DAIMLER

Daimler 2020
Challenges to HP NonStop Server Infrastructure

Connect Germany and GTUG Conference 2012, Dresden

Dr. Heinz-Michael Nitzschke, Daimler AG

DAIMLER

Agenda

1	Daimler AG Facts & Figures
2	Mercedes-Benz Cars (MBC)
3	Daimler and HP NonStop Server
4	Daimler's Strategy 2020 – Focus on MBC, Impact to IT-Management
5	Challenges to NonStop Server Infrastructure

DAIMLER

Daimler consists of five divisions

	Mercedes-Benz Cars	Daimler Trucks	Mercedes-Benz Vans	Daimler Buses	Daimler Financial Services
Revenues	€ 57.4 bn	€ 28.8 bn	€ 9.2 bn	€ 4.4 bn	€ 12.1 bn
Employees	99,091	77,295	14,889	17,495	7,065

2011

Mercedes-Benz · smart · MAYBACH · FREIGHTLINER · WESTERN STAR · FUSO · BHARATBENZ · SETRA · Thomas BUILT BUSES · Mercedes-Benz Bank · Mercedes-Benz Financial · Daimler Truck Financial

Note: 2011: Revenue Group € 106.5 bn; Employees: 271,370; sales organization 49,699, Corporate/ Others 5,836

DAIMLER

The Board of Management of Daimler AG.

Dieter Zetsche
Chairman of the Board of
Management/
Mercedes-Benz Cars

Wolfgang Bernhard
Manufacturing and Procurement
Mercedes-Benz Cars,
Mercedes-Benz Vans

Christine Hohmann-Dennhardt
Integrity and Legal Affairs

Wilfried Porth
Human Resources &
Labor Relations Director

Andreas Renschler
Daimler Trucks

Bodo Uebber
Finance & Controlling/
Daimler Financial Services

Thomas Weber
Group Research &
Mercedes-Benz Cars
Development

Daimler facts & figures 2011

Key data	
Worldwide vehicle sales:	2.1 m u
Revenues:	106.5 bn €
EBIT:	8.8 bn €
Employees:	271,370
Market capitalization (year end):	36.2 bn €

Shareholder Structure	
Aabar Investments[1]	3.1%
Kuwait	6.9%
Renault/Nissan[2]	3.1%
Institut. Investors	66.5%
Private Investors	20.4%

Revenue by division

[in %]

Daimler Financial Services 11%
Daimler Buses 4%
Mercedes-Benz Vans 8%
Mercedes-Benz Cars 52%
Daimler Trucks 25%

Revenue development

[bn €]

78.9 — 2009
97.8 — 2010
106.5 — 2011

Revenue by region

[in %]

RoW 17.3%
Asia 21.3%
Western Europe 37%
NAFTA 24.4%
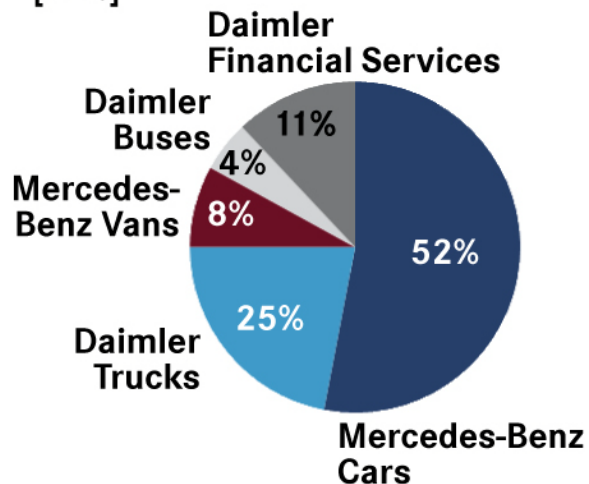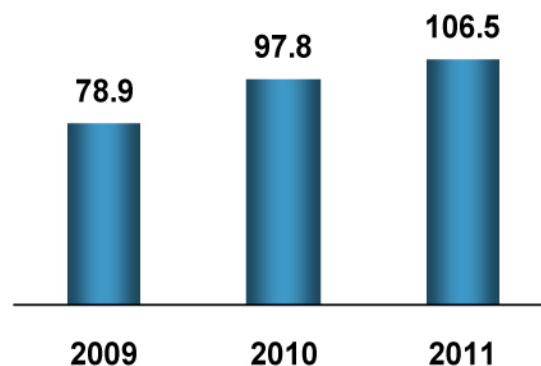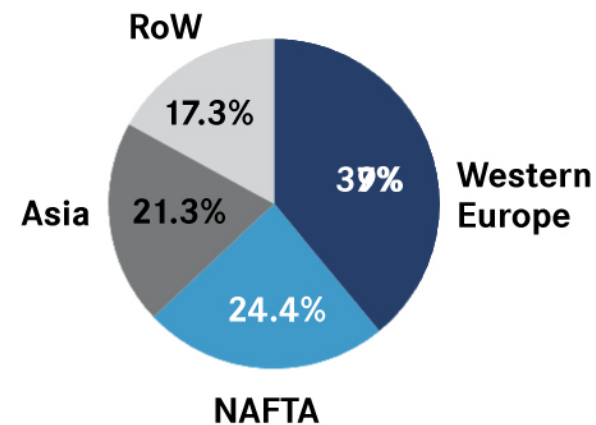
1) 9.04% together with shares lent to third parties in connection with financing transactions for which Aabar has a right of redelivery.
2) each with 1.55 %

DAIMLER

Agenda

Mercedes-Benz Cars facts & figures
1st Quarter 2012

Overview (in m €)	Q1 2012	Q1 2011
EBIT:	1,252	1,288
Revenues:	14,937	13,860
Unit Sales (units):	338,303	310,717
Production (units):	364,009	341,708

Product portfolio of Mercedes-Benz Cars

A-Class
B-Class

C-Class
C-Class Coupé
C-Class T-Modell

E-Class   CLS
E-Class Coupé
E-Class Cabrio
E-Class T-Modell

S-Class
CL

SL
SLK
SLS

G-Class   M-Class
GL   R-Class
GLK

A star is born...

Stamping facility

Several tons of press force are needed to create a striking design idiom. To make that possible, lots of design sensitivity is needed as well.

Body shop

A Mercedes-Benz car is held together by many thousands of welding points. And by the passion of our employees.

Paint shop
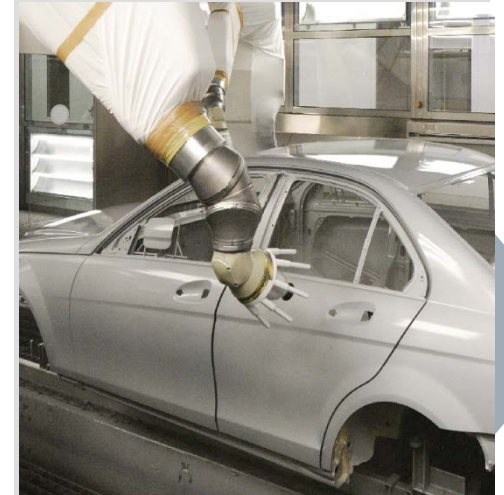
Several layers are required to make the vehicle's skin perfect. For a lasting, splendid appearance.

..in accordance with our customers' wishes.

Assembly

Each Mercedes-Benz is unique. After all, we build our vehicles exactly in accordance with our customers' wishes.

Finishing

A Mercedes-Benz attracts attention everywhere...but only after the vehicle has been subjected to a critical inspection.

Customer Center

Here, new Mercedes-Benz cars await their proud owners, marking the beginning of a lasting friendship.

