
A DESIGN MANUAL
FOR THE ELECTRIC CAR MARKET
Using electric cars is so obvious.
It ought to be a law, really

Eva, aged 53
The Status Seeker//The Pragmatist//The Rationalist//The Design Lover//The City Bohemian//The Environmentalist//The Technology Enthusiast
– A design manual for the electric car market

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REPORT 1

THE STATUS SEEKER//THE PRAGMATIST//
THE RATIONALIST//THE DESIGN LOVER//
THE CITY BOHEMIAN//THE ENVIRONMENTALIST//
THE TECHNOLOGY ENTHUSIAST

A DESIGN MANUAL
FOR THE ELECTRIC CAR MARKET
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FROM ENVIRONMENTALIST TO TECHNOLOGY ENTHUSIAST
We have now been divided into seven types, all us Danish motorists. From Technology Enthusiasts, Environmentalists and City Bohemians to Status Seekers. 50 Danes helped us to arrive at this realisation; they each allowed us to accompany and interview them for five hours. They let the anthropologists see their living rooms, gardens, family photos and, of course, their cars – and they spoke about their habits, needs, wishes and dreams. Afterwards, research scientists, designers and the project partners – people from the car industry and the energy sector, etc. – contributed their additional knowledge and experience and came up with the seven motoring consumer types. This enormous task is the first stepping stone in the major etrans project at Designskolen Kolding. This knowledge is the basis of efforts over the next two-and-a-half years to make the electric car a commercial success. This first report from the etrans project describes the types and the work to identify them. A key prerequisite of the project is that all stakeholders are able to benefit from the large amount of public money that has been invested. This report makes this knowledge of consumer types and the working method applied – user-driven innovation – available to all stakeholders.

Happy reading!

Mads Nipper
Executive Vice President, LEGO
Chairman of the board, Designskolen Kolding
TO MAKE THE ELECTRIC CAR A COMMERCIAL SUCCESS
That is the objective of the work of etrans at Designskolen Kolding. Fortunately, there are plenty of us involved in the task: companies, research scientists, designers, electric car enthusiasts and municipalities – with the support of the Southern Denmark Region Growth Forum, the National Agency for Enterprise and Construction and the European Regional Development Fund.
This spring, we laid the foundations for the ongoing work of identifying seven motorist-consumer types and for generating knowledge of how to reach each of these types through the design of products, communications and services. We have also placed them on an innovation curve to gain a clear impression of who could be the first movers/Lead Users when it comes to electric cars.
Those we seek to identify first are those who get all the rest of us to notice there is something happening and that we, too, should get in on the act. The people in the electric cars universe can be compared to the first brave ecologists in agriculture who took the risks because they could see the difference in quality. A different way of thinking. A different way of acting. In other words, those who managed to create sufficient interest and volume concerning environmental issues that the big companies also dared to join in by giving the man in the street a stake in environmental issues.
This is a big and exciting challenge.

THE ANTHROPOLOGISTS HAVE SEEN THROUGH US
This report is about the seven types of motorist consumers and the work of identifying the design, communication and services that will appeal to them. In essence, these types were distilled from the anthropologists’ five-hour visits to 50 motorists, 6,500 documents with 16,000 codes, a major workshop in June and the knowledge and experience of the project partners.
The workshop is described on pages 91–95.
Apart from the work described in this report, the series also includes a published report no. 0 “Data report – Anthropological field study in connection with the etrans project, conducted and analysed by antropologerne.com” with the anthropologists’ base material, conclusions and recommendations.
The report can be ordered from info@etrans.dk or downloaded from the project website, www.etrans.dk
THREE YEARS FOR THE WORK
We have just over three years to carry out the work and follow the time-
line opposite. The markers show where we are in the project – and the
series of planned reports will allow progress to be monitored.

THE BACKGROUND TO ETRANS
The progenitors of the etrans project – Designskolen Kolding, DONG
Energy and the other partners – started out with the hope of being able
to make Denmark the country that brought renewable energy into the
transport sector. To make Denmark the country that solved the major
problem of too much good energy being wasted or sold for a song be-
cause there is no need for energy when the wind is blowing or, for that
matter, when the sun is shining.
They set themselves the task of showing it is possible to run on electri-
city, and the tool we intend to use is user-driven innovation. The main
players in the green transport revolution – motorists – must themselves
have a hand in designing the transport structure of the future. Working
with professional designers, design students and a number of private
sector and public sector businesses, they are to develop proposals for
aspects such as town planning, charging technology, car interiors, road
service, car insurance and additional purchase options including other
green/eco-friendly products. The basic idea is to design an eco-structure
that makes it worthwhile to replace petrol or diesel with electric power.

Thus, our remit is not to design cars, but to design everything associated
with cars and possibly car interiors.

THE FOOD CHAIN FOR CONCRETE BUSINESS PLANS
In the last phase of the project, a food chain is to be established
spanning from the designers’ results to concrete business plans and
projects that change conditions related to urban spaces and traffic.
The seamless connection from idea to reality is absolutely crucial so
that development ideas can become new business areas.
Often, one specialist group (whether technicians, research scientists,
designers or business people) does not have a clear picture of how
an idea needs to be angled in order to become a financially sustain-
able business in the market. In the last phase of the etrans project,
we intend to work towards building a “business accelerator” to draw
on qualified advice and venture capital for the purpose of weeding out
non-sustainable projects at an early stage of the process and qualify-
ing good ideas to ensure they develop into healthy businesses.
As part of this process, we intend to teach the companies and their em-
ployees how user-driven innovation works and we hope to be able to de-
monstrate that getting directly involved with users, as we do, is worthwhile.
We hope to be able to contribute to the formation of a green transport
cluster in the form of companies which in one way or another can be
included in the value chain of a green transport sector.
etran takes as its starting point the latest know-how and experience from effective innovation processes. The project is built around three loops of innovation, each of a year’s duration, where we generate user insight, develop ideas and undertake concrete, technical design development work with companies and organisations. Business people, planners, research scientists and designers are involved throughout the process.
Any new technology can either be welcomed with open arms by the public or treated as an expensive toy for a few. The difference between the two is the hard work undertaken to understand what will delight consumers and not to assume that a new technological platform is acceptable for its own sake. Every success from SKYPE to iPod has had a team that understood this. The etrans project has taken exactly the right approach for Denmark to take leadership in the future of electric cars, and what is being uncovered now will delight users for generations to come.

Anand Vengurlekar, currently managing director of Stoic, formerly of LEGO Vision Lab and IDEO
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ANALYSIS
The electric car market is still in its infancy. The types of electric car that can be manufactured are not yet as advanced as fuel-based cars, and the consumer still has to compromise on a number of aspects to do with both product and services. As an innovation, the electric car is not only an addition to a familiar technological platform. It is a brand-new platform which consumers have to be prepared to embrace along with all the hassle it entails.

Switching to an electric car requires consumers to decide to make a quantum leap, not only as a conscious decision but also in terms of habits. It is comparable to the transition from LPs to CDs that started over 20 years ago. It means you have to change your everyday routines and habits. And it means investing in a number of new accompanying products and service arrangements to suit the new platform. It also demands a willingness, for a while, to put up with the platform not yet being fully supported with tried-and-tested services and products. It requires a type of consumer who is happy to take on board additional uncertainty in return for being regarded as “First Movers” in the field.

**ANALYSIS OF THE ELECTRIC CAR MARKET**

For our analysis of the electric car market, we chose to use Rogers’ adoption model, which shows the diffusion of innovations among different categories of consumers over time. As the model also shows (see page 17), the adoption model is linked to the product life-cycle model. The model, first published by Rogers in 1962 in his book *The Diffusion of Innovations*, has become the standard in all scientific text books on marketing and the diffusion of innovations and, according to Wikipedia, in 2005 it was the second-most frequently quoted book in the field of social sciences. Rogers claims that all new innovations and ideas are adopted by consumers according to a particular pattern:

- **Innovators** → approx. 2.5% of the relevant market
- **Early Adopters** → approx. 13.5% of the relevant market
- **Early Majority** → approx. 34% of the relevant market
- **Late Majority** → approx. 34% of the relevant market
- **Laggards** → approx. 16% of the relevant market

The model is based on what is known as the Bell Curve, which follows a standard distribution. Note that the market mechanisms have changed since Rogers developed the model and that, in practice, the curve can take many different shapes. All innovations introduced to the market today far from follow the same curve. Some products may have a very short introductory period before they hit the mass market. Many products and services are currently designed to be so “niche-oriented” that they never hit a mass market.
The snowball is rolling. It is just a question of when it will be big enough to pick up sufficient speed

Nonetheless, in our opinion, this curve is suitable for use in describing the attempt to introduce a brand-new technological platform in the car market. First, because the intention of the electric car is precisely to break into the mass market. And secondly, because the car market is a conservative market where most consumers think and act more traditionally than they do in other product and service areas. A consumer’s willingness and ability to adopt an innovation depends on his or her attentiveness, interest, evaluation and opportunity to try out the innovation. Depending on the product category, the same consumer may be found at different points on the adoption curve.

For example, the same consumer could be designated an Early Adopter in the fashion or food category, but a Laggard when it comes to cars or new technology.

HOW WILL THE ELECTRIC CAR MARKET DEVELOP?
The innovators have been busy since the mid-1980s. They are the ones who bought an Ellert or converted their existing cars into electric cars. Thus, the market has taken an unusually long time to grow and (unlike the CD, which was developed during the same period) has stayed at a low volume for more than 20 years, partly because the manufacturers...
innovators  Early adopters  Early majority  late majority  laggards  late laggards


PRODUCT LIFE CYCLE

introductory phase  growth phase  maturation phase  decline phase

ADOPPTION CURVE

Innovators  Early Adopters  Early Majority  Late Majority  Laggards  Late Laggards

have not deemed the market sufficiently mature for them to embrace the new technology. Early Adopters are those entering the market now and who will do so during the next four years. These are very likely to be business customers from the private or public sector, replacing some of their fleets with electric cars to signify that their organisation is doing something actively to reduce carbon emissions. Domestic customers will also be among those who lease or buy some of the first electric cars introduced to the market because they want to be among the first to signal a new world agenda where consumption and sustainability can go hand in hand. Let us hope it will not take too long to move from a market characterised by Early Adopters to a market in which the Early Majority also jumps on the bandwagon. The prerequisite is for the services and products that will help support and boost the new platform to be developed and launched effectively in the market to meet the current needs of consumers.

Our extensive user survey shows plainly that some absolutely basic conditions need to be in place and working in a satisfactory manner. These are: infrastructure (including charging stations), a sufficiently wide selection of different types of cars and makes, overall economy in terms of purchase and maintenance, services (including breakdown assistance, insurance, repairs, etc.), and products (including batteries, accessories, etc.). Also, when it comes to the technology and design aspects, electric cars need to offer some solutions that are regarded as safe and more innovative than existing fuel cars and thus represent added value. Finally, the user survey shows that attitudes need to be worked on persistently in order to persuade the ordinary consumer that it makes sense to switch to an electric car. This means

- events where consumers are able to test-drive the car
- building communities where consumers can enter into a dialogue together and participate in forming attitudes and circulating anecdotes
- as well as more traditional media coverage and communication.

The introduction of the electric car can and will be a market success, notably because it is capable of helping to solve a number of environmental and energy-related problems. And, with its green image and abundance of renewable energy, Denmark is an obvious showcase. The snowball is rolling. It is just a question of when it will be big enough to pick up sufficient speed.

Anne Flemmert Jensen, Ph.D., head of analysis and research for the etrans project
I’ve worked in the car industry for many years and know from experience that it is one of the least dynamic industries of all. Therefore, etrans needs to get out there and kick some life into an industry really dragging its feet, think outside the box and at the same time latch onto all the new, innovative players in the market. If the project does this well – and there’s already every indication that it will – then I have no doubt that etrans will play a highly influential role in the car market of the future.

Kurt Rene Jensen, founder of e-drive.dk, workshop participant
3.2 Seven Types of Consumers

- Environmentalist
- City Bohemian
- Design Lover
- Status Seeker
- Pragmatist
- Technology Enthusiast
- Rationalist

Emotions and Dreams

“The Sacred”

Facts and Function

“The Profane”
A RICH AND DETAILED INSIGHT INTO THE EVERYDAY LIVES OF 50 MOTORISTS

All user-driven innovation projects provide a highly detailed insight into the individual consumer’s everyday life, needs, interests and dreams. This was also true of the present project. During the anthropological field study, the anthropologists, executives, designers, research scientists and students monitored every little step of the 50 motorists’ day-to-day lives. We went to work with them, we drove with them, we ate with them – we listened to their values and attitudes, their dreams, visions, concerns and frustrations. And we observed their concrete actions and behaviours as well as how they deal with various products and services.

You could not get any closer to the consumers than that!

FROM UNIQUE INDIVIDUALS TO INTERESTING MARKET POTENTIALS

But how do we convert these sorts of insights into market opportunities? How do we go from having insight into the lifestyles and personalities of a number of unique consumers, to talking about potential markets and relevant market insights?

We do so by looking for patterns. Patterns in how motorists talk about their values, attitudes and consumer behaviour. Patterns in the products and services with which they surround themselves. And patterns in their everyday lives and lifestyles.

The patterns that emerged show that motorists in general can be divided into two dimensions – see the illustration opposite. One dimension concerns those who refer to function and facts or to feelings and dreams when talking about their relationship with their car. The other dimension is that some refer to the environment and ethics, and others to everyday life, fashion and personal interests.

A closer analysis of these motorists shows they can be divided into seven consumer types:

The consumer types are:
1. The Status Seeker – for whom the car is a status symbol
2. The Pragmatist – for whom the car is a marriage of convenience
3. The Rationalist – for whom the car is an implement and a work tool
4. The Design Lover – for whom the car is an aesthetic project
5. The City Bohemian – for whom the car is a trendy rebellion project
6. The Environmentalist – for whom the car is an ethical project
7. The Technology Enthusiast – for whom the car is a hobby project

The pages that follow allow you to delve a little more deeply into each consumer type. You can learn about their position on the adoption curve and how you can attract them with relevant communication, product design and service design.
THE CAR AS A STATUS SYMBOL
To the Status Seeker, the car is a status symbol. It is not a car, but a symbol of status and exclusivity. It is a running sub-text saying the person is doing well.

