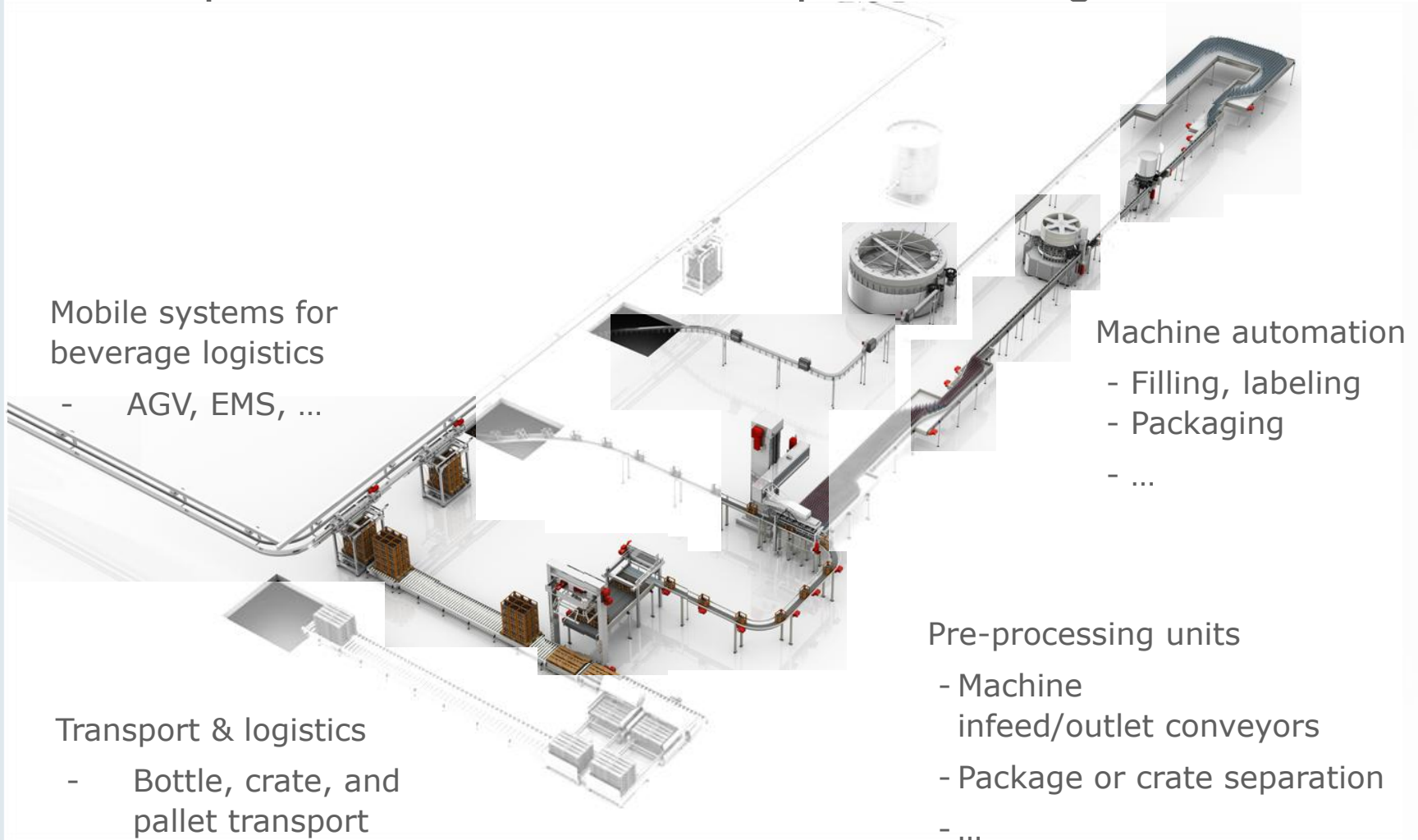


Drive solutions for the future – SEW-EURODRIVE



Modular automation solutions – Concepts for automation of complete bottling lines



