Global Heavy Vehicle LEADERS SUMMIT
Hosted by ARTSA

Foundation Partner bp

GAME CHANGERS: KÄSSBOHRER

Melbourne, 03.05.2016

AGENDA

1 KÄSSBOHRER SUCCESS

2 ROLE OF THE TRAILER

3 SOLUTION ENGINEERING

4 KEY TAKE-AWAYS

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KÄSSBOHRER HERITAGE
FOUNDED IN ULM, 1893

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KÄSSBOHRER HERITAGE
LEADING GERMAN AUTOMOTIVE COMPANY

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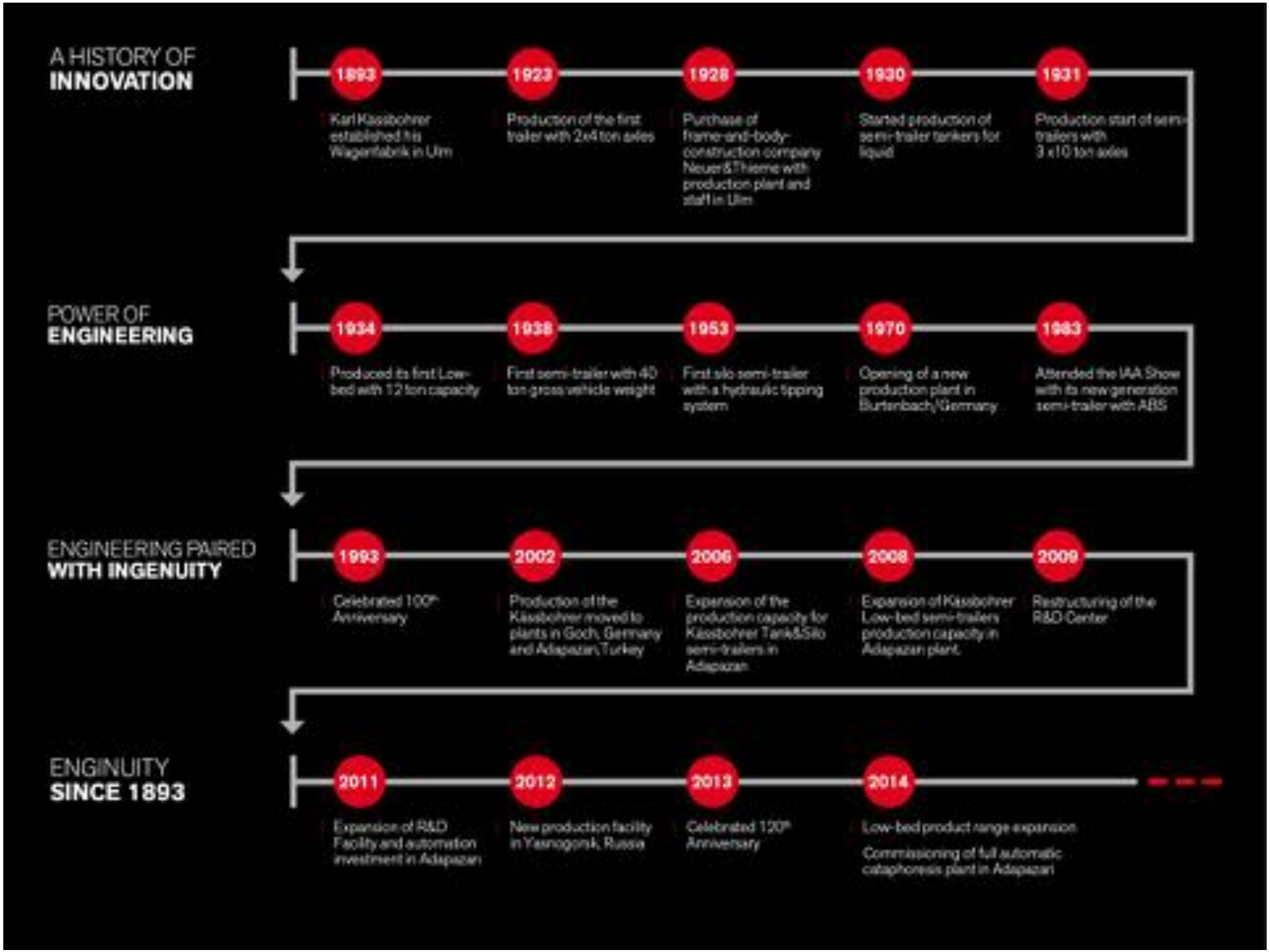
KÄSSBOHRER HERITAGE

A HISTORY OF INNOVATION SINCE 1893

First Tanker

First Low-bed

First Tipping Silo


A HISTORY OF
INNOVATION
1893
Karl Kässbohrer established his Wagenfabrik in Ulm
1923
Production of the first trailer with 2x4 ton axles
1928
Purchase of frame-and-body-construction company Neuer&Thieme with production plant and staff in Ulm
1930
Started production of semi-trailer tankers for liquid
1931
Production start of semi-trailers with 3 x10 ton axles
POWER OF
ENGINEERING
1934
Produced its first Low-bed with 12 ton capacity
1938
First semi-trailer with 40 ton gross vehicle weight
1953
First silo semi-trailer with a hydraulic tipping system
1970
Opening of a new production plant in Burtenbach/Germany
1983
Attended the IAA Show with its new generation semi-trailer with ABS
ENGINEERING PAIRED
WITH INGENUITY
1993
Celebrated 100th Anniversary
2002
Production of the Kässbohrer moved to plants in Goch, Germany and Adapazari,Turkey
2006
Expansion of the production capacity for Kässbohrer Tank&Silo semi-trailers in Adapazari
2008
Expansion of Kässbohrer Low-bed semi-trailers production capacity in Adapazari plant.
2009
Restructuring of the R&D Center
ENGINUITY
SINCE 1893
2011
Expansion of R&D Facility and automation investment in Adapazari
2012
New production facility in Yaroslavl, Russia
2013
Celebrated 120th Anniversary
2014
Low-bed product range expansion
Commissioning of full automatic cataphoresis plant in Adapazari

