

AutomationML

Efficiency for drive sizing in the context of facility design

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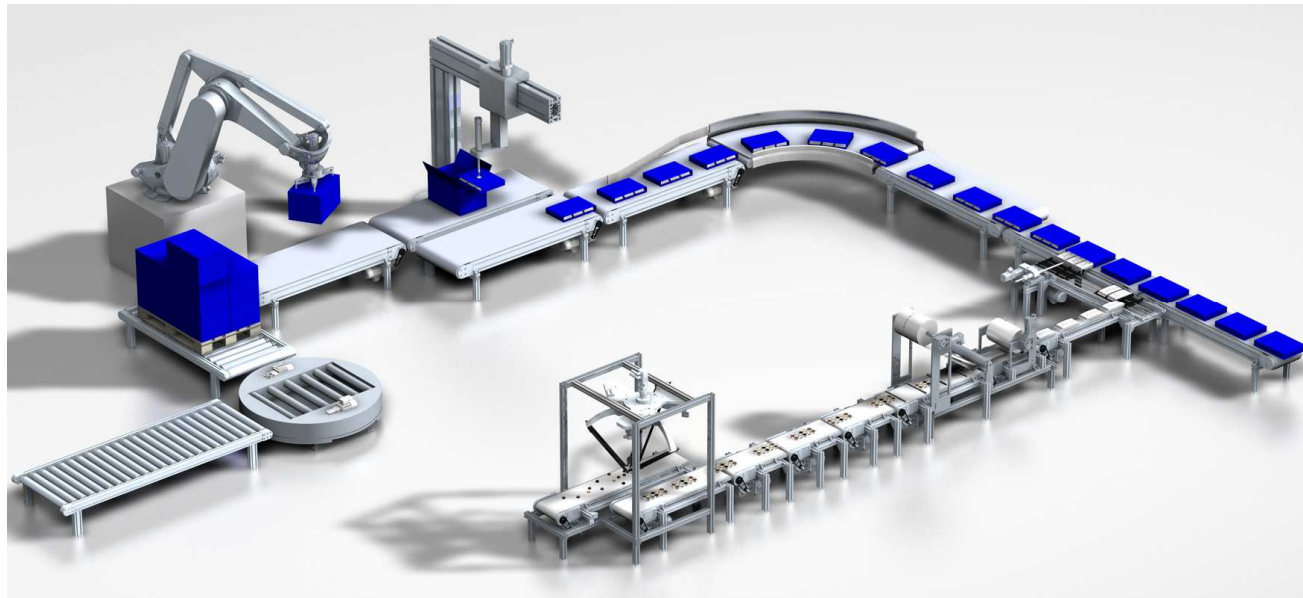


Agenda

- Lenze
- Engineering of a Machine
- Vision of Engineering Toolchain
- Drive Solution Designer
- Realised interface DSD - AML
- Conclusion and look-out

Lenze - our competencies

- We are experts in drive and automation technology.
- We are the driving force behind machineries and plants.
- We are a single source for mechanics, electronics and automation, providing products, solutions and systems as well as services.
- Focus industries: Automotive, Consumer goods industry, Intralogistics



