



# Südostniedersachsen in der Transformation: Die Zukunftstrends der Automobilindustrie

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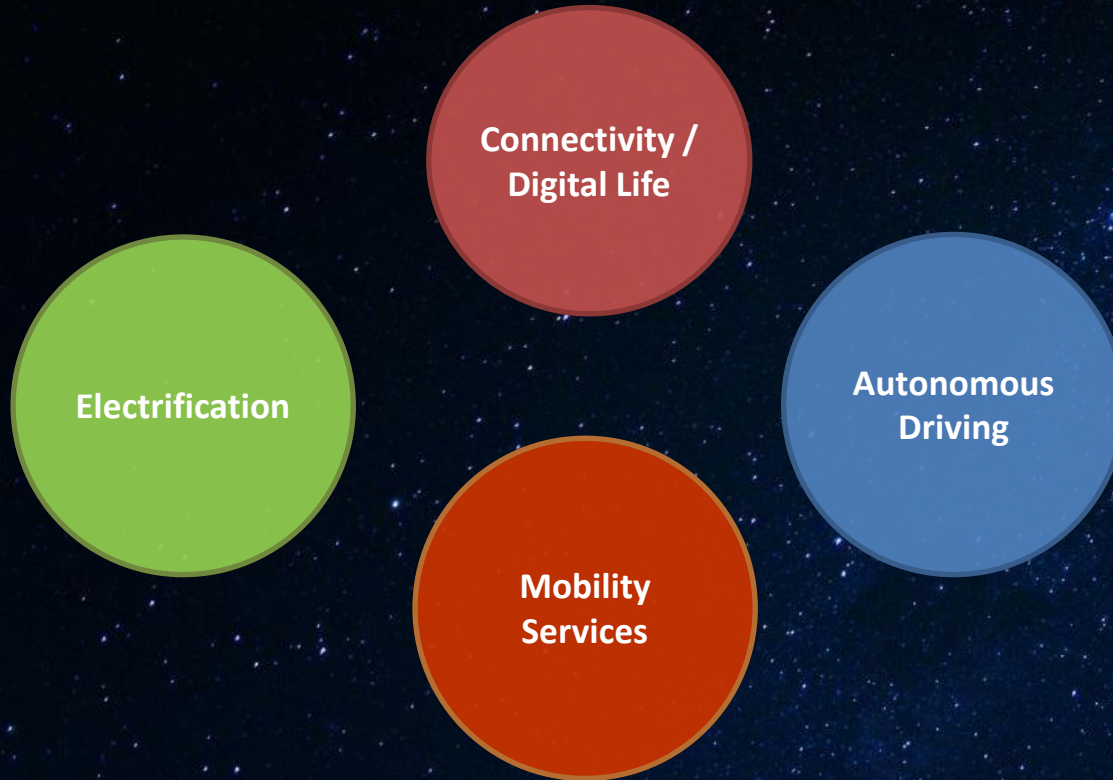
Vortrag

