

# SURPRIS SEAT



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EAT IS GOING THROUGH ONE OF THE SWEETEST TIMES IN ITS HISTORY - ONCE AGAIN MAKING PROFITS, IN THE MIDST

OF THE BIGGEST PRODUCT OFFENSIVE SINCE ITS CREATION IN 1950 AND WITH THE AMBITION TO BE A FRONTRUNNER IN CONNECTED CAR AND SMART MOBILITY SOLUTIONS, AND ALL OF THIS IN ONE OF THE MOST ADVANCED SMART CITIES IN THE WORLD, BARCELONA.

Today, SEAT is undergoing a transformation without precedent - a transformation that sets out to make things “easier” and which ranges from the digitalisation of its facilities to improving its customers’ experience.

But SEAT is not just figures and challenges... SEAT is much more. Did you know that it is the company with the highest exports in the whole of Spanish industry? Or that SEAT is the only company to design, develop, manufacture and sell vehicles in Spain? Or even that the company has its own sound logo?

Welcome to SEAT!





# MUCH MORE THAN YOU IMAGINE

At SEAT, every detail counts. As the “Discover SEAT” campaign reflects, when we take a step back and see the company from the outside, as a whole, we discover SEAT’s spectacular potential. Everything is assembled to perfection and forms a harmonic image that makes up one of the benchmark brands in the automotive sector in Europe. These details convey innovation, technology, employability, productivity, sustainability and leadership.

## SEAT IS MUCH MORE

**M**anuel Vázquez Montalbán, the prestigious writer from Barcelona whose books are read all around the world, said that “the day that Spaniards got into the 600 (the first iconic model of the brand), they started to distance themselves from their past and began a weekend excursion which they still haven’t returned from”. SEAT, just like Vázquez Montalbán, projects the creative and non-conformist spirit of the city of Barcelona to the world. And it has known how to turn its cosmopolitan, innovative and dynamic values into a reality that translates into one of the cornerstones of the brand. Just like the third most visited city in Europe, SEAT surprises all those that dare to get to know it up close.

Throughout these more than 60 years, SEAT has become the main industrial driver at a local and national level and acts as a driver for development among companies, engineers, universities and technological partners of the company. Part of the Volkswagen Group, today SEAT

symbolises a young and dynamic spirit and aspires to have a more leading role in the European car industry. The company, whose turnover represents almost 1% of Spain’s GDP, has consolidated in 2016 the path towards success begun in the last few years. SEAT has completed its best financial period in recent years and has surpassed the milestone of 400,000 cars sold for the second consecutive year. Specifically, the automotive company delivered nearly 410,000 vehicles around the world. In the last four years, SEAT’s sales have increased by more than 27%, which represents almost 90,000 vehicles more than in 2012. And this is only the beginning.

SEAT has grown and evolved to the point of fully entering Industry 4.0, a concept that above all implies a technological push by its manufacturing plants (Martorell, Barcelona and El Prat de Llobregat), but which, in reality, is an attitude that is embedded in the whole company.

SEAT is the company with the highest exports in the Spanish industry. The company’s exports represent almost 3% of the total for Spain and it exports to more





than 80 countries. SEAT is also synonymous with a young spirit (it is the brand with the youngest customers in the sector), commitment to quality in its vehicles' features and it is one of the main proponents in Europe of the connected car within an efficient and smart urban mobility network.

After an excellent 2016, with an unprecedented product offensive and with the Ateca as the protagonist, three more models are coming in 2017: a version of the Leon with more features, the new Ibiza and the SEAT Arona.

## THE LARGEST INDUSTRIAL INVESTOR IN R&D IN SPAIN

The figures show that SEAT is the leading automotive brand in Spain and the only company in the sector to design, develop, manufacture and sell cars in the country.



SEAT is the largest industrial investor in R&D of what is currently the fourth largest economy in Europe and it is one of the companies that allocates the most resources to this field. In 2015, SEAT invested almost 400 million euros in activities related to research, development and innovation, which represents 4.5% of its revenues and 2.9% of the total amount spent on R&D in Spain. No other industrial company comes close to these figures.

A large part of the result of this investment materialises in the SEAT Technical Centre. This centre of excellence, established in 1975 in the industrial complex that includes the Martorell factory, is today a hub of knowledge from which innovation is pushed in the company. The Technical Centre was born with the goal of guaranteeing the brand's progress, creating an identity and a distinctive style and constantly incorporating the most advanced technologies into its models. At present, more than 1,000 engineers, designers and technicians work there and it is the only centre of its kind in Southern Europe and one of the most cutting edge in the continent.



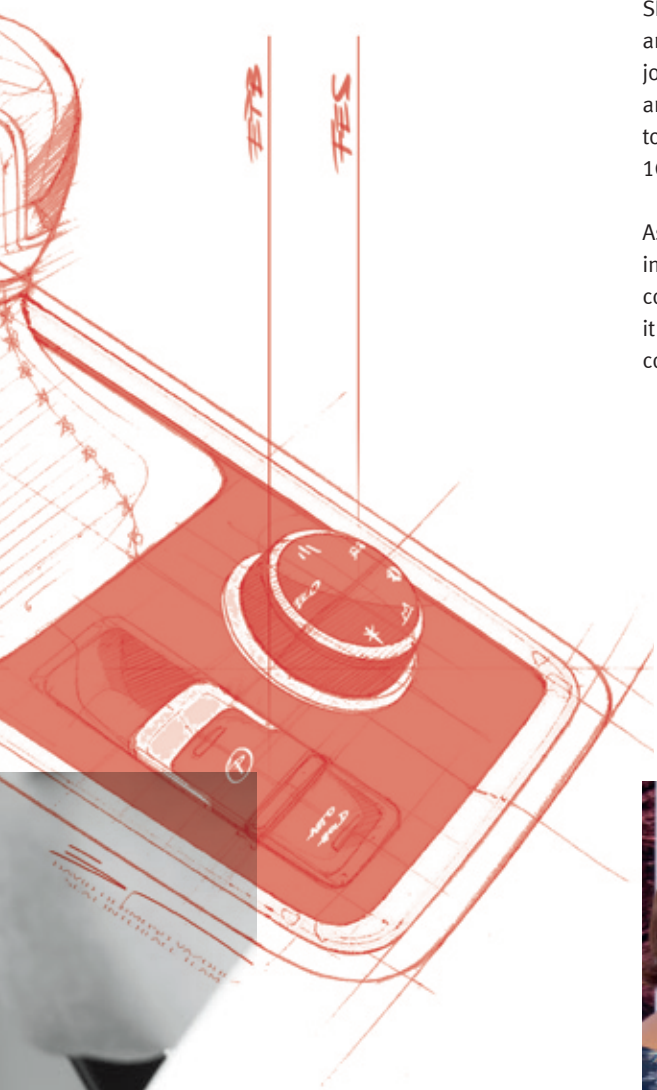
### TOP EMPLOYER: QUALITY EMPLOYABILITY

SEAT is the largest employer in the sector and one of the largest in Spain. For every job created directly by SEAT, a total of seven are generated. In all, SEAT contributes to employment in Spain with nearly 100,000 jobs.

