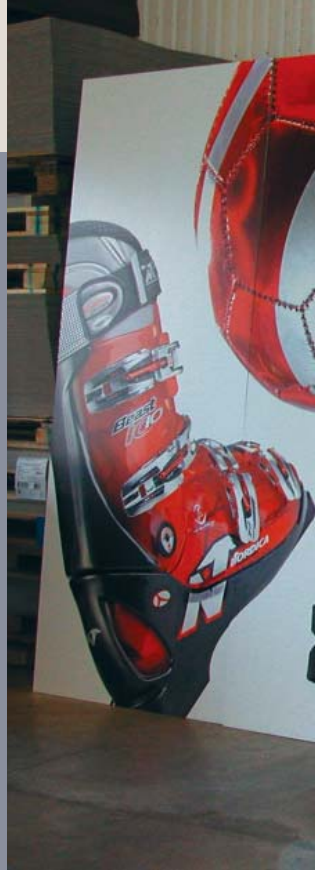


Breaking the Barriers

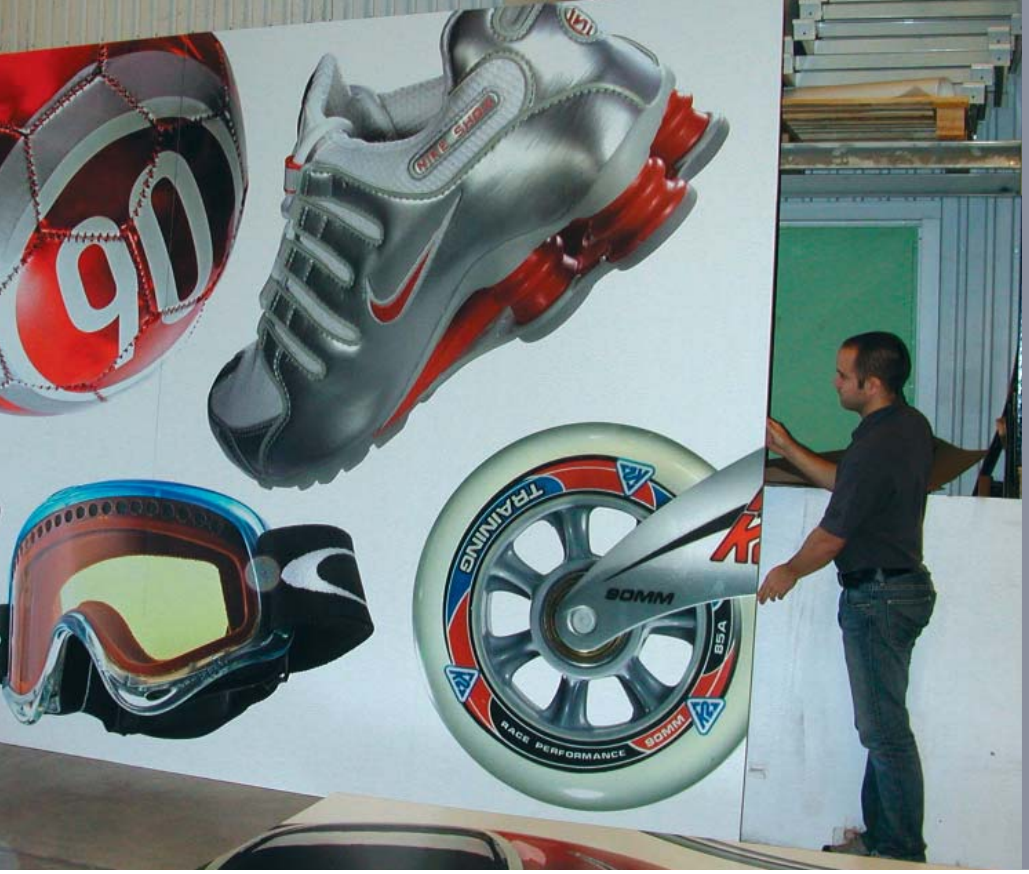
Although manufacturers always claim that their products are 'unique' and 'innovative' they very seldom are. However, these are adjectives that can be justifiably applied to Re-board, a new lightweight substrate made entirely from paper, which is all set to revolutionise the graphics sector.

