



## NXP SEMICONDUCTORS X VIBRA NOVA

# Touch and Feel The Future: Add a New Sense to Your User Interface

Vibra Nova and NXP collaborate on next-gen car display interfaces by combining their leading-edge technologies.

## The Challenge

The objective of the project was to develop a seamless and innovative user experience within the automotive cockpit environment. The aim was to improve safety by enabling drivers to interact with the display without needing to divert their eyes from the road. The challenges extended beyond demonstrating technical feasibility; it was also essential to ensure that the integrated technologies genuinely enhanced user interaction, making it more intuitive and engaging. The team believes that combining Vibra Nova's ultrasonic haptics with NXP's touch technology has the potential to deliver a distinctive and memorable "wow" effect.

## The Solution

The project was focused on designing a demonstrator that replicated the appearance and functionality of an advanced automotive cockpit application featuring touch and haptic interaction. The scope encompassed the development and integration of all required hardware and software components, including the human-machine interface (HMI). By incorporating the complete set of system components from

both Vibra Nova and NXP, the solution showcased the distinctive benefits of combining projected-impedance touch technology with ultrasonic haptics, particularly in facilitating button location and delivering precise actuation feedback.

## The Outcome

The collaboration resulted in a breakthrough user experience for the automotive cockpit, combining innovation with enhanced safety. Vibra Nova and NXP successfully integrated their technologies to create a compelling "wow effect" demonstrating both feasibility and impact. The impressive outcome laid the groundwork for future innovations in automotive interfaces, setting a new benchmark for intuitive and immersive user interaction.

## Project Highlight

The gains are primarily in feature differentiation, with the ultimate ROI expected to come from increased sales, specifically by enabling touch sensation technology to support more intuitive and safer interaction with car displays.

# Vibra Nova

Vibra Nova transforms human-machine interfaces by adding unique touch sensations and feedback to digital interfaces

Vibra Nova's technology enhances security, efficiency, and user comfort by enabling eyeless interaction with digital interfaces through the addition of touch feedback.



**Headquarters**  
Grenoble, France

**Founded**  
2024

**No. Employees**  
11 – 50

**Website**  
[www.vibra-nova.com](http://www.vibra-nova.com)

## Acknowledgement

We would like to express our sincere thanks to Martin Gruber (NXP Semiconductors), Carla Ghidini (NXP Semiconductors), David Richard (Vibra Nova), and Vincent Leconte (Vibra Nova).

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## About STARTUP AUTOBAHN powered by Plug and Play

STARTUP AUTOBAHN powered by Plug and Play is an open innovation platform that provides an interface between innovative tech companies and industry-leading corporations.

The basis of the program is the partnership that develops between startups and the corporate business units. The two entities hold an equal footing from the get-go: together they evaluate the potential for a joint venture, move forward to pilot the technology, and work to achieve the ultimate goal – a successful production-ready implementation.

Designed with the intention to exceed startup acceleration, STARTUP AUTOBAHN powered by Plug and Play moderates a community for collaboration with a focus on implementable results.

Over the years, the platform has successfully cultivated over 500 projects with more than 350 startups since its founding in 2016. ■

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