

## Velo Vision Sample Article

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If you have any problems or suggestions about the magazine in general, or this PDF article in particular, please email me at

[peter@velovision.co.uk](mailto:peter@velovision.co.uk)

I hope you enjoy the read.

Peter Eland  
 Editor and Publisher, Velo Vision

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### Small print

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VELO VISION AND VELO-VISION We weren't first with the name. Velo-Vision (note the hyphen) is a progressive HPV-friendly bike shop in Kärnten, near Bergisch-Gladbach, Germany, who also make their own recumbents. Velo Vision magazine is working in friendly harmony with Velo-Vision in Germany.

*Velo Vision is printed on paper produced from sustainable forests to Nordic Swan standards.*



**COVER PHOTOGRAPH:** Riders enjoy the York Cycle Show mass parade.

**OPPOSITE:** Cycling photographer Jason Patient catches the evening light on the VeloVisionaries ride. Both photos by Peter Eland.

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### DELIGHTFUL DIVERSITY

It's a thoroughly mixed bag this issue, as we take a rollercoaster ride by human power on land, water and even in the air. But why should a cycling magazine include these more unusual forms of pedal power? After all, few readers will find pedal boating or airship travel useful in their everyday cycling lives.

First, because I find human power in all its forms fascinating, and I hope you do too. It's also pure inspiration: after hearing that someone's pedalled to Hawaii, or crossed the Channel by human-power airship, it's hard to whinge about a bit of rain preventing you from cycling to work.

So if seeing watercraft and aircraft in our pages irks the purists, so be it. There is plenty of more conventional (for us at least) fare in this issue too, including a wonderfully diverse collection of reader reviews, a look back at an enjoyable summer of cycling, and tests of some impressive new bikes. Thanks again to all who contributed, and enjoy the read!

*Peter Eland*

We take a look at the vast range of solutions available for anyone who can't ride a standard bicycle.



For me cycling is a given. It's what I do, and I guess many readers will feel the same way. If you routinely use a bike to get around you'll have unconsciously arranged many aspects of your life around easy, independent mobility.

So suddenly being unable to cycle, for whatever reason, can be profoundly disturbing. Independent mobility and load-carrying capacity, a base level of fitness and exercise, mental stimulation and fellowship in the cycling community are just some of the benefits of cycling. These are precious things, and not something to be given up without a struggle.

With this in mind, for many who find themselves off the bike the question is not whether to get back on the road, but how. Where there's a will there's a way, with a host of technical solutions and many knowledgeable and thoroughly good people to help. We list a few of these resources later.

Another category of special needs cycle users are those who are cycling partners, parents or carers who wish to share their enjoyment of cycling with a partner who may be unable to ride a bike alone – or even at all. Riders of all abilities can benefit hugely from cycling, even if it's as a passive passenger.

Again, there are a host of machines designed for the purpose, and plenty of places to go if you want to try out such machines before considering the (often substantial) cost of purchasing one for regular use. We'll do our best to cover this area fully, too.

In the two years since I wrote the last Buyer's Guide to special needs cycling (in Issue 11) there haven't been radical changes in technology or organisations. But many of the charities and companies which we listed last time are now bigger, more professional and more practised in what they do – getting people of all abilities cycling. I strongly encourage readers in need of special needs cycling information or consultation to contact them – unfortunately I am unable to give individual advice. Contact details for all organisations and companies mentioned are in the 'Resources' list at the end.

As before, this Buyer's Guide will be made publicly available as a free PDF download on the *Velo Vision* website as soon as subscribers have their copies of the magazine. Please do feel free to pass it on to anyone who might find it useful.

Peter Eland



PHOTO: HASE BIKES

## PERSONAL MOBILITY

First we'll take a look at the range of solutions available for riders whose abilities mean that they can ride independently on their own machine.

### Adapted standard bicycles

When aches and pains make riding your usual machine painful, it need not mean the end of cycling. Sometimes some relatively straightforward changes to the riding position or contact points can restore the pleasure of pedalling.

- Back problems are often alleviated by a more upright position. A longer stem may be all that's required, possibly combined with a wider saddle (as your bum will be taking more weight). Being less leaned-over also means there's less strain on the wrists and hands.