An overview – our products



Software, I/O and visualisation



Controls and industrial PCs



Frequency inverters



Servo inverters



Decentralised drives

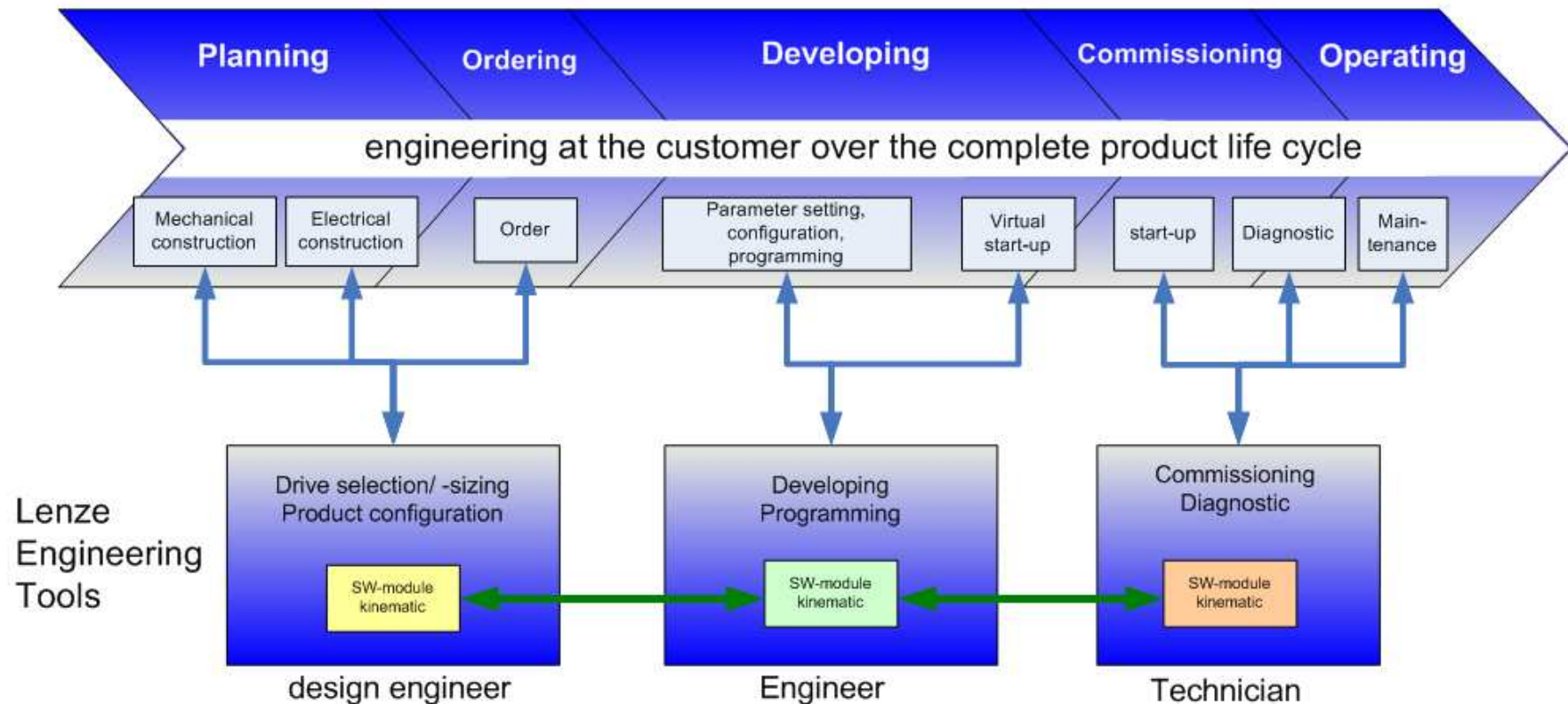


Standard three-phase AC motors, synchronous and asynchronous servo motors



Gearboxes and geared motors

Engineering Of A Machine



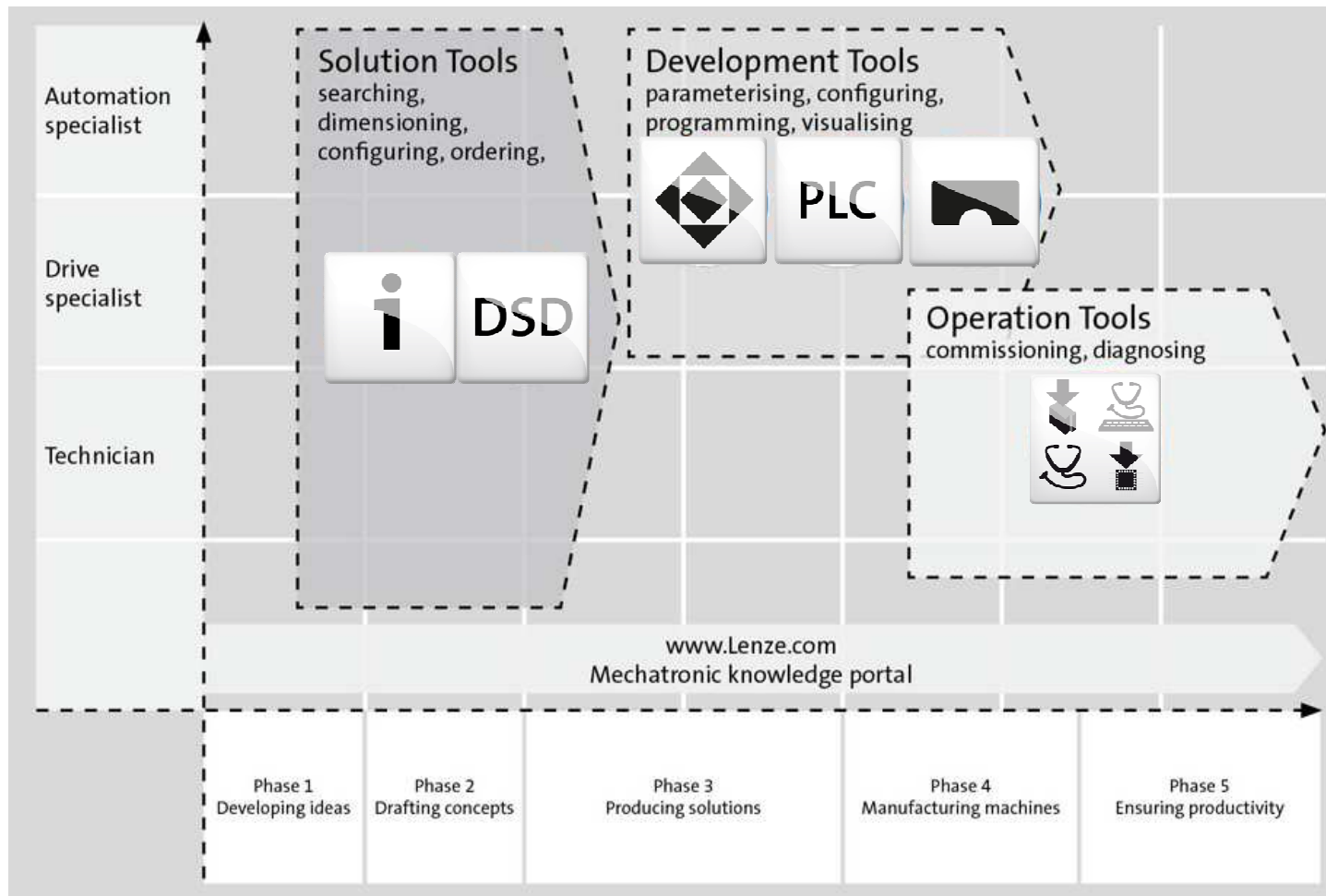
Optimal support for customer engineering via Lenze Tools necessary

Goals

- Optimal support for the engineering at the customer for the whole value-added chain
- Reduce of the engineering costs of mechatronics systems
 - Minimum of needed time
 - Know-how is provided
- Reduced complexity – Easy to use
- Reused information
- Consistency from planning via programming to service
- From single components to whole drive solutions and automation systems