MOVIGEAR® —

The mechatronic drive system



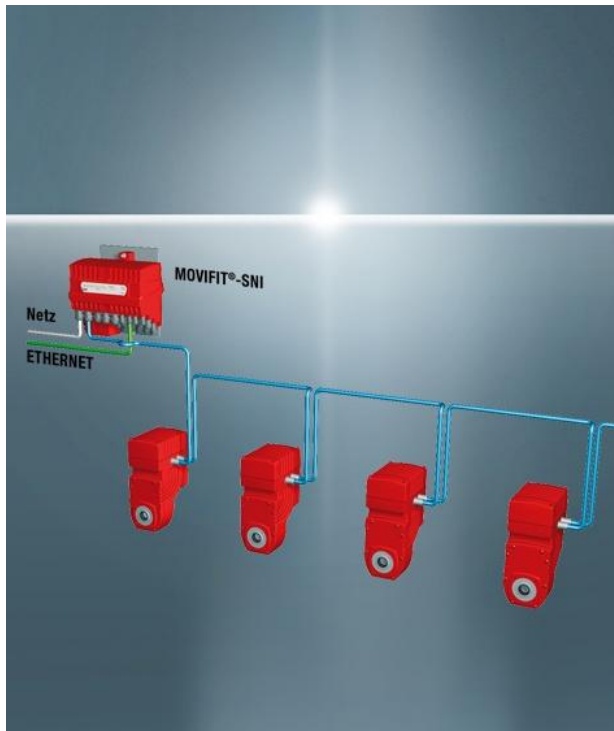
Advantages at one glance

- Mechatronic drive system due to integration of electronics, motor and gear-box
- Significantly higher compactness compared to conventional decentralized systems
- Reduces number of variants if overload capacity is considered in engineering
- Design complies with all requirements for application in hygienic sensitive areas
- Low-noise drive system allows use in worker areas and lower noise emission
- Reduces installation and start-up efforts and costs
- Minimized energy and operational costs



MOVIGEAR® —
With motivation to innovation

Single-Line Network Installation — The installation- and communication-network



Features of Single-Line Network Installation

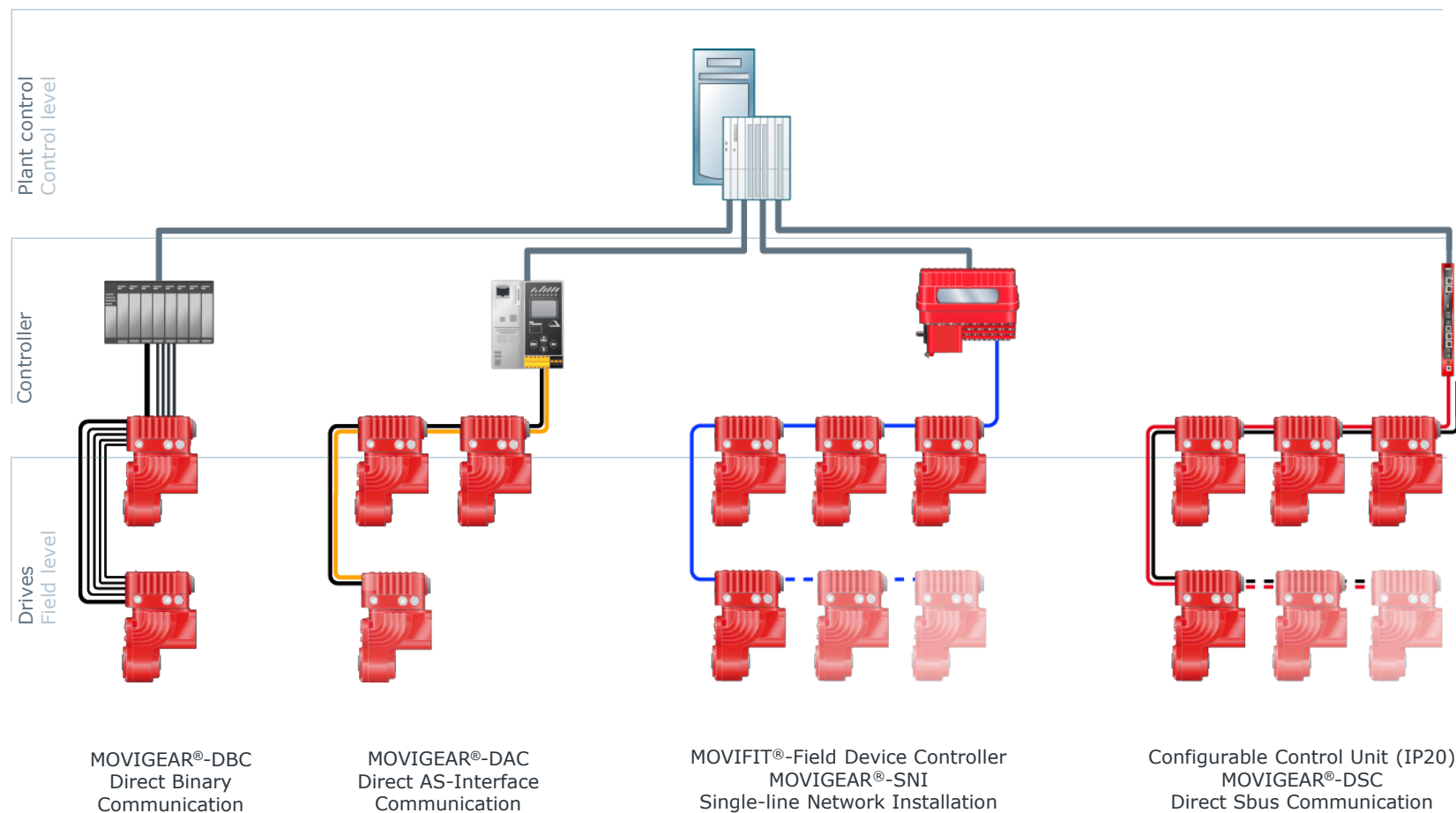
- Use of power supply as data-network infrastructure for the drives
- Minimized efforts for installation and start-up
- Extended diagnostics due to ethernet-based communication to each device
- One single network-node connects up to ten drives with the controlling network
- Installation with standard shielded cable based on SEW specification
- Simple addressing of individual drives



