

“80% of textiles are waiting to be discovered”

“80% of textiles are waiting to be discovered.” This statement was uttered a few years ago by Dr. Marc Van Parys, chairman of the textile department and head of TO₂C, the textile research & development centre within the University College of Ghent. In making this statement the professor wanted to emphasise that there is a fabulous future awaiting the technical textile sector.

TO₂C was first set up in 1997. The research centre works together with industry and other research organisations and is financed with money from Flanders (IWT) and Europe. Sixteen researchers work in the centre under the leadership of Dr. Van Parys. “There has been a lot of innovation taking place in the technical textile sector recently, so much in fact that the borders between certain sectors are becoming rather blurred. This innovation is taking place in different fields including new technologies and this is precisely what the work taking place

at TO₂C is targeting, in particular the development of new technologies that are flexible enabling manufacturers to also work flexibly, both within an economic and ecological context of course. Flexibility and versatility are factors that are very important in the technical textile sector because the majority of the orders are becoming increasingly smaller. Production is evolving more and more towards specialised and smart products with a high added value. You need to be able to respond very speedily to smaller orders. The speed with which you can order something today has become primordial, in addition to quality of course and innovation.”

New technologies

One new technology is plasma technology for instance, a technique that is used in other sectors, but which can also be used in the textile sector, although it has not yet really found its niche in this sector yet. “There are two reasons for this. In the first place it suffers from the ‘out of sight, out of mind’ syndrome. We are working on increasing awareness about it. And in the second place, the machines on the market at the moment were designed for plasma technology for the plastic industry. It is not always obvious how one would use these pieces of equipment for textile. We are currently working on sourcing machine builders that are willing to modify these machines so that they can be used in the textile industry.”



Laser technology

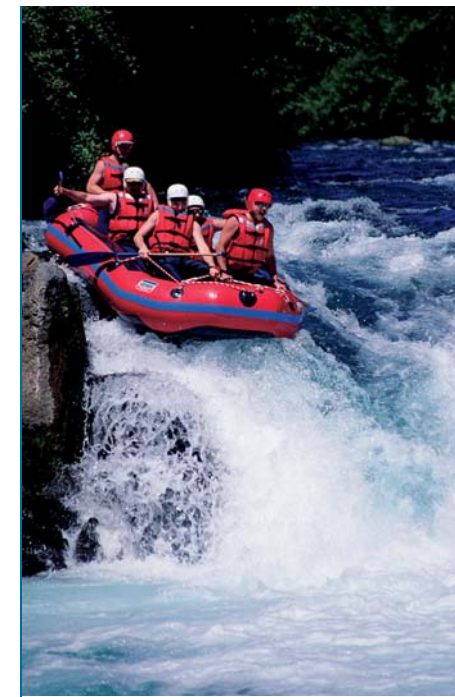
Laser technology is another technology that is in full development. “This technology is already used in the textile sector, for cutting fabric for instance, but laser techniques offer a lot of other possibilities. You can make the fibre of textile substrata more or less accessible for liquids using lasers. We are going to master this technology in such a way that we can temper the strength of the laser and we will then be able to treat just the surface. This will put us in a position to be able to make new products that we have not been able to create with existing technologies. One example is a shower curtain for instance or a bathing suit that reveals patterns when they become wet.”

Digital printing

Eight years ago, TO₂C started up a digital printing project. “We met a certain amount of scepticism about it. Industry did not believe in this technology, but five years ago there was a turning point when people started seeing that there is a definite future for personalised fabric; and by that I don’t mean flags, but fabrics for interiors, bed linen, clothing. You can ask a lot more money for anything that is personalised. It is a technology that fits in very well with the digital workflow and that is taking increasingly greater shape.”

Other breakthrough technologies

UV technology (coating and printing) is an important field that the laboratory is research-



