

# SOLVAY Connects



- 150th Anniversary Celebrations
- Young Achiever of the Year
- GBUs Drive Sustainable Science



**SOLVAY**  
asking more from chemistry®

Magazine of  
the Solvay Group  
in the UK

Autumn 2013  
N° 26

## Anniversary Celebrations in the UK



*Hello and welcome to the Autumn 'Bumper' Edition of Solvay Connects, the magazine for Solvay's employees in the UK, their families and our many business partners.*

*Here in the UK we have had a busy time celebrating our 150th Birthday and this edition has been expanded to include contributions from our newer UK sites in Oldbury, Halifax and Watford and to extend our readership to these areas.*

*Solvay was well represented with nominations at the recent Chemicals Northwest Awards Dinner and our congratulations go to Mark Sullivan (pictured on the front cover with Len Sharpe) who won Chemicals North West Young Achiever of the Year. See pages 8 and 9 which also feature an impressive exam achievement by Elnaz Azough.*

*Our corporate pages feature some exciting research projects being led*

*by our Global Business Units (GBUs) and an interesting update on Solar Impulse crossing America.*

*Pages 18 to 21 are dedicated to our school visits along with exciting stories from three young students that we have sponsored in their diverse ventures. On page 22 our employees have also been very active taking part in charity events and on the back cover we are pleased to support the Catalyst Science Discovery Centre.*

*I do hope that you enjoy reading Issue 26, in its extended format, and we are always pleased to receive your feedback and ideas for future editions.*

**JULIE HITCHIN**

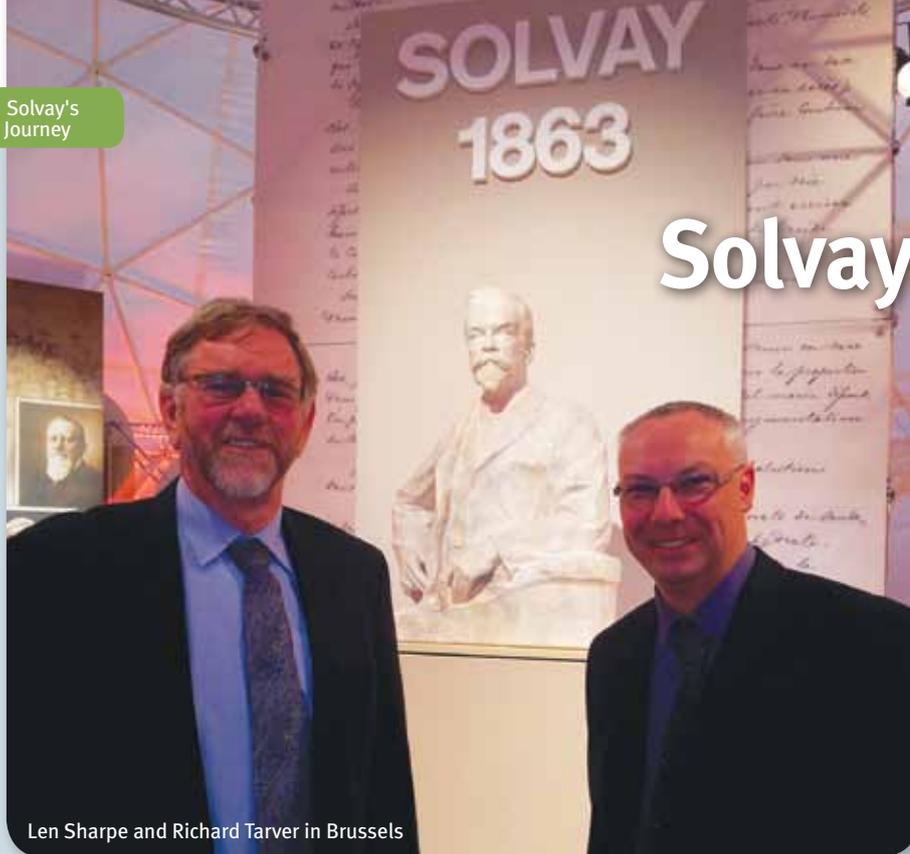
Editor



### Cover

Len Sharpe (L) congratulates Mark Sullivan on winning the Chemicals Northwest Young Achiever of the Year

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Len Sharpe and Richard Tarver in Brussels

# Solvay, Success and Safety

Welcome to this very special edition of Solvay Connects in which the sites of Oldbury, Halifax and Watford join with Warrington and Lostock to celebrate Solvay's 150 year anniversary. Each of our UK sites has its own story to tell and I know you will enjoy reading them in this issue.

It was back in 1872 when Solvay took its first steps on English soil. Solvay had decided to grant a license to young entrepreneurs John Brunner and Ludwig Mond to use Solvay's soda ash technology. This would enable them to establish a successful new plant at Northwich and, nine years later, Solvay became a major shareholder in Brunner Mond. This in turn would lead to Solvay becoming a foundation shareholder in ICI at its formation in 1926. This relationship resulted in Solvay diversifying into plastics. In the 1960s Solvay made the decision to sell its shareholding in ICI to finance its expansion.