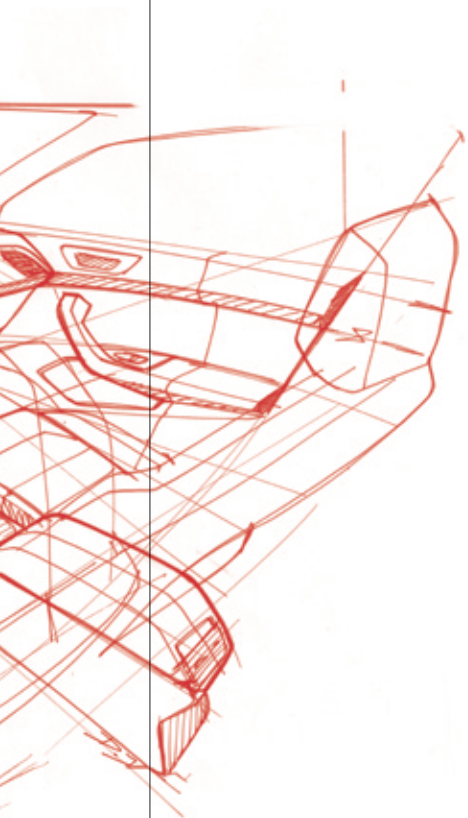
As well as being the leading employer in the sector, SEAT is also one of the best companies to work for, which has made it the "Top Employer" for the third consecutive year.

In the field of employment, one of the main areas that SEAT promotes is equality between men and women. 21% of the company is made up of women and the number of women at the SEAT factory is approximately double the average for car factories in Spain (11%). This mentality has been present for decades. In fact, the SEAT factory was the first to include women on its production lines.

There is also a firm commitment to young people. SEAT is constantly searching for young talents for the various areas of the company, and it is a pioneer and a benchmark in dual training, making a significant contribution to job creation in this age bracket. In a general context of youth unemployment, in 2015 more than half of new hires were under 30 years of age.







## THE MOST EFFICIENT FACTORY IN EUROPE

In its Martorell factory, SEAT has one of the many examples that demonstrate why the company is “much more than you imagine”. It is one of the most modern factories in Europe. With a surface area of more than 2,800,000 metres squared (which is equivalent to 400 football pitches), of which 260,000 correspond to green areas, the factory has put SEAT and its vehicles among the top positions in the productivity rankings, as well as receiving prestigious prizes such as the Lean Award and the Lean & Green Management award, which certifies the Martorell factory as the most efficient of the sector in Europe.

A factory of 15 buildings for some 7,000 people, who produce around 2,100 vehicles every day with the help of 2,400 robots, today the Martorell plant is a “smart factory”. In the last few years, the company has implemented the latest and most advanced technologies for digitally simulating the vehicle production process, or augmented reality functions, and almost

all tasks are automated. All of this allows the company to offer a quality product, capable of satisfying customers’ needs.

This “smart factory” is also home to “SEAT al Sol” (SEAT in the Sun), the largest solar plant of the car industry in the world, with 53,000 solar panels assembled across 276,000 metres squared. SEAT’s “Ecomotive Factory” has become the flagship of the company’s environmental commitment, and has made it one of the most sustainable and environmentally responsible industrial companies in all of Europe.

Furthermore, the Martorell facilities have 2 train lines totalling 40 km which connect the company with the rest of the world. They are used to transport vehicles directly to the Port of Barcelona and components from the facilities of Barcelona’s Zona Franca district. At the same time, they reduce lorry transportation by some 50,000 journeys each year and avoid the emission of 2,000 tonnes of CO<sub>2</sub>.

Today, we can look back on more than 60 years of history of an unstoppable brand that reinvents itself and surprises every day. Sometimes you have to take a step back to value what you have around you. The commander of the Apollo 8 mission said so when the spacecraft crossed the dark side of the moon and they saw the Earth rise: “We were all surprised to have travelled 240,000 miles to see the moon, when the Earth was what was really worth contemplating”.



## WHAT DOES SEAT SOUND LIKE?

Engine, spark plugs, the steering wheel when you make a turn, the change of gears, the windscreen, the hazard lights... When we think of a car, thousands of different sounds come to mind. But really, what is the sound that best defines a car? Can a single sound really represent the experience of driving? And represent an entire brand?

For SEAT there are no limits to the imagination. "If we have a logo that everyone knows, why not have a logo that everyone can listen to?"

Said and done. In March last year, SEAT became a music producer and made an appeal to the best musical talents in the world to help it to find its own sound logo, inspired by the city of Barcelona.

After receiving 1,924 pieces of music from 1,185 contestants, from seven different countries, the brand chose the 14 best proposals to perform a Musicathon in Berlin, a 48-hour musical marathon to develop the projects with the advice of experts from the music industry. After an intense competition and without any respite, SEAT chose three finalists who travelled to Los Angeles, mecca of the global music industry, to develop the company's new sound logo.

Today, the whole world knows a brand that never ceases to surprise. From 2017, it will also know what it sounds like.





# ATECA, **SEAT'S** THIRD PILLAR





Gaudí, Miró and Tàpies. Three great names that mark a before and after in the history of the city of Barcelona. Three geniuses of the art world that have contributed to projecting the image of Barcelona and turning it into an artistic and cultural icon around the world. Just like the city, a source of inspiration for the company, since 2016 SEAT also has three key names. First came the SEAT Ibiza, the model that marked a before and after in the brand's history; then the Leon, the turning point that has strengthened sales in the last few years; and now comes the Ateca, SEAT's first SUV, to complete a range that shows the consolidation of the brand's innovative nature and value around the world.