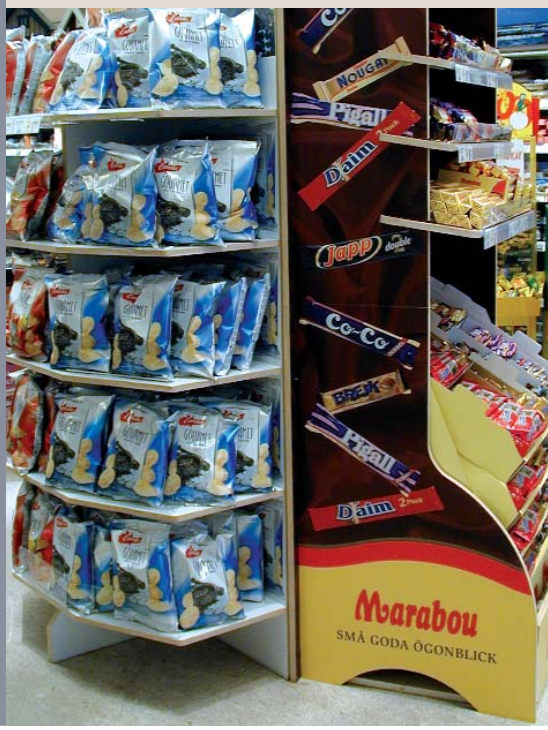
Val Hirst reports

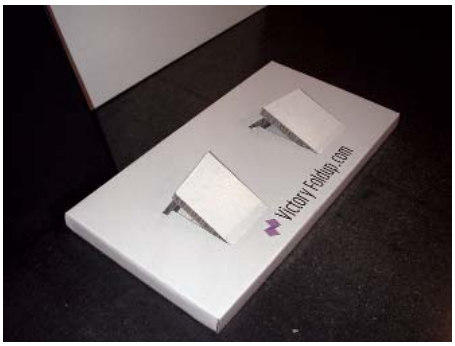
If you ask any POP or signmaker what qualities they would like to find in a substrate, they will probably reply that they want something that is both strong and lightweight, water resistant and durable, whilst also offering a surface suitable for printing. Some may also stipulate a fire rating, so that it can be used in the widest possible range of applications. And, if they are ecologically minded, they might just ask for it to be recyclable too. Up until now, they have had to settle for just some of these desirable qualities, but shortly, such compromises will no longer be necessary. This is because Kurt Aldén, the founder and Managing Director of the Swedish company Design Force, has invented an eminently versatile new material, which ticks all of the right boxes.

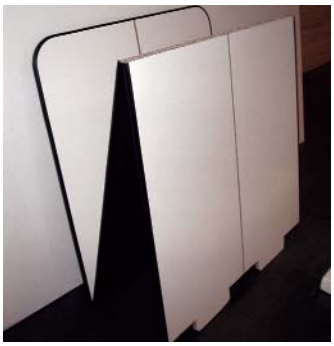
Kurt Aldén has spent most of his working life in the display sector, and set up his own company, Aldén Brothers Packaging Ltd, in 1984. Four years later, the company became affiliated to SCA Pakacking, who later acquired it outright, changing the name to SCA Display. Kurt continued as Managing Director until 2002, during which time SCA, who specialise in the production of screenprinted POP and Display material, grew rapidly, employing 128 people. But although for many years Kurt enjoyed the challenges it offered, he eventually began to feel that too much of his time was spent on the administration and general managerial duties that are par for the course in big organisations. He says: "I decided that it was time to flex my entrepreneurial muscles again - I really wanted to get back to the sharp end and to experience the buzz that comes with being creative. I also wanted to design an ecologically-friendly material that could be used for the broad spectrum of display applications, as I strongly believe that we have now come to a point where we can't simply go on replacing and discarding without considering the environmental impact this will have on future generations."

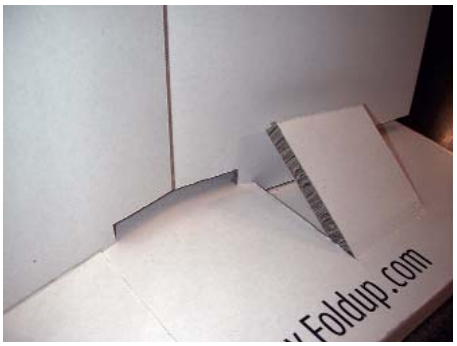
Kurt left SCA Display in 2002 to set up Design Force and now, four years of intensive research and development later, it has introduced Re-board, a paper substrate with a patented sandwich construction. Comprising different layers of Kraftliner, a special water-based sealant and a lot of air, Re-board is a totally recyclable substrate, which features a unique slanted 'honeycomb' centre. Designed to be used in place of particle board, plasterboard and MDF, Re-board combines an impressive strength with a low weight – it is between 70- 85% lighter than either particle board or MDF, thus providing enormous benefits in relation to handling and transportation. Available in sheet sizes of up to 6sq. metres and a







