

# A Future Vehicle Enabled by CNF Nano Cellulose Vehicle (NCV)

This introduces the achievements of the Nano Cellulose Vehicle (NCV) project led by the Ministry of the Environment. It is a fully functional prototype developed over four years using as much CNF as possible and exhibited at the 2019 Tokyo Motor Show. By applying CNF, the vehicle achieved remarkable results: a 16% reduction in weight and an 11% improvement in fuel efficiency at 100 km/h compared with a typical vehicle. Plant-derived CNF demonstrates the potential to significantly transform the future of automobiles.



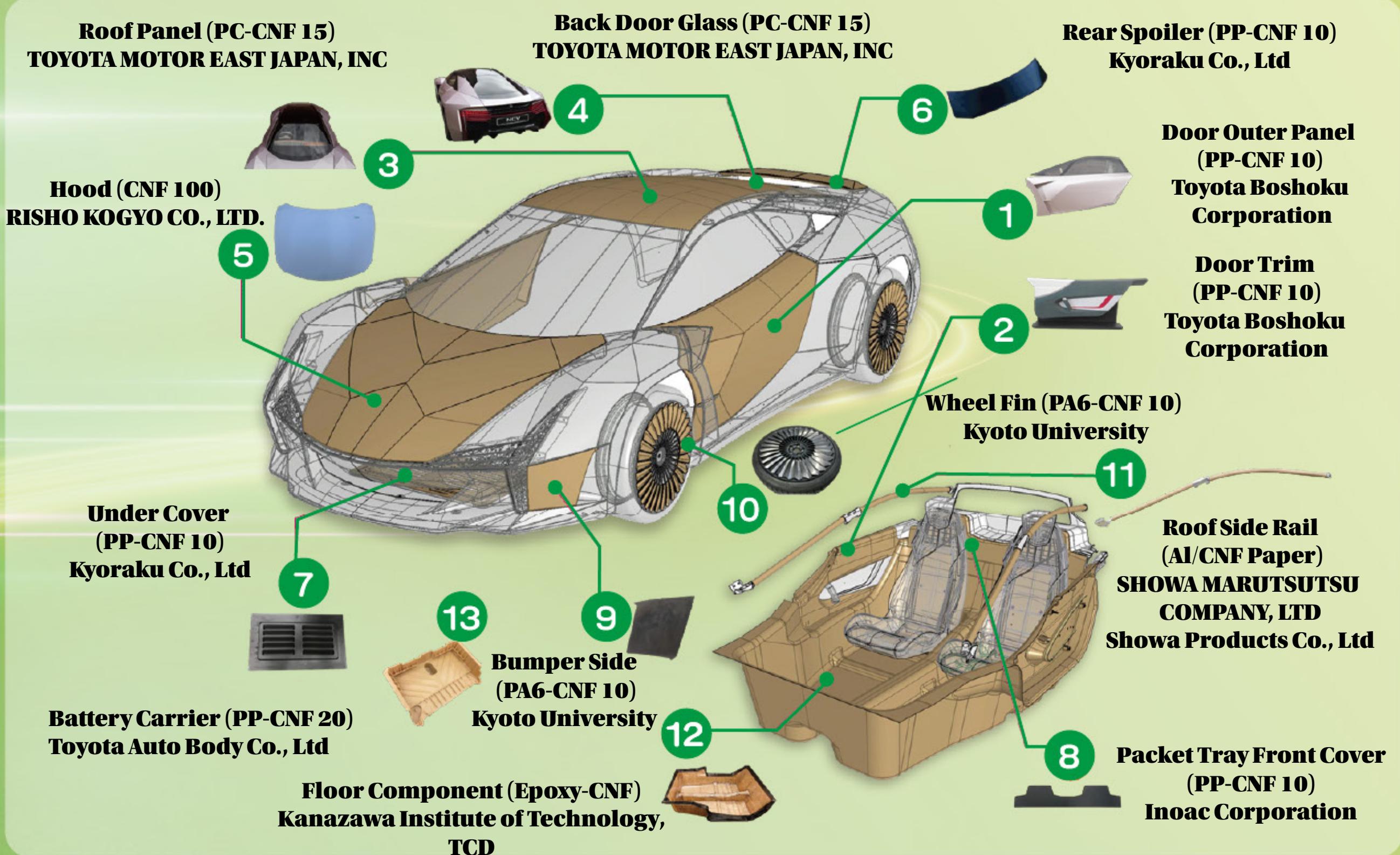
The NCV project applied CNF to 13 vehicle components, achieving a 16% weight reduction and an 11% improvement in fuel efficiency. This is a groundbreaking achievement showing that plant-derived CNF can reduce vehicle weight and improve future environmental performance.

**Toward Carbon Neutrality  
Future Performance Proven by CNF**

Ministry of the Environment NCV Project FY 2016-FY 2019  
Consortium Established: October 26, 2016



## Challenging weight reduction with plant-derived next-generation CNF materials



**Co-creation Innovation Driven by the  
Collaboration of 22 Industry,  
Academic, and Government Partners**