

share

The B. Braun corporate responsibility magazine



Focus: Active Aging

The New Elderly

MORE AND MORE PEOPLE LIVING LONGER—AND STAYING ACTIVE.
HOW WILL THIS IMPACT SOCIETY?

LONG-TERM ASSISTANCE A SUSTAINED APPROACH TO DISASTER RELIEF

WHEELS ON FIRE WITH ATHLETE KAREN DARKE AT THE PARALYMPICS

Editorial

DEAR READERS,

One of the key guiding principles behind B. Braun's corporate activity is sustainability. For us, this means not just economic responsibility, which we try to achieve through long-term growth, but also ecological and social responsibility, which we demonstrate through numerous projects in over 50 countries. Our employees are committed to making the world a better place for the current and future generations and in doing so they receive the explicit support of the Board.

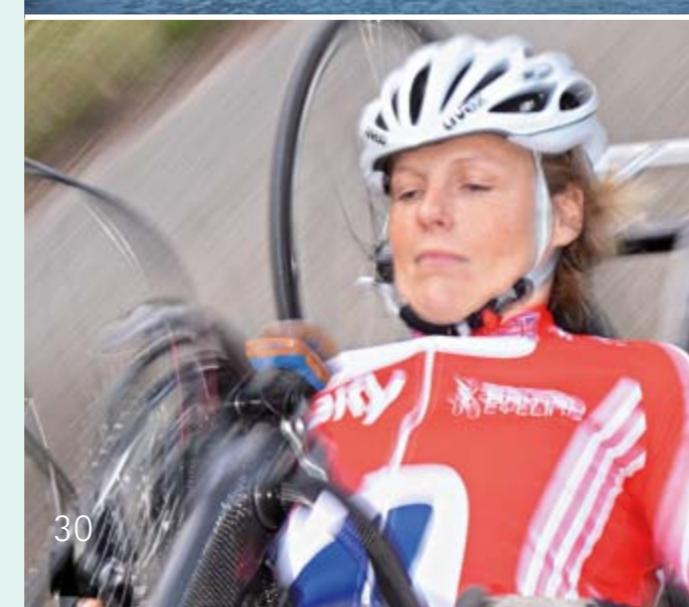
"Share" magazine reports on examples of these projects and also wants to discuss current social issues that affect us all. Demographic change, this issue's focus topic, generally carries negative connotations in the industrialized world, whereas in newly-industrialized and developing nations, population aging still seems a long way off. We consider the topic from a number of different perspectives, some of which allow positive conclusions to be drawn. Thanks to better medical care, people all over the world live longer than they did even a few decades ago, and take full advantage of this in their old age. Many senior citizens make an active contribution to society. They want to make a difference and pass on their life experiences to other people. In the future, they will play a larger role and help others, but at the same time they will present political and economic challenges.

Companies in the healthcare sector, like B. Braun, have a special responsibility to preserve the productivity and commitment of our senior citizens for as long as possible. In line with our philosophy of "Sharing Expertise," we maintain a dialog with physicians, nurses, and patients in order to better understand the needs of older people and to provide products that make their lives and medical care easier.

I WISH YOU PLEASANT READING



DR. HEINZ-WALTER GROSSE
CHAIRMAN OF THE MANAGEMENT BOARD



30



12



26

PHOTOS: LUKE JARVIS/CORBIS (TITLE); P. 2: SIBYLLE FENDT/OSTKREUZ (TOP); KEITH BEDFORD/REDUX/LAIF (MIDDLE); PRIVATE (BOTTOM)

Contents

4 Values We Live By

Corporate responsibility at B. Braun.

6 Clinic Kickers

30 years of the German Hospital Championships.

8 Announcements

B. Braun commitment and projects worldwide.

Focus: Active Aging

12 The New Elderly

Better health, a longer life, and more money—compared to previous generations, today's senior citizens are doing very well. This is an unprecedented success story of our civilization and science. Today's senior citizens are able to enjoy their old age and remain active. And that is good, because in an aging world, their contribution to society and the economy is still needed.

24 My Project

Tracy Gillespie helps schoolchildren in the US find the right career.

26 Long-term Assistance

All over the world, natural catastrophes are increasing. In addition to emergency relief, long-term measures are becoming more and more important.

30 Wheels on Fire

Losing bronze but winning hearts: with British athlete Karen Darke at the Paralympics in London.

35 Sustainability in Everyday Life

Whether by saving energy, avoiding waste, or planting trees—B. Braun and its employees are committed to a more sustainable way of working and living.

36 More than Needle and Thread

At the B. Braun plant in Rubí, Spain, researchers are working on the suture materials of the future.

39 B. Braun at a Glance

Company facts and figures.

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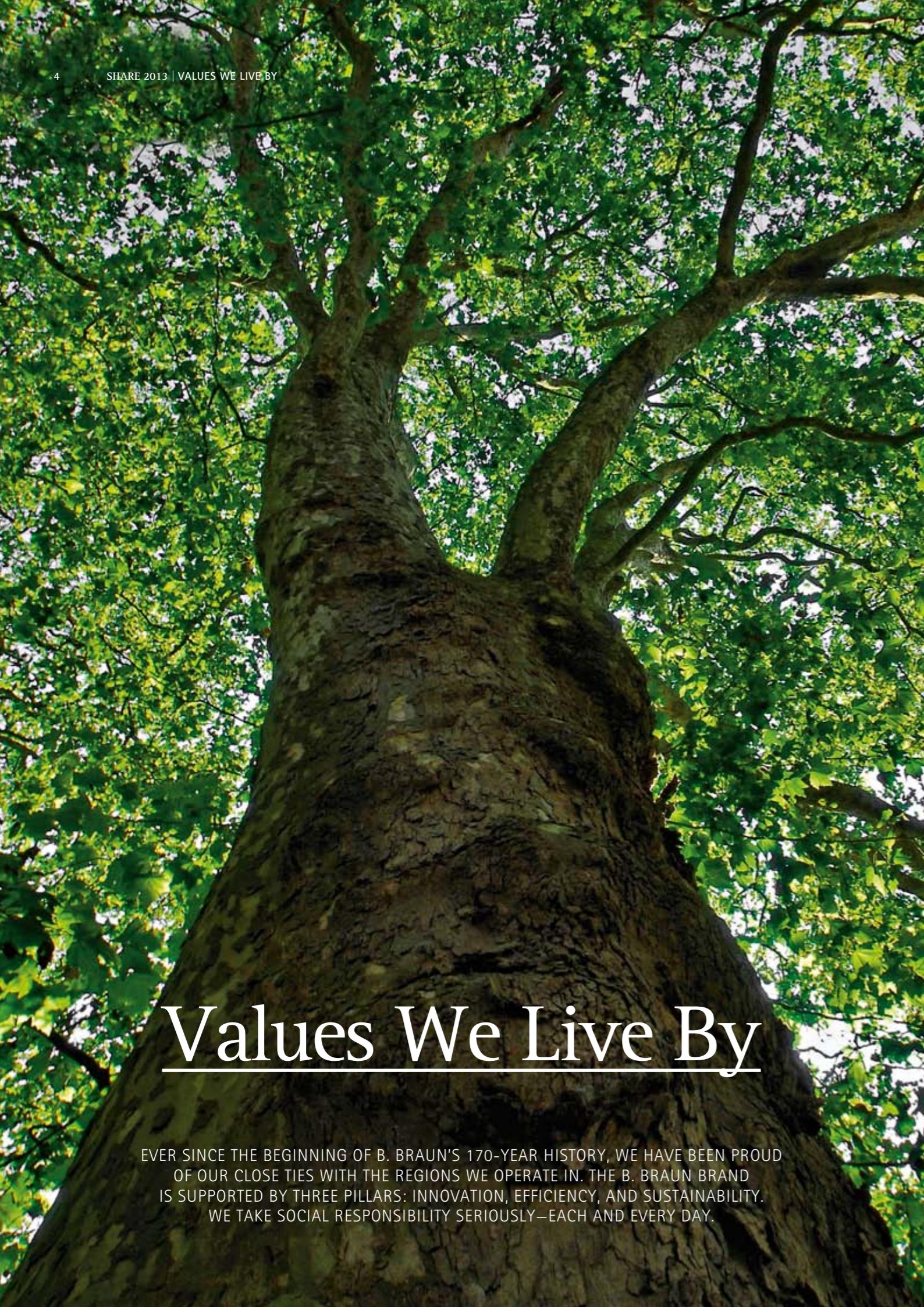
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Values We Live By

EVER SINCE THE BEGINNING OF B. BRAUN'S 170-YEAR HISTORY, WE HAVE BEEN PROUD OF OUR CLOSE TIES WITH THE REGIONS WE OPERATE IN. THE B. BRAUN BRAND IS SUPPORTED BY THREE PILLARS: INNOVATION, EFFICIENCY, AND SUSTAINABILITY. WE TAKE SOCIAL RESPONSIBILITY SERIOUSLY—EACH AND EVERY DAY.