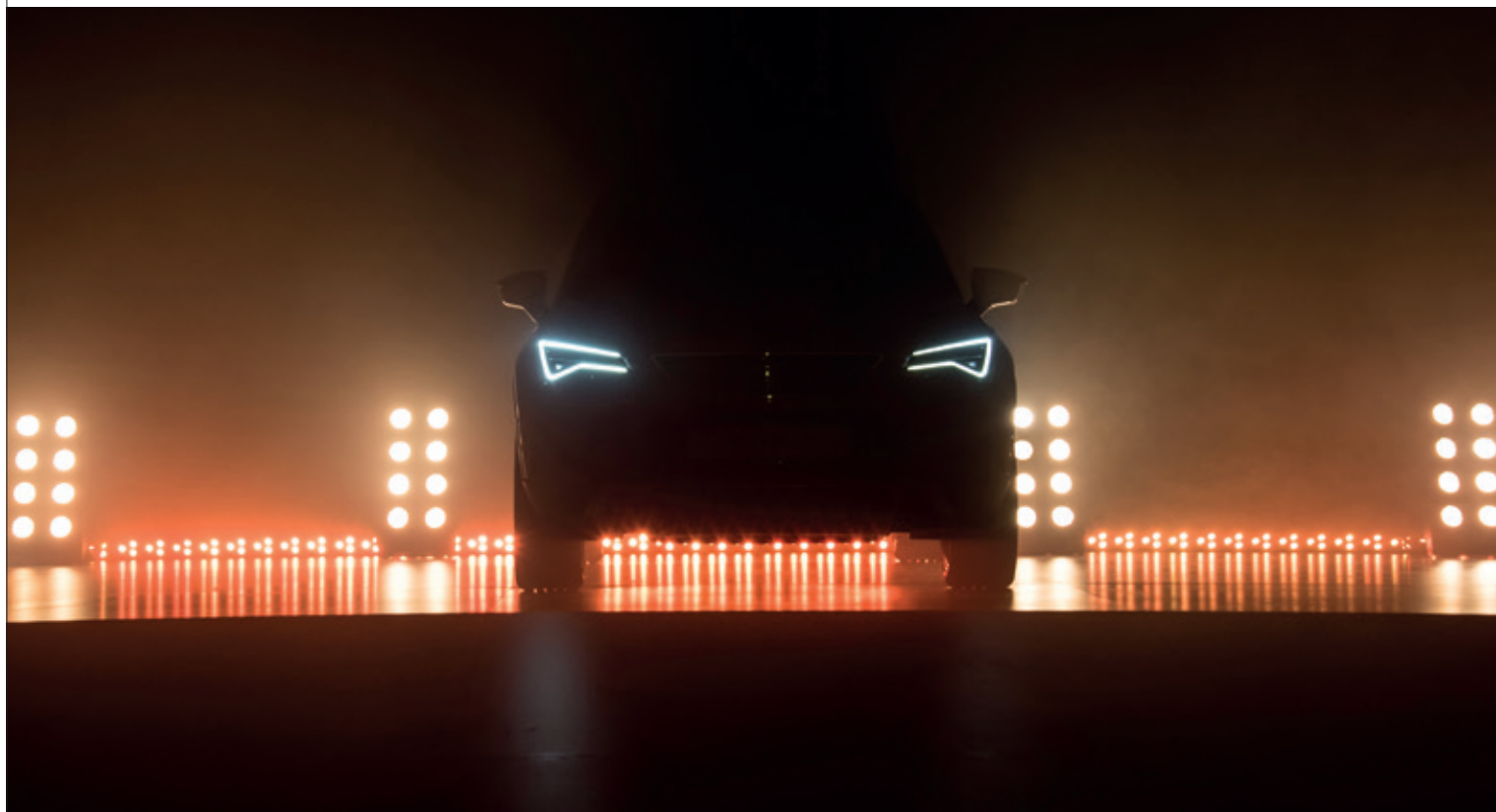
The commitment is clear. SEAT's three pillars want to become the brand's winning card in the coming years. The third pillar, the Ateca, has entered the scene and has become an integral part of the brand. The spotlights pursue it, the suitors take notice of it. A star has been born.

### THE SUV THAT IS COMING TO TRIUMPH

In a globalised world, the origin of a product, gaining a local foothold and being praised from the outside is becoming more and more important in order to succeed.

This is the case of the SEAT Ateca, the SUV that incorporates the values of design, dynamism, innovation and technology that characterise the city of Barcelona and which form the brand's DNA. It is a car that has revolutionised the international panorama, due to its exquisite and refined features, as well as its ground-breaking image and the attention paid to every detail of a successful product.





The international vocation of the Ibiza, the young spirit of the Leon and the technological innovation of the Ateca shape SEAT's consolidation as a company positioned to seize the revolution of the automotive sector – a revolution that the market demands and which SEAT is responding to today with its trident.

### TECHNOLOGICAL HEART

The challenge is to put technology at the service of passion for driving. SEAT has achieved this by allowing technology to be the beating heart of the Ateca for anyone that drives it.

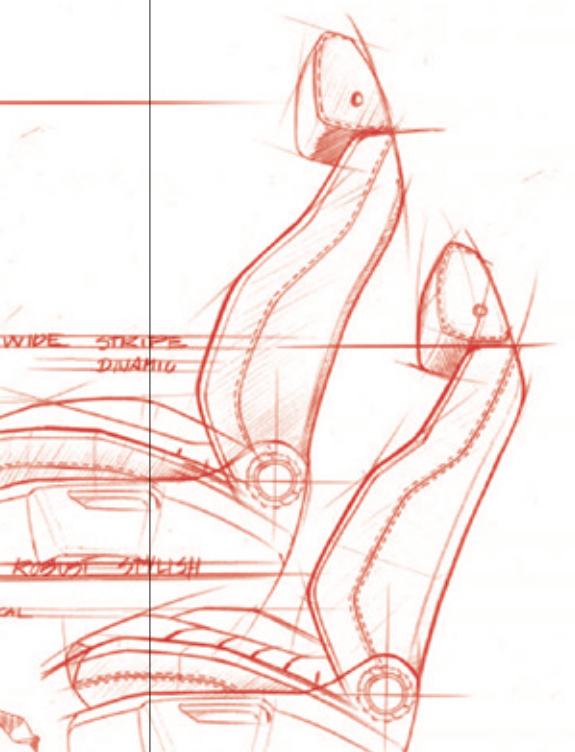
The ignition and start up button lights up and starts to pulse to indicate that the vehicle is ready to take you to another level. The SEAT Drive Profile system allows the car to adapt to the driving situation, the conditions of the terrain and the driver's personal preferences at all times.

But the surprises do not end here. It also includes Traffic Jam Assist, a semi-autonomous driving function which accelerates, brakes and maintains the distance from the vehicle in front in traffic jams and at speeds below 60 km/h, turning for us and even coming to a full stop. In the Ateca, passion is also safety.

Another new feature in this area is the Emergency Assist: if the driver is inactive for a certain period of time, it emits a visual signal and then an acoustic one, finally followed by a brief pressing of the brakes.

It also comes equipped with 360-degree view cameras, Park Assist, road sign recognition systems and monitoring of vehicles in the blind spot.