DAIMLER

Agenda

1	Daimler AG Facts & Figures

| 2 | Mercedes-Benz Cars (MBC) |

| 3 | Daimler and HP NonStop Server |

| 4 | Daimler's Strategy 2020 – Focus on MBC, Impact to IT-Management |

| 5 | Challenges to NonStop Server Infrastructure |

NonStop Servers at Daimler – a success story over 26 years

3 applications (production control, production logistics, car delivery) Sindelfingen, Stuttgart

First PLUS Modules Sindelfingen, Bremen

PLUS extension

PLUS at Rastatt

PLUS* at East London

PLUS Mobile devices

PLUS at Tuscaloosa

PLUS at Hambach

PLUS at Beijing

PLUS at Fuzhou

PLUS at Kecskemét

VLX/ Cyclone

K-Series

S-Series

NS Integrity

NS Blade

1986   1992   1999   2007   2014

Dr. Heinz-Michael Nitzschke, Daimler AG

*"Produktions- Leit- und Steuerungssystem"

PLUS, a short introduction

- **PLUS** is a German abbreviation for „**P**roduktions- **L**eit- **u**nd **S**teuerungssystem" which means **production control system.**

- **PLUS** is the **standard** IT system for production control from body shop start to final OK.

- **PLUS** is an "**inhouse** product" and property of the Daimler AG.

- **PLUS** has been in use since **1989.**

- **PLUS** is **continuously** being **enhanced** (technically and functionally).

- **PLUS** is available in German, English, French, Hungarian and Chinese language
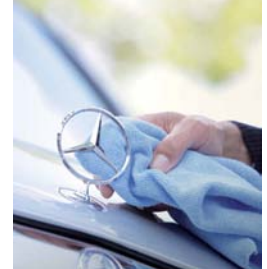
PLUS supports production across all shops

- **PLUS** supplies all relevant **order data** (e.g. part numbers, codes, Baumuster) to all kind of **shop floor devices** (e.g. programmable logic controls (PLCs), torque tools, robots)

- **PLUS** provides in an optimal way all order based **information** (e.g. part numbers, codes, Baumuster, etc.) **to the shop floor team members** (e.g. broadcast sheets, job cards, pick lists, line side PCs, PDAs, etc.)

- **PLUS** provides all relevant features to support the **Inline Quality Management** (e.g. vehicle inspection, fault capturing, rework control).

- **PLUS** ensures **quality process reliability** (torques, filling, flush and gap, etc.) including **coincidence checks** and **capturing of as built data** (traceability data)

- **PLUS** controls selectivity banks / vehicle buffers

- …and much more…

PLUS can be customized and sized based on the needs of the business side and the planned production volume.

- **PLUS** is based on **modules** that can be easily combined and supports all MBC **standard processes** and interfaces.

- **PLUS** is **highly configurable** to support the plants production processes (around 325 dialogs, around 95 mobile dialogs, around 2,200 server programs).

- **PLUS** is **highly available** (hard- and software)

- **PLUS** is **sizeable** to accommodate the required production volume
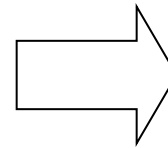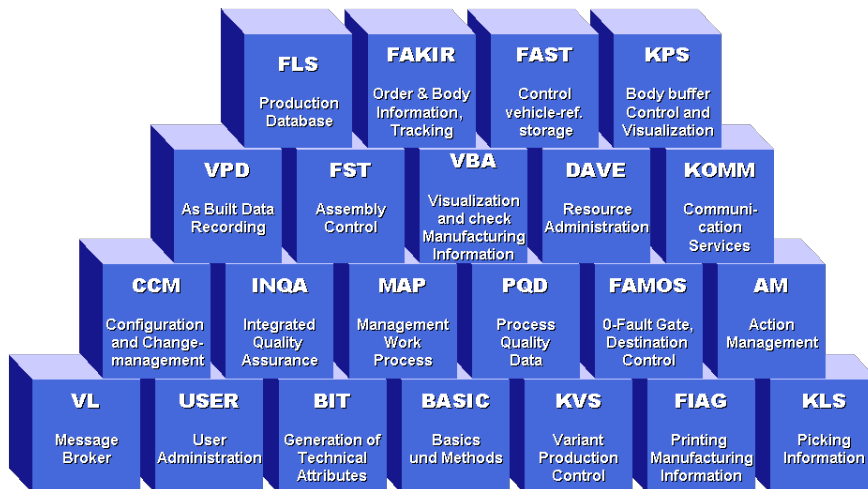
DAIMLER

HP NonStop PLUS server overall landscape
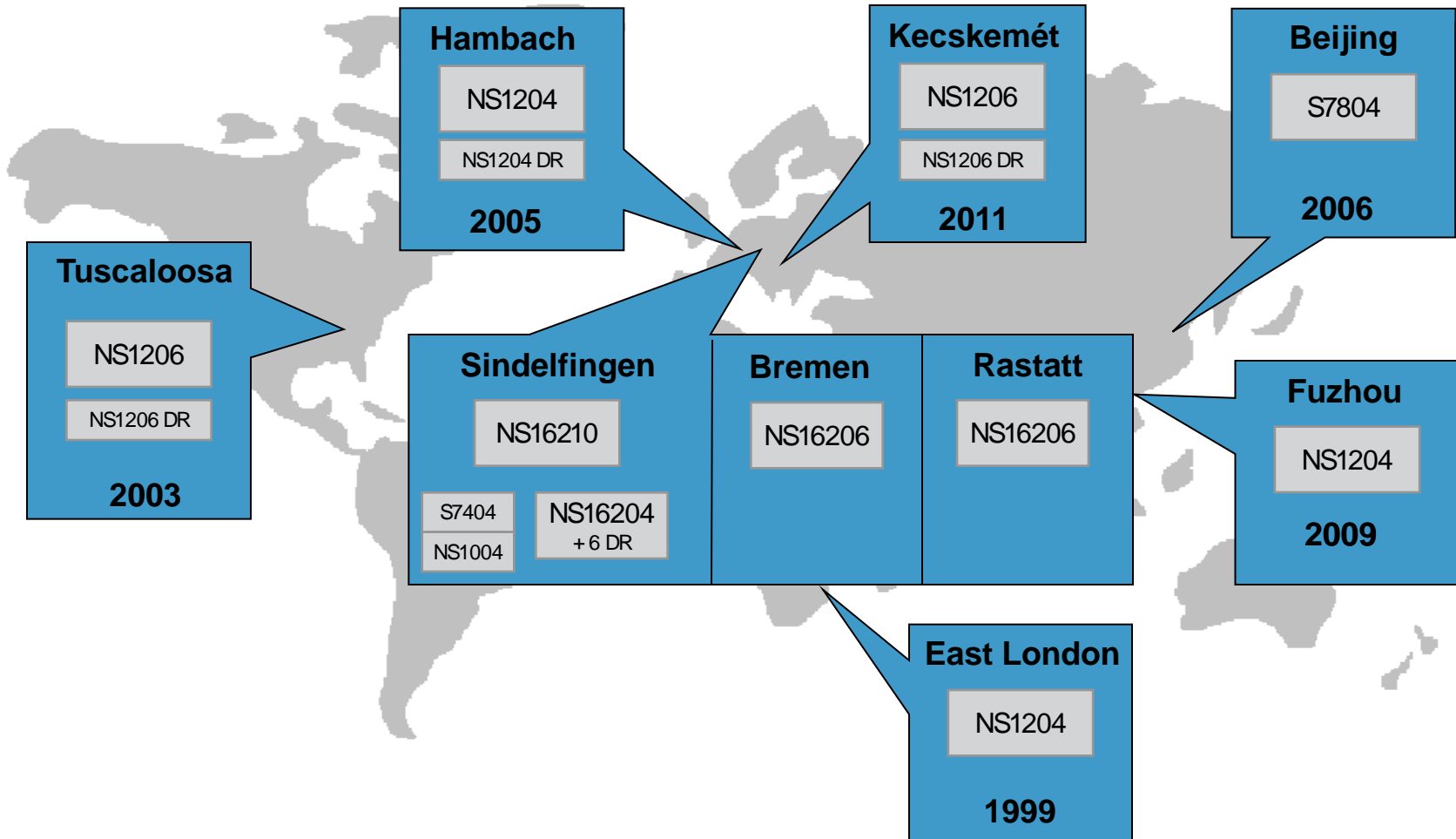
Hambach
NS1204
NS1204 DR
2005