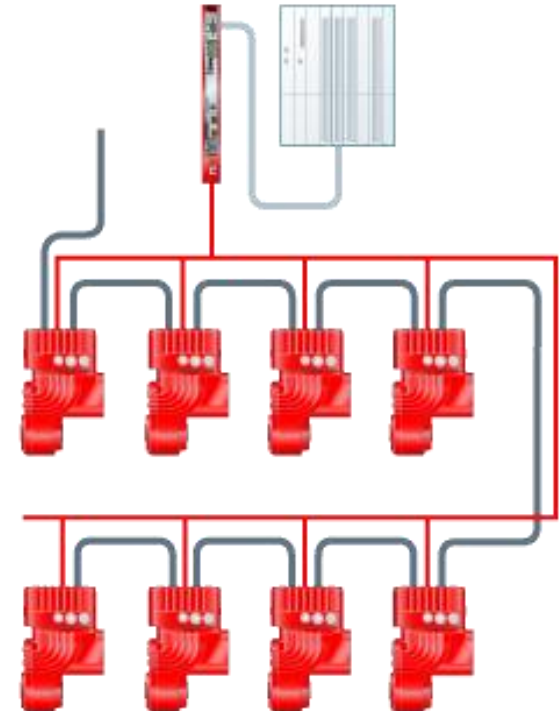
Single Line Network Installation
The installation- and communication network