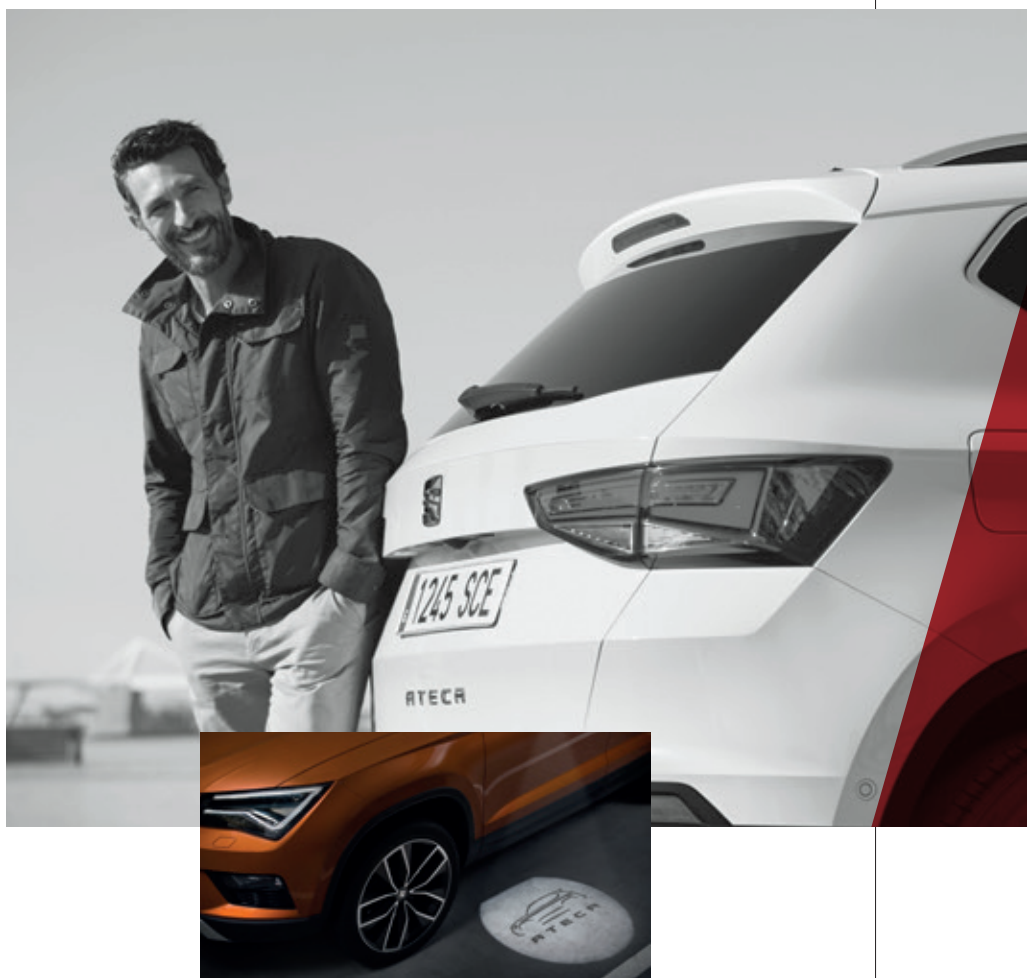
The Ateca is a digital native, like the new generations of young people who are entering the world of the car. SEAT responds to them with tangible solutions. Its connectivity is not a promise, it is already there, and it is already driving in the connected world.



For example, the SEAT Full Link connection allows the 8-inch screen of the SEAT Media System Plus infotainment system to be the extension of our mobile phone. We can use it with MirrorLink connection or using Android Auto/Apple CarPlay, depending on our operating system.

### A SUCCESS FROM DAY ONE

Laying down foundations and exploring a ground-breaking formula, the Ateca has been a resounding success. The first SUV in the history of SEAT has entered the market in a big way, and it has been one of the sensations of the European automotive sector in 2016, exceeding all expectations. Thousands of customers bought the Ateca even before it reached dealerships and at the end of the year, almost 25,000 were already able to drive it.







The good work and the impact that SEAT's third pillar has had has been reflected in the different prizes that it has received. SEAT's first SUV has been crowned with the Autobest 2017 Prize as "Best Buy Car of Europe in 2017", one of the most prestigious awards in the continent with a panel of judges represented by 31 countries and which confirms the Ateca

as the most complete and innovative option for European drivers. The Ateca has also been designated "Car of the Year in Spain", awarded by a panel of 33 specialist journalists selected by the newspaper ABC, and it has also been awarded with the Euro NCAP Five Stars, among many other recognitions.





## FROM THE SKY TO THE ATECA, WITH A PARAGLIDER

Jean-Baptiste Chandelier, paraglider and SEAT ambassador in France, touched the roof of the Ateca while flying. In one of the most exciting challenges of his career, Chandelier took his paraglider and challenged the laws of gravity to touch the top of the vehicle. Maximum precision.

The ease with which he controls the paraglider is, in effect, the closest thing to a bird that we can see in the sky. Or rather, as he says himself, it is like having “the superpowers of Superman or Peter Pan”.

Although he has wondered the skies of countries such as New Zealand, Brazil, Peru, Chile, Morocco and Namibia, Chandelier described the experience of the Ateca as one of the most satisfying in his life: “Being able to descend so many metres at once and coming into contact with the speed of the vehicle is a unique sensation”.

The conjunction between man and machine. The precision of the Ateca and the courage of Chandelier achieved a unique symbiosis. An action that demonstrates the Ateca’s capacity to give a unique response to any challenge put before it.



*“The sense of freedom  
is incredible”.*

**JEAN-BAPTISTE CHANDELIER**





# ALWAYS CONNECTED



Ensure everything goes smoothly and that life does not stop when you step into a SEAT. This has become the company's slogan to lead the new challenges faced by the automotive sector and to make its customers' buying and driving experience easier. This new philosophy can be summarised in a quote by the genius Leonardo da Vinci: "Simplicity is the ultimate sophistication".



Car adverts tend to look ahead to imagine the future. However, when a new-generation model appears on the market, there is usually a development process behind it that goes back three or four years. Seen like this, a large part of the scenes from the TV advert for the car of tomorrow are played out in SEAT's workshops on a daily basis and encapsulate a philosophy on life: it is not just about predicting the future, but making it possible.

The script that SEAT is following is based on the idea that in the interior of a car, the different spheres of life come together. That is, that we can continue to be connected with our friends, work or family, in such a way that the vehicles are able to converse with their occupants and think for themselves and also to connect with other vehicles, even with the places they pass through.

In other words: when you step into a car manufactured by SEAT, you will continue to relate to the outside. The connected car will become something like "an extension of our mobile phone", foresees Leyre Olavarría, head of Connected Car & Infotainment at SEAT, or a "four-wheeled personal assistant", she adds.

If this prediction is confirmed, the car, or automobile as it is also known, could be closer than ever to living up to its name and becoming an "auto-mobile", that is, a privileged place for optimising the time spent on journeys thanks to connectivity.