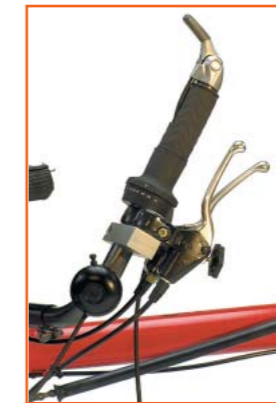
- Straight handlebars or uncomfortable grips won't help if you have wrist or hand pain, by cramping circulation. Try curved-back bars which put the wrists at a more natural angle, and Ergon grips (see Issue 18) to better support the hand.

Standard bicycles can also accommodate a wide range of riders with missing limbs, reduced movement or power in certain limbs, or other mobility constraints:

- One often-requested modification is to have both brake levers operated by one hand. There are a number of commercial solutions available, such as the one supplied (worldwide) by Greenspeed in Australia

(see Resources). Longstaffs also have a good selection. One-armed riders can and do just ride normal upright bikes, but some find the recumbent trike format more comfortable as it doesn't place the weight asymmetrically on the one arm.

- Riders with just one leg able to pedal, or with limited motion in one or both limbs can be accommodated with special cranks on one side: either just shortened ones, or special designs with an extra pivot to limit movement.



**LEFT: Three brakes (two back wheels, one front) and two gear controls on one hand? Not a problem on this Hase Kettwiesel.**

**ABOVE RIGHT: Crank shorteners mean knees need move less far.**

**RIGHT: 'Pendulum' pedals are another way to keep movement within comfortable limits.**



### Somewhat less standard cycles

- A low step-through frame may be a big help if limited limb mobility makes mounting and dismounting a standard bike difficult.

- Semi-recumbent bikes such as the Giant Revive or Ergovelo (see last issue p. 40) offer a riding position that many find very comfortable and relaxing for back, neck and arms, while remaining easy to mount and dismount.

- Electric-assist can help those with limited power to keep up with friends on rides or just to extend the practical range. Kits can be fitted to most bikes by specialists such as Kinetics or Electro-Drive, or complete machines are available. Electric folding bikes like the Kinetics Brompton shown can be particularly handy for transport by car or on public transport.



**ABOVE: A Brompton modified by Kinetics to use a Heinzmann electric-assist kit**

- Treadle-action bikes allow very small or irregular leg motions to be converted into forward motion. Worth a look if the usual pedalling motion is difficult. See [www.stepngo.com](http://www.stepngo.com) and [www.speedler.de](http://www.speedler.de)



**ABOVE: The Step 'n Go from the US offers an alternative to the usual pedalling action.**



**LEFT: The Giant EZB and similar semi-recumbents can be a solution to back, wrist or neck problems. They're also usually low step-through.**



## Handcycles

If you have the full use of one lower limb it's worth seeing which you prefer – one-leg pedalling or two-arm handcycling. Often the bigger leg muscles will win out. But if your circumstances mean that arm-power is the way to go, there are plenty of handcycles to choose from.



Handcycling is a performance sport, too, and serious speeds are attainable with training. A fit handcyclist will often be able to keep up with social bicycle riders. The machines divide into three types:

- Wheelchair add-ons clip onto the front of a wheelchair. Most often drive and chair come as a unit. Drives can also be fitted to existing wheelchairs, although this gets more expensive. In the UK, Chevron are the best-known supplier. The one pictured right is from Sunrise Medical in Germany.
- The Kettwiesel handcycle (above left) is almost in a category of its own. Too high to be a racing trike, but more sporty than most add-ons, it's an interesting choice for the recreational or transport handcyclists. Possible competitors include some more upright machines from Varna in Canada.
- Racing: there are a slew of finely-crafted racing handcycles from around the world. If these take your fancy, go along to some handcycle racing events to find out what their riders think...



- The One-off Titanium handcycle is a unique system for off-road handcycling: see [www.titaniumarts.com](http://www.titaniumarts.com). Varna also do a fat-tired model for beach use, as shown left.

## Trikes

Three-wheelers have the obvious advantage that they don't require fine control of balance. They also let you go as slow as you like in comfort and safety.