As well as the site celebrations, Solvay organised a special 150th anniversary event at the NOH campus in Brussels. A number of UK customers and employees had the privilege of attending the event. The spectacular performance of "Odyseo, Chemistry of Dreams," (see pages 16 and 17) was a celebration, an adventure and a show using body and movement as a metaphor for the evolutions of Solvay.

One of the first multinational companies, Solvay has been able to successfully preserve its familial character and this has been clearly demonstrated by the way in which all the sites have joined in, conducting their own memorable celebrations. Here at Warrington,

as shown on the front cover, we had our cake and ate it too!

Whilst writing of celebrations I would like to congratulate Mark Sullivan who was recently named Chemicals North West Young Achiever of the Year. A large Solvay contingent attended the Chemicals North West Awards Dinner at Imperial War Museum North and enjoyed celebrating his success. See page 8.

Solvay... Success... and Safety also has a vital role to play. At the Warrington celebration event the Positive Safety Discussion (PSD) draw, open to everyone who has recorded a safety discussion, took place. Congratulations

to all the winners (pictured below). These PSDs are a vital part of our programme to keep each and every one of us safe. Remember, you have to be in it to win it, so get your PSDs in and the more you enter the greater your chance of a win.

Over 150 years Solvay has faced many issues and it has found solutions to its challenges. Each and every one of us must play our part in continuing the successful journey of Solvay.

**LEN SHARPE**  
Managing Director  
Solvay Intertox Ltd



L-R, Mark Carters, John Knight, Peter Evans, Andrew Barton, Brian Wilkinson and Peter Flanagan

# Lostock and Watford



Alan (L) and Karl

In recognition of Solvay's 150th anniversary, Lostock's Site Director, Alan Pritchard, made a donation to the Parachute Regiment Charity. This was after Karl Sutton and Jason Rylance competed in a D-Day world record tandem sky dive on 6th June. The pair jumped 15,000 feet with a 10,000 feet freefall.



Action man Karl (red top) in sky dive mode!

In September, Karl, his son Antony and brother Richard took part in the Paras'10 'P' Company Challenge endurance event. The trio had to

complete a 10-mile regiment training course of undulating terrain; for Karl his 5th time! Well done to all competitors, both events raised £522.

## Belgium comes to Watford for 150th celebrations!

Solvay UK has offices in Watford, where a small but perfectly formed team of HR, legal, administrative and facilities management functions is based.

Not to be outdone by the larger manufacturing sites, Watford was as keen as everyone else to celebrate 150 years of Solvay. What better way of doing that than bringing a taste of Belgium – the country of Solvay's founders – to the UK, literally!

With The Great British Bake Off attracting more viewers every year, the team decided to have a Bake Off of its own, ably supported by site caterers, Wilson Vale. To give it a continental twist, four teams of two competed to create the perfect Belgian Biscuit.

The Bake Off was followed by a celebration of all things Belgian the following day, with team members enjoying a celebratory 150th anniversary buffet lunch accompanied by Belgian music. Employees brought in a range of items to celebrate Belgium's gifts to the

world, with the highlight a prized collection of first edition Tin Tin books, created by Belgian cartoonist Hergé.

The event was wrapped up with yet more food – a Solvay branded celebration cake – and a goody bag packed with Solvay gifts for everyone. All a lot of fun, a chance to celebrate a landmark for the Solvay Group – and a great opportunity to raise money for charity at the same time.



# Warrington

1863 was a significant year, marking the birth of the London Underground, the Football Association and the International Red Cross. As you may be aware, 1863 was also the year in which Ernest Solvay founded the company which still bears his name today, producing soda ash (sodium carbonate) by the revolutionary Solvay process.



Team captain Kerry (inset), with the Solvay rowing team

## Warrington celebrates with fish and cake

Solvay soon expanded throughout Europe and diversified into other chemical manufacturing processes. The Warrington site became wholly owned by Solvay in 1992, following a 20 year period of joint ownership with Laporte Industries Limited. Solvay and Laporte shared a common interest in hydrogen peroxide, a product which remains at the heart of the site today.

The Warrington site began its celebration of the 150th anniversary with a Schools Science Conference at Priestley College, as reported in Issue 25 of *Solvay Connects*. We then hosted a visit by St Joseph's Primary School, which is celebrating its 50th anniversary this year. See page 18.

We continued by supporting a group of employees who entered a Dragon Boat race held at Warrington Rowing Club. The race, organised to raise funds for St. Rocco's Hospice, attracted an impressive 20 teams. In addition to the Solvay team, our site partners, Perstorp, also took part. Our Maintenance Manager, Brian Wilkinson, was a member of "The Mighty Ducks" team,

together with his five brothers and their families, each rowing in memory of their father, Jack, who used to work in Solvay's Peroxide Packing Plant. The Solvay and Perstorp teams showed great enthusiasm but did not make the final. Brian's Mighty Ducks, however, finished overall winners.

Finally, we invited all employees to a birthday party on 14th October. Len Sharpe opened the event with a presentation covering business performance and forthcoming improvement projects before inviting everyone to a tasty lunch. The food, prepared by our catering team, included North Atlantic salmon which uses Solvay Paramove® to ensure the highest quality. Len then thanked everyone for their contribution to business performance during 2013, before cutting the birthday cake.