**"THE SCENES FROM THE TV ADVERT FOR THE CAR OF TOMORROW ARE PLAYED OUT IN SEAT'S WORKSHOPS ON A DAILY BASIS"**







In other words, whereas today the main brands distinguish themselves through design, power and features, what will mark the difference in the future will be making “what is difficult, easy” and incorporating cutting-edge technologies into the car that are intuitive and easy to use. At SEAT, this idea is translated into the creation of the Easy Mobility Team, a multi-disciplinary team that aims to make the most of the brand’s dynamism to create a digital ecosystem around the customer and to lead the sector.

With its sights set on this objective, SEAT is developing applications such as SEAT Connect and MySEAT, which execute verbal orders and allow the user to respond to emails or tweets, or to book appointments with repair garages, without touching the screen. It has also been the first brand in the automotive industry worldwide to create an application (DriveApp) that allows the user to manage the content of an iPhone from the car’s screen.

Thanks to these applications, for example, drivers can use their smartphone to find out their tyre pressure, or to record routes and review them at home to evaluate the fuel consumption or the time spent getting to work with different routes. Nevertheless, this is just the first step of the journey to the heart of the customer that the brand has embarked on.

**“WHEN YOU STEP INTO A CAR MANUFACTURED BY SEAT, YOU WILL CONTINUE TO RELATE TO THE OUTSIDE. THE CAR WILL BE AN EXTENSION OF OUR MOBILE PHONE, OR A FOUR-WHEELED PERSONAL ASSISTANT”.**





If the first goal of this journey is to achieve full connectivity, the second stage is to make any vehicle manufactured by SEAT an accurate reflection of the temperament of whoever is driving it. According to David Gendry, director of Customer Journey at SEAT, thanks to artificial intelligence the company is on course to enable its cars to learn from the user's preferences, with the focus on configuring the design (such as the type of seats or the materials) according to its occupant's personality, which will without doubt contribute to creating new emotional links between the driver and the vehicle.

Within this scenario, the "millennials" generation, which in 2020 will make up the most significant demographic force on the planet (59%), will have a lot to say. For a few years now, an uncountable number of studies have been trying to categorise how these young people perceive consumerism, technology and finances. With regard to the automotive industry, it appears that the idea of "one car, one occupant" will lose prominence. This will lead, explains Arantxa Alonso, head of Business Development at SEAT, to new

mobility services appearing, such as pay per use, and to more and more individuals advertising their journey to share it, which will make it possible to share the costs, cut pollution (by reducing the number of cars on the road) and reduce traffic congestion. Besides this, it will be possible to rent your car out to other people when it is not in use and to obtain additional income. It is even highly possible that "flat rates" will appear that include the use of the vehicle, parking, insurance or financing. If this is the case, the leading firms of the sector will not sell cars but rather, above all, mobility services.

To fill this landscape with content, SEAT, whose customers are ten years younger than the average of its competitors in Europe, is promoting concepts such as the "Digital Key", an innovative solution that involves sending a copy of your car key via your mobile phone so that it can be used by someone else. That said, if the owner of the vehicle wants to, they can limit the speed of the person they are giving it to or confine their movements to a certain radius. The underlying idea is to generate new benefits from the ordinary use of the product.

**"WHAT WILL MARK THE DIFFERENCE IN THE FUTURE WILL BE MAKING WHAT IS DIFFICULT, EASY AND INCORPORATING CUTTING-EDGE TECHNOLOGIES INTO THE CAR THAT ARE INTUITIVE AND EASY TO USE".**







Nevertheless, any plan to relaunch the sector arises because the car makes life easier for its users. A simple figure: according to Fabian Simmer, head of Digitalisation at SEAT, in the major cities of Europe, around 25% of drivers are driving around looking for a parking space. In view of this and other challenges, SEAT, Volkswagen Group Research and the Polytechnic University of Catalonia (Universitat Politècnica de Catalunya, or UPC) have chosen Barcelona as the testing ground for testing different models of urban mobility, taking advantage of the fact that this city has an invaluable amount of information on traffic patterns, parking

spaces and air pollution, which it gathers through sensors installed on the streets. The challenge is to learn how to manage all aspects of cities that will have an ever-increasing population.

The new research cluster is called the “Cooperative Automotive Research Network” (CARNET) and it has been proposed to develop an emerging concept: microcities. The idea is to convert traditional parking spaces into service centres, such that when a member of the public travels to the heart of a large city, they can leave their vehicle at the entrance to the city or in particular areas to benefit

## THE SEAT LABORATORY TO CONVERT BARCELONA INTO THE SMARTEST CITY IN EUROPE

Starting in 2017, SEAT will manage the sixth IT-lab of the Volkswagen Group, the Metropolis:Lab Barcelona, which will be added to those in Munich, Berlin, San Francisco and the two located in Wolfsburg.

Based in Barcelona, this is the first project to come out of the agreement signed with the City Council to work together to promote innovation, sustainable mobility, the implementation of entrepreneurial projects and industrial competitiveness, among other areas of activity.

In this laboratory, more than 50 engineers and highly-qualified professionals will analyse and seek smart solutions to the challenges faced by the mobility of the future, combining data from the vehicle and its environment to develop applications that all the brands of the Volkswagen Group will use. The combination of mobile technology and big data will create solutions that make the relationship between the citizen, the smart city and services related to mobility easier, safer and more efficient in the cities of the future.



**“THANKS TO ARTIFICIAL INTELLIGENCE, THE COMPANY IS ON COURSE TO ENABLE ITS CARS TO LEARN FROM THE USER’S PREFERENCES, WHICH WILL WITHOUT DOUBT CONTRIBUTE TO CREATING NEW EMOTIONAL LINKS BETWEEN THE DRIVER AND THE VEHICLE.”**



### EASY MOBILITY TEAM: GREAT SOLUTIONS FOR GREAT CHALLENGES

With the goal of being one of the frontrunners of the “change of cycle” that the automotive sector is undergoing, SEAT has created the Easy Mobility Team, a multi-disciplinary team created to lead the company’s transformation based on three fundamental areas: digitalisation and R&D, customer experience and business development. This is a team that has set itself the goal of striving step by step, without paying too much attention to the timetable, to win the most prized trophy: customers’ trust. Precisely because it encompasses different areas instead of one specific discipline, the Easy Mobility Team intends to draw on different gaming systems in order for SEAT’s vehicles to be more than just a car. In effect, as well as guaranteeing the notorious reliability of its vehicles, the company

is already working on the creation of a digital ecosystem around the hardware that guarantees full connectivity at all times, solves the present and future mobility problems and allows it to establish partnerships with companies that are leaders in their respective operating segments in order to develop new business models with them. These are some of the strengths SEAT has that will enable it to become one of the frontrunners in this transformation, according to the opinion of some members of this team: “being a highly agile company that has been able to reinvent itself several times in its history” (Arantxa Alonso), “forming part of the largest automotive group in the world and having access to the latest technology” (Fabian Simmer), “having put together a team that helps the paths between departments to be very short, instead of safeguarding silos or self-contained areas” (Leyre Olavarria) and “being a young and dynamic company” (David Gendry).

from services such as a maintenance service. This will also give them an incentive to leave their car there, while they travel on to other places and continue their journey by metro, bicycle or an electric vehicle. But this is not the only interesting project that SEAT is researching in this hub focused on the automotive sector. It is also developing a mobile application called Parkfinder, which allows the user to locate available parking spaces in real time and to guide the vehicle to them.

