The new generation

CITEA

VDL

BUS & COACH

THE NEW GENERATION CITEA / ZERO COMPROMISE

OUR ANSWER TO THE CHALLENGES OF TOMORROW'S PUBLIC TRANSPORT

The world is changing. Cities change. And mobility changes. The challenges for the cities of tomorrow, start right now. In the liveable cities of tomorrow, zero emission will be the norm. Providing great advantages for cities, people, and the environment. This requires new technologies and a different way of thinking. The result? VDL Bus & Coach is proud to introduce the new generation Citea: an innovative bus concept of supreme quality, completely developed from scratch and without compromises.

NEW WAY OF THINKING.
The development of the new generation Citea started with a completely blank sheet. It was clear that the next step of a zero emission public transport bus would require new technologies and a new way of thinking. So, that was our approach. The new generation Citea is completely based on an electric driveline– something entirely new. And this is just one example of how the new generation Citea integrates new ways of thinking. With zero compromise.

READY FOR TOMORROW.

The new generation Citea also boasts significant improvements in the field of sustainability, efficiency, and safety. This helps our customers to operate in the most cost-effective way. Reliably and efficiently, while optimising every aspect of the vehicle's capabilities. The new generation Citea offers customers an optimal matchless platform where range, passenger capacity and optimal Total Cost of Ownership are all improved – without making any concessions.

LOOKING FORWARD.
We're always looking for new thinking and technologies to improve our vehicles. This approach has helped us build up extensive knowledge and expertise. And ensured the position of VDL Bus & Coach as a reliable transition partner. We partner our customers on projects from A to Z - from implementing charging infrastructure to organising training courses.

But it doesn't stop there. Since 2015, we have been conducting market research to better understand the future of mobility. We used this knowledge to develop our new, innovative bus concept.

The result: a zero emission city bus. The perfect answer to the challenges of tomorrow's public transport. With zero compromise.

THE NEW GENERATION CITEA

OUR SUSTAINABLE APPROACH

The entire range of new generation Citea features a strong focus on sustainability. We have taken the concept outside the box to include optimal recyclability, the selection of materials with reduced environmental impact, a new green factory, and responsible supply chain. Because, when it comes to sustainability, we also make zero compromise.

NEW GREEN FACTORY IN ROESELARE.
In early 2023, we opened a new green factory in Roeselare, Belgium. This new factory is – alongside Valkenswaard – our centre for e-mobility and the most modern bus factory in Europe. Allowing us to respond even better to the needs and demands of the European market.

UPGRADE.
The production hall of the new factory covers 27,000 square metres. The production process is compact and aimed at building an increasing number of electric buses. In the preparation stage, we work with smart pre-assemblies, which make the lead time shorter and more efficient. By organising the production process more intelligently, and providing our workers with extensive education and training, we will be able to double capacity in the new factory.

GREEN TECHNOLOGY.
Everything is set up to build electric buses in the most efficient way. This will be done by using 'green' technology. This includes: more natural light and less artificial light (healthier and safer for employees), the reuse of rainwater, the choice of medium-heavy concrete construction (flattens the heating and cooling cycle in summer) and green roofs on the offices, which lead to cleaner air and a cooling effect indoors.

SUSTAINABLE ON EVERY ASPECT.
In its continuous search for areas in which its sustainable contribution can be improved, VDL Bus & Coach puts people first. Because, sustainable transport solutions are essential in the liveable city, which must become quieter and cleaner.

A significant component of our Citea in terms of sustainability is the battery.
Local suppliers play an important role in minimising logistics and thus the ecological footprint of transport. In addition, we have selected materials with reduced environmental impact and work constantly to further optimise recyclability and reduce energy consumption.

RESPONSIBLE SUPPLY CHAIN.
To improve our chain on sustainability, UNICEF will support VDL in mapping the links in the battery chain for the new generation Citea and in setting up a structure that will demonstrate VDL's contribution to the UN 17 Sustainable Developments Goals.

THE NEW
GENERATION
CITEA

REDEFINING THE STANDARDS

STARTING FROM SCRATCH.

We launched the development of the new generation Citea from scratch – literally from a blank sheet. Because the next step of a zero emission public transport bus demanded new technologies and a new way of thinking. We began by putting the traditional diesel bus layout aside.

From that point on, we started creating the optimal electric bus platform.
Our goal: to create a platform that offered the operator an optimal solution; electric driving with zero compromise.

