New carbon fiber technology has made a significant impact on how cars and aircrafts are manufactured. As a result of a research project involving Audi, one small Swedish company now has deals with international giants including Airbus, Saab Aeronautics, VW Group and Volvo.

Light Weight Production Technology (LWPT) has been around for a few years, but as the technology has developed, the potential it has to really improve manufacturing is now evident. FlexProp, a Swedish company, is leading the way with its carbon fiber technology. Five years ago it embarked on a EUREKA-funded study together with car-maker Audi.

The project focused on using lightweight technology for roof fixturing, one of the core processes when assembling a vehicle. The test was so successful that LWPT has now become the standard for assembling roof in the VW group.

“The technology that Audi was using before was heavy,” explained FlexProp founder Karl-Otto Strömberg. “By massively reducing the weight factor we have been able to improve and speed up production. Our technology reduces production floor space by 60% and energy consumption was reduced by 40%, investment down at least 30% and now 8 models can run on the same line in contrast to 4 before.”

More to manufacture than just planning

To put it even more simply, Karl-Otto Strömberg presented an analogy: “Think of it like this, if you want to bring something big and cumbersome like a piano up stairs into to an apartment, you will need a lot of help. But if it’s something small like a bag of groceries you can do it quickly and easily without any help.” It is much more easy to build a plant moving groceries compared to pianos. “We have a modest aim at FlexProp, we just want to change the way the world produce cars and aircrafts!” Strömberg says.

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The development project is the easy part according to Karl-Otto Strömberg. It’s the other things as for example standards, repair, recycling and replacement that take more time to work out. “Whenever you introduce something in the aerospace or automotive industry it has to work within the existing structures. There are always some risk involved introducing new technology and there have to be someone who is convinced and willing to take this risk in order to be able to industrialize the result of any development,” he said.

“It is very important you find a customer like Audi who is seriously interested in technology and see the potential to begin with. Secondly Audi acknowledge FlexProp as a partner despite the size of the company. Based on mutual trust and competence we then formed an effective team and it has been a true pleasure to work with Audi on this project.”

It has been a meteoric rise for the small Swedish outfit. With just three people full-time employed and 5 or 6 consultants still it is still a very small company. But small means agile, and smart, and now FlexProp can boast contracts with the biggest in the world including Volvo, Airbus and Saab as well as VW Group. Perhaps Karl-Otto Strömberg’s “modest aim” will indeed come to pass.

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