WHAT IS THE STATUS SEEKER LIKE?
The Status Seeker considers exclusivity and status to be important and is keen to signal this via consumption. This is generally an outgoing, future-oriented, action-oriented person with a positive outlook on life, a competitive mentality and lots of energy. A Status Seeker places importance on values such as individuality, freedom, independence, personal initiative and decisiveness, as well as status and achievement.
A Status Seeker has a fundamentally materialistic outlook. He or she is not necessarily particularly wealthy – it is more a matter of basic values, outlook and priorities. Often, this consumer type is employed or involved in private enterprise, possibly self employed or perhaps studying commerce.
Status Seekers are unabashed bon viveurs and put a premium on the extraordinary, on exquisite quality and on good provenance. They focus on competition and personal achievement and harbour a conviction that the fruits of one’s achievements should benefit oneself and the people one is closest to. Pampering yourself and spoiling those around you is absolutely legitimate.
The environment, energy consumption and sustainability do not concern the Status Seeker very much. Green purchases are limited to individual, selected basic organic foods, mostly for reasons of personal health, not so much for the sake of greater environmental concerns.

Preferably, it should not be apparent that this is an electric car. They need to be more luxurious before they can become a success

Any effort to reduce energy consumption is primarily for financial reasons with a view to releasing money to spend on other things that are perceived as adding more value.
There is a difference between women and men within this consumer type. With regard to cars, women are concerned about good materials in the interior, sophisticated solutions, a car that is simple, very reliable and that you look good in. Men are concerned about engine power and extras such as aluminium rims, leather trim and steel, as well as electronics. Both consider it important for the brand to be renowned for exclusivity.
It is important to emphasise that although we are talking about a materialistic lifestyle, the Status Seeker associates genuine feelings of warmth with many of his/her consumer goods. Enjoyment, well-being and the perception of quality of life through self-pampering are just as important as demonstrating their prowess to others. This is also the case with regard to the car, which is more than just a status symbol. There is also fervent joy associated with cars, which buys into the appreciation of quality, self-pampering and exclusivity.
Portrait // Rasheed

Rasheed is an estate agent, divorced and the father of two young children – and he drives an Audi A4. Rasheed is very into cars and changes his car quite frequently. He only buys used cars because new cars lose their value too quickly.

Although Rasheed buys used cars, he does not buy cheap cars. He normally pays about DKK 200,000 for a used car. He loves big cars. Rasheed normally keeps a car for between six months and a year and then he sells it again because he has found a new car to fall in love with.

His previous car was an Alfa Romeo. “If I fall in love with a car, I just have to have it,” he explains, adding: “I could happily keep the same sofa for 10 to 20 years. But women and cars ... I change them. If I can’t have the one, I’ll have the other. My marriage lasted 6 years. But you’d be amazed at the number of times I changed cars during that time.”

Rasheed is not environmentally aware in his consumer choices or driving habits. And he does not have a guilty conscience about it. He thinks there are so many causes of pollution that do a lot more damage than he does. He does not buy organic products, and he does not choose his car based on fuel efficiency. He thinks that sort of behaviour is an expression of stinginess.

Rasheed is definitely not in a hurry to go out and buy an electric car. Before electric cars would be of interest to him, there would have to be an exclusive, gorgeous, sporty electric car on a design-led par with Alfa Romeo, Audi and BMW. It would also have to have torque and a high top speed, be spacious and give him the feeling of freedom.
Jan is 23 and lives with his slightly younger girlfriend in a flat in the new district of Ørestad. They only just moved in and started living together 40 days ago. Jan has a commercial education, which he has never used, and today he is a racing driver and lecturer. Jan's girlfriend is an actress. She recently applied to theatre school, but was not accepted first time and she has just started work as a sales manager with Kvickly. She is every bit as passionate as he is and she will get into theatre school in the end, he says.

Jan's lectures always cite the story of Michael Jordan, who was told as a child that he was too short to play top-level basketball. But he wanted to play and kept on training. He came up with the idea of digging a deeper and deeper hole in the ground from which he could practice his slam dunks. Eventually, he was able to leap vertically out of a hole his own height. That made him an asset, and Jan sees a strong will and determination in this anecdote.

If Jan likes something, he is willing to pay a fair price for it. For example, he has a large Samsung flat-screen TV, which he bought purely for its good looks. Naturally, he has a Playstation – the latest model. And his preferred brands are Armani, Selected, and Jack and Jones.

Jan indicates that a car is either comfortable, slow and boring, or hard, fast and fun. According to Jan, these are irreconcilable qualities.

*We men like to drive a car that signifies we are in control*
STATUS SEEKER – REALMS OF POSSIBILITY

POSITION ON THE ADOPTION CURVE

A Status Seeker is only prepared to buy an electric car if it no longer constitutes a social risk. According to Status Seekers, the electric cars on the market today (including those due to be launched on the market in 2010 and 2011) are too small, too plastic-looking, too feminine and too organic in their styling.

At the same time, the Status Seeker’s mental image of – and emotional relationship with – the car is closely linked with concepts such as engine noise, speed and acceleration, horse power and chrome, as well as enjoyment of the aesthetics of the engine compartment. With the exception of its acceleration capacity, the electric car cannot match a fuel car on these counts. Thus, buying an electric car would be perceived as a fundamental loss of everything a Status Seeker associates with enjoyment of driving.

To present a realistic alternative, the electric car would have to be perceived as adding value – not removing value – for a Status Seeker. This means it needs to be able to offer a new kind of material pleasure to match or exceed the material pleasure associated with a fuel car. Also, it would have to be provided by recognised, well-established makes such as Mercedes, BMW, Audi, etc.

It will take a few years before any such solutions are launched on the mass market. Therefore, a Status Seeker has to be defined as a Laggard when it comes to adopting the electric car.
Here are six overarching guidelines for designing products, communication and/or services for a Status Seeker.

1. **Materialism**
   A Status Seeker derives genuine pleasure from material things, and consumption is very much motivated by the desire for self-pampering or reward. It is therefore vital to offer a continuous supply of stylish selections of luxury goods. Preferably products that relate to classic consumer goods and makes. And always good quality with an exclusive finish.

2. **Results and progress**
   A Status Seeker’s consumption has to convey relatively clear signals that he/she belongs to a privileged lifestyle group with the emphasis on results and progress. A car must be recognisable by others as a status symbol, and it should convey strength, dynamism and exclusivity. The environment and ethics are not good enough arguments.

3. **Good for the career**
   A Status Seeker’s career is central to his/her life and self-image. The result of the career must be discernable in the things the person surrounds himself/herself with. This could mean that gradations can be a good idea, with options for standard, silver and gold category purchases.

4. **Specially selected**
   It is vital to give consumers in this segment a feeling of being set apart from others. A special offer for a Status Seeker cannot be for everyone, but it could be a special offer to belong to a particular club, and it should preferably be made clear to all that not everyone can be a part of it.

5. **Technical aids – not technical challenges**
   The Status Seeker is “connected” and dependent on this being the case. But in an established way that does not leave room for irregularities. Use of technology must be “delicious and smooth, thoroughly tested and safe”, without unforeseen surprises or challenges.

6. **A classic feeling of control**
   The Status Seeker enjoys what is familiar, and recognition signals. Refer to, and subscribe to, symbols that are exclusive in other contexts instead of thinking completely out of the box.

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*I’ve never had a guilty conscience about motoring with regard to the environment because I pay hefty car taxes*
SCOPE FOR PRODUCTS, SERVICES AND COMMUNICATIONS

What concrete scope for products, services and communications could match the Status Seeker’s needs and demands? Below you can see some relevant suggestions.

Product options
1. Products with an attractive finish in exclusive materials and with familiar styling. Clear references to other familiar, exclusive products. Status symbols with a strong signal value
2. Products that appeal to both sexes, but in different ways, as in the classic situation where the man decides the make of the car and the engine capacity, but the wife makes the decisions about the interior and the colour
3. Exclusive add-ons – preferably “club-related” or under the auspices of established makes
4. Limited edition products – which cost more and look more expensive.

Scope for services
1. An ongoing automatic “service check” to ensure that every technical service is upgraded and always properly tuned
2. Warranty for the latest generation of batteries and other accessories – preferably with special durability or power, exceeding those of others
3. Product + services or exclusive subscription arrangements for the chosen few
4. Special memberships giving access to exclusive events, luxury goods and lifestyle goods and services
5. Give the Status Seeker the opportunity to test-drive a masculine version of the electric car (for a weekend or in connection with repair/servicing of an existing car) as a way of showing he/she is a specially selected key customer.

Scope for communications
1. Targeted VIP communication. As a supplement to ordinary channels of communication, it would be a good idea to meet the Status Seeker in his/her environment and to convey that this is special treatment for a specially selected group
2. Co-branding with existing status icons and brands such as Giorgio Armani, Hugo Boss, Rolex, Vertu, Ray Ban, Mercedes, Halbaratchi, Louis Vuitton, etc.
3. Events for specially selected groups where you can see and experience the product in a context that communicates status, power, speed and dynamism
4. Celebrity endorsements
5. Product placement in selected action films and thrillers
6. Use of the limited edition effect.

Buying an electric car would be perceived as a fundamental loss of everything a Status Seeker associates with enjoyment of driving
There is a difference between women and men in this consumer type. With regard to cars, women are concerned about good materials in the interior, sophisticated solutions, a car that is simple, very reliable and that you look good in. Men are concerned about engine power and extras such as aluminium rims, leather trim and steel, as well as electronics. Both consider it important for the brand to be renowned for its exclusivity.
TRANSPORT AS A MARRIAGE OF CONVENIENCE
To the Pragmatist, the car is first and foremost a marriage of convenience. The car needs to be able to meet the various day-to-day needs and be able to get from A to B in the most economical, practical and comfortable way.

WHAT IS THE PRAGMATIST LIKE?
The Pragmatist is a rational person with a good dose of common sense; with regard to everyday consumption, he/she relates to facts and function rather than emotions and dreams and is mainly concerned with making the finances and all other aspects of daily life work.
The Pragmatist emphasises values such as function, confidence, safety, comfort, ease, effectiveness and clarity.
To the Pragmatist, what matters is being there for one’s nearest and dearest, enjoying life’s comforts and making ends meet in what is often a busy daily life full of work, shopping, leisure interests and children or grandchildren.
The Pragmatist goes for products and services that make everyday life simpler, help to create order or improve overview, increase confidence and safety, or save time and money. Price and quality are always weighed in the balance, and the decision to buy is made on a rational basis, taking account of the overall needs of the household.
The need for transportation is mainly a matter of meeting everyday logistical challenges in the most economical, safe, practical and comfortable way. Therefore, aspects such as purchase price, fuel economy, range, top speed, spaciousness and comfort are absolutely vital in the choice of car.

It is estimated that the electric car will only reach the domestic mass market when the Pragmatist embraces it

WANTS TO ACT IN AN ECO-FRIENDLY WAY, BUT IT HAS TO BE MADE EASY
The Pragmatist usually wants to act in an eco-friendly way, but doing so has to be simple and hassle free. If it becomes too awkward, it is not a priority. At the same time, the Pragmatist wants to be able to save money or time from this, otherwise he/she will reject it in the interests of everyday logistical and financial considerations and needs. In deciding the question of grey or green consumption, financial considerations are weighted heavily. The Pragmatist is a green consumer to some extent, but mostly in aspects involving his/her own health or well-being or that of the immediate family. Saving the planet from carbon emissions definitely comes further down the list of priorities. At the same time, green consumption choices must not be associated with too much uncertainty concerning economy, comfort or ease.
I have a pragmatic relationship with transportation: reliability and common sense; perhaps a bit boring!

PORTRAIT // JOACHIM

Joachim is 67, retired, and lives in the Copenhagen area with his wife Mona. They live in an idyllic old townhouse which he inherited from his father.

Birds are one of Joachim’s great passions, and he often drives to a nearby nature reserve to study them through his telescope. Joachim and Mona own a boat jointly with a friend, and it has a permanent mooring in the old marina approximately 400 m from their home. They participate in boat races every Tuesday evening and also use the boat for weekend trips and holidays in the Øresund area.

Joachim and Mona own a ten-year-old Mazda Demio. Of the two of them, Mona is more interested in cars, and she drives her car in the course of her work every day. When they bought the car, it was important to them to get something practical in terms of their needs and finances. Joachim’s main mode of transport is a Batavus bike from 2001. He uses his bike for shopping trips, going to the boat, going to the swimming baths, and for more local bird-watching expeditions.

Joachim and Mona have been out test-driving an electric car. It was a positive experience, but they agree that electric cars are too expensive and that the quality is not yet good enough. They also see some practical problems to do with electric cars. First, they want to have space for their grandchildren, and with today’s electric cars, that is not possible. Secondly, they are not allowed to park on the street where they live. Therefore, they always leave the car about 200 m from the house, which would make charging an electric car virtually impossible.
Maren is 29 and has just taken up a position as business manager with a petroleum company. She is also busy doing the second part of a diploma in business administration. She is married and has a daughter aged 16 months. The family live in an old farmhouse in a country area approximately 25 km northwest of Copenhagen. Maren learnt to drive in the USA when she was 16 and passed the Danish driving test in 1998 when she was 18. She has driven regularly ever since, first her parents’ car and later her own.

Both Maren and her husband are very active scouts, and they enjoy spending their weekends on excursions for scouts and scouting events. Their home is full of enlargements of photos taken by the family on their travels. It is also peppered with souvenirs from these trips. Much of the furniture in the house, baby equipment, toys and the TV have come from friends and family. Among the items they have bought is a wall unit – from a good furniture shop so they can be sure it is of the right quality and will last a long time.

As Maren says herself, she is not the least bit interested in cars. Her husband made most of the decisions concerning the acquisition of their two cars. In fact, Maren prefers to drive as little as possible, but you cannot do without a car when you live in the country. They have a VW Lupo, bought in 2003, and a Land Rover (LR) Defender, which they use for long trips and car journeys.