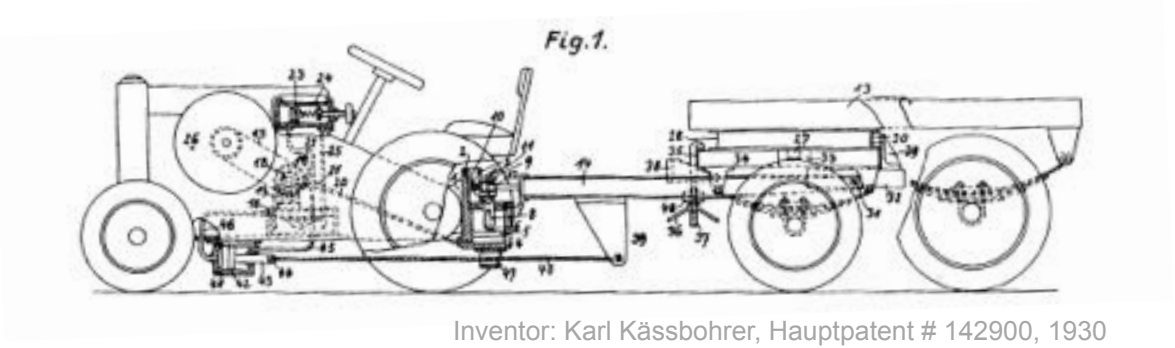
ENGINUITY

ENGINEERING PAIRED WITH INGENUITY

In 1893, when Karl Kässbohrer founded his Wagenfabrik in Ulm, he redefined what trailer engineering could achieve.

Today, thanks to 120 years of staying true to his ethos, Kässbohrer is used in more than 50 countries, has innovated in more ways and has a broader product line than Mr. Kässbohrer would ever have thought possible.

We bring our engineering capability and ingenuity to bear on customer service and delivery to guarantee success for the next 120 years.



Inventor: Karl Kässbohrer, Hauptpatent # 142900, 1930

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COMPANY BACKGROUND

KÄSSBOHRER FOCUCES ON VALUE CREATION FOR ITS CUSTOMERS

OPERATION EXCELLENCE

Since 2010, we conduct strategic planning according to Balanced Score Card Methodology.

Through BSC the company strategy is distributed along with specific key performance indicators to the whole company.

We are driven to excel ourselves and operate with state of art business processes.

LEAN MANUFACTURING

Through Lean Manufacturing, we focus on creation of value for our customers.

We constantly eliminate unproductive activities to utilize our resources according to our ambitions.

In parallel to the description of value in Lean Principles, we are dedicated to manufacture the product which our customers are willing to pay for.

R&D PRACTICES

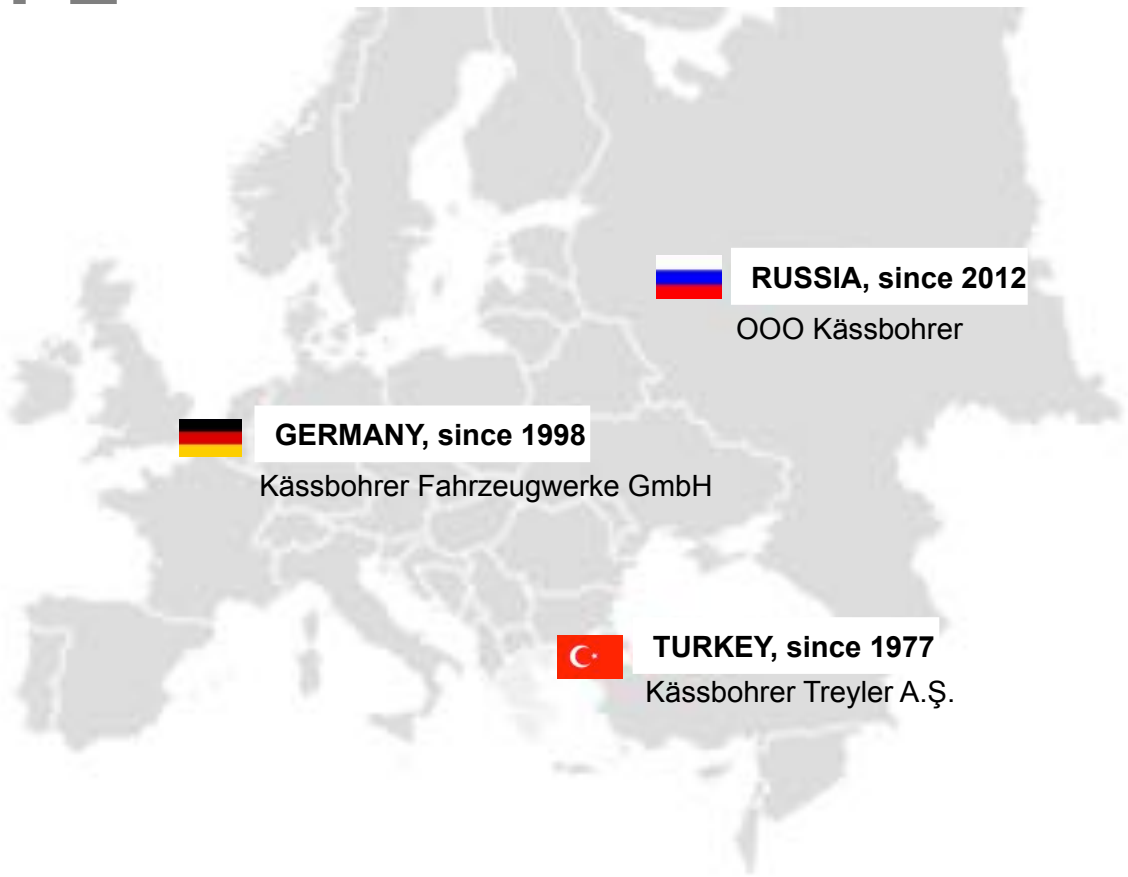
We believe in the power of research and development for sustainable success.

