

# Performance Line

Give everything. Get even more back.

Bosch eBike Systems 2015



**BOSCH**

Invented for life



I leave the bus behind

Going to be on time for the next meeting

45 km/h makes a lot possible



## Performance Line **Give everything. Get even more back.**

You love performance and enjoy riding in a fast and sportive manner? Welcome to the Performance Line. The dynamic drive impresses with its powerful support on any terrain. From flat to steep. From asphalt to trail. With components such as the powerful Drive Unit up to 25 km/h or 45 km/h, the Performance Line represents a drive concept of the future. And its groundbreaking design has now been expanded to include an additional variant.

## Bosch eBike components at a glance:



### Intuvia

With the on-board computer Intuvia, you control your eBike experience easily and intuitively. Now also with shift recommendation.



### Nyon

The first all-in-one eBike on-board computer accompanies you from tour planning to the analysis of your performance. Networked with the online portal and smartphone app.



### PowerPack

The rechargeable batteries are available with either 300 Wh or 400 Wh, as frame battery or rack battery with 400 Wh.



### Drive Unit

The Drive Unit of the Performance Line is available with a top speed of 25 km/h or 45 km/h in cool Anthracite or as a stylish Drive Unit Performance CX (25 km/h).



### Charger

In addition to the eBike Charger, there is now also the Charger Adapter for Classic+ batteries and the Travel Charger for when you are on the go.

### eShift

New: The integrated shifting solution for more comfortable riding.



reddot design award

# Your mobility is our drive

In our Bosch eBike World, people are always the focus. Before each product development, we have in mind what will really help you with ebiking. That's why we are able to offer a drive system that suits you precisely – and that is always based on five basic ideas:

### Riding sensation

Harmonious or powerful? The main thing is that it needs to feel natural. The Bosch riding sensation creates a unique eBike experience. This is based on the 3-sensor concept, which measures pedal power, cadence, and speed 1000 times per second – and thus provides optimum support during pedaling.

### Range

In every Bosch drive system, perfectly matched components work together so efficiently that you can ride the maximum ranges with your eBike.

### Service

Our commitment to quality goes beyond the drive system and includes a comprehensive eBike service infrastructure. For this, we train Bosch eBike Experts throughout Europe who are available at bike dealers to offer advice and practical support.

### Ergonomics

All our components fulfill the highest standards in terms of ergonomics and ease of use as well as convince with a modern look and feel. Because even the most athletic rider wants to conquer the sporting challenge, not the eBike.

### Design

Aesthetics as part of the riding experience? Anyone choosing their drive not only due to technical superiority but also according to aesthetic criteria has one more reason to be happy: The design of Bosch eBike Systems is excellent. This is confirmed by the Red Dot Design Award.