PHOTOS: DARRELL GODFREY/GETTY IMAGES (LEFT)



CARLOS EDUARDO MAYRINCK
ADMINISTRATIVE ASSISTANT, B. BRAUN
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EDUARDO L. RODRIGUEZ
COUNTRY MANAGER, B. BRAUN AVITUM
PHILIPPINES



GENEVIEVE GALAS
TRANSPORT SPECIALIST FOR OVERSEAS
TERRITORIES, B. BRAUN FRANCE

Knowledge

We are putting B. Braun's "Sharing Expertise" slogan into practice in the area of sustainability too. What this means is that B. Braun is helping schools and universities to educate children and young adults. For me, sustainable management means environmental awareness combined with efficiency. At the pharmaceutical plant in Rio de Janeiro, for example, we have reduced our water consumption. This has lowered costs without affecting product quality. We also held a workshop in which we shared ideas on the subject of sustainability—and talked about how we can use new technologies to avoid waste and emissions. In addition, we discussed B. Braun's commitment to the region—our goal here is to create equal educational opportunities for all schoolchildren. For me, the workshop demonstrated most impressively how we can improve our understanding of sustainability issues through "Sharing Expertise." This understanding is the first step toward providing projects with targeted support in the future.

Regions

Social responsibility requires an overall concept. It is no good simply supporting individual projects here and there. B. Braun sees itself as a "corporate citizen" and is committed on a long-term basis to the regions in which it has sites—regions we know and where we know help is needed. In the Philippines we have adopted an orphanage and a public school in order to enable the impoverished children to live and learn free from worry and to provide them with opportunities for the future. Our commitment goes much further than this, however. Almost every month, B. Braun organizes a social event in the Philippines. We support senior citizens, typhoon victims, and sporting projects. We bring experts into contact with kidney patients at our "Kidney Patient Forum" and train nurses in dialysis at the Aesculap Academy. All these activities will make our region stronger over the long-term, and for us this is an indispensable part of B. Braun's CSR strategy.

Showing the way forward

I consider it important that B. Braun, as a company active in the health sector, adopts a sustainable approach. For me, showing the way forward means supporting numerous social activities. I help in an organization for visually impaired people and know from my own experience how important this commitment is. In addition, a pilot project recently launched by B. Braun in France has addressed my environmental concerns. In Paris, we are now testing the delivery of goods weighing between 30 and 400 kilograms by electric vehicle. As a member of the logistics team, I consider this a good idea and I wish I had thought of it myself! It means we are setting a good example, reducing our CO₂ emissions, and showing the way forward where environmental protection is concerned. In addition to all the other B. Braun initiatives, setting this example makes me proud to be an employee of this company.

30 Years of the German Hospital Championships**CLINIC KICKERS**

In 1983, B. Braun founded the German Hospital Championships in soccer. From their modest beginnings, the championships developed over the years into Germany's largest amateur soccer tournament—in 2012, 121 teams, made up of physicians, nurses, and other hospital staff, competed in Melsungen for the coveted title. The anniversary competition was won by Knappschaftskrankenhaus Püttlingen. This achievement earned the soccer players from the Saarland the right to represent German hospitals at Eurosprint 2012, the European counterpart to the German championships. Great results were achieved off the soccer field as well: the event couldn't have been organized without the help of numerous volunteers.



BRAZIL

Hunt for donations

Since 2009, B. Braun Brazil has organized an annual "Social Responsibility and Environment Day" on which employees take a comprehensive look at the topics of social responsibility and the environment. In addition to talks, workshops, and a book fair, this also includes a "scavenger hunt" for donations in which teams of employees collect donations in kind. The three teams who collect the most items win cash prizes and are able to choose organizations to receive the donations in kind or in cash. To date, employees have collected the following items:

30,645	diapers
12,952	items of clothing
11,679	food parcels
9,524	sanitary products
2,612	toys
1,219	tins of milk powder



BURKINA FASO

The path to self-employment

Thirty-eight hairdressers and nine bricklayers successfully completed their training in 2012. 145 apprentices have now also registered to learn the trades of tailor, electrician, or plumber. This is the achievement to date of the "Centre Anne Marie Brübach" in Koudougou, which B. Braun has supported since 2008. A dual training course is designed to prepare young people for the job market and protect them from poverty. Many of those who have completed courses are now taking the first steps toward self-

employment. The school would like to build on the success it has had so far. Closer collaboration with local companies, a boarding facility, and a shuttle for trainees who have to travel long distances are among the goals the center wants to realize together with local partners. The center's graduates should also receive professional career help in the future. In this, Koudougou, as a sister city of Melsungen, can count on further help from Germany.

PHOTOS: JEPPIER KLAUZEN/ISTOCK (BACKGROUND)



KENYA

Improved hospital safety

In Nairobi, senior managers within the Kenyan health system received further training on the topic of safety in 2011 and 2012. This 5-10 day training program was developed by B. Braun together with the Strathmore Business School and the "Deutsche Gesellschaft für internationale Zusammenarbeit" (GIZ). The "B. Braun for Africa" project aims to improve safety in Kenyan hospitals and to minimize risks for patients. It also aims to enhance mutual recognition of medical fields. The project will be financially supported by the German Federal Ministry for Economic Cooperation and Development. Nurse training programs are planned for 2013.

GREAT BRITAIN

Help from above

4,488 emergency responses: this is the total number of call-outs made by the "Yorkshire Air Ambulance" since it was founded in the year 2000. With its two rescue helicopters, this independent organization provides rapid emergency treatment from the air to the Yorkshire area, which is home to roughly five million people. This life-saving service is funded by donations: the daily costs alone amount to £7,200. B. Braun supported this project by collecting donations for a new helicopter which travels at speeds of over 250 km/h.

www.yorkshireairambulance.org.uk



AUSTRALIA

50,000

The patient vehicle donated to the Leukaemia Foundation by B. Braun travels kilometers per year. The purpose of this vehicle is to simplify journeys to and from treatment for patients suffering from Leukaemia. The Leukaemia Foundation has offered this service since 1999. These vehicles are used in particular for patients whose family members cannot drive them and for those who have no other means of transport. A friendly driver ensures a safe, punctual and stress-free journey to their appointments at the hospital or with their general practitioner or specialist. B. Braun has supported this organization since 2010.

www.leukaemia.org.au



STUDENT COMPETITION

It takes “concentration” to win first place

Hanna-Lena Wilhelm and Laura Hoven are the winners of the B. Braun student competition "New Researchers Needed" 2012. These two students from Edertal school in Frankenberg, Germany, impressed the judging panel, consisting of seven experts, with their research project: "The early bird doesn't always catch the worm: factors contributing to good powers of concentration." In their project, the students tested the powers of concentration of more than 1,000 of their classmates using a reaction test they developed themselves. The result: powers of concentration were not only dependent on age, stress, and illness, but also on the time of day and a person's consumption of alcohol and nicotine. Furthermore, the students with good powers of concentration also achieved good grades in school and exercised regularly. They also found that it was not only a lack of sleep that led to poorer powers of concentration, but also too much sleep!



In particular, the head of the judging panel Dr. Alexander Schachtrupp, Chief Medical Officer at B. Braun, praised the level of complexity and the detailed statistical processing of the results.

Both students received a cash prize of 1,000 Euros and the school also received 1,000 Euros for its science department. In addition, the winning team spent one day visiting the Aesculapium in Tuttlingen where they learned more about medical instruments and performed simulated operations.

The next student competition for "New Researchers Needed" will be announced by B. Braun in 2013. As in 2012, the topic will be "Wonders of the Human Body."

Student teams from the upper secondary level in Melsungen and the surrounding area are allowed to enter the competition.

INNOVATION

Keeping up-to-date



From using computers, we know that failure to carry out automatic updates poses a risk to speed and security. The same also applies to infusion pumps, which contain numerous programs and systems for infusions and are commonly known as "SMART pumps."

The information they contain relating to medication and treatments guarantees the safety of the patients, an improvement of working processes, and a complete documentation of the infusions. Until now, the

SMART pumps could only be updated manually, which was very complex and took up to four weeks. As a result, these updates were performed on a very infrequent basis which subsequently posed a risk for patients receiving drugs delivered by infusion pumps.

Employees have now solved this problem with the new B. Braun Space OnlineSuite.

This software platform contains different applications such as the Drug Library Manager, which centrally controls medication information for the B. Braun Space infusion pumps and compiles station-specific databases and sends these to all pumps in a matter of seconds. After switching off a pump, the new database is loaded in order to provide the new data for the next treatment. Thanks to online technology, a central storage platform, and decentralized access to all data, updates only take a few minutes, require only a minimum of staff attention and increase patient safety tremendously.

The development team of the Space Online-Suite won the B. Braun "Innovation Award" in 2011. It is already being used by numerous national and international clients; further installations are being planned.