We have dedicated our resources to expand our R&D network and partnerships.

We focus on rapid prototyping to visualize any idea to decide upon. We listen the industry and our customers to overdeliver.

PRODUCTION FACILITIES

3 PRODUCTION FACILITIES THROUGHOUT EUROPE



RUSSIA, since 2012
OOO Kässbohrer

GERMANY, since 1998
Kässbohrer Fahrzeugwerke GmbH

TURKEY, since 1977
Kässbohrer Treyler A.Ş.

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PRODUCTION FACILITIES: TURKEY

STATE OF THE ART MANUFACTURING WITH THE LATEST TECHNOLOGY

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PRODUCTION FACILITIES: TURKEY

STATE OF THE ART MANUFACTURING WITH THE LATEST TECHNOLOGY

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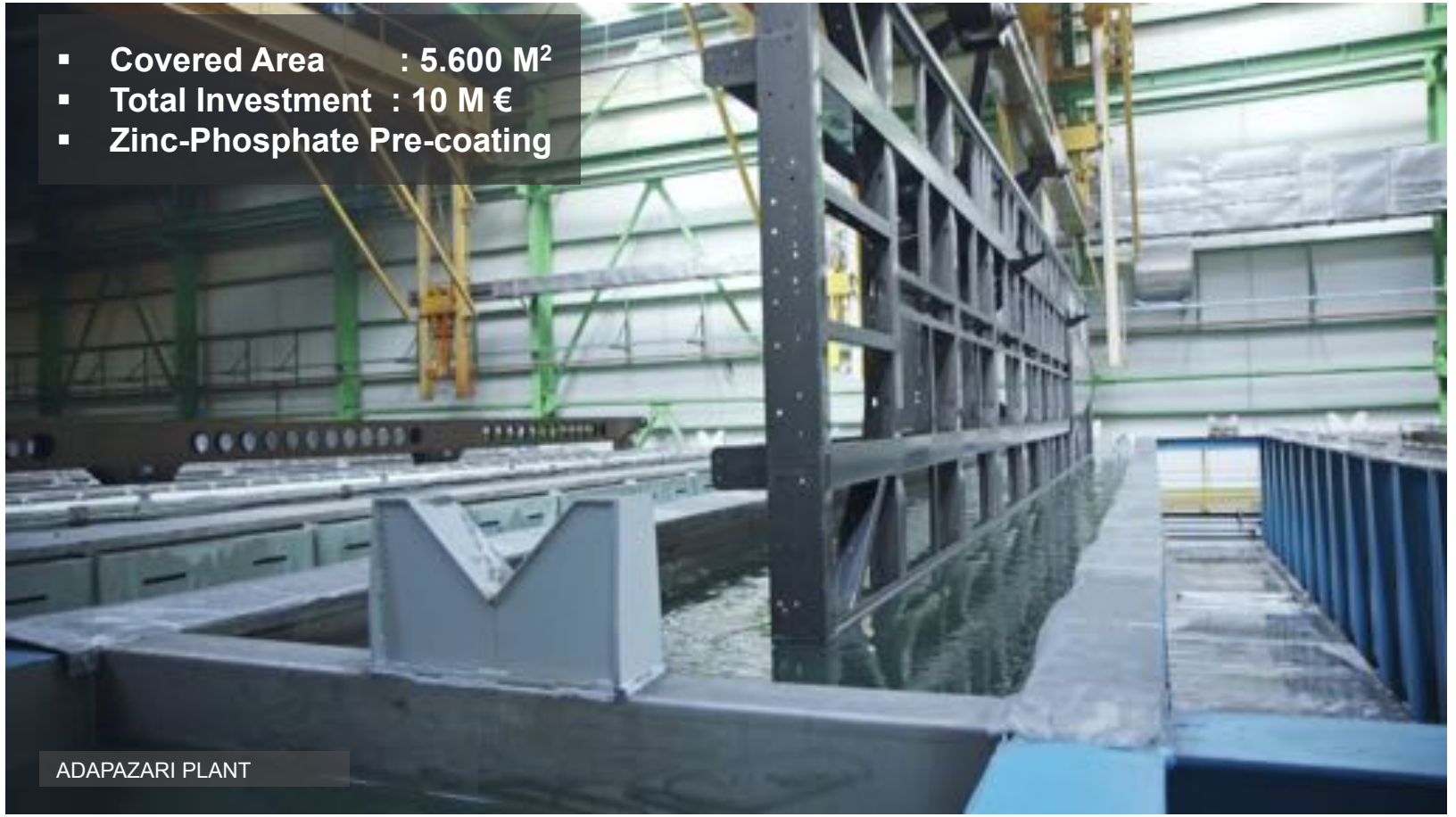
ROAD AHEAD TO 2018

KTL FACILITY IN FULL AUTOMATION SINCE 2014



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PRODUCTION FACILITIES: GERMANY

MAIN DISPOSITION AND ASSEMBLY CENTER IN EUROPE

- Goch Premises is assembly facility and the main disposition and PDI center for European markets.
- The main service center in Germany
- Main spare parts center in Europe
- 60% of production exported to 13 European countries