- Upright trikes are a popular option – the handling takes some getting used to, and fast cornering requires agility – but they do look 'normal'. Makers in the UK include Mission Cycles, Pashley and Longstaffs.
- Semi-recumbent 'delta' trikes such as the Scootertrike (see Issue 17, from Germany) or Retriker (USA) combine the comfort of a no-strain riding position with the stability of three wheels.
- Deservedly the most popular recumbent trike for special needs use is the Kettwiesel from Hase Bikes – we tested it in titanium handcycle form in Issue 14, and it's pictured above. But even as a standard recumbent trike it can be adapted with no end of special footrests, head supports, one-sided controls and the like. A stable and fun platform, and much cheaper than most of the alternatives.



**ABOVE:** Upright trikes are always popular: this is a Tri-1 from Pashley.

**BELOW:** This Greenspeed GT3 trike is fitted with an electric-assist system from [www.electro-drive.co.uk](http://www.electro-drive.co.uk)



Other recumbent trikes are also often used where there are balance or strength problems, and they can be good candidates for electric-assist if need be. But recumbent trikes can be bulky. Two which fold reasonably easily to car-boot size are the Greenspeed GT3 and GT5 series, and the Aiolos Trilite trike from Germany ([www.aiolos.de](http://www.aiolos.de)).

**LEFT:** The folding Trilite recumbent trike's designer is himself disabled, and wanted a stable trike he could also fit in a car boot.

## OUT AND ABOUT TOGETHER

Perhaps the majority of requests for special needs cycling advice are from parents looking for ways in which their growing disabled children can accompany them on rides. Close behind are partners or carers for adults whose abilities mean that with the best will in the world solo pedalling is just not possible.

Tandems, trailers and sociables are available: usually special needs try-out centres have a good selection. We've split our overview between the ones with pedals for both riders, and ones which just have pedals for the able-bodied rider.

## Pedals for both

With both riders pedalling, both partners benefit from cycling's positive effects on the circulation, muscles and general health. Many machines will allow each rider to contribute according to ability, so that the weaker partner doesn't have to struggle to keep up.



- A standard upright tandem can be very useful for riders who couldn't safely control a solo bike, but are otherwise able to pedal and balance OK. Tandems are a great way for visually impaired people to ride along with a sighted partner, and in the UK such rides are regularly organised by the Tandem Club.

- To carry children, tandems can be fitted with kiddycranks (if the child's legs are too short to reach the pedals). Other adaptations include special seats with back-rests or other restraints.
- The trailerbike or 'tag-along' is a cheaper way to carry

**RIGHT:** Visually impaired pupils from Dorton House School near Sevenoaks (part of the Royal London Society for the Blind), were introduced this July to tandem cycling with their pen-friends from the Milton Margai School for the Blind in Sierra Leone, who were visiting England as part of the Global School Partnership. The Milton Margai students later described the session as one of the highlights of their two week visit, say the RLSB.



**ABOVE:** The Hase Trets recumbent trailerbike.

**TOP LEFT:** The Piggyback 2 two-wheel trailerbike from Mission Cycles offers a more stable platform than single-wheelers.

**LEFT:** The Piccolo from Burley is among the best of its type.

a child pedaller than buying a tandem – they fit behind standard bicycles. For children with learning difficulties or balance problems, a two-wheeled version will be more stable, and there will be less effect on the handling should the child throw his or her weight about. Pashley and Mission cycles make such machines. Hase Bikes also make a neat recumbent two-wheeled trailer bike called the Trets.

- As the passenger gets heavier or older, trailer bikes get hard to handle. The solution may be a special machine such as the Hase Pino, which has a recumbent seat for the front rider (with or without pedals) and a normal rear. The recumbent seat allows as much restraint or support as is required, and the passenger is in good view of the steering rider.

- Other machines which put the rider in front, but in an upright position, are the tandems (top) from Onderwater ([www.familietandem.nl](http://www.familietandem.nl)) and van Raam (above), plus the Co-Pilot from Hoening in Germany.



## Pedals for both (continued)



**ABOVE: The Strada tandem offers a stable platform for two pedallers**

■ A three-wheeled option with a front recumbent rider layout is the Strada tandem trike from Germany: see [www.die-fahrradwerkstatt.de](http://www.die-fahrradwerkstatt.de). The 'Victorian' tandem from CycleMakers (see Resources) is similar but with both riders upright. Hoening also make a trike version of their Co-Pilot.