Four doors and a panda in the rear window – that’s us!!
The Pragmatist regards switching to an electric car as a big step associated with a great deal of uncertainty. It is a question of things directly pertaining to the car, such as overall economy, performance and charging time, as well as all the service systems and peripheral services that help ensure owning a car and getting around can be as hassle-free as at all possible. You need to be able to charge quickly and efficiently, wherever and whenever you need to, but you also need to be able to find competent roadside assistance, repairs, attractive insurance, etc.

The Pragmatist also has a number of concrete demands concerning the electric car. It must be capable of out-performing fuel cars as regards both purchase price and fuel economy, and it must be capable of offering the same range, spaciousness and comfort. Only once the uncertainty surrounding the electric car has been removed, once the service systems are established, tried and tested, once there is a sufficiently wide choice, and the electric car has reached a stage in its development where it can do the same as today’s fuel cars will the Pragmatist be prepared to make the leap. Thus, the Pragmatist can be positioned as Late Majority or Laggard on the adoption curve.

It is estimated that the electric car will only reach the domestic mass market when the Pragmatist embraces it. Therefore, the Pragmatist’s demands concerning the electric car and the services and service systems associated with it can serve as a milestone with regard to what requirements must be met before the electric car achieves critical mass and can rightly be called a market success.
DESIGN PRINCIPLES
Here are six overarching guidelines for designing products, communication and/or services for a Pragmatist.

1. Environmental efforts must be financially worthwhile
The Pragmatist is focused on price and quality and does not want to compromise on economy, comfort, top speed, spaciousness or ease. Accordingly, it is necessary to offer a product and a number of service systems associated with the product which are also economical and sustainable in a practical way. It is not enough for the product to be eco-friendly.

2. It must be demonstrably fit for everyday life
This consumer type is reticent about new products and therefore needs to be persuaded that the product will last in the long term. It is essential to the Pragmatist for the product to be stable and reliable and for it to work in everyday life.

3. A secure investment
In order to make any investments, the Pragmatist needs virtually 100% certainty and is only willing to run a very low risk. The Pragmatist wants full control over his/her investments and what they entail in the way of ongoing expenditure on usage and maintenance.

4. Design for the whole household
Products and services must be capable of meeting the needs of the entire household. The Pragmatist places great importance on meeting practical needs. Many in this category have children or grandchildren and regard it as an important element for the car to be child-friendly, flexible and easy to handle.

5. User-friendliness
Quality is not about chrome, but about reliability and user-friendliness. The Pragmatist likes to avoid problems in everyday life and to utilise personal and financial resources in the best way possible.

6. Aesthetics are secondary
It is vital to the Pragmatist for everything to work properly, while aesthetics are not an absolute requirement. That can be dispensed with. Some Pragmatists are Pragmatists out of necessity, so they do not have any fundamental objection to aesthetics. For this part of the group, touches of luxury and cohesive aesthetics could just tip the balance in the purchasing situation, but never at the expense of financial or practical aspects.

To me, it’s a mode of transport – nothing else
THE PRAGMATIST – DEVELOPMENT OPTIONS

SCOPE FOR PRODUCTS, SERVICES AND COMMUNICATIONS
What concrete scope for products, services and communications could match the Pragmatist’s needs and demands? Below you can see some relevant suggestions.

Product options
1. Strike the right balance between price and quality. The electric car becomes attractive as soon as the quality is convincing in relation to the investment.
2. A wide selection of options is less important. A good standard solution with a focus on the basic functions is more convincing. A wide range of colours and accessories is of minor importance.
3. A product that takes care of the needs of the entire household in terms of practical use.
4. A broad-based infrastructure is vital. Security in the form of a network of charging stations or battery replacement stations.
5. Good solutions for everyday usage situations, large and small, will prove very persuasive.
6. A product with a focus on reliability and stability.
7. Charging and battery care must be easy to integrate into everyday life. For example, the physical setting must also be taken into account, because not everyone has a garage with a suitable outlet.
8. Child-friendly solutions in the car, such as car seats or entertainment options.
9. The design of the product should be styled to be functional and rational.

Scope for services
1. A secure investment – allow the Pragmatist to try out new products and show him/her first hand how easily the products can be integrated into everyday routines, and what financial savings can be made.
2. Battery arrangements, e.g. hire, subscription, or similar.
3. Battery warranty.
4. Competitive service agreements, e.g. breakdown assistance, repair and maintenance, insurance, charging options, etc.
5. Help to calculate – and get an overview of – total costs, e.g. via an Internet portal.
6. Offer a turnkey solution that meets the requirements of day-to-day motoring as well as holiday needs, e.g. via the option of inexpensive hire of a diesel car for motoring holidays.

Scope for communications
1. Facts and rational arguments work best with the Pragmatist. Therefore, the common-sense and financial benefits of the choice need to be emphasised instead of appealing to dreams or ethics.
2. Make the savings and benefits tangible and facilitate comparisons with the traditional car. To the Pragmatist, it must be a common-sense choice, comparing the options in writing.
3. Focus on the security, simplicity and safety of the electric car. The green argument can be incorporated to good effect, but only as an extra bonus on top of the financial and comfort benefits.
4. Emphasise and demonstrate fitness for everyday life. Perhaps offer the opportunity for people to test-drive the car. Also, work on breaking down the prevailing prejudices the electric car is encumbered with.
5. Appeal to the needs of the entire household rather than individual desires.
The Pragmatist is a green consumer to some extent, but mostly in aspects involving his/her own health or well-being or that of the immediate family. Aspects such as purchase price, fuel economy, range, top speed, spaciousness and comfort are absolutely vital when choosing a car.
3.5 THE RATIONALIST – A PORTRAIT

THE CAR AS A RATIONAL PROJECT
To the Rationalist, the car is not a car. It is an implement, a work tool and a means of rationalising the use of transport and energy in everyday life.

WHAT IS THE RATIONALIST LIKE?
The Rationalist is often – but not always – a business motorist. The car is an important part of his/her life, so involvement is greater for this consumer type than for the Pragmatist, for example, who regards the car merely as a necessary mode of transport to ferry people from A to B.
The Rationalist emphasises facts and function when it comes to transport and energy consumption. And when the Rationalist talks about the environment, this refers primarily to two aspects: economy and signal value.
As far as transport is concerned, this consumer type emphasises values such as rationalism, economy, control, overview, effectiveness, ergonomics, quality and comfort.
The car is part of a rational project to optimise efficiency, enhance comfort and usability, reduce energy consumption, to improve performance and to economise.
Cars are used in many contexts by business motorists and it is vital that the car works optimally. It has to ferry people, goods and tools from the company or organisation out to the customer or citizen in the most effective, economical way possible. But it also has a number of other functions and serves as a workshop, warehouse and chiller, office, canteen, communications centre and advertising board. Accordingly, factors such as pulling power, spaciousness, economy, interior fittings and ergonomics are absolutely central for the Rationalist when it comes to choosing a car, and the signal value to the world at large is important.

The car is a tool box on wheels. If it has to be repaired, I just take out everything I need

If the Rationalist is a domestic motorist, he/she will often be absorbed with recording the family’s transport habits and energy consumption and will use this to create an overview and enhance efficiency – thus improving the finances. Therefore, efficiency and control are the crux of the matter, too. Finances serve as tangible proof of just how much he/she has succeeded in rationalising consumption. Quite simply, the domestic Rationalist finds it personally rewarding to save money and optimise the finances. He/she also finds personal satisfaction in comparing his/her own low level of consumption with that of others, as well as in giving advice and tips. In other words, the domestic Rationalist is an inveterate bargain-hunter.
The Rationalist would like to be green, but never at the expense of rational demands. To Rationalists in the business segment, the desire to improve the working environment and a high level of signal value towards customers can be a good argument for green energy consumption and green transport. But to Rationalists, whether in business or in the domestic segment, green consumption is very much about economy and rationalisation. If it is practical, effective – and demonstrably capable of making savings – the Rationalist is happy to be a green consumer and buy sustainably. In addition, the Rationalist likes to have a way of parading his/her low consumption to the world at large and comparing this with what others consume.
Kristian is 46 and has worked in municipal horticulture in a provincial area since 1985. His job mainly involves taking care of indoor plant arrangements in schools, care homes, town halls, libraries, etc. Kristian drives a 2006 enclosed Renault Traffic van, which he chose himself. It was bought to replace a 14-year-old car which was completely clapped out and uneconomical to run.

The whole interior of the van has been specially constructed. For example, it has a raised roof to accommodate tall plants, tinted windows to avoid scorching the plants, extra insulation to maintain the temperature in the cargo compartment, electric mirrors to make it easier to reverse while towing a trailer, and running boards at the rear. Separate heating has been installed to protect the plants from frost. The cargo compartment has two flexible shelving units installed; these can be easily dismantled to create more floor space as required. The vehicle also serves as storage. The shelves in the cargo compartment are stacked with items such as plant pot holders, watering cans and fertilizer.

Finally, the car also serves as an office on wheels, because some of the paperwork is done inside the vehicle, and work tasks often come in via the mobile when he is out driving.

Kristian drives 16,000 km a year for work. He is not dismissive about the idea of an electric car, but there are a number of rational factors that take precedence over environmental considerations. As Kristian says: “What matters most is that it must be able to haul the loads it has to carry, and there must be enough power to heat the vehicle, too, so as to protect the plants from frost.”
It’s good to have room for your whole life in the car

PORTRAIT // LISE
Lise lives with her daughter Liv and their two cats in a house on the outskirts of a large provincial town on Zealand. Her boyfriend, Lasse, lives further out in the country with his two sons.
Lise is a qualified actress, having graduated from a private theatre school. She is self employed and works mainly with children’s theatre. Lise’s working life is characterised by short contracts and independent touring and performance of her solo children’s theatre act in Denmark’s kindergartens and nurseries, etc.
Lise has a 2005 Fiat Multipla. It cost her DKK 65,000 when she bought it used in 2008. It does about 15 kilometres to the litre.
Lise usually has to drive a long distance to work, and she is dependent on a car particularly so that she can transport her props, etc., when she takes her own act on the road.
When Lise bought her car, she spent hours and hours on the Internet, and she got advice and guidance from the family. She also spent a good deal of time considering her needs. It was important to Lise to be able to get a car that could be registered as a commercial vehicle, with plenty of space and easy access. It was also important to her for the car to meet her domestic needs as well as her business needs.
Lise is delighted that the car is spacious, that it has lots of shelves and compartments, and that the seats can be adjusted. This is because comfort is important when you drive as much as she does. When you go on tour, it is good to know there is space to take your whole life with you in the car.

It’s good to have room for your whole life in the car
To the Rationalist, green consumption is generally very much a matter of economy, effectiveness and efficiency. Basically, the Rationalist wants to adopt a greener way of life as far as transport is concerned, but will not get serious about it until it can be demonstrated that this represents rationalisation and an overall reduction in energy consumption, which ultimately shows up on the bottom line in the form of financial savings.

To Rationalists in the domestic segment, the opportunity to display their low consumption to the world at large and to compare their consumption to that of others is another motivating factor. Clear evidence of enhanced fuel economy and efficiency is vital. As far as Rationalists in the business segment are concerned, the electric car will not be adopted until it can match fuel cars in terms of the large number of demands for an efficient interior, comfort, top speed, spaciousness, range, pulling power and ergonomics required for optimum performance in the work situation.

As far as Rationalists in the business segment are concerned, another motivating factor could be to create a better working environment, to convey a green profile to customers or to live up to the organisation’s declared objective of making considerable reductions in carbon emissions within a certain number of years. Organisations can only achieve that goal if they focus on transport, because for most organisations, transport accounts for the largest amounts of carbon emissions by far. The Rationalist demands proof of enhanced overall economy as well as tried-and-tested solutions before he/she is willing to make the leap of faith to invest in an electric car or a fleet of electric cars.
However, Rationalists in the business segment are often also faced
with a declared environmental objective which they must fulfil. This
encourages them to invest in an electric car or a fleet of electric cars
for certain purposes. It will take time before the overall economy of an
electric car is demonstrably better than that of a fuel car. It will also
take time to develop variations of electric cars capable of satisfying a
number of very rational demands expected of business cars. Accord-
ingly, this places the Rationalist in the field between the Early Majority
and the Late Majority.

**DESIGN PRINCIPLES**

Here are six overarching guidelines for designing products, communi-
cation and/or services for the Rationalist.

1. **It has to be worthwhile**
   If this consumer type is to invest in electric cars, it is important
   for the investment to be worthwhile. Financially, more than anything,
   but improving practical aspects such as work processes, parking
   conditions or employee schemes are also significant. This could
   also be in the form of PR and signal value, but this tendency is
   much less pronounced.

2. **Functionality**
   This segment is typified by business motorists who regard the car
   primarily as a work tool. Therefore, functionality and practicality
   are very important. If the car is not working, this will affect the
   bottom line. Long-term operational reliability in all situations is
   very much the focus. For domestic motorists, operational reliability
   means it is possible to make ends meet in a busy daily life, both
   financially and practically.

3. **Bargain-hunting**
   The Rationalist is concerned with comparing his/her own low
   consumption with that of others, both as confirmation of being in
   control of one’s resources and to see whether consumption can
   be optimised. Finances are given careful consideration and there
   is also the aspect of enjoyment of a quick deal or bonus systems
to add even more value.

4. **An Excel spreadsheet as a regulator of behaviour**
   In the hunt to determine what is most worthwhile, the Rationalist
   employs a great many systems to assist with comparing experiences.
   For example, recording driving conditions, petrol consumption,
   personal finances and heat consumption. All this can be used to
   generate measuring units, e.g. to show family members’ consump-
tion of a particular service.

5. **Flexibility**
   The Rationalist may require a high level of flexibility and adaptation
   for work tasks. For some, it will be the flexibility to be able to fit out
   the car according to individual, specialised needs for the long haul.
   For others, it will be flexibility in the working day, where needs
   change by the hour. In the business segment, the Rationalist
   wants to be able to influence the system with regard to transport.