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PRODUCTION FACILITIES: RUSSIA
IN OPERATIONS SINCE 2012 IN TULA

TULA PLANT LAYOUT
TOTAL AREA :
50.000 m^2
COVERED AREA:15.000 m^2

TULA FACTORY

PRODUCTION FACILITIES: RUSSIA
IN TOTAL 11 MILLION € INVESTMENT

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RUSSIA PRODUCTION

MADE IN RUSSIA: 32 m^3 KÄSSBOHRER TIPPER, K.SKS

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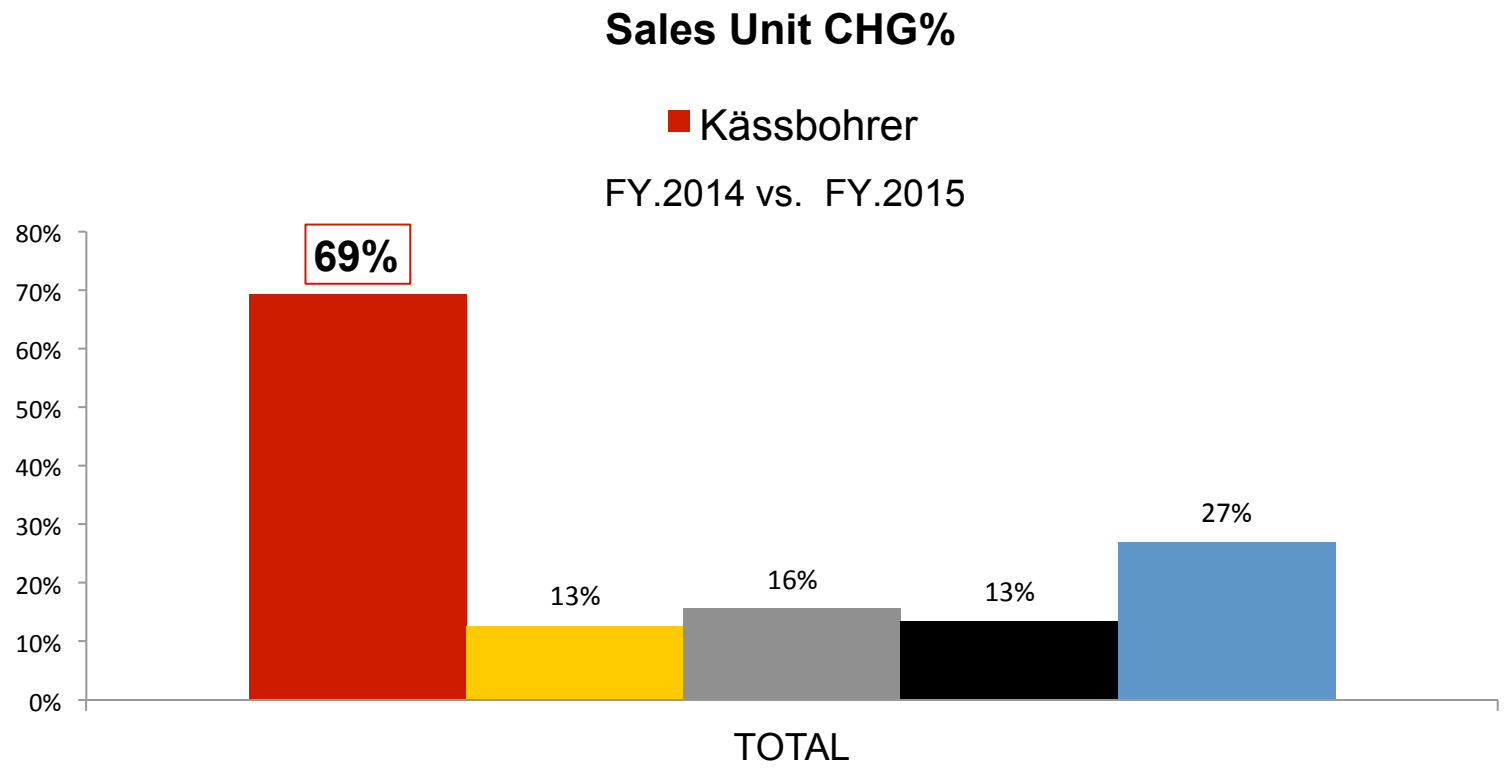
ROAD AHEAD TO 2018

EXPORTING MORE THAN 55 COUNTRIES

KÄSSBOHRER SALES NETWORK DEVELOPMENT

HIGHEST GROWTH RATE AMONG TOP-5 EU MANUFACTURERS IN 2015



Kässbohrer increased sales by 67% in Q1 2016 period in its European key markets.

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ROAD AHEAD TO 2018

STRENGTHENING LEADERSHIP POSITION IN DIFFERENT PRODUCT SEGMENTS

According to FY.2015 registration numbers;

- Highest growth rate among Top-5 European Lowbed semi-trailer manufacturers in total Germany, Netherlands and Poland Market.
- Kässbohrer increased Tank/Silo sales by 68% in Poland and continued to be market leader in Aluminium Fuel Oil Tanker segment.
- Talson increased Box sales by %43 in Netherlands and Talson FNA Air-Cargo dominates the market.
- %33 Curtainsider Sales Increase in Germany although Curtainsider market decreased by 6%. In Poland , Kässbohrer reached Highest Market Share growth rate in Curtainsider market.
- In Russia, Kässbohrer is the only European brand in semi-trailer market that increased its market share (total market decreased by %43)

ROAD AHEAD TO 2018

WE'RE COMING BACK HOME

Source: "" Otto Kässbohrer, in senin Worten, in seinem Wirken, in seiner Zeit," published in 1984, 2nd Edition