The Mighty Ducks

Len took a second cake to the Control Room so that operators who were not able to attend the party were able to share in the celebrations.

All employees received a monogrammed pen and fleece as a memento of the anniversary.





Emma Oates won an iPad for her winning safety slogan

## Halifax Celebrates Solvay 150th with Safety Focus

Solvay's 150th anniversary has provided sites all over the world with a great opportunity to look forward to the future as well as back at the past.

For Halifax – which is sited on the grounds of an old textile mill and has a proud industrial history of its own – it was the chance to talk about the importance of safety as employees celebrated what has been achieved so far, and turned their sights to future decades.

A specially-designed exhibition shared the story of Solvay from 1863 to 2013, highlighting the role that Halifax, which was acquired by Rhodia in 2009 and then Solvay in 2011, now plays. Solvay Halifax is part of the Novacare business, and manufactures surfactants (for shampoos, detergents and industrial processes) and biocides, which remove bacteria from water.

With safety of staff the number one priority for every Solvay site, the 150th anniversary celebration provided an excellent opportunity to remind everyone of how the industry has evolved, and how Solvay has always had a clear commitment to health and safety since its foundation. Back in 1890 the company even opened a fully operational hospital to cater for employees' well-being!

Halifax Site Director John Hamnett talks through Solvay's 150 year history

Of course, company commitments must be backed up by individuals' actions: every member of staff was asked to use the 150th milestone as an opportunity to stop, think and write down what safety really means to them. The overwhelming majority remembered family and friends in their thoughts.

The site also took the opportunity to run a competition to find a new safety slogan for the site. Proud winner Emma Oates from the administrative team came up with the fabulous

“Safety starts with an S but begins with you”, which was printed on T-shirts for all along with the Solvay logo and 150th commemoration.

It was then time to celebrate Solvay's 150th birthday in style, with a Hog Roast, Solvay-branded birthday cake and cupcakes and – because no one should leave a birthday party empty handed – goody bags for every employee. “A company in history: Solvay” books were also given to everyone to remind them of their own place in that very special history.





Jean-Francois  
Berthiaume – Solvay  
Oldbury Site Director

## A journey through time for Oldbury 150th celebrations

Solvay Oldbury has been part of the West Midlands industrial heritage for well over a century. During that time the site – which has actually been manufacturing since 1851 – has had several owners, beginning with Albright & Wilson 162 years ago.

Oldbury Site, which was taken over by the Solvay Group in 2011 during the acquisition of Rhodia, produces phosphorus-based intermediates. Solvay is the world leader in phosphorus chemistry, and the products are used in the manufacture of a wide range of products including pharmaceuticals, paints, detergents, water treatment chemicals and flame retardants.

Many of Oldbury's 250 employees have seen Albright & Wilson, Tenneco and Rhodia signs above the gatehouse – but Solvay's 150th year has given them a great opportunity to celebrate, now being a driving force within the Solvay Novacare business, and the Solvay flag with its dynamic new logo flies proudly above the site today.

Staff celebrated 150 years of the Solvay Group – and 162 years of Oldbury – with a poster exhibition and series of films sharing the story not just of the parent company,

but the special role the Oldbury Site continues to play in maintaining the legacy of manufacturing in the West Midlands. The exhibition – which will form a permanent feature on the site – also highlighted major global events, and the impact they have had on the company and site's evolution.

*“The birth of the modern chemical industry took place here in the West Midlands in the 1700s and it has continued to evolve since then,”* said Jean-Francois Berthiaume, Oldbury Site Director. *“The Oldbury Site has been an important part of that evolution, as we continue to develop our processes and introduce new products based on innovative research carried out right here.”*

*“Celebrating Solvay's 150th year has been a great opportunity to look forward to what we want to achieve in future, as well as to mark the significant achievements of the past.”*



Of course we all love a memento, and in celebration of trips to the seaside that the company has arranged for retirees in previous years, every employee received a specially-designed Solvay-branded stick of rock, as well as a gift bag packed with Solvay goodies and company history. Like the stick of rock, it's clear that Oldbury site is now Solvay to the core!



Bridgewater students with their trophies

## Chemical Industry Association Awards

Solvay was once again pleased to sponsor Year 10 Product Design students at Bridgewater High School to produce the trophies for this year's Chemical Industry Association (CIA) Annual Awards. The project formed part of the students' Design GCSE course.



Students were given a design brief by Mike Lancaster of the CIA who visited the school to view the students' designs and select the final trophies. The successful students then had to set about making the trophies from their chosen materials.

This year's Awards ceremony was held at the National Railway Museum in York and was hosted by BBC Business reporter, Steph McGovern. Following a welcome speech by Steve Elliot, CIA Chief Executive, the award winners in 12 categories were announced. See [www.cia.org.uk](http://www.cia.org.uk) for details.

Jo Garry, Head of Design & Technology, said "Students have learnt lots of new practical skills and enjoyed rising to the challenge of working to a real brief. It has been great for them to see their creations given out to real winners at the CIA Awards. They were also very pleased and proud to receive praise letters from a range of winners. We would like to thank Solvay for giving us the opportunity and support to make the awards".

