

ISSUE #07 **WHO CARES?!** 1 | 2010

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"The important point is to understand what you want and what you need before you start, and that allows you choose the best use and the best cost for industrialization. The key and the big advantage is to make the best integration. If it takes 20 parts of aluminium, I can make it with one part of carbon fibre."

But if Lamborghini's composites department flew beneath the radar of the world's mainstream motoring press, it was well known in the academic world and Masini's presentations became sought-after all over Europe. And one such presentation had a massive effect on carbon fibre's future in the wider world. It was at one symposium in Bomperto, Italy, that Masini was approached by a creative and promising student named Paolo Feraboli.

"He was very interested in how we were using carbon-fibre and he saw in me new ideas in carbon fibre use. He started with us while he was still studying and after three months, we began working on a building-block approach that was new to the field. We used this approach to develop a door completely in carbon-fibre and that had never been done before. It met the US and European homologation first time, because it even had a carbon-fibre intrusion bar. So with this building-block approach we developed that way a first step and it has lead to many, bigger steps since then."

Indeed it has. When Feraboli finished at the University of Bologna, he moved to the University of Santa Barbara in California for his doctorate, and he and Masini strengthened their connection by publishing a book and many other articles on the work they did together at Lamborghini. Feraboli eventually took a Professorship at the University of Washington, near Boeing, and it was his history and continued close connection to Masini that lead to the official research connection between Lamborghini, Boeing and the University late last year.

"He's a great choice. He knows the traditions here and knows what it is to be Lamborghini and he understands the industrialization we can do here," Masini said. "This new building-block approach, which is also used by Boeing, means we can create material parts before we create the final parts. That's so we can calculate the best process and the best cost and the best accuracy before we do the big thing."

It's important, because it's not like metal. If you use the same carbon-fibre properties and change the process, you get a different result, and we don't want that, so we have developed this approach. It's like a pyramid structure and at the top is the car. We do so much background work on each part before we ever start making a car.

We never reached the maximum performance of the material before because nobody used this approach before. Boeing uses this approach for the 787 for the first time and when we visited there, the plane is completely in carbon fibre and I saw a lot of integration. I saw that, like us, the plane has a lot of simulations before the parts begin.

After that I saw, like us, a similar method and a similar approach to the production of carbon fibre.

"The mainstream of carbon fibre has gone one way and I saw that Boeing was going another way, which was the same way we were going. They're doing it bigger – there are 19 tonnes of carbon fibre in a 787 and 85kg in a Murciélago – but it's the same way!"