

VOLVO  
**XC90**  
M A G A Z I N E



# HEJ

**The all-new Volvo XC90** is a sanctuary. A place to relax, think and connect with the world on your own terms. A place without clutter. Because clutter clouds the mind. It's very Swedish to think like this. To be brave enough to remove rather than add. It's also very Swedish – and very Volvo – to start with the person who will use our products and ask, "How can we make your life easier?". That's what we've done with the XC90 – created a car that's truly designed around you.

“Simplicity is the ultimate form of sophistication”

**Leonardo da Vinci**





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Fuel consumption and CO2 emissions for the Volvo XC90 range. From 2.5l/100km (combined) and 60g/km CO2 to 7.5l/100km (combined) and 175g/km CO2

Please note: some of the information in this magazine may be incorrect due to changes in product specifications that may have occurred since printing. Some of the equipment described or shown may now only be available at extra cost. Before ordering, please ask your Volvo dealer for the latest information. The manufacturer reserves the right to make changes at any time and without notice to prices, colours, materials, specifications and models.





# T H I S I S S W E D E N

*A country where design is there to help people. Where there is an appreciation of things done properly. Where fresh air and natural beauty are valued. Where the all-new Volvo XC90 comes from*

**Words** BILL DUNN

“This is the confidence of a company that has 87 years of history”

## THE

**VOLVO XC90 IS A REMARKABLE CAR**, but like any luxury item – a finely crafted watch, a bespoke suit – its beauty might be obvious but its true value is only revealed when you discover the expertise, the craftsmanship and the passion that went into making it. So we set out to find out about the people who created the XC90, what makes them tick, what makes them get up for work in the

morning, what makes them go the extra mile (in road testing and in their working day)? For more than three years, we have been conducting a series of interviews with key people who've had a part in making the all-new Volvo XC90.

In accordance with Swedish democratic principles, we didn't just want to speak to the bosses. As Aristotle said, "The whole is greater than the sum of its parts." So to get a complete picture – the ethos behind this car and this company – we wanted to speak to the parts. Or, in this case, the people who stitched the seams on the leather steering wheel; the people who chose the wood for the dashboard; the person who programmed the voice control function so the car understands you when you say, "Where's the nearest coffee shop?"

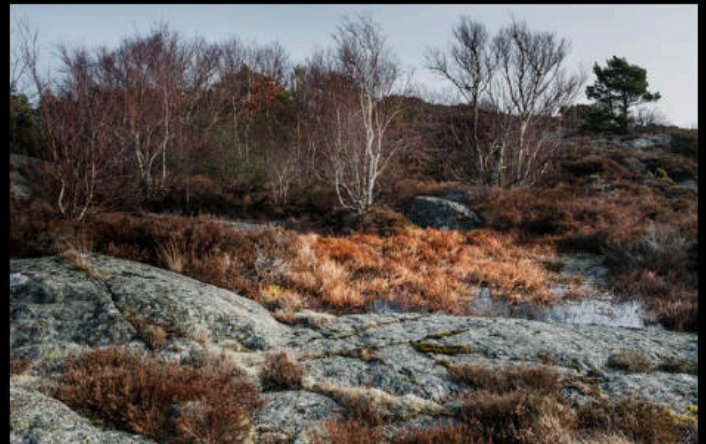
We even travelled to Los Angeles to meet a focus group of discerning people that Volvo has been working with for the past three years. Successful people with busy lives who demand the best from their luxury SUVs and who offered up their comments to Volvo to help the XC90's development team improve, reconsider and push the project still further.

Take Thomas Ingenlath, Volvo Cars' senior vice president of design. We're in Volvo's design centre in Sweden, talking about the XC90. Behind him is a glossy new XC90, but during a break he can't resist walking over to the rear of the car and examining it. And he really looks at it, thoughtfully, as if seeing it for the first time. Although the car is ready to be launched, and he is thinking about models for 2015, 2016, he can't stop himself from analysing, reappraising...

I go over and (ahem) gently wake him from his reverie to ask him about the design cues he likes the best. Talking about the 'face' of the Volvo XC90 is, of course, important, but it's almost too obvious. The 'Thor's hammer' headlights have already caught the public imagination. Instead, Ingenlath wants to talk about more subtle things. "The task to design the rear was more difficult – you don't want to use the elements that everyone else is using to make a car look more powerful. All the other car manufacturers are using horizontal lines. We used vertical lines. That is something that can be difficult. If you are good at it, you give a car an incredible status. We achieved that kind of status by reduction – not going into the horizontal but staying proud and upright. That is a nice aspect."

### SUBTLETY AND CONFIDENCE

Pictures don't really do it justice: the all-new Volvo XC90 is a car you have to see in the metal to appreciate fully. In a way, it's an enigma. It has plenty of road presence, yet its design execution is surprisingly subtle. As you live with it, you discover more aspects that show the thought and attention to detail. "It grows on you," says Ingenlath. "It's not all spectacle – the drama of the XC90 is in the proportions and the underlying technology. You suddenly realise how much sheet metal movement there is in the side section – how it grows over the rear wheel. It's about perfect execution, and that took such a long time to achieve. And that's





**Thomas Ingenlath (opposite)**  
**VOLVO CARS' SENIOR VICE**  
**PRESIDENT OF DESIGN**

"The XC90 is a car that grows on you. It's not all spectacle – the drama is in the proportions and the underlying technology"



## “There is that incredible feeling of modern luxury”

a difficult thing to sell to management who are expecting a sensational new design. Thankfully, there was a lot of trust to allow us to let it happen.

“Confidence is always very important for Volvo. It’s important that people understand that as much as we are inventing something new, this is the confidence of a company that has 87 years of history.”

I ask him if there’s anything he’s achieved with this car that he’s always wanted to do. He thinks for a minute, then: “It’s a search for perfection. What I learned as a young designer from the people who were the bosses at that time was that they hardly ever invented design themes. They let the young designers create those, and just brought them to shine. It’s about keeping the energy and power going, to constantly refine, to get the proportions better and better.

“I think that’s a real paradigm shift at Volvo – the search for perfection. That really makes the difference for a premium car maker. Every brand [in the auto industry] has great designers and great ideas, but it’s what you see at the end of the day on the road that is the big difference.

“That’s why I’m so nervous and crazy about the development of a car. You need to make absolutely sure that whatever happens does not compromise the idea but adds to the finished car.”

Perhaps unusually for a car designer, Ingenlath doesn’t relish talking about design. “That’s the trick – you should not discuss it, you should just have it. It has to be natural. The moment you talk about design, it’s clear that you have nothing else to talk about!”

### SHOW, DON’T TELL

The idea of ‘Show, don’t tell’ was first revealed to the world with a trio of concept cars that set out to embody Swedish design confidence, love of the outdoor life and Scandinavian creativity. These themes indicated that a new era of design had begun at Volvo – and they heralded the all-new XC90. They began with the beautiful Concept Coupé at the Frankfurt Motor Show in September 2013.

Five months later, the ultra-modern Concept XC Coupé was shown in Detroit, building to the Concept Estate that won international press acclaim at Geneva in March. As *Autoblog.com*, the respected automotive commentary site, wrote: “You don’t have to be a crazy car guy to appreciate that... Volvo is in the middle of a new golden era of automotive design.” The Geneva plaudits followed Volvo Cars’ Concept Coupé being named Car of the Show by German media at the 2013 Frankfurt Motor Show, and the Concept XC Coupé receiving the EyesOn Design Award for Best Concept Vehicle at the 2014 Detroit Motor Show.

As Ingenlath says, “It worked surprisingly well. After the success of the first coupé I was scared – how could we come up with very similar cars and present these very fine nuances of difference? For me, it was like a piece of music... something by Bach, where you have different parts and they all have the same theme but they vary – one’s in major, the other minor – but the joy is to discover the differences. That people are able to follow us in this sophisticated approach is a wonderful thing. But then, people are ready for it – they have enough superficial stuff handed to them all the time.

“The first, the Concept Coupé, made the biggest impact in pushing the brand. I wanted people to say, ‘Oh, wow. Can Volvo really be that?’ The second car, the Concept XC Coupé, was like coming home. Suddenly, there was no question: this

is a Volvo. We took the classic elegance of the Concept Coupé – the chrome, the leather – and changed it so that the same shape became an ultra-modern coupé, just through the use of colour and material.

“The last model – that was the one where Swedishness gained a really modern touch – is a two-door estate. If anyone can do that convincingly, then Volvo can. It is new for Volvo,” says Ingenlath, “but it was not a question of inventing a style just because we needed a new design language – it was from the content, which is being transported through the design.”