# Drive Unit

## Cruise (25 km/h) / Speed (45 km/h)

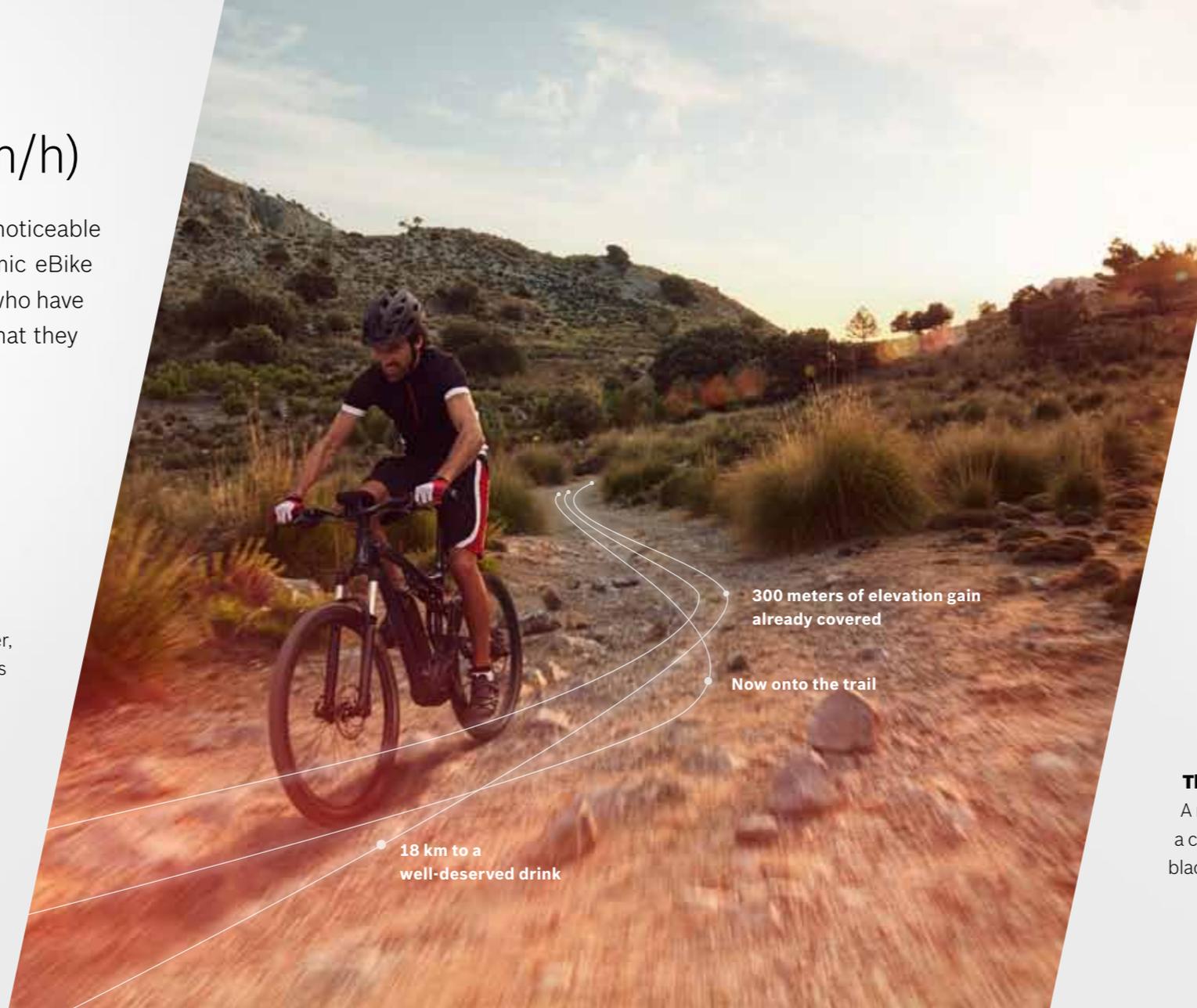
Off you go: The Drive Unit of the Performance Line accelerates with a noticeable boost that is powerful but homogeneous. Ideal for sportive and dynamic eBike riding on any terrain. Whether commuter or touring cyclist: all those who have no time to lose or who want to take their workout to the limit get what they want with this system – with speeds up to 25 km/h or 45 km/h.

### Pure riding enjoyment thanks to the 3-sensor concept

The Drive Unit of the Performance Line is equipped with three sensors for pedal power, cadence, and speed that provide for optimal tuning with 1000 sensor measurements per second. This gives you dynamic and direct support over the entire speed range. When the statutory support limit is reached, the motor powers down automatically.

### Sportive riding, gentle shifting

While you are shifting, the drive adapts its torque to the shifting process. This reduces the strain on the components, cuts down on wear, and also makes you barely feel the shifting process.



### Compact and lightweight

Bosch eBike drive systems are designed for maximum ergonomics. The compact gear arrangement allows for optimal integration of the Drive Unit into the frame design, giving you more ground clearance. The reduced volume makes the drive more lightweight.

