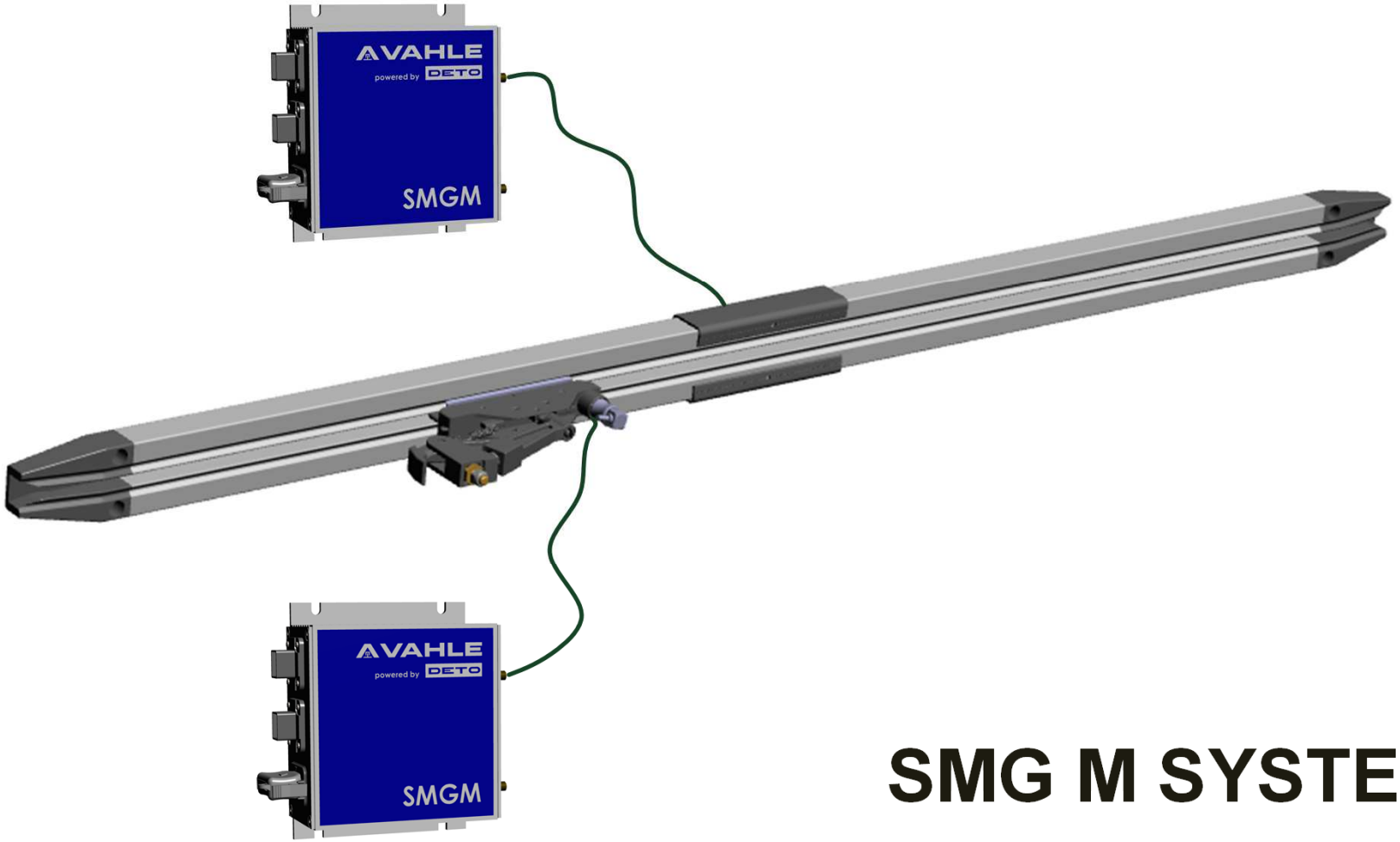


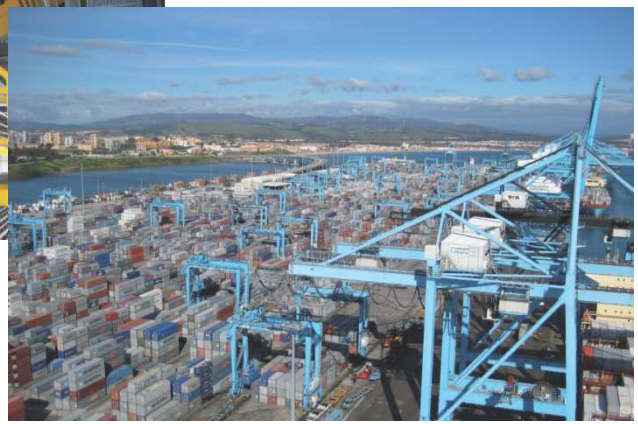
SMG M SYSTEM

