People go on journeys, discover and explore – they experience adventure. For many people, a gentle electric tailwind will make their future adventures a whole lot easier.

Towns, cities, urban spaces - places for making encounters. These define people and societies. eBikes are increasingly becoming an essential part of urban mobility.

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A look into the future: How will we live, work, move around? There are so many things we are having to rethink.
The eBike.
Rethinking mobility.

In its 200-year history and in all its variety, the bicycle embodies tradition and modernity, commerce and culture. Speed and movement are on the increase, worldwide. Human activity and flexibility have become more important than ever. Distinctions are blurring. Our working and private lives are merging, in the city and in the country. This change must be as sustainable and as wide-ranging as possible. Life quality and lifestyle in conjunction with global networking and the latest technologies are changing mobility and opening up new possibilities: electrified, automated and networked, the eBike becomes an opportunity – the expression of a paradigm shift.

Thus, to some, the absolute newcomers to cycling, the eBike represents an exciting adventure that expands horizons, both individually and as a group. For those who love their bikes, whether mountain bike or road bike, it represents a new form of sporting enjoyment. And for those pursuing a modern and open-minded lifestyle both professionally and personally, the eBike represents the perfect means of transportation. So what's still stopping us?

We at Bosch eBike Systems are trendsetters. We drive and design the mobility of the future: with expertise, ideas and experience, with idealism, motivation and personal commitment, and with the responsibility of a globally acting group.

In the present, third edition of the Bosch eBike Systems magazine, we have focused on three topics relating to how eBikes are transforming our everyday lives and leisure activities.

"Inside the City" is devoted to the many facets of mobile life in urban areas.

"Getting Outdoors" tells on-the-road stories about the great outdoors, travel from place to place, and that Uphill Flow feeling.

"Forward Thinking" deals with the concepts and ideas around the mobility of tomorrow.

I hope that you enjoy and are inspired by this edition.

Yours,
Tamara Winograd
Marketing and Communications Manager
Bosch eBike Systems
Inside The City

Towns, cities, urban spaces - places for making encounters. These define people and societies. eBikes are increasingly becoming an essential part of urban mobility.

Getting Outdoors

People go on journeys, discover and explore – they experience adventure. For many people, a gentle electric tailwind will make their future adventures a whole lot easier.

Forward Thinking

A look into the future: How will we live, work, move around? There are so many things we are having to rethink.
Today, more than 50 percent of people worldwide live in cities. This figure is set to increase to 75 percent by 2050. The city is the living concept for the future. Ideas are developed in these dynamic centers. This is where change is initiated. This is where trends are set. However, cities also face great challenges: air pollution, shortages in water and energy supply, lack of space, congested streets. The list is long.

Solutions are needed. Electromobility can make a significant contribution to sustainable city development and a liveable urban environment. Pedelecs in particular offer great opportunities. They help to save on resources and emissions as well as to reduce noise. Rethinking has already started. The city as the center of life and meeting place is increasingly becoming the center of focus. People are rediscovering the city.
Munich has big plans. The city's goal is to become Germany’s “cycling capital”. To achieve this, the Bavarian capital on the banks of the river Isar started a major campaign in 2010. Today, cyclists make up 17% of the city’s road users. Compared to European “cycling strongholds” such as Amsterdam or Copenhagen, where cyclists account for up to 50% of road users, the Bavarians have some catching-up to do. At the “Radl Initiative”, Bavarian for “Bicycle Initiative”, they are aware of this and are making efforts to establish cycling as an essential ingredient of the Munich identity and lifestyle. Their slogan is: “Munich is beautiful – more so while cycling!” To live up to it, the initiative offers a series of activities ranging from bike flea markets and bike nights to bike safety checks.

Moreover, the city invests in the expansion, signposting and safety of bicycle routes. Today, Munich is the city with the longest network of dedicated cycle lanes in Germany.

Munich has also recognized the benefits of electromobility, particularly over short distances. Since April 2016, the city has provided financial support to companies purchasing electric vehicles. Specifically, a company purchasing pedelecs for instance, receives up to €500 per bike. The city of Munich has earmarked some €22 million for this purpose. Some bicycle retailers have seized the opportunity and are offering eBikes for lease.
The Aroma Coffee Shop
Christoph starts his day relaxing with a glass of freshly pressed juice. The Aroma in the Glockenbach neighborhood is quiet on weekday mornings. Here, Christoph makes his first few phone calls while enjoying a ham and cheese toastie.

The Eisbach
Munich's wildwater surfing spot is a place to marvel at – ideal for a break after your client appointments. The surfers ride the Eisbach wave, directly behind the Haus der Kunst art museum.

The Chinese Tower
If you want to meet for an open-air lunch with friends or business partners, this is the place to come: the beer garden at the Chinese Tower. It is a fabulous place shaded by chestnut trees in the English Garden, Munich's famous park.

The Eisbach
Munich's wildwater surfing spot is a place to marvel at – ideal for a break after your client appointments. The surfers ride the Eisbach wave, directly behind the Haus der Kunst art museum.

The M.C. Müller
After a day spent e-biking, there is nothing like a hamburger and French fries. A very trendy spot serving tasty food: The M.C. Müller – a hamburger joint and club rolled into one.

The Olympiapark
For some more exercise at the end of a day, Christoph meets Sebastian at the Olympia Park. On their eBikes, they go on a leisurely tour of the 850,000 sqm grounds.

My Local Life
Munich

Christoph is a freelance IT consultant in Munich who gets around a lot. Congested streets, stuffy subway trains, delays. Not any more. He has started using a pedelec. The 30-year-old sees his pedelec both as a company vehicle and as a piece of leisure and sport equipment. With his company vehicle he cycles to appointments with clients and meetings with partners – no sweating, no traffic jams, no looking for a parking space.

If you had the choice, would this not be the perfect workday: being outdoors when the sun shines, enjoying the fresh air, taking light exercise, holding meetings ‘al fresco’ and ending your day in the company of friends? Christoph manages to do exactly this on many days. He took us on an eBike tour of his favorite spots.

Christoph’s eBike

Performance Line
The Performance Line supports the eBiker powerfully, directly and dynamically with a maximum torque of up to 63 Nm. Ideal for extended sporty tours, for riding to work or for enjoying nature.

PowerPack 400
Modern Bosch lithium-ion batteries impress with their high energy density, excellent mileage, long lifetime and simple handling.

Nyon
The Nyon all-in-one on-board computer combines navigation, eBike control and riding data in a single device.

Map data ©2016 Google
Many residents in cities and suburbs suffer from pollutants such as particulate matter (PM) and nitrogen dioxide. But what are the solutions? An investigation in the Stuttgart region, in Germany.

Winfried Hermann does not have very far to go: From his office at the Ministry for Transport and Infrastructure in Hauptstätter Straße 67 in Stuttgart to the Baden-Württemberg State Parliament is only about two kilometers. The distance is ideal for a trip with the staff eBike, which he likes to use for his appointments. Minister Hermann is setting a good example. And Stuttgart can do with good examples. The city on the banks of the river Neckar has for some years now been labeled “Germany’s dirtiest city”. This is largely due to the unparalleled levels of PM pollution at the Neckartor intersection. Between January and April this year, Stuttgart’s Lord Mayor Fritz Kuhn declared the first official “PM season”, during which there were five PM alerts. Kuhn sums it up: “This issue really gripped people. Never before in the history of this city did we have such an intense debate about the air and air pollution.”

Protecting the environment, fighting climate change and lowering the levels of PM and nitrogen dioxide pollution in cities and suburbs is more important than ever. The smoggy air is nothing new in the Stuttgart basin. Way back in 1938, the city council decided to establish its own “Climatology Department”, a unique municipal office in Germany to this day.

Its present-day head meteorologist, Ulrich Reuter, has some progress to report, thanks to the introduction of low emission zones and bans for heavy trucks: “Measures aimed at saving energy are also effective in reducing air pollution.” A number of ideas and projects are already under consideration: With his strategy of “sustainable mobility”, Transport Minister Hermann, for instance, aims at doubling the share of bicycle traffic in Baden-Württemberg to 16 percent by 2020, i.e. in only four years. He is enthusiastic about a new “bicycle culture”.

