods, combining acoustic and aerodynamic wind tunnel tests with highly accelerated lifetime and power/noise curve measurements in the field. The results have shown robust performance with a significant noise reduction at all wind speeds without losing power.

### Siemens Gamesa portfolio

DinoTails® Next Generation technology is offered for the onshore Siemens Gamesa wind turbine platforms with substantial improvements to noise levels.

With a layout tailored for each turbine type, this noise reduction technology enables us to create value for our customers by maximizing AEP and reducing the LCoE in sites with noise constraints.



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