- History

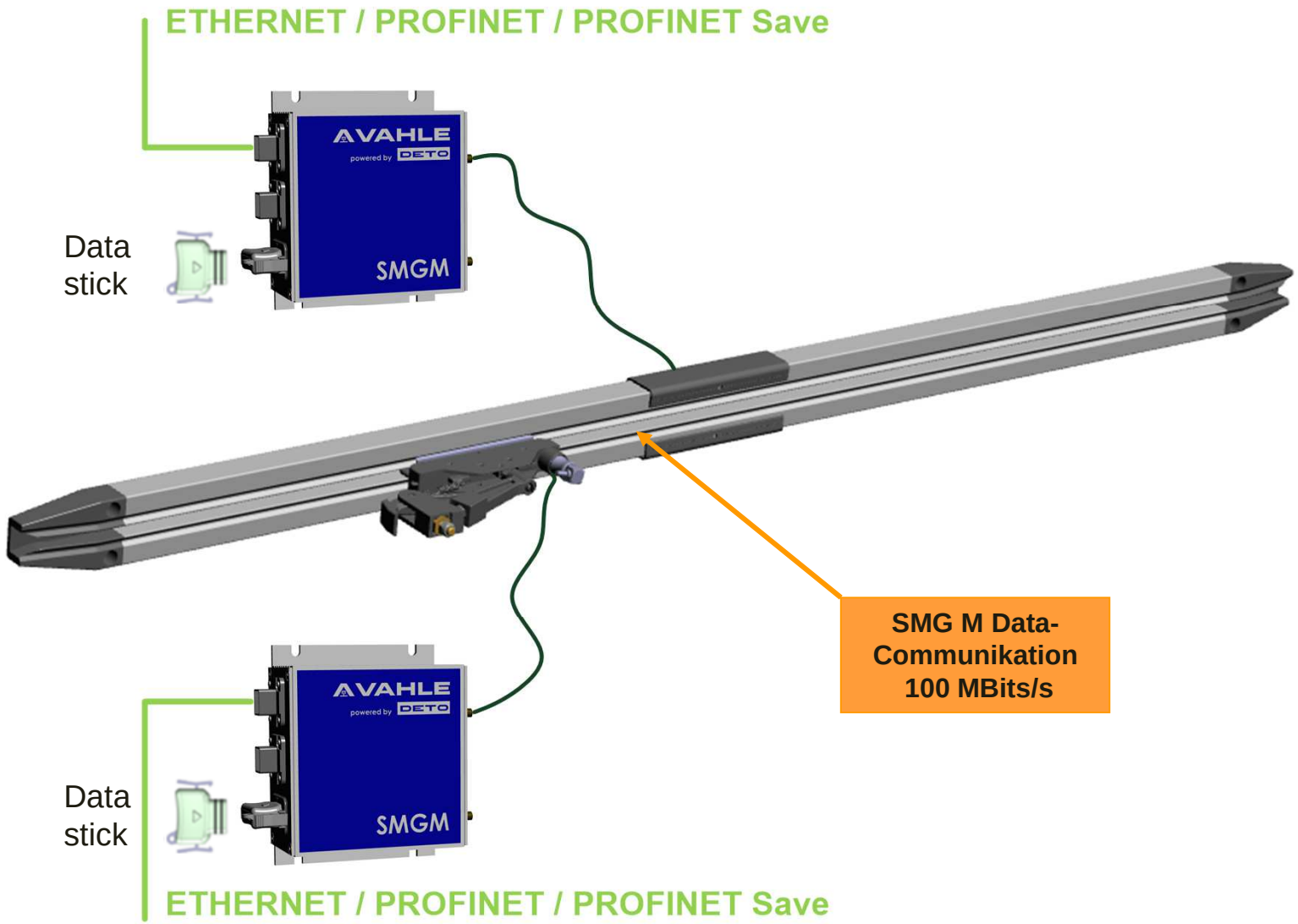
- 1965-1986 : Slotted Microwave Guide in Transrapid