Reducing engineering costs

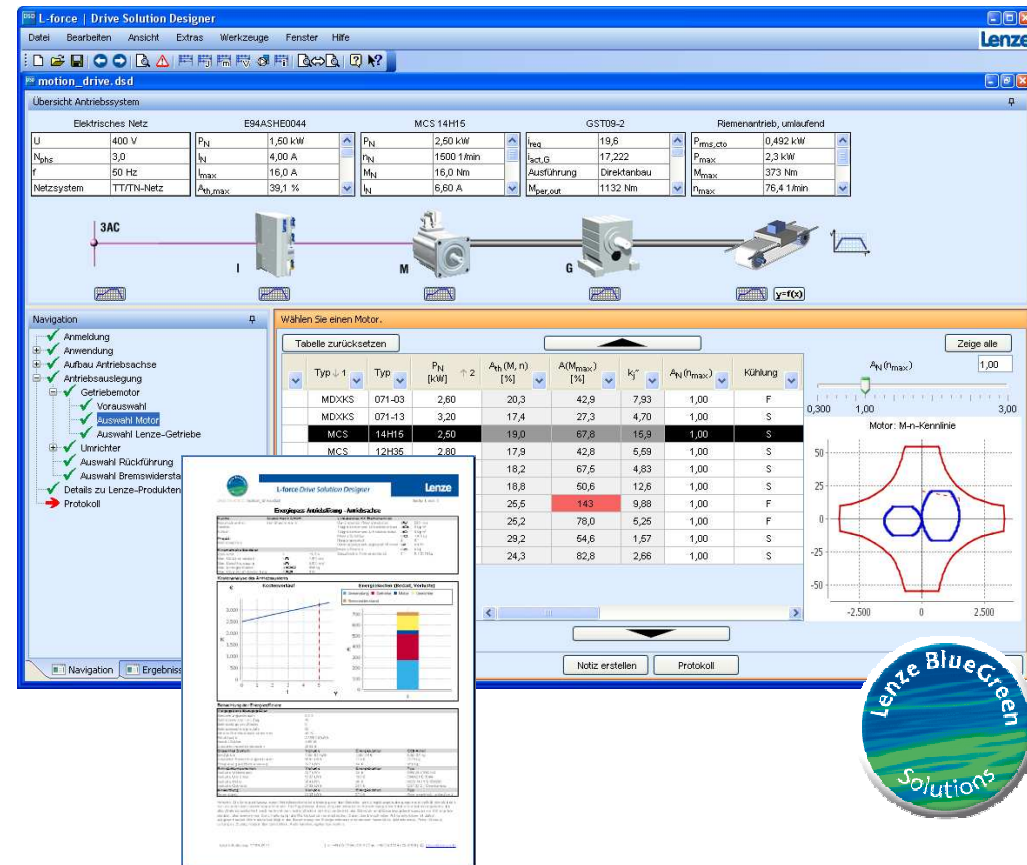
Lenze's Vision



Efficient engineering = user oriented and task oriented

Drive Solution Designer

- Describe the mechatronic application
- Build up the drive structure
 - mechanics, electrics, technology
- Choose products and verify
- Verify system and feasibility
- Compare and optimize drive solutions
 - e.g. with „Energy Certificate – Drive Solution“
- Large application and drive know how



DSD is an important component of the Lenze consulting services.