Kecskemét
NS1206
NS1206 DR
2011

Beijing
S7804
2006

Tuscaloosa
NS1206
NS1206 DR
2003

Sindelfingen
NS16210
S7404
NS1004
NS16204
+ 6 DR

Bremen
NS16206

Rastatt
NS16206

Fuzhou
NS1204
2009

East London
NS1204
1999

DAIMLER

Agenda

1	Daimler AG Facts & Figures
2	Mercedes-Benz Cars (MBC)
3	Daimler and HP NonStop Server
4	Daimler's Strategy 2020 – Focus on MBC, Impact to IT-Management
5	Challenges to NonStop Server Infrastructure

Clear aspiration for all our businesses

Mercedes-Benz Cars	"Most successful premium manufacturer"
Daimler Trucks	"No 1 in the global truck business"
Daimler Buses	"No 1 in the global bus business"
Mercedes-Benz Vans	"Most successful van manufacturer"
Daimler Financial Services	"Best financial services provider"

Ambitious growth targets for all divisions

Mercedes-Benz Cars

Best sales**

2011	2015 target	2020 target
1.3	>1.6	Best sales**
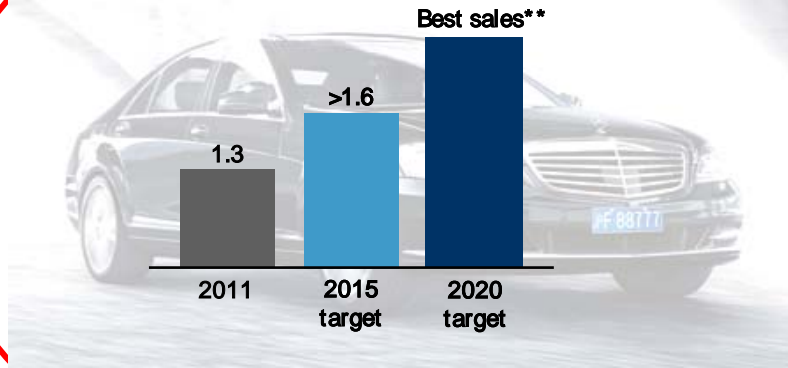
-in million units* -

* Without smart **Within automotive premium segment; schematic representation

Daimler Trucks

2011	2015 target	2020 target
426	>500	>700
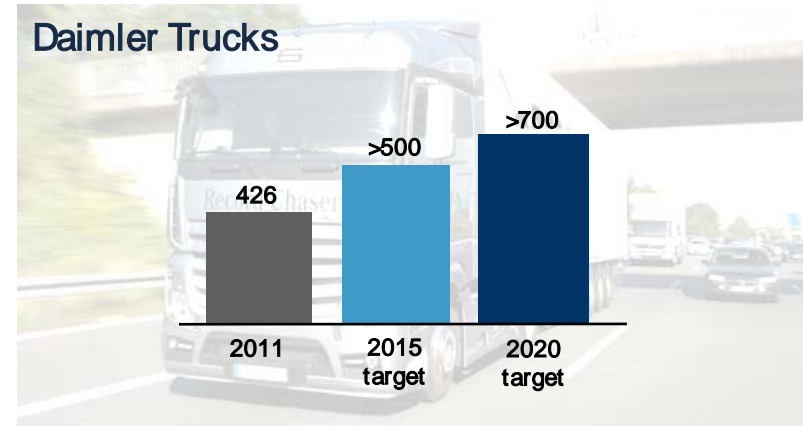
-in thousands of units-

Mercedes-Benz Vans

2011	2015 target
264	>400
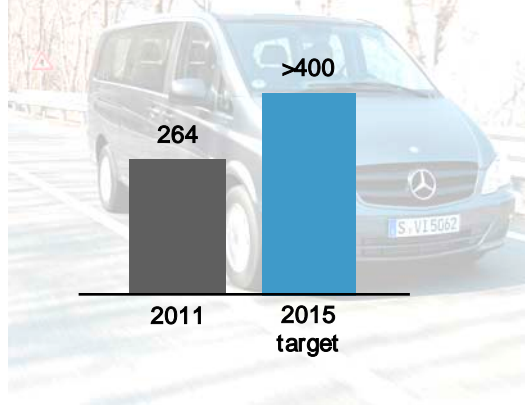
- in thousands of units-

Daimler Buses

2011	2015 target
39.7	42.0
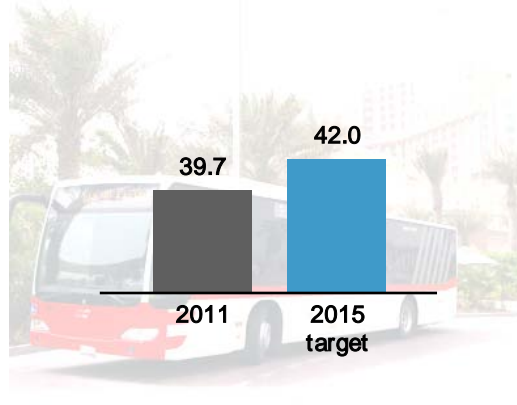
- in thousands of units-

Daimler Financial Services

Growth in line with industrial business

2011	2015 target
71.7	
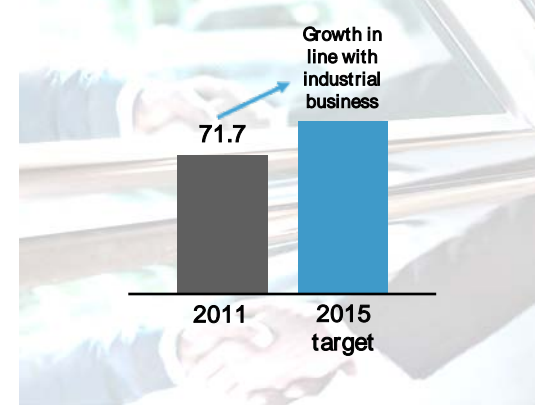
contract volume in billions of euros