→ **B. Braun** | www.space.bbraun.com

AESCLAP ACADEMY

75,950 specialists from the healthcare sector

...were trained by Aesculap Academy for a total of 1,710 courses worldwide during 2011. This is 13.7% more than the previous year. The conferences and workshops offered by Aesculap Academy ensure that healthcare professionals, specialists in hospitals and general practices, and the hospital management team are well trained for the future. Aesculap Academy has contributed to interdisciplinary communication and dialog in medicine since 1995 through its extensive range of training programs. New conference centers in Germany and Malaysia are planned for 2013.

www.aesculap-akademie.com

DOCUMENTA (13)

Unique and successful

In 2012, 860,000 people visited the art exhibition in Kassel, as well as several thousand press and trade representatives. Documenta is one of the largest contemporary art exhibitions in the world. Every five years, 150 artists from 55 countries exhibit their work for 100 days and impress an ever-growing audience. B. Braun was the official sponsor of DOCUMENTA (13), and curator Carolyn Christov-Bakargiev offered her personal thanks to company chairman Dr. Heinz-Walter Große during a visit to our headquarters in Melsungen. The promotion of art and culture is an integral part of B. Braun's commitment to the northern Hesse region.

www.documenta.de



B. BRAUN FOR CHILDREN

David is given a second chance at life



PHOTOS: EDUARDO KNAPP/DOCUMENTA 13 (P. 11 TOP)

In 2010, David Bala came to the Topsy Foundation with his mother. This organization offers free support to patients with HIV/AIDS in rural parts of South Africa and provides free medical care, social counseling, and educational programs. David was just three months old when his mother died. He was suffering from AIDS at clinical stage 4, tuberculosis, and weighed just 3.7 kilograms. Since then, his condition has significantly improved. His viral load is no longer detectable and he weighed 10.5 kilograms at the age of 21 months. He can walk, stand, and play—just like other children his age. His grandmother is incredibly happy: "I want to watch David growing up. He will go to school, he will learn, and he will help others, just like Topsy has helped him." B. Braun has supported the Topsy Foundation as part of its "B. Braun for Children" program since 2003.

www.topsy.org.za



Focus: Active Aging

The New Elderly

BETTER HEALTH, A LONGER LIFE, AND MORE MONEY—COMPARED TO PREVIOUS GENERATIONS, TODAY'S SENIOR CITIZENS ARE DOING VERY WELL. THIS IS AN UNPRECEDENTED SUCCESS STORY OF OUR CIVILIZATION AND SCIENCE. TODAY'S SENIOR CITIZENS ARE ABLE TO ENJOY THEIR OLD AGE AND REMAIN ACTIVE. AND THAT IS GOOD, BECAUSE IN AN AGING WORLD, THEIR CONTRIBUTION TO SOCIETY AND THE ECONOMY IS STILL NEEDED.

PHOTO: UTE MAHLER/OSTKREUZ

87 million Europeans are older than 65. 4.8 percent of them work. A third of them have done volunteer work.

Sitting on the sofa watching afternoon television? Never! Her days are filled. In the morning she teaches. Then it's time for gardening and housework. Twice a week she goes walking with friends in the forest, and once a week she does gymnastics. Every two weeks she reads to children in an elementary school. Gertrud Löns from Eppstein, Germany, is 78 years old. She has never been one for "loafing around and wasting time." For more than 30 years, she has been giving homework assistance, mainly to the children of migrants, and has set up a "schoolroom" in her home especially for this purpose. In November 2011, the German Minister of Education, Annette Schavan, presented Gertrud Löns with the Deutscher Bürgerpreis (German Citizen's Prize) for her lifetime of volunteering. For her, it seems natural that the elderly should help other people: "Many people in our area do this because they don't feel they are fully occupied. Often the elderly help those who are even older." The retired teacher adds: "And I like children."

This makes it sound as if older people have a lot more to contribute to society, if only the right platforms were created for this. It is certainly true that old and young people in Europe want more opportunities to work together to make a difference. According to a survey conducted by the EU Commission, almost two-thirds of Europeans feel these opportunities are lacking. Around the same proportion believes that the elderly are by no means a burden to society. On the contrary, almost everyone expects local authorities to do more to strengthen the relationship between generations.

This is good news for Europe—the oldest continent in the world, based on the average age of its citizens. Looking at senior citizens as a proportion of the total population, Germany and Italy are in the lead: more than one in five people in these countries are over 65 years old. The aging of societies is a worldwide trend thanks to medical advances and the associated rise in life expectancy. But Europe is the only region whose overall population is falling: from around 738 million in 2010 to 719 million in 2050, although there is great variety in developments within the individual countries and regions of Europe.

Africa's population is expected to grow over the same time period from 1 to 2.2 billion, Asia's from 4.2 to 5.1 billion, and Latin America's from 590 million to 751 million. North America is anticipated to have 448 million inhabitants by 2050. This is 96 million more than in 2010.

The main reason for Europe's shrinkage is its especially low birth rate. The average woman has 1.6 children. 2.1 children would be necessary to maintain a constant population. However, if there are too few young people, not only will society get smaller, it will get older too. The EU Commission sees this demographic change as the "central challenge" facing society. The reasons for this are as follows: the ever-declining proportion of people who work and the rising proportion of retirees place a burden on public budgets and social welfare systems. The aging and shrinking working population reduces the supply of labor. In addition, the demand for medical and care services and the corresponding specialists increases. László Andor, the EU Commissioner for Employment, Social Affairs, and Inclusion, stresses that "the key to meeting this challenge is 'active aging.'"

MONEY AND EDUCATION MAKE PEOPLE HAPPIER

The preconditions for this have never been better. The high standard of living in aging societies enables many senior citizens to live in their own homes, drive a car, use modern consumer electronics, and travel. According to an EU-wide opinion poll, two-thirds of Europeans over 55 describe their financial situations as good. Those with the highest purchasing power are the senior citizens of Luxembourg, followed by Austria, France, the Netherlands, and Germany.

An alternative perspective is provided by the "German Old Age Survey," which shows that well-educated people have a more positive view of their situation than people with a lower level of education. Also, men tend to be happier in old age than women. There is an obvious explanation for this: the financial situation of male retirees is significantly better than that of female retirees because men work longer and are better paid. Furthermore, women are generally less wealthy and live longer but →



often alone. Almost everywhere, the life expectancy of women is higher than that of men. In Germany, 78 percent of women over 85 are widowed, compared to just 37 percent of men. The reason for this is that they have a younger wife. This has advantages: they suffer less from loneliness, receive help in their everyday lives, are less frequently classified as needing care, and require hospital treatment less often.

In prosperous countries, the financial situation of older people can be far more comfortable than that of younger people—and often is. In Japan, for example, the savings of people over 60 are more than double those of their compatriots between 40 and 49 years of age. And they spend their savings too. In response to the needs and purchasing power of this growing section of the population, a “silver market” has developed in Japan. Easy-to-use products are part of an innovation strategy and are welcomed by younger people as well. One example is the “Raku Raku Phone,” a cell phone with large buttons, intuitive operation, and manageable functions. New, user-oriented developments of this kind reach a wide public. However, those who want to successfully serve the silver market in the future will need to focus on price as well as user orientation. It is already becoming clear that future generations of retirees will not enjoy the same level of prosperity as the senior citizens of today. Disruptions to people’s work history and economic crises will have an impact on their old age—and not only in Japan.

The issue of “active aging” has not only been occupying the EU in 2012, which has been named the “European Year for Active Aging and Solidarity Between Generations.” In the fields of employment strategy, public health, and the information society, the EU introduced various initiatives to promote active aging a number of years ago. The European year

is part of a multi-year strategy (2011–2014). Its aim is to promote active aging through campaigns, conferences, projects, and networks.

One of the many initiatives supported by the EU is “Successful Aging in a Networked Society,” or AGNES for short, a collaboration between twelve institutions in six countries. The goal of AGNES is to network older people with their friends, relations, and caregivers by means of electronic media in order to improve their well-being and to extend the length of time they

are able to live independently in their own homes. The users are not required to be especially computer literate. “Many older people can already use smartphones or tablets,” explains Gerald Bieber of the Fraunhofer Institute for Computer Graphics Research in Rostock. “However, AGNES supports simple, uncomplicated interaction through new operating concepts and devic-

es. The emphasis here is on speech, visual, and sensory interfaces that do not rely on any basic computer knowledge.”

Thus the AGNES developers use camera-based sensory recognition combined with data on physical activity from a cell phone or special wristwatch. Via the “ModernFamilies” social network of the Austrian technology start-up by the same name, the information is transmitted to the friends and family members the users specified in advance. The system is currently being tested by senior citizens in Sweden, Greece, and Spain. John Waterworth of Umeå University in Sweden, which is leading the project, reports: “The first results show that the psychosocial situation of the test groups has improved slightly.” However, as well as making the users feel better cared for and networked, and providing them with enjoyable intellectual stimulation, AGNES supports independence. “We believe the system can postpone the start of mental deterioration in old age. This also



It is already becoming clear that future generations of retirees will not enjoy the same level of prosperity as the senior citizens of today.



MARÍA CLEMENTE, 75
FORMER B. BRAUN EMPLOYEE AT THE RUBÍ PLANT IN SPAIN



PHIL CRUZ, 62
HEAD OF THE AESCULAP ACADEMY IN MANILA, PHILIPPINES



HANS KRUG, 68
FORMER B. BRAUN EMPLOYEE IN MELSUNGEN, GERMANY

Maria Clemente worked at B. Braun from 1973 until 2000. Since her retirement, she accompanies older people to gymnastics and yoga courses at the “Residència Gent Gran de Rubí” old people’s home. She also helps those in need of care to take their meals and accompanies senior citizens with mobility difficulties on day outings. In Rubí, María Clemente visits classes of 8-to-14-year-old schoolchildren. She talks to them about her childhood after the Spanish Civil War. Her vivid accounts of picking wild fruit, growing vegetables, and knitting one’s own clothes give her listeners much food for thought. The school principal in Rubí initiated this collaboration with María Clemente. The 75-year-old’s stories were intended to give the younger generation a sense that in many respects, life used to be far more difficult in days gone by than it is today.

