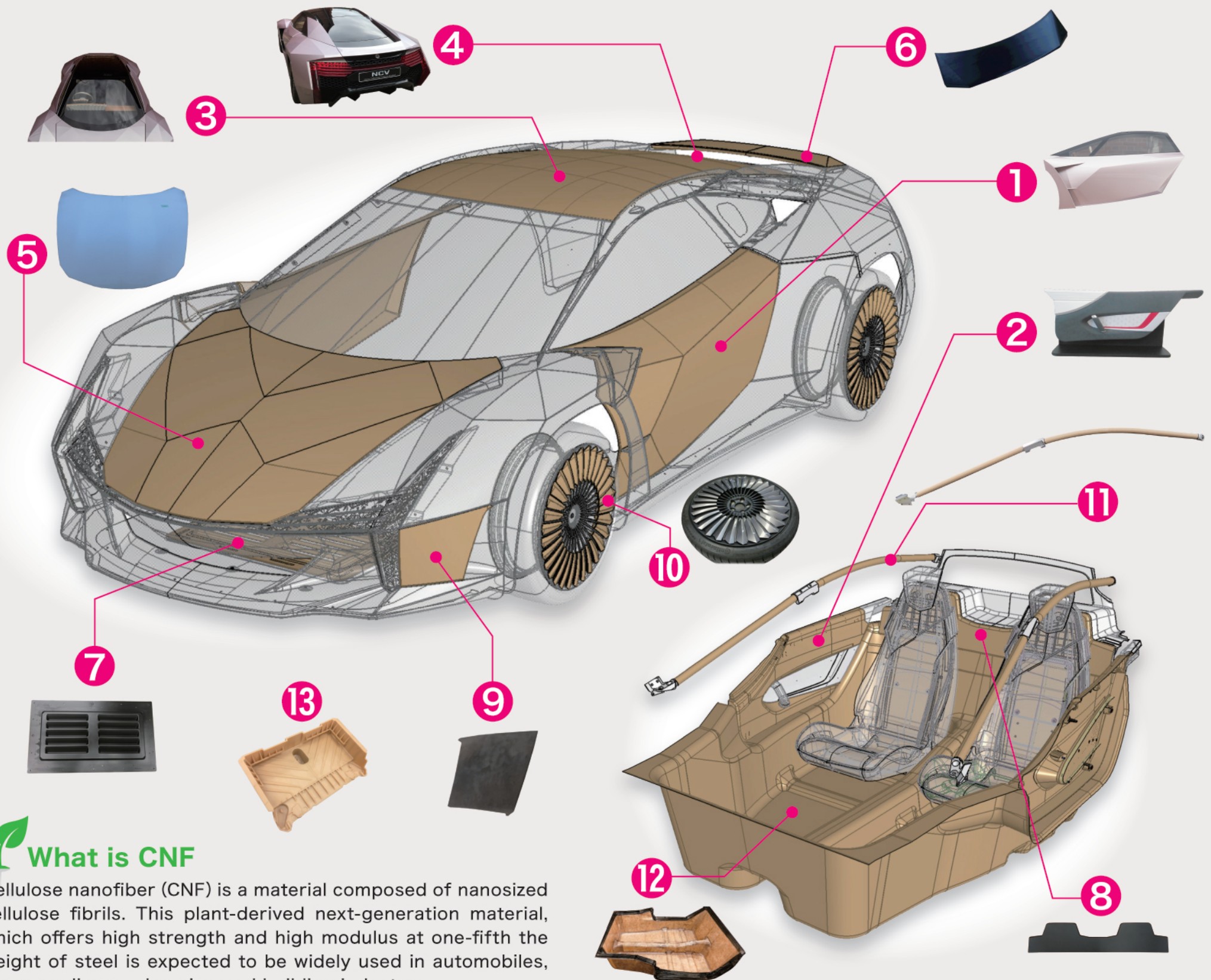


Future Car made from Woods

Challenge to weight reduction of automobile
by utilizing plant-derived next-generation material "CNF" !



What is CNF

Cellulose nanofiber (CNF) is a material composed of nanosized cellulose fibrils. This plant-derived next-generation material, which offers high strength and high modulus at one-fifth the weight of steel is expected to be widely used in automobiles, home appliances, housing and building industry.

	Automotive Parts	Materials	Compound Ratio of CNF	Molding Method	Manufactured by
①	Door Outer Panel	PP-CNF composite	10%	Injection Molding	TOYOTA BOSHOKU CORPORATION
②	Door Trim	PP-CNF composite	10%	Injection Molding	TOYOTA BOSHOKU CORPORATION
③	Roof Panel	PC-CNF	15%	Injection compression molding	TOYOTA MOTOR EAST JAPAN, INC.
④	Back Door Glass	PC-CNF	15%	Injection compression molding	TOYOTA MOTOR EAST JAPAN, INC.
⑤	Bonnet	CNF	100%	Hot Press Molding	RISHO KOGYO CO., LTD.
⑥	Rear Spoiler	PP-CNF composite	10%	Blow Molding	KYORAKU CO., LTD.
⑦	Undercover	PP-CNF composite	10%	Blow Molding	KYORAKU CO., LTD.
⑧	Package Tray Front Cover	PP-CNF composite	10%	Injection Molding	INOAC CORPORATION
⑨	Front Bumper Side	PA6-CNF composite	10%	3D Prineted (Powder Bed Fusion) Molding	KYOTO UNIVERSITY/ NAGOYA INSTITUTE OF TECHNOLOGY
⑩	Wheel Fin	PA6-CNF composite	10%	3D Prineted (Powder Bed Fusion) Molding	KYOTO UNIVERSITY/ NAGOYA INSTITUTE OF TECHNOLOGY
⑪	Roof Side Rail	Aluminum Tube & CNF-paper	100%	CNF Paper Winding	SHOWA MARUTSUTSU CO., LTD.
⑫	Floor Parts	Epoxy-CNF	30~50%	RTM (Resin Transfer Molding)	KANAZAWA INSTITUTE OF TECHNOLOGY/ TOYOTA CUSTOMIZING & DEVELOPMENT Co., Ltd.
⑬	Battery Carrier	PP-CNF composite	20%	Injection Molding	TOYOTA AUTO BODY CO.,LTD.



Ministry of the Environment

NCV

Nano Cellulose Vehicle Project

Cooperated by NEDO
(New Energy and Industrial Technology
Development Organization)

NCV Project
Information