Input and output information of DSD

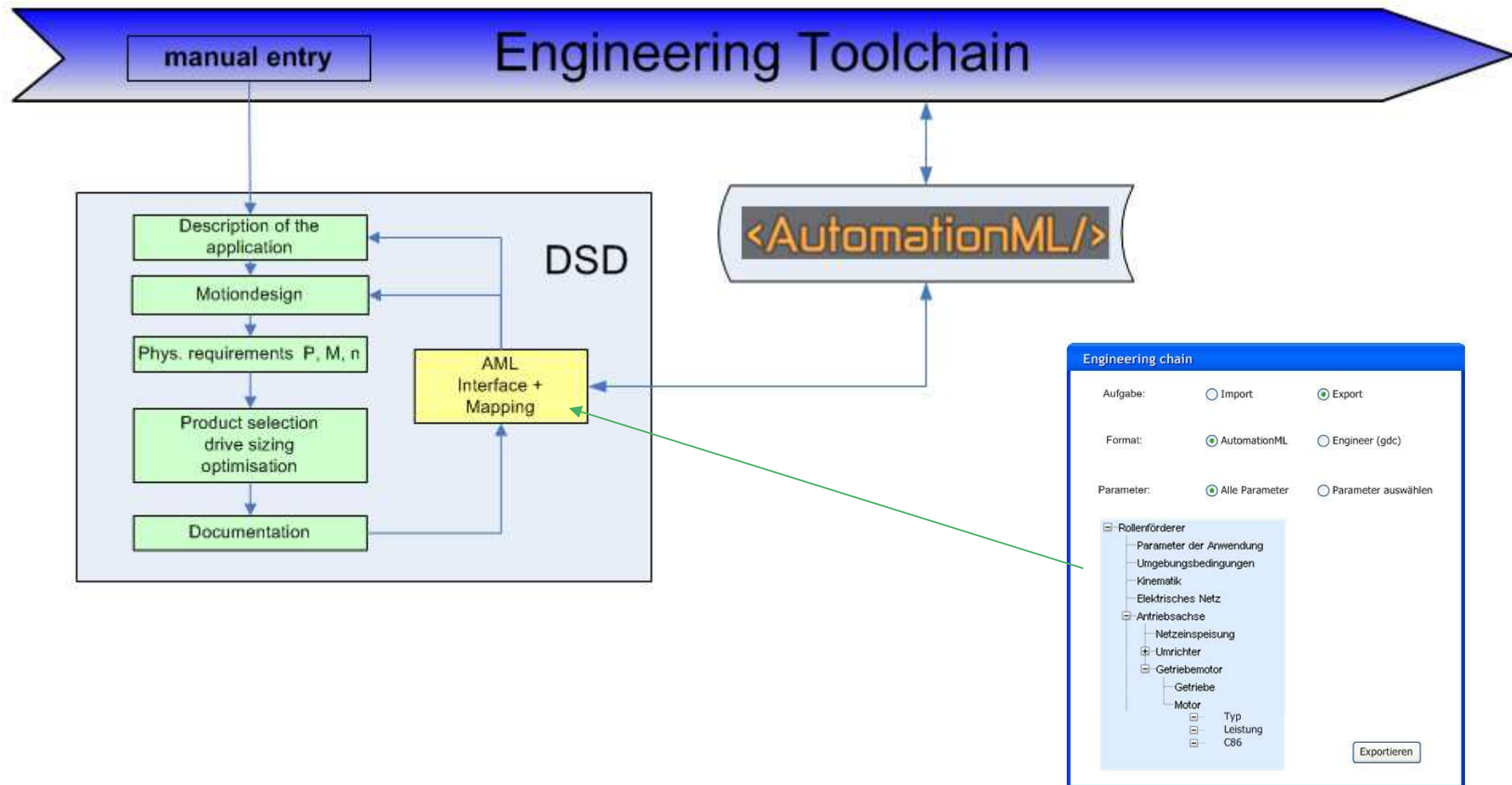
- Application
 - process data
 - requirements
- Motion
- Ambient conditions
- Mechanical and electrical design of drive axis
- Drive technologies
- Product data
 - rated values
 - requirements
- Other information's
 - Energy consumption
 - mains current
 - construction dates CAD, eplan
 - drive behaviour
 - ...