Dr. Heinz-Michael Nitzschke, Daimler AG

DAIMLER

Adding at least ten new Mercedes-Benz models to the PV product portfolio by 2015

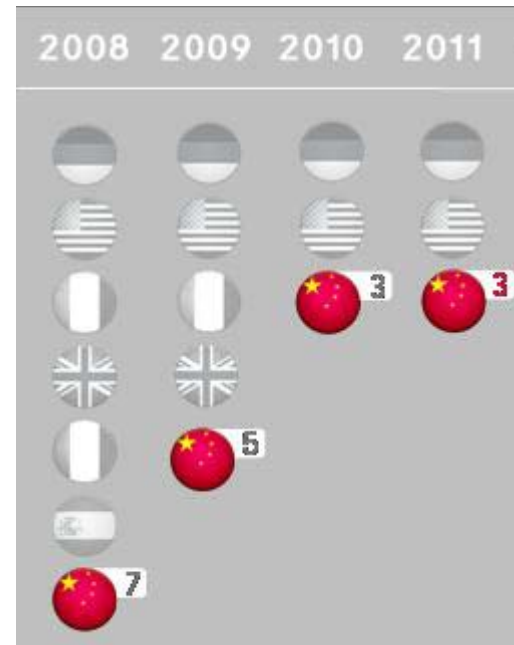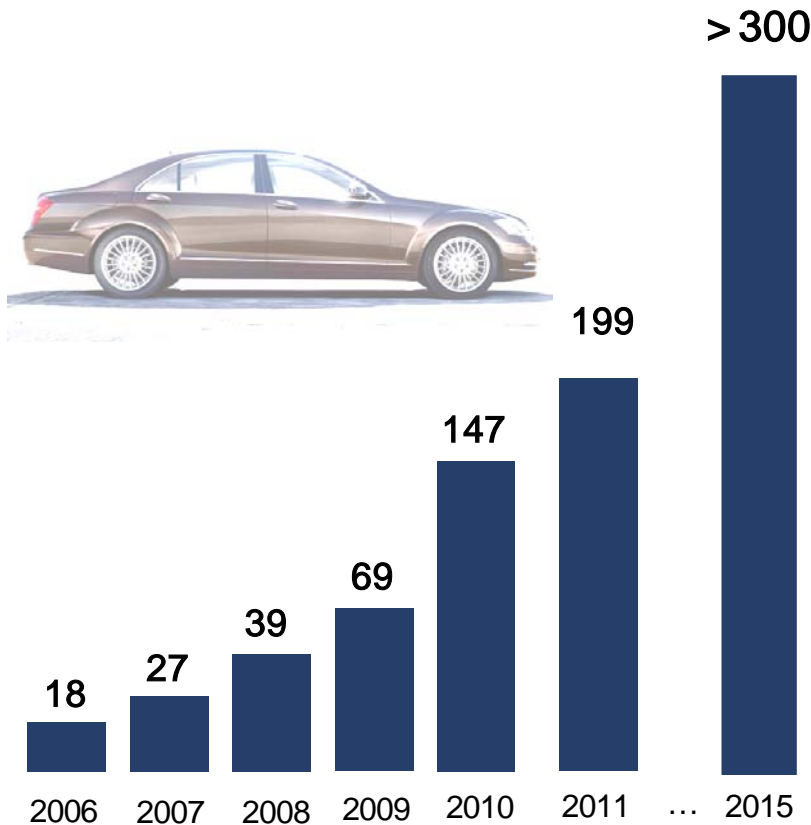|							
Compact							
Mid-Size							
Full-Size							
Large							
SUV							

Dr. Heinz-Michael Nitzschke, Daimler AG

DAIMLER

With vehicle architecture and modular strategy, we are faster, more flexible and more cost efficient

Example: Mercedes-Benz Cars

Front Wheel Drive

Rear Wheel Drive

Electricity/Electronics

Exterior

Interior

Body-in-white

Drivetrain/e-drive

Chassis

DAIMLER

China – Third most important market for Mercedes-Benz Cars

Mercedes-Benz Cars retail sales incl. smart, in '000 units

MBC retail sales ranking by markets

Year	Units
2006	18
2007	27
2008	39
2009	69
2010	147
2011	199
... 2015	> 300

2008	2009	2010	2011

198,520
Another record year with sales of 198,520 units in China

35
Fast growing premium brand in China with a 35% YoY growth

1
S-Class & R-Class rank No.1 in worldwide MBC ranking

Dr. Heinz-Michael Nitzschke, Daimler AG

DAIMLER

Key to success in China is our comprehensive commitment

January 2011

Open MB Arena
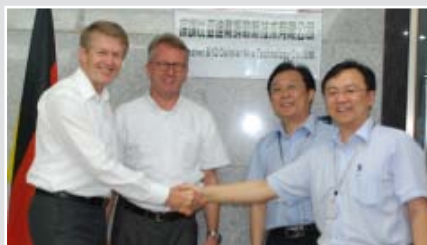
February 2011

BDNT Business License

May 2011

FBAC R&D Center

July 2011

BBAC Engine Plant

July 2011

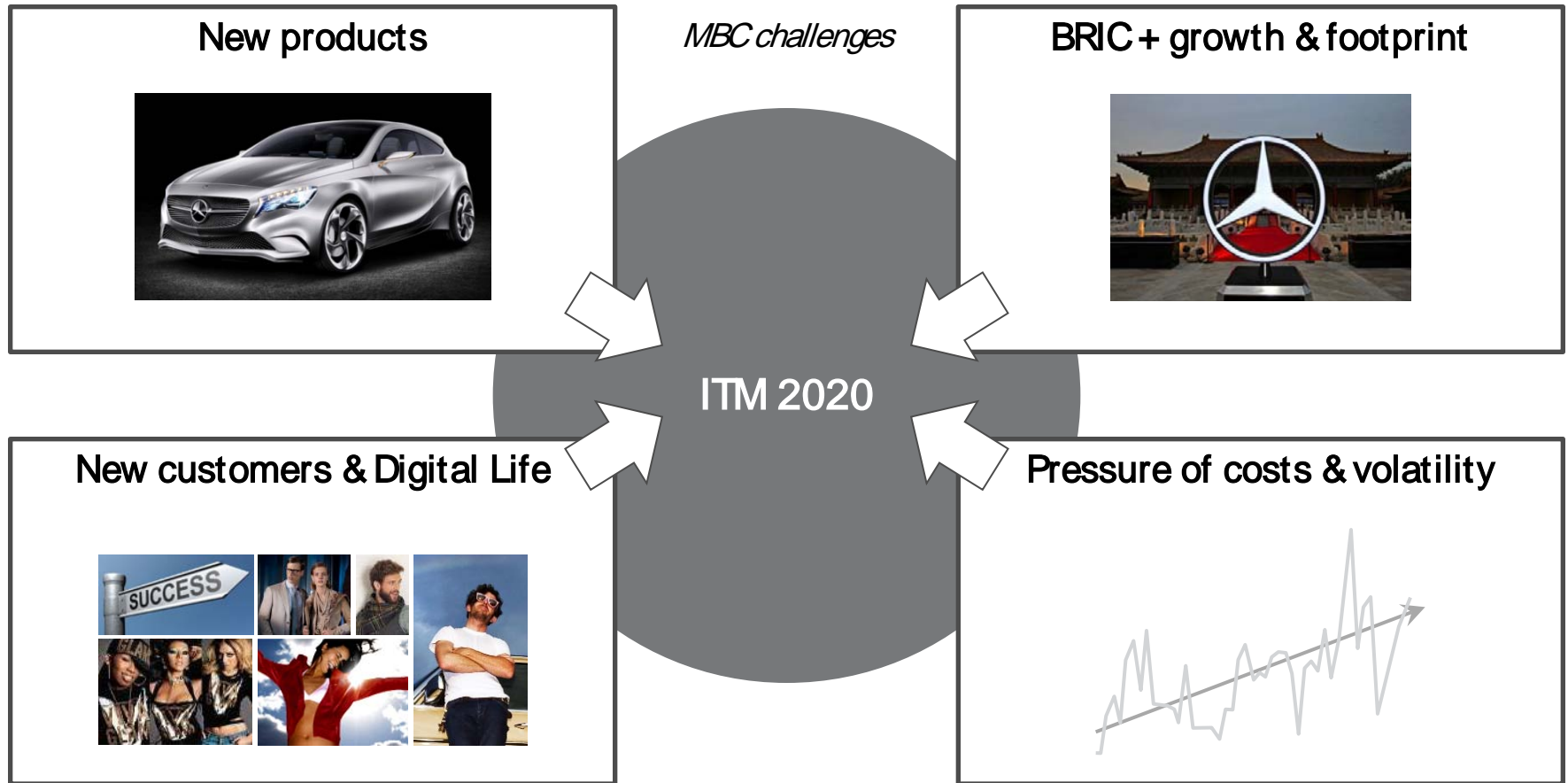MB Design Studio

August 2011

Sprinter SoP at FBAC

September 2011

BFDA MofCom Approval

December 2011

GLK Job#1 at BBAC

Major influences from MBC 2020 to IT Management

New products

MBC challenges

BRIC + growth & footprint

ITM 2020

New customers & Digital Life

Pressure of costs & volatility

Agenda

1 Daimler AG Facts & Figures

2 Mercedes-Benz Cars (MBC)

3 Daimler and HP NonStop Server

4 Daimler's Strategy 2020 – Focus on MBC, Impact to IT-Management

5 Challenges to NonStop Server Infrastructure

DAIMLER

Our fundament for future requirements – What we trust in

- Standardized system and application environment

  ↳ cloned systems, rapid launch of new systems

- Harmonized processes, tools and services

  ↳ service quality, seemless service extensions

- Well-skilled, highly motivated people

  ↳ support quality, international experience

- Proven global operational model (Cooperative Operation Model)