ReTraSON - Regionales Transformationsnetzwerk SüdOstNiedersachsen

Auftaktveranstaltung

Wolfsburg, 13. Oktober 2022

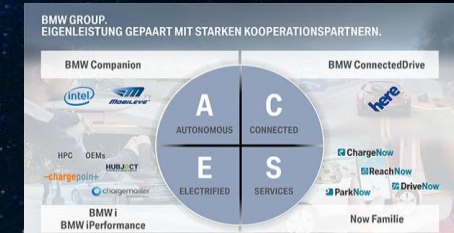
# Transformation Fields



Beispiele: Daimler, BMW, Volkswagen



Quelle: Daimler



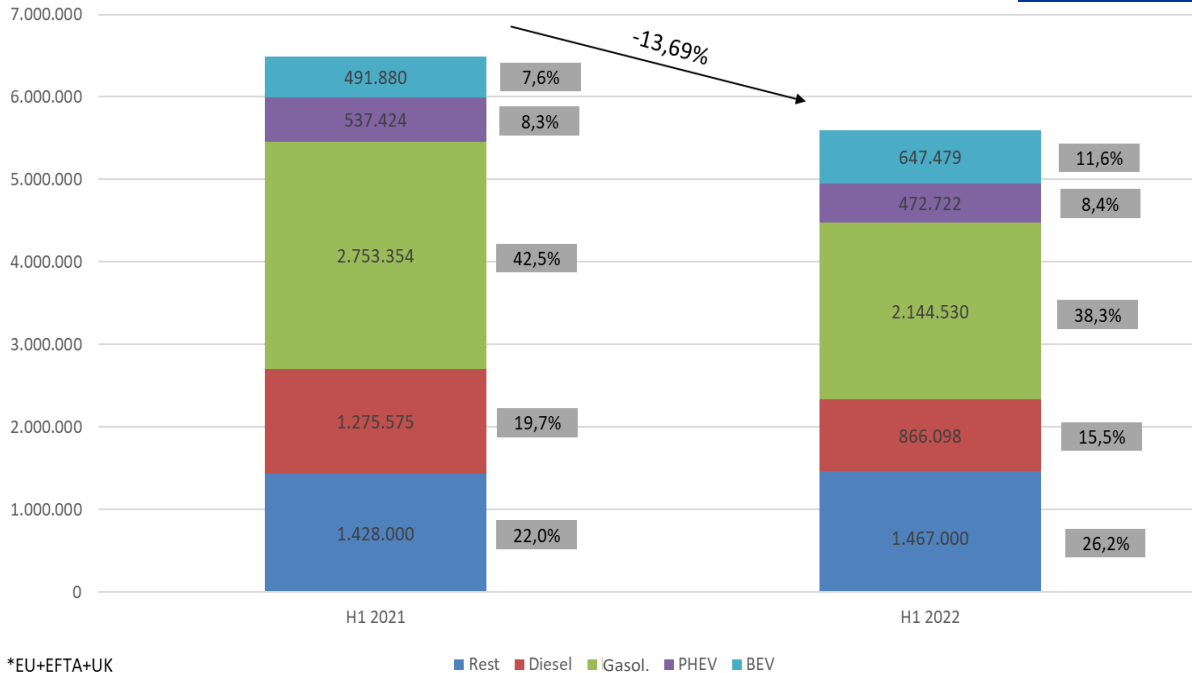
Quelle: BMW



Quelle: Volkswagen

# E-Mobility Status Quo – European Car Sales by fuel type

New car registrations by fuel type in Europe\*  
(H1 2021/2022)



## EV-Sales 2022-YTD June

EV-markets in Europe and China will grow in the first half of 2022, contrary to the generally declining market trend.

>> **Europe:** 11.6% of new registrations of purely electric vehicles (2021: 7.6%).

>> **Germany:** 167,503 newly registered BEV cars - BEV quota at 13.5%

>> **China:**



>> BEV sales: 1.95 million (18.8% of total registrations) (+106%)

>> PHEV sales: 534,000 (+168%).

>> Total new registrations: - 6.6%



## R.I.P - Issues of the Electromobility

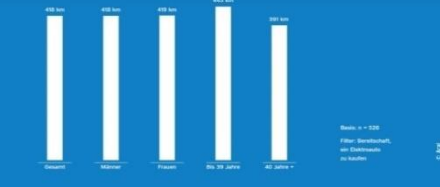
Range

Infrastruktur

Price

### Mindestreichweite von Elektroautos

Fragestellung: Welche Mindestreichweite müsste ein Elektroauto aus Ihrer Sicht aufweisen?
















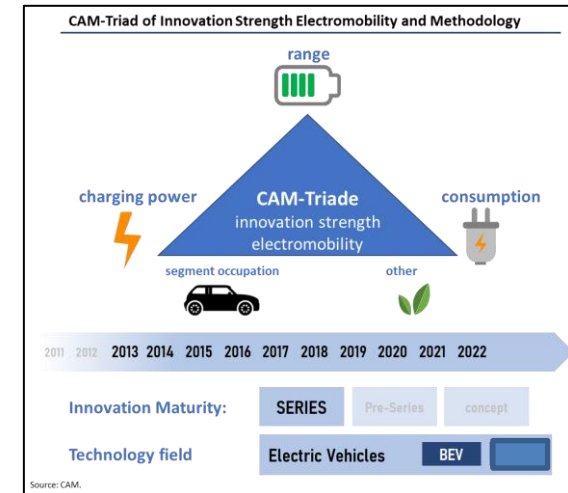
### ADAC Wie rentabel sind Elektroautos? Autokostenvergleich gegenüber Diesel und Benzinern