**typical
Input**

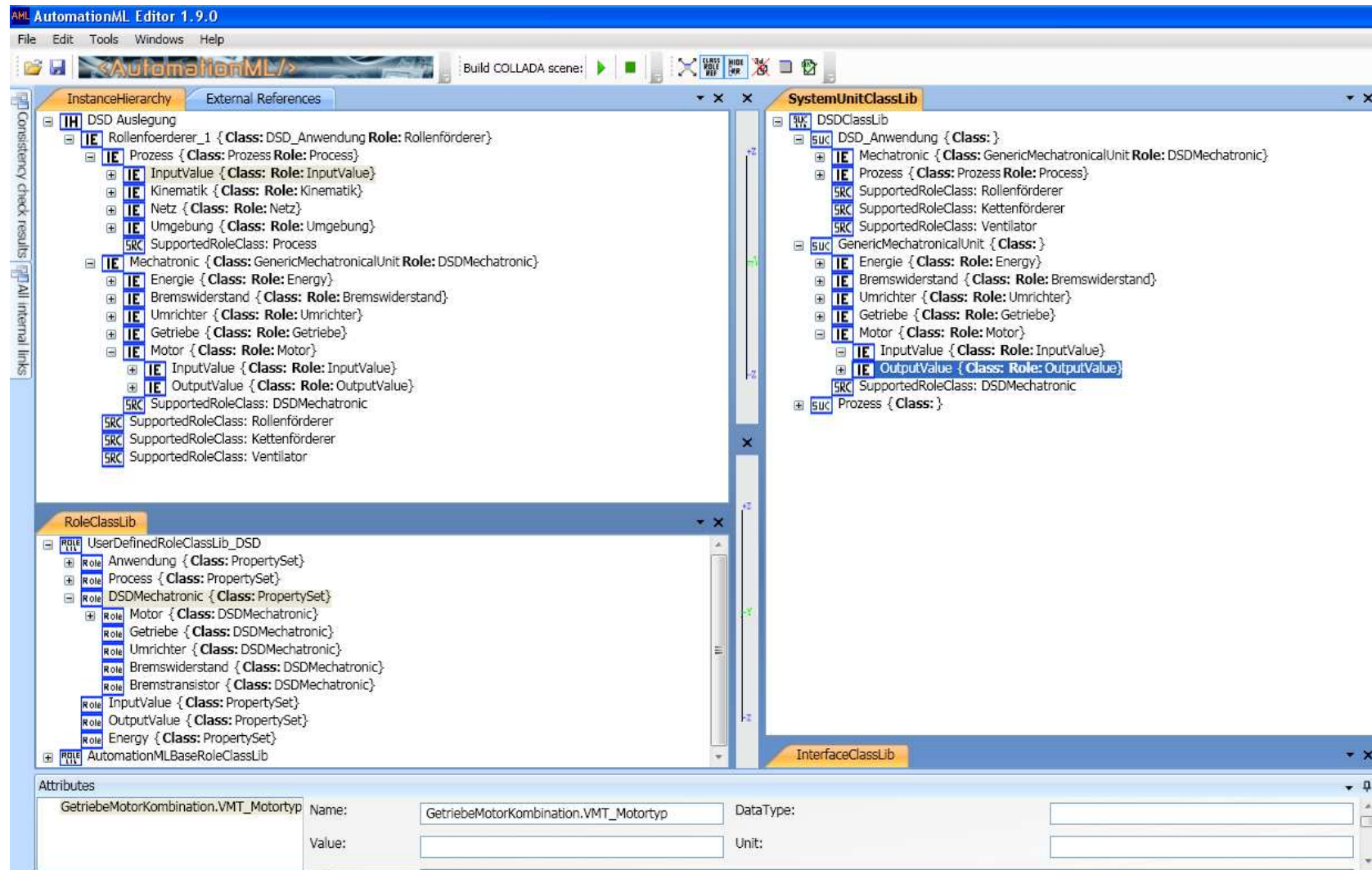
the border
depends on the
use case

**typical
Output**

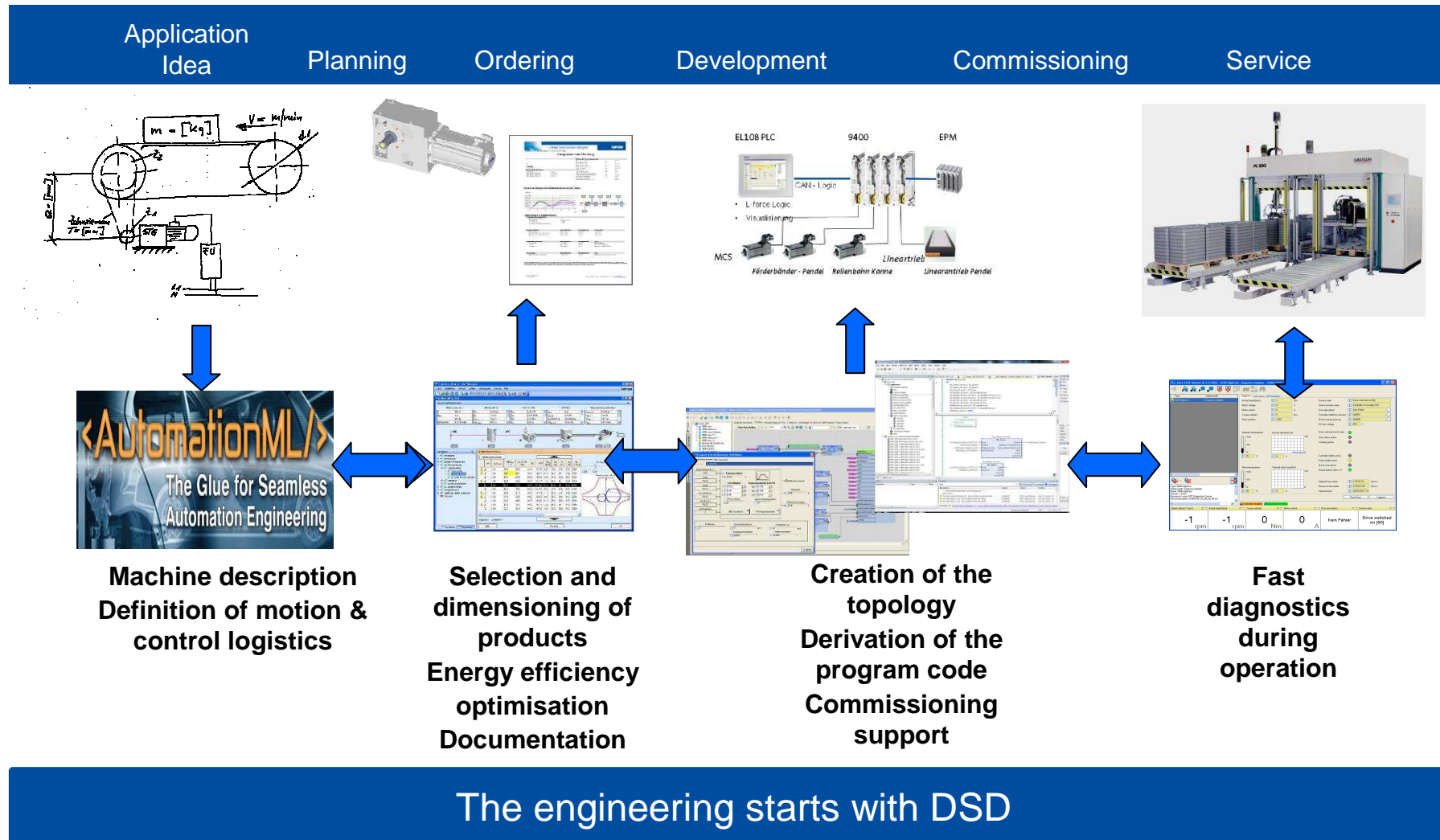
Realised interface DSD - AML



DSD solution structure in the AML Editor



Engineering Toolchain - Only One Example



Conclusion and look-out

- With AML an easy data exchange between different SW-Tools was build up.
 - Prototypic for drive sizing purposes
 - Reused information
 - Consistency over the complete engineering
- The input can be delivered by different tools, e.G. MCAD, Simulation, etc.
- The output is available for tools in the Lenze engineering, e.G. development, operation, service, etc.
- The output is available for tools in the customer engineering, e.G. continuative calculation tools, etc.
- Important for the next steps
 - Definition of mechatronical modules
 - Consideration of internal and external Toolchain

Thank You
For Your Attention