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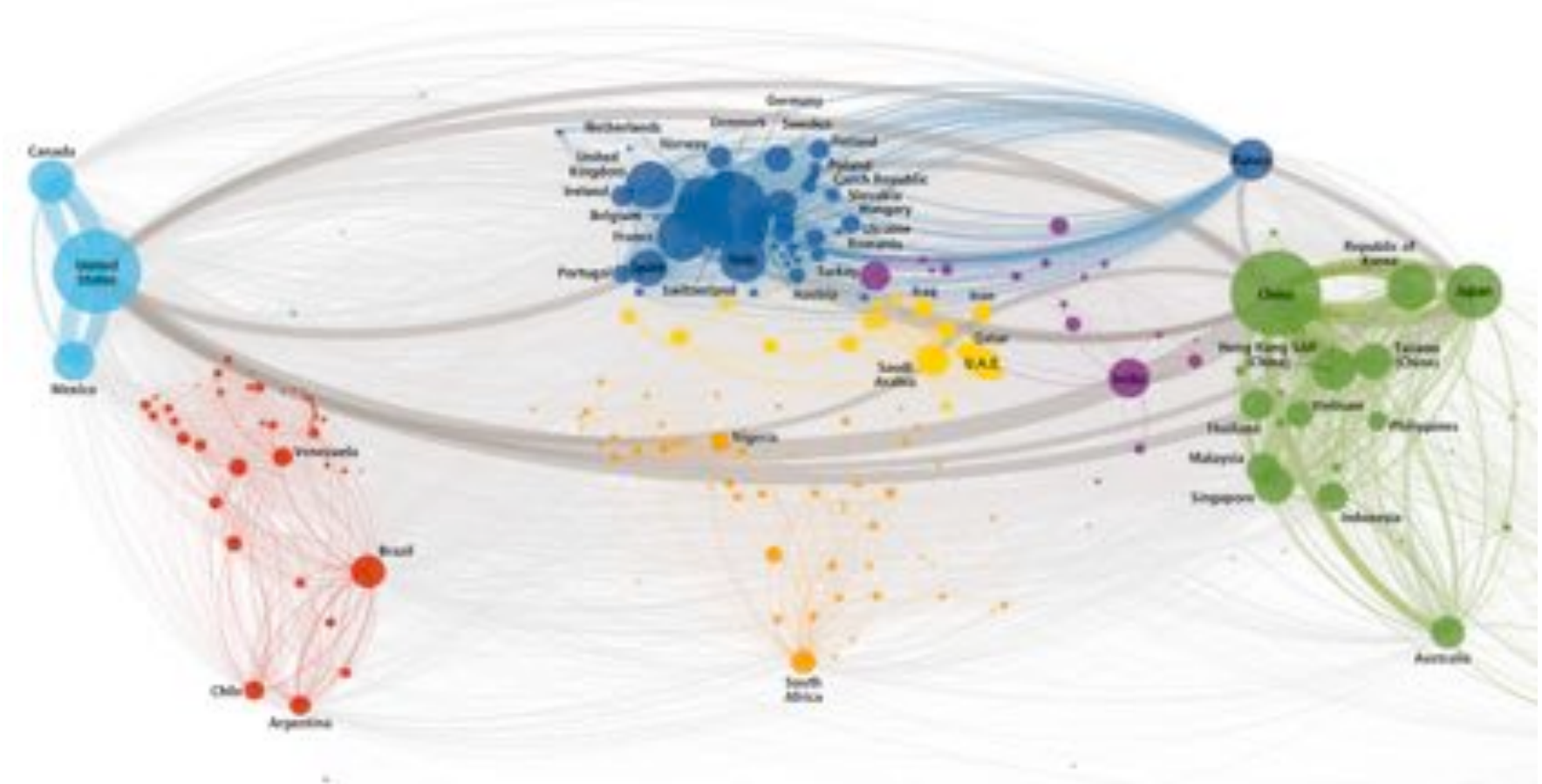
WORLD TRADE GROWTH

GLOBAL TRADE WILL NEARLY QUADRUPLE BY 2030



Kässbohrer Source: HSBC Study (2013), Global Connection Reports

Enginuity, since 1893

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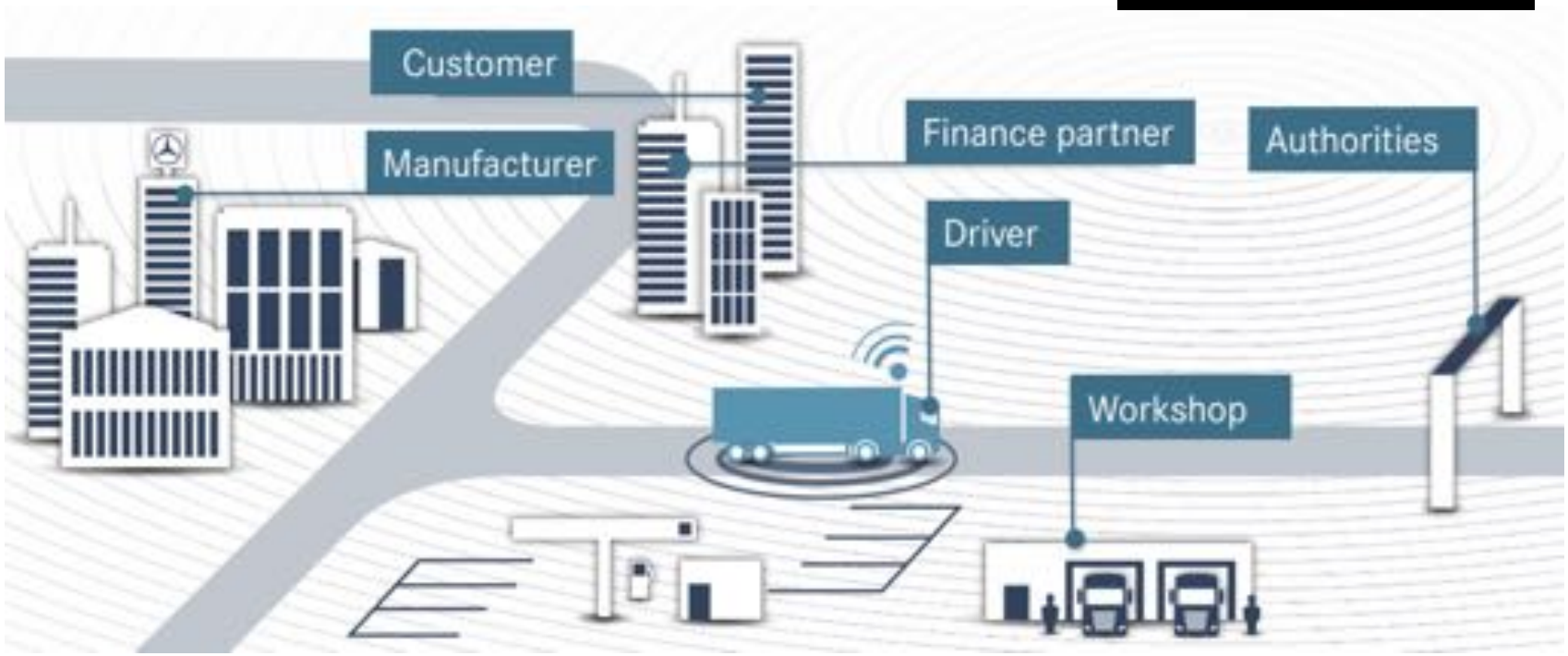
SENSORS & BIG DATA