Phil Cruz has been working for B. Braun for eleven years. During this time he has developed the Aesculap Academy in Manila into a recognized training partner in the health sector. In 2011, 19,017 individuals attended 303 courses. This commitment is particularly valuable in the Philippines, where structures for the professional development of healthcare professionals are in their infancy. The B. Braun slogan “Sharing Expertise” applies not only to Phil’s day-to-day work, but also to the man himself. He takes enormous pleasure in developing new training modules in conjunction with medics and care staff. In doing so, he never loses sight of the fact that new content and learning methods should always deliver an immediate benefit to the work of the participants. However, Phil’s commitment also goes beyond training. He loves trees and knows the names of numerous species. In his free time he likes to plant indigenous trees—in the garden, with staff, in the context of B. Braun’s environmental measures, or simply in the forest with friends.

Hans Krug worked for B. Braun for 27 years, ultimately as an ergonomist in the human resources department. Since retiring, he has been one of ten mentors in B. Braun’s Perspective Plus program. These one-year programs are designed to prepare young people with learning difficulties for an apprenticeship. As a mentor, Hans Krug helps participants of this program to plan their career. He gets to know them by talking to them, gains a feel for their talents, and advises them on what kind of apprenticeship would suit them best. He arranges internships in suitable companies, goes through their application documents with them, and holds practice interviews. Around two-thirds of these young people find training places with the help of the mentors. Hans Krug’s daily planner is also filled with other activities: for 38 years he has been honorary president of a mixed choir in his home town, Deute, and for 17 years he has been a member of the committee of the “Central German Choral Association.”



**3 percent of Africans are 65 or older.
In Asia the figure is 7 percent.
In the US, 16 percent are in this age group.**

When the older people themselves are asked, most of them think that they are healthy. However, regular exercise plays less of a role for the elderly than for younger people, and it is more common to be overweight than normal weight in older age groups. Senior citizens smoke far less—probably because smokers, as European statistics indicate, do not tend to live to a very old age. According to WHO data, smoking is responsible for prolonged and common ailments that can result in death, such as cardiovascular disease and cancer. A healthy lifestyle therefore helps people not only to live longer but also to be more productive. And this needs to be maintained in order to enable older people to work longer, thereby ensuring a higher standard of living.

The average age of retirement in OECD (Organization for Economic Co-operation and Development) countries is too low, according to Secretary General Angel Gurría. It is currently 63 years for men and 62 years for women. In consideration of the average life expectancy at the time of retirement—18 and 23 years respectively—older people still have plenty of time remaining to increase their pensions. Or to continue offering their expertise to their former company. In Gurría's view, costly retirement at 57, as has been the case until now in Greece and Slovenia, has no future. The start of retirement should be linked to life expectancy, he claims. Under such a system, retirement at 67 could still be too early. Most OECD countries have already decided to extend the working lifetime, albeit in small stages.

RETIRING FROM WORK IS HAPPENING LATER AND LATER

In many countries, it is already common for older people to keep working. In Japan, for example, people over 65 make up around 9 percent of the employed. In the US the figure is 4.6 percent. At around 3 percent, Norway has a very high number of men and women over 65 at work compared to other European nations. In Germany the figure is about 1.8 percent, although that number is increasing. It is far more common for retirees to conduct volunteer work for society than to work for pay. In Europe this applies to a third of retirees. The proportion

varies considerably from country to country depending on the tradition of volunteer work and the available opportunities. In the Netherlands, Finland, and the United Kingdom, around one out of every two senior citizens is active in his or her community, while in the Czech Republic and Bulgaria the figure is only one in eight.

If a society wants to have energetic older people, there is a good chance that they can become interested in a wide variety of tasks in the economic, cultural, and social spheres. Along with his team of researchers, Professor Andreas Kruse, Head of the Institute of Gerontology at Heidelberg University, has compared change in the lives of the elderly across seven countries. He concludes that neither the idea of old age nor old age itself are simply “a reflection of quasi-natural biological processes or social positions.” Old age, and what a society associates with it, is therefore at least to some extent a social construct. And this can be transformed: “In recent years, all countries have changed or created framework conditions that have helped the potential of the third stage of life to be better recognized and exploited.”

This change is due to political leaders, employers, institutions, and the senior citizens themselves. Laws alone, says Kruse, have not yet resulted in the necessary acceptance of older age—this, he claims, is partly the result of social and cultural development: “Bringing old age successfully into the public arena, and giving older people an opportunity to demonstrate what they are capable of and what is special about them, is helping to change society’s images of old age—in the direction of a positive assessment and a differentiated perspective.” In the US, for example, scientific studies and heated public debates have eliminated prejudices including assumptions of high levels of frailty, declining psychological and social skills, and poor appearance in old age. The view of older people has changed, stresses Kruse, due to the fact that numerous programs have been initiated to maintain health during the second half of life. Older people in the US are working longer than in Europe and also show a high level of voluntary →

commitment and willingness to donate money. They also look good—more cosmetic operations are carried out in the US than any other country in the world.

The nation with the second highest number of cosmetic procedures is Brazil, and the existence of a certain cult of youth in this very young country cannot be denied. But this society is too varied and dynamic to allow itself to be classified by age. Whereas in Germany terms such as the “third” and “fourth” age have become established in public discussion (referring to the period between 65 and 75/80 and the time afterwards), divisions of this kind in Brazil are rather different. There, even 45- to 50-year-olds are considered old. This makes sense when one considers the average age in Brazil: 29. In Germany the average is 44, in the US 37, and in Japan 45. In Brazil, however, whether someone is seen as old depends to a certain extent on their income. “One wouldn’t really describe a wealthy person as ‘old,’” reports Andreas Kruse. “But one would say that about a poor person.” At the same time, women from lower social classes who manage and feed their families alone have an extremely positive self-image, even in old age, observes the researcher. The fact that Brazil sees itself as a *pais jovem*, a youthful country, does not matter in this case. And yet it is true.

NEWLY-INDUSTRIALIZED COUNTRIES ARE AGING FASTER

The prospering country has an extremely high proportion of people of working age. The experts call this a “demographic bonus.” Yet here too, society is aging, and at a far faster rate than in

Europe. The reason for this is that in newly-industrialized countries, the causes of demographic change come into effect later than in industrialized countries—but they all occur at almost the same time. In Europe, life expectancy began to increase in the middle of the 19th century and the birth rate started to decline at the beginning of the 20th century. In Brazil, both have been happening since the middle of the 20th century. The consequences of this are, first, high population growth due to sharply declining mortality in all age groups. Recently, Brazil’s fertility rate has dropped to 1.9, in other words below the replacement rate. By the 2040s, the population will already have started to stagnate and then contract. Within a period of just 20 years, between 2020 and 2040, the number of people over 64 per 100 people of working age will almost double. Over the following decades, this proportion will rapidly approach that of elderly countries like Sweden, or, depending on the fertility rate, develop even less favorably.

Fortunately, Brazil has resources to prepare for the future: economic growth and the current favorable population structure. However, these opportunities are not being exploited to the necessary extent, criticizes Professor Rodrigo R. Soares of the Pontifícia Universidade Católica do Rio de Janeiro. Expenditure on the current social welfare system, which benefits old-



BRAZIL IS CONSIDERED A PAIS JOVEM, OR YOUTHFUL COUNTRY. YET ITS SOCIETY IS ALSO GROWING OLDER, AND COMPARED TO EUROPE THE PROCESS IS HAPPENING EVEN FASTER.

Brazil has a high proportion of people of working age. Experts call this the “demographic bonus.”

In Germany, incidentally, the proportion of GDP spent on education is no higher. It comes as no surprise, therefore, that Gertrud Löns sees a need for action in this area. In 2010 she and her husband founded the “Eppstein Fund for the Support of Children and Young People in Need” and endowed it with 200,000 euros. Among other things, the foundation finances study grants and remedial education. Gertrud Löns is hoping that young people will be successful and “that they will have good career prospects and not sink into poverty.” The retiree is doing everything she can to make this happen.

→ [Find out more](#) | European Union, European Year for Active Aging and Solidarity Between Generations, www.europa.eu/ey2012



PHOTOS: MARTA NASCIMENTO/REALEAF (LEFT); YASUO YOSHIDA/GETTY IMAGES (RIGHT)

When the Body Grows Older

ALTHOUGH TODAY'S OLDER PEOPLE ARE FITTER THAN EVER, AS WE GROW OLDER, OUR PHYSICAL AND MENTAL LIMITATIONS SLOWLY BUT STEADILY INCREASE. SOLIDARITY BETWEEN THE GENERATIONS ALSO MEANS UNDERSTANDING THESE LIMITATIONS, RESPECTING THEM, AND RESPONDING TO THEM.

GASTROINTESTINAL SYSTEM

Hormonal balance alterations that take place in old age lead to changes in the regulation of hunger and satiety. This is mainly due to slower stomach evacuation and the faster release of satiety hormones. In addition, appetite and enjoyment of food can be reduced by chewing problems, medications, and depression. Unless eating habits are readjusted, deficiencies can develop. An ongoing nutrient deficit can result in significant physical disorders and affect important organ functions. With its Nutricomp® range of liquid foods, B. Braun provides a nutritionally complete dietary food aimed at preventing and treating malnutrition.