6. **User involvement**
   The Rationalist wants very much to influence the product and, thanks
to his/her everyday experience, he/she has lots of valid suggestions
both with regard to product design and with regard to ancillary
services. Thus, it would be well worth involving the end-user in the
development process. First, it will bring the user’s needs to centre
stage; secondly, it will foster a positive sense of ownership in the user.
THE RATIONALIST – DEVELOPMENT OPTIONS

SCOPE FOR PRODUCTS, SERVICES AND COMMUNICATIONS

What concrete scope for products, services and communications could match the Rationalist’s needs and demands? Below you can see some relevant suggestions.

**Product options**
1. Products that facilitate keeping accounts by reading, measuring, weighing and monitoring a particular service – preferably using complex calculations. A sort of heart rate monitor for everyday consumption of resources.
2. Products which, based on everyday routines, enhance the Rationalist’s work processes by giving a clear indication of how and why this has been achieved. It could be an enhanced cab interior or new technology. Or an easy, flexible solution to take care of the business motorist’s specific needs for an office, meeting room, tool box, canteen, shared workspace, etc.
3. Products that make the car an oasis or a break from everyday routine. Allow for creating personal space, possibly using digital options and personal keys, etc.
4. Technology which must be stable and reliable – and which demonstrates this. Products must exude the fact that they are a rational choice, like ECCO shoes and Kansas workwear.
5. Everything must be robust, durable, easy to clean and must age gracefully. The Rationalist does not have time to look after things but, nevertheless, does not want things to look worn out.
6. The styling aspect of product design must be functional, rational, robust and reliable.

**Scope for services**
1. Differentiated electricity prices would be like winning the lottery to the Rationalist because this could open up brand-new opportunities for optimising one’s own consumption.
2. Other services which specify resources and provide a facility for monitoring and controlling are also welcome and appealing.
3. Systems to ensure that the Rationalist can perform. An individual and competitive service pack tailored to specific needs, including insurance, breakdown assistance, rescue services, warranties, maintenance, etc., will provide convincing reassurance that if the worst should happen, the car will soon be up and running again.
4. Leasing and other alternative ownership models in a fleet of vehicles would make it possible to choose a car according to the particular needs of the day.
5. Special offers whereby memberships of various organisations are built into consumption, e.g. membership of the FDB Danish consumers’ co-operative + power consumption or other systems offering a bonus in return for moderate effort.

**Scope for communications**
1. Use arguments about saving time and money.
2. Emphasise practical benefits, flexibility, strength, robustness and reliability. New ergonomic and practical solutions to make work easier and more enjoyable.
3. Make consumption a measurable quantity that you can see yourself reflected in. Ideally with quantitative analysis by well established, credible organisations such as FDM, Gallup or KL (Kommunernes Landsforening – Local Government Denmark).
4. Obtain arguments for communication in everyday life and preferably associate them with games or competitions where participants can win something.
5. Also use arguments that may make everyday life flow more smoothly; a little pampering or a clever way to save time.
If it is practical, effective – and demonstrably capable of making savings – the Rationalist is happy to be a green consumer and buy sustainably
THE CAR AS AN AESTHETIC PROJECT
To the Design Lover, the car is above all an aesthetic project. The car is not a car; it is a design icon and a way of communicating particular, aesthetic lifestyle codes.

WHAT IS THE DESIGN LOVER LIKE?
The Design Lover gives high priority to aesthetic expression, style, style icons and the history of design – even more so than practicality and the environment, where these conflict. The Design Lover is a creative, positive, outgoing person who is change-oriented and always thinking in terms of new codes and signals. The Design Lover is a holistic individual with a focus on enjoyment, aesthetics, freedom, individualism and creativity. Design Lovers are bon vivants and are also very attentive and perceptive in relation to their everyday life, surroundings and fellow human beings. Like the Status Seeker, the Design Lover considers it quite legitimate to pamper oneself and those around one with consumer goods that exude quality and provenance.
The Design Lover is more style-conscious than idealist in his/her consumption. Consumption enables him/her to convey to the world at large the aesthetic style he/she considers important: a style that is constantly being expanded, refined and adjusted, depending on personal development, fashion and currents in society.
The Design Lover is very much aware of his/her home, car, clothing and general appearance, and it means a great deal to convey the “right” signals to the world at large – at least, to selected parts of the world at large! These signals are not so much a matter of status or position but of being able to juggle various different aesthetic codes and styles in a sophisticated way.

Others do not place as much emphasis on being green, although they are very much aware that they should, and that this is becoming part of the new currents in society.

FLUCTUATING ENVIRONMENTAL AWARENESS
Environmental awareness fluctuates in this group. Some Design Lovers focus on being green and consider it important for the green signal to be an integral, sophisticated part of the product’s iconography. Others do not place as much emphasis on being green, although they are very much aware that they should, and that this is becoming part of the new currents in society.
The Design Lover often mixes established brands with a striking design history and design classics with exquisite second-hand discoveries, new, ground-breaking design and his/her own creations.
If the Design Lover has a car, it may either be an old car with heart and soul and provenance, or a recent, fairly expensive car of an established make well known for design. Some Design Lovers clearly regard the car as a thoroughbred with genes and heritable properties, a being with shapes and curves, with personality and soul.
If it could be attractive and eco-friendly at the same time, that would be preferable, of course

PORTRAIT // DIKTE

Dikte is 32 and lives in a shared ownership flat in Copenhagen with her husband and their eighteen-month-old daughter and Dikte’s husband’s nine-year-old son from a previous relationship. She has an M.Sc. in business administration and runs her own networking company to help designers, artists, musicians, etc., to market and promote their products.

As far as Dikte is concerned, aesthetics, fashion, creativity and the children’s wellbeing and development take precedence over financial considerations. She emphasises that she and her husband prioritise living in harmony with their ideals with regard to their working hours and the types of jobs they do.

Dikte and her husband have a 1971 Opel Rekord 1900. It was a wedding present and they are delighted with the look of the car, as it exudes retro and nostalgia. They have chosen to retain the original seat belts, wing mirrors, nappa leather seats, etc., even though these are impractical in relation to daily needs and comforts – and even though they have new seatbelts which they could put in. Remaining faithful to the original history and the car’s original design and aesthetics is more important than comfort, safety and other practical considerations!

Dikte still really loves the car although she avoided driving it for a long time because it is large, heavy and difficult to parallel park. When it comes to electric cars, Dikte is inclined to think they are ugly rather than eco-friendly. “If it could be attractive and eco-friendly at the same time, that would be preferable, of course, as long as we could afford to buy it, too,” she says.
Allan is 35 and lives in Copenhagen with his partner and their two young children. For the last three months, he has been in his dream job as a project manager in a small company which is currently converting a Jaguar to run on electric power. In his spare time, he is also busy converting an old Volkswagen van, bought in 2008, to run on electric power, using parts from old prototypes of electric cars, etc. For his everyday driving, he has a VW Golf III estate, which is the family car. He uses it to drive the 7 km or so to and from work, as well as for running errands while at work. It is also used for the main shopping trip.

Allan is a graduate in computer science, but recently he has taken courses in coachwork and iron/metalwork. He loves finding things and fixing them up instead of throwing away things that can still be used. He is highly attuned to good quality brands and especially appreciates Danish furniture design. Although he is very much into re-using things and second-hand discoveries, he will not accept any old rubbish – only quality, unique items.

Allan is not particularly bothered about being eco-friendly, but he hates to see anything going to waste, and he feels he is being eco-friendly by re-using things. His MacBook computer is on almost all the time, but he emphasises it is more eco-friendly to use a laptop than a desktop. Whenever possible, the family eat organic food.

"My cars are not always very practical or economical, but they are simply so cool, and the experience of driving them is quite something"
According to the Design Lover, today’s electric cars are virtually a negation of design, emotion and aesthetics. They stem from an engineering tradition; they are functionalistic and look plastic. The Design Lover emphasises that, if the electric car is to be a realistic alternative for him/her, it must incorporate a number of new design-led dimensions; dimensions which set new aesthetic standards and at the same time reflect a balance of design, emotion and sustainability. Being small is not a problem, as long as it is smart! This group can be designated as the Early Majority, because they are mentally prepared to adopt the electric car. However, it would require some manufacturers to see the business potential of boosting the electric car into a whole new design league, utilising iconography that is new not only to the electric car but also to cars in general.
DESIGN PRINCIPLES
Here are six overarching guidelines for designing products, communication and/or services for a Design Lover.

1. Focus on design
To the Design Lover, the most important thing about a product or service is the actual design. If a product or service does not appeal to them in a purely aesthetic way, or if it does not have a simple, user-friendly interface, it will not even be considered.

2. Distinctive styling
The solution must have distinctive styling which is different and differentiates the product from competing products, including traditional cars. It must have its own provenance and health.

3. Details
The quality of the details is important to the overall product experience. The Design Lover is attentive to details and will appreciate a product that is well crafted and well thought out in terms of both aesthetics and user-friendliness.

4. Less is more
Think in terms of maximising the experience, partly by taking away anything that is superfluous and putting a lot of thought into the details.
Reduction: Create simple, logical, sensible solutions. No frills.
Maximisation: Invest maximum energy in details, choice of materials, smart solutions, good ideas and, above all, styling and expression.

5. Tell a story
To the Design Lover, it is important for the product to refer to the story of its design or for it to create its own story. This gives the Design Lover the opportunity to relate to the product and the messages it conveys, and adds more value and significance to the product and places it in a context.

6. Familiarity with IT
People in this group are confident users of various new technologies and media. They are accustomed to simple, logical user interfaces that interact with each other and make life more fun as well as easier. To some extent, they will expect a product or service to work together with their other technology products and services.
THE DESIGN LOVER – DEVELOPMENT OPTIONS

SCOPE FOR PRODUCTS, SERVICES AND COMMUNICATIONS

What concrete scope for products, services and communications could match the Design Lover’s needs and demands? Below you can see some relevant suggestions.

**Product options**
1. The styling aspect of product design must appeal to the emotional and aesthetic aspects.
2. Offer lots of options with regard to extras and accessories.
3. Allow for individual customisation.
4. Recognisability, simplicity and strong signal value.
5. Focus on detailed solutions at a high level and original ideas as a source of pleasure in one’s daily life.

6. It is a good idea to let the aesthetics rub off on the objects surrounding the core product – in the case of the electric car, for example, the keys, electric charging card, electric lead and its carrying case, the battery, etc.
7. Focus on the quality of the details.
8. Focus on personality and distinctive characteristics.

**Scope for services**
1. Offer easy, simple and logical user interfaces which make life easier, clearer to understand and free up time to enjoy all the fun aspects.
2. Offer intelligent, fun and interactive solutions that facilitate individual customisation.
3. Offer solutions that “talk” to the other services and intelligent solutions used by the household or the individual.
4. Enter into strategic alliances with recognised design icons and design companies, e.g. with a view to creating a limited edition.

**Scope for communications**
1. Focus on scope for being a trend-setter with regard to new design icons.
2. Emphasise the little touches of luxury and the exquisite aesthetic experience.
3. Construct a story that relates to current and future trends or subscribe to a familiar design history in a new guise.
4. Emphasise that the product or service is compatible with existing technological gadgets and that this makes life more fun and simpler.
If the Design Lover has a car, it may either be an old car with heart and soul and provenance, or a recent, fairly expensive car of an established make well known for design. Some Design Lovers clearly regard the car as a thoroughbred with genes and heritable properties, a being with shapes and curves, with personality and soul
3.7 THE CITY BOHEMIAN – A PORTRAIT

The car as a trendy rebellion project
To the City Bohemian, the car is a trendy rebellion project. The car is not a car, but a symbol of being a trend-setter and forging ahead in the creation of a new world agenda.

What is the City Bohemian like?
The City Bohemian is the elite of the urban jungle. He/she is interested in the environment and electric cars because it is smart. The City Bohemian is a community-oriented project person who is often deeply committed to his/her work but also gives high priority to social communities. To the City Bohemian, values such as freedom, idealism, community, flexibility, changeability and spontaneity really count. It is important to him/her to signal these values — in part, via what he/she consumes.

The City Bohemian is often very much aware of his/her choices and especially of what he/she rejects with regard to political points of view, interests and consumption.
The City Bohemian can be at the high or low end of the income scale. What is crucial to this type of consumer is to signal a high level of cultural and social capital. Too overt a demonstration of economic capital in the way of luxury products, etc., is regarded as bordering on the vulgar. Staging and image are important factors for the City Bohemian, who gives priority to being an active participant in the cultural and social life of the city. The City Bohemian will mix many different — often contradictory — brands and styles with a view to creating his/her own unique style. In general, the City Bohemian focuses strongly on the environment, sustainability and ethics, particularly because this has become an important key to recognition among the urban elite. Attitudes are not always followed up with consistent conduct, however. You could say the City Bohemian is a green consumer to a degree, focusing mainly on green choices that concern what is “visible” and “immediate”, such as A-rated white goods, organic food, care products without parabens, etc. The aesthetics of a product and its narrative are also important parameters as far as the City Bohemian is concerned. And if the eco-friendly alternative sits well with the City Bohemian’s general personal narrative, it will be adopted and used actively for self staging purposes.

The City Bohemian is generally very positive about the electric car and open to embracing the technology, in practice as well as in theory. City traffic pollution and noise is regarded as a major problem, and the electric car is viewed as a way of overcoming this sort of nuisance. At the same time, the present limitation in range and top speed of the electric car is no problem to the City Bohemian, who mainly wants to drive in and around the city. The City Bohemian is generally willing to find alternative means of transport for long journeys, such as visiting the family in Jutland and trips abroad.
I want to be a trend-setter when it comes to creating a new world order

PORTRAIT // CARL

Carl is 32, single and lives on the outskirts of Amager in a one-bedroom flat with his one-year-old boxer dog. He is a project manager for CO2 E Race, a project to create awareness of electric cars in the run-up to the United Nations Climate Change Conference in Copenhagen. Prior to that, Carl was responsible for the business side of Citadel, the Copenhagener’s magazine, and has also run his own fashion agency. Carl has organised vanishing days and exhibitions and describes the circles he moves in as a first mover milieu. Carl bought an Ellert 18 months ago, and he sees some similarities between driving the Ellert and cycling. He feels the Ellert is more flexible in traffic due to its small size, and he gets around much faster. He also believes the Ellert is more obviously eco-friendly than the other electric cars on the market. He says himself that it has an “underdog, retro atmosphere about it,” and that it gets him lots of attention when he parks in front of cafés in Copenhagen.
Julie is 27 and lives with her partner in a flat on Amager. Julie is a social educator and her partner has a Ph.D. post at a university in Jutland. He flies to Jutland early Monday morning and returns home on Wednesday or Thursday night. Julie spends some of her leisure time at Østre Gasværk Teaterklub (theatre club), of which she is a member.