BY 2020 –
80 BILLION CONNECTED DEVICES
5 BILLION INTERNET USER
5 CONNECTED DEVICE FOR EVERY USER

Kässbohrer Source: Frost & Sullivan, New Business Models of The Future (2015)

CONNECTIVITY
CONNECTED VEHICLES



Source: Daimler, 32ND International Supply Chain Conference(2015), Volvo

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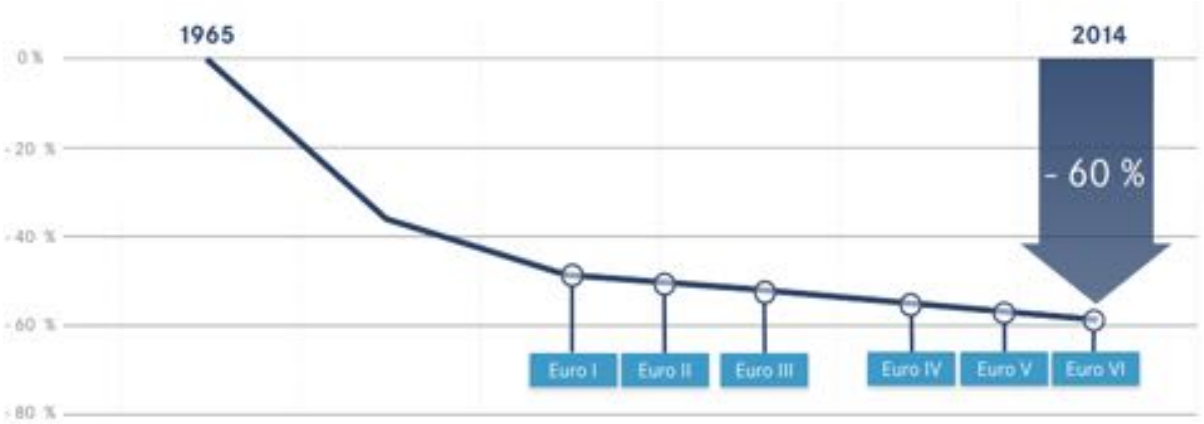
DISRUPTIVE INNOVATIONS
DROIDS, 3D PRINTERS, DRIVERLESS CARS…

Kässbohrer Source: Frost & Sullivan 2015

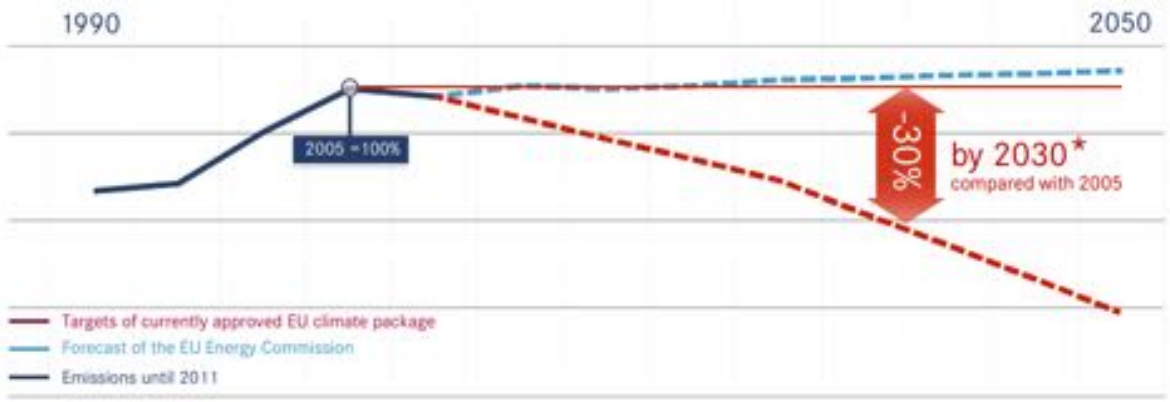
Enginuity, since 1893

SUSTAINABILITY

REACHING 2030 CARBON EMISSION TARGETS



Fuel consumption of heavy-duty trucks in Europe per ton-km



Carbon Emission Target for 2030

Kässbohrer Source: EU Commission (2011,2014), EU Energy Commission

SUSTAINABILITY
REACHING 2030 CARBON EMISSION TARGETS

 Source: Daimler, 32ND International Supply Chain Conference(2015)