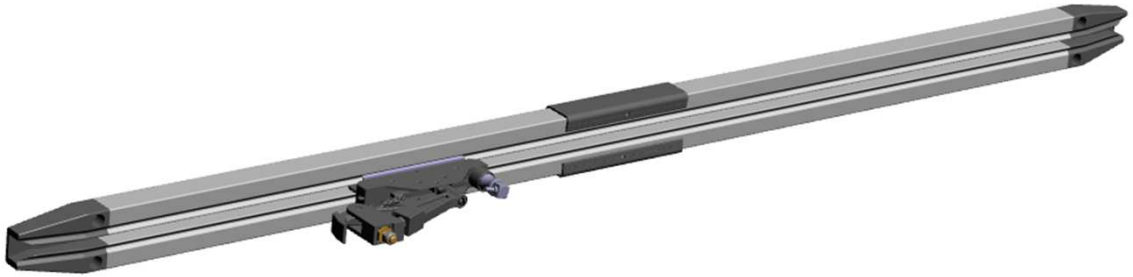
- 1986-1994 : first industrial experiences

- Since 1994: optimizing by Vahle



- future: complete solutions


ETHERNET / PROFINET / PROFINET Save
Data stick
SMGM
SMG M Data-Communikation 100 MBits/s
Data stick
SMGM
ETHERNET / PROFINET / PROFINET Save

