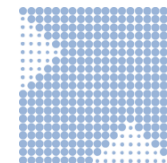


# BEB Consulting & Coaching

Integration Noise and Vibration

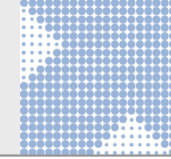
2018-02-01



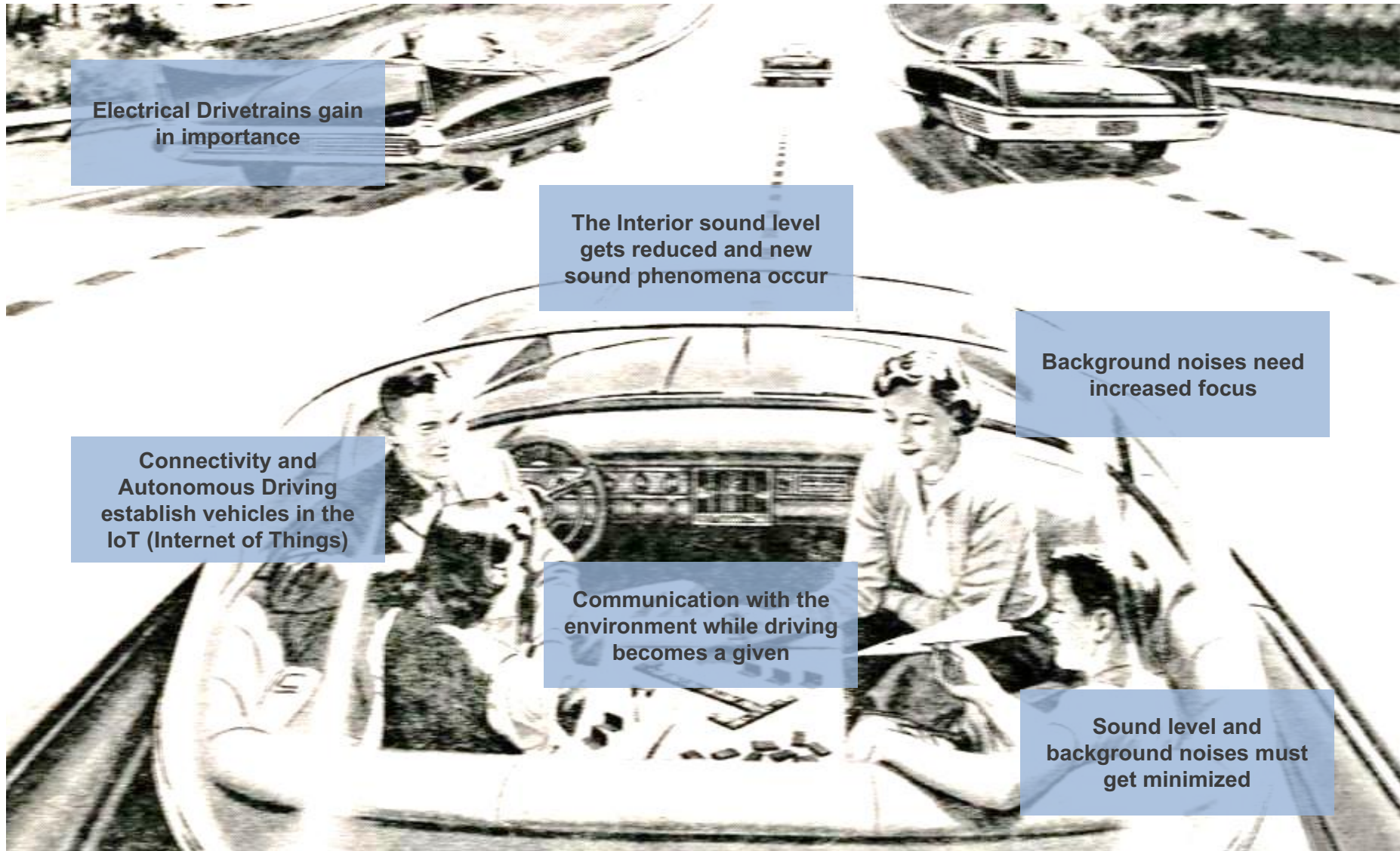
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## Technological Challenges



**Electrical Drivetrains gain in importance**

**The Interior sound level gets reduced and new sound phenomena occur**

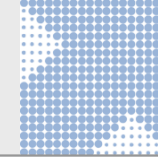
**Background noises need increased focus**

**Connectivity and Autonomous Driving establish vehicles in the IoT (Internet of Things)**

**Communication with the environment while driving becomes a given**

**Sound level and background noises must get minimized**





## The Customer As Challenger



Time while driving will be used as working time

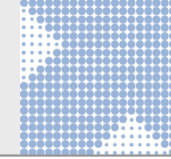


Time while driving will be used as spare time

Passengers want to use that time and demand a suitable and comfortable environment

Passengers want to use that time and demand an adequate comfort

We support our customers to get their systems and components quiet and free of disturbing noise



## Excerpt of Projects

- Redesign of a compressor
  - Design-analysis with regard to airborne and structure-borne noise
  - Development of alternative design concepts
  - Preparation of prototypes to define the potentials of the alternatives
  - Calculation of cost effects
  - Discussion and definition of measures being realized in mass production
- Weakness- and potential analysis of a production HVAC-System
  - Interior and Exterior noise measurement
  - Transfer path analysis airborne and structure-borne noise
  - Weak points detection
  - Development of alternative solutions with the restraints of mass production
  - Potential identification by prototypes
  - Potential estimation of the alternatives for the mass production