



Science on wheels

## CSI Martorell: a car's DNA

- / **A powerful electron microscope like the ones used in state-of-the-art research centres helps to verify the quality of the materials used to make a vehicle**
- / **It is accurate down to the DNA of the car's metals, plastics and paint**
- / **This kind of analysis demonstrates for example, that paint can be made as fine as a strand of hair but as hard as a rock**

**Martorell 30 /03/2017.** – An electron microscope which can be found in the most advanced research centres in the world and in police series. This is the equipment used in SEAT's Quality department to certify the quality and durability of materials. The following are some little-known facts about this technology, which is unique for its features and capabilities in the Spanish auto industry:

**-Right down to the car's DNA:** The electron microscope is capable of operating at over x100,000 magnification, resolving down to the nanometer, meaning that it can be used to analyse the very DNA of the car.

**-Thorough analysis of all materials:** Any kind of material used on the car can be analysed under the microscope, such as metals, fabrics, plastics or paint. The purpose of these tests is to confirm that the parts contain no impurities that are impossible to detect with the naked eye and this extend the service life of parts. In addition, the paint on a car can be prevented from becoming dull over the years.

**-As fine as a strand of hair, but as hard as a rock:** In the case of paints, studies made using microscopy analyse the different coats of paint on the car (each less than 0.12 millimetres) to ensure that the body does not flake when hit by loose gravel.

**-Harmonious colours:** The studies also ensure that all the parts of the car have the same colour shade and that when fully assembled, they all go together in harmony. The perception of colour is somewhat subjective, but thanks to these scientific analyses, customers can verify themselves that bumpers, doors and bonnets all have exactly the same colour.

**-Under all kinds of light conditions:** In addition, the light in the Mediterranean is not the same as in the north of Europe, nor is it the same anywhere at noon as at 6 in the evening. For this reason, these technologies certify that colours will always appear exactly how they were designed and will remain glossy and looking like new for longer periods.



SEAT is the only company that designs, develops, manufactures and markets cars in Spain. A member of the Volkswagen Group, the multinational has its headquarters in Martorell (Barcelona), exporting 81% of its vehicles, and is present in over 80 countries through a network of 1,700 dealerships. In 2016, SEAT obtained an operating profit of 143 million euros, the highest in the history of the brand, and achieved worldwide sales of nearly 410,000 vehicles.

SEAT Group employs more than 14,500 professionals at its three production centres – Barcelona, El Prat de Llobregat and Martorell, where it manufactures the highly successful Ibiza and Leon. Additionally, the company produces the Ateca and the Toledo in the Czech Republic, the Alhambra in Portugal and the Mii in Slovakia.

The multinational has a Technical Centre, which operates as a knowledge hub that brings together 1,000 engineers who are focussed on developing innovation for Spain's largest industrial investor in R&D. SEAT already features the latest connectivity technology in its vehicle range and is currently engaged in the company's global digitalisation process to promote the mobility of the future.

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