### Quiet, sturdy, and durable

Due to the precise motor control and the rapid processing of sensor signals, the Drive Unit is optimized for minimal noise and vibration. The secure chain run helps to keep the chain from being disengaged or subjected to undue strain. This reduces wear. And maximizes comfort. In addition, the Drive Unit is extremely sturdy thanks to the integrated rock guard and spray water protection.



### The model for high performers

A reduced design. Concentrated power. With the new Drive Unit Performance CX (25 km/h), you make a clear statement about being a high performer. Show what you can do, no matter what the terrain. The black case is made for it: extremely compact, light and with extra durable powder coating.

# Drive Unit

Type	Cruise 25 km/h Hub gear system	Cruise 25 km/h Derailleur system	Speed 45 km/h Derailleur system
Power	250 watts	250 watts	350 watts
Support level (%)	TURBO: 250 SPORT: 170 TOUR: 110 ECO: 50	TURBO: 275 SPORT: 190 TOUR: 120 ECO: 50	TURBO: 275 SPORT: 190 TOUR: 120 ECO: 50
Maximum possible drive torque (Nm) (converted to a transmission ratio of 1:1 crankset to chainring)	TURBO: 50 SPORT: 50 TOUR: 45 ECO: 40	TURBO: 60 SPORT: 55 TOUR: 50 ECO: 40	TURBO: 60 SPORT: 55 TOUR: 50 ECO: 40
Support up to the maximum cadence (r/min)	TURBO: 120 SPORT: 120 TOUR: 120 ECO: 120	TURBO: 120 SPORT: 120 TOUR: 120 ECO: 120	TURBO: 120 SPORT: 120 TOUR: 120 ECO: 120
Start of speed regulation from cadence (r/min)	TURBO: from 80 SPORT: from 80 TOUR: from 80 ECO: from 80	TURBO: from 80 SPORT: from 80 TOUR: from 80 ECO: from 80	TURBO: from 80 SPORT: from 80 TOUR: from 80 ECO: from 80
Start behavior	dynamic	sparty	sparty
Max. support up to	25 km/h	25 km/h	45 km/h
Backpedal function	no	no	no
Gear shift detection	no	yes	yes
Weight	< 4 kg	< 4 kg	< 4 kg

# Riding modes

## From support to walk assistance

You have the choice. Five riding modes assist you in individual mobility: Eco, Tour, Sport, Turbo, and Off. The additional walk assistance up to 6 km/h (Cruise) and the start-up help up to 18 km/h (Speed) make your life a little easier.

<b>Turbo</b>	Direct, powerful support up to maximum cadence for ambitious and athletic riding
<b>Sport</b>	Immediate, powerful support for athletic riding off-road and in city traffic
<b>Tour</b>	Steady support for long tours
<b>Eco</b>	Effective support at maximum efficiency for maximum range
<b>Off</b>	No support, all on-board computer functions are available

# Intuvia

## Your clever control center

With the on-board computer Intuvia, you control your eBike experience easily and intuitively – directly on the device or using the separate control unit on the handlebar. The display, which is easy to read even in sunlight, informs you reliably about range, trip time, average speed, and much more. Even if you remove it from the eBike.

### Precise and comprehensive information

From the distance measurement to the current motor power, with Intuvia you have all important information at the touch of a button. You can easily make adjustments to the wheel circumference yourself. It will now be shown at startup that you are underway with the Performance Line.

### Off-board mode

Even when removed from the eBike, Intuvia remains a useful information source that makes it possible for you to view all your tour data.

### Charging of mobile devices

Using the integrated USB interface, you can save time by charging mobile devices such as your smartphone while you are on the go.

### New: Now with shift recommendation

The new feature allows the system to detect whether you are in the optimum efficiency range of the Drive Unit and recommends a higher or lower gear if necessary – using simple arrow symbols. This not only ensures a more comfortable riding experience but also helps you make the most of your battery capacity.