But beyond specific projects, SEAT’s stance is that you have to understand the essence of a business in depth in order to bet on what is really important in a changing environment. SEAT is working on all of this on a daily basis, in order to become one of the frontrunner companies in car connectivity.





# HIGHLY PERSONAL ROBOTS

The road to manufacturing 4.0 includes the development of the most advanced technology. SEAT is one of the companies that wants to lead and interpret this new 4.0 reality with its own distinct personality. Technological advances will go hand in hand with the idea that workers and machines will interact, side by side, in achieving the same goal.



In SEAT, it is easy to be left astounded when you see dozens of articulated arms moving at the same time, the majority to solder the different parts of the bodywork. Some deal with the planing and sanding; others even wield drills or measuring instruments. You only have to close your eyes for a symphony of sounds to take over the factory and to hear how hundreds of robots move to the sound of the musical score that the company has composed in order for technological advances to contribute to building cars that are increasingly human.

Just over every 30 seconds, more than two thousand perfectly synchronised robots that are in constant motion start work on a new car. Some even have a name. In fact, there is no shortage of workers that admit to having a special relationship with these artificial minds, as if metals could also have a soul.

The biggest robots measure up to six metres, without their pulse being felt by more than 0.1 millimetres. But there are robots of all shapes, sizes and colours. This is the case, for example, of the stealthy “setillas” (little mushrooms) – one of the nicknames by which the driverless vehicles that transport heavy loads around the interior of the workshops

are known – which strive to deliver the necessary material to each point of the production line. Very close by, other collaborative robots briskly and precisely assemble the nearly 3,000 parts that a car contains, while various people monitor the installations in real time, analysing and checking the behaviour of each machine.

Through this shared intelligence, a certain kind of digital talent seems to be emerging from one of the largest smart factories that the Volkswagen Group has in the world. But the fourth industrial revolution is much more than a neatly finished product. It is also the ability to turn components into smart objects, as well as digitalising information and placing it on a network. The idea is that life should not stop when you get into a vehicle, which is why we need to transform it and equip it with new services to continue to enjoy the driving experience.

Like a gentle wind, this objective seems to reach all corners of SEAT, obliging the new generation of robots to face up to the challenge of unfolding themselves naturally in unknown spaces. But without doubt, it is the workers of SEAT who have best captured that breath that is capable of taking the company forward.



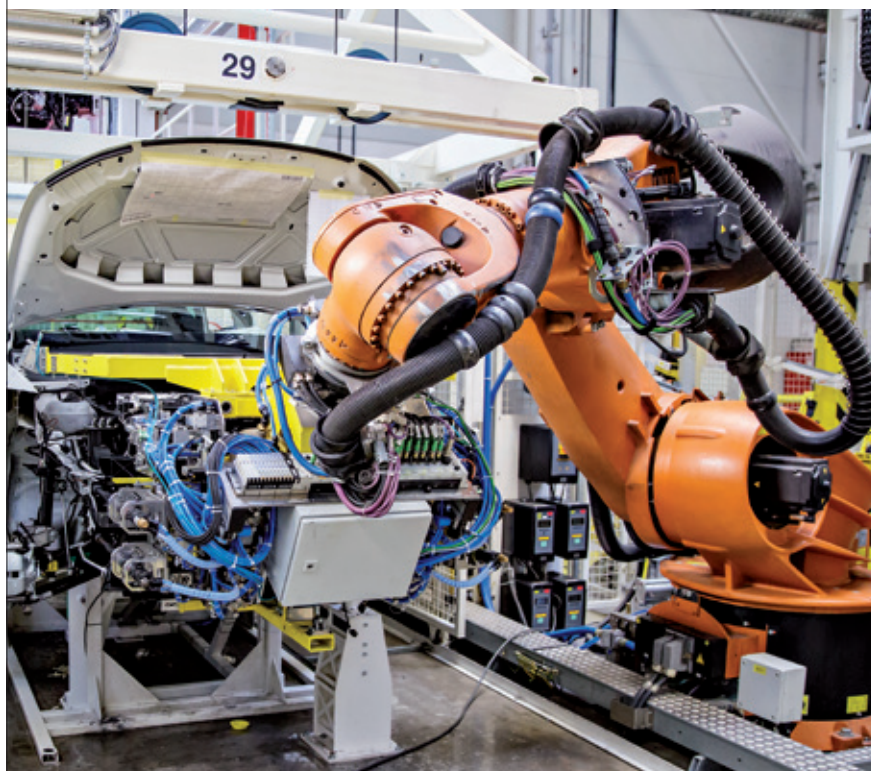
The use of artificial intelligence and connectivity between different environments, together with new forms of production and design, have allowed SEAT to become a leader within its sector. The goal is to carry out more projects in less time and to deal with the growing demand for customisation, supported by the immense possibilities offered by new digital technologies.

Through this *entente cordiale* between people and machines, more and more SEAT employees now dedicate part of their day to controlling the processes that allow for the optimisation of decision-making, while the robots take care of the more laborious and routine tasks. Nevertheless, the new generation of these machines come equipped with sensors that allow the robots to connect with each other and gather data, as well as to learn from their actions (machine learning). To this end, they have algorithms that review the past records and predict future behaviours, something which is sometimes complemented with movement detection or vision programs. They are, therefore, self-teaching robots with the ability to interact with humans and take on SEAT's challenge of being one of the frontrunner companies in the fourth industrial revolution.

In this new reality, each workspace opens the doors to a new world: cyber-physical systems, 3D printing, algorithms that identify any kind of error in the process based on the history, smart logistical systems, smart glasses that offer virtual assistance and communicate with the software installed in the machinery, and so on.

**“YOU ONLY HAVE TO CLOSE YOUR EYES FOR A SYMPHONY OF SOUNDS TO TAKE OVER THE FACTORY AND TO HEAR HOW HUNDREDS OF ROBOTS MOVE TO THE SOUND OF THE MUSICAL SCORE THAT THE COMPANY HAS COMPOSED”.**





*“The robots will be able to have algorithms that review the past records and predict future behaviours, something which will be complemented with movement detection or vision programs”.*

**“SEAT WANTS TO BECOME A FRONTRUNNER WITHIN THE SECTOR IN THE USE OF BIG DATA AND CONNECTIVITY”.**

However, besides the machines, flesh and blood experts assemble and thoroughly review the doors, headlights, bumpers, windows and other details to ensure that everything is perfect, with that human touch being what finally marks the difference.