## Elnaz is top of the class



Elnaz and Bob Brisenden

On behalf of Warrington site, Len Sharpe was delighted to congratulate Elnaz Azough, not only for passing the Transfer Pricing Paper of the Advanced Diploma in International Tax (ADIT), but especially for achieving the highest mark overall on a global basis.

"Transfer Pricing" refers to the price of a transaction between related-parties, such as companies that are members of the Solvay group. The tax law of nearly every country in the world requires such transactions to take place on arm's-length terms, i.e. at a price that would have applied had the same transaction been between companies that are wholly independent of each other.

The ADIT is the only internationally recognised tax qualification in the area of Transfer Pricing. Elnaz's line manager, Bob Brisenden, said "With a success rate of only 38% of this year's candidates, it is a wonderful achievement to pass this specialist advanced qualification in international tax; however, to also win such a highly prestigious award is a remarkable achievement."

Well done Elnaz!



Solvay employees at the Awards dinner

## Mark Sullivan wins Young Achiever Award

The fourth Chemicals Northwest Awards dinner took place on 10th October at the Imperial War Museum North, Manchester. The awards featured nine categories which were designed to showcase the world-class chemical and service companies operating in the region. Solvay was well represented at the event with entries in two categories.

Solvay entered Paramove® in the “Innovative Product or Process” Award category. As featured in Issue 24 of *Solvay Connects*, Paramove® is an innovative Veterinary Medicinal product used for lice removal from farmed Atlantic salmon. The submission was short-listed but did not win what was, according to the judges, a tough category with a large number of very high quality entrants. Nonetheless, members of the cross-functional Paramove® team were delighted to be able to publicise their product and offered their congratulations to category winner, Syntor Fine Chemicals Ltd.

Solvay submitted three entries in the Young Achiever Award category, Elnaz Azough, Sam Hardie and Mark Sullivan. Elnaz is a Senior Tax Adviser whilst Sam and Mark work in the Engineering Department at Warrington. Mark was selected as the winner by the judges who were impressed with his contributions to the business as well as his extra-curricular



Mark receives his award from Martin Hold (L) before being interviewed by Mark Edmondson

activities in promoting science within the community. Mark is involved in organising Solvay’s school visits and also works as a STEM ambassador promoting science, maths and engineering in local schools.

Mark was delighted to accept the award, commenting “It is a real honour and a pleasure to win this award this evening. Two of my

colleagues were also nominated, so I am extremely proud”. Len Sharpe said “We are delighted with the recognition given to three of our younger employees. They will help to drive Solvay forward in the future”.

Solvay also sponsored the award trophies, which were produced by art students at Wirral Metropolitan College.

# Turning Fresh Concepts into Commercial Success

The United Nations reports that by 2050 there will be 9 billion people on the planet. 9 billion! Would we be able to continue living the way we do today with an additional 2 billion people inhabiting the same space?



**JACQUES VAN RIJCKEVORSEL**  
Executive Committee member  
and Supervisor of Research &  
Innovation



**LOUIS NELTNER**  
Research & Innovation Group  
General Manager

Science and common sense tells us no. This is why Solvay has made it a mission to develop breakthrough chemistry to address many of the sustainability challenges that could endanger future generations.

*“We believe that developing solutions to those challenges can be a source of sound business opportunities,”* explains Jacques van Rijckevorsel, Executive Committee member and Supervisor of Research & Innovation.

*“So we have built into our strategic expectations that one-third of the growth in our results in the next four to five years should come directly from the new products and processes that we innovate.”*

## The structure of Solvay innovation

Solvay invests EUR 261 million in Research and Innovation (R&I) and has 1,900 R&I colleagues worldwide. Eighty per cent of the Group’s R&I resources are within the Global Business Units (GBUs), while twenty per cent are managed centrally within the Corporate R&I Centre. Additionally, the Group has developed lasting partnerships with first-rate

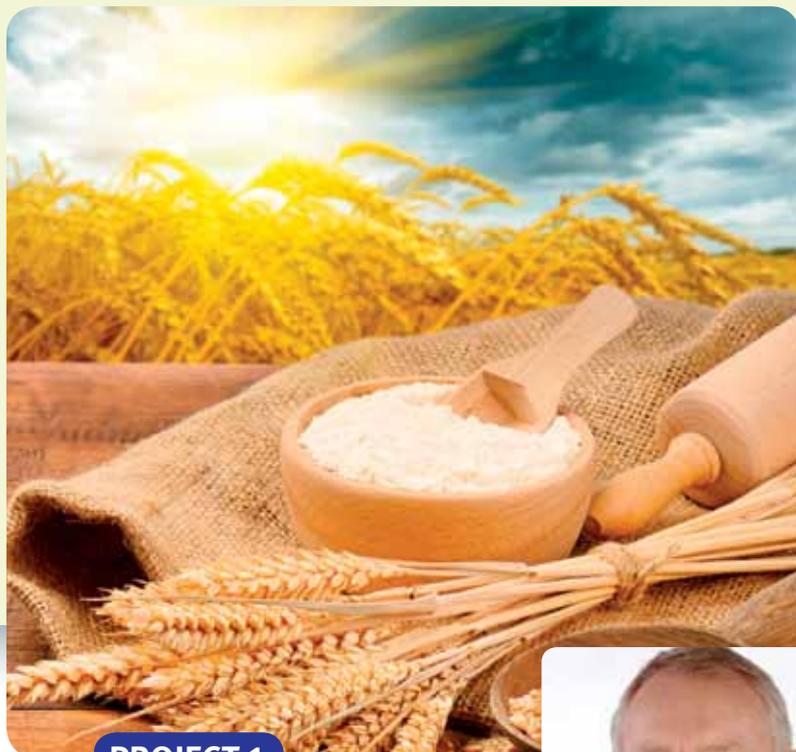
academic research institutions based around the world.