Julie passed her driving test at 18, but she does not own a car. At the moment, she prefers her bicycle, which makes it easier to get around in the city. She thinks buying a car would only become relevant when she and her partner start a family, or one of them gets a job that requires a car.

When it comes to cars, primarily shape and colour matter to Julie. A SmartCar is parked outside her Amager home. It is small and practical for city driving, she believes. However, she is not sure whether it is eco-friendly. “It would be cool if it was an electric car,” she says.

On Julie’s window sill at home, there is a special edition model of a red Ferrari. It was a gift from Julie’s father, who said if a prospective boyfriend did not discover it quickly and show an interest in it, he would not be worth having!
POSITION ON THE ADOPTION CURVE

The City Bohemian is very willing to adopt green transport habits. Especially because the car is highly visible in the urban street scene and can thus also be used as a medium for telling the story of a green, sustainable lifestyle. But also because the electric car can help solve the noise and air pollution of the city.

The present limitation in range and top speed of the electric car is no problem to the City Bohemian, who mainly wants to drive in and around the city and is generally willing to find alternative means of transport for long journeys. The City Bohemian can be designated as an interesting first mover group. He/she helps to set the agenda with regard to the environment and can take the image of the electric car in a direction that makes it interesting to a very large group.

City Bohemians can help demonstrate that it is actually possible to be smart and eco-friendly at the same time. And they can add brand-new emotional value to the electric car because they are the heralds of all that’s new in aesthetics and social codes.
We have chosen to live by an ideology. That means we don’t earn as much

**DESIGN PRINCIPLES**
Here are six overarching guidelines for designing products, communications and/or services for the City Bohemian.

1. **Individual and modern**
   To this consumer, eccentricities that have emerged in subcultures are central. Although the City Bohemian will be quick to adopt the electric car, it will not necessarily be a life-long commitment. The City Bohemian is transitory and works actively on his/her identity, so if the electric car becomes too mainstream, it will no longer be relevant to this segment. Thus, continuous work must be done with services which create novelty value.

2. **Tolerance and anti-elitism**
   The City Bohemian is sensitive to new currents, which are observed and transformed into a style to show exactly "who I am". This segment are "first movers" on a great many fronts, characterised by a high level of tolerance to new things and a definite rejection of anything elitist.

3. **Cultural liberalism**
   This segment uses and creates culture. They are fully familiar with new media, which they use in many contexts, both at home and at work. They try out types of communication and communications forums and then reject them either when they become mainstream or when they prove too impractical. They investigated rap music, Facebook and YouTube – and rejected them in favour of bead plate graffiti, i.e. political messages expressed in kindergarten style, using plastic plates which are combined into patterns and fused together by ironing.

4. **Flexible work and family structure**
   To the City Bohemian, status is not about owning a car. He/she may have a very complex working life with flexible working hours and a family structure that changes from week to week – or that is unconventional on other fronts. Therefore, it can be useful to have access to a system whereby you can choose a car to suit the requirements of the day.

5. **Tribal club culture**
   Signal value and non-verbal communication reflect a sense of belonging which can be difficult for others to differentiate because it is so disorganised and unstructured. These forms of belonging can be utilised in communications and product development.

6. **Competition from public transport and the bicycle**
   In the urban space, the closest competitors are not only traditional domestic cars. A hassle-free infrastructure with a high signal value can tip the balance for a segment that is already ready!
SCOPE FOR PRODUCTS, SERVICES AND COMMUNICATIONS
What concrete scope for products, services and communications could match the City Bohemian’s needs and demands? Below you can see some relevant suggestions.

Product options
1. Gadgets to help signal a sense of belonging to the electric car, even when you are not sitting in the car.
2. Charging systems that use and relate to the city’s cultural spaces, such as libraries, cafés, playgrounds, sports centres, etc.
3. Products which signal that urban living, internationalism and mobility equate to status (such as SmartCars).

Scope for services
1. Benefits in urban areas such as fast lanes for electric cars, more parking options and reduced costs of parking.
2. Individually tailored systems with plenty of choices, cultural connections and, above all, visibility.
3. Build GPS functions with other geographical options into an intelligent electronic navigation system that allows integration with events at cultural institutions, sales, parking options and personal interests.
4. Hire/leasing systems to provide for day-to-day needs.

Scope for communications
1. Don’t forget the current non-users of this segment, who can be reached with intelligent “first-mover actions”.
2. A cultural, intelligent and media-savvy reference is better than the environment, both in the choice of media and in the messages conveyed.
The present limitation in range and top speed of the electric car is no problem to the City Bohemian. City Bohemians can help demonstrate that it is actually possible to be smart and eco-friendly at the same time. And they can add brand-new emotional value to the electric car because they are the heralds of all that’s new in aesthetics and social codes.
THE CAR AS AN ETHICAL PROJECT
To the Environmentalist, the car is above all an ethical project. The car is not a car; it is the symbol of doing “the right thing” or “the wrong thing” in terms of various overarching environmental considerations.

WHAT IS THE ENVIRONMENTALIST LIKE?
The Environmentalist has strong green values and attitudes. Values such as intimacy, origin, sustainability, responsibility, care and authenticity are absolutely central.
The Environmentalist feels responsible for, and cares about, the Earth and the flora, fauna and people who inhabit it. This consumer is on a mission to secure a future not only for himself/herself but also for our children.
With the correct information and, importantly, sufficient choice, the Environmentalist will generally choose green consumption and thus what is ethically “correct”, even if it means compromising on comfort.
However, the Environmentalist does not always act in accordance with his/her green values. With regard to transport, financial and practical considerations and/or lack of choice can overshadow environmental considerations. This consumer has to wrestle with his/her conscience before allowing other considerations to take precedence over the environment.
Analysis also shows the Environmentalist often deliberately rejects comfort in order to optimise the feeling of doing “the right thing”. In connection with cars and other modes of transport, this could mean "small is beautiful". A clear conscience and a sense of social responsibility are the governing factors for this consumer. And the sense of responsibility increases concurrent with sacrificing comfort in favour of the environment.
The Environmentalist may live in the city, in the provinces or in the country. Both women and men are represented among this type of consumer, but there is an indication that there are more often women than men in this group, and that this consumer type is usually 35+.
The Environmentalist has a strong personality and his/her consumption is driven by idealism and responsibility. He/she has a strong social streak and a powerful sense of caring. Accordingly, he/she is often involved in work or leisure activities that involve building social communities or caring for others. For example, she/he is often active in the local community via theatre groups, as a Red Cross friend, relief worker, tutor, etc.

You automatically look down at the exhaust pipes of other people’s cars. It is as if it just happens automatically
I want to signal that I’m doing the right thing. If we all acted responsibly, we wouldn’t have all these problems.

**PORTRAIT // EVA**

Eva is 53 and drives an electric car. She and her husband Palle have a leisure smallholding with a few animals. They own two electric cars – a Renault Clio and a Citroën Saxo – as well as a diesel VW Multivan. They have a solar collector in the roof of their house and a wind turbine in their back garden. The house and garden bear the hallmarks of the couple’s creativity and ingenuity with wickerwork, tapestries, textile collages, home-made hats, veteran cars to be renovated, and a shelter which Palle is in the process of building. There is a strong focus on making room for creativity, expression and intimacy in life, in their home and in their immediate surroundings.

Eva is not very interested in makes, but she is interested in things that will last a long time. She distances herself from the throw-away culture. Extreme durability, lasting utility value, naturalness, intimacy and authenticity are important product qualities.
Jørgen is an organic butcher and lives north of Copenhagen with his family. Although he is mainly characterised as an Environmentalist, he also embodies elements of the City Bohemian. The electric car is an important part of Jørgen’s business and PR. He is aware of the experience he gives his customers when they enter the shop, which is reminiscent in style and atmosphere of a 1950s delicatessen. In the office, there is a cosy corner with the atmosphere of an old-fashioned inn. His network includes the best restaurants in Copenhagen, such as Kong Hans and Noma.

Jørgen has assisted with the Friland organic project as a sparring partner, and he has influenced many of his suppliers, including Danish Crown, to start selling organic produce. Many of Jørgen’s customers also sell organic produce or experiences. Jørgen is whole-hearted about all things organic, but what always counts most for him is the quality.

For his business – apart from the electric car – Jørgen has two diesel vans (Toyota Hiace) and a refrigerated van used at markets and cattle shows. At home, Jørgen has a Ford Sierra, which he only uses for long trips and journeys. His wife drives an Opel Corsa, which they bought because it is big enough for all four children.
**THE ENVIRONMENTALIST – REALMS OF POSSIBILITY**

**POSITION ON THE ADOPTION CURVE**

The Environmentalist is emotionally involved in environmental problem areas and is motivated to follow up on this with action, if various factors such as choice, finances, infrastructure, etc., do not get in the way. Switching to the electric car now – and presumably within the next two to four years – would require great determination and a lot of emotional involvement. It would also require being prepared to adopt a brand-new platform which is not yet fully supported, and for which the solutions are not yet tried and tested. The Environmentalist is prepared on both these fronts as long as you can convince him/her that the electric car is the only right, responsible and caring choice, on a personal level and for the family, for the local community, and on an overarching social level.
DESIGN PRINCIPLES
Here are six overarching guidelines for designing products, communications and/or services for the Environmentalist.

1. Personal and social responsibility
To this consumer, eco-friendly consumption is not a fashion phenomenon, and it is not only a matter of personal health and wellbeing. It is about demonstrating personal and social responsibility and care. It is about doing what is ethically correct.

2. Authenticity and origin
To the Environmentalist, the origin of the object matters greatly. It should preferably come with a credible narrative about sustainable production methods which also support the development of small producers and/or communities.

3. Intimacy and creative development
For this consumer type, scope for intimacy, togetherness and creative development are absolutely central to the objects with which they surround themselves.

4. Extreme durability, re-use and biodegradability
Offer them quality fit for an heirloom, and the opportunity to recycle without impacting the environment. Things must be capable of breaking down by natural biological processes and must be usable without exposing oneself or others to chemical substances or pollution.

5. Small is beautiful
The Environmentalist has a puritanical outlook on life. Luxury, excessive consumption and extravagance are regarded as egotistical and vulgar. Offer them simplicity and quality, and shave off any surplus luxury.

6. The experience of wellbeing in preference to comfort/ease
The Environmentalist is willing to sacrifice a certain amount of comfort and luxury in exchange for “doing some good”. It is OK for energy consumption to be a little more awkward. Actually, that can sometimes be a way of maximising the experience of doing some good. It creates a sense of giving something to the community, and that produces inner joy. Environmentalists do not want to put their feet up – they want action and they want to feel they have done something!

Our children and grandchildren should be able to live and enjoy their future, too
THE ENVIRONMENTALIST – REALMS OF POSSIBILITY

SCOPE FOR PRODUCTS, SERVICES AND COMMUNICATIONS

What concrete scope for products, services and communications could match the Environmentalist’s needs and demands? Below you can see some relevant suggestions.

Product options
1. Sustainable products or Cradle-to-Cradle products (especially products that can return to the biosphere).
2. Additional products with scope for personalisation of a product.
3. Products manufactured with due consideration for the environment, ethics and health.
4. Products manufactured in local communities or embodying a narrative about another local community where they are manufactured.
5. Products that enable them to become more self-sufficient in terms of renewable energy (e.g. small mini-turbines).
6. Products which contribute to the perception that you are doing “something good” for the environment.
7. Environmentalists are not dismissive of new technology, but they are not very familiar with technology. Technological solutions should be extremely user friendly.
8. Think not only in terms of households but also in terms of small local collective systems where people share and barter. These collectives could be concentrated around a local community (for example sale of a system of three electric cars, an eco-friendly petrol car and a small wind turbine for five or six families, including a system in the cars that makes it easy to keep track of who is driving what distances). However, they could also be digital/virtual, or they could be concentrated around the power grid.

Scope for services
1. The Environmentalist is influenced by environmental arguments and is willing to act on these. However, she/he lacks information that could help her/him to make the right choices, and the services to offer her/him an overall view of and insight into his/her own power consumption as well as power consumption in connection with acquiring new products.
2. Create experiences which give the Environmentalist the feeling that he/she is doing without some comfort and luxury in favour of doing “the right thing” for the environment and thus demonstrating care for society and for fellow humans.
3. Help them to make their environmental efforts visible and measurable – this will boost motivation and animate the Environmentalist to save even more.
4. Create a platform for sharing experiences. Being able to share experiences with other like-minded people will be exciting and also important with regard to being able to cope with the little everyday challenges, when the batteries or the solar collector are being a pain, or when you want to swap some second-hand spare parts.
5. Offer a plan for becoming partially self-sufficient and/or living more sustainably, e.g. via consultancy services or via a digital platform.

Scope for communications
1. Don’t be ordinary green – be super-green+. Emphasise that there has been a focus on sustainability and ethics all the way through the production process.
2. Do not just be a big logo/brand – create a more personal relationship. Show that the company has a sincere attitude – a mission. Show the people and the values behind the make.
3. A personal tone (individuals in preference to the company). Show that the company consists of passionate people who have pooled their energies in order to make a difference, not just to make a profit.
4. Focus on words such as responsibility, community, care and health. The Environmentalist’s motivation is green living.
The Environmentalist is ready, as long as you can convince him/her that the electric car is the only right, responsible and caring choice, on a personal level and for the family, for the local community, and also for nature and future generations.
THE CAR AS A HOBBY PROJECT
To the Technology Enthusiast, the car is above all a hobby project or playground. Cars and transport are all about messing around with technology, creating something, building and demonstrating expertise as well as optimising performance.