SEW Network Architectures – version B

Field Device Controller, Electronics, Actuator



From components towards modules — Solutions for pre-processing units



Decentralized solution concepts
for pre-processing modules

MOVIGEAR® — The mechatronic drive system



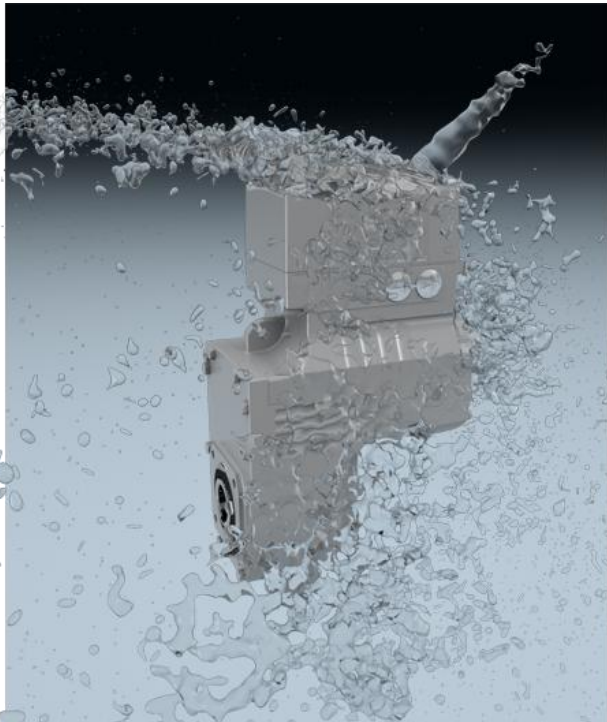
Available sizes and performance classes

- Available in two mechanical sizes:
 - MGFA_2: 200 Nm (Max 330 Nm)
 - MGFA_4: 400 Nm (Max 710 Nm)
- Three electrical performance classes
 - MG_2
 - MG_4
 - MG_4-.../XT
- Speedvariable drive system
(Standard speed range 1:10; option 1:2000)
- DynaStop® –
The electro-dynamic deceleration function



MOVIGEAR® —
The drive system for all horizontal conveying applications

MOVIGEAR® and MOVIFIT® – The drive systems for wet areas



Scalable solutions for wet area applications

- Design complies with all requirements for application in hygienic sensitive areas
- HP200 coating with nearly non-porous surface, antistick properties and chemical resistance
- Package for "wet areas"
 - Degree of protection IP66
 - Pressure compensation and breather valve
- "Hygienic^{PLUS}" package (in preparation)
 - Degree of protection IP69K
 - Internal pressure compensation

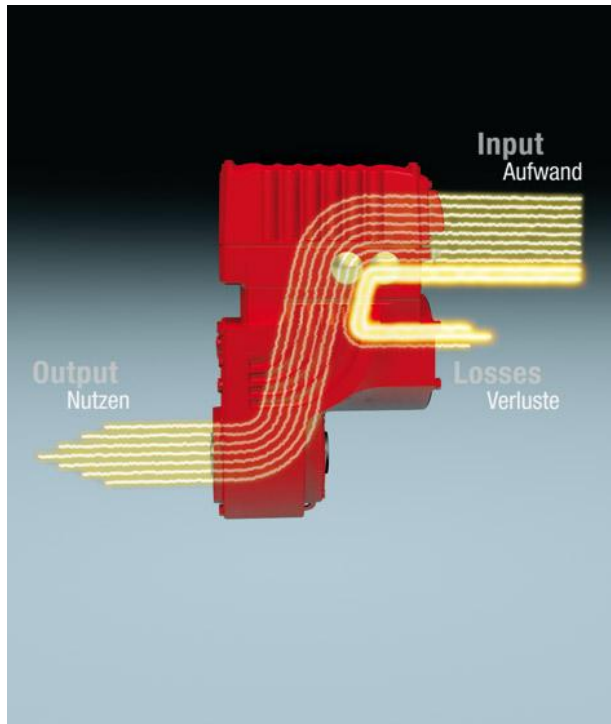


MOVIGEAR® hygienic design and
scalable surface protection for all ambient conditions

MOVIGEAR® – The efficient drive system



Fachhochschule Kaiserslautern
Fachbereich Angewandte Ingenieurwissenschaften



Characteristics of MOVIGEAR®

- Optimized system efficiency
 $\eta = 84\%$ (MG2) and 88% (MG4)
- Significantly improved output efficiency compared to asynchronous motors
- Total efficiency between 10 and 25% higher than with conventional drive system (depending on operating point)
- Efficiency measured and confirmed by University of Applied Sciences Kaiserslautern



MOVIGEAR® -
The drive system according to IE4

Information electronic motor DRC 1 and DRC 2



DRC Motor — The all-purpose electronic motor



Characteristics of the DRC-Motors

- Permanent Magnet Motor as MOVIGEAR®
- Communication interfaces as MOVIGEAR®: Binary, AS-Interface, SNI and SBus
- 2 sizes with 0,55 kW and 1,5 kW
- totally enclosed non-ventilated (TENV)
- Standard flanges for the assembly on SEW 7 series gear units (R, F, K, S, W)
- Optional: mechanical brake
- Efficiency class IE4



DRC Motor —
flexible, scalable, all-around

Technical data of DRC1 and DRC2



DRC 1

Nominal power P_n	0,55 kW
Nominal torque M_n	2,39 Nm
Maximal torque M_{max}	6,5 Nm
Nominal speed n_n	2000 1/min