### THE EXPERIENCE

At the time that I’m talking with Ingenlath, he has just returned from driving the Volvo XC90 in top-secret tests at Jokkmokk near the Arctic Circle in Swedish Lapland. It’s a crunch point for any car designer – you can make computer models and plastic models all you want, but the first time you see a real car in motion, outside, that’s when you know for certain.

Interestingly, Ingenlath is just as curious about the real driver experience, which, of course, is almost as much of a revelation for him as it will be for you. “There is that incredible feeling of modern luxury. I knew that from sitting in the interior of static models. But when I was actually driving it – I felt I was sitting higher in this car than I expected, which gives you a real sense of being in command. And it feels friendlier than I expected. Sometimes these top-of-the-range car interiors can be intimidating... You don’t dare to touch anything – and as soon as you do, you feel like you have no idea how to switch it off again!”

In contrast, the all-new XC90 still has that wow effect, but it feels calmer and more natural. “It’s the reduction of buttons. It almost feels like there are no buttons. You concentrate on the driver display and the touch screen. That’s all you need.” One of the details that pleases him most is that they managed to retain the ‘manikin’. That is the element of Swedishness; a graphic of a sitting man, so that anyone from any country can easily work out how to change the airflow from head to body to feet. Except it’s a manikin for 2014 – it’s now a digital version on the XC90’s touch screen. “He was actually slimmed down because he was quite plump,” laughs Ingenlath. “We commissioned some research into what people thought was a traditional Volvo interior. People mentioned two things; the headrest and the manikin. In a way, the manikin is the embodiment of Volvo being a company that does things around people. It’s the symbol for ‘Designed Around You.’”

So, the all-new Volvo XC90 is an all-new type of luxury SUV. It’s got road presence, yet it’s understated. It’s got a wow factor inside, yet it’s easy to use and won’t give you that feeling of over-awed bewilderment you get when you climb aboard some luxury cars. A lot of that must come from the fact that it is the only luxury SUV to be designed and built in Sweden, where good design is a way of life, not a luxury. Where design starts with working out what people need, not by setting out to amaze them with wilfully ostentatious use of technology. It can be dangerous to generalise, but in our travels around Sweden we’ve constantly seen admiration for things done properly; things that have taken thought to achieve, and that are not done in the most obvious way.

Over the rest of this magazine, we’ll meet some more of the people who’ve had a hand in shaping this new breed of luxury car. People who are driven by the desire to do things properly. And that is a very fine thing, indeed.

# IF THE XC90 WERE A PERSON

*...You'd really like them.  
We'll let the Volvo XC90  
explain why*

**Words** GAVIN CONWAY & IAN DICKSON  
**Portrait photography** ANDREW SHAYLOR





Bowers & Wilkins

15:49

### Climate

< Parking Climate **Main** Rear climate >

Max Electric Rear AC Off Recirc

Off Max

**AUTO**  
Climate

20°C [Seat Icon] X Close [Seat Icon] 20°C

Navigation and media controls including hazard lights, fan, rear view, play/pause, skip, volume, and mute buttons.



## I'M EASY TO GET ON WITH

*The central display with touch screen makes the XC90 easy to control with a sweep of your hand*



**VOLVO CARS AIMED** for the all-new XC90 to be as natural, intuitive and human to interact with as possible. Crucial to that strategy is Sensus, Volvo's unique way of enabling you to communicate instinctively with your car and to connect to the digital world. Sensus offers the driver intelligent interfaces as well as an intuitive navigation to access the relevant support, information and entertainment on every journey.

In the XC90, this information is displayed on a digital driver display or an optional head-up display in front of the driver so they never have to take their eyes off the road. But the highlight is the central display with nine-inch touch screen. A Volvo first, it controls functions such as climate control, the entertainment system, and just about everything in between to make life easy.

And by moving many of the car's main functions to the central display, Volvo has been able to eliminate buttons and switches. This means the interior features a clean, uncluttered design – you might even say, it's a uniquely Swedish approach.

Sensus allows you to use apps to find out local information and connect to popular services on the move. There will also be an option to connect your iPhone (5 or later) using Apple CarPlay.

David Holecek, connectivity brand manager at Volvo Cars, explains: "Technology should make your life easier. That's why we listened very carefully to our customers when creating this system. It's not so much about offering a thousand apps; it's about giving you what you need, before you even know you need it."

The screen itself is really amazing. An infrared film means it can actually sense a finger, even when it is gloved, without you needing to apply pressure. To make using the screen even easier, some commands can be performed by just swiping a hand or fingers across it. Reflections and glare are kept to a minimum, thanks to an anti-reflective coating and the screen is smudge-free. Another handy advantage of displaying virtual buttons on a screen is that they can be made to appear bigger as the screen is dynamic, which makes them easier to use.

*A small selection of the services available from the central display*

● **WI-FI HOTSPOT**

Turn your XC90 into a mobile hotspot with a built-in modem

● **GLYMPSE**

Share your location to let your friends or family know you're running late

● **YELP**

Find local services and read reviews from the comfort of your XC90

● **PARK AND PAY**

Find available parking and pay for it from your car

● **SEND TO CAR**

Find a destination on your phone or tablet and send it to your XC90's navigation system

● **WIKIPEDIA**

Find out more information about your destination

● **PANDORA INTERNET RADIO**

Create a personalised internet radio service based on genre or artist (where available)

● **BOOK A SERVICE**

Your XC90 will know when its service is due and book itself in



## I'LL PUT A SMILE ON YOUR FACE

*The new Drive-E powertrains make for  
a kinder, more enjoyable journey*



**VOLVO CARS IS** keenly aware of the impact its cars have on the environment and it does all it can to minimise that. And you could even say the XC90 has a conscience, which is why you won't find a gas-guzzling V8 under the bonnet. Instead, the Volvo XC90 is powered by a frugal family of 2.0-litre four-cylinder petrol and diesel Drive-E powertrains. Drive-E is Volvo's suite of technologies that combines power, efficiency and performance with sustainable driving to give you an uncompromised driving experience. In fact, the most powerful Drive-E powertrain puts out more than 300hp.

Jörgen Brynne, program manager petrol powertrain, puts it very clearly: "This is the best mass production engine in this segment if you consider fuel consumption versus horsepower." That's not just his opinion – it's based on Volvo benchmarking its engine with competitors. "We started with a blank sheet of paper and set out to find the perfect balance between power, emissions and economy. We did this by reducing friction, weight and using lightweight aluminium components," says Brynne.

His colleague Anders Agfors, program manager diesel powertrain, explains that Volvo has been thinking about Drive-E for a long time. He says: "Today, the decision to have only four-cylinders is not so surprising, but back then it was a very bold vision from Volvo. But it's one of the best decisions Volvo has ever made."

The Volvo XC90 will be offered with a range of petrol and diesel engines, all four-cylinder and badged from D4 and D5 for the diesels and T5 and T6 petrol plus Twin Engine. The lower-powered versions of the diesel engines will have a single turbo, while the most powerful versions benefit from twin turbocharging to give them strong acceleration throughout the rev range. The petrol engines will each have a turbo, while the top-of-the-range T6 model will get a supercharger and a turbo for spirited performance. Brynne describes the T5 and T6 engines as "having the performance of a six- or eight-cylinder engine with the fuel consumption of a much smaller one." How could that not put a smile on your face?

At the time of launch, the diesel engines featured a world-first technology called i-Art. Agfors says: "With i-Art, we have the possibility to get the exact amount of fuel at the exact moment, which enables good combustion control and therefore improved emissions and economy. Even better, i-Art learns your behaviour during operation and journeys so that it can become even more accurate."

The XC90 will also feature Volvo's new eight-speed automatic gearbox, designed for the Drive-E powertrains and built to be, in Brynne's words, "faster, smoother, more comfortable. You won't notice the gear changes."





**Jörgen Brynne (left)**  
**DRIVE-E POWERTRAIN**

"What the engine can do is more important than the number of cylinders. People told us they don't need big engines and we listened to them"

**Anders Agfors (right)**  
**DRIVE-E POWERTRAIN**

"Our compact Drive-E powertrains are light because they are built from aluminium. Great for fuel economy, emissions and driving experience"



**Michael Fleiss**  
**POWERTRAIN**  
**ENGINEERING**

"The Twin Engine is the greenest and fastest XC90. It comes back to our decision to offer only four-cylinder engines"



## I CARE ABOUT THE ENVIRONMENT

*The XC90's highest powertrain is not only the range's top performer, but its greenest as well*



**WITH DRIVE-E POWERTRAINS**, the XC90 offers the perfect balance of power, fuel economy and emissions. If you want even better fuel consumption and emissions figures as well as performance, Volvo offers a Twin Engine version of the XC90 that uses plug-in hybrid technology developed by Volvo.