■ Sitting side by side allows easy conversation and can be reassuring for both riders, so these machines are often favourites at try-out centres. There are several models: the four-wheeled ZEM ([www.zem.ch](http://www.zem.ch)) from Switzerland (but with a UK importer), the Toucan trike ([www.2cancycle.co.uk](http://www.2cancycle.co.uk)) from the UK, the van Raam Doublerrider ([www.vanraam.nl](http://www.vanraam.nl)) from the Netherlands, and the Duotrike ([www.duotrike.de](http://www.duotrike.de)) from Germany. London Recumbents also import the 'Side-By-Side'. Desirable features include independent drivetrains for the two riders, so that riders of unequal abilities can pedal at their own pace, easy seat adjustment and great stability. Possible disadvantages include weight, width and storage.

**BELOW: The Toucan side-by-side is a very sociable way to ride**



**RIGHT: The 'Speedy' tandem imported by Bromakin Wheelchairs enables the wheelchair user to attach and detach unaided.**



## Pedals just for one

If one rider can't pedal, then cycling can still be hugely beneficial for mental stimulation. It's also great for the pedalling rider to get out and share the experience. One thing to watch is that a passive rider will feel a lot colder than an active pedaller.

Even on the flat, the weight of a passive passenger can be a lot for one person to pedal, so these vehicles are often fitted with electric assist systems. Powerful brakes are a must, too.

■ Wheelchair tandems are made by several companies including Van Raam in the Netherlands and Hoening in Germany, with distributors in many countries. There combine a (detachable) wheelchair front with a bicycle rear end. There's a good view for both riders, and conversation is easy.



■ If the passenger must use their own chair, the Van Raam wheelchair carrier (pictured left) is a possibility. It's heavier and more bulky than a dedicated wheelchair tandem, but allows simple 'roll-on, roll-off' loading.

■ Another configuration is to tow a wheelchair behind a standard bike. Manufacturers include Tony's Trailers in Canada ([www.tonystrailers.com](http://www.tonystrailers.com)),

whose model also converts usefully into a 'rickshaw' for pulling on foot over all terrain (see Issue 18 page 45). Another useful model is the Speedy Tandem imported by Bromakin Wheelchairs. A lever mechanism allows the wheelchair user to attach and detach unaided from the cycle front end.

■ The 'Taxi' trike from Germany which we saw at the SPEZI earlier this year (top of page) is also a neat idea. Of course, many pedicabs or rickshaw type trikes can also be pressed into service for carrying special-needs passengers.

■ Still at the pre-production stage is the 'Truk' built by Mike West of Specialbikes (pictured right – see Resources later). It's intended as a simple solution for carrying a non-pedalling companion. Further back supports and rider restraint systems will also be available. Although prices are not yet fixed, the machine has been designed with affordability in mind.



## RESOURCES

Many organisations not listed here also have an interest or involvement in cycling for the disabled (such as general mobility organisations, sporting associations and the like). Apologies in advance to any who feel unfairly left out – get in touch and I'll add you next time!

## ORGANISATIONS

■ **London Cycling Campaign** produce an *All-Abilities Cycling Guide*, a 16 page, A5 guide to machines and resources in the UK. It's available for free from LCC, Unit 228, 30 Great Guildford Street, London SE1 0HS or Tel 020 7928 7220 or as a free PDF download from [www.lcc.org.uk](http://www.lcc.org.uk).



**ABOVE: A Milton Margai Student (see p. 51) rides a sociable**

■ **The LCC** are also behind the **All-Abilities Cycling Group**, set up by London Mayor Ken Livingstone to make London's cycling special-needs friendly, and to act as a resource for special-needs cycling in general. Contact Debbie Allaire, Chair: [debbieallaire@onetel.com](mailto:debbieallaire@onetel.com) or Allan Sutherland: [atsutherland@freeuk.com](mailto:atsutherland@freeuk.com) Tel 020 7326 1811

■ **Bikeactive:** "We run weekly rides all through the year for adults with a wide range of disabilities. Our specialised bikes, tandems, trikes, wheelchair cycles and hand-cranked trikes and two-wheeled trailer bikes mean that we can enable just about everyone to share in the excitement of cycling. Started 11 years ago in Ipswich as BikeAbility which still runs its regular on-road accompanied Wednesday rides, we were born in 2004 as the second project based at nearby Alton Water. We are always looking for volunteers as well as



**Bikeactive run rides at Alton Water near Ipswich**

fundraisers to join and develop our gentle weekly rides in superb Suffolk countryside. Details of our activities are on our website [www.bikeactive.org.uk](http://www.bikeactive.org.uk)."