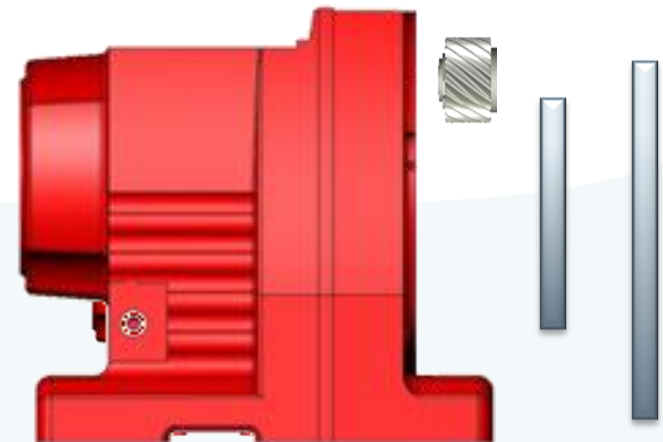
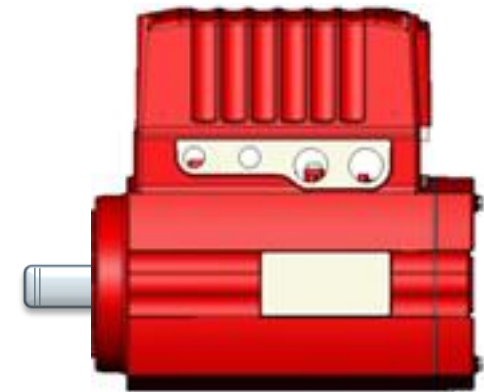
DRC 2

Nominal power P_n	1,5 kW
Nominal torque M_n	7,2 Nm
Maximal torque M_{max}	18 Nm
Nominal speed n_n	2000 1/min

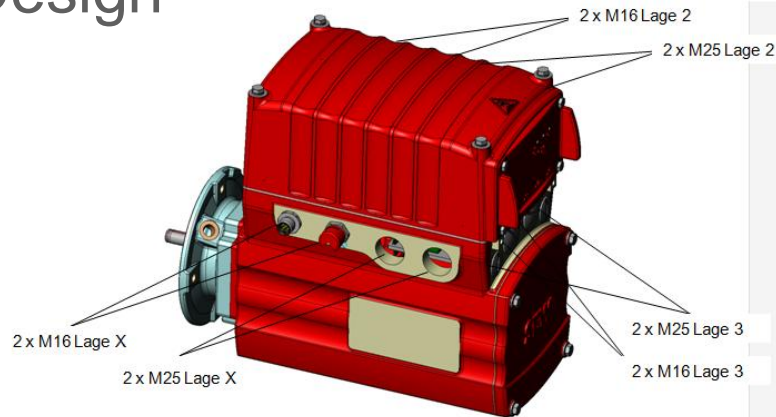
DRC- Motor Design

↔ **New concept for flange rings**

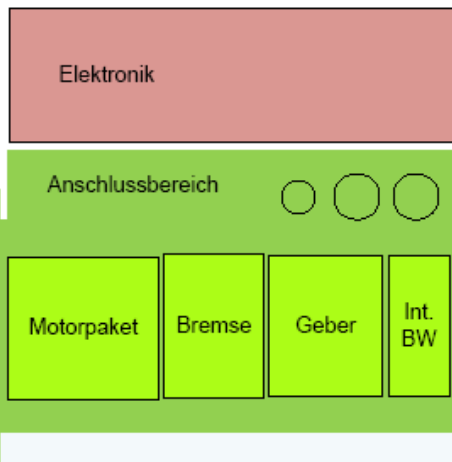
- End-shield on A-side with universal adapter surface
- Gear unit connection up to 4 different flange rings
 - DRC 1: Ø 120, 160 und 200 mm
 - DRC 2: Ø 120, 160, 200 und 250 mm
- Pinion shaft identical to DR- Motor
 - DRC 1: Ø 10 mm
 - DRC 2: Ø 14 mm