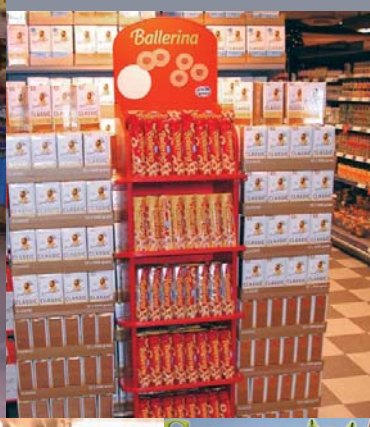


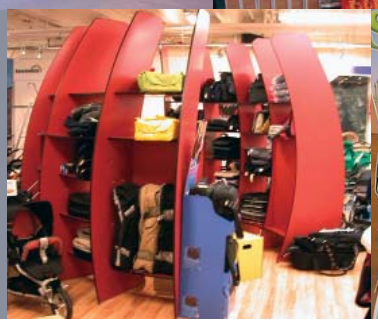


choice of thicknesses from 6mm right up to 100mm, Re-board has already been used for the production of an impressive number of POP displays, exhibition graphics, wall panels and, perhaps most surprisingly, furniture. In fact, the centerpiece of the Design Force Board Room is a vast table and matching chairs with a convincing wood grain finish, which have all been crafted from Re-board!

Re-board can either be digitally printed, or used with a selection of different, heat applied foils that simulate wood grains, metallics or any one of a host of similar decorative effects. Thereafter, the material is cut into the desired shape on an Esko Kongsberg cutter. The Kongsberg machine can also be programmed to cut halfway into the Re-board sheet, thus creating the facility to fold the material. This means that even the largest 6sq.metre panel can be folded down to a more manageable size. Once the panel is erected, there is no trace of the fold on the printed or foil decorated surface, making Re-board an ideal choice for large-scale exhibition graphics.

Kurt produces several pictorial examples of many 'live' applications, which range from the simple to the highly complex and include a wide range of POP displays, some of which also feature integral LED screens, exhibition stands and graphics, together with more permanent in-store fittings. Re-board is also being used instead of flexible substrates to provide a new variant on the ubiquitous roll-up display, since it can be folded to offer the same high level of portability, whilst also providing an altogether more robust and professional looking structure. Some of the applications are really imaginative – my personal favourite is a giant Re-board box, containing a Smart Car. Part of a promotional campaign which is located in a shopping mall, it is a life sized version of a toy car in a gift box! Kurt remarks that some of the applications simply couldn't have been achieved with any other material. He says: "They would either have been too costly to produce, or too difficult and labour intensive to transport and assemble." He adds that portability offers enormous advantages: "A lot of the expense of exhibitions for example, is down to the fact that build-up and breakdown is so time consuming and expensive. However, with Re-board it is possible for one person to erect and dismantle a stand and although Re-board graphics can be re-used many times, when they have reached the end of their useful lifespan, they can simply be disposed of." He also explains that as Re-board's use has become more widespread, Design Force has also sourced a wide choice of different fixings, fastenings and trims. "Because there has never been anything like Re-





board before, we have had to commission all sorts of special finishing items to complement it," he says.

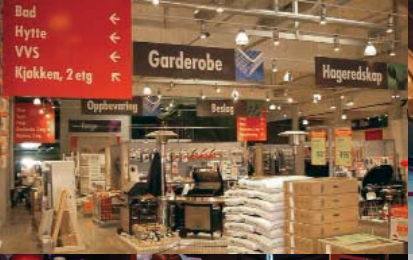
Kurt continues: "It has always been my aim that Re-board should be used to create new applications. Rather than simply replacing other materials, I want advertising agencies and designers to really let their imaginations run riot and to come up with lots of exciting new projects."