REDEFINING STANDARDS.
A key feature of the new generation Citea is the totally electric driveline, suitable for every sort of deployment and climate zone. This gave us the opportunity to develop from the inside out and redefine well-established standards. New ideas included positioning the seats differently, placing the batteries in the floor, and using the optimal axis distribution as a guideline.

Everything has been developed with 4 key areas in mind, and to make those ‘best in class’: low energy consumption and optimum deployment, maximum passenger capacity, optimal driver comfort and ergonomics, and optimum comfort for passengers. The result is a completely new platform that has set, and is continuing to set, new standards for zero emission buses. And by developing flexible and modular components, the new generation Citea is ready for future developments and energy sources.

4 LENGTH VARIANTS.
TThe modular system of the new generation Citea makes it extremely suitable for both city and regional transport. Repair and maintenance costs are reduced, and a more favourable energy consumption will be achieved.

IMPROVED SERVICEABILITY.
The new generation Citea is easier to maintain, diagnose and repair. Various service components, such as filters and filling points, are optimally placed and easily accessible. Integration in connectivity makes diagnosis even more efficient. The power can be switched off easily and safely,
not only by mechanics but by security services. In addition, the mechanic can easily lower the battery modules from the floor to be individually replaced.

4 KEY AREAS / BEST IN CLASS

LOW ENERGY CONSUMPTION AND OPTIMUM DEPLOYMENT.

- Sustainability and efficiency.
- Innovative climate strategy.
- Maximum range.

OPTIMAL DRIVER COMFORT AND ERGONOMICS.

- Improved ergonomics.
- Comprehensive passive and active safety systems.

OPTIMUM COMFORT FOR PASSENGERS.

- Improved ergonomics.
- Unique experience.

MAXIMUM PASSENGER CAPACITY.

- Optimal axle load distribution.
- Low centre of gravity.
- Ideal use of space.