DRC- Motor Design



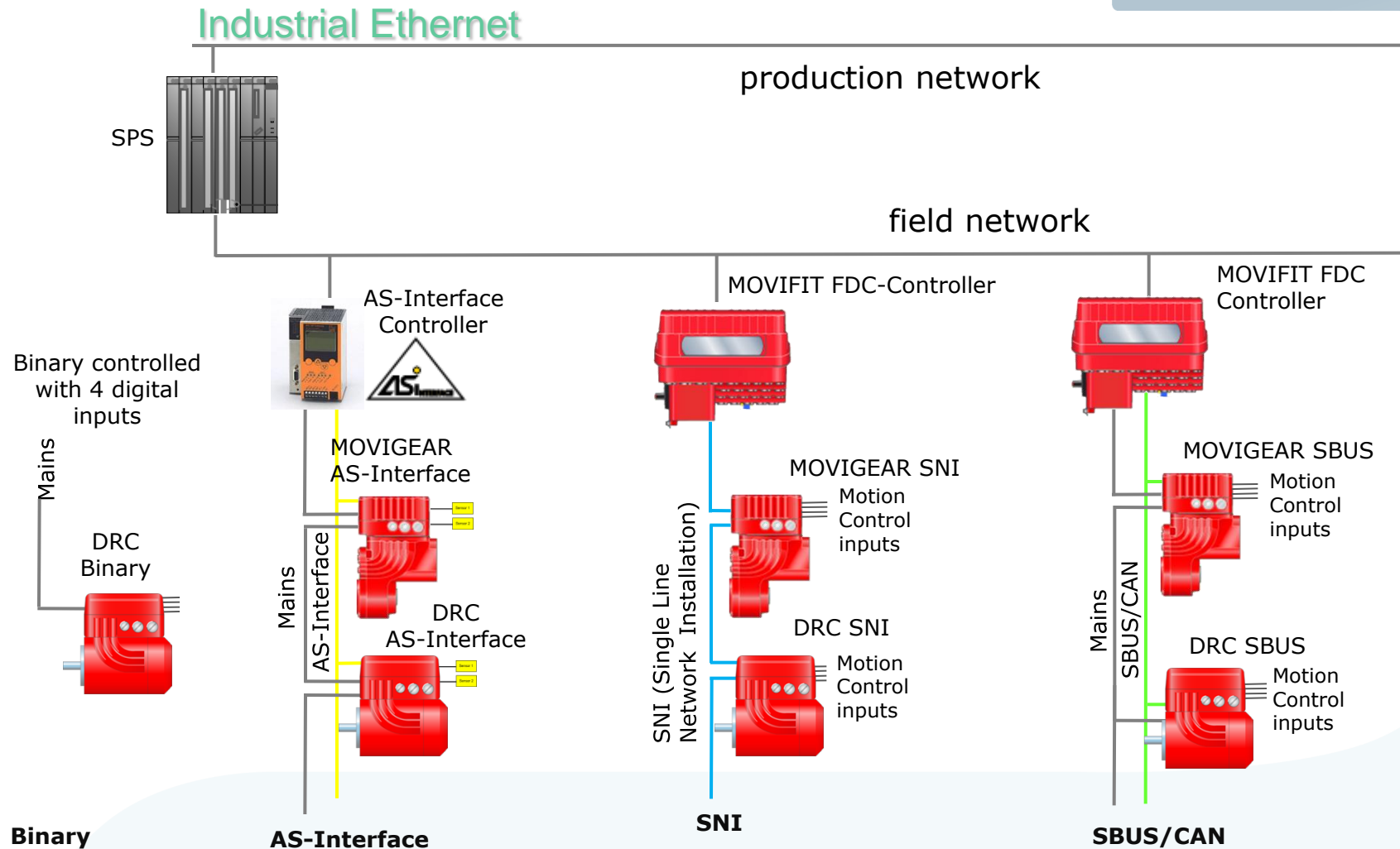
Entwärmung durch freie
Konvektion



DRC: Electronic and Motor housing

- Bore holes for cable connections are fixed on motor housing.
- Always 4 thread bores for cable glands on every side.
(2xM16 and 2xM25 of position X/2/3)

Installation topology / target applications



Plant automation

Machine automation

DRC & MOVIGEAR® — Advantages at a glance



Investment & project planning

- Reduced over all machine costs
- Modular elements with local application functionality is possible → modular factory



Installation

- Robust housing for "rough" ambiance
- Scalable connection technology
- Reduced installation time



Start up

- Easy drive configuration without PC and software tools



Operation & maintenance

- Higher factory availability (fast exchange of electronic)
- Up to 50% reduced energy consumption compared to standard drive technology



DRC & MOVIGEAR®

Advantages at a glance



Thanks for your
attention!

