designXtronics

smart.simple.swift.

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

Edscha Engineering GmbH

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42855 Remscheid

PROJECT NAME & PERIOD

Plant modeling & model-based control design

Oct-2019 – Mar-2020

PROJECT CONTENTS

- Modeling
  - Derivation of physical equivalent model of an electric drive system containing components electric motor, transmission, coupling and load
  - Derivation of component equations and non-linearities (e.g. friction, mechanical bounds and kinematics)
  - Implementation of the complete drive system model, analysis and testing of dynamics in MATLAB®/Simulink®
  - Documentation
- Graphical User Interface (GUI)
  - Implementation of a MATLAB GUI for closed-loop system simulation and analysis with features:
    - convenient specification of parameter values for plant and controllers
    - visualization of simulation results
    - handling of sessions containing different parameter and reference signal sets
- Controller
  - Introduction of a cascaded control concept
  - Model-based design for controllers with Simulink® Control System Toolbox
  - Realization of a MATLAB® GUI for rapid control design and automized linear and non-linear analysis with corresponding plot figures for characteristics of system dynamics

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

1	2	3	4	5	6	7	8	9	10

Notes:

Customer name: Marc Zander, PDPS-EE / Elektronik Angetriebene Systeme

Date, signature: 10.02.2021