Solvay’s Executive Committee (Comex) also hosts an Innovation Board comprising internal and external business and scientific experts who meet four times annually to review and challenge the initiatives taking place within the Group. Moreover, BUs meet with the Comex each year to specifically discuss their innovation strategy, organisation and project portfolio.

*“With the joining of our two legacy companies and with 30,000 colleagues operating worldwide, we are more than the sum of our parts,”* says Louis Neltner, Research & Innovation Group General Manager. *“Such depth and breadth of expertise is particularly significant when it comes to the Group’s innovation capabilities.”*

## Sustainable science

To have a better understanding of the diverse areas in which the Group is innovating, let’s investigate a few examples coming direct from the GBUs. The four projects that follow were recently presented during a special *“Media Innovation Lunch”* held in Brussels.



## PROJECT 1

# Seed Booster from GBU Novincare

Novicare's Consumer Chemicals touch markets spanning cosmetics to coatings. The GBU supplies more than 2,000 products developed by 250+ researchers worldwide spread evenly between Shanghai, Brazil, Europe and North America.

*"It is extremely important to focus on market segments with attractive innovation dynamics where we can extract the most value. In that way we are bringing our science as close as possible to the consumer,"* explained Kees Bleijenberg, Research & Innovation Novincare. One area in which Novicare is focusing is agrochemicals.

The GBU has been traditionally strong in crop-protection formulations to protect the health of plants. *"Seeds and fertilisers, however, have until now been outside our scope. Nonetheless, we know the customers in the market. It is therefore only natural that we seek to address other areas challenging our agro customers,"* he added.

Five to six years ago, corporate R&I began researching the effects of polymers on water retention in soils. The project was transferred to the GBU, and Novicare investigated how these polymers could be used to treat seeds and improve the performance and growth rates of plants. After multiple lab tests, they discovered that their formulation led to faster germination and generally delivered a better yield of crops.

*"Today we're running field tests, but already in the lab we learned that our formulation could increase the germination by 10 to 15 per cent,"* said Kees Bleijenberg. With such promising results the GBU has added the project to its roadmap. *"We believe seed booster could be a big hit!"*

First sales are expected to start in the next couple of years.



**KEES BLEIJENBERG**  
Research & Innovation Novincare

## Solvay's Big Ventures

As part of its innovation strategy, the Group has invested EUR 58 million into venture funds and start-up companies.

*"There is no one-size-fits-all solution. Sometimes our participation takes the form of full investments into companies, other times as stakes within venture capital funds that support a range of companies, and yet other times we develop joint marketing or development agreements,"* explains Stéphane Roussel, Head of Capital Venturing at Solvay. *"What is key is that all of these activities give the Group insight into new technologies and new science being developed outside of our walls. Our stake in these activities enables us to leverage our expertise and infrastructure to support the development of significant innovations as they manage the difficult transition into commercialisation."*

Solvay currently has equity stakes in Plextronics, Polyera, Eight19 and ACAL Energy, and participates in eight venture funds, including those run by Phoenix Venture Partners in the US, Aster Capital in Europe, Aju IB Investment in Korea and Sofinnova.



**STÉPHANE ROUSSEL**  
Head of Capital Venturing, Solvay



**PHILIPPE LAPERSONNE**  
R&D and Innovation Director, Acetow

## PROJECT 2

### Accoya® from GBU Acetow

GBU Acetow is a world leader in the production of the bio-based polymer cellulose acetate. One of the GBU's main drivers is diversification – specifically, finding new markets in which they could exploit their unique know-how of Acetylation. Answering to an increasing demand for highly durable and bio-based materials, the business has set its sights on the production of acetylated wood, amongst other sustainable solutions for future business.

Acetylated wood technology in itself is nothing new. It has been studied by scientists for more than 80 years, but has been used commercially for several years only. The missing piece of the puzzle, however, was the development of a viable industrial process that would enable commercial production.

Some years ago, Accsys plc, a company registered in London with a production site in the Netherlands, developed such a process. In July 2012 Solvay Acetow and Accsys concluded a license agreement for the production and sale of Accoya®. This conditional agreement is expected to be fully effective in the second half of 2013 and provides Solvay Acetow the exclusive rights to manufacture, market and sell Accoya® in over 40 European countries for a 15-year period.

Accoya® wood has an outstanding durability and is dimensionally ultra stable; coatings for example, last 3 to 4 times longer than they do on untreated wood.

*“The wood used for making Accoya® is sourced from sustainable forests, and our formulation is 100% non-toxic,”* explained Philippe Lapersonne, R&D Innovation Director.