Marke/ Fahrzeug-Modell	Kraftstoff	Grundpreis	Gesamtkosten pro Monat (Euro)	Cost per km
<b>BMW i3</b>	Strom	34.950	654	52,3
<b>BMW 116i Steptronic<sup>1</sup></b>	Superflex	29.100	602	55,4
<b>BMW 116d Steptronic<sup>1</sup></b>	Diesel	29.900	604	52,3
<b>Citroen C-Zero Tendence</b>	Strom	25.885	607	48,6
<b>Citroen C3 Pure Tech 68 Selection<sup>1</sup></b>	Superbenzin	14.930	439	35,1
<b>Citroen C3 HDi 70 Selection<sup>1</sup></b>	Diesel	17.150	450	36,0
<b>Ford Focus Electric</b>	Strom	39.990	585	46,8
<b>Ford Focus 1.5 EcoBoost Start/Stop/Business Autom.</b>	Superbenzin	24.860	637	51,0
<b>Ford Focus 2.0 TDCi Start/Stop/Business Powershift</b>	Diesel	27.460	656	52,3
<b>Mitsubishi Electric Vehicle</b>	Strom	23.790	576	46,1
<b>Mitsubishi Space Star 1.0<sup>1</sup></b>	Superbenzin	8.990	374	29,9
<b>Mitsubishi Space Star 1.2 Clear Tec Top CVT<sup>1</sup></b>	Superbenzin	13.490	427	34,2
<b>Nissan Leaf advance</b>	Strom	32.690	646	54,7
<b>Nissan Pulsar 1.5 dCi acenta<sup>1</sup></b>	Superbenzin	22.180	590	47,2
<b>Nissan Pulsar 1.5 dCi acenta<sup>1</sup></b>	Diesel	22.530	555	44,4
<b>Peugeot iOn Active</b>	Strom	25.485	665	48,4
<b>Peugeot 208 Pure Tech 68 Active<sup>1</sup></b>	Superbenzin	15.900	417	33,4
<b>Peugeot 208 e-HDi 68 STOP&amp;START Active EGS<sup>1</sup></b>	Diesel	17.800	438	35,0
<b>Renault Zoe Z.E. Life</b>	Strom	21.700	549	43,9