WHAT IS THE TECHNOLOGY ENTHUSIAST LIKE?
The Technology Enthusiast refers mainly to facts and functions when talking about transport and energy consumption. However, these facts and functions are their big passion and one of the most meaningful things in their everyday life.
Technology Enthusiasts want to signal technical expertise, technical insight, technical skill and ingenuity. And they spend a great deal of leisure time converting, adding new functions to and optimising their means of transport and energy consumption.
To the Technology Enthusiast, values such as exploration, details, construction, technology, control and systems are important elements. However, values such as freedom and self-determination are important, too.
Technology Enthusiasts often have one or more electric cars to tinker with in their leisure time. They often characterise the purchase of the car as a gift to themselves. A construction toy to get involved with and explore. There is something recreational and uplifting about figuring out the car, converting it and adding to it. It serves as a kind of break.
In connection with ongoing conversion and enhancement of the car and its energy consumption, Technology Enthusiasts emphasise sharing experience and socialising with like-minded individuals. Accordingly, they are often members of an electric car club and/or a wind turbine club.
In many cases, Technology Enthusiasts are green consumers, especially with regard to energy and transport. For example, they will often have invested in other environmental technology for the home such as wind turbines or ground source heat pumps, or they will be considering acquiring these. Some but by no means all Technology Enthusiasts are also green consumers when it comes to short-term and long-term consumer goods for the home.
The motivation for being a green consumer is the desire to explore the technology, adjust and fine-tune it and thus enhance performance, reduce consumption and optimise the financial aspect of this. Unlike the Rationalist, making things more efficient is not an end in itself. And unlike the Environmentalist, the environment is not the be-all and end-all. It is more a matter of the need to hone and demonstrate one’s technical abilities.
We enthusiasts are paying for developing electric cars right now

PORTRAIT // MADS

Mads is 25 and is married to Iben. They have a four-month-old daughter. Mads qualified as a certified electrical contractor, but about four months ago he started taking supplementary courses to enable him to pursue engineering studies. He is also a self-employed certified electrical contractor. In his leisure time, he dives and sails at competition level. He also collects old electricity meters.

Mads is very enthusiastic about electric cars, but would have been quite happy to have bought a plastic car at one time. Because he could not get a good plastic car, he chose an electric car. He now has a 1998 Citroën Berlingo Eléctrico, which he bought in 2006. Mads is a member of the Danish electric car committee and will be participating in an undergraduate project at DTU to do with charging station design.

The electric car was actually intended to be a “toy car” for Mads because the couple already had a fuel car, but when this was stolen and had to be written off, the electric car became their primary vehicle. In their present situation, with one studying and the other on maternity leave, they cannot afford a fuel car. Mads is busy converting the electric car into a four-seater. He is fascinated by anything to do with electricity, and he is a big fan of the Sydenergi project on the intelligent power grid, which will allow electricity to be used more responsibly than has been the case so far.

Iben thinks Mads is an “eco-freak”. He is very much into recycling everything. Mads has already been thinking hard especially about the toxic batteries in the car when the time comes to dispose of the car, and he has found a car breaker who can take them. The rest of the car can be recycled.
Jens is 58 and lives with his wife, two teenage daughters, a Great Dane and a couple of cats. He first qualified as a radio technician, subsequently became an electrician and later an electrical engineer. From 1985–1999, he had his own electrical engineering business with 10–15 employees, but he was forced to retire as a result of a broken back and cancer. Today, he sells and repairs electric cars to the extent his health permits.

He got an Ellert in 1989 because any self-respecting electrician drives an electric car. It was mostly a toy, and he did not use it on a day-to-day basis. Nine or ten years ago, he bought a Citroën Saxo and was so delighted with it that he bought a second one. When he visited the Danish importer a few years later, he ended up buying a wagon load of 18 cars, and that was when he began selling electric cars.

When it comes to cars, he is not into particular makes, except with regard to the quality of the cars. Makes such as Audi and Mercedes he designates as “discerning”, but he cannot stand the fashion rat-race and the “mentality” that goes with it.

Jens drinks organic milk, but apart from that he is not into organic produce. It is more important to him for produce to be Danish as a guarantee of food safety and quality.

Freedom and self-determination are values he greatly appreciates in life, and his environmental awareness is very much centred on alternative energy, and linked with ideals of freedom and independence.

Driving an electric car is all about planning and how long you’ve got left
Position on the Adoption Curve

Lots of Technology Enthusiasts have already acquired one or more electric cars, which they convert, repair and enhance in their leisure time. Thus, Technology Enthusiasts can often be characterised as Innovators when it comes to adopting the electric car.

As alluded to in the section on the electric car market, “Electric cars require a quantum leap,” the innovators have been on course since the mid-1980s. The market has taken a long time to develop from being rather a small niche market for the very technically minded, to being regarded as a potential mass market for the average Danish motorist, a market that not only opens up new business opportunities for the car manufacturers but will also set brand-new standards in terms of how we think about transport and energy consumption in our everyday lives.

Technology Enthusiasts are not only willing but also driven to practise their hobby in a very immature market, where there remains a lack of technical and service support, and where a lack of infrastructure places restrictions on freedom of movement. There is a large dose of pioneering spirit here. And there is the desire and the will to construct something that does not already exist in the market. As Kristian says: “We enthusiasts are paying for developing electric cars right now.” On the other hand, he adds, enthusiasts have the fun of honing their expertise ahead of the market breakthrough.
Technology Enthusiasts stand out by specialising in a field that few understand or feel drawn to. Thus, they are unable to act as trend setters or first movers for a germinating mass market in the way that City Bohemians can. Conversely, they can be involved as important co-developers with regard to the technical and practical challenges associated with the electric car.

DESIGN PRINCIPLES
Here are six overarching guidelines for designing products, communications and/or services for the Technology Enthusiast.

1. Control and exploration
The Technology Enthusiast loves exploring the world of technology. Anything technical, from meter reading to petrol consumption, is monitored, controlled and adjusted. It is recorded and checked in order to get on top of any irregularities and enhance performance. If the Technology Enthusiast does not have the opportunity to continuously make these enhancements and adjustments, the product is of no interest to him/her.

2. A hobby and association person
This segment has a very active leisure time which – apart from ongoing enhancements, adjustments and conversions of technical products and systems – also includes an extensive network of special interest clubs and associations. Technology Enthusiasts get involved in clubs and associations of experts and people with a technical bent. This is where they can demonstrate their own abilities. And this is where they exchange ideas and know-how with others.

3. Family and local anchoring
Supporting and communicating family values appeals to this segment. Local anchoring can be utilised in something reminiscent of the tradition of local waterworks, where the citizen understands and is able to influence his/her own consumption in a (slightly) broader context.

4. Bartering
Technology Enthusiasts use their technical capabilities as something they can barter in the networks and associations where their expertise is valued. Services which include an option of making a deal on something or influencing a system can be appealing.

5. “Good for Denmark”
Denmark as a self-sufficient energy producer and arguments to do with the origin of energy, Danish symbols and Danish products and services can be significant elements for the desire to adopt the whole set-up to do with electric cars.

6. Freedom and self-determination
The Technology Enthusiast has a strong desire for freedom and a great need for self-determination. When there is too much top–down management, when things become too multi-national, monopolised or streamlined, they opt out. For any product or service to appeal to them, there must be things that they can constantly influence about its design.
SCOPE FOR PRODUCTS, SERVICES AND COMMUNICATIONS

What concrete scope for products, services and communications could match the Technology Enthusiast’s needs and demands? Below you can see some relevant suggestions.

Product options
1. Products which are not sealed so as to require specialists to open them up to solve problems. Perhaps other segments would be in favour of that for safety reasons.
2. Products that, with a little additional effort, can optimise a technical device to make it more personal, with room for individuality, which conveys the impression of being something unique.
3. Products which can be offered as a type of hobby kit for technology enthusiasts.
4. Kits – perhaps from different suppliers – which can be adapted to the individual system, preferably in order to save electricity or reduce impact on the environment.
5. Products people can repair themselves, for which there are spare parts and add-ons available in the market, preferably presented along with other DIY products in DIY stores or shops selling car accessories. The products should offer different levels of complexity so that there are challenges for novices and super Technology Enthusiasts alike.
6. Multi-functional products which, when rearranged, can be used by anyone in the household or by another small consumer entity.
7. Utilise the existing enjoyment of “quality”: tools of a certain quality, associated with effectiveness and functionality.

Scope for services
1. Spare part stocks (virtual or physical) where you can buy or exchange to obtain new spare parts.
2. Associations where you can participate in lectures and events with a focus on the latest technology.
3. Digital service systems to help the Technology Enthusiast with keeping ongoing (and highly detailed) records of energy consumption and to compare this to others’.
4. The Technology Enthusiast can contribute to development as a Lead User in terms of testing and system modifications. Thus, a great technical resource can be utilised for the benefit of other segments.

Scope for communications
1. DIY terminology, where you “derive the optimum yield from a given amount of energy”.
2. Appeal to the appreciation of a good tool and the benefit of looking after it.
3. Communication can be bound up in Danish values or the fact that renewable energy is Danish produced, and that it benefits all Danes when it is utilised optimally.
4. Messages should be differentiated to address small, measurable entities which are locally anchored. Here, there must be the opportunity to exert influence and “to make a difference.”
5. Communication that leans towards “Club Denmark” where family, the local environment and personal initiatives are central.
The car is a present for himself: a construction toy to get involved with and explore.
4 IDEAS
– developed at the etrans workshop in June 2009 by designers, research scientists, anthropologists, computer specialists, business people from the car sector, engineers and electric car enthusiasts.

HIGHLIGHTING THE BENEFITS OF THE ELECTRIC CAR

1. VISUALISING THE NEXT CHARGING STATION/PARKING SPACE
   A display in the car shows where the next charging station is, calculates the distance and books a charging session

2. USING BATTERIES AS A REPOSITORY FOR ELECTRICITY
   Cash flow when batteries in the electric car are used as a repository for electricity for use in the home during peak hours

3. GREEN MOTORIST POINTS SYSTEM
   Just as there are various levels of motorists recognised by the insurance companies, there could also be a special “electrical elite” motorist discount

4. AN INTERACTIVE CONSUMER GAME
   Create an online, interactive consumer game where power consumption and driving are recorded and where people play a game of driving the most economically and hence in the most eco-friendly way. The game should be anchored on the Internet, where all participants create a profile and compete with one another

5. INTERACTIVE WINDOW IN THE CAR SHOWING STATUS UPDATES
   A lot of people use status updates on Facebook. An interactive window facilitates immediate signals and statements to be given to others on the road and around the car

6. MECHANICS IN WHITE
   We are used to seeing mechanics in dirty clothes, covered in oil. Could we envisage a new type of electro-mechanic dressed in white and with an aura of performing a high-tech “operation” on a car?

7. AUTOTWIT
   From the car, you could send “tweets” to your Twitter account concerning how much you have saved, where you are and whatever else you have on your mind

8. COMPARISON GRAPHS FOR PETROL AND ELECTRIC CARS
   Develop a graphical overview of total annual expenditure on the electric car compared to a similar petrol car

9. CHARGER SURFING
   A user-generated travel community has created the concept of Couch Surfing, where users can borrow one another’s sofas free of charge when travelling. Could a similar community be created where people who have a charging station make it available to others so that you could always borrow a charging station from someone else in the community? Charger Surfing should be directly accessible from the car
10. **URBAN GREEN LANE**
Electric cars in urban areas should be able to get around faster using a lane reserved only for them.

11. **DIVIDENDS ON OTHER GREEN PRODUCTS**
The electric car dealer or utility company could enter into agreements with Coop Danmark, for example, to help drivers of electric cars buy other green products and give dividends or some other discount.

12. **ELECTRIC SMILEY SYSTEM**
Create “Smiley Wheels” – a smiley system to show how much people are contributing to reducing carbon emissions.

13. **ENERGY CLASS (AAA)**
A statement of the energy class, as for refrigerators.

14. **INTERNAL FINANCIAL SUPPORT**
Drivers of electric cars should be able to buy special shares in their utility company.

15. **ECOMETER VISIBLE ON THE OUTSIDE**
The car changes colour depending on whether you drive economically or uneconomically. Red when you are consuming and green when you are regenerating electricity by brake energy.

16. **DISPLAY IN THE WINDSCREEN**
Create a display in the windscreen to show the low carbon emissions.

17. **URBAN GREEN ROUTE SIGNAGE**
A road sign service to show where to find the nearest electric car parking and charging stations, and where to find green lanes specially for electric cars.

**DIFFERENT NEEDS AT DIFFERENT STAGES OF LIFE**

18. **A SOFTWARE-CONTROLLED CAR**
The idea of using digital options to adjust the car’s colour/sound/settings for the individual needs that different users may have in the course of a day, a week or a lifetime. Examples could be extreme engine noises for boy-racer driving, smart patterns on the car or force feedback to reinforce the driving experience/enjoyment of driving.

19. **CAR BLOG**
Show an online element of your life on the exterior of the car using special LCD technology, e.g. holiday snaps, statements, quotations or news items.

20. **DIFFERENTIATED LEASING**
Create access to a number of different types of vehicles to suit the user’s needs via leasing, e.g. a small run-around for the commuter or a nine-seater for the weekend when all the children and step-children come to visit.

21. **SWAP CARS**
Swap your old car via the “Den Blå Avis” classified advertising circular/eBay for a car that suits your present needs. Car swapping will result in a more dynamic form of ownership.
22. 3 x 34 FOR FAMILIES WITH CHILDREN
Create a trusted taxi service to drive/fetch/bring the children to/from kindergarten, to their grandparents’ home, to collect them from the sports club or drive them to the cinema

23. DESIGN SUBSCRIPTION
Subscribe to car design updates which allow the user to update the appearance/colour/shape in line with new trends and needs. Perhaps dress the car up with accessories which match current fashions.

24. BUILD-A-BEAR CONCEPT
Create modular car systems where parts of the car can be replaced as required. E.g. a car could be converted from a one-seater to a two-seater car, a family car, etc.

27. KERBSIDE CHARGERS
Kerbside chargers in towns would make it possible for town-dwellers to charge anywhere.

28. MOBILE CHARGER ANIMALS
Little robotic animals could crawl around car parks and identify parked electric cars in need of charging. They could make sure the car is charged while parked. As an alternative, the car could be charged wirelessly as soon as it is positioned close to a charging station. A third option is to have a charging robot integrated into the asphalt of the parking space.