## Sub-Sea Pipe Rehabilitation from GBU Specialty Polymers

### PROJECT 3

*“One of the key performance indicators (KPIs) of our GBU is New Products Sales Ratio. That’s the percentage of products sold which have been developed in the last five years. Our target for this ‘KPI’ is more than 30 per cent,”* explained Vincenzo Arcella, Head of Fluoropolymers RD&T at Specialty Polymers. *“That means we need to consistently develop new concepts and produce them at commercial scale within a five-year period.”*

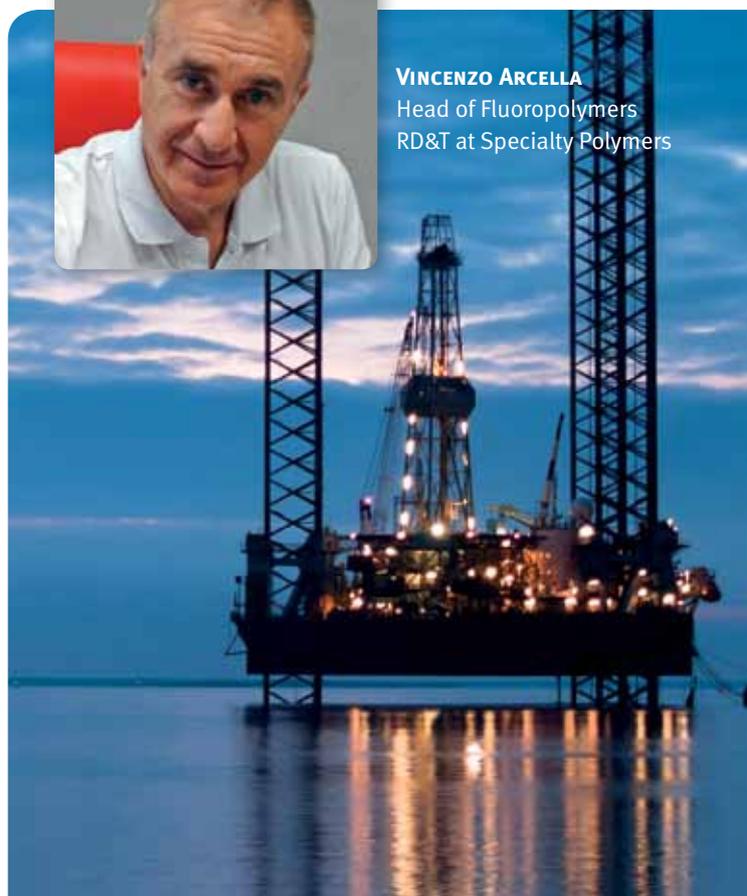
To ensure that it maintains a robust pipeline of technologies and products, the GBU partners with customers to develop tailored solutions. One example is the work Specialty Polymers has been doing in the field of sub-sea pipe rehabilitation.

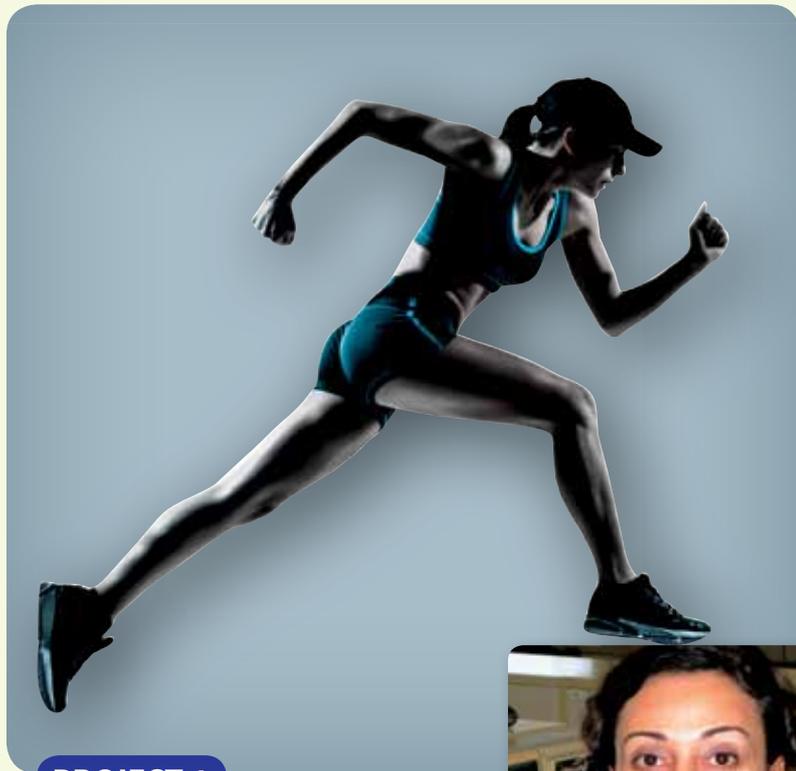
There are thousands of kilometres of corroded carbon steel pipes deep within the sea. As they cannot be simply pulled up out of the water, the question has always been how to rehabilitate and reuse them.

*“Together with a key customer we have developed an innovative solution consisting of introducing a fluorinated plastic, made of a special ‘ultra-flexible’ PVDF grade, into the pipes. Once inside the pipe it expands, and relines and rehabilitates the pipe’s interior,”* described Vincenzo Arcella. The new PVDF Ultra flexible grade has undergone extensive tests, and the GBU expects sales above EUR 16 million by 2016.