Michael Fleiss, vice president of powertrain engineering, describes the Twin Engine as "state of the art. This is the greenest and fastest XC90. That is breaking news and all this comes back to our bold decision to offer only 2.0-litre, four-cylinder engines.

"Our plug-in hybrid technology is the perfect solution for our customers. They can enjoy the long range of their cars on longer trips, thanks to the combustion engine and then for shorter trips they can use their XC90s as an electric car."

The XC90 Twin Engine will be available as a petrol version, which uses the top-performing turbo and a supercharged petrol engine together with an electric motor to "get close to 400hp". The combined efforts of these two power sources make the Twin Engine the fastest car in the range.

The Volvo XC90 Twin Engine will be able to drive in electric-only mode for around 40km, enough for

many people to commute on electricity alone. It will have a fuel-efficient engine as a backup to allow you to complete longer journeys, something you can't do in a conventional electric car.

As far as charging the electric engine is concerned, it is expected that you should be able to do so in as little as four hours.

Drivers can select a number of driving modes for the Twin Engine: Hybrid is the default mode and uses both the electric and petrol motors, cycling between them depending on the driving conditions.

Pure mode allows you to drive the car on electric power only, while conversely Power mode uses both engines together to give you the best possible performance. Switching to Power mode will also prime the gearbox to give better acceleration.

Save for Later mode will charge the battery but store the electricity so you can use it later when, for instance, you are driving through the city.

As the highest powertrain, the XC90 Twin Engine also gets an exclusive Orrefors crystal gear lever for the eight-speed automatic gearbox. Each piece of crystal is unique and is made in Sweden using glass-blowing techniques that go back centuries.



## I HAVE GREAT REFLEXES

*The Four Corner Active Air Suspension will add comfort, regardless of road conditions*



**THE XC90 IS** a big car – but it doesn't feel big to drive. It is athletic and nimble and as comfortable on a twisting country road as when you're driving through a city or cruising along a motorway. This is because the Volvo XC90 is fitted with a brand-new suspension system that makes the car feel smooth while at the same time giving it excellent body control.

To make the driving experience even better, Volvo offers the option of Four Corner Active Air Suspension, which makes the XC90 one of the most versatile cars in its class. At higher speeds, the car lowers by 1cm to improve stability and reduce drag, which is great news for fuel consumption. Better still, the driver can choose from a range of suspension settings for both petrol and diesel engines.

Comfort mode is the default suspension setting and is geared for optimum comfort. But if you want to drive

more enthusiastically, choose Dynamic mode and the car will hunker down on its suspension by 2cm.

Off-road mode allows the car to be driven over challenging terrain. In this mode, the air suspension raises the car by 4cm for greater ground clearance. It also offers Hill Descent Control, which aids you when driving up or down steep gradients. Eco is optimised for low fuel consumption by lowering the car by 2cm on faster roads, thereby reducing drag.

The air suspension system will also constantly adapt to changing road and driving conditions to make your drive as comfortable as possible. Another advantage of air suspension is that it can automatically keep the car at the same ride height and level, regardless of the number of passengers and luggage. This system also allows you to lower the car by 4cm to make it easier for passengers to get in and out.



## I WILL ALWAYS PROTECT YOU

*The XC90 is a great step towards Volvo's goal that no one will be killed in their cars by 2020*



**MARTIN MAGNUSSON DOESN'T** have the stressful look of a man who shares a responsibility that by the year 2020 no one will be killed or seriously injured in a Volvo. But as one of the senior safety engineers, he plays an integral part in delivering on that promise. He is laid-back and eloquent when I ask if it's feasible. "We are very confident about achieving this target. It's a great vision and I think IntelliSafe is the journey towards that goal. We have plenty of innovative technologies that will fulfill that vision. This is only the start."

In fact, a lot of the innovative technologies that will help Volvo achieve its goal are available now on the XC90. IntelliSafe is Volvo's umbrella term for its active and passive safety systems and refers to the innovative and intelligent approach Volvo has taken with safety. For example, the systems won't detract from your enjoyment of driving. "These systems are designed to support the driver, not to take control," explains Magnusson. "There's also a lot of passive safety – like Volvo's strong safety cages – that will protect the driver in a crash."

I ask Magnusson to sum up IntelliSafe: "It is designed to make driving simpler, more enjoyable and less stressful. A driver can get distracted, but the system doesn't." First and foremost, the XC90 is primed to avoid a crash. But if the worst does happen, you can be assured that the XC90 is built to protect

you and your family. It's one of the strongest cars on the road, thanks to its sophisticated safety cage.

Volvo has also upgraded its innovative City Safety technology, which can reduce your relative speed to other road users by up to 50kph. Night or day, the system is constantly scanning the road around you for other vehicles, pedestrians and cyclists. When a collision is imminent, it will notify you with a warning light and sound. It will also give you brake support when you start to brake. But if for some reason you don't respond, the system will activate automatic full braking to avoid or mitigate the collision.

"We are also adding intersection braking – a world first – so that when the driver is crossing an oncoming vehicle's path, the system will detect this and apply the brakes," explains Magnusson. "We will be able to prevent terrible accidents."

In addition to City Safety, there's Queue Assist, an advanced cruise control system that takes the stress out of traffic jams by providing steering support and automatically braking and accelerating in slow moving traffic.

At higher speeds, Lane Keeping Aid and Lane Departure Warning will support and alert the driver if they stray out of lane or move lanes without signalling. Magnusson concludes: "Volvo's approach to safety is very Swedish. It has always been a part of Volvo. It's rewarding to know that I'm helping to save lives."



## I'M A GOOD LISTENER

*Voice control understands you and will respond to your requests*



**SOMETIMES, THE VERY** best friends are those who just sit quietly and listen. Good communication is, after all, one of the things that makes human interaction so rewarding. That's why Volvo worked so hard to perfect its voice control system.

And while the XC90 might not get the punchline to your best joke, like all best friends it's a very good listener. So imagine having your friend beside you, ready to adjust the temperature, navigate to an address, play your favourite music, make a phone call or even find information in the owner's manual.

Volvo's system can understand natural speech and that makes it easier to use, because you don't

have to talk like a robot or follow a complicated menu of words to get what you want. For example, if you're a bit too hot, just say so and your XC90 will lower the temperature of the climate control. You don't even have to say what temperature you want – the system will automatically lower it one degree every time you say you're too hot. Want to call your brother John? Just say, "Call John"...

And because you've got your faithful friend fulfilling your every command, you'll never have to take your hands off the wheel or your eyes off the road, which will help keep you safe while driving. After all, isn't that what best friends are for?





**Crash test dummy  
SAFETY**

"Did you know I'm the same size and weight as a human adult so that Volvo can see exactly how real people cope in a crash?"

**Martin Magnusson  
SAFETY**

"Volvo Cars is on a mission to prevent deaths and serious injuries in its cars. It's rewarding to know that I'm helping to save lives"



## I HAVE GREAT TASTE IN MUSIC

*Your XC90 provides great sound, including an optional system by Bowers & Wilkins*



**THE QUALITY OF** sound is a crucial feature of any luxury environment – including the XC90. So when you're not in the mood, the world passes by in silence. But if you fancy a luxuriant music experience, Volvo has the audio to suit, including a Premium Sound by Bowers & Wilkins option.

To create this high-end sound system, the company teamed up with Bowers & Wilkins, one of the most respected names in audio, and an acoustic innovator responsible for technologies such as tweeter-on-top, which is a key factor in the XC90 system.

Bowers & Wilkins spent a lot of time tuning its audio systems to deliver the best possible sound in the Volvo XC90, in the rear as well as the front of the car. The company's audio systems designer, Michael Adenauer, says it best: "We believe in music. It's all about soul, not just measurements."



## I CAN GIVE YOU A MASSAGE

*Comfort, support and pampering – you won't want to get out of these ergonomically designed seats*



**NOT ONLY ARE** the seats in your Volvo XC90 ergonomically designed to support you, they're also equipped to pamper as though you were weekending at a five-star health spa.

The XC90's all-new seats are available with a function in the backrest that delivers an invigorating massage. The system works with inflatable pockets to create a wave-like motion – as well as massaging your lower back, they double as lumbar support.