  ↳ service quality (SLA) , clear responsibilities, predictable costs

- Reliable, scalable and highly available NonStop Server platform

  ↳ expandability, capacity planning, release management

Daimler's standardized NonStop Server landscape end of 2012

Sindelfingen

NS16210   NS1004

Bremen

NS16206

Rastatt

NS16206

Integration/DR

NS16204+6

Tuscaloosa

NS1206 + DR

Hambach

NS1204 + DR

East London

NS1204

Beijing

NS1208 + DR

Fuzhou

NS1204

Kecskemét

NS1206 + DR

Central teams support national and international plants in operating critical services
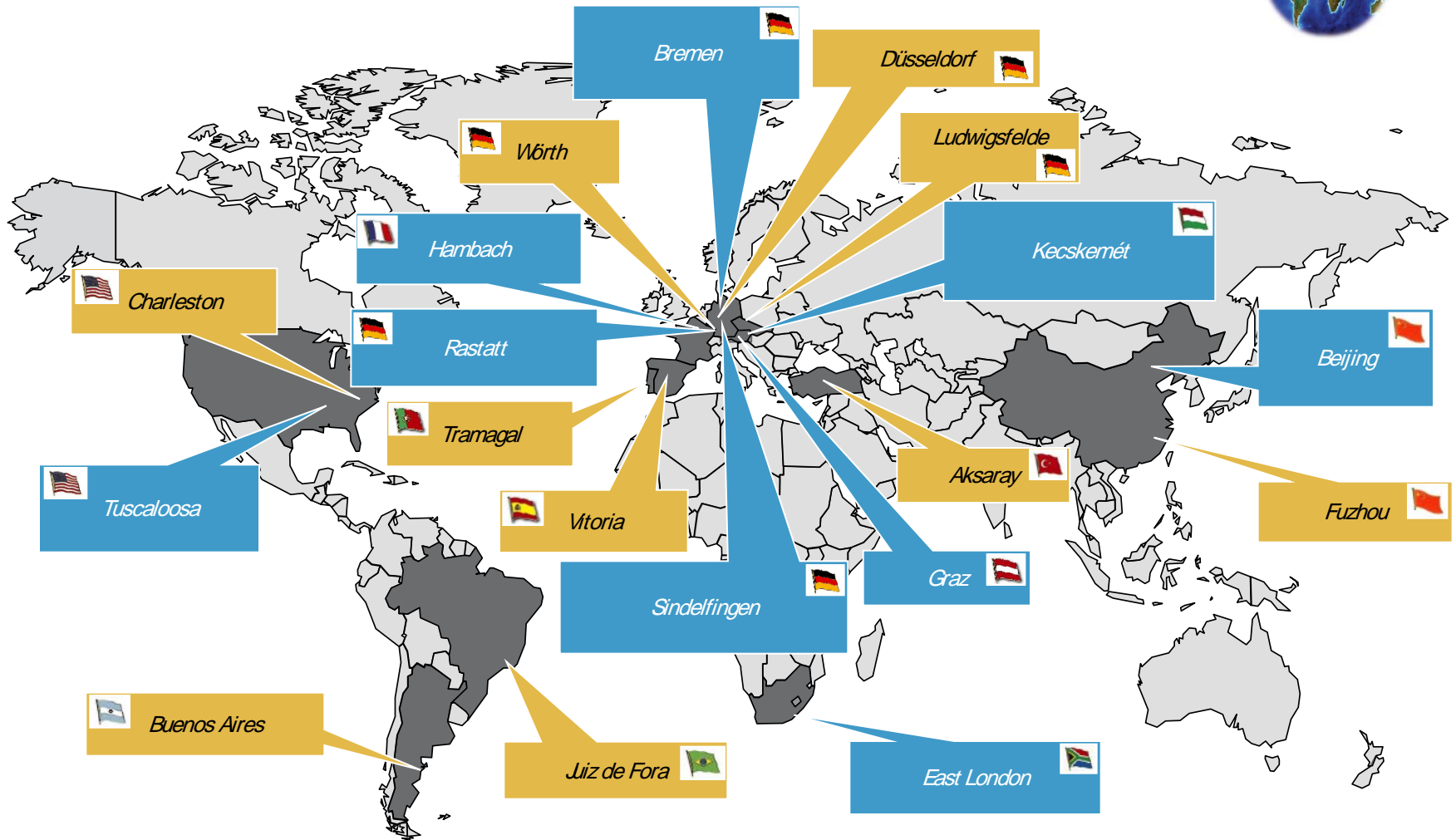
Truck, Bus, Van, Powertrain	
Passenger Cars	

Service groups in the Cooperative Operating Model

local | central

1st-Level

| User |

Application Help Desk | Local User Help Desk (Frontdesk) | | User Help Desk

2nd-Level

Desktop service | Firewall Support | Network Support | Local Control Center | Central Control Center (Backdesk)

3rd-Level

System Technical Support | Change Management | Application Support | Change & Release Management | System Technical Support | Application Development

4th Level

HW/SW Support Vendor | Network Support | Central Services | Regional Data Center

IT Security

Dr. Heinz-Michael Nitzschke, Daimler AG

Enabling frontdesk/ local UHD by standardized tools (example printer support)

Enabling frontdesk/ local UHD by standardized tools (example printer support)

Enabling frontdesk/ local UHD by standardized tools (example printer support)

DAIMLER

Challenges for the future – What we worry about

- Stengthen the ability to follow the business requirements (scalability, flexibility, volability, changing markets)