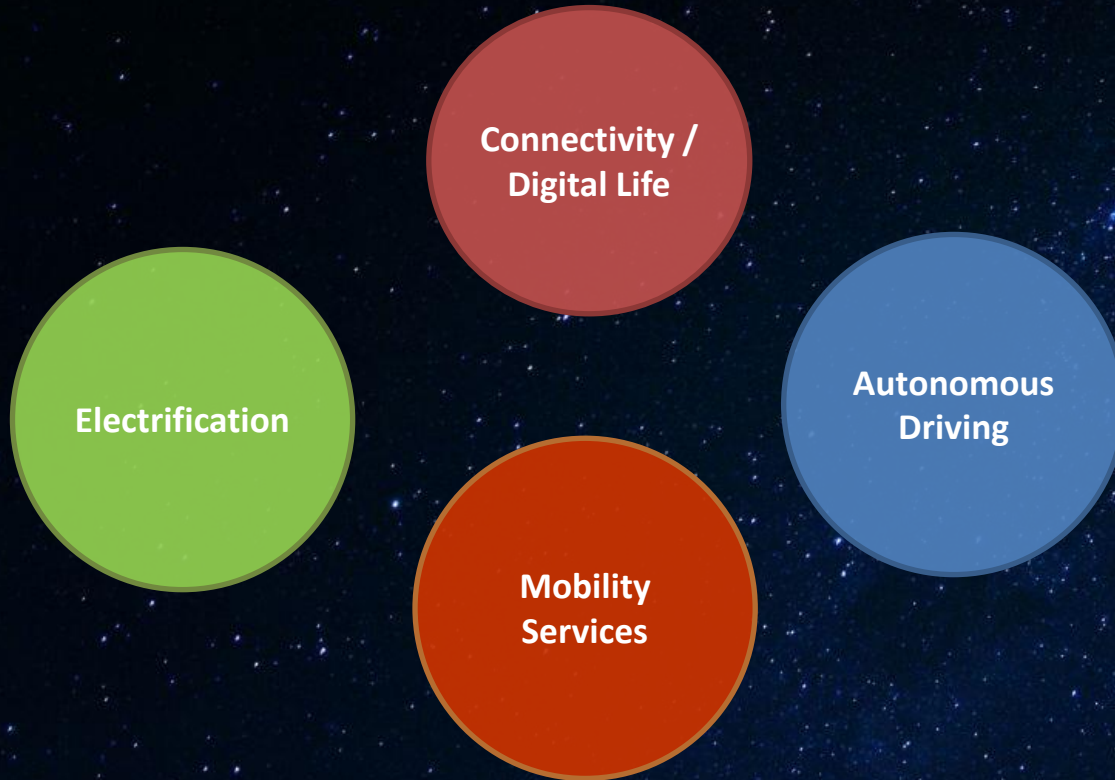


# “Innovation strength” of car manufacturers (group level) in the field of electromobility (BEV)

Rank	Previous Year	OEM	Innovation Strength		
			Total*	Performance H1 2022	Classification
1	1	Tesla	188,2	14,8 ↗	Top Innovator
2	2	VW Group	149,4	12,2 ↗	Fast Follower
3	4	BYD 	112,3	36,0 ↑	Fast Follower
4	8	MB Group	84,5	40,7 ↑	Follower
5	3	Hyundai	80,8	3,9 ↘	Follower
6	5	Geely 	59,1	5,8 ↘	Follower
7	9	GM	58,6	15,0 ↗	Follower
8	6	SAIC 	57,1	10,7 →	Follower
9	10	Renault	52,4	16,8 ↗	Follower
10	7	BMW	52,1	5,9 ↘	Follower
11	11	Stellantis**	48,5	4,8 ↘	Follower
12	12	BAIC 	34,2	3,6 ↘	Follower
13	18	Ford	31,4	20,4 ↑	Follower
14	15	GreatWall 	27,6	8,3 →	Follower
15	19	Nio 	26,0	16,1 ↗	Newcomer
16	13	Rivian 	22,9	0,0 ↓	Newcomer
17	14	Tata	20,1	0,0 ↓	Laggard
18	17	Nissan 	18,9	6,8 ↘	Laggard
19	21	Xiaopeng 	18,0	10,3 →	Newcomer
20	16	Lucid	15,6	0,0 ↓	Newcomer
21	23	Toyota 	10,1	5,6 ↘	Laggard
22	20	Mazda 	9,6	0,9 ↓	Laggard
23	22	Aiways 	7,3	1,7 ↓	Newcomer
24	24	Honda 	2,8	0,0 ↓	Laggard



# Transformation - Challenges



New Challenges

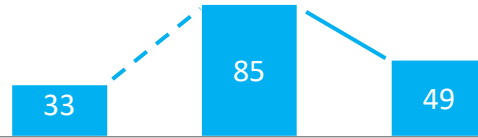
- Co Competencies
- Co Cooperations
- C Culture of Companies
- O Organisational structures

# Connected Car Innovation – Trends in the technology fields (“series”)

## CC series innovations: number by technology field 2010 – 2021\*

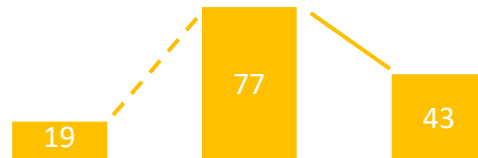
### ADAS/autonomous driving:

- driver assistance systems/AD
- accident avoidance systems
- accident prevention systems



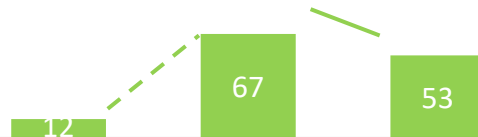
### Connectivity:

- information and communication systems
- Telematics
- entertainment



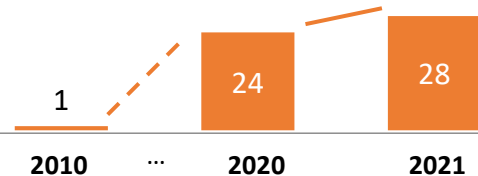
### Interfaces:

- operating concepts
- display concepts



### CC-Services:

- Charging-Services
- Autonomous Services
- Infotainment-Services
- E-Commerce/E-Maint. etc.