# Nyon

## Connect your Way



Smartphone app  
**eBike Connect**

Using Bluetooth, you connect Nyon with your smartphone, allowing you to adjust your tour goals and personal settings, for example. Premium features available for a fee enhance Nyon according to your needs.



Online portal  
**eBike-Connect.com**

Large-format, clearly laid out, and convenient: On the online portal, you can plan your next eBike excursion and transfer it to Nyon via Wi-Fi, upload your own tours, and analyze your training results.

### Ride



All riding-relevant information at a glance. On the Ride screen, you can view both the selection of information and the graphic presentation as well as customize the individual riding mode to suit your personal needs.

### Fitness



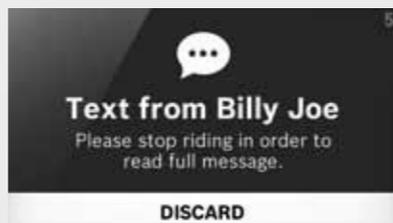
Nyon measures fitness-related data such as cadence and pedal power and uses this information to calculate the calories burned and your fitness level. If desired, even more detailed fitness information can be obtained with the heart rate chest strap.

### Navigation



The GPS module navigates you to your destination in a 2D or 3D display. You can choose between the fastest, shortest, and most scenic eBike route.

### Smartphone function



Connected to the smartphone using Bluetooth, Nyon provides notification regarding incoming SMS messages.

# eShift

## The electronic solution for integrated gear shifting

Faster shifting, more pleasant riding: eShift makes it possible. The innovative shifting concept integrates the shifting function in your eBike system – and provides not only extra relaxation and comfort but also attractive design as well as more safety due to complete concentration on ebiking. Because fewer components make your handlebar less distracting – as well as more attractive.

### eShift with NuVinci H|Sync

Automatic and based on cadence



### eShift with Shimano Di2

Integrated and electric



### eShift with SRAM DD3 Pulse

Automatic and speed-dependent



As a cadence-based shifting system, the NuVinci H|Sync shifts gears automatically and smoothly according to the desired cadence set by you between 30 and 80 revolutions per minute. This allows you to ride harmoniously and pedal uniformly with one cadence – whether uphill, downhill, or on a flat section. This means more comfort for you and more mileage for the system, which always operates in its optimum range. Alternatively, a manual 5-speed shifting system is possible.

With the integrated hub gear system, you can shift your eBike like a sports car: quickly, precisely, efficiently. Electronically. One tap of the Shimano shift paddle and the system shifts into the next gear. The fun factor increases, along with the range: Because you shift more frequently and are thus more often in the optimal gear ratio. You maintain full control through the display of the selected gear as well as the gear recommendation on the Intuvia display.

The speed-dependent shifting system combines a 3-speed hub gear system with a manual derailleur system. The gearbox hub automatically selects the correct gear according to the speed at which you are currently traveling. Using the derailleur system, you have the option to further adjust your gear ratio. The gears of the hub gear system are displayed at all times on your Intuvia display. Completely without additional user intervention. A real plus in terms of safety and comfort.



# PowerPacks

## Optimized for individual mobility

Select the battery that suits you. The Bosch PowerPack is available as a frame battery with 300 Wh or 400 Wh or as a rack battery with 400 Wh.



### Best in class: There's nothing lighter

The batteries with unrivaled energy density. How do you benefit? A powerhouse that is so light that its weight is practically negligible during riding.

### Simply ingenious: The handling

Thanks to the handle and mount, the batteries can be easily inserted and removed again. The only thing easier is charging the PowerPacks directly on the eBike.

### High mileage and long life

The Battery Management System (BMS) reliably protects your battery against overload, undervoltage, overheating, and short circuit. A long service life with high mileage is something you can count on.