  ↳ lifecycle planning, project management, proactivity

- Provide an adequate solution portfolio

  ↳ hardware strategy, system categories, system configuration

- Provide an adequate DR-Solution

  ↳ easy to handle, minimal operational effort, RPO/ RTO requirements

- Reduce cost of ownership

  ↳ one-time investment, running costs, licence fees, maintenance fees

- Investment protection

  ↳ safe product roadmap, confidence in HP's announcements

HP product lifecycle & Daimler technology roadmap

Product Name	2010		2011		2012		2013		2014		2015		...	2018	
	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2		H1	H2
S-Series Types 7xxx and S7xxxx	SUPPORT														
	Sundowning					Not allowed									
Itanium NSK H-Release Types NS 12xx and NS 162xx	SALES & SUPPORT					SUPPORT									
	Standard								Sundowning			Not allowed			
Blade NSK J-Release or successor	SALES & SUPPORT														
	Under investigation		Not allowed		Under investigation				Standard						
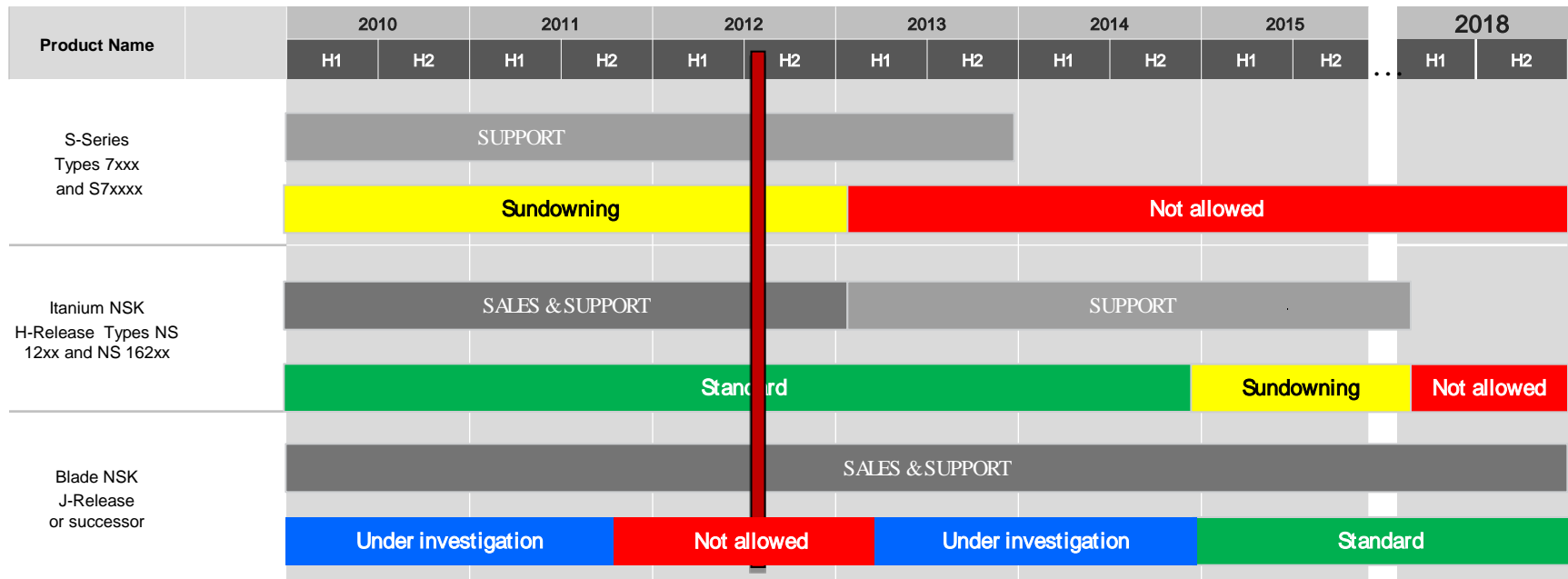
The NonStop Expert Team has finalized the evaluation of actual NonStop Blade technology in August 2011.

Decisions

- Wait and see further development of processor market (TNS/ R→ MIPS→ ITANIUM → ?)
- Complete migration from S-Series to NS Integrity systems in 2012, no migration to NonStop Blade Server today
- Provide adequate testing environment for NonStop Blade until 2015 latest
- Migration of NonStop Integrity based on a standardized, adequate Blade configuration for all plants from 2015 at the earliest (until 2018)

Performance of HP's NonStop Server portfolio as is

Range of performance NonStop systems
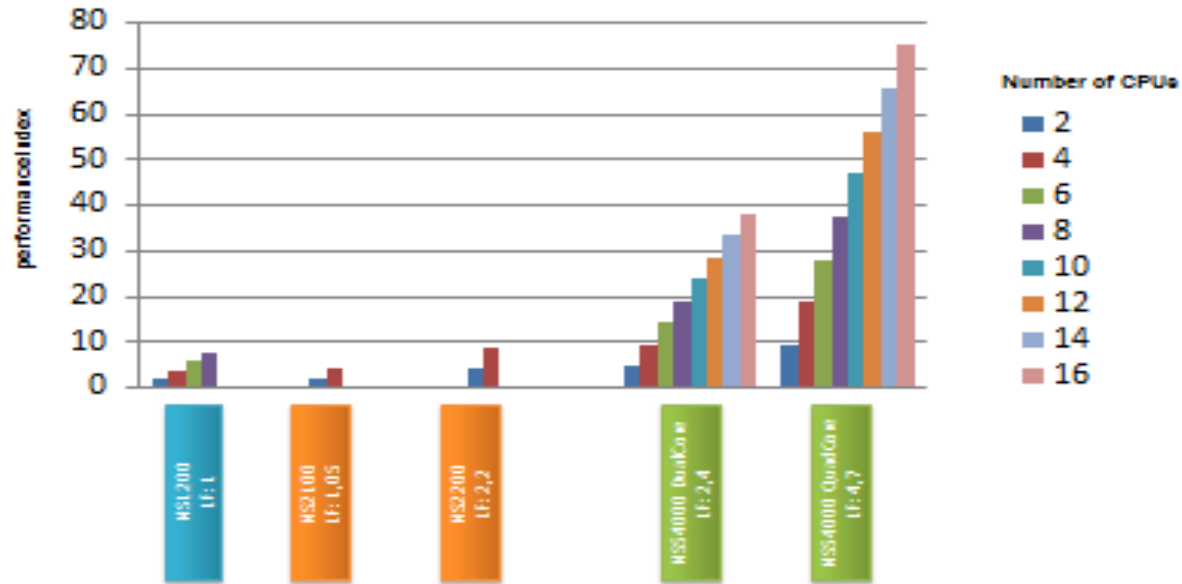
low end   midrange ?   high end