How is this meant to succeed? “The new government coalition agreement between the Greens and the conservative CDU party is confident that the vigorous spread of eBikes or pedelecs will lead to greater distances being covered by bike. To this end, the Baden-Württemberg government will support the conception and implementation of bicycle expressways,” explains Minister Hermann, who has set up a bicycle traffic unit in his ministry giving the team a dedicated budget, which is separate from the infrastructure budget. Hermann sees mobility based on eBikes as closing
a gap between the bicycle and the passenger car markets: “In a hilly city like Stuttgart, pedelecs will have a greater impact on promoting cycling than they would have in a flat city.” The Federal Environment Agency (UBA) encourages cities and local authorities to facilitate the transition from cars to electric bikes. “They are an important element in today’s sustainable mobility,” says UBA President Maria Krautzberger.

According to the UBA, eBikes make an important contribution towards protecting the environment. She concedes that the production and disposal of the most commonly used lithium-ion batteries also generates emissions. However, compared to the passenger car mileage saved, she goes on to say, the CO2 impact of this production is compensated after only 100 eBike kilometers.

Furthermore, she continues, an eBike uses no more energy to cover ten kilometers than a kettle does to boil 0.7 liters of water at room temperature. Further studies have shown that an eBike generates only 1.25 percent of the pollutant emissions of a passenger car. It is about time for things to start changing in Stuttgart. Sustainability and mobility are the buzzwords. What these terms really mean is demonstrated by the results of the 34 regional projects in the “Showcase Electromobility” event sponsored by Baden-Wurttemberg’s e-mobility BW agency.

The projects include accessible and easy-to-use eBike rental stations near train stations, or the “Stuttgart e-traffic space” project aimed at specifically including the e-mobility aspect in Stuttgart’s traffic planning. A service card called “polygo” also enables the use of eBikes and car sharing or public transportation according to individual needs. Lord Mayor Kuhn already foresees the need for some 65,000 pedelecs throughout the city. “You can see plenty of Stuttgaters whizzing around the city on those things,” says Lord Mayor Kuhn, who thinks of himself rather as an “seasoned pedestrian” though. To facilitate Stuttgart’s still painful transition to a cycle-city, he intends to invest without delay in the construction of bicycle lanes and cycle parks. He explains that an additional 3.6 million euros will be allocated for this purpose by 2017. His appeal to his constituents: “Each and every one of us can personally contribute to improving air quality and the quality of life in our state capital.” So the wheels of change do seem to be turning in the cities and suburbs.
Bobby is a good example. This well-insulated woolly jacket from Maloja keeps you safe from the elements and the stretch material keeps you mobile enough. Plus, the best thing is: it’s urban proof!

Matching jeans or chinos are also available from the same Bavarian sports apparel manufacturer. One of the globally fast-growing businesses in the industry, Maloja is Bosch eBike Systems’ new cooperation partner. Stylish and functional. Ideal for eBike commuters. As bikes evolve into status symbols, bikers are looking for quality and style. Gone are the neon-colored rain outfits and tight spandex. Now it’s time for outfits and accessories you can be seen in in the city. And at the office.

No doubt about it, functional wear for bikers is getting more and more stylish. Classic street-wear labels such as Levi’s have started their own lines of cycling wear and British fashion designer Paul Smith has taken to creating bicycle helmets, while trendy Berlin designers such as Ben Weide have started presenting water-resistant business slacks and shoulder-vented business jackets on the catwalk. “There was a time when cycling was ‘working class’,” says Smith. “Today it’s fashionable and hip.”

The new culture of this laid-back and individual lifestyle is conquering significant segments of the fashion industry. To every new trend its catchwords. In this case, the talk is of are ‘Cycle Chic’ or ‘commuter’. Or ‘Nature Meets Technology’ and ‘Urban Outdoor’, if you prefer.

Not by chance, garment makers such as the New Zealand label Alchemy Equipment and the ubiquitous Jack Wolfskin have taken their designs to the classic fashion shows such as Seek or Premium. They are sending out a strong signal. Their labels are intended to stand for a smart new generation – functional, technically sophisticated, comfortable and pleasant to wear. Trendy and minimalist at the same time. Not flashy, but not drab either. Brave the rain protected from the elements and go to a meeting straight out of the saddle without having to ‘out’ the functionality of your outfit. Why not!

One of the very first designers to catch on to
this trend was Japan’s Hideto Suzuki. In 2007, he and his label Pedaled began to design fashionable urban cycling outfits and, from the very beginning, he had it manufactured predominantly in Italy. Because the right lifestyle counts more than ever in the city, whether it’s Berlin or London, Hamburg, New York or Tokyo.

Recipient of several awards, the Triple2 label offers a collection of jackets, shirts and trousers combining functionality and sustainability. Its products are made exclusively from merino wool, organic cotton, hemp fiber and recycled polyester.

Rapha, the retro (and ever more popular for it) bicycle racing outfitters from the UK have launched their own City collection to take you through town in style.

Maloja’s boss Klaus Haas is delighted with the search for everyday usability in cycling apparel. However sports minded, his company has always set a premium on expressing itself through its own colors. Today, the Maloja development team comprises 20 men and women.

“We were confident enough from the beginning,” says Haas. Part of that confidence, he explains, lies in cyclists being able to dress up, however functionally. Today, Maloja stands for the good and beautiful things – and for the courage to get off the beaten track and try something new.

For 2017, the Maloja manager plans to launch garments especially made for eBikers: “Commuters use eBikes because they want to get to the office fast, but not covered in sweat. And this calls for more breathability and wind breaking capability but also less insulation.”

Haas knows the requirements. He speaks from experience: “Half my family makes use of the electric tailwind.”
A Heart For Cyclists

They do exist: cities that keep their fingers closely on the pulse of cycling, as it were. Every other year, the "Copenhagenize Index" publishes an overview of the bicycle-friendliest metropolitan cities in the world. Cities with populations larger than 600,000 are rated on the basis of 13 criteria. What role does cycling play in city life, transportation and culture? The Copenhagen Index has the answers.

1st Copenhagen

In Copenhagen, 63% of the city's population commute to work or school by bike. Only 10% commute by car.

2nd Amsterdam

In Amsterdam, the number of bicycles exceeds the population: 881,000 bicycles for 800,000 inhabitants. Amsterdamers cycle two million kilometers every day.

3rd Utrecht

The City of Utrecht is building the largest bicycle parking facility in the world. Upon completion, it will offer space for 12,500 bicycles.

4th Strasbourg

France's no. 1 cycling city. A 560 km network of cycling lanes is available in the city and its subway coverage area.

5th Eindhoven

5,000 cyclists use the Hovenring, a suspended cycle path roundabout, daily. This helps decongest traffic on the adjacent roads in Eindhoven.

The runners-up:

- 6th Malmö
- 7th Nantes
- 8th Bordeaux
- 9th Antwerp
- 10th Sevilla
- 11th Barcelona
- 12th Berlin
- 13th Ljubljana
- 14th Buenos Aires
- 15th Dublin
- 16th Vienna
- 17th Paris
- 18th Minneapolis
- 19th Hamburg
- 20th Montreal

Versatile, fast, and efficient – eBikes offer much more than just exercise. Companies are increasingly recognizing their potential and using Pedelecs as part of their operations.

eBikes At Work

Vienna. A cultural melting pot. A global city. After making its mark on the Austrian capital, in Germany, Berlin and Stuttgart are preparing to implement electrically-powered roadside assistance.

In Stuttgart, the ADAC (General German Automobile Club) is currently testing two eBikes equipped with dynamic and powerful Bosch systems. The Pedelecs are equipped with a trailer featuring hydraulic brakes and capable of transporting loads of up to 70 kg. The “Yellow Angels”, as they are known, use tablet PCs to stay in constant contact with the central database. The reasons behind the project: With one of the highest volumes of traffic in Europe, Stuttgart suffers from huge amounts of congestion. For many commuters, including the “Yellow Angels”, the daily drive often turns into a daily standstill. The interim report after four months is promising: “We are able to assist with around 70 percent of the breakdowns in the city center on our eBikes,” explains Michael Prelop, Director of the ADAC Breakdown Service in Stuttgart. The service is quicker, greener and more flexible than with a car, and the feedback from members has been “very positive”, according to Prelop.