### Easy to store and charge – anytime and anywhere

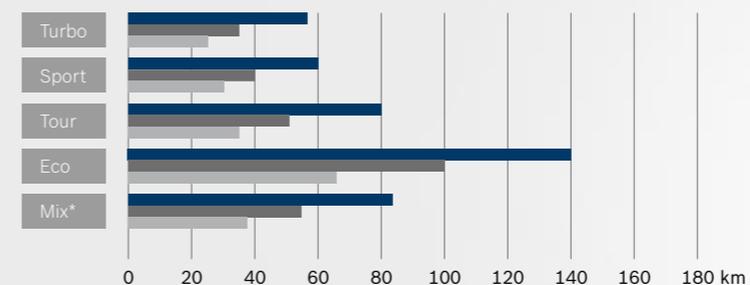
Lithium-ion batteries have neither memory nor self-discharge effects. This means the PowerPacks can also be partially recharged at any time – without affecting the service life.

Type	PowerPack 300
Mount type	Frame battery
Voltage (V)	36 V
Capacity (Ah)	8.2 Ah
Energy content (Wh)	300 Wh
Weight (kg)	2.0 kg
Size (mm)	325 × 92 × 82 mm

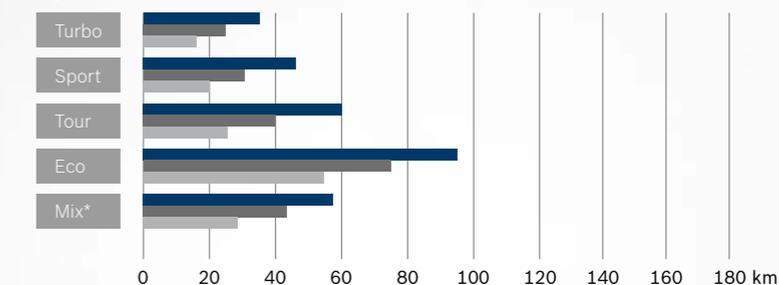
Type	PowerPack 400	
Mount type	Frame battery	Rack battery
Voltage (V)	36 V	36 V
Capacity (Ah)	11.0 Ah	11.0 Ah
Energy content (Wh)	400 Wh	400 Wh
Weight (kg)	2.5 kg	2.6 kg
Size (mm)	325 × 92 × 90 mm	372 × 76 × 122 mm

## Range of the PowerPacks

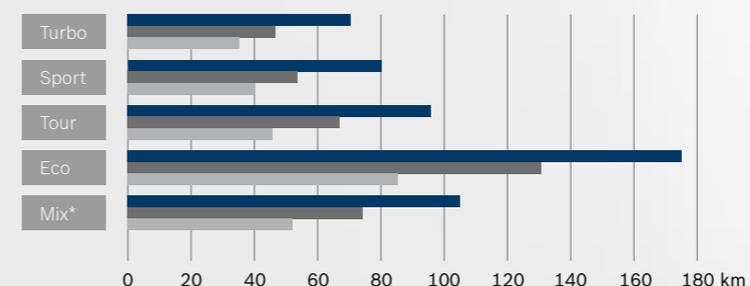
### Cruise with PowerPack 300



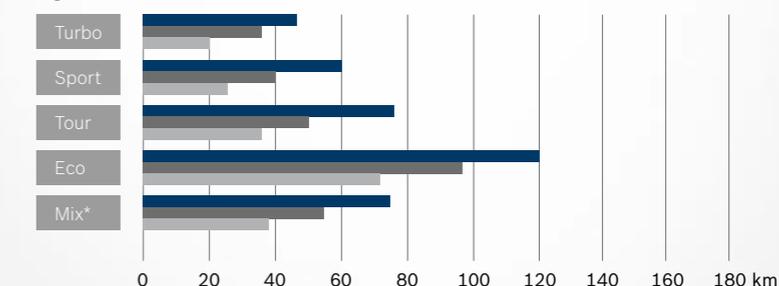
### Speed with PowerPack 300



### Cruise with PowerPack 400



### Speed with PowerPack 400



#### ■ Ideal conditions\*\*

Flat terrain, approx. 15 km/h average speed, no headwind, approx. 20°C ambient temperature, high-quality bike components, tire tread and pressure with minimal rolling resistance, experienced eBike rider (always shifts gears correctly), additional weight (excluding bike weight) < 70 kg.