And to make doubly sure that you are sitting comfortably, the two different types of seat, Comfort and Contour, feature very high-quality perforated leather as well as ventilation in the cushions and slender backrests.

For extra comfort and support, the seats are available with electrically-operated seat cushion extensions, in conjunction with the power-operated seats. To enhance the sense of luxury, the cushion extension is unusually wide.

Another notable design feature of this seat is that there is no 'ditch' between the cushion and the cushion-extension when it is extended.



## I KEEP YOU HEALTHY

*Your car will breathe in bad air from outside and turn it into super-clean air for those inside*



**IMAGINE BEING ABLE** to breathe cool, clean air while driving through stifling city traffic. That's what Volvo's CleanZone technologies do for you: the air outside your XC90 might be polluted, but by the time it has passed through its climate control system, it will have been refreshed.

When you unlock your car, CleanZone clears lingering emissions and odours. It monitors the quality of air entering the cabin and if it detects harmful particles, it shuts out incoming air by switching on the recirculation system. In polluted areas, the recirculation will automatically turn on and off to minimise your exposure to poor air.

When recirculation is off, all air that enters the cabin passes through a multi-filter that removes exhaust particulates, dust and pollen. In addition, a layer of active charcoal removes odours and ground-level ozone. The intelligent system detects when you are driving through a tunnel, and will close the air vents to protect you from higher concentrations of exhaust fumes.

You know how invigorating a breath of fresh air can be. Which is why Volvo has done so much to improve the cabin environment: the air quality inside your car is really about quality of life.



## I'M COURTEOUS

*The all-new Volvo XC90 will open the tailgate for you when you have your hands full*




**IT'S A COLD**, rainy afternoon and your arms are loaded down with bags. Wouldn't it be nice to have a friend open your XC90's tailgate for you? Well, your XC90 is that friend – all you have to do is wave your foot under the rear bumper and the power-operated tailgate will open automatically. You can close it with the same action.

Indeed, your XC90 is the very definition of courteous, which the Oxford English Dictionary describes as "polite and considerate in manner". "Polite" because if the powered tailgate is closing and its sensors detect something – or someone – is in the way, not only will it stop but it'll actually raise the tailgate a little to clear the area.

And "considerate" because you'll always have a control button to hand – there's one on the remote control, another on the tailgate itself, and a third inside the car.





*The people  
behind Volvo's  
most exciting,  
premium car yet*

# GENERATION XC90

**Words** IAN DICKSON

**Portrait photography** ANDREW SHAYLOR

# THE

**ALL-NEW VOLVO XC90** could only ever have come out of Sweden. It is shaped by people who are inspired by the challenging Swedish environment, influenced by the country's functional, beautiful architecture and motivated by the unique Swedish way of life.

Anders Gunnarson, the XC90's exterior design manager, has been designing Volvo vehicles for 25 years

and describes the brand's approach as "caring".

"Volvo puts humans at the centre. The people at Volvo Cars really want to make a difference. That is something to be proud of."

He describes the XC90's design language as "fresh and modern. It respects our heritage yet looks forward with a strong statement that says Volvo has reached a new level, with a premium feel".

And in spite of those 25 years, Gunnarson speaks with the passion of someone who has only just joined the company. With a sparkle from his piercing blue eyes, he recounts a story about the time he presented the first picture of the new XC90 to Volvo dealers. "None of them had seen it before and when they saw it, they stopped listening to me, they just focused on what they saw and started to applaud. It was brilliant."

It is not in the Swedish nature to boast, and Gunnarson is typically modest, but even he describes the XC90 as "stunning". He passionately explains that the design is holistic, with all elements working together in harmony. In fact, achieving this functional, clean, but beautiful design is his "proudest moment".

"You'll love the confidence that it oozes. It doesn't have exaggerated elements. Everything is considered. This uncluttered purity is very Swedish and the bold yet calm design will give the people inside self-esteem."

And at the same time, it's unmistakably a Volvo. Gunnarson explains the importance of retaining some of the traditional Volvo design cues: "You shouldn't need to question its identity". He achieved this with the upright, proud grille, home to the recognisable diagonal bar and iron mark, and the pronounced rear lights.

Gunnarson's colleague Robin Page, interior design director, sums up the mood succinctly: "The bold signature of the grille and the front and rear lights is a strong identification. You could see this car coming behind you in the dark and instantly recognise it as a Volvo." The same will be true of the R-Design, a sportier, more dynamically styled version of the XC90, which will be launched soon.

That strong, confident exterior works really well with the luscious interior. The XC90 is Volvo's most luxurious car ever, and Page set out to achieve this in the interior design, countering the bold exterior with a cabin that is a haven of tranquility and comfort. "There is ambient lighting in the cabin, so at night the horizontal design of the interior is enhanced. A band of light runs from an instrument panel onto the doors and continues into the rear of the car. The atmospheric effect is very elegant and looks like the guiding lights in a movie theatre." When asked what good design is, he sums it up as "when your eye can follow a line and it comes back at you".

This balance between exterior presence and interior calm is helped by the fact that all the designers sit together at work. The unflappable Page, who joined Volvo from a luxury British marque, explains the importance of this: "Something that's nice at Volvo Cars is the studio set-up: we're all together. Interior design works next to exterior design, next to colour next to materials. And we're all

"When we presented the first designs to Volvo dealers, they **started to applaud**"

**Robin Page (left)**  
**INTERIOR DESIGN**

"Some designers relate a car launch to having your first child. It's the birth of something you have become so emotionally attached to"

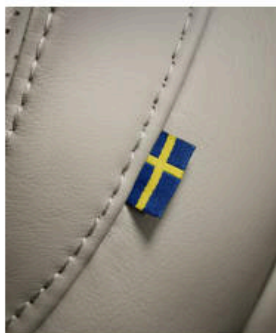
**Anders Gunnarson (right)**  
**EXTERIOR DESIGN**

"Scandinavian design happens when you respect simplicity, the authenticity of materials, functionality and clarity"



“The key is not to **overcomplicate** things”





communicating and working with each other all the time. There are other brands where the departments are separated to the point where the exterior and interior design studios are opposite sides of town. For me, it breaks down that link and that way of collaborating that creates a really fantastic product."

It's this form of collaboration that Page and Gunnarson relish, and that they are working to the same goal: an unquestioning focus on the people who will be sitting in the car. Page calls it "intelligent design" – that typically Swedish way of finding elegant yet simple solutions. For example, having a touch screen means there is only one rotary control on the instrument panel and six buttons.

"The key is not to overcomplicate things. The aspect I really wanted to capture with this car was that everyone who gets in it should feel special," says Page, proudly. "With interior design, it's becoming more and more important to achieve a great experience throughout the car. It's not just about the driver, we've spent a lot more time putting quality into the rear seats."

This sense of comfort and wellbeing for everyone, regardless of which of the three rows they sit in, makes the XC90 uniquely Volvo. Page talks about different countries, such as China where premium customers tend to have chauffeurs and sit in the rear seats a lot of the time. And it's something Volvo Cars understands because this approach is borne out of the Swedish culture and focus on the family. It's not uncommon for older children to sit up front and a parent to sit in the rear seats in Sweden, because there's a strong sense of equality.

As a British designer living in Sweden, Page appreciates the respect for good design and the inspiration he receives from the country's culture, architecture and landscape. When asked to sum up Swedish design as an outsider, he says: "It has a level of calmness, with elements working together. The principles of this design are to take things out, but not make it too simple – just well resolved. In a sense, living in Sweden is like living in a spa hotel – and we're constantly trying to capture this relaxation and tranquility and put it into our cars.

"What's most exciting is when you combine this intelligent design with really nice Swedish craftsmanship and materials. That way, you get a very premium car."

**BECAUSE THE XC90** is also a family car, Volvo wants to make sure that everyone who gets in enjoys the same level of comfort and experience. It shouldn't matter which of the three rows they choose to sit in. This makes the seats in the XC90 so special: just like the front seats, the second and third rows are designed for maximum comfort. Each passenger, even in the seven-seat versions, gets their own individual seat so everyone is as comfortable as possible. Volvo has always been a leader in seat comfort: after all, in the 1960s, Volvo took the unorthodox step of consulting orthopaedic surgeons to help design the perfect car seat. The experts at Chalmers University of Technology in Gothenburg, Sweden, worked with Volvo's seating department to create an ergonomic template for the ultimate car seat that is still evolving. But for the XC90, Volvo created all-new seats that have slim backrests to maximise interior space.