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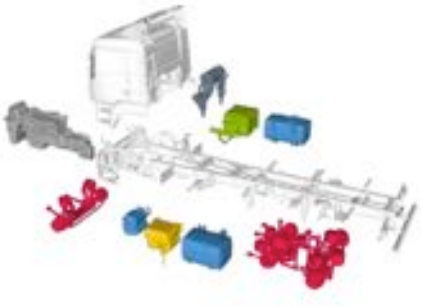
ROLE OF TRAILER

INDUSTRY 4.0: CONNECTED AND INTELLIGENT MANUFACTURING

Using Auto-ID Technology for online tracking of manufacturing process

Using Sensors for tracking stock levels and new orders

Shifting stock and manufacturing process into various factory locations



Modular design process to manage shortened product life cycles

Source: Bosch, 32ND International Supply Chain Conference(2015), Volvo

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ROLE OF TRAILER
TOTAL COST OF OWNERSHIP

ROLE OF TRAILER

NEW OPPORTUNITIES TO MINIMIZE THE TCO

ACQUISITION
Price
Depreciation
Annual mileage

HUMAN RESOURCES

FUEL
Consumption
Price

REPAIR & MAINTENANCE COSTS

TIRES
Total mileage
Maintenance
Tire life

TOLL COSTS

TAXES & INSURANCE COSTS

GENERAL MANAGEMENT COSTS

Source: http://www.fleetlogistics.com/results/tco-reduction/

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ROLE OF TRAILER

PRODUCING NOT JUST A TRAILER BUT A SOLUTION FOR FUTURE CHALLENGES

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ROAD AHEAD TO 2018
THE WIDEST PRODUCT RANGE









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ROAD AHEAD TO 2018

THE RIGHT BALANCE OF ENGINEERING AND INGENUITY

THREE PRINCIPALS
- SUSTAINABILITY
- VALUE FOR THE CUSTOMER
- TECHNOLOGY

NUMBER OF R&D STAFF
90+ EMPLOYEES

R&D ACTIVITIES
- 4 million € INVESTMENT
- TOTAL AREA OF 3.500 m^2
- PROTOTYPE WORKSHOP
- NEW TEST & VALIDATION CENTRE

ROAD AHEAD TO 2018

SINCE 2009, TOTAL OF 38 R&D PROJECTS FOR 4 DIFFERENT MARKETS

NEW PRODUCT DEVELOPMENT PROJECTS

Curtainsider	3	Silo	2
Platform	4	Low Bed	10
Container Chasis	5	Special Vehicle	3
Tipper	4	Box	2
Tank	3	Reefer	2

Total Engineering Hours: 1.2 million man/hour
Total Road Test Km: 25 million km

R&D COOPERATION

MIRA Ltd. UK
OTAM, Automotive Technologies R&D Company, Turkey
Premium Business Partners such as BPW, Knorr Bremse, Lamilux

ROAD AHEAD TO 2018

NEW TEST & PROTOTYPE CENTER INVESTMENT IN 2016

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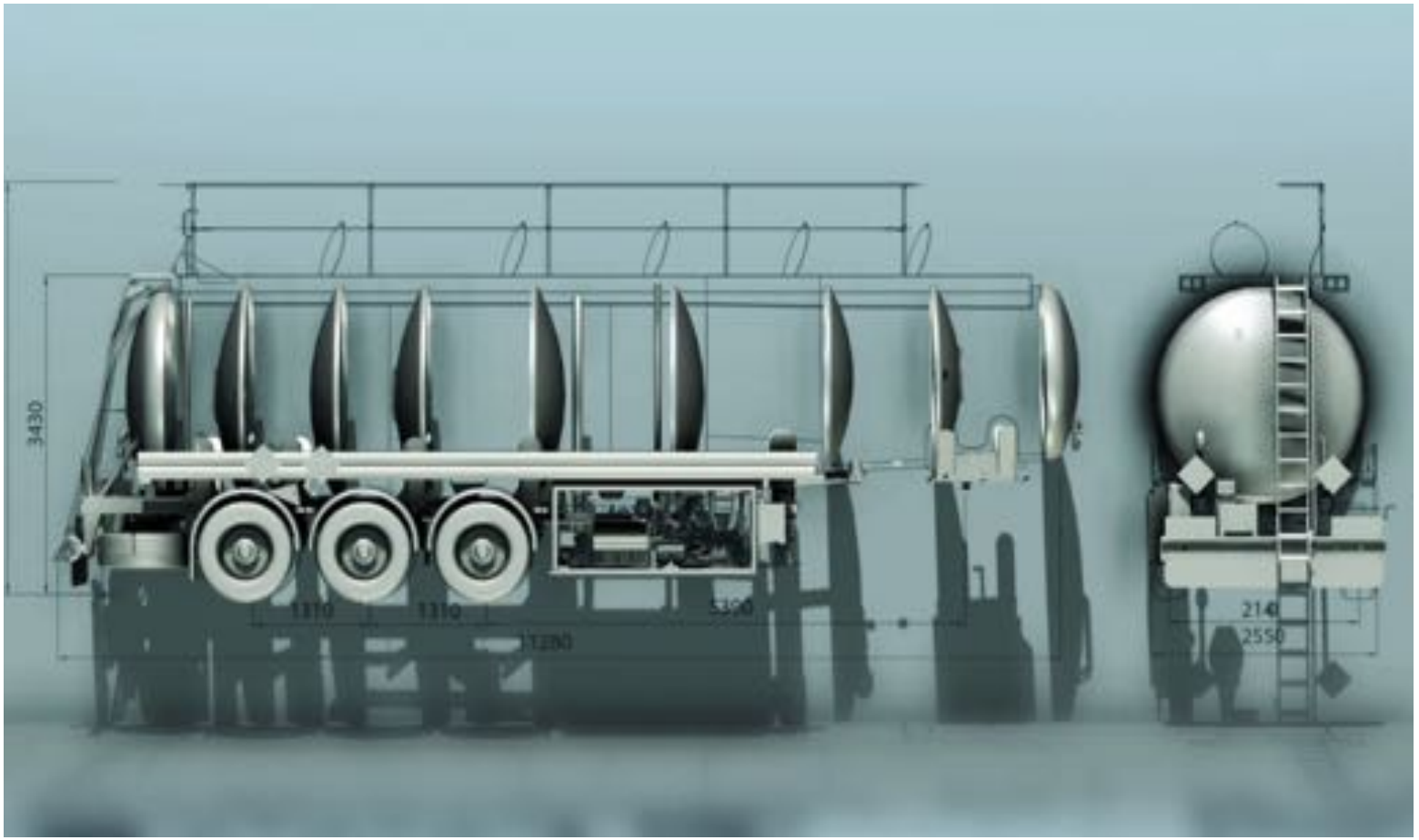
POWER OF ENGINEERING
WE ARE COMMITTED TO THE VALUE WE CREATE