Whereas the ADAC is still testing mobility on two wheels, Deutsche Post has already fully integrated eBikes into its day-to-day operations. Some 15,900 bikes are already used for daily deliveries, 9,600 of them using electric pedal power – a growing trend. On average, mailmen cover around 13 km every day and transport up to 50 kg worth of mail. To deal with this, the mail eBikes need to be robust, versatile and low maintenance. The logistics company UPS are also working on increasing deliveries by eBike. Lighter loads, higher speeds. Amazon demands greener and more flexible service for their Prime Now program in Wiesbaden, for example, the Kiezkauhaus department store delivers handpicked products from more than 20 independent stores. On offer are bread, fruit, vegetables, drinks, and spices, as well as books, artwork, and toys. The customer is able to browse the store online and place their purchases in a digital shopping basket. The retailers then receive a list and put the order together. The order is delivered by eCargo bikes, which are charged using green energy. Orders made before 2 pm arrive the same day.

“The riders don’t need to find a parking space, they just go directly to the door. That’s clearly an advantage for one-hour deliveries,” says Stephan Eichenseher from Amazon. Amazon’s eCargo bikes can hold around 200 liters, which means that riders can complete up to five deliveries per trip. Amazon says its aim is to carry out as many trips as possible on the eBikes. For this reason, the retailer has installed charging stations at numerous locations around the city.

Small businesses and start-ups are also increasingly making use of the eBike’s advantages. In Wiesbaden, for example, the Kiezkauhaus department store delivers handpicked products from more than 20 independent stores. On offer are bread, fruit, vegetables, drinks, and spices, as well as books, artwork, and toys. The customer is able to browse the store online and place their purchases in a digital shopping basket. The retailers then receive a list and put the order together. The order is delivered by eCargo bikes, which are charged using green energy. Orders made before 2 pm arrive the same day.

“For us it’s all about improving the quality of life in our city and making sure the benefits are felt locally,” says Inga Ellingen, Product Manager at Kiezkauhaus. This also means higher demands for the retailers who take part independent stores that offer a valuable service and pay their taxes in Wiesbaden. “By using digital media, we want to support the businesses that trade responsibly, and in doing so help shape our city,” explains Ellingen.

eBikes help to reduce traffic and conserve the environment. The potential is remarkable. Research at the Polytechnic University of Milan has shown that three eCargo bikes would be able to replace the daily output of one inner city delivery vehicle. For many residents, such a transformation would see a truly liveable urban space become a reality once again.
Katy and I have been best friends for twelve years. We have known one another since we were teenagers. Many things in our lives happened concurrently: getting married, buying a house, raising a family. Katy and her husband Fred have two daughters, Tilda aged 4 and Ivy, a one-year-old. Guy and I have three sons, Rocco aged 10, Diggory aged 7, and Ozzy aged 5.

When we became mothers, Katy and I both moved with our husbands from London to the South of England to raise our children on the wonderful Dorset coast.

It was then that we decided to start a joint project: starting “Heymummytv,” a YouTube channel all about parenting, families, and kids. It is interesting, inspiring and lots of fun.

For our everyday mobility, we have always used minivans. Simply because we believed, until recently, that cars are the most practical means of transportation for our five children. Certainly, more time spent out in the fresh air, getting around more by bicycle, that would be great. But so far it has seemed absolutely unrealistic to us, since Ivy, Tilda and Ozzy cannot cycle yet.

Then we got this request from Bosch: “Wouldn’t you like to test eBikes for a week, a self-experiment of sorts?” And we quickly made up our minds: Yes, we would. And we looked forward to it. Would the bikes meet our requirements? Would they do for the rides to work or taking the kids to school? Can you use them for shopping and running errands? How will pedelecs fit into our leisure? Can we use the bikes for family trips to the beach or to the park? We tested the eBikes in our everyday life: Seven days of cycling together with our children.

Bottom line after this week: We did quite a few things and we were really active. Running errands became an experience. If you are looking for a panacea, eBikes are not it. If, on the other hand, you want to make things easier, they fit the ticket. No congestion, no nagging, no time spent looking for parking!

eBikes are a choice for parents who want to get around but not always by car. And they let your kids discover the world out there. Katy, the children and I have made up our minds once more: The eBikes are staying!
At Anna’s

We get up to an early start. My boys must get to school. Instead of the car we take the bikes. The two big boys ride their own, Ozzy with me on the e Cargo bike. My boys bursting with energy for them it is the best way to start their day. They are out in the fresh air, they get exercise before they will have to spend the morning sitting still, concentrating, and learning

Coast Surf Café

The boys are at school, now we have some time for ourselves. At the Coast Surf Café I meet up with Katy and Ivy. Over a cup of tea, we are discussing the next installment for our YouTube channel and the things that are on our minds. We never run out of topics. We’re girls!

Favorite Playground

At lunchtime, we are all together again. Katy and I have picked up Tilda and Ozzy and spend some time at the playground. This local park in is the perfect place for children to play. There are swings and seesaws, slides and climbing areas — the ideal place for children to run off steam.

Bournemouth Beach

The beach at Bournemouth is wonderful. Soft sand, clear water and an uncluttered view of the sea. It is really the most beautiful place to recharge your batteries and let the sun warm your face. We even got to snack on “Fish & Chips”.

Patisserie Mark Bennett

Spending a lot of time in the open air gives you an appetite. I buy my bread for dinner at Mark Bennett’s Patisserie. He is a master baker and the bakery has been in the family for three generations. With our shopping loaded we head home.

Anna’s eBike

Performance Line

The Performance Line supports the eBiker powerfully, directly and dynamically. On the way to kindergarten with the kids or out shopping with the cargo bike. Perfect for anyone who wants to run more errands with their bike.

DualBattery 1000 (2x PowerPack 500)

Twice the range. DualBattery combines two PowerPack — the perfect solution for cabby bikers. With the combination of two PowerPack 500s , ranges of up to 240 kilometers are possible.

Katy’s eBike

Active Line

Whether in the city with a bike trailer or for a trip to the beach. The harmoniously agile power delivery of the Active Line provides a safe and reliable riding experience up to 25 km/h.

PowerPack 500

With the PowerPack 500, a modern lithium-ion battery, every excursion is a pleasure thanks to the high energy density and excellent mileage.

Intuvia on-board computer

Anna and Katy use the Intuvia on-board computer. With this easy-to-operate display, you reach your destination relaxed — without traffic jams or searching for a parking spot. Intuvia provides important information such as the time and range at a glance.

Anna Cribb

Katy Pullinger

The start of the week — not just a day like any other. This is a tour of our five favorite places in Poole and Bournemouth.
eBikes are a choice for parents who want to get around but not always by car. And they let your kids discover the world out there.
Many yearn for it: to break out of the daily routine, away from well-known paths and familiar terrain. Getting outdoors, this wish is firmly anchored in all of us. And it remains there an entire lifetime. Usually, it is travel in its diverse forms that we choose in order to expand our horizons.

The unknown. The unexpected. The exciting. In foreign parts, we experience more, are more attentive, look and listen more intensively.

The Germans alone made 70 million holiday trips in 2015. Almost everyone indulges in travel. Because only those who have experienced the world are capable of judging it. With a gentle electric tailwind, this will be made even easier for many in the future.
An Electrifying Adventure

Maximilian Semsch is a real eBike adventurer. The film maker and travel photographer rode 16,000 kilometers around Australia. Now he is out to discover his homeland Germany in five months.

The ascent from Eisenach in Thuringia to the Wartburg castle is a tough challenge, even with electric ride support. Up to 27% gradients. Pushing will not do. The bike loaded with 45 kilos of kit is too heavy. So, after dismounting for a moment during the ascent, Maximilian Semsch asked a companion to push him a meter or two. As soon as he is in the saddle, the adventurer rides through to the top in Turbo mode, i.e. with the maximum of 300 percent electric ride support. "Awesome!" says a broadly beaming Semsch.

Born in Munich, he is a documentary film maker who likes unusual assignments. In 2012 he did a 16,000 kilometer tour of Australia on a bike equipped with a Bosch e-drive. "Without the least problem," he says today, "and back then, the technology wasn’t what it is today. Only 50 instead of 75 newton meters of torque today and batteries of 300 instead of 500 watt hours. Says Semsch: "Back then it was a real test. Nobody had ever covered such a distance before. All of it in plenty of wind, heat and plenty more loneliness." He still tours across Germany with his award-winning documentary "What a Trip". That is if he is not biking again. As he is now. "Adventure Germany: Rediscovering my Home Land" he calls his new tour. Between May and September, Semsch will bike across all 16 federal states. Why? Because he thinks that "the greatest adventures unfold just off your own doorstep. Because you discover new things. After all, Germany has got everything from the mountains to the seashore." And indeed: In the first three weeks alone, Semsch covered 1,500 kilometers. "Most of it on routes I didn’t know. Of which, 1,400 kilometers on bike trails." Wonder upon wonder. The world’s largest organ in Passau, the Krämerbrücke bridge in Erfurt, the former border crossing Checkpoint Alpha, sunsets on the banks of the Danube: "I was camping on a sandbar with mussels, sat at my campfire and thought, the beaches in Thailand are not more beautiful, just more exotic."