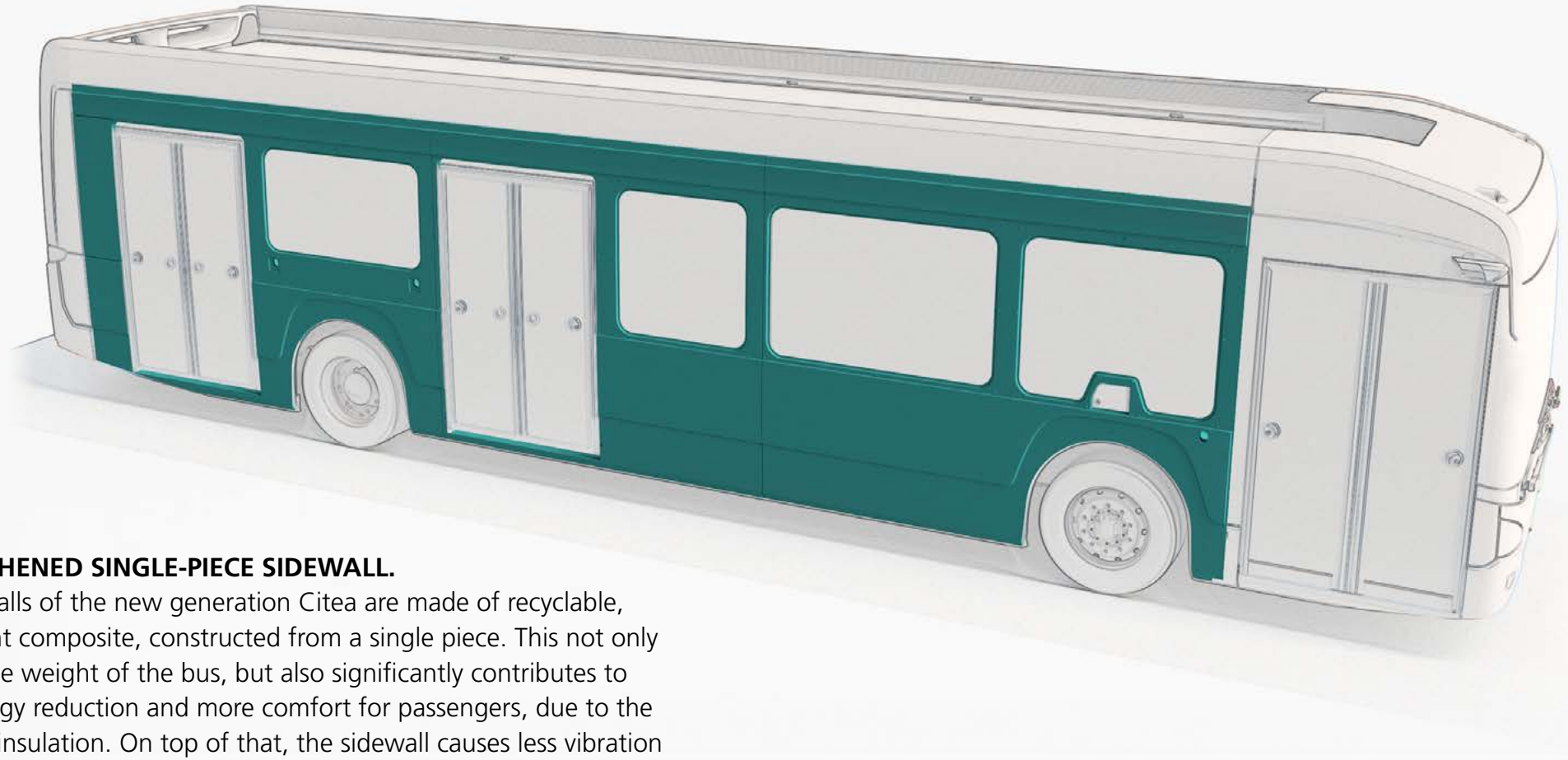
MAXIMUM CAPACITY

BASED ENTIRELY ON AN ELECTRIC DRIVELINE

ELECTRIC DRIVELINE.
The entire design of the new generation Citea around an electric driveline offers an optimal weight distribution of batteries and flexible positioning of components. The different types of vehicles also offer different types of motors: hub motors are integrated in the low floor types; a central motor is used for the low entry vehicles. For all vehicles there are multiple optional battery sizes and configurations available. This ensures that all types of vehicle guarantee an optimal use of space, to realise a maximum passenger capacity.

MAXIMUM CAPACITY

INNOVATIVE LIGHTWEIGHT COMPOSITE SIDEWALL



STRENGTHENED SINGLE-PIECE SIDEWALL.
The sidewalls of the new generation Citea are made of recyclable, lightweight composite, constructed from a single piece. This not only reduces the weight of the bus, but also significantly contributes to more energy reduction and more comfort for passengers, due to the improved insulation. On top of that, the sidewall causes less vibration and provides integrated functionalities.