The seats in the XC90 are created from design measurements called "comfort curves" – the profiles of differing body shapes and sizes that Volvo has collated over many years to ensure a maximum level of comfort for a wide range of people. It's often said that after a long journey in a Volvo, you arrive feeling as fresh as you did when you set off. And it's true.

This unprecedented level of seat comfort, no matter how long the journey, was the main consideration for Fredrik Hessel. He sums up his team's responsibility: "Our target has been to provide excellent comfort for all our customers during all driving conditions." Each row of seats can be stacked slightly higher than the one before it, just like in a theatre, so that everyone enjoys the best possible view.

The second row of seats can also be reclined, moved forwards and backwards and can be chosen with an integrated child booster cushion. In addition, the third row of seats can be folded and raised at the touch of a button. Hessel describes the benefits of the new seat structure: "A taller person can sit further back and

**Fredrik Hessel  
SEATING**

"We have a long and proud history of developing great seats. It's about attention to detail, good design, quality materials and constant improvement"

“Everyone who gets in it should **feel special**”



“You can just  
**Speak to your car**  
and get things done”



lower down," he animatedly explains, as he slides down in his chair. "And on the Contour seat we have added support on the side of the leg extension cushion for maximum support on country roads."

Ventilated driver and passenger seats ensure that you will feel comfortable in all weather conditions, and this can be controlled from the XC90's centre display with touch screen. Add in a massaging function and four-way electric lumbar support and you have the most comfortable seats ever fitted to a Volvo. After a hard day at work, you might even find yourself taking the long way home just to gain from the relaxation in the XC90's seats.

Naturally, safety is a major consideration for Volvo when designing its seats. They might be slimmer than before, but they are extremely tough and as Hessel explains, "We would never compromise our strong safety and comfort heritage."

**ONE OF THE** biggest highlights of the XC90's interior is a central display with touch screen to use the car's infotainment and safety functions: stereo, climate control and navigation. You can also browse the internet, use apps to find music and turn your car into an onboard wi-fi hotspot.

"It's important with interior design to connect with how people tend to use their technology," Page says. "The central display allows us to concentrate on good interior architecture, framing the technology, reducing the number of buttons and switches. That then allows us to add four or five beautiful details and it's this that gives us this premium feel."

Breaking from tradition, the touch screen is placed vertically in the cabin. This has many benefits, as Jens Henriksson, who was lead engineer for the touch screen, describes: "The advantage of a portrait layout is that, for instance, with a map you can see more of your route. And when you have a row of lists, you can see more of them on one screen without having to scroll down too much."

From the screen, you can use the 360-degree cameras to give you an overhead view of the car to make driving the XC90 even easier and more relaxed.

In typical Volvo style, the touch screen is super-intuitive and easy to operate. Henriksson calls it a "clean interface", referring not only to the display's design, but also to its simple, logical layout that's easy to use at a glance.

You can also operate the touch screen wearing gloves, useful if you've ever experienced a Swedish winter. "It's possible because we use infra-red touch technology. In front of the screen, there's an infra-red light pattern and when you put your finger within this field, it corresponds to a touch," explains Henriksson.

You can even zoom in and out of maps by expanding and retracting your index finger and thumb over the screen, just like you would on a tablet.

I ask Henriksson how the system copes with reflections and glare from the sun. "It's an anti-reflective surface and we have a number of technical solutions to avoid glare and other optical phenomena. You can't just change the screen angle as you would on a hand-held iPad, so we've had to solve these issues cleverly. I'm pleased to say we've managed it."

There's also a smaller version of the touch screen in the middle of the passenger compartment, in the second row of seats, to allow those in the back to adjust and set their own temperature and fan speed. For the driver, there's an optional head-up display that shows important information on the windscreen so there's no need to take your eyes off the road. In addition to the head-up and centre displays, the driver has a digital display on the dashboard that can be personalised and makes key functions easy to read at a glance.

**AS INTUITIVE AS** a touch screen is, Volvo has taken the ease-of-use of its major controls one step further to improve convenience for the driver with a voice control system that can understand natural speech.

The system will allow the driver, at the press of a button, to command the car to programme the navigation, play a song, call someone, turn up the heating or ask it to read out your text messages. You can even use nicknames to call up your favourite band. So you'd only have to say, "Play the Boss," and before you know it Bruce Springsteen will be bellowing out of your stereo. You don't even have to learn a command language to control it: just speak as you usually would and

## Nina Åberg INTERACTION DESIGN

"The voice control function is so good you can even use nicknames. So if you say, 'Play the Boss,' you'll get Bruce Springsteen bellowing out of your stereo"





“I call it **Scandinavian** clean-air thinking”





the system will understand what you want. Clever... Nina Åberg, interaction designer and function owner for voice control, explains the technology: "I don't want to voice control anything that can be done with just a push of a button. I wanted to use speech to operate something that's complicated and takes a lot of time for the driver to do. That's why you can now say a complete address in a single utterance, like 'Take me to 24 Main Street, New York' and the navigation will start route guidance directly."

A major part of Åberg's work was to reduce the number of steps required to command the car to do something. "With this new system, you can do most things in just one step," Åberg says, excitedly, in a Swedish-Texan accent that betrays the time she spent in the United States as a student.

Voice control now covers more than 300 popular phrases and works in 23 languages so that it will cover a vast array of commands. I ask Åberg how the system can recognise the various ways in which different people will request the car to do something. "We've done extensive studies. We've shown a prototype to users and they've talked to the system. We didn't want to put words in people's mouths – so we showed them a series of pictures to generate a more natural response from them.

"The biggest difference with the new system is that you can say more things without having to learn a specific command. It's more... natural."

**IMAGINE A CAR** where the air inside is cleaner than the air outside. As more and more cities across the world become enveloped in smog and harmful pollution, Volvo is launching one of the cleanest air systems on the road.

CleanZone is Volvo's name for its approach to improving the interior air quality, removing odours and harmful pollutants and toxins from the moment you blip the key fob to open the doors. The XC90 uses a sophisticated air inlet sensor that monitors the quality of the outside air, and can actually seal off the cabin to prevent harmful pollutants from entering the car interior, if the onboard sensor detects high levels of pollutants outside.

When it's not recirculating the air to keep it fresh, the climate system is pulling in outside air and forcing it through a state-of-the-art air filter – one of the largest ever fitted in a car – that uses charcoal to eliminate harmful pollutants and smells. Recirculated air passes through this filter as well, and the climate control system greatly reduces levels of dust, pollen and other fine particles.

"A good climate system should go unnoticed," says Carl-Mikael Hjörne, climate concept leader. "The system in the XC90 is designed around the passengers in

**Jens Henriksson (above)**

**TOUCH SCREEN**

"Our touch screen system is so simple to use and that's an important aspect for users. It's practical, too, and you can even use it when wearing gloves"

**Carl-Mikael Hjörne (left)**

**CLIMATE CONTROL**

"We did our climate system the Volvo way, with high efficiency and clever packaging of a very large air filter that gives us market-leading air-quality performance"

**THE HOUSE**

*We knew this was the perfect place to shoot Volvo Cars' stars as soon as it bounced into our inbox from our location scout in Gothenburg*



**ITS REAL NAME IS VILLANN**, a portmanteau of villan and Ann. The latter is the owner's name, the former means 'the house' in Swedish. So that's how our shooting location became known to us – simply as 'The House'.

Built in 2004 and designed by acclaimed local architect Gert Wingårdh, VillAnn sits on the coast a 30-minute drive south of Gothenburg in a quiet archipelago on the Swedish west coast called Särö. A glazed floor-to-roof wall gives the house striking views of this beautiful part of Sweden. It is built into the cliff face, providing a neat geometry between the man-made building and the natural rock.

VillAnn was designed as a summer house for a successful Gothenburg couple. It sits on a generous plot at an angle to its axis and is formed predominantly from three materials: wood (Douglas fir, in fact), concrete (cast in situ) and tempered glass, mixing artificial with natural in a typically Swedish way.

It's "archetypal Scandinavian design," say Volvo's designers when they first arrive at the house, mentioning the minimalist, bold lines that had clearly been "very well thought out". Volvo's designers particularly love the "honesty" of the materials, the "Swedishness" of using just wood, concrete and glass and the "simplicity" of having only three large rooms and a kitchen.

In fact, they saw many similarities between the design of the house and the XC90, referring to the "seamless transition" between the interior and the exterior, the "clean design" and "marked contrast" between the different materials.

the car and gives the same experience for everyone in it. The front and rear seats do have individual airflow, which is a new feature for Volvo. That improves the comfort for the second row of passengers."