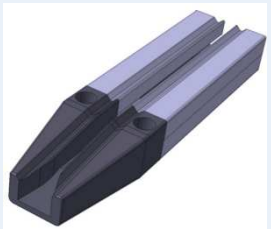


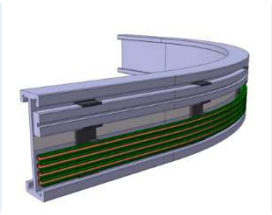
advantages of SMGM

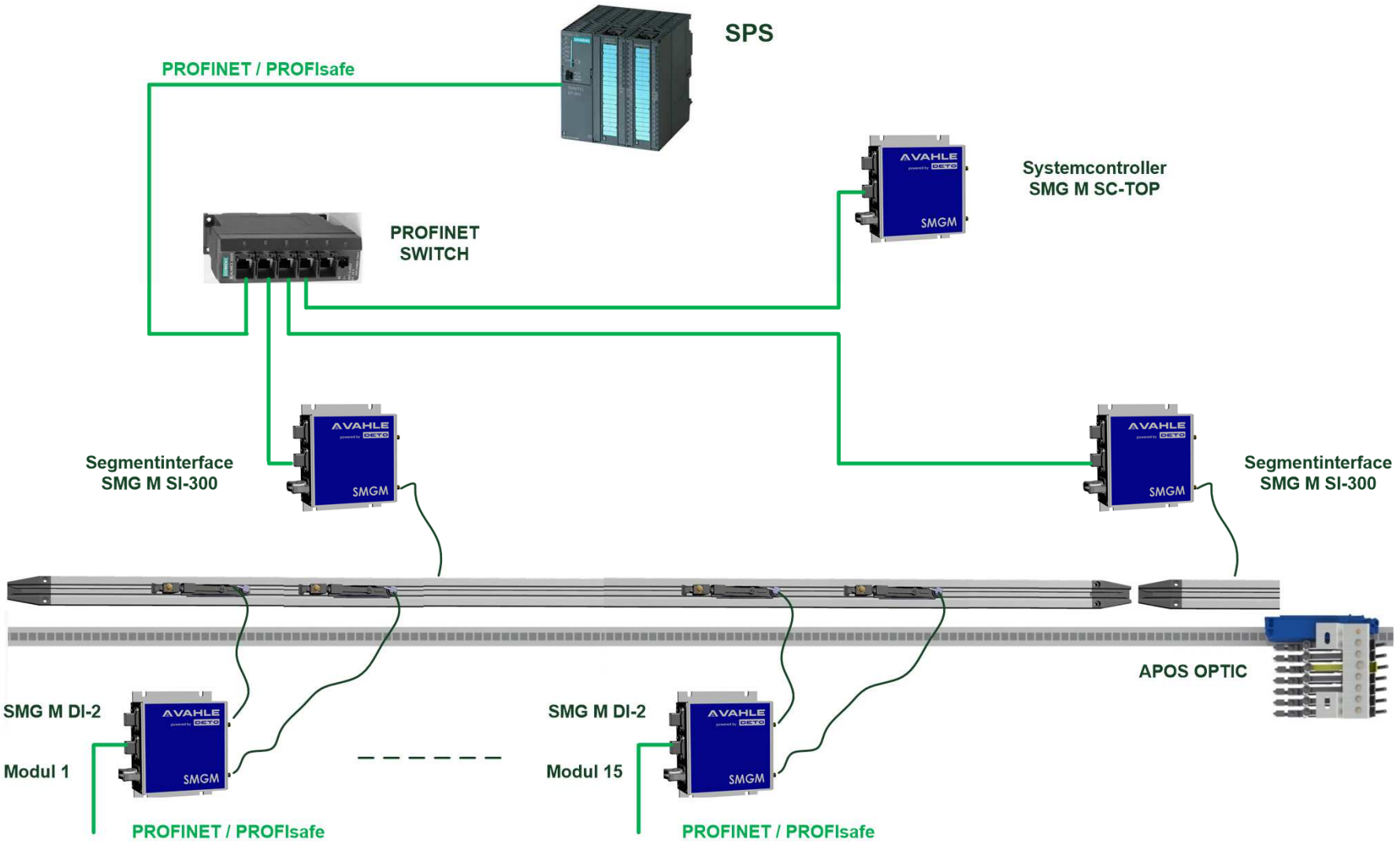
- SMGM-profile is **flush** with **EMS-profile** 180x60 (C1)
- conductor rail system, position values and communication in one system (**all-in-one** solution)
- highest **availability** caused by slotted microwave
- **coexistent** to other industrial RF signals and to itself
- **easy mounting** (available for every VAHLE compact holder)
- uninteruptable communication **independant** from speed or gaps
- guiding of mobile couplers reduces influence of EMS vehicle tolerances
- **cylcus time** lower than 16 ms

system comparison

	WIFI	RCOAX	SMGM
interference liability (in combination with other RF signals)	very high	high	no
availability	very low	low	very high
permited for EMC (by end customer)	no	decreasing acceptability	yes
costs	TCO high; frequency management necessary	TCO high; frequency management necessary	TCO low; frequency management **not** necessary

	Description
	**profile and transfer guide** - **slots for guiding** of mobile coupler - for gaps and segment crossing - maximal distance **6 mm** - includes **RF termination**
	**stationary coupler** - separat equipment, so that it can be mounted **everywhere in the segment**
	**compact hanger** - for every **EMS profile** (180x60 or 240x80) possible - cunstruction will be initialized when project comes in - availabililty ca. 20 weeks after order

	Description
	**mobile coupler** - gliding cap for guarantee immersion depth of „antenna“ - will be mounted on basis plate like known from brushes
	**teflon strips** - only **wear part** of mobile coupler - wearing cyclus is the same like known from brushes
	**horizontal curves** - minimal radius **750 mm**
	**vertical curves** - mininal radius **2300 mm**

