

Peculiar professions in the automotive industry

## The car sculptor

- / **Model makers shape a car using synthetic clay to create a life size model**
- / **This handcrafted work coexists with new technologies and is a key aspect in the design process of a vehicle**
- / **Four model makers worked together for two months and used 5,000 kg of clay to sculpt the SEAT Tarraco**

**Martorell, 29/01/2019.** - Clay model makers are true artists in the automotive sector but it is a profession that is relatively unknown. Their hands are their primary working tools and they bring car designers' sketches to life; that is, in the form of a life-size clay sculpture. This is the work carried out by Carlos Arcos, who is responsible for exterior design modelling at SEAT:

- **Clay, the key ingredient:** In parallel to the progress made in virtual reality or the existence of 4K glasses, the model created with synthetic clay is still an essential part of the design process. **"It's the first step to be able to see the real dimensions of the car. You can see it, touch it...The physical model is incomparable when it comes to appreciating perfect volumes and surfaces"**, comments the model maker.

- **An uncommon profession:** Carlos Arcos has been sculpting cars for nearly twenty years. He studied Industrial Design and specialised in prototype modelling. **"I use my hands to get a feeling for the car, its lines, its surface...It's a creative job that changes every day; that's why I'm passionate about it"**, he explains. Looking past his manual skill, **"your mind has to learn to convert what it perceives in 2D and transfer that to reality"**. This requires him to control the shadows and the correlation between lines and surfaces when he models.

- **Carving out a new car:** In order to soften the clay and begin manipulating it, it has to be heated to 60 °C. **"This material is very versatile and cools down quickly. You have to know how to work it quickly"**, says Carlos as he removes some bars of clay from the oven. In order to shape it correctly, one of the personal methods he uses is **"to look at the car from different angles. Just like a sculptor would do"**. First, he uses electric tools like a milling machine to create the model's initial volumes, followed by handiwork using spatulas and scrapers to define the shape of this early physical car.

- **His largest sculpture:** The latest model to be hand modelled by Carlos and his team was the new SEAT Tarraco: **"Each car demands a different design approach, but the challenge with this large SUV was to control the volumes and proportions"**. A team of four model makers worked on sculpting it. **"We split up to shape different parts. On this model, I was in charge of the front end"**, he explains. Two months of work and 5,000 kg of clay were needed for the Tarraco mock-up.



- **Does it ever end?:** Model makers constantly tweak their work. They apply the modifications made by the designers by reshaping the clay: **“We work in collaboration. We know the concepts they have in mind and what they want to convey”**. Carlos admits that **“we could both continue to make changes to the clay model, but at some point a version has to be approved. That decision is called the design freeze and it defines the whole product and integrates all the technical parameters that will enable it to be mass produced”**. At first glance, it looks authentic: it is fully painted and includes elements such as the front grille, headlights and door mirrors. **“It even has glass on the windows, but you’d never be able to open the doors. Underneath it all lies my clay creation”**, explains the model maker.

- **From clay to road-going model:** Carlos Arcos talks about the different SEAT models as if they were his own children. He sees his work in every exterior line of the Tarraco. **“You know there’s a part of you in those curves. When I see it driving on the road I’ll feel proud of the contribution I’ve made”**, he concludes.

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 80% of its vehicles, and is present in over 80 countries on all five continents. In 2018, SEAT sold 517,600 cars, the highest amount in the brand’s 68 years of history.

The SEAT Group employs more than 15,000 professionals and has three production centres – Barcelona, El Prat de Llobregat and Martorell, where it manufactures the highly successful Ibiza, Arona and Leon. Additionally, the company produces the Ateca and the Toledo in the Czech Republic, the Tarraco in Germany, 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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