Volvo has also introduced four-zone climate control, to allow the four major seating positions to control their temperatures individually – and it has developed the system to be as quiet as possible. There's nothing more infuriating in a car than a noisy climate control system.

When driving through urban areas, you no longer have to imagine breathing in the crisp, clean, Swedish air. In the all-new Volvo XC90, it is quite simply a reality. Hjärne calls it "Scandinavian clean-air thinking".

**MICHAEL ADENAUER IS** buzzing with enthusiasm when we meet, excitedly telling me that the Volvo XC90 is going to have "the best sound system on four wheels in 2015". That is rather a bold claim, but Adenauer is supremely confident that Volvo has achieved it. "To get the best sound system, it takes more than good speakers and amplifiers. You need to tune the system with a human ear. And that's what we've done at Volvo."

The XC90 is available with two audio systems, both of which offer superb sound quality. But it is the top-of-the-range Premium Sound by Bowers & Wilkins that's got us most excited. It will feature 19 speakers, a nine-band graphic equaliser and a world first – a compact fresh-air subwoofer with a mica cone that delivers incredibly rich levels of bass. Breaking popular convention, Volvo has also turned the tweeter towards the cabin for better sound quality. But Adenauer doesn't want to dwell on these details: "The technology should only be a means of recreating the emotion. When you get to a certain sound-quality level, no one will talk about frequencies, or treble, or bass or whatever any more – they will just say, 'Wow, that's it!'"

Adenauer's colleague, Dr Fariba Ferdos, describes the sound experience in the XC90 as "closing your eyes and imagining a stage five to seven metres in front of you with a massive orchestra playing to you."

That pure, rich sound experience is exactly what you will undergo in an XC90, because it has three room modes: Studio, Individual Stage and Konserthuset.

"In Studio mode, we wanted to recreate the very best listening experience you can imagine, so it's dry and precise," explains Adenauer. "Stage mode allows you to control the acoustics using the touch screen, so you could be closer to the stage, moving away from the stage, climbing on top of the stage."

"Konserthuset is the result of a collaboration with the Gothenburg Symphony Orchestra. We replicated the sound from the Gothenburg Konserthuset [the city's concert hall], taking 800 individual measurements of the room so that the car faithfully replicates that sound. It's really amazing."

As a music producer and recording engineer in a previous life, Adenauer is deeply passionate about the quality of music. He says: "It really makes sense to invest some kind of money into your car system because you are listening to it for one, two or three hours a day or more. At the end of the week, that's a lot of good sound you will have heard."

"If you jump from the Volvo XC90 into a different car, you will instantly miss something," he exclaims, "and that's what we are striving for, that you get out of the car and then want to get back into it to listen to music."

As with every other aspect of the XC90, the experience should be the same for everyone in the car, regardless of where they are sitting. As Ferdos explains: "Every person will experience the same quality of sound. If you're sitting in the back seat, you will have the feeling that the singer is singing from the headrest in front of you, not from the instrument panel in the front."

It's a typically Swedish instinct to create something amazing but still care that it works for everyone. I ask Ferdos what she would say to a potential customer if they were standing here now: "Go to a dealership, take your favourite track of music, crank it up and listen for yourself just how great this sound system is."

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## THE WHEEL

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*Beauty, strength and technical precision are crafted into every XC90 wheel*



**AS ANY DESIGNER** will tell you, the wheels of a car have a profound effect on its look, feel and character. That's why Volvo takes such care in the design, styling and manufacture of the wheels that grace the XC90.

As the all-new XC90 is rugged and elegant at the same time, the wheels needed to express those aspects. As a fairly reliable design guide, the bigger the wheels – as they are on the XC90 – the more expressive the aesthetics.

Once the aesthetic parameters have been outlined, the wheel designer begins an intensive sketch process. A large number of designs are whittled down to a few. Full-sized 2D prints of the wheels are fixed on a model of the car to judge them in a realistic context. When the final proposals are chosen, the digital surface modelling team and the designer build the designs in 3D. Physical mock-ups are milled, painted and placed on the car to get a real-life impression of the finished item.

As Volvo engineers develop the final designs, great care is taken to ensure that surface quality is first class. So the result is not only beautiful, it's also incredibly durable and strong. Volvo wouldn't have it any other way.

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### Michael Adenauer SOUND SYSTEM

"We set out to recreate the emotion that people experience listening to their favourite music. It was our job to deliver the technology for it."

### Dr Fariba Ferdos SOUND SYSTEM

"If you're sitting in the back seat, you will have the feeling that the singer is singing from the headrest in front of you"

“The **best sound system** on four wheels”







# C R A F T

*Cutting-edge  
technology builds  
great cars. An artisan  
finish makes them  
luxurious*

# W O R K S

**Words** IAN DICKSON

**Portrait photography** ANDREW SHAYLOR



**Anders Bergström  
DESIGN**

"When you buy a high-class product, you expect the best materials to have been used and for those materials to have been treated with a level of craftsmanship."

**DEEP** **IN A FOREST**, a 30-minute drive south of Gothenburg on Sweden's west coast, Anders Bergström and I are on the hunt for the elusive flame birch. The design manager at Volvo Cars is taking me on a

journey to find this very special type of wood that is fitted into the all-new XC90.

"There's one," I exclaim excitedly and naively. Bergström touches the silvery, weather-beaten tree to spare my blushes, but I can tell he knows this isn't flame birch. In fact, there probably isn't a single one within a 900-kilometre radius.

"Sometimes you'll find flame birch here but usually you have to go to the most northern parts of Scandinavia and in a little area of Russia," he clarifies.

So what makes the flame birch so different from other birch varieties, I ask, in a forest full of birch trees. "The special thing about the flame birch is that when you cut it, the fibres have a snake-like pattern running through them. And that creates movement when the light hits it."

Bergström explains that in forests close to the Arctic Circle, the extreme cold and harsh, windswept landscape bend and shape the birch creating these distinctive marks inside its very fibre. The result is a beautiful flame-like 3D effect with no loss in the rigidity or quality of the wood.

Volvo and its suppliers go into these remote forests to select each tree by hand, because flame birch is so difficult to spot. "You look for coarseness in the bark. And usually the tree is standing on its own on the edge of the forest," Bergström says.

Flame birch was very popular in Swedish furniture design in the 1920s and 30s and then disappeared. Volvo is reviving it in the XC90.

After the right tree has been selected, it is cut into 'veneers' – thin sections that are moulded and sanded by hand. After that, a dye is added to give the wood a glossy, dark finish. Volvo also offers a lighter walnut trim that undergoes the same handcrafted process.

Surprised by the amount of craftsmanship that goes into creating this piece of trim for the XC90, I ask Bergström if it's something a machine could do. "The only factor that separates luxury brands from more everyday products is the quality and amount of craftsmanship," he responds, passionately.

He explains that while robots on the production line are brilliant at building high-tech cars, you need the skill, eye and devotion of a real person to make the interior trim and materials really come alive. "I can imagine that a lot of people just think that these cars are so technical. Of course, they are. But a lot of things like the interior materials, the leathers, the woods, are handcrafted."

There's also a herringbone design of the wood in the dash. Bergström explains: "Another good feature is something we call the 'book cut'. It's a split in the wood in the middle of the car, in the centre. It gives a good sense of the craftsmanship, a lot of work has gone into the wood but you don't really see it.

"Also, because every piece of wood and its pattern is different, one of the doors might look odd compared to the other and so forth. So to make it uniform, the wood has to be stained and there's a lot of craftsmanship that goes into this process."

There's also a metal trim available for the interior and, like the flame birch and walnut trims, a great deal of craftsmanship goes into creating it. Bergström describes the process: "You brush a piece of aluminium in one direction, then brush harder in the opposite direction. The technique is called the harlequin brush and the results are spectacular: when the sun shines, it glitters."

In addition to the two wood offerings and a metal inlay for the dash, you can choose a charcoal trim piece. This is hand-painted to ensure a perfect piano-black finish and there are metallic flakes added so that when the light hits it, it sparkles.

The leather seats in the Volvo XC90 undergo a similarly thorough handcrafted process. Volvo uses luxurious Bridge of Weir Scottish leather, famed for its soft texture and hard-wearing capability. After a process that involves tanning, curing and colouring the hide at the supplier, the leather is tested for thickness, strength, abrasion, flexibility and resistance. The leather swathe is then sent to Volvo's seat manufacturer where it is cut and stitched by hand to ensure the best possible quality.