#### ■ Favorable conditions\*\*

Slightly hilly terrain, approx. 20 km/h average speed, slight headwind, approx. 10°C to 20°C ambient temperature, medium-quality bike components, tire tread and pressure with average rolling resistance, favorable cadence, eBike rider shifts correctly most of the time, additional weight (excluding bike weight) 70 kg to 80 kg.

#### ■ Difficult conditions\*\*

Terrain with long and steep inclines at 25 km/h average speed, possibly strong headwind, < 10°C ambient temperature, bicycle components with relatively low efficiency, tire tread and pressure with increased rolling resistance, unfavorable gear selection / cadence, additional weight (excluding bike weight) > 85 kg.

\* Average of combined use of all four modes.

\*\* The calculated ranges are typical values which can be reduced if any of the conditions listed below worsen. The actual range of the eBikes is the responsibility of the eBike manufacturer.

# Charger

## Faster charging made easy

The Chargers are compact, lightweight, quiet, and robust. And above all, really fast. So you can enjoy your eBike experience with as little interruption as possible.



New: Charger with Charger Adapter

### Loses no time: The Bosch eBike Charger

With the Bosch eBike Charger, the PowerPack 300 and PowerPack 400 are fully charged in no more than 2.5 and 3.5 hours. A 50% charge is reached after 1 hour with the PowerPack 300, and after 1.5 hours with the PowerPack 400.

### Compact and lightweight

With extremely compact dimensions of just 190 mm x 86 mm x 54 mm, the Bosch Charger with cables weighs less than 800 g – including the hook-and-loop tape for cable stowing. Easy to take along anywhere.

### Quiet and robust

The Charger charges without annoying sounds and is sturdy and resistant to dirt through its lack of vents.

### Standard Charger

Type	Universal Standard Charger
Charging current	max. 4 A
Voltage range	230 V
Dimensions	190 mm x 86 mm x 54 mm
Cable lengths	AC input: approx. 1.5 m, DC output: approx. 1.0 m
Plug	power plug
Weight	approx. 800 grams
Compatibility	compatible with Active/Performance Line, compatible with Classic+ Line via Charger Adapter
Charging time	300 Wh 50 % in approx. 1 h, 100 % in approx. 2.5 h 400 Wh 50 % in approx. 1.5 h, 100 % in approx. 3.5 h

### Travel Charger

Type	Universal Travel Charger
Charging current	max. 2 A
Voltage range	12 V
Dimensions	190 mm x 86 mm x 54 mm
Cable lengths	DC input: approx. 1.0 m, DC output: approx. 1.0 m
Plug	12 V cigarette lighter + 12 V on-board power socket (via adapter cap)
Weight	approx. 800 grams
Compatibility	compatible with Active/Performance Line, compatible with Classic+ Line via Charger Adapter
Charging time	300 Wh 50 % in approx. 2.1 h, 100 % in approx. 5 h 400 Wh 50 % in approx. 2.8 h, 100 % in approx. 6.5 h

### New: The Travel Charger

With the new Travel Charger, you can charge your eBike on the move – using the cigarette lighter or the 12 V on-board power socket of your car or motorhome. For charging the eBike battery, the Travel Charger is equipped with a discharge protection function for the car battery. The Travel Charger will be available from specialist dealers starting at the end of 2014.

### New: The Charger Adapter

With the Charger Adapter, you can now charge your Classic+ Line batteries with the current Bosch eBike Chargers. The Charger Adapter will be available from specialist dealers starting at the end of 2014.

# Active Line

## 1000 plans. All within reach.

For those who want a bit more comfort and balance when ebiking, we offer the harmonious eBike drive system Active Line.

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