29. “CAR WARMING UP” WHILE CHARGING
While the electric car is on its charger at home, a timer ensures that some of the electricity – on cold winter mornings – is used to heat the car.

30. WELLNESS BREAK
Create charging facilities at a fitness or wellness centre so that people can use it for a break from their everyday routine while the car is charging.

31. FREE POWER FOR ADVERTISING
If you display advertising on your car, you would be allowed to recharge free.

32. BUNDLE CHARGING
Charging takes place at sites where there are lots of other options, such as mobile phone charging, restaurants/food, dating service chats or language courses. The driver could “refuel” with a latte or similar inside the car from a container while charging. The driver could download the latest summer hits while charging.

CHARGING AS A QUALITY EXPERIENCE
25. A VISIBLY CLEAR CONSCIENCE WHILE CHARGING
An alarm clock in the house could indicate when you have automatically switched to using “green” electricity for charging the car. The alarm clock (or some other display, possibly in the car) could also show exactly how much the electricity costs, with up-to-the-minute price updates. A display inside/outside the car or in the home could show how much you are saving by recharging compared to refuelling with petrol.

26. “NICE SPOT” CHARGING
Similar to the “scenic route” concept: deploy charging stations/facilities at outstanding beauty spots or perhaps areas of cultural interest in the towns, and signs to advertise these.
As one of Denmark’s largest security suppliers, Falck believes it has a lot to offer. We wish to contribute actively to promoting developments in the car industry and to help dispel some of the uncertainty that may be associated with introducing electric vehicles. It is all about preparing for the future and having a say in the matter, and in my opinion, etrans provides both these avenues. Participating in the project gives us valuable knowledge, networks and ideas to enable us to monitor developments closely.

Martin Østergaard, Business development manager, Falck.
33. OLD-FASHIONED PETROL STATION CONCEPT
Employ charging station attendants like the ones who used to service motorists at petrol stations “in the olden days”. They take care of charging the car/ cleaning the windows, etc. For example, charging stations could employ “charging bunnies” – gorgeous girls to take care of recharging.

34. INDUCED CURRENT/LOAD ROAD
Deploy current in the road network so people can charge while they drive. One variation could be charging the car while waiting at traffic lights.

35. PULL-OUT CABLE MECHANISM
Create a pull-out cable mechanism on/in the car, similar to what is used on vacuum cleaners. This would avoid the need to bundle up the cable manually or even to touch the cable at all.

36. ROBOT BATTERY CHANGE
Robots take care of everything to do with changing the battery instead of charging it, so the car owner does not have to do anything.

37. EXERCISE BIKE GENERATING ELECTRICITY
Create a system for transferring the electricity that can be generated on an exercise bike at home directly into the car. Fitness centres could operate on the same principle, and you could find out exactly how much electricity you have generated for your car. Kinetic energy from playgrounds could be used in the same way, which would make charging child’s play!

38. FITNESS POWER AS A COMMODITY
Fitness centres could brand themselves by collecting the energy customers produce while training and charge a small fee for converting it into a form that could be used in an electric car.

39. SENSORY EXPERIENCES EXUDE QUALITY
Beautiful lighting could be used at mass charging stations instead of fluorescent lighting, to create a perception of quality. Another option would be to play music that exudes quality. Each car could have its own melody, which would play along with other melodies from the cars nearby. Emphasis could be placed on the absence of petrol smells by making a complete separation of electric cars from fuel cars, or by branding electric car charging as a special, positive experience.

40. DRIVE-IN THEATRE/CINEMA/STADIUM
The concept of the drive-in entertainment concept could be re-introduced or expanded and personal chargers for cars could be installed in each parking space.

41. CAR TRAIN
You “join up” with others who are driving in the same direction and link up to save power. Perhaps one car could charge up and transfer power to the cars connected to it.

42. POWER POKER
Instead of winning money, you win electricity by playing poker (possibly online).
43. CHARGING PARK
Make charging into an excursion where you get together with other users of electric cars in a park and charge up while doing something that everyone can enjoy.

44. DELUXE CHARGING FOR YOUR CAR
The car is given luxury treatment, e.g. washing and valeting.

45. THE CHARGING STATION AS A SAFETY STATION
Allow the charging station to serve as an emergency help point with emergency equipment and perhaps a direct line to Falck or emergency doctors.

46. CHARGING DRESSED UP AS SAFETY
Profile charging as being safer than refuelling with petrol.

47. CHARGING AGAINST SEASONAL AFFECTIVE DISORDER
S.A.D. lamps could be integrated into the charging station so that you can get some sunshine while the car charges.

48. DIRECT ALTERNATIVE INTERACTION WITH THE CHARGING STATION
“You whistle; the charging station responds; the music connects you.” Music as an interactive tool instead of pressing a button/turning a knob/connecting something.

49. CABLE DIFFERENTIATION
If you use a green cable for charging, you know you are charging from green electricity. A grey cable charges the car with “grey” electricity.

50. FAST LANE FOR THE BEST CO2 DRIVERS
Benefits associated with the most eco-friendly driving could include being allowed to jump the queue at the charging station/charging park or being allowed to drive in a special lane.

51. CARS “INFECT” EACH OTHER
Once the car is connected for a charge, you become part of a network with other connected cars and have the opportunity to share files (music, games, films) with each other.

52. GET AWAY FROM THOSE SMELLY MOTORISTS
Make clear what a great benefit it is not having any odour from recharging the electric car, and enable drivers of electric cars to get well away from smelly fuel cars while charging.

53. “GORGEOUS” PHYSICAL TOOLS FOR CHARGING
Design the charging handset only to be visible when in use – so it can stay clean and continue to look good. Offer customers wet wipes to clean their hands. The actual charging point could be more organic, e.g. with magnets on the end so that the connection is like a kiss, not hard to hard.

54. SERVICE CHECK IN THE VILLA DISTRICT
Instead of making drivers of electric cars drive to a repair shop, home service checks could be introduced for individuals.

55. RAPID CHARGING AT A SERVICE STATION
Rapid charging could be offered at existing service stations so that people could use the services already in existence for drivers of fuel cars.
56. PRACTICAL SERVICES WHEN CHARGING
There could be scope for arranging car-related, slightly intangible services when charging, e.g. arranging/paying for/investigating your insurance policies or a subscription to Falck rescue services.

57. WELLNESS ROUTE CHARGING
By following a particular route, you can charge the car while you drive along a scenic route.

58. PERSONALISED ENTERTAINMENT
Bays in public places can be set up to provide a private charging experience. Screened off from your surroundings, you can choose whatever entertainment (film, music, etc.) you want.

59. SHOP WHILE YOU CHARGE
You can go shopping while the car is charging.

60. ANTI-VANDALISM DEVICE
Create a device for the car to protect it from vandalism when you put it on charge.

61. BEAUTIFUL CHARGING STATIONS
Design the actual charging station to be organic in shape, delightful to look at and touch, instead of a cold, box-shaped metal object.

62. FAITHFUL COPY OF REFUELLING
To avoid putting new electric car drivers off the idea of recharging, it would be possible to arrange everything to do with electrical charging to resemble refuelling at a petrol station as closely as possible.

63. OPPORTUNITY TO TUNE AND TINKER WITH THE ELECTRIC CAR
Some sections of the masculine segment like the feeling of flow, control and mastery associated with tuning and tinkering with a car, taking something out, cleaning it and looking after it, enhancing its performance and putting it back together again. They are afraid of losing this if they buy an electric car, with its simpler construction – so create the opportunity for tuning and tinkering.

64. HACKING
One aspect of masculine characteristics is to break with existing rules and structures and create your own. The electric car’s computer system could allow scope for changing the existing rules or adding some dimensions to make the car unique.

65. THE ELECTRIC CAR AS YOUR TICKET TO A MASCULINE CAR CULT
If the electric car can become a ticket to the unique culture that exists among men and cars, this will pave the way.

66. CO-BRANDING WITH A BEER MAKER OR SOME OTHER MASCULINE PRODUCT
Some products are regarded as particularly masculine, e.g. some special brands of beer. Football and ice hockey are also regarded as particularly masculine cultures. If co-branding could be arranged with some of these particularly masculine brands, a pull-effect could be created.

67. LEATHER, STYLE AND STEEL
Use some of the materials associated with a masculine culture. There is something “plastic” and small about electric cars.
today. But utilising materials such as leather, steel and metal could change the image of the electric car

68. GET AWAY FROM THE BUDDY CONCEPT (SMALL CAR)
In the masculine universe, where status and recognition are all-important, the electric car is simply too small and insignificant. If the masculine segment is to feel attracted to an electric car, it will need size, power and exclusivity that it does not have today.

69. LUXURY AND SEX APPEAL
If the electric car is to be attractive to the masculine segment, it must exude luxury and sex appeal. This can be done via exterior and interior fittings, e.g. particularly luxurious/exclusive designs of batteries and other technology, etc.

70. A MOTOR COMPARTMENT TO DIE FOR!
Men love their engine compartments!! In the electric car, the motor compartment is simpler and more straightforward than in conventional cars – it has nowhere near as much steel cladding or screws to be adjusted. Create a motor compartment to die for in the electric car – e.g. by offering special designs that make a statement about the driver.

71. OFFER ALTERNATIVE GADGET PLEASURES INSTEAD OF ENGINE NOISE
The sound of the engine means a great deal to some men. The electric car doesn’t say anything and thus takes away some of the masculine pleasure of driving from men who particularly enjoy the sound of accelerating. Some men need to be able to signal the same power in an electric car, perhaps by adding sound other than the noise of the motor, possibly by offering different types of gadget pleasures that you cannot get in a normal fuel car.

EQUIPMENT/GADGETS
72. DESIGNER BATTERY
Have different designers design batteries for electric cars that convey different signals. Some batteries could have particularly feminine or masculine styling.

73. E-CAR COLLECTIBLES
Some motorists love to collect rare objects and display them to others. Could a range of special collectibles be created relating to the electric car, to help create a sense of exclusivity and rarity?

74. PERSONALISE THE USER INTERFACE
Make a way of personalising the car by creating your own user interface. Approximately 80% of our transportation is between home and work. We spend a lot of time alone in the car. If we can make that time into special “me-time”, this would allow emotional bonding with the car.

75. ELECTRIC CAR = DELL INSIDE => EXCLUSIVE EQUIPMENT
Some motorists enjoy a sense of exclusivity. Communicating that the electric car’s computer system is made by the best in the market will give the electric car an exclusive feel.
I am very much aware that we run the risk of losing ground if we focus mainly on developing what is technically possible, or what a narrow group of developers deems relevant. I had a lot of useful aha-moments at the last workshop. The main thing for me, however, was how easy it is to overlook important information from customers unless we remove our blinkers and learn a few things about participant observation. If you believe in user-driven innovation, you can take hands-on experience back to your company.

Anette Hinge, Technical Writer for APC by Schneider Electric, Kolding, workshop participant
GIVE ELECTRIC CARS THE X-FACTOR

76. LIMITED EDITION ONLY
Scarcity and exclusivity are inextricably bound up. As regards the electric car, accessories could be developed for limited circulation only. This will add to the sense of exclusivity and stimulate the competitive instinct.

77. THE ELECTRIC CAR AS AN ICAR
This concept will appeal to the consumer segments who are devoted to design icons. The iPod is one of the biggest contemporary design icons because it connects our sense of aesthetics with a need for simple, tactile and logical user interfaces, the need for autonomy and individual choice as well as the need for mobility.

78. MASS CUSTOMISATION OPTIONS
The new electric cars must offer brand-new opportunities for customising and personalising the car and the whole motoring experience. This could involve everything from selecting the interior to personalising the car’s digital user interface. This option will help add to the emotional bond between motorist and vehicle.

79. LORD OF THE RINGS
Accessories that convey a clandestine message that this is a special brother-hood. iPod owners all over the world recognise each other by the white cord connecting the headphones to the iPod. Identify special features to signal that a person drives an electric car, and thus build a special brotherhood.

80. CREATE A CRAZE AMONG SUB-CULTURES
Try to make the electric car a craze among young sub-cultures which want to do something for the environment in a cool way.

81. MUSIC VIDEOS
Use product placement in music videos, etc.

82. MAKE THE ELECTRIC CAR A GOOD STORY FOR CAR MAGAZINES
Men love reading car magazines! If it is possible to convince the car magazines that the electric car is a good story, this is a way of exerting influence.

83. GET ACTION HEROES FROM FILMS AND CARTOONS TO DRIVE AN ELECTRIC CAR
Create a pull-effect by using product placement in action films. Film heroes need to drive electric cars, preferably in some of the films most closely associated with action, power and battle.

84. GET FERRARI TO PRODUCE AN ELECTRIC CAR
Get some of the most masculine and powerful car icons – such as Ferrari – to produce and market an electric car.

TRAINING

85. ELECTRO-MECHANIC TRAINING PROGRAMME
There is a need for mechanics who can repair electric cars, and for Falck roadside assistance personnel to be familiar with electric cars – the entire training spectrum needs to be involved!
5
METHODOLOGY
5 THE STAKEHOLDERS HELP TO INTERPRET THE ANTHROPOLOGISTS’ RESULTS

THE INTERPRETATION – SUPPLEMENTED BY THE STAKEHOLDERS’ SPECIALIST CONTRIBUTION TO THE WORKSHOP – PROVIDES NEW FERTILE SOIL FOR THIS AUTUMN’S DESIGN PROCESSES UNDER THE AUSPICES OF ETRANS

The purpose of the etrans project is to contribute to the commercial and environmental success of the electric car through user-driven innovation. However, the project also recognises innovation methodology as an area to be tried out in practice. This gives the focus companies working with us the opportunity to try out specific tools for user-driven innovation in a professional environment and in a manner that is relevant to their business. What they get out of this is an insight into methods that could enhance their own development process. This is why we focus so strongly on how the methods presented work in practice, and why we are so interested in the role of design in this context.