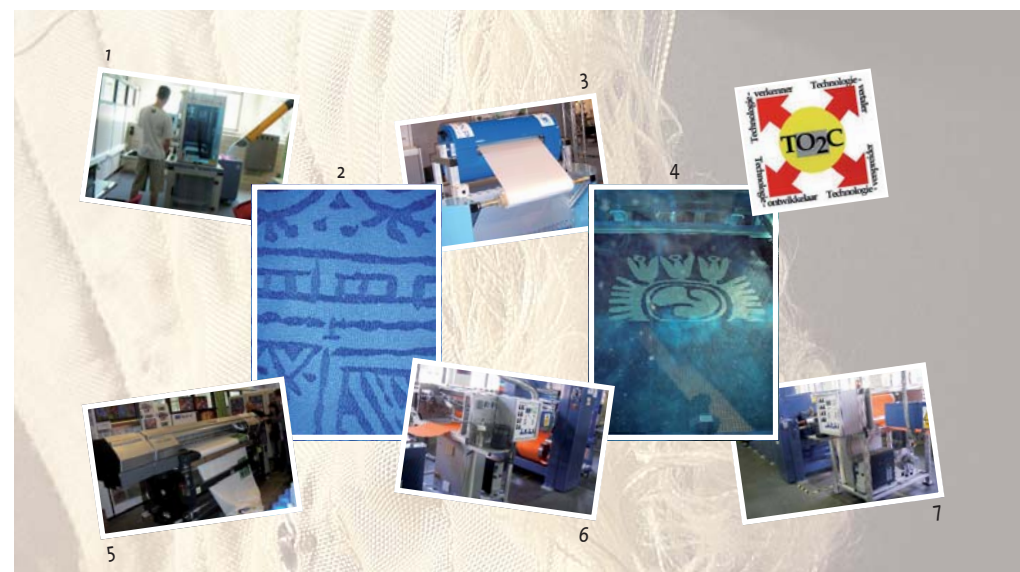
ing. This technology, state-of-the-art in other sectors, is now being intensively researched as an ecological and economic alternative to existing techniques based on water or solvent systems. This is being carried out in co-operation with Centxibel. New production technologies such as new spinning and weaving technologies (including leno weaving) are the subject of different research projects for the development of new products in different fields such as carpets and technical textile.

New products

A large number of products designed by TO₂C have already been launched on the market. “Snailtex® is one example. Snailtex® is a sort of ‘post-it’ system for textiles, whereby textiles can be attached to hard substrata such as glass, ceramics, wood, etc. It leaves no traces and can be used in a host of different ways and can even be easily washed. This product was initially intended for the advertising world, but the interior textile sector is also interested in it. More specifically for wall coverings – ideal for children so that they can decorate their own rooms.

Another great product is ReSkin®, a special type of plaster that eliminates friction. It is sold by Bioracer. The product is sold via chemist shops among others and was created as a solution for saddle sores, but is now used for all other different kinds of uses. The plasters can be used several times over, are washable and can be removed painlessly. Product tests are

CO₂-laser-eenheid
 Atmosferisch plasmasysteem voor textiel (TO₂C)
 Plasma-eenheid geïntegreerd in continue coatinglijn (TO₂C)
 Nieuw geïnstalleerde digitale drukmachine Roland (8-kleurendruk)





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currently being carried out in a number of hospitals and old people's homes. Each week, photos are sent to the centre. A patient with a first-degree pressure sore had completely recovered after using the plasters for fourteen days. The results are looking very promising. It is a product that is based on a textile system and a special adaptive coating, that can be applied reversibly depending on the body temperature, it also moulds itself around the body."



Sensory textile

TO2C, in co-operation with Agfa-Gevaert, has started up an IWT research project for the development of Sensortex®. The project will take about six to eight years. "Sensortex® is a textile that is sensory. It is a textile that can detect the environment, can smell it if you like and then adapt itself. It is a textile that sends out a signal when something is wrong. It could be an electrical signal, but we are focusing on a signal that works with thermochrome, photochrome and biochrome dyes. A photochrome dye is a dye that changes depending on the light. For instance you can design a swimming costume that changes colour when you have been in the

sun too long and so it warns you when you should move to the shade. Thermochrome dyes are useful for people who work in freezer zones and where your clothing warns you when it is time to get out of the cold. Biochrome colours can be used in hospitals to combat bacteria such as MRSA that are found in hospitals. These dyes change when they come in contact with bacteria or viruses. A message could appear on jackets and aprons when doctors or nurses need to wash their hands.

Unitex, for technical support of the sector

Dr. Marc Van Parys is not just the head of the TO2C research centre; he is also chairman of the Master's Degree course in Textile Technology at the University College of Ghent and head of Unitex, the national association of leading figures in the textile industry. "Unitex is an association of executives working in the Belgian textile industry. Our members that currently number around 800 have now extended into the Netherlands, North Germany, North France and other countries. Our main activities focus on supplying technical support to the sector. We give lectures, publish a scientific paper six times a year and organise national and international congresses. In recent years our scientific articles have been increasingly published in English because have an increasing number of people among our members that speak other languages. On 6 and 7 November 2008 we are organising the World Carpet Congress in co-operation with Centexbel and Fedustria for the third time and in 2009, the fifth European Coating Congress will take place. The aim of our congresses is to bring members and non-members up to date with the latest developments in the sector. It is also important for Unitex to do networking."

www.unitex.be