VW: Travel Assist



Mercedes: Drive Pilot



Mercedes: Hyperscreen



Volkswagen: Augmented Reality



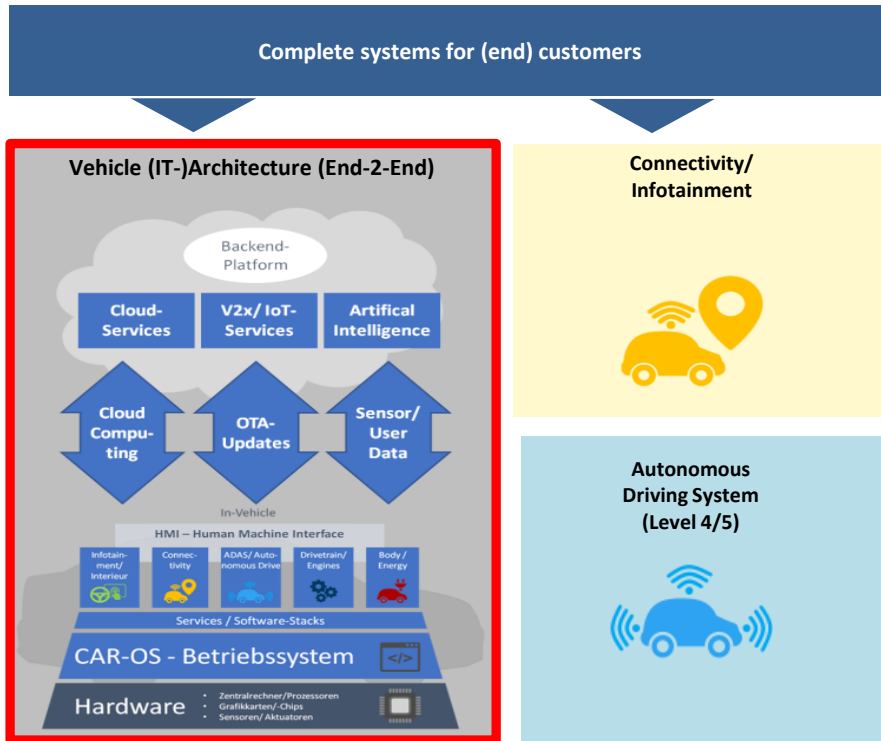
Tesla: Arcade Gaming



GWM: Ora Live-Streaming



## Future fields for competence analysis



Quelle: CAM

## Battle for the car operating system

Car Manufacturers



vs.

Android Automotive OS / Apple Car Play

Alphabet



Tencent 腾讯



### NEW APPLE CARPLAY SETS UP DASHBOARD SHOWDOWN WITH AUTOMAKERS

A new version of Apple's CarPlay takes control of every screen in a car, replacing automaker user interfaces and control and gaining access to additional vehicle and driver data

By Doug Newcomb, Published on August 26, 2022.







„It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is most adaptable to change.”



**Many thanks for your attention!**  
**Questions?**



CENTER OF AUTOMOTIVE MANAGEMENT – Das Auto-Institut an der Fachhochschule der Wirtschaft in Bergisch Gladbach

**AutomotiveINNOVATIONS 2022 Report**

Die Innovationsstärke der globalen Automobilhersteller und Automobilzulieferer  
Arbeitspapier 9/2022 des Center of Automotive Management

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- <https://auto-institut.de/automotiveinnovations-2/>



Center of Automotive Management (CAM) | Bergisch Gladbach

**Electromobility Report 2022**

Markttrends, Innovationdynamik und Szenarien  
für die E-Mobilität der Zukunft

- <https://auto-institut.de/e-mobility-2/>



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