Usually Semsch does not cover more than 80 to 100 kilometers a day on his bike, a commercial
Haibike Xduro Trekking equipped with a Performance Line CX drive from Bosch eBike Systems.

“I take time for each region. I shoot stills and video.” In the end this will add up to hundreds of gigabytes and hundreds of hours of video footage.

Time and again he has riding companions, including personalities like the famous ski-jumper Jens Weissflog, who rode with him for a day. Today the legendary ski-jumper operates a hotel where he makes eBikes available to his guests. But numerous other people have joined Semsch. They sign up via Facebook and the Internet. He usually rides in Tour mode. During his breaks and often privately arranged overnight stays, there is time enough for recharging the two batteries.

Semsch is enthusiastic about how well his native Germany is suited for biking and about the hospitality of the people he meets: “My recommendation to everyone is to eBike Germany for a week. It’s more relaxing than seven all-inclusive days on the beach can ever be.”

Uphill Flow – A Success Story

Flow is a real buzz word among mountain bikers. Stories and advertisements for guided tours talk about ‘flowy trails’. An otherwise unspecified Flow Valley is starting to emerge in southern Munich and Harald Philipp, a mountain bike alpinist, teaches Flow in books and on reading tours.

Bosch has also embraced the topic of Flow, more specifically that of Uphill Flow, which is what biking guide and riding technique instructor Stefan Schlie and Claus Fleischer, CEO of Bosch eBike Systems, are calling their concept.

“Flow is precisely the zone between overexertion and underexertion, the zone where you feel the challenge but still feel good,” says Stefan Schlie. “And the good thing about it: each one of us can define this zone for ourselves individually.”

Claus Fleischer and Stefan Schlie like the mutual exchange. It was while biking through the forest together a few years ago that they developed their concept of Uphill Flow. Claus Fleischer translates the experience and the feedback Stefan Schlie provides into technical solutions. “During guided tours and riding skills courses with our Bosch Performance CX models, Stefan passes Uphill Flow on to enthusiastic bikers. At Bosch eBike Systems, we try to make this experience possible during our drive development activities in order to make it available to the wider public.
Claus Fleischer and Stefan Schlie during the first test ride on the Uphill Flow Trail at the Bischofsmais MTB Zone Bikepark

Riding enjoyment and community
This innovative approach to product development also informs the latest cooperative venture for Bosch eBike Systems. The two men are working together with the guru of trail design, Diddie Schneider, on the world’s first Uphill Flow Trail at the Bischofsmais MTB Zone Bikepark.

“We’ve had long talks with Diddie and have developed a concept that transfers the Uphill Flow to the trail,” says Stefan Schlie. “The Uphill Flow Trail will be a great additional offering for newcomers, learners and vacationers in the Bavarian Forest,” believes Claus Fleischer.

From the fall of 2016, a trail roughly three kilometers long will take eBikers to the Geißkopf summit, from whence they can descend on the available trails. The trail project is focused on riding enjoyment and the experience of community.

Responsibility and safety
For Claus Fleischer it goes without saying that the trail is no more than an additional offering that comes to complement the right of free access to the woods for all mountain bikers, of which he personally and Bosch eBike Systems are fervent supporters.

An important issue when it comes to trail building is sustainability. The route of the trail was developed together with the forestry agency, as was the planning for the deployment of machinery and materials. “We invest a lot of time in planning and setting up of trail to prevent any subsequent deployment of machinery. This gives nature the time to regenerate and the visitors will find a semi-natural trail with many natural highlights along the route,” Diddie Schneider explains his trail-building approach.

Leisure and freedom
The Uphill Flow stands for more than just great fun and adventure. For André Wagenknecht, who was the first German MTB enduro champion in 2015, it also meant an opportunity to get back to his beloved sport quickly and in a controlled environment. “After my illness last year, the electric pedaling support allowed me to get back into biking relatively soon during my rehab. My therapists were always in control of my training and able to manage it accordingly. This gave me motivation during the build-up phase because I was quite clear about my objective. At the same time, I was able to experience the adventure and fun again.”

Claus Fleischer defines the high adventure value as follows: “When on tour with a traditional MTB it takes you about four times as long to do all the uphills than it takes for the downhill. The long, ex-cruciating uphills are nothing to enjoy and it’s too draining to talk to anybody. With an eMTB, the ratio is two to one and the two uphill periods are actually enjoyable – and that’s Uphill Flow.”

To Sebastian Förth, product manager at Cube, his Bosch equipped eBike represents a certain amount of freedom. His company chose to locate in the countryside and he is glad about that. But without a car you lose some mobility out here. He therefore commutes to work on his eBike. “Riding to work in the morning is now an adventure. I enjoy myself on the trail getting to work. It gives you a completely different start to your day. My ride home clears my head quickly and allows me to leave the workday behind.”

Claus Fleischer from Bosch is glad to hear about this kind of experience. “In our development, we’re always concerned about the optimum setup and technicalities such as Maximum Momentum* and Trail Control*, precisely to provide this type of experience for the user. Nobody should have to worry about the setup or the amount of support. They should only experience the Uphill Flow. If we achieve that, we’ve done things right.”

*MAXIMUM MOMENTUM
Maximum momentum means the maximum torque of 75 Nm uniformly available across the entire cadence range from 20 to 90 rpm.

*TRAIL CONTROL
Power without control is ineffective. Three sensors measure pedal power, cadence, and speed at a rate of over 1,000 times per second. This controls the power transfer to the ground and ensures sufficient traction. Riders are enabled to master technical difficulties and to pass challenging terrains safely.
The concept of “Flow” goes back to the 1980s and the research of Mihály Csíkszentmihályi, a professor of psychology at the University of Chicago. The same phenomenon was described earlier as “polarization of attention” by reformist educator Maria Montessori and as “peak experience” by psychologist Abraham Maslow. Flow describes a state of complete concentration on an activity during which all external distracting factors are shut out. It used to be held that the brain was particularly active in this state. However, we know today that the exact opposite is true. Activity in the prefrontal cortex, an area of the prefrontal lobe of the cerebral cortex, diminishes. In a state of Flow we act instinctively. This also explains the absence of temporal perception and the state of absorption with the activity. In the event of danger or upon being disturbed, the brain switches back into conscious mode and the state of Flow ends.

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Cycling As Usual? Not Exactly.

A few of the peaks surrounding the little village of Latsch in South Tyrol are still snow-covered. Greta Wethaler points to a castle clinging to the side of a hill high above the valley floor. “That’s Annenberg Castle. And that’s where we’re cycling to now, mostly on loose gravel trails. Up at the top, there’s a steep incline. In total, we’ll be climbing around 500 meters in altitude before descending into the valley via Annenberg-Böden,” she explains to a group of ten mountain bikers.

At first sight, this looks like an ordinary scene in this South Tyrolean mountain biking mecca. A closer look, however, reveals two things that stand out: Firstly, the group consists only of women. Moreover, the sun is already low in the sky. It is seven p.m. The women already have heavy legs after completing a serious tour. Full-on mountain biking is what the Latsch Women’s Camp is all about. And this is precisely what attracted more than 100 women mountain bikers from Germany, Austria, Switzerland and Italy to attend for a long weekend in May.

Most have already been here a number of times. Janet Weick, for example, an enthusiastic mountain biker with trans alpine experience, who often struggles to find female tour partners in her everyday life. “It’s easy to find men’s groups, but women are thin on the ground when you reach a certain level in mountain biking.” She shares another problem with fellow mountain biker Nadine Kraus. How can a woman manage to fit a time-consuming hobby like mountain biking into her tight workday schedule? Nadine explains: “It’s often really hard. That’s why I’m here: To really have some time for myself and my hobby again.”