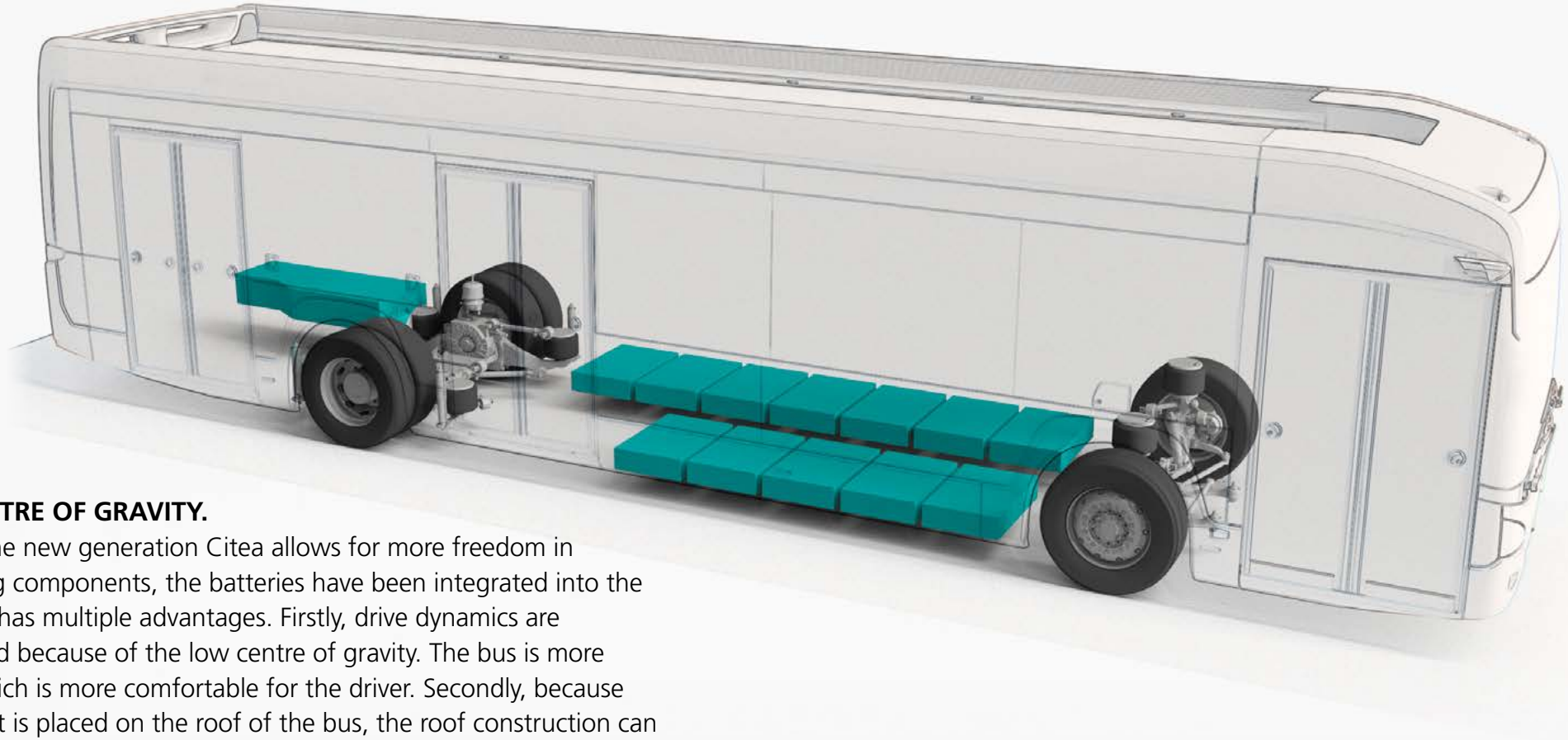
MAXIMUM CAPACITY

INCREASING THE BENCHMARK NUMBER OF PASSENGERS

INCREASED PASSENGER CAPACITY.
The optimal axle load distribution, weight distribution, and low centre of gravity of the new generation Citea result in a maximum passenger capacity and efficient vehicle layout. Accessibility of the bus is also improved. These exceptional changes provide the new generation with a best-in-class number of seats in all vehicles.

MAXIMUM CAPACITY

SMART PLACEMENT OF BATTERIES



LOW CENTRE OF GRAVITY.
Because the new generation Citea allows for more freedom in positioning components, the batteries have been integrated into the floor. This has multiple advantages. Firstly, drive dynamics are guaranteed because of the low centre of gravity. The bus is more stable, which is more comfortable for the driver. Secondly, because less weight is placed on the roof of the bus, the roof construction can also be lighter in weight. This has a positive effect on the maximum passenger capacity and passenger flow.

ENERGY CONSUMPTION AND RANGE

FULL DEPLOYMENT IN CITIES AND REGIONS

INCREASED RANGE.
The new generation Citea is ready for full deployment in all climate regions of Europe. It's not only been extensively tested in cold conditions of Scandinavia, but also in the warm regions of Mediterranean Europe. This guarantees customers less energy consumption and an improved range, throughout the year.

Furthermore, thanks to the various battery sizes and charging options, the new generation Citea can be configured to always meet the different standards required in city and regional transport and be suitable for all types of operation.

ENERGY CONSUMPTION AND RANGE

SUITABLE FOR ALL CLIMATE REGIONS

EXTENSIVE TEST PROGRAM.
The new generation Citea has been extensively tested for many different conditions and regions. Not only has it passed a winter and summer test (to see how temperature influences the performance and range), but also passed tests on durability, safety, and driveability. In addition, our new generation Citea has impressed in component and total system validation tests.

ENERGY CONSUMPTION AND RANGE

FLEXIBLE DEPLOYMENT THANKS TO DIFFERENT CHARGING OPTIONS

CHARGING OPTIONS AND STRATEGIES.
The new generation Citea is constructed from an entirely modular system and can be adjusted to specific needs of customers. It fits flexible charging strategies, thanks to the various battery sizes and different charging options. Customers can choose from a combo 2 plug, roof-mounted- and infrastructure-mounted pantograph to seamlessly fit their existing operation.

