# Company Profile

Sigma DeltaX

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# Welcome

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Feel free to interrupt to ask Questions

# Overview

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## Who we are

Automotive Software Experts

## Areas of Expertise:

- Automotive Software Integration
- Automotive Project Management
- Automotive Process Definition and Automation

# Services

# Project Kickstart



Implementation of project infra-structure including build system, folder structure and debug environment.

## Activities

- Definition of process objectives
- Creation of **folder structure**.
- Implementation of **build environment**.
- Implementation of **debug environment**.
- Implementation of automation for **process/project standards**
- Handover

## Use Cases

- Before or right after project acquisition
- Know-how acquisition
- Update to outdated and inefficient process

# AUTOSAR board Bring-Up (“Deployment”)



Accelerate your ECU development project. Development of build environment, startup code, Low level driver (including MCU, Dio, Port, CAN peripheral), Init sequence (EcuM, BswM), Os, Communication Stack and Diagnostic Stack.

## Activities

- Creation of project
- Import of ComExtract (SecOC Stub)
- Import of diagnostic extract
- Configuration of OS
- Configuration of MCAL (Mcu, Port, Dio) according to Hardware Schematic
- Configuration of Initialization of System Stack
- Configuration of Protocol Transceiver
- MemMap Configuration/ Development
- Integration with build environment
- Handover

## Use Cases

- First development activity after project acquisition
- Expertise acquisition
- Update to outdated and inefficient process

# Traceability



Get fast and comprehensive view on the progress of your project.

## Activities

- Implementation of traceability markers
- Integration into build environment (maestro Requirement Utilities)
- Handover

## Use Cases

- ASPICE compliance
- Progress tracking

# DevOps



Integration of build/debug/traceability environments in DevOps Tool.

## Activities

- Setup of CI/CD
- Integration of build environment into CI/CD tool
- Pipelines definition
- Handover

## Use Cases

- Expertise acquisition
- DevOps adoption

# RTE and SWC integration



Integration of SWC with RTE.

## Activities

- Importing SWC
- Runnable Mappings
- Client/Server Connection
- Sender/Receiver Connection
- Handover

## Use Cases

- Requirement fulfilment
- Meeting CPU load requirement

# Multi-Core



Initialization and configuration of slave Core. Initialization of slave Cores in AUTOSAR BSW.

## Activities

- Support and advice for Software Architecture
- Support and advice for Init Architecture
- Configuration/Implementation of MemMap
- Configuration/Adaptation of MCAL to run in user mode
- Configuration/Adaptation of EcuM_Init and BswM_Init
- Synchronization of core during Initialization
- Synchronization of Partitions during initialization
- Remapping of Runnables
- Configuration/Adaptation of RTE connections
- Handover

## Use Cases

- Requirement fulfilment

# Memory Partitioning



Configuration of AUTOSAR Partition aka OsApplications. Configuration, Implementation and synchronization of OsApplications.

## Activities

- Support and advice regarding Init architecture
- Configuration/Implementation of MemMap
- Configuration/Adaptation of MCAL to run in user mode
- Configuration/Adaptation of EcuM_Init and BswM_Init
- Synchronization of Partitions during initialization
- Activation of OS SC3 (Scalability Class 3, Memory protection)
- Remapping of Runnables
- Configuration/Adaptation of RTE connections
- Handover

## Use Cases

- Requirement fulfilment
- Safety separation
- Security separation
- Multi-Core

# Cybersecurity



Configuration and Integration of Csm, HSM, SecOC, FvM, Secure Diagnostic.

## Activities

- Building HSM firmware
- Configuration of host Crypto-Stack (Crypto, CryIf, Csm)
- Integration of SecOC
- Configuration of FvM/SokFm
- Configuration of OEM specific Secure Diagnostics
- Handover

## Use Cases

- Expertise acquisition

# CDD implementation



Implementation and Configuration of CDD.

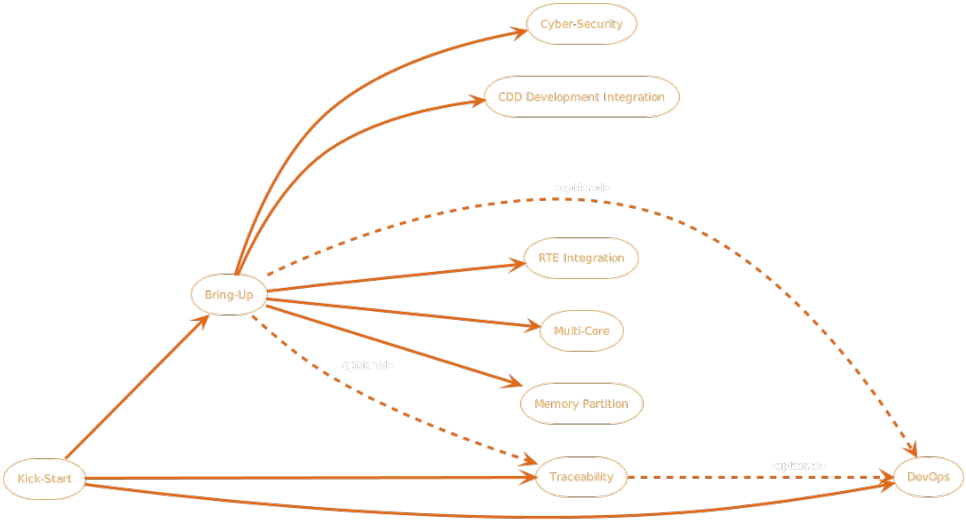
## Activities

- Support in requirement drafting
- Architecture of CDD
- Implementation of CDD
- Configuration of CDD with PduR
- Runnable mappings
- arxml authoring
- Handover

## Use Cases

- Requirement fulfilment

# Service Dependencies



# Products

# Maestro Requirement Utilities



Tool Suite for Requirements and Traceability compliance.

## Features

- **ASPICE** centric
- ASPICE **audit** support
- **DevOps** centric
- Instantaneous progress report
- Compatible with any build tool
- Stateless tool, depends only on the code base
- Non intrusive licensing
- Compatible on Windows and Linux

## Use Case

- Achieving ASPICE compliance
- Difficulty getting project state

# Why Sigma DeltaX

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- Proven track record (€10.5 million projects. Power-train ASIL-D, Customer Acquisition (Porsche, ZF, Ford))
- Proven personal track record (Mercedes-Benz)
- Proven mentorship skills
- Technical cross-domain experience (MCAL-to-ASW, CDD, linker and startup)
- Cross-domain experience (technical, process, project)
- Thin technical to managerial interface
- Lean operation
- High, tightly-coupled automation

# Discussion

# Questions