Lifecycle planning example – facts & figures as is

HP NonStop

NS1206

PLUS

KPS

~175
Transactions/ s

~12.500
Transactions/ car

assembly

264
PLUS
clients

220
Printers

103
PDAs, Mobile
devices

618
Torques,
PLCs, Bolts,
Filling stations

>29
Suppliers
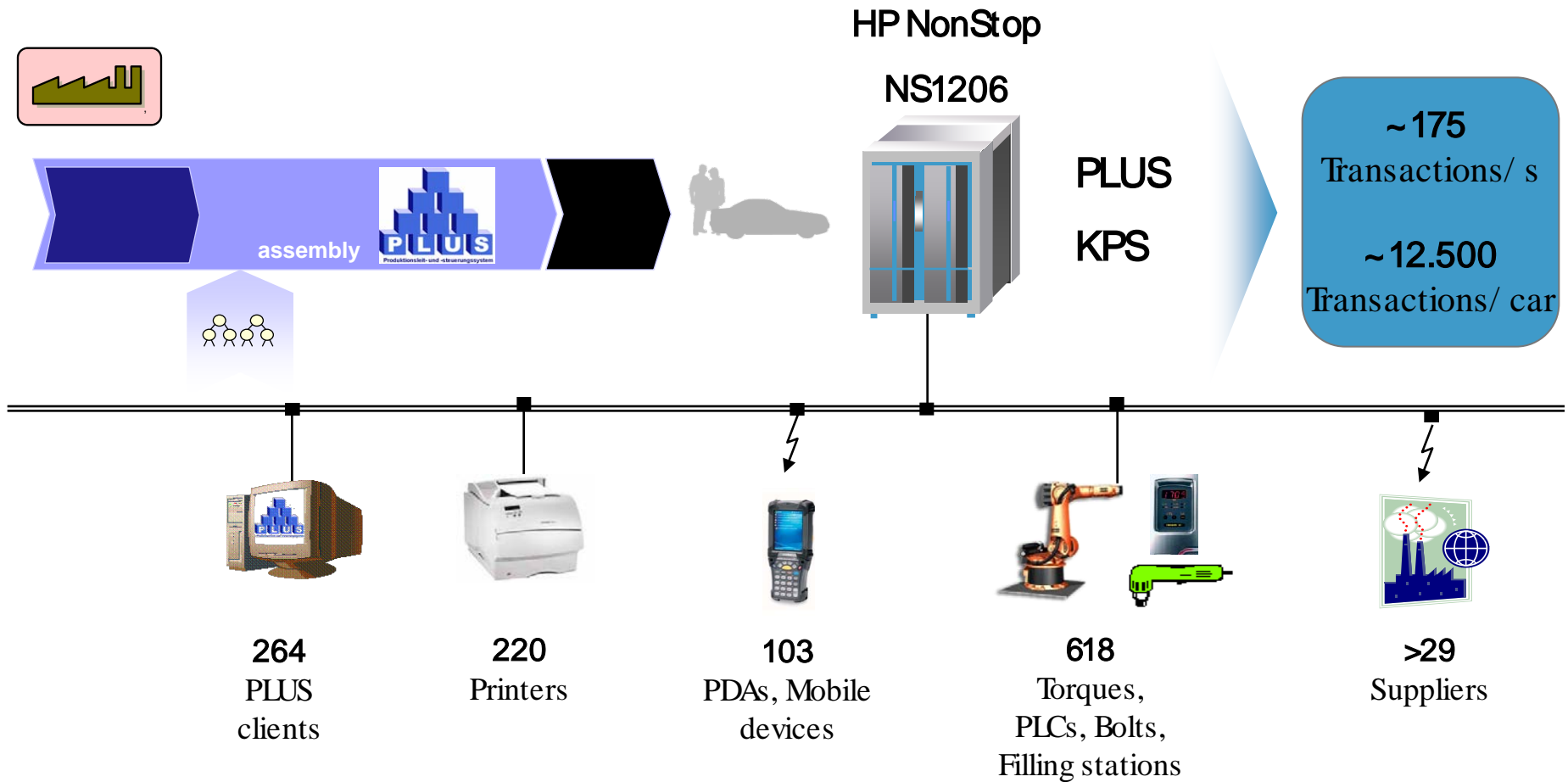
Estimation of future system utilization

Chronology Av.- und Max- Busy \T13824

24 Hours

Planned Volume

150.000 184.000 186.500   290.000 …

Estimated Utilization

SoP
C-Class

PLUS
Enhance-
ments

3rd shift

End of Sale
1/ 2013

End of Support

01/ 2018

2012   2013   2014   2015   2016   2017

Probability

high   low
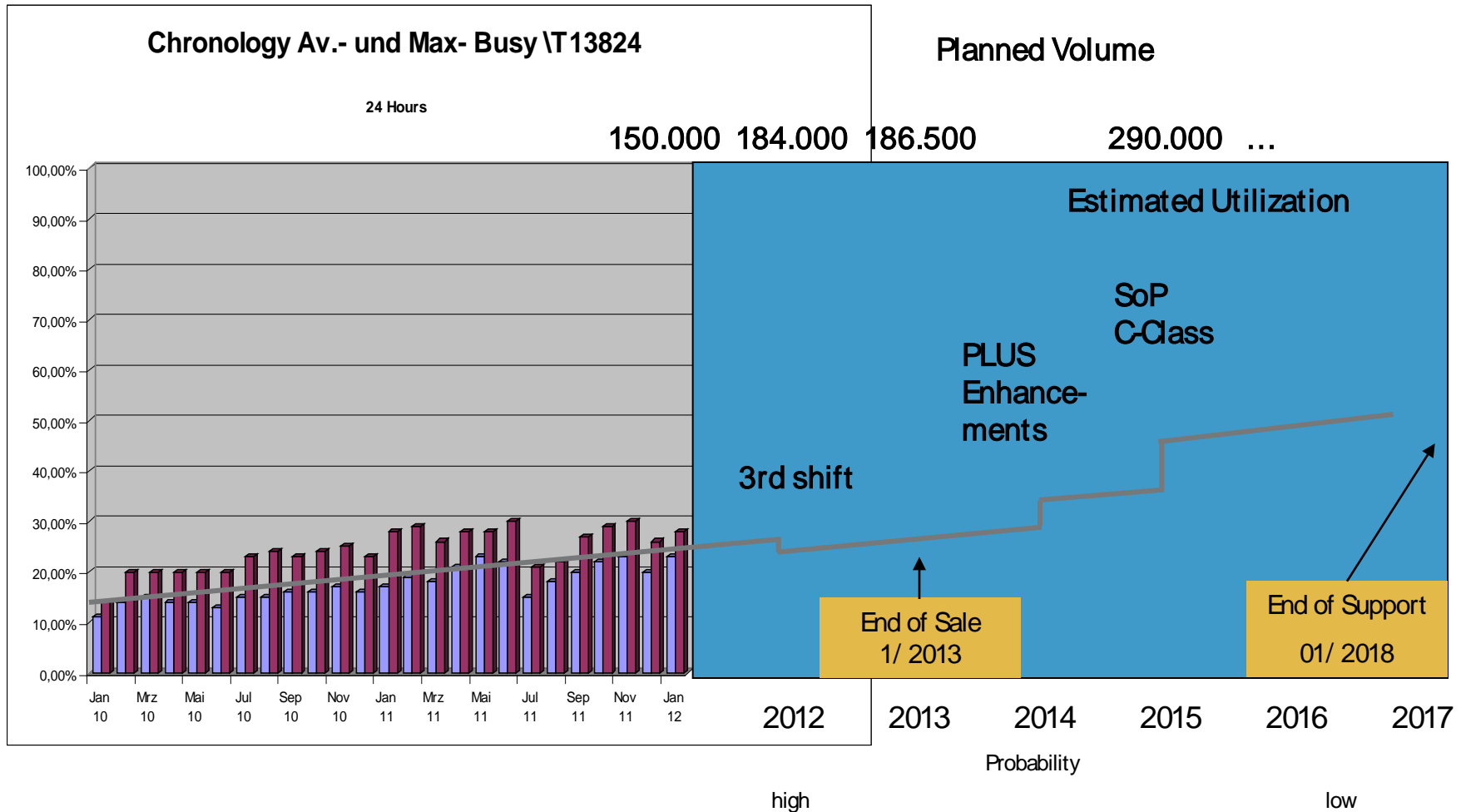
Future CPU utilization scenarios depending on PLUS usage