Because I don’t get to spend enough time mountain biking in my everyday life, I’m going to start by attending Greta Wethaler’s cycling technique training at the camp. This twenty-year-old South Tyrolean is a former mountain biking pro. What’s special about her course, though, is not just the expertise and good humor with which she imparts her tricks. It’s also the bikes on which we practice: my eMTB is a full-suspension with 160...
mm spring travel and the Bosch Performance Line CX eBike drive. Except for one participant, it’s the first time on a mountain bike with electric support for all of us. The rules Greta points out to us are surprisingly familiar. Cornering, balancing. Same old, same old, really. But when it came to the first climb, things weren’t quite so simple. Even in the relatively low-gear tour mode, one pedal stroke uphill took me smoothly over a ledge that looked pretty challenging to me as a returner to mountain biking. And there were plenty more obstacles in this uphill ride I just cruised over. It was all going great – until I had to dismount during an ascent. When I tried to ride off again, my rear wheel kept spinning. Greta made a training unit out of my difficulty: Uphill starts. These are trickier with an eMTB because there’s a lot more power on the rear wheel when you start to pedal with electric support. Greta’s tip: Lower your saddle somewhat, bring the pedals into a parallel position, mount, downhill foot on the pedal, then uphill foot on the other pedal and ride away.

The racy descent over lots of rocks and gnarl takes some getting used to, but the 21 kg eBike is surprisingly agile and quickly bolsters your confidence. I’m enjoying myself more with every meter I ride.

I meet Nadin and Janet again at the Uphill Flow Sunset Ride to Annenberg Castle. This eMTB spin in the setting sun is popular with my fellow mountain bikers. “When I go mountain biking with my husband, he’ll ride up on the train for my sake, although he’d much rather pedal up. Maybe an eBike would be a good solution,” thinks Nadin. When we reach Annenberg-Böden, the sun is gradually setting behind the mountain.

For the ultimate Uphill Flow: in the riding technique practice with Greta Weithaler, the participating women learn the ropes of eMountain biking.

Claudia Bitzer is a freelance communication consultant. The bicycle is her favorite means of transportation. She uses it in her everyday life as often as her motherly duties allow. For the Bosch eBike Systems Magazine, Claudia Bitzer went to South Tyrol to rediscover mountain biking.

Greta Weithaler’s professional (e)mountain biking tips – not just for girls

▶ Know and use your “strong side”:
“Cornering, during descents and when riding over obstacles, the pedals are horizontal. It’s important to be aware of which foot’s in front here, because your ‘strong side’ gives you more confidence.”

▶ Cornering in hairpins and tight bends:
“Practice, practice, practice. Balance exercises – for instance when you’re standing in line or in your garden – are a good way to develop a confident feel for when you’re cycling. This helps in achieving the right flow – both downhill and up.”

▶ Uphill start:
“The rear wheel of an eMTB tends to slip when starting uphill. Lower your saddle somewhat, bring the pedals into a parallel position, mount, downhill foot on the pedal, then uphill foot on the other pedal and start evenly. It’s easier in a lower gear and moderate drive support.”

▶ Clear you head:
“Sometimes girls should just muster their pluck and go for it. Too much thinking doesn’t help.”

Touring Tuscany With A Motorhome And eBikes

Think Italy, think Tuscany: long rows of cypress trees bathed in golden light, impressive Medici country villas, medieval villages, leaning towers and impressive church domes. The region is world-famous for its splendid landscapes and magnificent art and cultural sites. For many, Tuscany is synonymous with Italy. In Tuscany, the way is the goal. To discover the region, you need mobility. An ideal way to travel here is by motorhome and bike, which is what Ilka, 61, and Gerhard, 64 did. The couple lives home on the shores of Lake Constance. For many years, Ilka and Gerhard have regularly headed south during the summer months. When they were younger, bicycles and a tent did the trick for Tuscany. This year, they are relying on their motorhome and – for the first time – on a couple of eBikes. We accompanied the two retirees on their trip and they showed us their favorite locations in Florence and the countryside.
The "Old Bridge" has spanned the river Arno since the 14th century and is as eye-catching as ever. We were impressed by the many shops along the Ponte Vecchio, where the local silver and goldsmiths display their sparkling wares.

One of the oldest wineries of Italy, it is situated in the Chianti region near Greve. The owner, Luigi Giovanni Cappellini, gives daily tours of the historic wine cellars. He gave us a tasting of the different Chianti varieties.

Active Line provides for smooth riding performance and is first choice for everyday tasks like going shopping or on a biking tour with family and friends. Active Line ensures particularly energy-saving riding and enables long ranges.

Ilka’s eBike

Intuvia

Intuvia offers optimized operating comfort. The device is intuitive and the display is outstanding, even in direct sunlight.

eShift

The integrated electronic gear shifting solution ensures greater riding comfort, range and safety.

Gerhard’s eBike

Nyon

The Nyon all-in-one on-board computer combines navigation, eBike control and riding data in a single device.

Ilka and Gerhard have made lots of trips to Tuscany together with the children in the past. Today, they tend to travel as a couple. The two of them always have their bikes with them. This time, Ilka and Gerhard went on tour in Tuscany with their motorhome and their eBikes equipped with Bosch Active Line.

This Rose Garden is situated directly below the Piazzale Michelangelo viewing point. It offers the most wonderful view of Florence. Compared to the Piazzale Michelangelo, with its year-round bustle of visitors, the Rose Garden is an oasis of tranquility.

Santa Maria del Fiore is undoubtedly one of the largest churches in Italy. This realization dawns on you as soon as you stand in front of this imposing Gothic building. The cathedral rises heavenwards to a height of over 100 meters. Its huge dome is a masterpiece of Renaissance engineering.

This place serves the probably best-known sandwiches in Florence. Join the line, you won’t regret it. Mouthwatering and very popular: Ham and cheese with a truffle dressing.

Getting Outdoors
A Perfect Vacation
On Two Wheels

For many people relaxation and exercise are an indispensable part of their vacation. In particular, cycling is becoming increasingly popular among Germans. Bosch eBike Systems supports numerous projects that ensure riding enjoyment with electric support. Promising opportunities for tourism regions; new options for holidaymakers.

Combining exercise and leisure – the perfect vacation for more and more people. “On your bike!” is the motto. The latest statistics of the German ADFC cycling club confirm this trend: 4.5 million Germans went on a bike tour lasting several days in 2015. 17 million people undertook a total of 150 million cycling day trips. The number of German cycling enthusiasts is on the rise with the figure increasing by some 500,000 between 2014 and 2015. The cycling wave is truly on a roll.

Increasingly, the bicycle of choice is an eBike, also known as a pedelec. Eleven percent of all touring bikes in Germany were equipped with electric support in 2015. This is more than double as many as the previous year.

What is it that is making ever more people of various age groups choose eBikes? Hans-Peter Engelhart is head of the tourist information office in Münsingen in the Swabian Jura. In May, the town opened a mobility center, where visitors can rent eBikes almost exclusively. The reasons: “We’re offering our visitors seven recommended bike tours of various lengths in and around the Lauter valley. All are mountainous, which accounts for the particular charm of our local countryside. On conventional bikes, only the most athletic cyclists could manage the tour to Lichtenstein Castle, for instance. With an eBike, the playing field is much more level. This way, more people can explore our region’s natural beauty, history and local cuisine.”

As head of the tourist office, Engelhart is certain that navigation devices make this type of low-impact tourism even more accessible. Mounted on the handlebar, the Nyon on-board computer knows the way to the next stopover and, if you so desire, will guide you to a POI or a rustic restaurant with a view.

All the eBikes at the Münsingen mobility center are equipped with Bosch systems comprising a drive unit, battery and Nyon on-board computer. This is no coincidence. Bosch eBike Systems supports a number of projects promoting sustainable leisure and vacation-time mobility. For example in South Tyrol, where ten BikeHotels offer eBikes featuring Bosch drives. One of these is the Steineggerhof. Its owner, Kurt Resch, offers his guests an eMTB testing center. “Interested parties can rent full-suspension eBikes equipped with a Bosch Performance Line drive system and the navigation features of the Nyon all-in-one on-board computer from Bosch. If you want, you can plan your tour in advance, track your ride data and analyze it after the tour,” explains Resch.