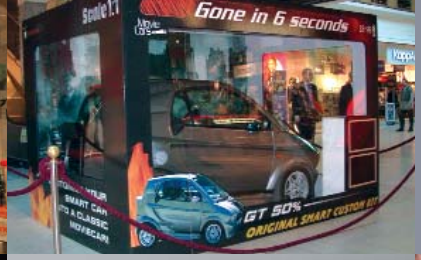
However, at present, Design Force is focusing on the sign, exhibition, POP, display and furniture sectors, although Kurt freely acknowledges that there are many other areas where it can be used equally successfully. In fact, I should think that very few of the people who visit the Design Force factory could resist making useful suggestions, which probably explains why Kurt has the slightly careworn appearance of someone who is being constantly bombarded by ideas from all sides! This becomes even more apparent later, when a visit to the factory floor reveals pallets made from Re-board. Kurt demonstrates their lightness by simply picking one up and raising it above his head in one smooth movement. Similarly, Re-board has also been used to make giant reels for industrial cable.

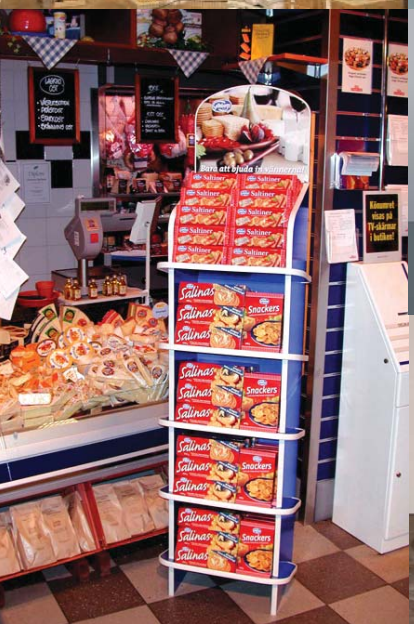
But perhaps one of the most intriguing future uses is the one that is now being hotly pursued by the various aid agencies. Kurt discloses that, following an experiment carried out by students at a local university, Re-board may be used in the future to provide temporary dwellings for disaster areas. These will take the form of a simple, one room, single storey structure, which is made from preformed, laminated Re-board and delivered direct to site on a pallet, which then becomes the building's foundation. Aluminium clips will fasten all of the sides together, whilst sturdy straps can be used to secure the structure firmly to the ground. Kurt says: "The students erected a Re-board house in a nearby wood and actually lived in it for a time, to prove its viability. They found that it offers many advantages over the tents that are more usually provided. On the purely practical side, it has better water resistance and, because it is raised above the ground, far better insulation. Re-board also carries a fire rating, so it is possible to use some kind of portable heating device too. But just as importantly, a more permanent structure, with its own door, provides its occupants with a greater level of privacy and security." This makeshift home, which is big enough to house four people, measures l0 metres sq, weighs just 150kg and costs between E350 to E500 Euros to produce. It is extremely durable - tests have shown that the door can be opened and closed more than 30,000 times – something that would take around l0 years of normal usage to achieve!

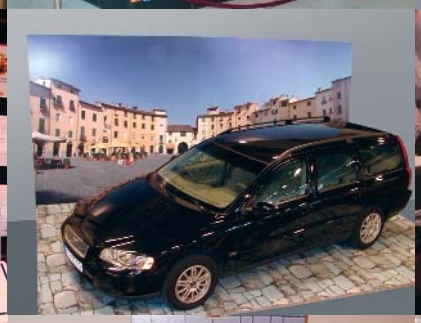
But this and other equally exciting applications will probably have to wait a while. Somewhat regretfully, Kurt admits that at present, the demand for Re-board far outstrips his capacity to produce it. He names several well-known multinational companies who have already beat an enthusiastic path to his door, only to be turned away disappointed. He says: "Tempting though they are, If we took up any one of these commissions, they would use everything that we can currently produce, "which is why Kurt is working hard to expand the Design Force production facility. Up until now, the company's Norrköping factory has simply produced the sheets from material supplied, but following the delivery of a new machine, which Kurt has co-designed in collaboration with Design Force's local equipment suppliers, Pivab Machinery Ab, Design Force will be entering into a more comprehensive manufacturing process and production will be significantly ramped up. At the time of my visit, the factory was being extended in order to accommodate the new patented equipment, which took over a year and a half to design and will churn out around 10 million sq.metres of Reboard per year.

