

Company introduction





# 1. Overview

| Company    | NEVHA Corporation  |  |
|------------|--|--|
| Adress     | 100-11 Machiyabora, Kamekubi-cho, Toyota, Aichi Japan                  |  |
| Establish  | 2018/April   |  |
| Investment | HTC: 50%, Adler Pelzer Group: 50%                                      |  |
| Member     | 6 (4 from HTC, 2 from APG)   |  |
| content    | Analysis / development of NV for interior and exterior products of NEV |  |

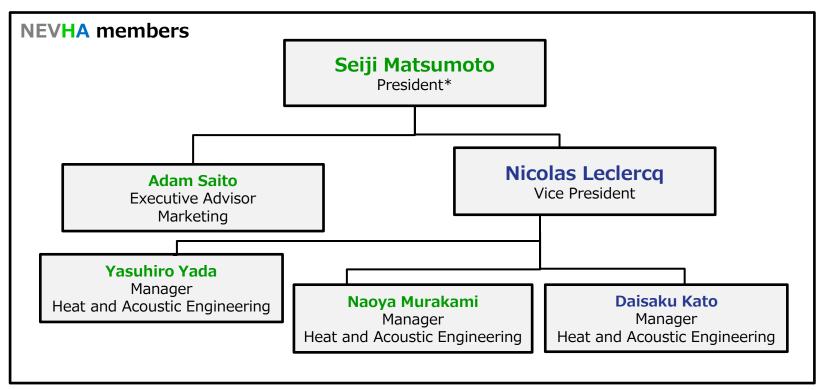
## <Parent company overview>

|                    | Hayashi telempu   | Adler Pelzer Group  |
|--------------------|---|---|
| Business           | Development, design, manufacture and sale of automobile interior and exterior parts | Development, design, manufacture and sale of automobile interior and exterior parts |
| Main<br>production | Floor carpet, Floor insulator, trunk trim, etc                                      | Floor carpet, NV package, dash inner/outer,<br>Headliner, Trunk trim,               |
| Sales mount        | 242 billion yen(2021/12)  | 155 billion yen(2020/12)  |
| Employee           | 3,761(2021/12)  | About 13,000(2021/09)   |
| Customer           | Japan, US, Europe, China  | Europe, Japan, US, Asia   |
| R&D                | Japan, US, China, Thai  | EU, China, US and so (total 13)   |





# Board of Directors HTC Members APG Members Seiji Matsumoto Deputy Representative\* Yasuhiro Yada Board Member Nicolas Leclercq Representative\* Lino Mondino Board Member







# 2. Policy

- Become the NV Research & Engineering leader for New Energy Vehicles using the most advanced technologies and competences to assist customers in the development of the next generation of concepts and vehicles.
- Harmonize the technology of parent companies and have higher technical / product capabilities and boost competitive advantage.
- Effectively utilize the resources of parent companies, to achieve synergistic effect.





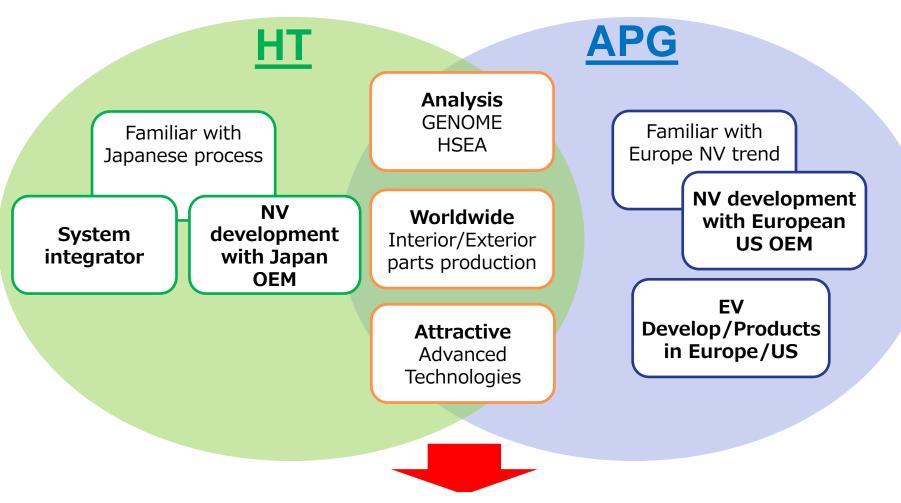
# 3. Scope

- Be entrusted studies, testing & analysis and full NV packages developments from customers.
- Be assigned the internal development of advanced NV testing & analysis technology aimed at NEV applications.
- Support and assist internal technologies enhancement and developments.





# 4. Effect of technical fusion



Timely Proposals satisfying all customer needs





# 4. Effect of technical fusion

### (APG experience over 40 BEV programs)

26 projects with specific solutions for BEV needs developed

21 projects in development

All experience and expertise made in our R&D centers USA, Europe and China bundled in <





















2020

### References

Tesla Models S, X, 3

BMW i3, i8

VW E-Golf, E-Up,

Karma Revero

Faraday FF91

NIO ES6 & ES8

BYD, Denza

Chagan Benben EV

Buick Verano-I

CHJ M01

Porsche Mission E. Grand Tourismo VW new MEB platform

Audi Etron

Scania E-Bus

Adler Pelzer Group

















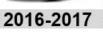




2019

















# 5. Output

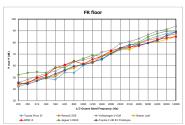
### 1) Advanced NV evaluation & analysis

- System & sound source contribution analysis with DNA(\*1)

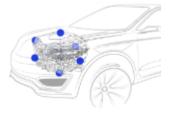
- \* 1 Acoustic Diagnostic Network Algorithms
- -Impact prediction due to sound source / structural change with Morphing
- -NV package optimization

### (2) BMC data utilization

Comparison with European / North American / Chinese car data by standardizing measurement method



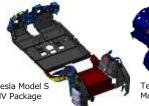




# 3 NV package proposal from development/production

- Tesla Model S
- Tesla Model X
- BMW i8
- BMW i3

- AUDI e-tron
- VW E-Golf, E-Up!
- Daimler EQC
- NIO ES8









Tesla Model S Encapsulation



AUDI e-tron Motor Encapsulation



NIO ES8 Motor Encapsulation







# 6. Deliverable

**1** Package Proposal/Analysis for EV development

Proposal from comparison/Analysis

**BMC** 

Detail analysis

Proposal

**②NV** package development for EV

NV package proposal (without dynamic measurement)

Contribution analysis

Detail analysis

**Proposal** 

③NV parts development(dash inner)

Optimization from design/evaluation approach

Analysis for improvement

Optimization

**Proposal** 

4 Motor encapsulation study

Optimization study based on requirements and parts layout

Initial feasibility test

Detail analysis

validation

**5** Light weight silencer investigation

Investigation to be candidate material(acoustic/material test, design feasibility)

Material/acoustic evaluation

Optimization study

validation with protype parts





# **Contact for inquiries**

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