

**PHILOSOPHY**

**SMART** - create products that are characterized by a high intelligence content

**SIMPLE** - just implement what's needed, not what's possible

**SWIFT** - success projects with a great amount of experience

**Project Reference**

**CONTACT**

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**CUSTOMER**

SALT & PEPPER Technology GmbH & Co. KG  
Netter Platz 3  
49080 Osnabrück

**PROJECT NAME & PERIOD**

Chassis Control Coordinator  
Jan-2019 – Mar-2020

**PROJECT CONTENTS**

- Consulting and coordination of tasks within the Salt & Pepper team
- Track Generator
  - Development of a MATLAB® user interface for the interactive definition of reference trajectories for autonomous driving
  - Definition of base points via mouse clicks and calculation of trajectories by selected spline interpolations and calculation of reference values (e.g. vehicle speed depending on lateral acceleration and trajectory curvature)
  - Implementation of a library containing several track characteristics
  - Loading any maps using OpenStreetMap functionalities
  - Implementation of various graphs for track and kinematic analysis
  - Download of trajectories and reference values on dSPACE MicroAutoBox
- Vehicle Longitudinal Control
  - Consulting on development of a Simulink® functional architecture for series longitudinal controller with regard to best practice, AUTOSAR, etc.
  - Definition and check of requirements for completeness, contradictions and gaps
  - Implementation of smooth switching mechanisms between several longitudinal controllers taking into account various situations (driving, stopping, standstill, starting, etc.)
  - Development of an input filter algorithm for reference values dependent on several constraints
  - Development of longitudinal control functions for various requirements for position, velocity and acceleration controls and smooth switchovers
  - Development of Simulink® library blocks
  - Development of a comprehensive MATLAB GUI for definition and execution of automated unit tests

**NET PROMOTER SCORE**

How likely is it that you would recommend the services of designXtronics to a friend or colleague?

Not at all likely Extremely likely

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**Notes:**

Super Typ !!

Customer name: Karsten Havixbeck

Date, signature: 28.08.2020 