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POWER OF ENGINEERING
DEVELOPING RELIABLE TRAILER SOLUTIONS

From concept development to technology research, from solution engineering to series production, we implement iterative project management methodology to build sustainable and reliable trailer solutions in consideration of total cost of ownership.

POWER OF ENGINEERING
GLOBAL MANUFACTURING POWER WITH LOCAL SOLUTIONS

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KÄSSBOHRER SUCCESS
INVESTING IN R&D AND MANAGEMENT SYSTEMS TO MANAGE COMPLEXITY

LISTENING

We listen to our customers to understand their daily operational challenges – with close attention to load specific ones.

COMPLEXITY

We invest in our management systems to make the best out of “Big Data” and to implement Industry 4.0 wisely.

COLLABORATION

We work close with the industry players to provide the right transportation solution and to drive our customers forward.

Thank you for your attention

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ENGINUITY
SINCE 1893

Annex

POWER OF ENGINEERING
IMPORTANCE OF R&D

R&D

We are committed to the value we create. Therefore, we invest in our research and development capabilities and partnerships to offer the right trailer solution to the right customer in over 50 countries.

From concept development to technology research, from solution engineering to series production, we implement iterative project management methodology to build sustainable and reliable trailer solutions in consideration of total cost of ownership.

POWER OF ENGINEERING
IMPORTANCE OF R&D

Concept development

We listen to our customers to build the right trailer solution. Thus, concept development starts at the very heart of customers operations, either in the vast Russian terrain or in the information technologies center of a German logistics company.

Concept development is an interdisciplinary process, involving all the departments, from product management to production. Through collaborative teamwork, all teams contribute to the process through bringing in their expertise and latest technological developments in their field. Through systematical analysis of customer operations, we transform hard factual data into trailer solution ideas.

Furthermore, to project the industry trends, we are collaborating with universities, with technology research institutes and with our premium business partners to drive our customers forward.

POWER OF ENGINEERING
IMPORTANCE OF R&D

Solution engineering

Once the trailer concept is translated into a design and the project objectives are set, our engineers start to transfer design into virtual platforms. Through computer aided component and system simulations, virtual performance of the design is evaluated in consideration of load distribution, stress concentrations, road stability, aerodynamics and electronic systems within the overall trailer architecture.

For the most reliable simulation results, we work together with our partners to capture real-time road and loading data to transfer actual working conditions into the virtual test environment.

POWER OF ENGINEERING
IMPORTANCE OF R&D

Prototype Testing

Prototype testing teams consist of research and development engineers, as well as specialists in production, aftersales, quality audit and supply-chain departments to validate the overall trailer solution.

Depending on the project scope, the physical tests are either conducted in-house, at our prototype testing facility in Adapazarı, Istanbul or at certified testing institutes across Europe.

Only after the final technical validation through physical prototype testing, the ramp-up and series production can start.

POWER OF ENGINEERING
IMPORTANCE OF R&D

Production planning

Series production reflects our competence to build sustainable and reliable trailer solutions in three different production sites. Either for an individual trailer solution specifically developed for one customer or a standard solution developed for our global customer base, production planning is conducted meticulously in consideration of the whole value-chain to guarantee customer satisfaction, which is the touchstone of our success.

ROLE OF TRAILER

FUTURE CHALLENGES FOR THE COMMERCIAL VEHICLE INDUSTY

1. Growing Transportation

- Continuing growth of transport
- Trucks still take over the lion's share

2. Stressed infrastructure

- More and more serious bottlenecks due to lack of money, growing transport, natural disasters

3. New urban transport policy

- Cities want to improve their citizens' quality of life
- Traffic restrictions to help this aim

4. Rising costs for transportation

- Fuel costs will rise
- Cost effective regulations in the aim to curb CO_2

5. Emission transparency required

- Growing demand for sustainable logistics
- Lack of transparency is hindering effective measures

6. Tighter emission regulations

- Reduction of greenhouse gas emissions ineluctable
- Road traffic has to take its part

7. Growing pressure to modal shift

- Concerns about climate change give new impetus to old debate about transport's modal split

8. Renaissance of autonomous driving

- Autonomous driving: technical feasibility vs. regulations and customer behavior

9. Growing pressure towards longer vehicles

- New regulation in view: Trucks could become longer

10. Always on vehicles

- Trucks in the 'logistics cloud'
- Vehicle2x communications expands

11. Always-on driver

- Young drivers can't live without the internet
- Reconcile private and professional use

12. Growing lack of skilled drivers

- Rising requirements and demographic change: qualified truck drivers are becoming scarce

13. Growing psychological stress

- Time pressure, traffic jams, bad image
- The driver is under stress and his health at risk

Source: Daimler, 32nd International Supply Chain Conference(2015)