Similar initiatives are up-and-running in Gröden/
Val Gardena in South Tyrol. The terrain there is alpine. Visitors primarily visit the region to engage in sporting activities. Consequently most of the eBikes in Gröden tend to be MTBs. Christina Demetz, the press officer for Val Gardena, explains: “We’re in the mountains here. If you want to go on a beautiful tour, you have to step on the pedals. On an eBike, it’s much easier to get close to the many unique rock formations of the Dolomites. It’s a wonderful and satisfying feeling when you reach your destination.” She has observed that when couples go on a tour, the women often prefer a bike with electric support. “This allows them to enjoy a beautiful tour together, even if one of them is in better physical shape than the other. Especially the younger generation is much more relaxed in that regard,” explains Demetz. eBikes also offer another advantage: “We’re a green valley and we want to incentivize our guests to leave their cars on the parking lot. In this respect, eBikes are doing us a big favor.”

To make this low-impact form of mobility available not only at selected vacation resorts, but as widely as possible, Bosch supports the specialist German retailer association ZEG. The primary aim of this project is the establishment of a comprehensive network of eBike rental stations. Since the spring of 2016, 3,500 pedelecs with Bosch drive systems have become available at ZEG rental stations and hotels in Austria and Germany. This provides even more people with the opportunity to set off on an eBike exploration tour.

Traveling With Your eBike

Prepare well – and enjoy a perfect eBike travel experience.

▶ Full power ahead
When you are on the road, you may want to have one of the compact chargers with you, such as the Bosch Travel Charger, which can be used for charging the eBike battery from the cigarette lighter or the 12V on-board power outlet in a motorhome.

▶ Security first
Effective theft prevention. U-locks are classics and among the most secure bike locks according to tests.

▶ Protective headgear
In-mold helmets offer good protection. During manufacture, the shock-absorbing hard foam is injected directly into the outer shell. Buyers should make sure the helmet comes with the correct test seal: DIN EN 1078 (CE).

▶ Face the rain
Before going on a biking trip, make sure you get a rain suit (jacket and trousers) or a large rain cape. With the protection they offer against light rain you can cycle on without problems.

▶ The right carrier
Outdoor enthusiasts should get a rear-mounted bicycle carrier system. The battery should always be stowed safely in the vehicle. If you are planning a long-distance trip, remember that: eBike batteries are classified as hazardous goods and cannot usually be taken inside airplane cabins. Prior shipment by sea or airfreight is recommendable in such cases.

▶ Repair kit for your bike
You should always have patches, an air pump, spare tubes, a piece of rag and a mini tool with the adequate bits with you.

▶ Your first aid kit
No biker should ride without: band-aids, bandages, disinfectant and disposable surgical gloves (the latter come in handy for repairs as well). Depending on the region and season, pack: sun lotion, mosquito repellent and a cooling gel.
What will the world of tomorrow look like? How will we live, work and get around? We think ahead! Self-driving cars, zero-energy houses, cities towering into the sky. One thing is certain: the world of tomorrow will be different.

But what will the world of tomorrow look like? The good news is that: we can answer that question ourselves. It is up to us. We have it in our own hands to shape our future – with good ideas and sensible concepts that originate in intelligent minds. Let’s face the challenges together and look to the future.
200 Years Of Bicycle History

Tradition, culture, history. Bicycles have it all. And moreover: theirs is the future. Karl Drais’ invention of the dandy horse marked the beginnings of bicycle history. 200 years ago, this inventor from the Grand Duchy of Baden catapulted mankind into a new era. His idea has left its imprint on our mobility to this day.

Bosch is the European market leader for eBike premium-segment systems. Over 50 bicycle brands in Europe used the German manufacturer’s components in 2013.

Dynamo lighting for bicycles Bosch launches a dynamo (magneto) lighting system, of which over 20 million units were produced into the 1960s.

The hub gear system Ernst Sachs from Schweinfurt invents the first mass producible freewheel hub gear. It combines forward drive with a coaster brake. The Fichtel & Sachs company produced the Torpedo hub gear until 1991.

Bicycle prototype John Kemp Starley’s “Rover Safety Bicycle” was driven by a chain at the rear wheel. This allowed bicycle wheels to become smaller. Starley’s invention became the prototype of today’s bicycles.

Crankset and pedals Pierre Michaux is considered the creator of the pedal drives. He mounted a crankset and pedals to a draisine. He presented two of his “velocipedes” at the World Expo in 1867, generating international interest.

Crank-drive motors for pedelecs Yamaha builds the Power Assist System (PAS): the first mass-producible crank-drive pedelec motor supporting and reinforcing active pedaling.

2017

Central Europe is that one in three new bicycles sold will be an eBike.

Breeze developed the first MTB in 1977. California pro cyclist Joe Breeze developed the first MTB in 1977.

1973

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1861

Karl Drais of Baden-Württemberg invents his running machine, the dandy horse (a.k.a. the draisine) in 1817. The inventor achieves average speeds of 15 km/h with his draisine.

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2013

Derailleur systems Tulio Campagnolo develops a fully functional derailleur. This product had a style-setting influence for many years.

1946

The birth of mountain bikes at Mount Tamalpais in California. The bikes were old Schwinn Cruisers with balloon tires on 26” rims, a wide handle bar and no shift gear. From one of them, California pro cyclist Joe Breeze developed the first MTB in 1977.

1993

eBikes are lifestyle products

Our society has really embraced eBikes. Today, eBikes are hip and chic with a coolness factor. A look into the future: The mid-term projection for Central Europe is that one in three new bicycles sold will be an eBike.

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Yamaha builds the Power Assist System (PAS): the first mass-producible crank-drive pedelec motor supporting and reinforcing active pedaling.

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If you ask specialized bicycle retailers which eBikes are especially popular at the moment, very often the answer is: “Bosch bikes”. But Bosch itself does not make any bicycles. No, Bosch is the supplier of the core component for pedelecs to itself does not make any bicycles. No, Bosch is the very often the answer is: “Bosch bikes”.

But Bosch eBikes are especially popular at the moment, if you ask specialized bicycle retailers which Mobility Of The Future

Claus Fleischer:

Mobility Of The Future

I n the coming years, pedelecs have become an important factor in ensuring individual mobility, which is at the same time healthy, efficient and sustainable.

The evolution of (e)bikes

Society is changing. This change is characterized by urbanization, awareness of ecological and health issues, and demographic transformation. These megatrends have a massive impact on our individual and commercial behavior. Innovative technologies, new solutions, and decisive improvements in existing products are making everyday life a whole lot easier for us. One such helpful evolutionary step is the electrification of bicycles. Over the next few years, electric bicycles will play an increasingly important role in terms of our personal mobility, leisure and the transport industry.

Beginnings

The world population is growing, resources are dwindling, and the climate is changing. For us at Bosch, this begged the question, how do we meet these challenges? For us electric mobility is essential. Electrification, automation, and networking are the future of mobility. Bicycles are no exception. But how to ensure that e-mobility becomes more than just a local solution? How to give individuals an experience of its benefits? The electrification of bicycles has been an important step for us. In this endeavor, essential Bosch technologies could be addressed by the political decision makers. Cities such as Copenhagen and Amsterdam are showing safe parking. These are the topics that need to be addressed by the political decision makers. Cities such as Copenhagen and Amsterdam are showing how e-scooters and electric cars have opened up new possibilities. eBikes are pioneering e-mobility – and they are a big success. Other products, such as e-scooters and electric cars will follow.

Cycling infrastructure: it’s now up to the political decision makers

To ensure a viable future for e-mobility, we need certain framework conditions, such as a bicycle-friendly infrastructure, charging stations, and safe parking. These are the topics that need to be addressed by the political decision makers. Cities such as Copenhagen and Amsterdam are showing the way, many others are following suit. This is a truly cheering development, which is driving the renaissance of cycling.

More than 2.5 million pedelecs on German roads alone seem to indicate clearly where we are headed. In Central Europe, the mid-term projection is that one in three new bicycles sold will be an eBike. People enjoy riding eBikes. After all, eBiking is healthy, sustainable and cost-effective. And most of all, it’s fun.

Enthusiasm and innovation

From the outset, everyone involved was truly enthusiastic about eBikes. To cycle with a gentle electric tailwind, to combine muscular energy and the power of an electric motor – the “bio-electric hybrid” is enthralling. Initially, our focus was on the batteries, on the balance between size and weight and electric capacity to make a power source of this kind viable in everyday use. But Bosch did more than simply develop batteries. The eBike product lines were designed for various usage profiles. Every year, we optimized and expanded our portfolio. The range went from drives for urban pedelecs to high-performance e-mountain bikes. Our Nyon on-board computer was a true milestone in innovation: the move into networking eBikes.