ENERGY CONSUMPTION AND RANGE

IMPROVED AERODYNAMICS

REDUCED ENERGY CONSUMPTION.
Aerodynamic design is crucial to the reduction in energy consumption and improvement in the range of the vehicle. The high-tech lines of the new generation Citea ensure that there is less wind turbulence. Curves at the front, various spoilers, and the sharp angles at the rear all play their part in significantly reducing air resistance. The bus has been intensively tested in the wind tunnel, with simulations and on the road.

ERGONOMICS

BASED ON EXTENSIVE RESEARCH

MEANINGFUL FEEDBACK TO CREATE THE BEST RESULT.

Improving the ergonomics for drivers is a key feature of the new generation Citea. VDL Bus & Coach has focused maximum attention on the development of the driver's cabin, to create an environment that meets the needs of every driver.

Relying on interviews with drivers and on research with public transport industry associations and universities, we have created the optimal environment. Our design has been validated by bus industry organisations throughout Europe, and ultimately developed together with strategic suppliers.

ERGONOMICS

CREATING THE DRIVER'S WORKPLACE OF CHOICE

OPTIMAL DRIVER COMFORT.
The new generation Citea aims to be the 'workplace of choice' for drivers. Drivers with all postures should be able to create a comfortable, ergonomically designed seating position. To achieve this, the entire driver environment has been redesigned.
The design offers a larger adjustment range and lower steering forces for the steering column, as well as flexible and extensive adjustment options for the driver's workplace.

We have also improved driver interaction and safety systems, in anticipation of future developments in payment systems and autonomous driving.

ERGONOMICS.

OPTIMAL PASSENGER COMFORT

MOVING MORE PASSENGERS IN COMFORT.
The new generation Citea is designed with a focus on hygiene, safety, and spaciousness. The new design of sides, roof and wheel arches creates a harmonious interior.

Lighting can be easily adjusted to indicate situations and create the right atmosphere. And the layout in the bus creates a comfortable passenger waiting space and all seats are accessible according to the one-step-away-principle – allowing passengers to reach all seats within one step from the aisle.

THE RESULT

LOW TCO PER PASSENGER

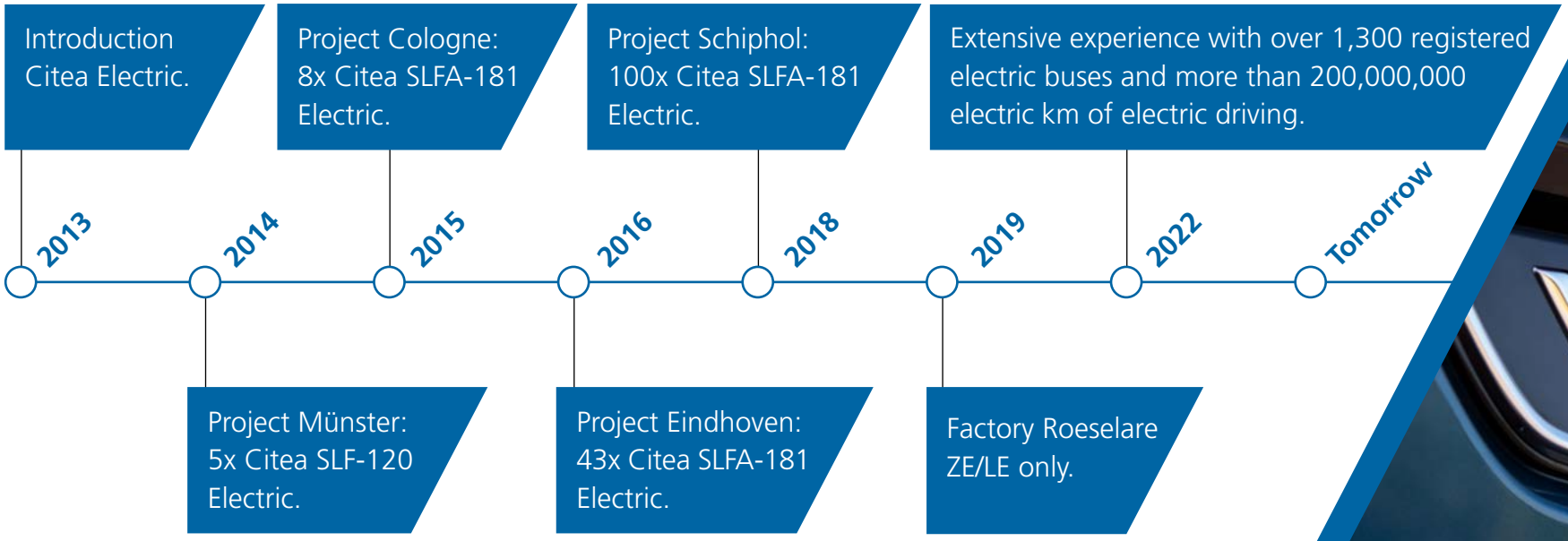
Its unique selling points and ‘best in class’ results in the 4 key areas ensure that the new generation Citea leads the field in many aspects. Moreover, it continues to redefine existing standards while offering operators a best-in-class zero emission public transport bus, with low Total Cost of Ownership per passenger. With zero compromise.