→ **B. Braun** | www.nutrition-partner.com

BLADDER

From the age of 35 onward, the risk of urinary incontinence increases. Three-quarters of those affected are women. Weakness of the bladder damages one's self esteem and often leads to a lack of confidence in dealing with other people. Pelvic floor training strengthens the muscles in that area and can alleviate the problem. Another possibility is use of the Actreen® Lite Mini, a small intermittent catheter from B. Braun, which is ideal for people on the move.

JOINTS

The joints have to bend, twist, and carry our weight throughout our lives. This is not without consequences. Older people are far less mobile than young people. Fine motor skills also deteriorate. The risk of suffering from osteoarthritis increases significantly with advancing years. Around two-thirds of people over 65 are affected by the disease. It often becomes necessary to be fitted for an artificial joint.

→ **B. Braun** | www.shorthip-patients.com

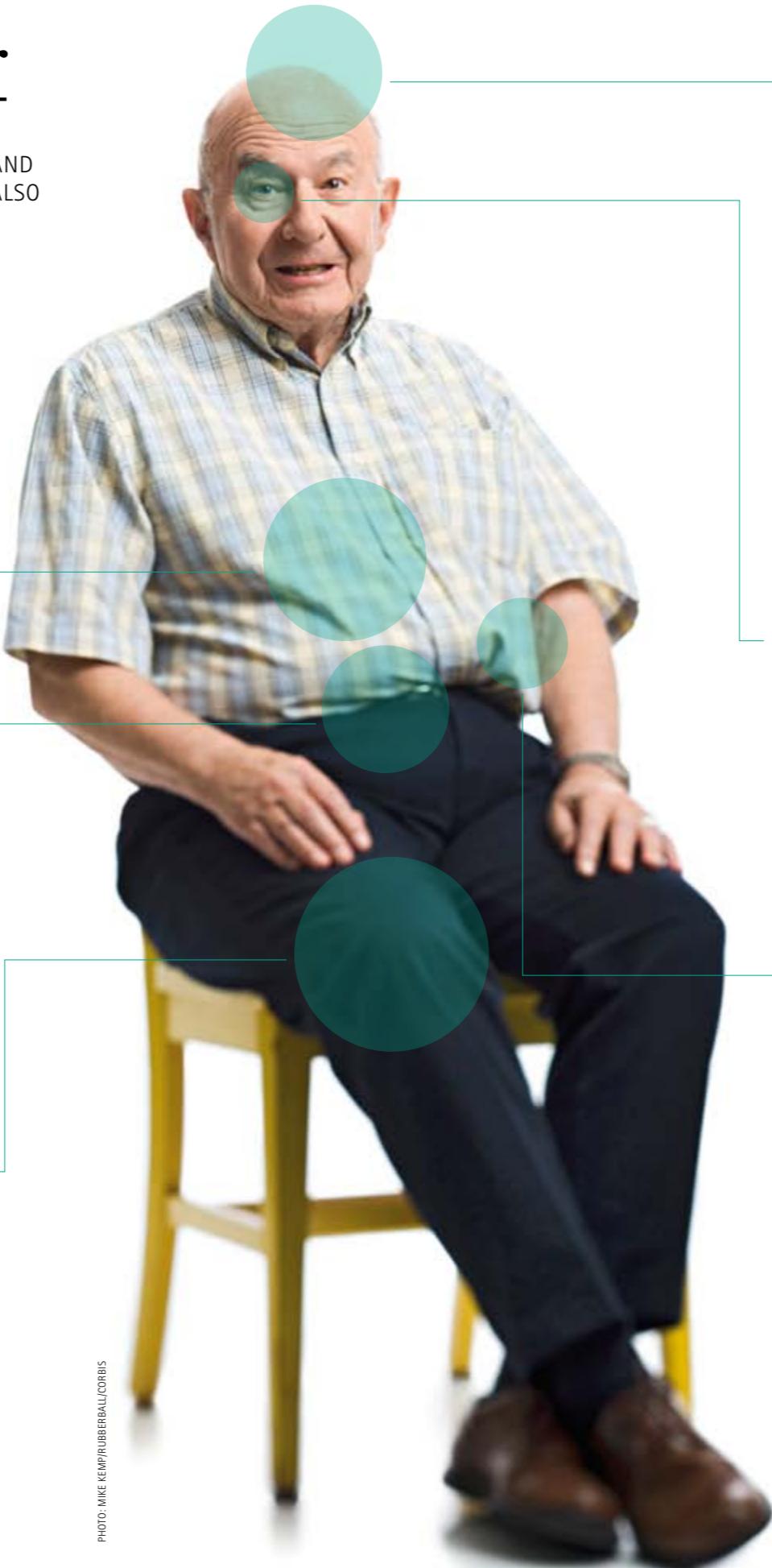


PHOTO: MIKE REMP/RUBBERBALL/CORBIS

BRAIN

The frequency of dementia increases significantly with age, although dementia illnesses need to be differentiated from the brain's normal aging process. The latter also affects memory function, responsiveness, and the ability to learn, but these are often compensated by life experience. Furthermore, for many of those affected, a deterioration in intellectual capacity is also a symptom of normal pressure hydrocephalus (NPH). In a relatively minor operation, a B. Braun Aesculap MIETHKE shunt system can be implanted, which drains excess cerebrospinal fluid and significantly improves memory function.

→ **B. Braun** | www.bbraun.com/neurosurgery

EYES

So-called age-related farsightedness starts at around 45 years of age. Because the eye's lenses gradually lose their elasticity, it becomes impossible to focus on close objects without glasses. Older people need a lot more light than younger people in order to see well. Also affected are color and depth perception, as well as the eye's ability to adapt to different light conditions.

KIDNEYS

The filtering performance of the kidneys declines with old age. It is assumed that healthy 80-year olds will only have around 65 percent of their renal corpuscles remaining. Diseases such as diabetes, high blood pressure, and vascular damage can also result in chronic kidney failure. Dialysis is one way of replacing kidney function. B. Braun Avitum develops and manufactures dialysis machines that use a special filter to clean waste products and remove excess fluid from the blood.

→ **B. Braun** | www.bbraun-dialysis.com



Tracy Gillespie

AGE: 45**POSITION:** Senior Staffing Specialist at B. Braun, coordinates the "Business and Education Partnership" with Catasauqua High School in Allentown, Pennsylvania, USA**FAMILY:** married, three children**HOBBIES:** reading, making jewelry, attending her children's sports events

"I Really Saw the Light Bulb Go Off in these Kids' Heads!"

TO HELP STUDENTS PREPARE FOR EMPLOYMENT AFTER GRADUATION B. BRAUN AND THE CATASAUQUA HIGH SCHOOL TEAMED UP IN 2010 AND CREATED A CAREER AWARENESS CLASS. B. BRAUN EMPLOYEE TRACY GILLESPIE HAS BEEN IN CHARGE OF COORDINATING THE PROJECT SINCE ITS INITIATION.

share | The "Business and Education Partnership" is now already in its third year. What makes this project so exciting?

Tracy Gillespie | For the school the main reason for offering a career awareness class is to help students find out what career they might want to pursue. And what could be a better way to do that than to have employees from a well-respected company like ours come and work with them. For us at B. Braun, this project presents a great way to support our community and it allows volunteers from various departments throughout the organization to make a personal connection with the students.

As the first step of the program the students come to visit your manufacturing facility, located only five miles from their school. What do you show them there?

We give them a tour and they can ask us questions about the types of careers we offer and the education you need for a specific job. To show them how we work here, we have them assemble critical care kits. But instead of actual medical devices we use candy. Obviously, they love that! It also gives us the opportunity to talk to them about quality issues and a clean room environment. These are things that they don't necessarily learn about in school.

When you and the volunteers from B. Braun go into classes at Catasauqua, what do you teach the students?

It's a mandatory class for all of the ninth graders and we visit them four times throughout the school year. Each time we present a different segment to them: health and human services, arts and humanities, business, and engineering. We make an effort to show them what kinds of jobs are out there and which skills are important. We try to encourage them to think outside the box and to apply the concepts they've learned in school. I work on a portion of the arts and humanities segment where we do a personality test with the kids. I think this is really interesting for them and it helps them to become more self-aware about what they would like to do.

What has the reaction been to this project so far?

I think the kids have really had a good time. The engineers are constantly developing new experiments, which require the students to work in teams in order to come up with a solution to a given problem. They really enjoy that because it's different from sitting at a desk and listening to a teacher and, more importantly, because it forces them to be creative and think critically. After the great success of our first year, we added another career awareness class for the eleventh grade. We went a little bit more in depth here. For example, we held mock interviews with each of them and gave them feedback on what they need to work on. What's important is that as a company we have an outside perspective and know what students need to be successful in a corporate environment. The teachers feel this really adds a lot of value to their classes. And it allows us to have our finger on the pulse of what kids are learning today and what might be lacking that we can add.

Do you enjoy your work with the teenagers?

I graduated from Catasauqua High School myself, so it really holds a warm place in my heart. And we've gotten so much positive feedback from the students, which is rewarding for all of the volunteers. What I enjoyed most is that I really saw the light bulb go off in some of these kids' heads! They noticed that there are a lot of things they need to start thinking about even now. For example, these students now realize how important it is to have things like leadership or extracurricular activities on your résumé.

What advice would you give students who are still trying to figure out what to do in life?

Nowadays, there is such a wealth of information out there, whether it's on the internet, in school or participating in a program like ours. Young people should use that and talk to people or do some research on what they would like to do and what it takes to get there. The best advice I can give them is to take their career into their own hands.