■ **CycleMagic:** Leicester-based cycle promotion charity which includes special-needs activities: good fleet of bikes and workshop in safe surroundings for try-out. Rides, advice etc. Tel 0116 262 5551 or see [www.cyclemagic.org.uk](http://www.cyclemagic.org.uk)

■ **Wheels for All:** "Wheels for All have 17 locations where people of all ages with disabilities and differing needs can use special cycles, together with friends, family

and carers. We produce "Cycling for People with Disabilities and Differing Needs" priced at £8 for disabled people and £11.50 for other purchasers. The report has over 100 pages, lots of colour pictures, illustrations and is bound with removable studs so that it may be photocopied. We also provide a free, impartial information and advisory service, free taster sessions, run Wheels for All cycling events and can work with you to establish your own centre. For further information, please contact Hermine on 0161 745 9944 or why not visit our web site [www.cycling.org.uk](http://www.cycling.org.uk)"

## Reality check

A lot of these bikes are wonderful – just visit a try-out centre to see riders absolutely buzzing with adrenaline and pleasure at finding a machine which suits and with the exhilaration of cycling motion. So it's often hard to accept that it may just not be practical to own – and enjoy – one of these machines permanently. The main issues are:

■ **Cost:** Alas, very few of the machines featured in this guide are what you might call cheap – or even 'affordable'. Small production runs and heavy development costs mean that specialised equipment can often run into the thousands. Equipment for the disabled is VAT free, which helps a little.

Thankfully, there are many charities active in this area, especially if transport for disabled children is involved. London Recumbents have an excellent page on their website ([www.londonrecumbents.com](http://www.londonrecumbents.com)) with links to many sites where you can apply for help.



**Barriers can be a serious problem for handcyclists. Luckily this one's just wide enough.**

■ **Companion Cycling** is a not-for-profit scheme based in Bushy Park in South-West London and has a fleet of mostly side-by-side tandems, which allow all to go for traffic-free rides in company. Tel 07961 344545 or see [www.companioncycling.org.uk](http://www.companioncycling.org.uk)

■ **Company of Cyclists** produce a free info sheet listing special needs cycling resources: they also sometimes do special-needs roadshows. Tel 01904 778 080 or see [www.companyofcyclists.com](http://www.companyofcyclists.com)

■ **Tandem Club:** The UK Tandem Club has a Disabilities Liaison Officer who may be able to help with queries related to disabled people and to visually handicapped cyclists. Contact Miriam Woodland: Tel 01908 282485. The Tandem Club also produces its bi-monthly journal as a Talking Journal on audio tape for visually impaired people: Contact Anne & Mike Wesson on 01908 551266 or email [mickanne65@hotmail.com](mailto:mickanne65@hotmail.com). See also [www.tandem-club.org.uk](http://www.tandem-club.org.uk) for more.

■ **Gateway Wheelers:** Disability cycling group in the Chester-le-Street/Teess Valley area: have a good range of machines and offer rides, advice and more. See [www.gatewaywheelers.org.uk](http://www.gatewaywheelers.org.uk) or phone Dave on 0191 3712505 or email [david@wheelers.fsbusiness.co.uk](mailto:david@wheelers.fsbusiness.co.uk)

Most special needs cycling organisations and manufacturers will also be able to offer advice about funding.

■ **Storage:** A side-by-side tandem might be perfect for your family – but if you're not blessed with an empty garage it might just have to be ruled out. Many of these machines, especially the tandems, are big beasts – there's no getting around it.

■ **Transfers** – or what you do when you get off the bike. A handcycle is great for riding along, but what happens when you get to the café and want to go in? When you get home or back to

your car, can you get in and out of it unaided? This sort of question might dictate an add-on unit which leaves you in a conventional wheelchair when removed.

■ **Transport and location:** Many riders will need to be able to transport their vehicles by car, and that raises the question of whether it can be loaded and unloaded unaided. Again, manufacturers will advise on possible adaptations.