Whereas a number of years ago SEAT staff were still responsible for carrying out the more physical tasks, now, on the other hand, they acquire skills in process management in order to programme the robots so that they are the ones that take care of those tasks. But this is not the only change that has taken place. Whereas

the first robots to step foot in SEAT's facilities in Martorell were as robust as they were unwieldy, today's robots are lighter and more versatile. In a matter of seconds, it is possible, for example, to programme a robotic arm to go from one exact point to another and to mount the tabs of a headlight and then to proceed to screw it in with a second movement that is equally as reliable. This ease of use is expected to become the quintessence for manufacturing on demand, a trend which not only affects the automotive industry but also other sectors that are seeking to make their production lines more flexible in order to adapt to changing environments.

SEAT is in the midst of a digital transformation process without precedents, which will lead the company to the automation of its facilities and to fully enter Industry 4.0. This will involve robots and machines that are increasingly smart, prepared, digital and interconnected... but which will never be able to compete with SEAT's most important asset: people.





## CARS ON DEMAND

Nevertheless, as sophisticated as robots have become, they are still a long way off conveying passion in the product. This is where people and SEAT's clear commitment to industry 4.0 come in. The goal is to pre-empt a scenario which is starting to take shape. In the future, most probably, customers will want to receive their vehicle in a shorter timeframe, which will oblige factories to begin production based on this order as quickly as possible. We don't have to consult a crystal ball to guess that implementing instantaneous modifications in the production processes will be key to stay ahead of rivals and to be competitive.

This is, without doubt, the great challenge that SEAT has ahead of it: interconnecting increasingly prepared human beings with machines that are capable of learning new skills, so that the final customer is the one to benefit from and enjoy the greatest revolution the car has undergone in its history.

**“SEAT’S GREAT CHALLENGE IS TO INTERCONNECT INCREASINGLY PREPARED HUMAN BEINGS WITH MACHINES THAT ARE CAPABLE OF LEARNING NEW SKILLS”.**







## LOGISTICAL SIMULATOR

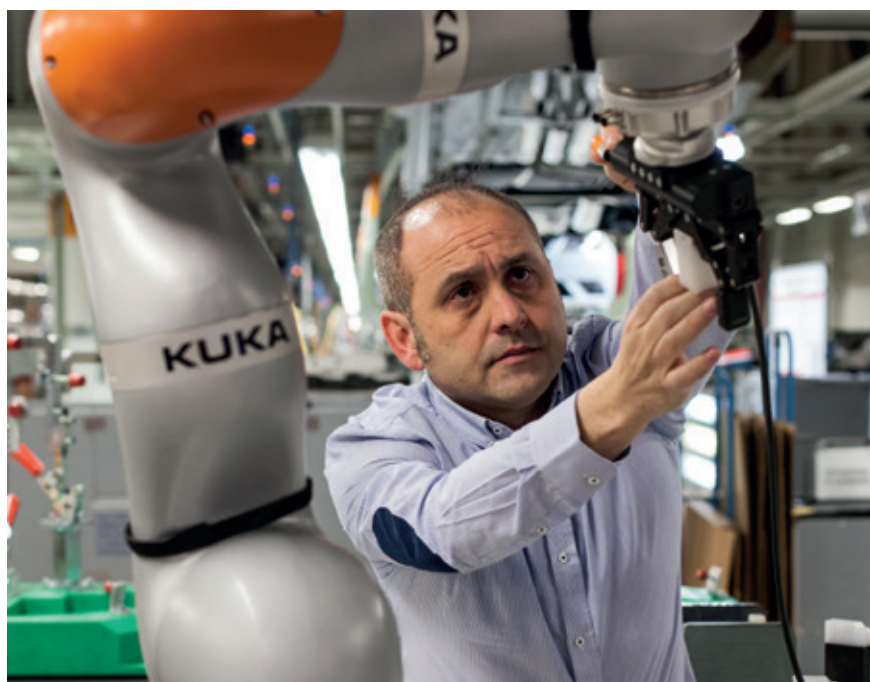
“Thanks to this machine, SEAT’s employees can familiarise themselves with driving and perform different journeys on demand around the various areas of the workshops so that, when the day comes that they have to do this work for real, they know how to cope in different circumstances despite never having been there”, explains Iris Ambrosius, head of new technologies for logistical training in SEAT. To this end, the simulator has a virtual reality headset which allows staff to travel through the corridors of the workshop, get used to the usual traffic and load and unload parts. As well as getting close to the workstation in virtual reality, the simulator provides personalised training, as well as on-demand journeys around workshops that are sometimes more than 20,000 metres squared.

*“What kind of relationship do I have with the machine? It is a loyal helper with a lot of patience. It is so patient, it could be my friend”.*

## HEADLIGHT PRE-ASSEMBLY

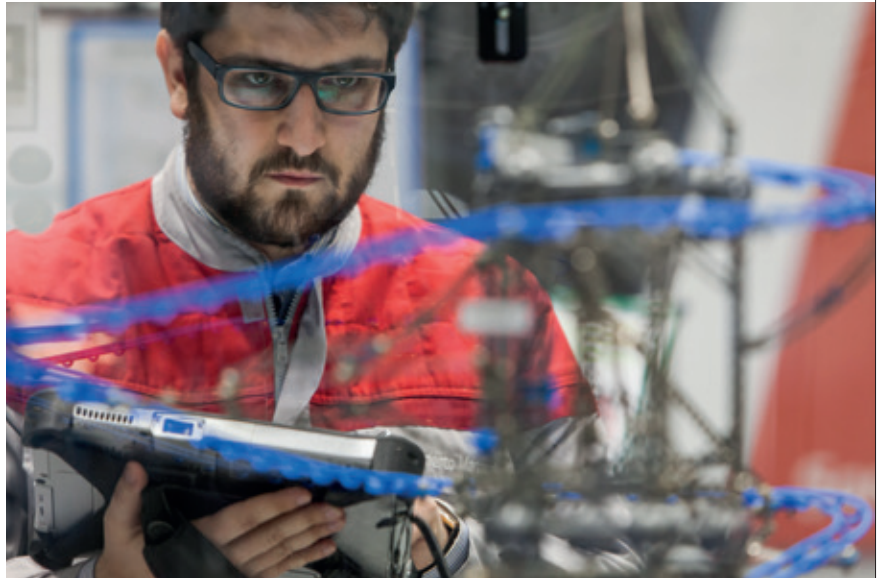
The articulated arm collaborates with the worker to fit a vehicle’s headlights. “In a day it can perform 1,250 fittings”, states Juan Carlos Rubio, process analyst. “One of the characteristics of this robot is that it works together with a person at all times, something that was unthinkable up until not long ago for safety reasons”, he adds. Perhaps this is why this robot has become another member of the family. “In the end, it’s about developing a partnership between the strength and reliability of the robot and the ability to make decisions that a human being has”. Thanks to this robot, today almost twice the number of headlights are assembled than in the past, also providing higher quality in the finish.