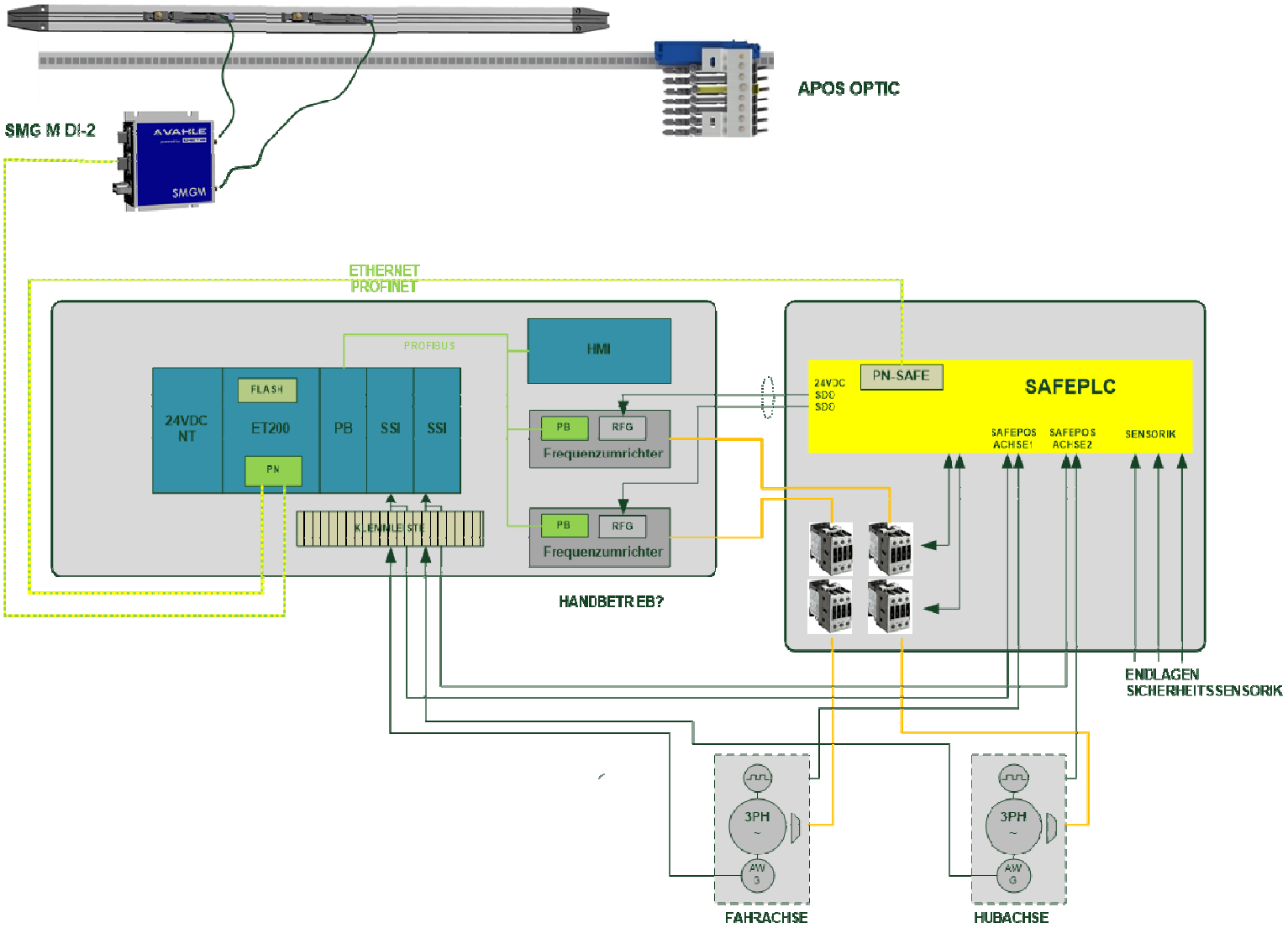


SMG M – system overview

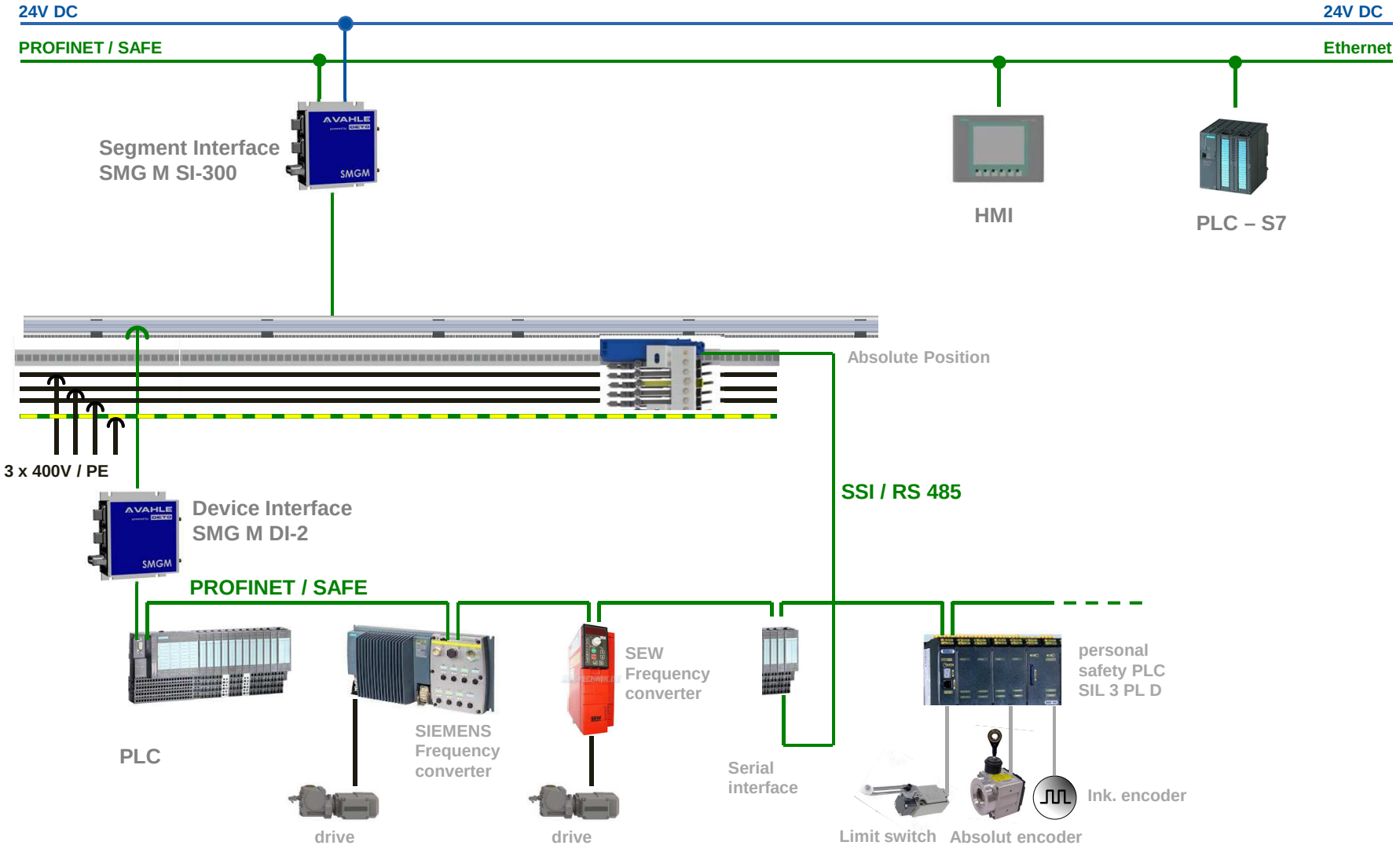
	Description
	**Stationary segment interface SMG M SI-300** - stationary transceiver with **100 MBit/s** interface - **one SI is been needed for one segment**
	**Mobile device interface SMG M DI-2** - mobile transceiver with 100 MBit/s interface - planed as **standalone** component and **implemented in VahleDeto frequency converter**
	**Stationary system controller SMG M SC-TOP** - Webinterface for diagnostic - SC filters the relevant datas for reducing latency and cyclus time