Long-term Assistance

A LONG TIME AGO, THE INTERNATIONAL COMMUNITY REACHED AN UNDERSTANDING ON REDUCING THE CATASTROPHIC CONSEQUENCES OF NATURAL EVENTS. FOLLOWING EMERGENCY RELIEF, LONG-TERM MEASURES SUCH AS REBUILDING DEVASTATED REGIONS AND PREVENTING FUTURE DISASTERS ARE BECOMING INCREASINGLY IMPORTANT.

A VOLUNTEER HOLDS A CHILD DURING A POWER FAILURE IN A HOSPITAL IN HAITI. THREE YEARS AFTER THE EARTHQUAKE, THE ISLAND'S MEDICAL INFRASTRUCTURE IS STILL OVERBURDENED.

PHOTO: ANDREW LICHENSTEIN/CORBIS (LEFT)

Port-au-Prince, January 12, 2010, 4:53 p.m. local time: an earthquake measuring 7.0 on the Richter scale occurs. Within a brief space of time, parts of Haiti are devastated, hundreds of thousands of people lose their lives, and an unbelievable amount of damage is caused. Specialists like Birgit Zeitler, project manager in the emergency relief section of the aid agency Welthungerhilfe, which combats global hunger, receive a call. A crisis meeting is quickly followed by mission planning and then a flight to the affected area. "Welthungerhilfe is already present and collaborating with local partners in the countries that need emergency relief," she reports. This helps it to acquire a rapid overview.

Zeitler's task is always to ensure the survival of those affected and provide them with security. This includes food, drinking water, blankets, and tents. Aid organizations place an emphasis on different aspects according to their own individual focus. Doctors Without Borders, for example, set up an inflatable hospital and treated more than 173,000 patients in the first four months. The aim of emergency aid is to rescue as many people as possible

820
natural disasters*

90 %
caused by the weather*

and to prevent the collapse of the infrastructure from resulting in more victims. No more than three months later, Birgit Zeitler returns home, but during this period, Welthungerhilfe will already have started the second stage of its disaster aid: reconstructing roads and the water supply and repairing buildings. Securing livelihoods and food supply, one of the organization's core skills, also begins as early as possible. After the earthquake, Welthungerhilfe explored the new coastline with local fishermen in order to define the relevant fishing grounds. Together with farmers, it investigated the buried springs necessary for the irrigation of their fields. It helped to rebuild craftsmen's workshops and repair roads, partly so that farmers and traders could sell their goods.

In order to be able to provide sustained assistance, the aid organizations rely on support from international politics and on donations from businesses and private individuals. This enables Doctors Without Borders, for example, to gradually build new clinics in order to provide the population with medical treatment. Here, collaboration with companies in the healthcare sector is essential, and in-kind donations such as infusion equipment and

drugs are welcome. During the reconstruction process, the Red Cross focuses on water and sanitary facilities, food supply, and safe accommodation, which is earthquake- and flood-proof depending on the nature of the risk. It implements hygiene measures and carries out training in order to prevent epidemics such as cholera.

Small regional initiatives provide the people affected by disasters with long-term prospects so that they can gain control of their own lives once more. They provide ongoing psychological and health counseling and support the education of needy children and young people. Such initiatives depend on a continual flow of financial resources and on volunteers who can provide sustained support. They distribute aid at a local level and suggest partners and sponsors, thereby creating a long-term relationship between the helpers and the people affected.

Depending on severity, location, and structural conditions, B. Braun supports international aid organizations and regional initiatives. For example, when the earthquake occurred in the Emilia Romagna region in northern Italy in May 2012, the company launched a campaign for donations among the staff and rounded up →

295

billion euros of damage*

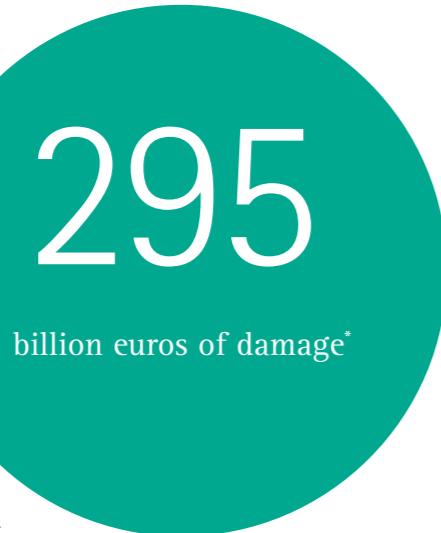
the amount collected. This raised around 50,000 euros for the victims, which was distributed by the Rotary Club to those in need in the earthquake region.

Since the end of the 1980s, the UN has been increasing its ongoing efforts to reduce disaster risk. Its most important tool is the "Hyogo Framework for Action" (HFA). The five HFA imperatives are: making disaster risk reduction a priority; knowing the risks and setting up early warning systems; creating awareness; combating additional risk factors such as deforestation; increasing disaster preparedness.

Margareta Wahlström, the head of the responsible office, the UNISDR (United Nations International Strategy for Disaster Reduction), reports that implementation is very uneven. Although there are early warning systems, the inclusion of disaster risk reduction in development planning is still inadequate. "Governments, businesses, and individuals have not yet properly understood how big the economic damage is when disasters occur," she stressed. "It is important to know that in this century alone, the damage caused by disasters is 1,380 billion US dollars—and that's a conservative estimate."

The International Federation of Red Cross and Red Crescent Societies (IFRC) has known for a long time that ongoing aid pays off. "The analyses have shown that prevention is better than merely reacting to an event and that the national programs are cost-effective," explains Mohammed Mukheir, IFRC Head of Disaster Preparedness and Response in Geneva. "The cost-benefit ratio was between 2 and 55. Values above one indicate that benefit exceeds cost."

The IFRC is also promoting standards, such as the Code of Conduct, that



Governments have not yet properly understood how severe the damage is when disasters occur.

will serve others as a benchmark. One of its principles is to structure the emergency relief in such a way that it reduces future vulnerability and helps people to lead a sustainable lifestyle. Another well-established concept is the linking of relief, rehabilitation, and development in order to provide a smooth transition from emergency aid to follow-up measures. "Ultimately," says Mohammed Mukheir, "it is important to ensure that enough time and money are available and that the success of the measures is monitored and evaluated."

Admittedly, the relationship between disasters and complex processes like climate change and the overexploitation of resources makes the task of fighting disasters more difficult. Nevertheless, ongoing disaster relief is the right way forward. In addition to its early warning system, the way a country or region copes with disasters also depends on its economic base. Reconstruction therefore has to include securing well-paid livelihoods: this is how citizens will obtain the necessary resources for difficult times—and their prevention.



JAPAN

In March 2011, an earthquake of 9.3 magnitude hit the Japanese island of Honshu first, followed by a tsunami of 700 kilometers that hit the eastern coastal regions. Images of the accident that subsequently occurred at the Fukushima nuclear power station went all around the world. Nearly 20,000 people lost their lives and over 400,000 had to abandon their homes. B. Braun employees all over the world organized fund-raising campaigns. In addition to other contributions, B. Braun Japan donated the budget for its own 25th anniversary celebration in order to support reconstruction efforts in the Miyagi, Iwate, and Fukushima prefectures. B. Braun Japan will also donate a proportion of its sales revenue over the next ten years to local aid organizations caring for orphans and affected families in these regions. In doing so, the employees want to help give these young people a normal life, restore their hope, and provide them with career prospects.



BRAZIL

In 2011, the Brazilian province of Rio de Janeiro was flooded. In the city of São Gonçalo alone, over 8,000 people were made homeless. With the support of B. Braun, the aid organization CARE Brazil provided emergency relief, supplying 316,000 liters of drinking water, 350 food parcels, and 1,000 hygiene packs. It also helped to repair 100 roofs. A major problem was poor water quality. B. Braun helped the population by holding awareness events and testing the water. CARE also set up a medical center and helped women to establish a modest livelihood, which is very important for their families' survival.



PAKISTAN

In 2010, almost 20 million people were affected by the worst flood in 100 years. The flood region was as big as Switzerland, Austria, and Belgium combined. Over 400 medical establishments and 7,000 schools were destroyed. B. Braun employees throughout the world raised funds for Pakistan. Our employees in Pakistan donated a day's salary, offered material assistance, and distributed drinking water and food. B. Braun offered medical products and consumables to various aid organizations involved in medical relief efforts. In conjunction with teams from the Pakistan Medical Association, over 15,500 patients were treated. B. Braun is providing long-term assistance with the treatment of illnesses such as diarrhea, respiratory diseases, measles, and tuberculosis. "Two years after the flood, we still have a long way to go," says Dr. Hashmi Zaffar, Country Manager of B. Braun in Pakistan. "We are in constant contact with aid organizations, volunteers, and the regions in order to discuss the next steps. We are fighting alongside the victims to help them normalize their lives."



MALAYSIA

In 2008, B. Braun, in conjunction with the General Hospital and the Mental Health Association in Penang, set up a team specializing in the care of traumatized children. Children are often acutely affected by disasters particularly because they find it difficult to process their experiences emotionally. They suffer even more than adults from consequences such as flashbacks, stress, anxiety, and concentration difficulties. The doctors, psychologists, social workers, and therapists of the Penang Child Trauma Psychosocial Response Team attend workshops in which they learn even better techniques for the treatment of the affected children and restore their courage to face life. B. Braun continues to lend their support by providing opportunities for local professional practitioners and NGOs to learn from overseas trained experts in this field such as Dr. Sue Jennings, an acclaimed therapist from Great Britain who specializes in trauma and neuro-dramatic play therapy.