THE WORKSHOP

Approximately 30 people from the focus companies working with us – and people with a professional interest in the project – took part in a six-day workshop in June 2009, where we processed the data that antropologerne.com had collected for us in the spring. (The results can be found in the first report in this series: Data report //Anthropological field study in connection with the etrans project, conducted and processed by antropologerne.com.)

The workshop was a large group session with the emphasis on interdisciplinary co-operation, bringing together people from vastly differing backgrounds. Each group comprised:

- an anthropologist – to ensure that the knowledge from the prior process and methodology in the field work could be identified and brought in where relevant
- a representative of the business community, from car dealers to computer specialists, to ensure business skills
- someone with specialised technical know-how
- and a designer.

Some groups also had research scientists with widely differing specialisations.

As part of the workshop, the anthropologists introduced an analysis model to describe their way of handling the large amount of empirical material. Data on all users were organised into three levels: personal, social and societal. This was converted into a number of cards for all the participants to reflect on and build into their own organisations. In addition, the anthropologists had prepared eight specially processed, representatively selected user portraits covering differences in gender, age, types of car, motivation and profile. They were presented with images, video clips, statements and user journals describing the users’ everyday lives, transport patterns, values, attitudes and behaviour in connection with themes such as sustainability and transport.
** USER INSIGHT **

The inter-disciplinary teams were each given a user profile in the form of material from the field study. Using a large chart as a guiding tool, the groups now started delving into the material, and together we had to navigate through to the core points that are central to the user type, the person’s driving patterns and stakeholders. We tried to visualise the user and the user’s reality through selected key quotations about attitudes and perception of the self personally and in relation to society at large.

Based on the fieldwork material, the knowledge we obtained was organised to reflect three different perspectives: the personal/individual perspective, the local environmental/social perspective and the infrastructure/societal perspective. The subsequent “user journey” brought us closer to the meaning of the car in a person’s life and we got a clearer assessment of the barriers, motivation factors or concrete events that could encourage the user to drive an electric car. This recognition was processed into opportunities for the development of concepts.

** THE COMPLEXITY OF THE PROBLEM AREA **

In the concluding presentation, we gained an appreciation of the breadth of the problem area with regard to electric cars, but it also became clear how strong user insights are in this connection. The data material was used copiously in the presentations, with the individual groups returning to the fieldwork material and quoting the user to account for the choices the group had made.

At the conclusion of the first leg of the workshop, it seemed many had the feeling that some insight had been acquired, but that it did not indicate any particular direction to go in. It became clear what an extensive job it will be to make electric cars a commercial and environmental success, but we also gained an appreciation of the many opportunities there are for making a difference.

** The second leg – From user insight to innovation process **

On the fourth day, Anand Vengurlekar, managing director of Stoic – formerly of LEGO Vision Lab and IDEO – presented a model of how to work in an innovation process. He explained how you start with an
observation. Then you kick-start a process in which – with open minds – you discuss a problem area by focusing either on extreme enjoyment of something or the resentment associated with it. This examination is formulated as a question, which leads to defining ideas in a brainstorming session and specifying them in a prototype process. The introduction was formulated as a short course in how to ask appreciative questions and how to build on other people’s ideas.

You have to ask opening, idea-generating questions which begin with “How might we ...?” explore the pros and cons. Examples were given of how to generate ideas based on existing ideas, how to convey visually, keep the focus and only work on one idea at a time, and go for quantity. Prototyping was introduced as a way of quickly articulating ideas physically. This can take the form of physical objects, role play or scenarios, where inexpensive material can be used to construct examples to clarify the fundamental principles of an idea. Prototyping helps to systematise the idea field to test whether the idea is “Viable, feasible and desirable”. Then the innovation process can be concluded with filtration, where the idea is adapted to a company’s completely unique New Product Development process or gate model.

**FERTILE SOIL FOR THIS AUTUMN’S DESIGN PROCESSES**

The workshop did not conclude with filtration in relation to specific companies, but each group described its innovative insights. “85 good ideas” were collected, which you can see at the end of this report.

These insights and ideas will now provide fertile soil for this autumn’s design processes under the auspices of etrans.

**CONCLUSION REGARDING THE WORKING METHOD**

During the workshop, we tested a methodology where many different specialist profiles contributed to expounding user insight in a pre-designed process. Based on feedback from participants, our project team has come to the following conclusions:

- design can facilitate the process of obtaining an insight into the user
- stakeholders of user-driven innovation can meet through design
- design can form a platform to enable a great many parties with influence and a commercial interest regarding a particular problem area to meet and work towards the same goal.

Here and there in this report, there are comments from people who took part in some or all of the workshop. You can read more of these on the project website.

**Mette Mikkelsen, Project Manager**
What we all want to know is how to zero in on the innovators; the people who buy the first electric cars and get everything started. If the electric car is to be a commercial success, it will have to be produced by people like us who produce many hundreds of thousands of these every year. We can do it – we are poised to do it. But the electric car demands a lot from the customers; everything to do with it has to work together. The biggest challenge – apart from the technical aspects of batteries, charging, etc. – is to create an infrastructure. And we not only have to make charging stands but also, first and foremost, intelligent use of surplus current. There is plenty of willingness all round. It is exciting – very exciting right now.

Jens Andersen, environmental director of Peugeot, workshop participant
6 PARTNERS
AARSTIDERNE
Aarstiderne has been working closely with green consumers for many years and contributes knowledge to the etrans project regarding consumers and what they want from a car that has to be capable of delivering chilled goods to individuals. – Also interested in closely monitoring developments in green transport.
Aarstiderne has 50,000 customers, delivers 30,000 boxes a week in 60 lorries within Denmark and to Sweden and Germany.
www.aarstiderne.com

APC BY SCHNEIDER ELECTRIC
APC by Schneider Electric is interested in the etrans project on several levels. First, the company is the world’s leading energy management specialist, and a successful infrastructure for electric cars will require extensive expertise in this field. Secondly, Schneider Electric views the project as a welcome opportunity to work with user-driven innovation (UDI), learn more and contribute from the perspective of its own experience.
The company seeks insight into the project’s choice of tools, including the choice of software to collect and store information from UDI processes. This information is regarded as input to the company’s own design process, which will ultimately be distributed to 200 developers in Kolding.
www.apc.com

Cleantech Motors
Cleantech Motors’ vision is for driving an electric car to be at least as comfortable, as safe and as much fun as driving a conventional petrol or diesel car. Their ambition is to develop a concept for electric versions of existing petrol and diesel cars and thus to bring more electric cars onto the market at a rapid pace. The concept is based on state-of-the-art but production-ready technologies, thus obtaining stable, high-quality technical solutions. In the long run, Cleantech Motors expects to gain specialist competencies within system integration and component development expertise for electric cars.
www.cleantechmotors.com

DONG Energy
In general, DONG Energy wants to be involved in facilitating developments involving electricity with increasing emphasis on the transport sector. The company wants to contribute technical know-how, especially with regard to the general problem areas of storing renewable energy, setting prices, etc. DONG Energy has injected DKK 5 million into the three-year project and it is important to DONG for the project to establish a design laboratory, set up specialist design development projects and innovation camps and also prepare analyses and future scenarios.
www.dongenergy.dk
Falck Emergency Services

The company has immense expertise in the service sector and can contribute know-how concerning motorists’ expectations for services, acceptable waiting times, etc. In addition, the company wants to be part of a new business area offering car hire to individuals. It may be interesting to investigate whether electric cars could be the starting point for a new ownership structure for domestic motoring.

The intention is for Falck to contribute its road safety and roadside assistance experience and also to serve as a sparring partner when students want to try out concrete ideas. The eco-friendly aspect of the project is also important.

www.falck.dk

FDM

www.fdm.dk

Fredericia Municipality

Fredericia is a transport hub both on dry land and in Danish waters. Since the municipality also has a distinctly green image, its leaders decided to get involved with the work of making electric cars a real green alternative to petrol cars. The municipality also has a great deal of know-how that is relevant to the project. For example, knowledge of town planning, the design of urban spaces and infrastructure planning. There is also the expectation that the project will bring the municipality new knowledge in this field. This will be particularly useful because in the years ahead, the municipality will face the task of developing the centre of Fredericia. This will involve incorporating sustainable solutions concerning climate and energy – which must be energy-friendly solutions at all levels of the project.

www.fredericiakommune.dk

GreenDrive

GreenDrive has been a dealer for CityEL (the new version of the Ellert) in large parts of Jutland since 2007. Allan Høiberg, who developed the CityEL, often encounters strong prejudices about electric cars and the Ellert. “etrans gives me precious insight into what it would take to eliminate these out-of-date prejudices about electric cars. I can directly use this insight in my company, and I am sure that plenty of other people can, too,” he says.

www.greendrive.dk

Have Kommunikation and Designskolen Kolding both contribute to developing new concepts in user contact, user involvement and communication to make etrans an innovative project centred on the user. Communication is about understanding and ownership, and the conditions for
communication are constantly changing. Therefore, it is vital for a project such as etrans to develop knowledge of how users wish to communicate, and the easiest ways to make contact with them. The company is the leading communications bureau in Denmark in the field of culture and the experience economy.

www.have.dk

HJEM-IS
www.hjem-is.dk

MIDDELFART SPAREKASSE
The etrans project is relevant to Middelfart Sparekasse bank in many ways. First and foremost, it is of interest for a bank to investigate what the advent of the electric car means in terms of the entire car finance market, and what changes in consumer behaviour this will lead to for the banks. For a niche bank such as Middelfart Sparekasse, there is an interesting opportunity to be a first mover in financing and advising on electric cars.

Also, the project provides the opportunity to gain valuable insight into the behaviour and patterns of action of very ordinary people (car owners). User-driven innovation involves exciting ideas. Of particular interest is the fact that the project opens up the opportunity to take part in a learning process in a practice-oriented environment.

www.middelfartsparekasse.dk

PEUGEOT
Peugeot is the world’s largest manufacturer of electric cars and has produced more than 10,000 of them. Peugeot is closely monitoring developments in Denmark and is keen to assist with utilising surplus capacity from wind turbines. As part of the company’s environmental strategy, Peugeot is working to inform customers and the general population about future transport options and therefore needs to clarify the challenges involved with electric cars concerning charging, usability, infrastructure, etc.

Accordingly, the company hopes and believes that, working with Peugeot, this project will help to identify solutions to these challenges.

www.peugeot.dk

SIXT
Innovative mobility solutions have always been a hallmark of Sixt, one of the world’s largest car hire and leasing companies. This is why Sixt is involved – and it goes without saying that Sixt is the first car-hire company to offer its customers electric cars.

The company is already finding that a lot of its key account customers want green transport for employees both in Denmark and abroad.

www.sixt.dk
**STATOIL**

Statoil contributes to the project knowledge of the operation of diesel and petrol service stations as well as customer needs and behaviour. Statoil expects to be involved especially in the third phase of the project in the matter of developing new business processes and services. Statoil’s motivation is the desire to gain an insight into changing customer needs arising from an increase in the number of electric cars, and specifically to explore how customers think with regard to electric car infrastructure.

[www.statoil.dk](http://www.statoil.dk)

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**THINK**

This is the first region in Denmark to have formulated a long-term growth and development strategy. The vision is to develop the Triangle Region into a leading, innovative cluster economy. The electric car project overlaps with several of TRIN’s focus areas, and TRIN is keen to contribute to heightening awareness of the business opportunities to give companies in the region the opportunity to become part of the project, either directly or indirectly. At the same time, TRIN wants to work with the municipalities, business development players, institutions of learning and the business community to create the necessary framework to turn good ideas into reality.

[www.trekantomraadet.dk](http://www.trekantomraadet.dk)

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**VELFAC**

Danish people love living in detached houses. However, although the house of the future is more sustainable, this does not really help if we need to transport ourselves between our homes outside the towns to get to work, leisure activities, etc., in cars giving out carbon emissions. That is why VELFAC has chosen to get involved in this project regarding the mode of transport of the future – the electric car. The company believes the way forward is different and more than a one-sided focus on insulation and reducing the energy we use on heating. It wants to show the way ahead and identify the opportunities inherent in developing tomorrow’s energy-friendly buildings from a holistic point of view.

[www.velfac.dk](http://www.velfac.dk)
My background is as an economist and an engineer, so it is highly relevant for me to become better acquainted with the anthropological and user-driven approach that etrans represents. It gives me a better appreciation of how important all the non-economic factors are to the success of the electric car – the social, cultural and emotional factors that affect consumers’ transport choices. This helps to equip me with knowledge I can use directly in my own research as I construct quantitative models and work on segmentation.

Christian Erik Kampmann, Associate Professor, CBS, Institute of Innovation and Organisational Economy, workshop participant
the team
THE STAFF OF THE ETRANS PROJECT

Anne Flemmert Jensen, Ph.D., head of analysis and research, Mette Mikkelsen, project manager, and Anette Flinck, project co-ordinator, are the main team members of the etrans project.

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For more information, see www.etrans.dk
There is nothing more difficult to plan, more doubtful of success, nor more dangerous to manage than the creation of a new order of things. Whenever his enemies have the ability to attack the innovator they do so with the passion of partisans, while the others defend him sluggishly so that the innovator and his party alike are vulnerable.

Niccolo Machiavelli, *The Prince*
etrans – a project about electric cars with the X-factor

OBJECTIVE:
To design an eco-structure that makes it attractive and worthwhile to replace the gas-guzzler with a battery-powered car and to demonstrate that it is possible to use batteries as an energy buffer.

THE METHOD:
The main players in the green transport revolution – motorists – must themselves have a hand in designing the transport structure of the future. Working with researchers, designers, design students and a number of private and public enterprises, they must develop proposals for aspects such as town planning, charging technology, the car interior, road service, car insurance and options for additional purchases, including other green/eco-friendly products.

THE FOOD CHAIN TO CONCRETE BUSINESS PLANS:
The final stage of the project is to establish a food chain from the designers’ results to specific business plans as well as urban and traffic changes. This phase is intended to contribute to building a “business accelerator” which is to draw on qualified advice and venture capital for the purpose of weeding out non-sustainable projects at an early stage of the process and qualifying good ideas to ensure they develop into healthy businesses. As part of this process, we intend to give businesses and their employees training in how user-driven innovation works.

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For more information, see www.etrans.dk