*“We are in a period of technological change in which machines, rather than replacing people, will collaborate with them”.*



## AUGMENTED REALITY

The tablet computer that Joan Rubio, a SEAT technology expert in augmented reality, carries with him allows him to recognise the different elements of an electrical cabinet using an application and to obtain precise information on each element, whether they are 3D designs, videos or graphs, whatever is needed at any given place and time. Rubio works in Maintenance together with another 400 people, whose mission is to ensure the availability of SEAT's production facilities. To achieve this, it is necessary to know any of SEAT's technologies, machines or installations in detail, hence training and practice are essential and new technologies, such as augmented reality, can be great allies in this mission. In the Maintenance Training Centre, staff are working on the maintenance technologies of today and of tomorrow. Augmented reality allows staff to focus on any installation and to obtain information and data in real time, combining the real world



with the world of data. "The cornerstone of the maintenance of the future is predictive maintenance, that is, using information to predict the state of the installations", he foresees.

*"That is what augmented reality consists of: seeing the real world with added information. In our case, we use this technology to recognise and interact with our installations".*



## AUTOMATED GUIDED VEHICLES (AGVs)

*"AGVs participate in processes in which the monitoring of the material is very important and where on-time delivery is essential".*

In contrast to the intense activity in workshop number 9, driverless vehicles quietly circulate back and forth with gearboxes, engines and all kinds of components, only stopping when their sensors detect a person or when they receive orders from the devices that regulate the flow of vehicles within the

facility. The AGVs guarantee a safer environment for the workers: "There has never been an accident involving a person since we start working with AGVs", confirms Bernabé Haro, a technician in logistical planning who professes to being a fan of his work. "Thanks to the software they have installed in them, they conduct cyclical routes" – describes Haro – "following the layout of magnetic guidelines hidden under the ground". The one hundred or so AGVs that SEAT uses in the Martorell factory are known by the employees of the assembly workshops by names as diverse as "setillas" (little mushrooms) or "margaritas" (daisies), depending on who names them. Besides protecting the workers and preventing them from handling heavy items, the AGVs prevent the product from being damaged and confirm the location of each load using the workshop's monitoring system.



# CREATED IN BARCELONA

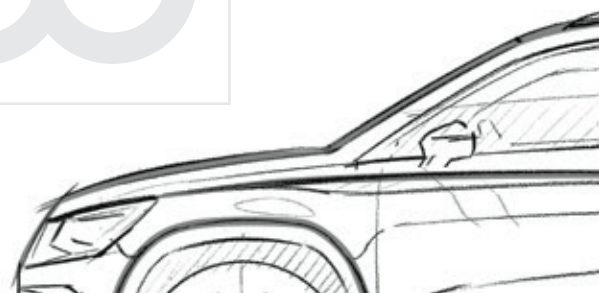
Creative, cosmopolitan, lively, artistic, young, dynamic, ground-breaking... Barcelona is a unique city and a source of inspiration for everyone, especially for SEAT. In the city that has seen geniuses grow such as Gaudí, Picasso, Miró and Leo Messi, life is lived differently and things are also made differently. Barcelona is a place where you breathe creativity, passion and design, but also innovation, precision and perfectionism, and today it is the world's second smart city, after Singapore, the fourth most creative city in the world, the fifth largest digital hub in Europe and the world's mobile capital.

**S**EAT and Barcelona share something more than just a place in the world. Barcelona is the mirror in which the company has looked at itself since its beginning, more than 60 years ago, and with which it shares values, its philosophy and a way of doing things that is admired throughout the world.



*"Barcelona is a never-ending source of inspiration. Especially for us".*

**LUCA DE MEO, CHAIRMAN OF SEAT**



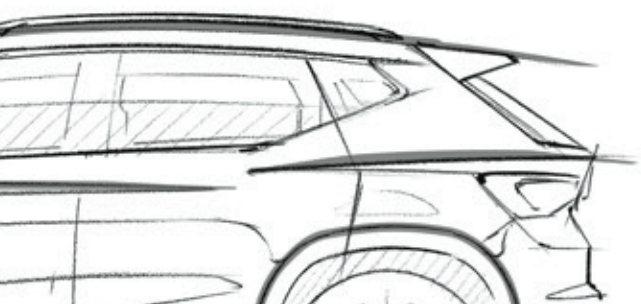
# trend and design



## TADAO KAMEI

Japanese architect, chairman of the architectural firm Nikken Sekkei, responsible for the design, in collaboration with Joan Pascual – Ramón Ausió Arquitectes, of the future stadium of FC Barcelona 'Nou Camp Nou'

*“Barcelona is the largest metropolis in the Mediterranean and a great source of inspiration. It has a spectacular architectural richness; a mix of modernism, contemporary architecture and urban design, and it is the city of architects such as Gaudí and Domènech i Montaner”.*







*creative and  
cultural*



**CARME RUSCALLEDA**

Chef with the most Michelin stars  
in the world (7), native of the town of Sant  
Pol de Mar in the Barcelona area

*“There are cities with  
a special personality,  
magic and creativity, which  
win you over. Barcelona  
means ‘love at first sight’.  
It hooks you and invites  
you to visit it again to live  
it... and above all,  
to eat it!”*



**ALEIX VALLS**

Barcelona native, CEO of Mobile World  
Capital Barcelona and driving force  
of the global platform of entrepreneurs  
and startups '4YFN'

*"Being the world's mobile capital, a European leader in innovation and one of the powerhouses in the field of digital creation has allowed Barcelona to be a key city at a global level. Between all of us, we have made Barcelona a synonym for talent, but also for challenge, evolution and future".*

*enterprising and  
dynamic*





*urban,  
young and  
cosmopolitan*



**SARA PI**

Singer from Barcelona and model.  
Icon of the new wave  
of soul and R&B, and one of the greatest  
talents of the moment

*“Being able to live in a  
city with a good climate  
all year round, which is  
lively, dynamic and on  
the sea is a privilege. You  
breathe history and culture  
with every step and in  
every corner of the city.  
Barcelona is a city that I  
rediscover every day”.*





# *innovative and technological*



## **JOHN HOFFMAN**

CEO of GSMA, the entity that organises the Mobile World Congress Barcelona, the most important mobility and mobile technology convention in the world

*“Barcelona is a ‘living lab’ that illustrates what digital transformation means for citizens, companies and institutions. In just a few years, we have seen how the city has attracted international talent, knowledge, innovative projects and ground-breaking initiatives that have positioned Barcelona as a key player in digital transformation”.*