THAILAND

In December 2011, almost all of Thailand's provinces were affected by the worst floods for fifty years. B. Braun supported the Caritas project "Medical Help for the Poorest," which provided first aid boxes and trained voluntary medical helpers. This enabled the helpers to identify, treat, and document medical emergencies in poor districts. B. Braun employees in Thailand helped the Ban Klong Chao Muang School in Pathum Thani to cope with the aftermath of the flood. They repaired facades and walls and helped to renovate and equip the school library and multi-media room. B. Braun Thailand also raised money for a fund that will finance scholarships for at least 45 children from impoverished families and purchase books for the school library.



PHOTO: BRUNNEN/GETTY IMAGES

Wheels on Fire

THE IMAGE OF KAREN DARKE AND BRITISH TEAM-MATE RACHEL MORRIS CROSSING THE FINISHING LINE HAND-IN-HAND WAS ONE OF THE DEFINING MOMENTS OF THE LONDON 2012 PARALYMPIC GAMES. WHILE THAT DECISION COST KAREN HER SECOND HAND-CYCLING MEDAL OF THE TOURNAMENT, THE WIDER LEGACY OF THE GAMES WILL BE AMPLE REWARD FOR HER EFFORTS. B. BRAUN IS AN IMPORTANT PARTNER FOR THIS EXCEPTIONAL ATHLETE.



KAREN DARKE (RIGHT)
AND RACHEL MORRIS
HAD BOTH HOPED TO WIN
BRONZE MEDALS. IN THE
END, ONLY MORRIS DID.

With just seconds to go in the gruelling 48-kilometer race, Karen Darke and her British teammate Rachel Morris made a decision which was to make headlines around the world. Their American rivals in the hand-cycling H 1-3 road race final had built an unassailable lead and were destined to take the gold and silver medals. Instead of Karen and Rachel competing with each other for the bronze they decided to cross the finish line at the Brands Hatch circuit together.

"We had worked so hard together over the last three years that it just didn't seem right for one of us to cross the line ahead of the other," explains Karen. While Paralympic officials ruled that Rachel Morris had to be awarded the bronze medal as she was a fraction ahead in the photo finish, Karen has no complaints about the decision. "It was Rachel's gold-medal winning performance at Beijing which had inspired me to try and get to the London 2012 Paralympics in the first place. She also hadn't had the best year leading up the finals and she perhaps needed the medal more than me," she says.

"There was some criticism of what we did and perhaps it wasn't the best decision. But in that moment on the track it felt absolutely the right thing to do and the reaction of most people has been that it really summed up the underlying spirit behind the games." Karen herself had already secured a

silver medal in her first race of the games, the 16-km time trial where she finished behind Muffy Davis of the USA.

"I had been visibly nervous ahead of that race, something which rarely happens to me, and a few things went wrong in my warm-up including getting a flat tire. But when I got out onto the track I just gave it everything I could – that's why it is known as the 'race of truth'! I was always going for gold but realistically I'd never done better than bronze before so it was a fantastic result for me." Making the podium at a home Paralympics will be a memory which will live with Karen, 41, forever. "I didn't really feel it was about me when I was getting my medal but about the whole team who had helped me get there – my coach, partner, British Cycling, sponsors and all my family and friends."

The silver medal was the culmination of four years' hard work since Karen had watched the last Paralympics in Beijing from her bed as she recuperated from an injury sustained during a sea-kayaking adventure. "It was the first time hand-cycling had been in the games and it just looked amazing. With the next Paralympics being staged in the UK I just thought it would be fantastic to try and get there," says Karen, who was born in Yorkshire, England, but now lives in the Scottish Highlands. "Hand-cycling also gives me a real sense of free-



dom. It's pure pleasure to be out of my wheelchair, to be feeling some speed and the wind through my hair," she explains.

A NATURAL ATHLETE

Whether Karen would have the physical attributes to make it to the top of the sport was unknown but the mental strength which would be needed to be in contention for a place at the 2012 games was never in doubt. A year before the Beijing games she had scaled El Capitan, at one point hanging off an overhanging precipice a kilometer up a granite rock face in America's Yosemite National Park. It was the first time she had been climbing since being paralyzed from the chest down in an accident on sea-cliffs in Scotland 20 years ago when she was 21.

"Overcoming my doubts about climbing and dread of heights, getting back on the ropes and working through the fear had been the biggest mental challenge of my life and was something I was often able to draw on as I prepared for the Paralympics." Before her accident, Karen had already climbed Mont Blanc and the Matterhorn and her injury didn't diminish her passion for sport and the outdoors. The year after her fall she competed in the London Marathon in her wheelchair and went on to take part in a series of adventures including hand-cycling across Japan and biking over the Himalayas.

"The things I've done haven't been about trying to prove anything to anyone; it's just who I am and what I like to do," she stresses. While her life had changed in an instant when the accident happened, Karen reflects on the positives. "The opportunities and experiences I have had since becoming paralyzed make me reflect on it as a huge gift – it has given me so much. I'd always thought before the accident I'd rather be dead than paralyzed. One slip and in a moment everything changes. But when you find yourself in unusual circumstances you experience the world in a very different way and I think there is something very positive in that."

While a next expedition was never far from her mind, the last three years have seen Karen devote an increasing amount of time to hand-cycling. After winning bronze in two races at the Paracycling World Cup, British Cycling got in touch and her journey to London 2012 began in earnest. Although she had always maintained a high fitness level, the training required to have a chance at competing at the Olympics was on a different scale. "The training was tough, particularly for the speed and intensity required."

DARKE HAD TO GET USED TO TRAINING

"Before I started preparing for the Paralympics I didn't really know how to train. It's one thing going out for a potter on your bike for a few hours



KAREN DARKE
A keen athlete from a young age, Karen Darke had climbed both Mont Blanc and the Matterhorn by the time she was 20. In 1993, at 21, she fell 10 meters whilst climbing sea-cliffs in Scotland and was paralyzed from the chest down. Her achievements since have included hand-biking across the length of Japan in 2000, skiing across Greenland in 2006 and climbing El Capitan in 2007. She won the Berlin hand-bike marathon on September 30, 2012.



ALTHOUGH SHE HAS BEEN ACTIVE IN SPORTS SINCE HER EARLY CHILDHOOD, TRAINING FOR THE PARALYMPICS WAS A WHOLE NEW CHALLENGE FOR KAREN DARKE.

THE LONDON 2012 PARALYMPICS

The London 2012 Paralympic Games were the biggest ever, featuring 4,280 athletes from 166 countries competing in 20 sports. Some 2.7 million tickets for events were sold, beating targets by 200,000. The first Paralympic Games were held in Rome in 1960 and involved 400 athletes from 23 countries.

but quite another pushing your body to its limits in every way."

Support from sponsors including B. Braun played an important role as Karen, who studied Geology at university before embarking on a career in learning and development, devoted more and more of her time to training. "In many respects B. Braun was backing an unknown horse as I didn't have an established track record in the sport. The fact that they believed in me enough to provide financial support was a real confidence boost. I don't like getting something for nothing so hopefully I am able to give something back to the company in areas such as giving talks to staff or taking part in the B. Braun Fit 2 Wheel Challenge to raise awareness of spinal injuries."

The company's products also played their part in Karen's Paralympic preparations. "I used Uro-Tainer Suby G regularly to make sure my catheter and bladder were always clean during the games. The last thing I wanted was any problems when I was focusing so hard on the races."

The expeditions which Karen has become famous for have had to take a back seat for the past three years or so as she focused all her efforts on qualifying and preparing for the Paralympics. "It was a once-in-a-lifetime opportunity to compete at home games and it was better than I could ever have imagined. It wasn't just the races and winning a medal

but the way the public embraced the games. The closing ceremony and the athletes' parade felt like being in a dream."

While the next Paralympics in Rio are already in her sights, it is a 1,000 km expedition to the South Pole in November 2013 which is the next major challenge on her horizon. The 'Pole of Possibility' trip is aiming to raise 1 million pound sterling (about 1.26 million euros) for the Back Up Trust, a charity which works with people who have suffered spinal cord injuries. "It's a really huge project to be involved in and there is a lot of work to do concerning preparation and raising funds. It's very exciting, although quite scary as well - but then life should be an adventure."

PHOTOS: PRIVATE (LEFT)
www.karendarke.com

IN ORDER TO INCREASE ENVIRONMENTAL AWARENESS, COMMITMENT IS NEEDED AT THE LEVEL OF BOTH THE COMPANY AND THE INDIVIDUAL. EVERYBODY CAN DO SOMETHING. WHETHER BY SAVING ENERGY, AVOIDING WASTE, OR PLANTING TREES—B. BRAUN AND ITS EMPLOYEES ARE COMMITTED TO A MORE SUSTAINABLE WAY OF WORKING AND LIVING WORLDWIDE.



10 km is the distance Joaquín Oliva of Les Fonts, Tarrasa, cycles each day to get to work at the B. Braun plant in Rubí, near Barcelona, Spain. This keeps him fit and is good for the environment. Making this journey by car would produce around 33 kg CO₂ every month.