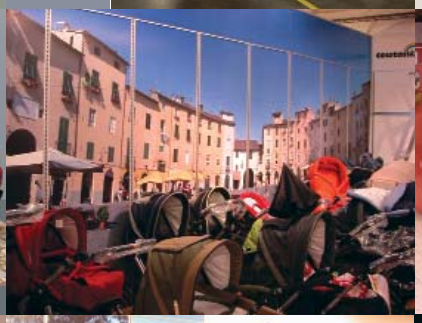
Kurt is also in the process of setting up a comprehensive worldwide distributor network. These companies are likely to be substrate suppliers already operating within the display graphics sector, and as Kurt believes that the demand for Re-board will increase as time goes on, they will eventually need to have their own

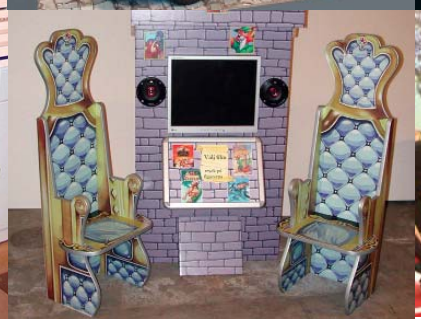


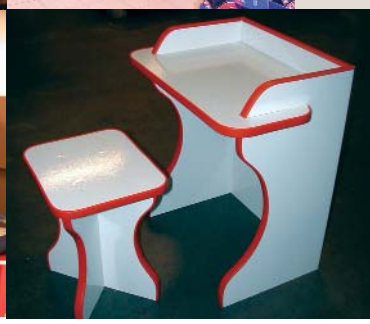












manufacturing facilities too. Kurt explains: “When a distributor is selling more than 150,000, sq. metres of Re-board per year, it will be time for them to acquire in manufacturing equipment of their own, so, with this in mind, I am particularly looking for companies who have the wherewithal to undertake this sort of future investment”.

In addition to this, Kurt is also planning to appoint a series of License Holders in each country. These companies will probably be screen and/or digital printers who are already supplying the full gamut of display graphics to their clients. They will have free access to the current Design Force data base, which offers more than l,000 pre-designed Re-board structures that can also be further customised to suit the precise requirements of individual clients. License Holders will need to acquire the equipment recommended by Design Force, in terms of software, printer hardware – Kurt favours Inca’s Columbia, Columbia Turbo and Spyder machines - and a Kongsberg cutting table, together with ancillary equipment such as varnishing and sealing machines. Design Force, or one of its designated distributors, will supply License Holders with Re-board in the required quantities on a just-in time basis.

Kurt comments: “One of the benefits of Re-board is that it can be made pretty much on demand, so that it isn’t necessary for companies to keep large stocks ‘just in case’. Rather, they will be able to order whatever they need, when they need it and of course, they will also be able to call upon us for all the help and assistance they require to ensure that their customers get the best possible products.”

Design Force has already appointed its first three distributors: Atlas Digital in Greece, Schneider Grafiska AB in Sweden and Re-board B.V. in Holland. These companies are further complemented by the appointment of the first two License Holders: Skylt & Butik in Sweden and Graphic World in Holland.

Kurt is also looking at providing a limited standard range of self-assembly products for on-line ordering and thinks that this scheme will work particularly well when it comes to the provision of furniture, a niche market that has been inspired by the Re-board shelving units, desks and tables that are currently in use at the Design Force factory.

Obviously, the whole Re-board undertaking has required some serious funding and Kurt counts himself lucky to have attracted the patronage of paper and packaging giant Stora Enso, who have been quick to spot the remarkable potential of his novel invention. He says: “Stora Enso has been very helpful not only in financial terms but also because we have been able to take advantage of its extensive R & D facility. We are in the process of patenting every part of the Re-board manufacturing process and the machinery that we are using to produce it.” But grateful though he is to Stora Ensa, Kurt is sensible of the fact that big companies often have a quite different agenda for new products than those who invent them, which is why he has restricted Stora Enso’s share in the company to a mere 30 pecent. He says: “Whatever else happens, I want to be in control of what happens to Re-board in the future, how it develops and where it is used. I am in the happy position of being able to do this because I want to – I have enough money, so financial success is not my main aim any more. I’ relish the challenges involved in producing products that push the boundaries of design creativity whilst causing as little damage to the planet as possible. To me, that is a very exciting and satisfying thing to do.”

For further information on Design Force visit: www.designforce.se