## MANUFACTURERS AND SUPPLIERS

**Attempting to offer even a reasonably comprehensive list is a mammoth task, especially with the limited space available here. But the ones listed here should be a good start.**

### IN THE UK:

■ **Bikecare:** offer tricycle conversion kits and a range of family cycling and special needs cycles. 92 The Avenue, March, Cambridgeshire. PE15 9PR. Tel 01354 660049 Website [www.bikecare.co.uk](http://www.bikecare.co.uk)

■ **Bromakin Wheelchairs:** major, established supplier of wheelchairs and handcycles, with a huge range. Includes imported machines from Varna (Canada), Speedy (Germany) and more. Everything from basic bolt-on hand-crank to top-class racers. Bromakin Wheelchairs, 12 Prince William Road, Loughborough, Leicestershire LE11 0GU UK. Tel 01509 217569 or Fax 01509 233954 or see [www.bromakin.co.uk](http://www.bromakin.co.uk)



**The Varna Handcycles hybrid tandem**

■ **Chevron:** UK manufacturer of handcycles and an adult upright trike: Brunswick Business Park, 18 Summers Road, Liverpool L3 4BL. Tel: 0151 707 1146 Fax: 0151 707 0353

■ **Cyclemakers** (also known as **Logic Engineering Concepts**): make the Victorian and Discoverer tandems, and the Co-Star tandem, and also offer a custom engineering service. See [www.cyclemakers.co.uk](http://www.cyclemakers.co.uk) or Tel 01562 731 355

■ **Cyclone Mobility and Fitness:** Sell the Tracker range of handcycles along with a wide range of wheelchairs and other vehicles: Cyclone, Freepost, Unit 5,

Apex Court, Bassendale Road, Croft Business Park, Bromborough CH62 3RE. Tel: 0151 346 2310 Fax : 0151 346 2311

■ **Electro-Drive:** Add-on electric assist devices for all sorts of machine. See [www.electro-drive.co.uk](http://www.electro-drive.co.uk) or Tel 07974 723996

■ **EPC Wheelchairs:** large UK retailer importing machines from Invacare and impressive racing machines from Sopur, and also making a few themselves. Lots of electric-assist etc options too. EPC Head Office : 43 Alexandra Road – Farnborough – Hampshire – GU14 6BS. Tel: 01252 547939 Fax: 01252 377588 Website [www.epc-wheelchairs.co.uk](http://www.epc-wheelchairs.co.uk)

■ **Kinetics:** Glasgow-based electric bike specialist and Heinzmann electric-assist system importers – this can be retro-fitted to most bikes. Tel 0141 942 2552 or see [www.kbikes.co.uk](http://www.kbikes.co.uk)

■ **London Recumbents:** offer try-out and advice in Dulwich Park in London. Distributors for Hase, Hoening and others. Their website is particularly good if you're looking for possible sources of funding. Tel 0208 299 6636 or see [www.londonrecumbents.co.uk](http://www.londonrecumbents.co.uk)

■ **Lifecycle Brighton:** Off-shoot of London Recumbents run by Ben Sherratt on the South Coast, and offering try-out in Brighton's Preston Park. Good range of both special needs machines and recumbents. Tel 01273 542425 or see [www.lifecyclebrighton.com](http://www.lifecyclebrighton.com)

■ **Longstaff Cycles:** As well as making lovely custom tandems and tandem trikes, Longstaff's produce affordable trikes and tandems for children and adults under the 'Cyclon' brand. Trike conversion kits are also available, as are many crank adapters and other fitments, and machines can be constructed to suit individual requirements. Longstaff Cycles, Albert St, Chesterton, Newcastle-under-Lyme, Staffs ST5 7JF. Tel 01782 561 966 [www.longstaffcycles.co.uk](http://www.longstaffcycles.co.uk)

■ **Mission Cycles:** offer a wide range of affordably-priced upright trikes, child's bikes and tandems, including a two-wheeled child's trailerbike. Tel 01622 815615 or see [www.missioncycles.co.uk](http://www.missioncycles.co.uk)

■ **Pashley Cycles:** manufacturers of many useful family and special needs cycles. Contact them on 01789 292 263 or see [www.pashley.co.uk](http://www.pashley.co.uk) for more details.