Estimated reach of CPU utilization
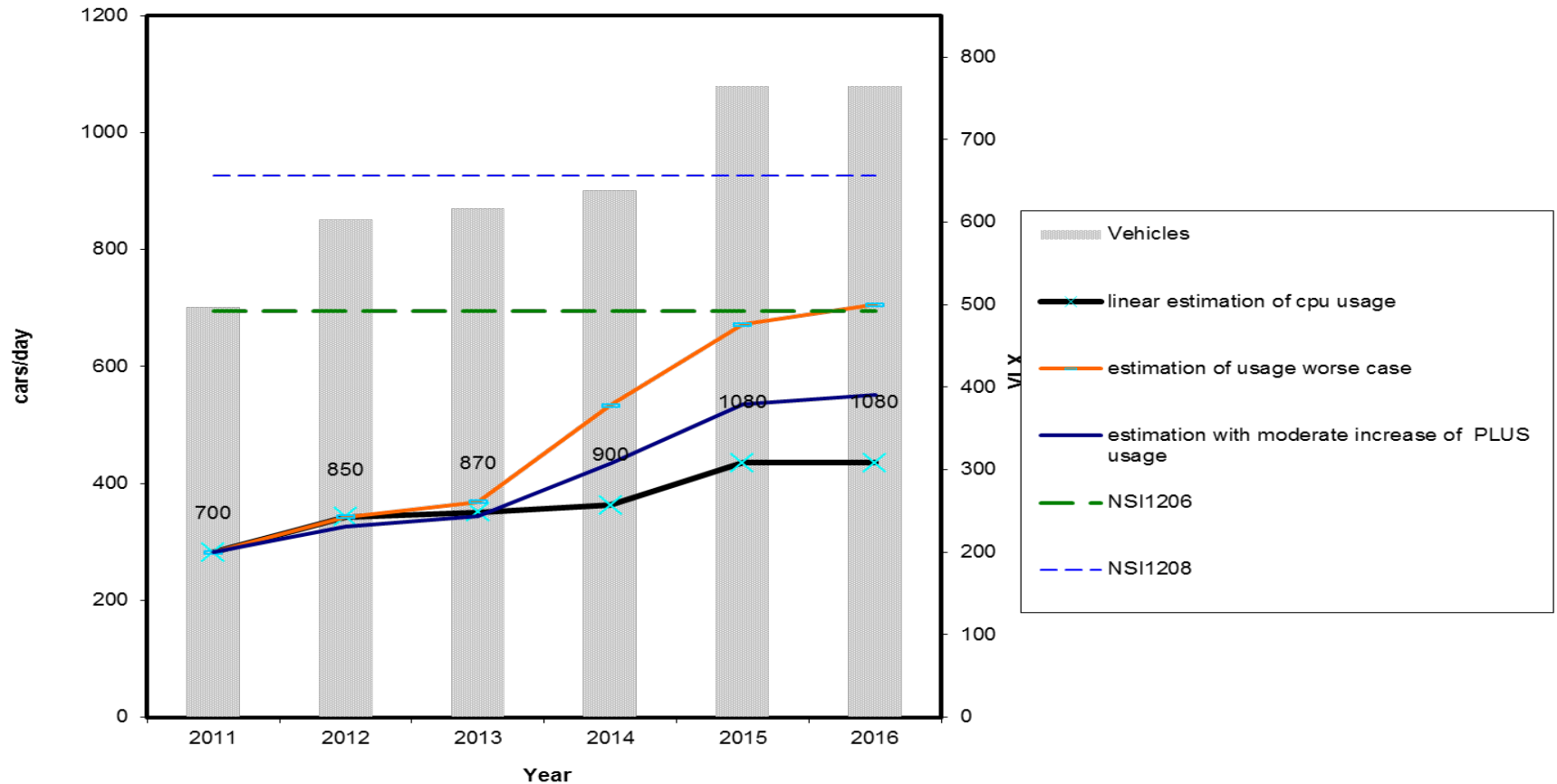
HP NonStop Integrity with remote mirrored disks - fully redundant "Daimler Standard" DR-solution

Data Center A

Max Distance 5 km

Data Center B

on Campus

Fiberchannel

Remote Mirror Disks

Primary Disks

Primary Disks

DR system running - no loss of data

Fiberchannel

Remote Mirror Disks

Dr. Heinz-Michael Nitzschke, Daimler AG

DAIMLER

Remote Mirroring is not available for NonStop Blade Servers

A new DR-Solution has to be designed. Only two alternatives are provided: using P9500-SAN or RDF.
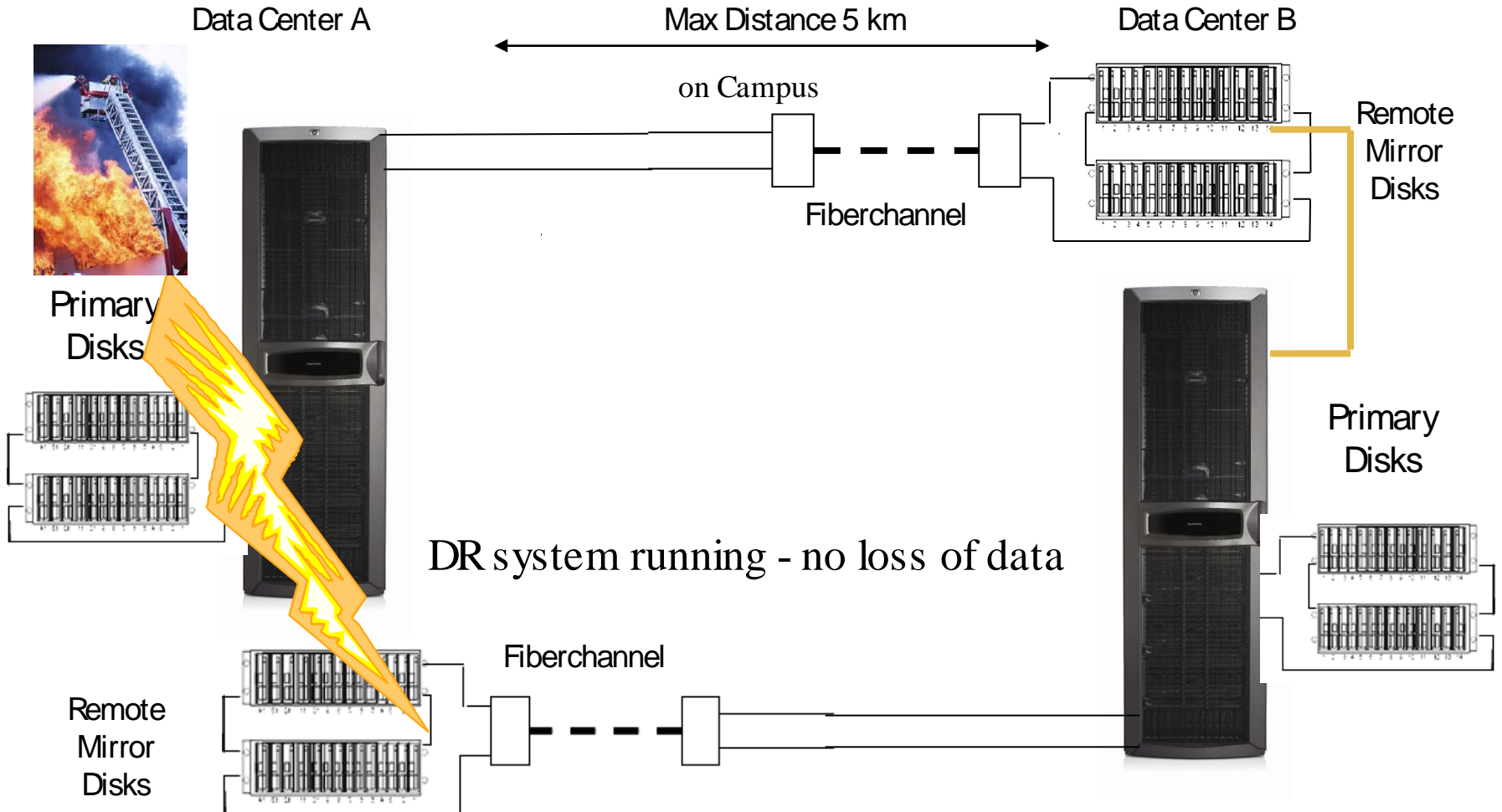
Neccessary activities:

- Technical evaluation (concerning RDF once again)
- Check and update plant requirements
- Use experience of some customers
- Consider operational efforts and risks
- Consider costs
- Provide proposal for management decision

Dr. Heinz-Michael Nitzschke, Daimler AG

We work together with HP to provide the PLUS-infrastructure wich meets the future requirements of MBC

Our demands :

- long term perspective for the NonStop platform

- midrange-systems located at each plant

- appropriate DR-solution for each plant

- standardized configurations based on unique revision levels in all components over lifecycle of 5 to 7 years

- NonStop infrastructure which is cost-efficient in terms of hardware, software licences, maintenance, operations

- effective support and services worldwide

DAIMLER

Thank you for your attention !

Maybach

Mercedes-Benz

smart