**VINCENZO ARCELLA**  
Head of Fluoropolymers  
RD&T at Specialty Polymers





## PROJECT 4

# High-Tech Textiles from GBU Fibras

GBU Fibras carefully monitors micro-trends to explore where it can address unmet and unexpressed needs in the field of high-technology textiles. With emana<sup>®</sup>, the GBU fills a gap for functional, comfortable, versatile and high performing garments.

emana<sup>®</sup> is a polyamide 6.6-based yarn with a mix of bio-crystals incorporated in its polymeric matrix. The mechanism is simple; the human body emits energy in the form of heat. The bioactive crystals inside the emana<sup>®</sup> fabric absorb the heat and emanate Far Infrared Rays, which interact with the body to stimulate blood microcirculation, leading to performance and skincare benefits. It has an everlasting effect. You can wash it as usual and as often as you want, and the benefits remain the same.

*"All of the benefits are guaranteed, and emana<sup>®</sup> has been tested following rigorous clinical tests and scientific protocols,"* said Daniela Antunes, Business Development Manager Fibras.

Unsurprisingly, emana<sup>®</sup> has captured the interest of multiple clothing markets, including sportswear manufacturers (for its effect on muscle performance and less oxygen consumption), cosmetics (for its ability to increase the synthesis of collagen and reduce cellulite signs), and healthcare (for its healing effects on scar tissue).

In 2012, Fibras established an alliance with a major European player, to produce and distribute emana<sup>®</sup> yarns in Europe, and the GBU has as well formed relationships with key brands in Italy, France, Germany and the United Kingdom. Additionally, Fibras has defined a partnership in South Korea, and is currently working on establishing relationships in North America and elsewhere in Asia.

*"We expect that 30 per cent of our contribution margin will come from the emana<sup>®</sup> innovation,"* said Daniela.



**DANIELA ANTUNES**  
Business Development  
Manager Fibras

## Dive deeper into Solvay innovation

*"Innovation is managing today as if it were a consequence of tomorrow,"* says Jacques van Rijckevorsel. *"It's about creating and grabbing opportunities and turning them into business success. This, by the way, is also the definition of an entrepreneur. Entrepreneurship is at the heart of innovation. And both are at the core of who we are at Solvay."*

**The Science for Innovation Conference**, 16 to 17 October in Brussels, brought together a large number of Solvay scientists and technologist, giving them the opportunity to discuss and tackle technological needs for the future of the Group. [http://welink.solvay.com/en/functions/research\\_and\\_innovation/index.tcm](http://welink.solvay.com/en/functions/research_and_innovation/index.tcm)

**The Innovation Awards**, 18 October in Brussels, recognised and celebrated teams and projects that are contributing to Solvay's objectives by employing fresh ideas. Numerous projects have been submitted, spanning breakthrough research to innovative management initiatives. [http://welink.solvay.com/en/functions/research\\_and\\_innovation/index.tcm](http://welink.solvay.com/en/functions/research_and_innovation/index.tcm)

**The Chemistry for the Future Solvay Prize**, 4 December in Brussels, will award EUR 300,000 to a major scientific discovery that could shape tomorrow's chemistry and help societal progress.

# Solar Impulse Soars

With the Solar Impulse 'round the world flight' delayed to enable engineers to reconstruct and test a broken wing spar, the airplane's pilots André Borschberg and Bertrand Piccard decided there is only one thing to do – turn lemons into lemonade!



**CLAUDE MICHEL**  
Project Leader for Solar Impulse  
within Solvay

This February, the Solar Impulse team loaded prototype aircraft HB-SIA's disassembled parts into a massive Boeing-747, destined for Moffett Airfield, San Francisco on the west coast of the United States.

*"Instead of being discouraged by the delay of the round the world flight, André and Bertrand decided to use this 'window of opportunity' to take the current plane on a high profile tour across the US while engineers back home built HB-SIB, expected to navigate the globe in 2015,"* explained Claude Michel, Project Leader for Solar Impulse within Solvay.

The itinerary: Fly from San Francisco to Phoenix, Dallas Fort Worth, St. Louis and Washington DC, before reaching New York's JFK airport in early July.

## Phoenix, Arizona

On 4 May, Bertrand Piccard piloted HB-SIA safely to Phoenix. During the flight, he held a discussion with Roger Kearns, a member of Solvay's Executive Committee, supervising the North America region. The two highlighted the importance of clean technologies and how the pioneering spirit of the US could play a key role.

## Dallas, Texas

Solar Impulse successfully landed in Dallas-Fort Worth on Thursday 23 May completing its longest leg of the 2013 mission. It also set a new absolute world distance record in solar aviation (832 NM/ 1,541 km).

*"[To appreciate that distance], you have to understand that the pilot needs to stay awake for more than 20 hours without autopilot,"* explained André Borschberg. To minimise pilot fatigue, it was planned that Bertrand and André would alternately fly legs from the Bay Area to the Big Apple.

André conducted an in-flight conversation with Michael Lacey, President of Solvay Chemicals US to discuss flight conditions, the role of innovation partners and the joys of Texas! Upon arrival, about 100 Solvay employees were driven by bus to Dallas for a private tour of the plane.