"It's amazing actually, there are people sitting and sewing the seats all day," says Bergström with pride and enthusiasm. "The steering wheels as well – they are stitched by hand. Some of it is done using sewing machines but much of the detailing can only be achieved by hand. That is true craft. At Volvo, we have



**CHOICES, CHOICES**  
As well as two wood trims, you can choose a metal finish and a piano-black painted trim insert



“A lot of **craftsmanship** goes into making the wood trim”



“When the sun shines,  
the aluminium trim glitters”



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## THE WATCH COLLECTOR

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*Volvo Cars designer Anders Bergström finds inspiration from unusual sources – like his prized watch collection*



**ANDERS BERGSTRÖM** likes watches. He really likes watches. Not the sort you buy in the airport, but rare, vintage watches from the 1940s, 50s and 60s. Bergström describes this period as “the golden age of watch-making”.

Day-to-day, he wears a Rolex Explorer II, but he has collected many watches and keeps his greatest treasures in a bank vault.

Bergström is fond of vintage Swiss brands like Patek Philippe, Audemars Piguet and Vacheron Constantin. But he also collects unusual Swedish marques and special versions of regular brands like Omega and Rolex.

He loves the design, attention to detail and craftsmanship. Which is fitting, since Bergström is the design guy responsible for Volvo's handcrafted elements.

“Watches really inspire my design. When you look closely at high-end models, you notice their precise, exquisite details.

“I like to put these design elements into the car. Take the hand-brush effect on the dial of one of my Vacheron Constantin watches (pictured). When the light hits it, it sparkles. We put a similar effect on the metal trim in the car using a harlequin brush technique. When the sun hits the metal in the car, it glitters just like the watch.”

Bergström is clearly passionate about his watches, but if he had to save just one, which would it be? “Definitely my Patek Philippe 10 Ref 3410. It looks plain but is very special. It has an anti-magnetic movement and is, in my mind, the pinnacle of Swiss watch-making.”

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“Luxury is all about detail. Our distinctive zigzag stitch





is more demanding. That's why we do it by hand”



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## THE CRAFTSMAN

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*Anders Larsson is a craftsman in Volvo Cars' top-secret prototype department and has built most of Volvo's recent concept cars*



### ANDERS LARSSON HAS

worked at Volvo since 1988. He looks every inch the craftsman: spectacles down the bridge of his nose. Obscure tools in a belt with a beautiful aged patina. And a kindly, quiet way of speaking. He's a bit like Geppetto from Pinocchio.

Larsson works in Volvo's prototype department, where concept cars are built for motor show stands across the world. "On concept cars, the whole interior is done by hand. It gives us higher quality," he says. "It takes one and a half hours to stitch the closing seam on a production steering wheel, but 60-80 hours to develop a show-car quality steering wheel."

When production begins, this is done by the supplier. Some of it is automated to speed up the process, but "the closing seam is always done by hand."

Larsson's attention to detail is incredible. Midway through our conversation, he squints at the steering wheel placed on the stand – a production prototype from a supplier. "Here's a faulty stitch. And another. And look, some irregularities in the leather. This wouldn't be OK for production." I struggle to see what he's talking about.

I ask Larsson what he loves about working for Volvo. "The designers look up to me for my craftsmanship. They respect my skill and knowledge. I'm bringing their designs to life, which is really rewarding."

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### Ebba Maria Thunberg COLOUR AND TRIM

"Luxury is when you sit in a car and feel special. Like someone has really thought about you. That's what we've done with the new Volvo XC90"

## “At breakfast, I colour-match the table cloth to what I’m eating”

a distinctive zigzag stitch that is a little more demanding than the one used by other car companies. That’s why we do it by hand. The higher we go in the luxury segment, the more time we spend on the handcrafted elements.”

Luxury is also about the special details. One of Bergström’s ideas was to introduce an Orrefors crystal gear lever for the highest performing XC90, the Twin Engine. This crystal, created in southern Sweden, starts out as syrupy molten glass and is blown and cut by hand using techniques that stretch back to the company’s formation in 1898. By the time it has been finished, at least 15 people have worked on it and each piece is unique. Bergström describes the Orrefors crystal gear lever as a gem sitting in the middle of the car. He says that when the light hits it, a great reflection of different colours is created. “It’s a beautiful thing,” says Bergström, modestly.

Interior designer Robin Page: “We wanted to connect a lot more with Swedish design so that if you’re buying the XC90, you’re getting a little bit of Sweden,” he says as he holds an Orrefors crystal gear lever up to catch the light. “There’s also the carpets influenced by the famous handcrafted Kasthall, as well as the wood, which creates a connection with the Swedish landscape.”

Page has been heavily involved in incorporating craftsmanship into Volvo’s products. “Now is the time when we can capture what Volvo did in its heritage. With the touch screen allowing us to remove buttons, we can concentrate on the nice surfaces and make the best of the decor and materials.”

Bergström’s and Page’s colleague is Ebba Maria Thunberg. She describes her responsibilities as “everything that isn’t 3D”, a lovely way of saying that she is responsible for the materials, textiles and interior and exterior colours of the XC90.

She describes her approach: “I set out to create a calm and relaxing environment so that you can concentrate on driving without getting tired. Because we’re so into safety, the environment in the car should be supporting you, not disturbing you. To have the confidence to reduce and filter and remove the unnecessary is a very Scandinavian approach.”

Thunberg started out her career as an architect, so she understands how materials and design work together. I ask her where her inspiration comes from and she smiles when she says, “Everywhere”. “I bought a pair of black shoes once with a beige split line in the centre of them and that became the theme for an interior. At breakfast, I colour-match the cutlery and the table cloth to what I’m eating and then take a photo of it on my phone for inspiration later in the day when I’m at work.”

She says the Swedish landscape shapes her choice of colours: “We choose bold, crisp and clear tones because we’re affected by the very dramatic changes in light or darkness we have here in Sweden. In the wintertime up north, it’s completely dark for three weeks. And then in the summer, it’s the reverse. I think it reflects our way of perceiving design.” This is the reason why Volvo interiors tend to be voluminous and light and contrast extremely well with very dark exterior colours.

Thunberg describes the colour palette of the XC90 as “very Scandinavian” and containing softer colour tones that are more connected with nature. The XC90 is available in a wide range of different colours, some of which are new for the Volvo XC90 and what Thunberg describes as “colour tones that really suit a high-quality car”.

She also takes into account environmental considerations when thinking about materials: “For the leather, we’re working on having the pieces cut at the supplier so we’re not sending scraps to the next location. The same goes for the tannery, we’re trying to make the process as clean as possible.”

Having spent so much time working out the best combinations of materials, trim options and colours, who better to ask than Thunberg what the perfect specification for a Volvo XC90 should be: “My choice would be a very blonde interior, with the metal mesh trim and a simple metallic exterior colour,” she says, before adding: “When you go to see the car at your dealer, smell the leather, touch the steering wheel, put your hand on the seat and feel the quality of the leather. And most importantly, get comfortable. Then take it out for a drive. You will love it.”

# P O W E R T O

*What do you get when five Californians participate in a*



# T H E P E O P L E

*Volvo focus group? Three years later, you get the all-new XC 90*

**Words** BILL DUNN

**Portrait photography** ANDREW SHAYLOR

# IT'S

**DECEMBER 2013, 9.29am.** We're at the Volvo Cars Monitoring and Concept Centre in Camarillo, California.

The stage is set. The XC90 is polished to perfection, exquisitely lit in the cavernous space of Camarillo's display area, shining like a jewel. Around it, in the darkness, our

15-strong team of boom cameramen, Steadicam operators and grips are primed and ready. It's rather like the beginning of a nature documentary, except we're not here to capture a rare breed of wildlife. We're here to capture the reaction of a special focus group as they see the all-new Volvo XC90 for the first time.

Most car industry focus groups last for a few days or a matter of hours. When Volvo Cars does a focus group, whether it's in Gothenburg, the United States or the Far East, it does it properly – in accordance with its 'Designed Around You' philosophy of determining what people actually need from a car. The company has been working with this particular group of individuals for three whole years.

Volvo's now-retired project director, Hans Wikman, summed up precisely the importance of focus groups when he said: "How could a middle-aged engineer from northern Sweden know what it's like to be a younger woman or man in a major US city?"

Volvo's LA focus group are a hand-picked group of professionals, luxury car owners from the west coast of America. This particular area was chosen because Californians are exposed to pretty much every luxury vehicle in the world. And, let's be frank, they are a really, really demanding audience.