VDL
BUS & COACH

OUR MILESTONES AND EXPERIENCE

OUR MILESTONES AND EXPERIENCE.

VDL Bus & Coach has been at the forefront of e-mobility for years. Since the launch our first electric Citea in 2013, we have become Europe's frontrunner in e-mobility, with millions of kilometres of experience of electric driving.



UNIQUE DESIGN.

Zero compromise also applies to the design of the new generation Citea. Designed in close collaboration with our engineers, form follows function. The attractive design is a factor in people choosing to travel (more) by public transport.

Our brand-new bus has already won 2 prestigious design prizes: the Red Dot Award and the iF Design Award. These awards are a great achievement, being widely regarded as the most important design awards in the world. And, at the same time a perfect recognition of how the unique design of our new generation Citea makes zero compromise.

reddot winner 2022

DESIGN AWARD 2022

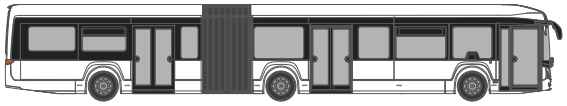
THE NEW GENERATION CITEA

PRODUCT PORTFOLIO AND TECHNICAL SPECIFICATIONS

PRODUCT PORTFOLIO

Citea LF

Citea LF-122



Citea LF-181

Citea LE

Citea LE-122

Citea LE-135

Citea LE-149

TECHNICAL SPECIFICATIONS

Bus Model		Citea LF-122	Citea LF-181	Citea LE-122	Citea LE-135	Citea LE-149
Vehicle type		BEV	BEV	BEV	BEV	BEV
Bus length		12,2m	18,1m	12,2m	13,5m	14,9m
Bus width		2,55m	2,55m	2,55m	2,55m	2,55m
Bus height		3,19m	3,19m	3,19m	3,19m	3,19m
Available classes		Class 1/2	Class 1	Class 1/2	Class 1/2	Class 1/2
Maximum Passengers capacity		110	163	105	89	138
Gross vehicle weight (kg)		19,500	30,000	19,500	19,500	25,250
Climate system		Electric heat pump and optional HV and/or diesel fuel heater	Electric heat pump and optional HV and/or diesel fuel heater	Electric heat pump and optional HV and/or diesel fuel heater	Electric heat pump and optional HV and/or diesel fuel heater	Electric heat pump and optional HV and/or diesel fuel heater
Electric Motor	**Supplier**	ZF	ZF	ZF	ZF	ZF
	Type	AxTrax AVE Electric portal axle	AxTrax AVE Electric portal axle	CeTrax Central Electrical Drive	CeTrax Central Electrical Drive	CeTrax Central Electrical Drive
Battery	**Supplier**	VDL High Energy battery	VDL High Energy battery	VDL High Energy battery	VDL High Energy battery	VDL High Energy battery
	Max. total energy (kWh)	575	791	575	647	791
Charging system	**Charging solution**	CCS2, bus-mounted pantograph, infrastructure-mounted pantograph	CCS2, bus-mounted pantograph, infrastructure-mounted pantograph	CCS2, bus-mounted pantograph, infrastructure-mounted pantograph	CCS2, bus-mounted pantograph, infrastructure-mounted pantograph	CCS2, bus-mounted pantograph, infrastructure-mounted pantograph

THE NEW GENERATION CITEA / CONTACT

VDL Bus & Coach bv
De Vest 7
5555 XL Valkenswaard
P.O. Box 645
5550 AP Valkenswaard
The Netherlands
Phone +31 (0) 40 208 44 00
Fax +31 (0) 40 208 44 99
info@vdlbuscoach.com

vdlbuscoach.com

VDL company

VDL BUS & COACH