90 % of the plastic used by B. Braun in the US is recycled. And the recycling rates for cardboard and office paper are even higher, at 98 percent and 100 percent respectively. By comparison, of the 522 kg of waste that the average European produces per year, only around a quarter is recycled.



50 % of the electrical energy used for heat distribution can be optimally saved at the Aesculap site in Tuttlingen. This is made possible by new heat pumps that switch off completely when the boiler requires no thermal energy. And private households can also save energy—and reduce their annual CO₂ emissions by up to 325 kg per year—by dispensing with the stand-by function.

3 fig trees of the "Pata de Vaca" variety are planted every year by Syndei Valentim. The trees produce enough oxygen to sustain 30 people for a whole year. The architect, who worked for B. Braun Brazil for 24 years, distributes seedlings around his neighborhood and encourages children, above all, to look after them. The tea that can be made from their leaves helps to lower the blood glucose levels of diabetics.

More than Needle and Thread

CLOSURE TECHNOLOGIES IS ONE OF THE OLDEST THERAPY FIELDS IN THE B. BRAUN GROUP. B. BRAUN'S SPANISH SUBSIDIARY IN RUBÍ SPECIALIZES IN WOUND CLOSURE. HERE, THE TEAM OF DEVELOPERS CARRIES OUT RESEARCH INTO NEW TECHNOLOGIES AND MATERIALS FOR THE FUTURE.

A hernia operation: shortly after surgery, the patient wakes up relaxed from the anesthetic. The incision on the outside of the body is covered with a film. The wound did not have to be sutured. When the patient removes the film a few days later, everything has healed. In place of scar tissue, fresh new skin has formed. Before long, the patient's groin looks just as it did before the operation—as if the hernia had never occurred.

Wishful thinking? Yes, of course. But not impossible, because B. Braun has already been researching films that reduce scar formation for a long time. This is just one of many projects being worked on at its Spanish subsidiary in Rubí. As the Center of Excellence (CoE) for wound closure, this is where the worldwide research, development, and production for this area are based. In Rubí, fewer than 20 people are involved in re-

searching new technologies and materials for wound closure inside and outside the body.

B. Braun's "Sharing Expertise" philosophy already becomes apparent in the selection of the team members, as Pau Turon, the R&D Regulatory Affairs & Quality Director, explains: "Our team is made up of chemists, biologists, and engineers. The various specialist fields of our staff enable us to adopt a broad approach to the research and to consider problems from different perspectives." B. Braun's internal know-how is supplemented by a constant dialog with external experts, because the number one goal is to develop products that will actually be used: "We are in contact with physicians and nurses all over the world in order to jointly develop solutions to problems that are relevant to them," says Pau Turon. "We also conduct research projects in collaboration with renowned institutions."

A combination of practical knowledge and basic research is essential to the development of good products, agrees Miguel Pablo, Vice President of Marketing & Sales for Closure Technologies: "We need the experience of practitioners in order to get ideas for the ongoing development of our products. But in order to take a leap forward in terms of content, we also need scientists." It is the interaction between the two that ultimately leads to success: "The practitioner enables us to make progress in therapy and surgical techniques and, in conjunction with the scientist, comes up with solutions that can be implemented by millions of surgeons—not just a few distinguished experts."

THE QUEST FOR THE OPTIMUM WOUND CLOSURE

Research is focused on three areas: the physical, the chemical, and the biological. Pau Turon: "The physical means wound closure by suture. Sutures can be technically improved, for example by working on the suturing technique or on how the edges of the wound can be brought into contact and held together. The chemical approach concentrates on the development of new materials and their composition, for example tissue adhesive. Finally, the biological approach consists of stimulating the body's natural biochemical tissue regeneration processes with the materials used for wound closure."

The aim: to provide a closure for every wound and every tissue that is optimally suited to the treatment of that specific



RUBÍ

Rubí is a town near Barcelona in northeastern Spain. It has a population of around 75,000. Approximately 1,800 employees work at the B. Braun subsidiary there at the present time. It is one of two subsidiaries in Spain. The other is located in Jaén in the south of the country. As a Center of Excellence in the field of wound closure, this is where the production, research, marketing, and distribution for this segment are based.

wound or tissue. Because the long-term success of surgery depends to a crucial extent on the healing of the wound—and therefore on the wound closure. This is confirmed by Prof. Jaime Fernández-Llamazares Rodríguez, Head of General and Abdominal Surgery at the Hospital Universitari Germans Trias i Pujol de Badalona in Barcelona: "In addition to security and strength, it is especially important that the suture material used causes as few inflammatory reactions as possible." In his day-to-day work he uses a whole series of B. Braun products, for example absorbable suture material such as Safil® and Monosyn®, surgical meshes, and the tissue adhesive Histoacryl®—with very positive results. In the future, he would like to see materials of even greater strength, which at the same time cause even fewer inflammatory reactions in the tissue. Dr. Fernández-Llamazares Rodríguez regards one material as particularly promising: "I think cyanoacrylate-based adhesives have great potential."

Adhesives are indeed being used more and more frequently in the treatment of wounds. For the surgeon, using an ➔

adhesive is far easier than suturing, especially when the wound is located inside the body and has been operated endoscopically. Moreover, suturing a wound always means a risk of additional damage to the tissue. The patients also benefit from the use of adhesives because there are fewer complications.

A MATERIAL WITH A FUTURE

The challenge in developing adhesives for use inside the body is to find materials that are well tolerated and that have good bond strength. "There are adhesives that are biological but have low bond strength, and synthetic adhesives that offer good bond strength but are not easily absorbable. We are therefore working from both directions to develop optimum products that can be used in 10 or 15 years' time," says Miguel Pablo.

There is already a new indication for which Histoacryl® can be used, explains Pau Turon: "We recently received approval to fix surgical meshes using chemical adhesives alone. This procedure offers an alternative to traditional methods of mesh fixation. But when carrying out any procedure on the body, the highest level of caution is required. It is important not to be hasty and to work out the methods step by step." It will therefore be a while before adhesives are used for a wide range of indications inside the body. In addition to medical considerations, the research also takes aesthetic aspects into account. A lot of people are afraid of having ugly scars after surgery. B. Braun is also working on a product in this area. It is a film that promotes healing in order to minimize scar formation. It will soon enter a pilot testing phase and will be launched within the next few years.

Although developments in the fields of adhesives and films may be exciting, needle and thread are by no means a thing of the past. Their advantage is that they are cost-effective and highly specialized products. For every tissue and every type of closure there is the appro-

CLOSURE TECHNOLOGIES

B. Braun has been producing and marketing suture materials since 1908, and was the first major industrial supplier. It started with a single product: cat-gut. Today, B. Braun covers the whole spectrum of wound closure. Its product range includes absorbable and non-absorbable threads, indication-specific suture sets, surgical meshes, tissue adhesives, and hemostatic agents.



priate needle and thread combination. Yet even here, it is still possible to innovate. In 2009, for example, B. Braun brought the elastic thread Monomax® onto the market. This is the first monofilament (in other words, it consists of a single thread) that is also elastic. It was developed at the instigation of abdominal surgeons, who found the material in use up to now too rigid. Monomax® consists of a special, highly flexible material. In the case of some indications, such as closure of the abdominal wall, the wound is under great tension. A rigid material could damage the tissue around the suture sooner or later. "If it's elastic," explains Pau Turon, "it will be gentler on the tissue."

However, successful innovation requires a great deal of research. On average, it takes between two and five years for a product to come onto the market. "Around 90 percent of our ideas never reach market maturity," says Miguel Pablo. "Sometimes the idea is good, but it can't be realized technically. Or else it only makes sense for a specific case and is unsuitable as a standard technique. Then, with a heavy heart, we have to stop working on it." But the team in Rubí conducts research every day with the same level of motivation as before. This is due in part to the high demands of the job: to develop safe products that deliver optimum results for both the physician and the patient.

→ **B. Braun** | Find out more about wound closure and associated B. Braun products at www.bbraun.com/woundclosure

B. Braun at a Glance

B. BRAUN DEVELOPS, MANUFACTURES, AND MARKETS MEDICAL PRODUCTS AND SERVICES AND IS ONE OF THE WORLD'S LEADING SUPPLIERS OF EQUIPMENT TO THE HEALTHCARE INDUSTRY. IN CLOSE PARTNERSHIP WITH ITS CUSTOMERS, B. BRAUN DEVELOPS THE BEST SOLUTION FOR PATIENTS, THEREBY MAKING AN IMPORTANT CONTRIBUTION TO MEDICAL ADVANCES.



Employees

B. Braun has approximately 46,000 employees, working in research, production, logistics, administration, and in close contact with the customer on site.



Research

Because it is important to innovate for tomorrow's patients, B. Braun invests around 180 million euros per year in research and development.

Investment

Under the current program, which runs from 2011 to 2015, production facilities and office buildings will be constructed with an investment value of approximately 1.6 billion euros.

Internationality

With subsidiaries in 57 countries, B. Braun is a global company that is continually opening up new markets.

Responsibility

B. Braun sees itself as a "corporate citizen" and supports over 150 social projects throughout the world in the fields of education, cross-generations, and healthcare.

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Sales

In 2011, B. Braun generated combined sales of 4.61 billion euros, 4.2 percent more than in 2010, from its Hospital Care, Aesculap, B. Braun Avitum, and Out Patient Market divisions.



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