



We are the link
between the real and
the digital world.

Autonomous Forklift: Innovative transportation with
Infineon's solutions fulfilling safety standards
of today and tomorrow

Infineon's virtual show 2020



Agenda

1 Linde Highlights: H20-35 (Series 1202)

2 Forklift: Infineon's full set of solutions

3 Summary

Linde Material Handling

Linde



Highlights
H20-35 (Series 1202)

The NEW Concept

Concept Key Points



Ergonomic & intuitive operating concept maximizes operator's comfort



Ergonomic steering wheel for effortless operation



Double pedal control for fast reversing without changing foot positions



3,5" standard display provides permanent overview of all important truck data



Optional 7" comfort display integrates additional functions e.g. the Linde Safety Pilot one single display



Linde Load Control Guarantees precise control of all hydraulic functions

Safety – Safety in series

Several safety features already integrated as a standard



Linde Curve Assist

automatically reduces traction speed proportionally while cornering



Low center of gravity & high-mounted steering axle improve stability while cornering



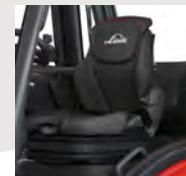
Linde Engine Protection System (LEPS) protects the engine against damages

Raised residual capacities for lifting in highest lift heights



Optimized design provides outstanding visibility in all directions for safety and productivity

Overhead tilt cylinders for high residual capacities & torsional stiffness



Electronic seat belt monitoring

Linde Load Assist for increased safety

Forklifts: Material handling solutions as efficient as it gets!

Infiniteon's full set of solutions



Trends:

- › Electrification
- › Autonomous driving
- › Connectivity

Infineon's broad portfolio of semiconductor solutions:

- › AURIX™, Cypress products
- › OPTIREG™ PMIC
- › XENSIVE™ Sensors
- › Battery Management System ICs
- › Automotive MOSFETs
- › Modules
- › Gate Driver ICs

Technology/Market solution: Quick links

Microcontroller

[AURIX™](#)

- › ATV Quality & Temp
- › Functional Safety
- › Cyber Security & Authentication

[TC2xx](#)

[TC3xx](#)

OPTIREG™ PMIC

[OPTIREG™](#)

[TLF35584 Family](#)

- › Multiple output PMIC for safety-relevant applications supplying μ C, transceivers and sensors
- › Efficient and flexible pre-/post regulator concept

Sensor

[Hall Sensors](#)

- › High redundancy on one chip
- › Premium functional safety compliant systems up to ASIL-D

[TLE4999I3](#)

- › Developed compliant to ISO 26262 for safety requirements rated up to ASIL-D

[Angle Sensors](#)

- › Giant Magneto Resistance (GMR) –based principle

[Absolute Pressure Sensors](#)

[KP253](#)

- › The KP253 is a miniaturized Digital Barometric Air Pressure Sensor IC based on a capacitive principle

Driver ICs

[Automotive:](#)

[TLE9180D-21K](#)

- › Advanced gate driver ICs dedicated to controlling 6 external N-channel MOSFETs

OptiMOS™ 80 V

[OPTIMOS™80V](#)

- › TOLL, TOLG and SS08 packages with several advantages

Memories

[Excelon™ F-RAM](#)

- › most reliable data-logging solution

[HyperRAM™](#)

- › low-pin-count high-performance expansion memory solution

[Semper™ Flash](#)

- › safe, reliable, and high-performance NOR Flash solution

Transceivers

[Automotive CAN Transceivers](#)

- › For flexible data rates up to 2 Mbit/s

[TLE9250XSJ](#)

Automotive EiceDRIVER™

[Automotive Gate Driver ICs](#)

[1EDI2002AS](#)

Modules

[Automotive IGBT Modules](#)

[FS380R12A6T4B](#)

[FF450R08A03P2](#)

[IGBT Modules](#)

[FF600R12ME4 B11](#)

[FF900R12ME7 B11](#)

Summary: Get your share with Infineon's system solution excellence



- › **CAV** includes truck, buses, **forklift**, agriculture and construction vehicles
- › Infineon is responding to the megatrend **Electrification (CO₂ regulations)** with our system solution excellence (TCO)
- › Long term **growth drivers**: electrification and autonomous driving; a truck remains a truck
- › Growing production of CAV with **growing electronic content**
- › **Innovation, safety and reliability**
- › Long-term **availability** of products & long-term **business**
- › Infineon has the **largest portfolio** for the CAV market: **Sense – Control – Actuate & Enablement** solutions

Further information on the dedicated websites



www.linde-mh.com

www.infineon.com/cav

- › Application notes
- › Application presentations
- › Articles
- › Boards
- › Eval kits
- › Reference designs
- › Podcasts
- › White papers
- › Trainings
- › Online simulation tools & support toolboxes



Part of your life. Part of tomorrow.