Take Therese Turner. She is a jewellery designer, constantly on the road taking examples of her work to clients' homes. "I want comfort from a car, not only in the seat cushion, I want comfort in the back and I like a seat that feels as though it's massaging me. I look at every little item of a car, such as the cup holders. It might sound like a little thing to most people, but I wouldn't buy a car without great cup holders.

"And I need a car that's impressive. I think that's important. It has to reflect my personality and my business. I like clean lines. I don't want a car that's real busy. It all matters."

And if it wasn't already obvious, Turner adds: "I'm an opinionated person, so when someone asks me for my opinion, I have a lot of feedback. When I was asked about this focus group, I was like, 'Oh, great, you want my opinion? Are you going to listen?'"

Volvo listened. Andrew Yermian, the owner of a restaurant in Los Angeles County's exclusive beachfront resort Santa Monica, agrees: "It's been so exciting seeing a company trying to involve its audience in its journey to create something new."

As school fundraiser Steve Hoffrichter says: "We all come from very different backgrounds. We all kind of feed off each other because we're all so different. We'd seen a concept car at the LA Auto Show. It was a very futuristic car and a lot of us said, 'Wow. If this is the direction that Volvo Cars is going, they are really taking a leap ahead in design. It's not your dad's Volvo any more.'"

It's one thing asking people to talk about cars in their native environment, but Volvo went one step further by flying the five Californians to Sweden to give them a crash course in Swedish



**CAMARILLO BRILLO**  
Our five opinionated Californians meet the XC90 for the first time, having spent three years poring over its many new features



design. They showed them how it always begins with people's needs before getting the focus group involved in the details, such as the materials for the XC90's interior.

"Volvo took us to a furniture store and a design museum," says Hoffrichter. "I saw a lot of everyday items I was familiar with but had never thought were designed in Sweden. Many looked very simple, but once you actually used the product, sat in the chair or used the utensil, it fitted your body perfectly."

Yermian feels that utility is part of his definition of luxury. "To me, luxury has to be functional first and foremost. It has to be functional, it has to be innovative, it has to be comfortable and it has to work for me." Meanwhile Reagan Hayes, an interior designer with three young children, really engaged with the XC90's flexible seating. "It's not unusual for me to have to throw a piece of furniture in the back of a car and drive across town to an installation, then pick up my kids on the way home. I need a lot of functionality and versatility in my SUV so I can do the things I need."

Our California focus group are typical of Volvo owners all over the world in that they need a luxury car that can also keep up with their busy lives. As theatre owner Matt Brandt sums it up: "I want my car to take me to an elegant black-tie affair and I want that exact same car to be able to handle another side of me - the adventure traveller. It has to be able to carry scuba gear, skis, snowboards, mountain climbing equipment, tents, camping and golf gear. And possibly all in the same weekend!"

Recalling his time in Sweden, Brandt says: "I was really impressed. They seemed to have taken my definition of luxury and materialised that into metal, leather and glass. I was super-impressed by that. They gave us 20 different pieces of interior wood and we had to touch them and look at them from different angles. Each piece went through this rigorous process getting 14 people's opinions before they came up with what they would use."

As a designer, Hayes really enjoyed this part of the proceedings. "It's a lot like interior design because you have to think about proportion, you have to think about the scale, you have to think about how the materials work together and if it's harmonious. All those different options come together to create this car that we've been working on all that time."

So three years later, seeing the XC90 for the first time, has the group's perception of Volvo Cars changed at all?

"I look at Volvo totally differently now and I feel honoured to have been involved in shaping the XC90," says Turner. Yermian agrees: "It's been so exciting to see a company involve its audience."

Hoffrichter on the other hand admits to never having driven a Volvo before. "I'd never been in a Volvo until this whole project started. But once we got back from Sweden and started looking around, we realised a lot of people drive Volvo cars here in the States and there's a lot more Swedish design that's all around us."

Meanwhile, Brandt had been hoping that Volvo would listen to some of the revisions that came out of the California focus group. "I think the baseline was pretty high to begin with. And the rest of it? That was just putting the icing and the gloss on the cake."



*Steve Hoffrichter*

**SCHOOL FUNDRAISER**

"Volvo Cars is really taking a leap ahead in design. It's not your dad's Volvo any more"

*Therese Turner*

**JEWELLERY DESIGNER**

"It might sound like a little thing to most people, but I wouldn't buy a car without great cup holders"

*Andrew Yermian*

**RESTAURATEUR**

"Luxury has to be functional, it has to be innovative, it has to be comfortable and it has to work for me"

*Matt Brandt*

**THEATRE OWNER**

"I want my car to take me to a black-tie affair and the same car to handle another side of me, the adventure traveller"

*Reagan Hayes*

**INTERIOR DESIGNER**

"I need a lot of functionality and versatility in my SUV so that I can do the things I need"





# I C O N S

*Our original Volvo XC90 was a truly revolutionary SUV. The all-new Volvo XC90 is equally innovative*



# THE

**ORIGINAL VOLVO XC90** was one of the most successful and trend setting SUVs of the past decade, mostly because it was unlike all other SUVs. When launched in 2002, its mix of car-like driving demeanour, MPV-like family versatility and elevated safety standards proved a popular and profitable formula for

Volvo. It soon became Volvo's most successful car.

To be successful, the XC90 had to be stand-alone, Hans Wikman, project director of the XC90 and, at the time, head of Volvo's large car projects, said not long after the vehicle was launched. "Our SUV had to have top safety, meet all our environmental concerns including good fuel economy, have a small footprint and feel like a normal car to drive. We also wanted seven forward-facing seats. That was a major differentiator from our rivals." True to its Swedish roots, it was also highly capable when conditions turned wet, snowy or just plain difficult.

That first Volvo XC90 previewed a number of technologies new to the SUV sector. They included RSC (Roll Stability Control) to counter the risk of a rollover (a concern with top-heavy SUVs), inflatable

side curtain airbags for all three rows of seats and an integrated booster cushion for children in the second seat row.

Californian Doug Frasher, a mountain-bike riding, motorcycling former NASA engineer, was responsible for the car's visual character and final form. "My proposal was for an athletic vehicle with the clear capability of supporting an outdoor lifestyle." Frasher, who still works for Volvo Cars in Camarillo, was confident he knew what men wanted. So, in his design focus groups in California, he asked only women.

Rival SUVs, noted Frasher, were mostly, "too boxy, too slow, heavy, big and plodding. They looked like they'd tread all over nature rather than gently walking through it."

The first XC90 was an immediate success. Soon after its launch, the Volvo XC90 became Sweden's most valuable export product. Rival SUV makers have widely copied the seven forward-facing seats, and car-like driving behaviour is now a common goal for SUV makers.

The original XC90 was popular because Volvo designed it around your needs. With the all-new XC90, Volvo has raised the bar to create a car that will aim to give you what you need before you even realise you need it. Whether it has succeeded is for you to find out.

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## PERSONALISE YOUR XC90

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*The all-new Volvo XC90 is available with a number of accessories. Choose a styling kit (below) or create your own look from our range of accessories that includes: semi-electrical retractable towbar, tablet holder, illuminated tailgate scuff plates and a pet load organiser. For more information, visit [volvocars.com](http://volvocars.com)*

### URBAN LUXURY

This kit, pictured, adds 21-inch 'Expressive' wheels as well as exterior accessories colour-matched to the car's body: polished stainless steel skid plates, a body kit with fender extensions, and side scuff plates and rear bumper protection in polished stainless steel.

### RUGGED LUXURY

This styling kit enhances the rugged look of the Volvo XC90 with tech matte black exterior trim, stainless steel skid plates, integrated exhaust pipes and integrated running boards with illumination. This version comes with unique 22-inch 'Rugged' wheels.

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### LIFESTYLE COLLECTION

Volvo also has a collection of exclusive lifestyle accessories, from watches to sunglasses to clothes. Full details at [volvocars.com/collection](http://volvocars.com/collection)



# VOLVO: THE FUTURE



**IMAGINE A CAR THAT WON'T CRASH.** A car that is intelligent enough to see a potential accident and avoid it. A car that can drive itself allowing you to read a book, catch up on work or learn a new skill on the daily commute. With Volvo these scenarios will soon be reality. Volvo Cars is already trialling autonomous cars on the roads of Gothenburg, Sweden, as part of its Drive Me project. These self-driving cars will work in conjunction with Volvo's next stage of IntelliSafe. Together, they will help Volvo fulfill 'Vision 2020' – the company's mission to eradicate fatalities and serious injuries in its cars. Proof that Volvo Cars really does think ahead.



**Put yourself in the driving seat**

Discover more at [volvocars.com](http://volvocars.com)

**V O L V O**