

Part 9:

Success stories

The origins

The +Composites project began in 2010 with the mission of informing and assisting companies in the industrial transformation that is composite materials.

6 regions (Lorraine, Luxembourg, Nord Pas-de-Calais, Picardy, Saar and Wallonia) have united their skills in composites around a common goal: to facilitate businesses' technology transfer to these materials of the future.

While the goal may seem simple on paper, the challenge is daunting and the road not without its difficulties.

We must create a network from scratch in the first place! A transnational network of partners who don't know each other...

This network must make itself known to businesses.

And this network must make businesses aware of composite materials.

The road to technology transfer

When the programme started in 2010, composites were not yet in vogue and these materials seemed reserved for insiders and large companies in the aviation sector.

Yet all studies carried out then show sharp growth curves, even though the economic crisis had just hit Europe.

The applications for composite materials increased rapidly, especially in response to a problem that's increasingly vital to the transport industry: weight-saving.

Composites' light weight isn't their only advantage, though: flexibility, strength, opportunities for complex design.

So it's a question of informing companies about the opportunities these materials offer, so that they develop or adapt their activities to new markets.

The awareness campaign carried out by all the +Composites partners lets us talk not only to companies already working with composites or in related trades (machining, surface treatment etc), but also companies which aren't in that field. These are the heart

of +Composites' target group: companies that, through their technology monitoring or made aware by their customers, are beginning to look at these new materials and their commercial opportunities with interest.

There are various reasons why these companies are interested in the subject:

- following a strong trend in the market towards new materials,
- responding to the requirements or suggestions of their customers,
- finding new business opportunities,
- replacing all or part of an item to meet physico-chemical requirements or freeing themselves of the technical constraints imposed by a metal item,
- ...

Over the past 4 years, more than 240 companies have been visited by one of the +Composites partners and nearly 60 business projects studied.

Of these companies, 19 took the plunge and initiated technology transfer. Others are doubtless still to come...

Focus on 2 technology transfers

GRADEL

GRADEL is a Luxembourg company based in Ellange, specialising in mechanical studies and production for the aerospace, nuclear and glass sectors.

In October 2013, GRADEL came to know about the +Composites programme through its website www.pluscomposites.eu.

The Henri Tudor Public Research Centre, our Luxembourg partner, met the business and identified its technical requirements. It then organised a formal relationship with another +Composites partner: the SIRRIS technical centre in Liege, Belgium.

Aim: to design and create a composite structure for use on the ground in the space sector. A structure of this type had never been designed by the company.

So SIRRIS brought its expertise in this field:

- Structure design and choice of materials,
- Thoughts on the manufacturing processes,
- Looking for a partner to produce a prototype.

The solution provided has enabled GRADEL to be selected through a call for projects launched by ESA (the European Space Agency).



AEROFLEET

AEROFLEET is a Belgian company based in Soumagne, specialising in high-temperature composites, primarily in the nautical and aeronautical sectors.



The company has notably produced the protective domes for the Cerra Paranal Astronomical Observatory (Chile), the fairings for the Airbus A380, 45 foot and 50 foot catamarans, boats for hydrographic measurements etc.

In 2012, Multitel, our Walloon technical centre programme partner, contacted the company and gave a presentation on the activities of +Composites.

It was interested in placing instruments on certain critical parts of a vessel in order to optimise the composite manufacturing and provide information on its ageing and use limitations.

The idea was to work on integrating fibre-optic sensors in the heart of an existing mast to prove the concept.

A technological challenge has thus been defined between MULTITEL / SIRRIS / AEROFLEET as a feasibility study aiming to demonstrate the possibility of integrating sensors and measuring the stresses applied to the mast. The development included an interrogator and the simulation by finished elements of the stresses.

From July 2014, the boat takes to the water with the interrogator which records data to be analysed on its return to dry land. Stay tuned!

It is ultimately the +Composites project itself that's the real success story.

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