Electrification, automation, networking

The Bosch eBike Systems portfolio is in line with the strategic principles of the Bosch Group. Electrification, automation, and networking are the future of mobility. With the eBikes, we have achieved these. Automatic shifting and networking eBikes via smart phone apps and an on-line portal have opened up new possibilities. eBikes are pioneering e-mobility – and they are a big success. Other products, such as e-scooters and electric cars will follow.

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As an expression of freedom and wealth, mobility connects people, urban centers and ideas. 130 years after the invention of the car, we are now facing another radical change: the start of a multimobile era that will transform our cities.

Mikael Colville-Andersen is often celebrated like a star although he is "only" an urban planner. True, the Copenhagen resident is anything but ordinary. He is considered one of the most influential members of his guild worldwide. This is due to the fact that, together with Gehl Architects, the trained film maker has succeeded in making a miracle come true: There is hardly a city that promotes cycling in such an exemplary manner as Copenhagen. An increasing number of cities have started to follow suit – from Detroit and Berlin to Almetyevsk in the Russian region of Tartarstan, from Buenos Aires and Seville to Rome and Ljubljana.
A few years ago, Colville-Andersen devised the “Copenhagenize index”, which currently analyzes 120 cities with the aid of 13 parameters: from the length of the bicycle path network and the development status of the infrastructure through the mix of transportation modes and the political will for change.

There is no doubt, we are living in a period of fundamental change. Traffic models are increasingly designed for pedestrians and cyclists in conjunction with public transportation. The car is becoming a secondary consideration. Colville-Andersen explains: “The history of mobility is being rewritten.” However, the way to this new era is long. Studies conducted in the major European cities provide clues as to what this “urban mobility” will look like. A representative survey carried out by the innovation Center for Mobility and Social Change in Berlin and London, for instance, reveals a clear trend towards bicycles, electric vehicles and sharing concepts - away from private cars. According to the survey, one decisive factor for this change in behavior is the way in which the smartphone is able to act as a control center.

One thing is clear: The bicycle in particular offers unprecedented opportunities for society and the environment. In a study, the US Institute for Transportation and Development Policy analyzed the global potential: If the share of bicycles tripled worldwide by 2015, energy costs amounting to 24 trillion dollars could be saved and the environmentally harmful CO2 emissions caused through urban vehicle and passenger transport could be reduced by eleven percent during this period.

The change will also have a favorable effect on daily freight transport. The use of electric cargo bikes as means of transportation, for instance, helps to reduce the traffic load and the burden on the environment.

One precondition for this is a combination of investment and intelligent fiscal policy, believes, Benedicte Swennen of the European Cyclists’ Federation (ECF), which promotes cycling as sustainable and healthy means of transportation in society, business and politics, jointly with the Cycling Industry Club (CIC) and the support of Bosch eBike Systems, said that one precondition for this is a combination of investment and a smart tax policy.

Wolfgang Rid, professor at the Institute for Urban Development at Stuttgart University, says that another factor also plays an important role in a new mobility culture: “As this involves a change in user behavior across all social classes, an intensive dialogue with citizens is required.”

The following five examples from European cities and regions demonstrate how these new concepts work in practice on a day-to-day basis:

1. Copenhagen

Copenhagen is now officially the first “Bike City” worldwide and well known for its bicycle culture. More than half of its citizens cycle to work or school. Among commuters coming to the city from the surrounding areas, this share still amounts to an impressive 45 percent.

A network consisting of “cycle super highways” – including green traffic light phases, garages, bike stands and railings at intersections – help to make this possible. Incidentally: 25 percent of all families with two children have a cargo bike. Louise Vogel Kielgast, who works as urban planner at Gehl Architects in Copenhagen and cycles 17 minutes to her office every day, is one of them. “We truly live in a paradise for cyclists here,” she says.

2. Seville

In the past, those who intended to cross the city in the Spanish region of Andalusia with their bicycles were considered brave and reckless. This has changed. Within four years, the share of bicycles in road traffic has risen from zero to nine percent. “Our recipe for success was the networking a total of 70 kilometers of bicycle paths in two lanes as well as the speed of construction,” explains Ricardo Marques Sillero, one of the pioneers of the untypical cycling revolution in Spain. Today, more than 70,000 Sevillanos cycle on a daily basis. Now, some of them use their car to drive to the edge of the city and then use one of the rented bikes which are provided at the 250 stations of the Sevici service.

3. Ruhr area

The RS1 bicycle speed way is progressing well: In June 2016, the ground-breaking ceremony was celebrated at Mühlheim central station. Apart from the bicycle speed way in Göttingen, this is the first bicycle speed way in Germany and is being constructed between Duisburg and Hamm over a length of 101 kilometers. It connects ten cities and four universities - largely without intersections, with sufficiently wide lanes in both directions and with lights and winter service. The “cycle super highways” in Copenhagen, London and the Netherlands served as role model here.

One section of the speed way uses the former freight line of the Rheinsche Bahn rail company.

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4. Oslo
Norway is taking cycling seriously. The “National Traffic Plan” stipulates that by 2025, only electric vehicles can be registered as new cars. Now, the capital is to become the “next big thing” for new mobility applications worldwide. A ban on cars in the city center by 2019 has already been agreed. Moreover, in June, urban planners presented a groundbreaking plan, which is known as “The Oslo Standard” among mobility experts. According to this plan, the share of bicycles in road traffic is to rise to at least 20 percent over the next few years and parking spaces for cars will be removed for the construction of more bicycle paths, electric bikes shall be subject to state funding, while public transportation will simultaneously also be improved.

5. Amsterdam
With 22 million bikes, the Netherlands already have five million more bikes than inhabitants. The country is exemplary for new urban concepts. This is also due to websites like “Dutch Cycling Festival”, on which mobility and bicycle experts share their experience with other cities and municipalities. During the Dutch Presidency of the European Council in the early months of 2016, the government invited all European ministers for traffic and the environment to Amsterdam in order to discuss intelligent and sustainable mobility – including “best practice” examples for the promotion of a cycling culture. In the city, which is considered one of the most bicycle-friendly worldwide, meanwhile, 38 percent of all travel is by bike. The bicycle path network includes 400 kilometers and virtually all main roads are equipped with bicycle lanes on both sides.
Cities hold a special kind of fascination for people. They are pulsating organisms subject to continuous transformation. How are cities changing in the 21st century? Wolfgang Rid, Professor at the University of Applied Sciences in Erfurt (FHE) and head of a research group at the University of Stuttgart, has worked in the area of urban planning and mobility for many years. In an interview with Bosch eBike Systems, the researcher talked about the challenges cities are facing and the potential of eBikes.

First of all, I believe that things need to be changed with respect to the interaction between people and the environment. Factors such as climate change, particulate matter and noise emissions, as well as other environmental influences impact the quality of our lives. And then there are the questions raised by the social dimension of sustainable urban development. What I mean is the way we approach issues such as wealth and poverty and sharing in our lives. And then there are the questions raised by the social dimension of sustainable urban development.

What is the role of bicycles in the modern mobility mix? The high percentage of motorized individual transportation entails many negative aspects: high space requirements both in terms of roads and parking, high levels of particulate emissions, and congestion. As a counterbalance, the focus is shifting to bicycles and pedelecs. According to a survey conducted by the German Federal Ministry of Transportation, walking and cycling are emerging as the choice short-distance mode of locomotion for distances up to five kilometers. In highly urbanized areas, this is particularly true of bicycles. Pedelecs allow both the range of travel and the number of users to increase. For instance, they can extend the autonomy and mobility of senior citizens.

How can we achieve sustainable change? The debate on the objectives of the ‘change’ is concen trating on the concept of ‘urban transformation’. It has to do with new technologies that have to be developed in interaction with practical applicability rather than in the isolation of research labs. In the process, it is important to activate a critical mass of ‘early adopters’, i.e. people who will use the latest technology at an early stage. This will allow an early assessment of the potential and limitations of new technologies.

It has also become increasingly important to test new modalities to activate users. This has to do with the purposeful breaching of habits and rigid ways of thinking. A good opportunity to attempt this is when people move to other cities. When you are new in a city you explore your new environment and readjust your bearings. The local authorities and mobility services providers ought to seize such opportunities to advertise their mobility portfolios. Urban planners are also called upon to involve people more. Future and planning workshops and other participatory opportunities can help optimize the outcomes.