Technical parameter

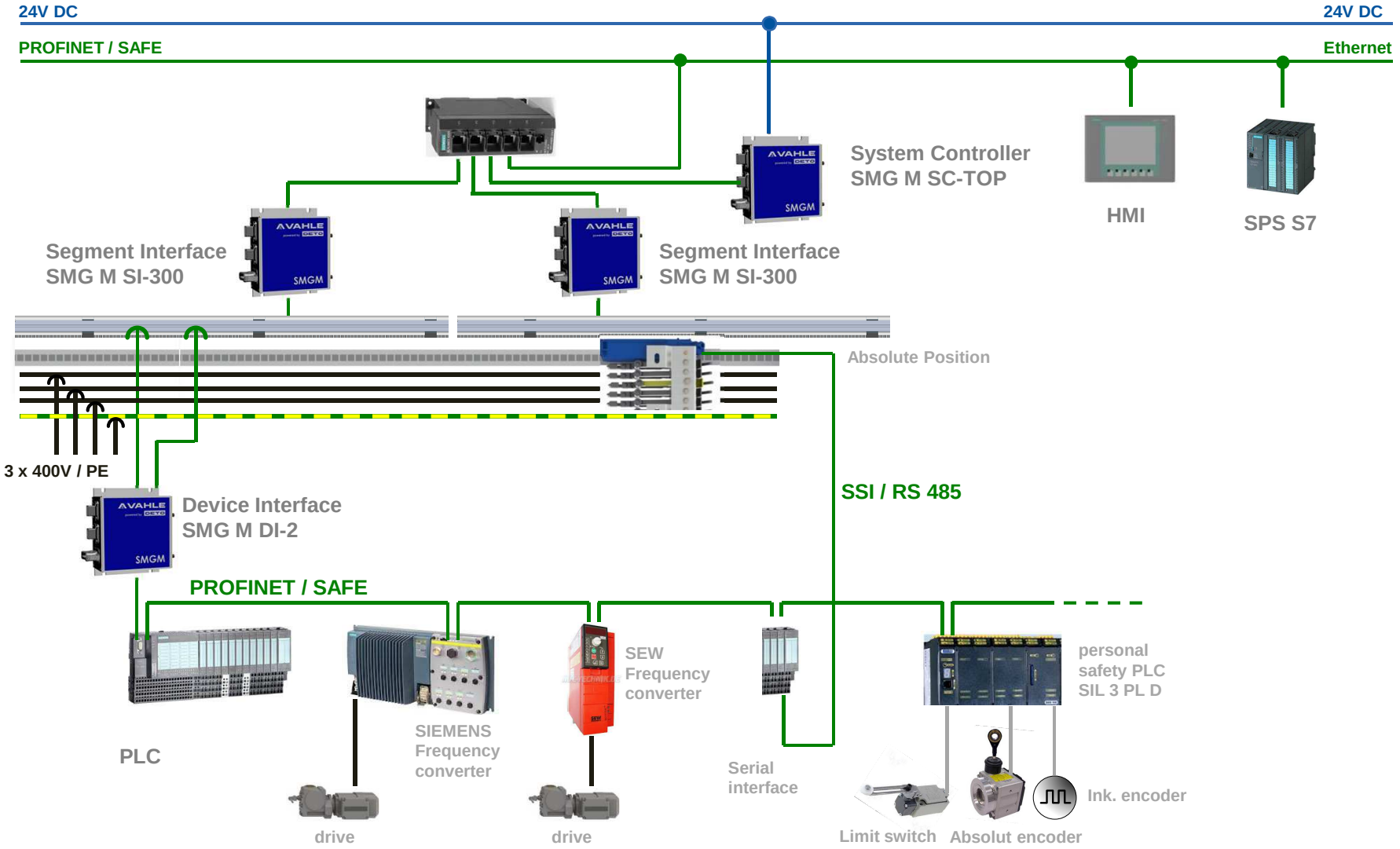
- HF-transmitter power: 0 dBm
- Interface: Ethernet
- Datarate at the fieldbus: 100 MBit/s
- Range per segment: 300 m
- Date coupler per segment: 32
- IP protectio: IP54
- Minimal bending radii:
  - Horizontal curves: 750 mm
  - Vertical curves: 2000 mm



SMG M safe communication



SMG M safe communication „Point to Point“



SMG M safe communication „with different Segments“

VIELEN DANK!