■ **Specialbikes:** York-based specialists offering a range of machines including special childrens' trikes, recumbent trikes and electric-assist vehicles. The 'Truk' upright tandem trike for a non-peddalling passenger is in pre-production as we go

to print. Can also undertake custom engineering work. Tel 01904 703 413 (eves) or see [www.specialbikes.co.uk](http://www.specialbikes.co.uk) (should be up about the time this issue is out)

■ **Wise Wheels:** Malcolm and Mary Jones supply specialist cycles to children and adults with disabilities or mobility problems. UK distributors for specialised equipment from Draisin, Triaid, Hoening and Berg Toys. Tel/Fax 01295 770806 or see [www.wisewheels.co.uk](http://www.wisewheels.co.uk)

### BEYOND THE UK:

■ **Double Performance:** high end handcycle makers from the Netherlands: [www.doubleperformance.nl](http://www.doubleperformance.nl)

■ **Freedom Ryder:** US maker of racing handcycles: [www.freedomryder.com](http://www.freedomryder.com)

■ **Praschberger:** Austrian maker of handcycles and sports wheelchairs – including a neat wheelchair add-on handcycle unit for children.

■ **Greenspeed:** Australian recumbent trike manufacturers who do much special needs work: hand-cycle adaptations also possible: [www.greenspeed.com.au](http://www.greenspeed.com.au)

■ **Hase:** German manufacturers of the Pino up-down tandem, the Lepus and Kettwiesel recumbent trikes and the Trets child trailertrike. Have always offered a huge range of special-needs adaptations and add-ons, including hand-crank versions of most of their machines. See our review of the Ti Handcycle in Issue 14. Several UK agents. [www.hase-spezialraeder.de](http://www.hase-spezialraeder.de)

■ **Hoening Mobility:** One of the larger German manufacturers, who kicked it all off with the Duet wheelchair tandem which now has a user group with regular newsletter and meetings. Plenty of other products now – maybe a tad expensive but all top quality. Several UK importers. See [www.hoening.com](http://www.hoening.com)

■ **Invacare Top End:** US-based manufacturer of high-end racing handcycles – the parent company Invacare make all sorts too. See [www.invacare.com](http://www.invacare.com). Have agents in most countries.

■ **M5:** Dutch manufacturer making a rather fast handcycle alongside their range of recumbents: see [www.m5-ligfietsen.com](http://www.m5-ligfietsen.com)

■ **One-Off Titanium:** make a unique off-road handcycle: [www.titaniumarts.com](http://www.titaniumarts.com)

■ **Quickie Wheelchairs:** make a variety of handcycles including the Quickie sports machines: see [www.quickie-wheelchairs.com](http://www.quickie-wheelchairs.com)

■ **Speedy:** German manufacturer of a wide range of handcycles: [www.speedy-reha-technik.de](http://www.speedy-reha-technik.de)

■ **Sunrise Medical:** German makers of Sopur handcycles, both upright and low-down racing types. See [www.sunrisemedical.de](http://www.sunrisemedical.de)

■ **Tempo Trikes:** Australian manufacturer of special needs tricycles of all sorts including many upright models, and other equipment. See [www.tempolafaek.com.au](http://www.tempolafaek.com.au)

■ **Thys Rowingbikes:** Derk Thijs makes a special version of his rowing bike for use by people with only one leg. See [www.rowingbike.com](http://www.rowingbike.com)

■ **Van Raam:** Netherlands manufacturer of nicely-styled and practical special needs machines of all sorts, including the Double-Rider side-by-side tandem, wheelchair tandems, trikes and more: [www.vanraam.nl](http://www.vanraam.nl)

■ **Varna:** Canadian manufacturer of high-class performance handcycles, including an interesting tandem: [www.varnahandcycles.com](http://www.varnahandcycles.com)

## HANDCYCLE RACING

■ **Handcycling Association UK:** promote handcycling, both recreational and competitive. Their website lists events, has advice on buying, and more. See [www.handcycling.org.uk](http://www.handcycling.org.uk)

■ **British Cycling:** the UK cycle racing organisation. Paul West is the main contact point: Tel 0161 274 2021 email [paulwest@britishcycling.org.uk](mailto:paulwest@britishcycling.org.uk) or write to Paul West, Disability Cycling Co-Ordinator, British Cycling, Stuart Street, Manchester. M11 4DQ. See also [www.britishcycling.org.uk](http://www.britishcycling.org.uk) where you'll find an events listing and more.



■ **Paralympics:** Handcycling is now a Paralympic sport: see [www.paralympics.org.uk](http://www.paralympics.org.uk)

■ **US Handcycling Federation:** see [www.ushf.org](http://www.ushf.org)