Are there any new ideas or approaches proven in practice, which have been implemented successfully? A good example for car-free development is the “GWL Terrein” on the edge of Amsterdam’s old town. With some 600 residential units and a very low per unit parking space allocation of 0.2, the initiators tried to limit car traffic. Since the parking was distributed around the perimeter of the community, the residential area is almost car-free. Two cul-de-sacs to the north serve to decelerate personal motorized traffic. The mobility portfolio includes a bus and streetcar stop on the eastern edge of the Terrein and a car sharing station in the adjacent Westerpark neighborhood. To ensure the car-free character of the residential area, prospective buyers or tenants are required to sign an agreement to this end. The project was implemented in 1998 and it shows that our cities can only become more livable if a comprehensive holistic strategy is applied.

Professor Rid, if you were to plan a city to live and work in, what would it look like? Fortunately, urban planners dreaming of designing a city completely on the drawing board are a thing of the past. Today, with our cities completely built up, the aim is rather to transform city structures. For me, a livable city is about diversity first and foremost. This involves more than just how or where I live. It is about the ways I use the city and what my mobility choices are. Public spaces ought to invite people to stay. The linking green spaces and heterogeneous urban structures are the heritage of a European city. Preserving and in many places regaining this heritage is a permanent challenge.

Professor Rid, thank you for talking to us.
Ten Good Reasons For An eBike

eBiking is proving very popular. For young or old, for urban or sporty use, the eBike’s electric power boost makes cycling more relaxing, you travel longer distances and you reach your destination feeling fresher. What began as a niche movement has become a trend. There are 2.5 million pedelecs on German roads. Opting for an eBike is well worthwhile.

1 The environment benefits
Pedelec users go easy on the environment, especially if they use their eBike on a daily basis. Half of all car journeys are five kilometres or less, and, according to the Environmental Protection Agency, the CO2 emissions of a car are around 40 times higher than those of a bicycle with a battery-powered motor. So by using an eBike rather than a car for short distances you are protecting the environment – and also travelling quietly and economically.

2 Gone are the days of headwinds
Who would not on occasion have appreciated a little assistance cycling on steep ascents in a full-on headwind? An invisible “hand” to give you a gentle push and make starting on an uphill stretch or cycling on a steep ascent almost effortless. Making mountains no longer daunting and headwinds neither here nor there. The eBike makes it possible.

3 Perfect for commuting
Would you like to keep fit on your commute? Then the eBike is for you. It is a sporting option. A glance at the statistics reveals that there are 30 million commuters in Germany and that nearly 25 million of them travel less than 20 km to work. Indeed, nearly every other German commuter travels less than 10 km to work. eBikes are ideal for distances of this kind.

4 Alleviation, exercise, extra boost
Thanks to the even, adjustable assistance provided by the eBike drive system, an eBike is ideal for training or for getting back into cycling after an injury. Furthermore, the drive system prevents an excessive burden on knees and thigh muscles. This eases pressure on joints, tendons and ligaments. You would like to be fit and healthy and improve your wellbeing? An eBike is a step in the right direction.

5 Keeps you fit, makes you mobile
Are eBikes just for those who want to take it easy? Not at all! Despite the power assistance, eBikers still have to hit the pedals to get moving. And it is up to you to decide how much power assistance you want or need. Studies have found that eBikers get on their bikes more often and cover much longer distances than conventional cyclists. So now is the time to get on a bike with power assistance regardless whether for comfort or for sporting use.

6 Wheely good advice
Could you do without discussions and complaints? No arguments, please? The mood can turn fast when people with unequal physical conditions and expectations set out on a cycling tour together. That is when a little motor can work wonders. Its power assistance equalizes differences in performance and brings people closer together again – with the result that the tour is an experience everyone is happy to repeat.

7 Easy on the wallet
eBikes are much less expensive than cars to buy and to maintain. Fuel costs, insurance premiums, car tax or parking charges? Zero. The cost of fuel alone for a diesel-powered car is currently around EUR 7.00 per 100 km. 100 km on a pedelec costs around EUR 0.25. Now that is a genuine saving. Plans already?

8 Fun factor
eBikes make cycling less work and more fun. With power assistance the eBiker can sail past many other road users freely and easily. The pedelec is often the fastest mode of transport available in urban traffic over distances of up to and including 5 km, even over distances of up to 10 km eBikers can easily keep up with car drivers.

9 Pure mobility
Intermodal traffic? Not the slightest problem with an eBike. eBike to the rail station, take the train and then either use public transportation or rent a pedelec to your destination. With an eBike you are fast and flexible. You can cover distances more easily and increase the radius of distances you can travel. Power assistance gives you a real boost in the city. eBikers leave tailbacks behind them and don’t need to worry about finding somewhere to park either.

10 Something for everybody
The market is constantly coming up with new models and versions. Pedelecs are capable of speeds of up to either 25 km/h or 45 km/h. eBikes are available for urban or cross-country use, for leisure tours or for summiteers with sporting ambitions. There is a wide range from which to choose and the right eBike for every kind of person. You really are spoilt for choice.
Bike Festival Garda Trentino – South Tyrol, IT, April 28 to May 1, 2017
The spring event on the shores of Lake Garda marks the start into the new mountain biking season. And there is a clear trend: the electric tailwind is becoming more and more popular even among the more ambitious biking crowd. At the event, Bosch eBike Systems offers the interested public a variegated portfolio of tests and information: the Bosch expo stand, test trails and riding technique practices and eMountainbike races.

E BIKE DAYS Munich, GER, May 19 to 21, 2017
Some 60,000 visitors came to the first E BIKE DAYS in Munich in May 2016. The 2017 event will cover all aspects of electric bicycles again. Visitors can get information on eBikes, test and buy hundreds of models, or just enjoy the supporting program.

Bikehotels, South Tyrol, IT
Ten certified hotels in the South Tyrol offer their guests a bike breakdown service, charging stations, touring folders and special weekly or short stay offers. The hotels also organize guided eBike tours with local professional biking guides trained by Bosch.

ZEG Travelbike rental stations
In Germany and Austria, some 3,500 pedelecs equipped with the Bosch drive system are available at designated ZEG rental stations and companies, as well as hotels, boarding houses, vacation apartments and tourist information points. Technical consultants from Bosch eBike Systems support the participating providers with instruction and training.

Women’s Camps, AT/IT
During the summer season, vacationers can rent eBikes equipped with the Bosch drive systems to explore the Gröden Dolomites. At select member sales locations in Gröden, expert consultants from Bosch eBike Systems offer hotel owners and management insight into products and technology.

E-Sellaronda, Gröden, IT
During several summer weekends, women mountainbikers can participate in "Women’s Camps": guided tours, riding skills courses, workouts and workshops in Austria and Italy. At the camps in Kaltern, Latsch and Biberwier, cross-country world cup winner Greta Weithaler shows the participants everything they can do with an eMountainbike.

Projects and initiatives

Trade fairs and events

Sea Otter Classic, Monterey, USA, April 20 to 23, 2017
The first Haibike eMTB Race epowered by Bosch was held at the 2016 Sea Otter Classic in Monterey (USA). Over 100 eBikers rode in the first edition of the contest. They were required to cover as many laps as they could within 60 minutes on a 1.5 km course. In 2017, the competition will run into its second season.

Velofollies – Kortrijk, BE, January 20 to 22, 2017
Attracting more than 300 exhibitors and some 37,000 visitors, Velofollies is the largest bicycle trade fair in Northern Europe. The next Velofollies event will take place between January 20 and 22, 2017 in Kortrijk (Belgium).

Salzkammergut Trophy, Bad Goisern, AT, July 2017
Attracting over 4,500 participants from more than 40 nations, the Salzkammergut Trophy is Austria’s largest MTB Marathon. In 2016, there were separate rankings for eMountain bikes epowered by Bosch for the first time. The distance covered by the pedelecs was 32.5 km with an altitude difference of 1,180 m.

Eurobike, Friedrichshafen, GER, August 30 to September 3, 2017
The Eurobike is the leading international trade fair of the bicycle industry. Every year, over 1,000 exhibitors from more than 50 countries showcase their latest product lines. The trade fair in Friedrichshafen on the German side of Lake Constance is a trend-setting event.
The future of mobility will be electrified, automated, and networked.