## St. Louis, Missouri

Just before the aircraft was scheduled to fly the third leg of its journey, multiple tornadoes touched down in St. Louis, damaging several of the city's airport buildings, including the hangar reserved for Solar Impulse.

## Read more about Solar Impulse:

- **WeLink:**  
<http://wmlink.solvay.com/>
- **Internet:**  
<http://www.solarimpulse.com/>

The North America Communication team with the pilots Bertrand Piccard and André Borschberg – New York, 12 July. From left to right: Dawn Balliko, Lori Tatam, Bertrand Piccard, Jackie Guscott, David Klucsik, Suggie Casey, André Borschberg and Brad Haider.

# “Across America”

Postponing the flight to St. Louis was not an option. *“If Solar Impulse didn’t seize this opportunity, the chances of reaching the final destination of the mission as scheduled could have been compromised,”* explained Claude Michel.

The team decided instead to erect its own inflatable hangar to park the aircraft in. Conceived and designed by the team for the 2015 world tour, the revolutionary structure was deployed for the first time in real conditions. Logistics and Mission teams worked around the clock to bring the airplane safely to St. Louis and ensure its protection upon arrival.

## Washington DC

The aircraft successfully landed at Dulles International Airport on 16 June. Due to strong cross and head winds, this fourth leg was split into two flights. Had it not been, the winds would have slowed down the aircraft too much and made it impossible for the pilot to reach the nation’s capital in one go in less

than 24 hours, which is the limit set for a pilot inside the cramped single-seater cockpit.

## New York City, New York

After an epic journey, Solar Impulse landed at New York’s John F. Kennedy International Airport on 6 July, marking a new milestone in the history of aviation. André Borschberg landed the airplane three hours earlier than planned in spite of a precarious rip in the fabric on the lower side of the left wing.

*“I would like to thank the Solar Impulse teams for making our dreams come true!”* said Jean-Pierre Clamadieu, Solvay’s CEO, upon the aircraft’s arrival.

## Bringing the dream close to home

The week following the NYC arrival, Solvay held numerous events to mark the occasion. Nearly 500 invited guests attended special programmes hosted by Novacare followed by a Solvay technical symposium, held in conjunction with the American Chemical



Society, attended by nationally prominent scientists and researchers.

Solvay also joined in other New York celebrations. The Group took part in a special ceremony at the United Nations. And Solvay Eco Services President Jim Harton joined the pilots and other partners in ringing the opening bell at the NASDAQ stock exchange.

Additionally, Solvay hosted a special luncheon for the New York-based Consul General of Belgium, his wife and members of his staff, who were joined by several other UN leaders, plus Solvay Board Member Jean-Marie Solvay and members of his family.

Finally, thousands of visitors streamed through Hangar 19 to see the pioneering plane, as tens of thousands more had done each step of the way from Phoenix to Washington, D.C.

*“New York was a grand finale to a visionary flight, full of history, science and technology, remarkable personalities, a compelling mission and message, with a touch of emotion at the end,”* noted Claude Michel.

In August, HB-SIA was disassembled and shipped back to Switzerland, where it will be reassembled to resume flights next year.



Jean-Pierre Clamadieu with the pilots, Bertrand Piccard and André Borschberg – New York, 12 July

# Chemistry of Dreams

# ODYSEO



In October top-flight artists from around the world delighted around 18,000 spectators at the Solvay Campus site for an extraordinary show. Its designer, Frenchman Pascal Jacobs, takes us behind the scenes of this ambitious adventure that combines artistic magic, technological innovation and social outreach.

## Great artistic freedom

It all started with an informal meeting between the 150th anniversary organising team and Pascal's team of renowned theatre professionals. In an open discussion, Solvay shared information about the Group's history and culture, and began developing a common vocabulary with the artists. *"The ambitious mandate we were given left us great artistic freedom. Our task was not to tell the story of the company but rather to give a free and symbolic interpretation of it in acrobatic language,"* explains Pascal Jacobs.

## Symbolism inspired by the Group's activities and the personality of Ernest Solvay

Several key ideas inspired the creators. Among them, Solvay's international growth from its Belgian roots, the crossing of time, Ernest Solvay's strong personality, and his desire to work for the well-being of humanity. *"We started out with keywords: chemistry, which naturally led us on to alchemy, to crystals, to test-tubes, to flow ... This thinking process gave birth to certain figures and characters. The concepts then came in very quick succession, as if following on naturally one from the other. In three hours, the 15 tableaux of the show were outlined,"* he says. Once finalised, the result was enthusiastically accepted and approved a few days later by Solvay CEO Jean-Pierre Clamadieu and Chairman Nicolas Boël. The artistic machine moved into action.

## A totally new show, off the beaten track

Odyseo is not designed as a *"circus performance"* and has no pre-existing act. The designers opted to invent fragments and sequences from scratch. To do this, they brought in a network of specialised operators, including the world-famous Dragone theatre company.

*"Gaëlle De Vos [Deputy Corporate Secretary] wanted a multicultural show reflecting the company's diversity and international dimension. We therefore went looking in the four corners of the world for the best artists from all major areas of contemporary acrobatics,"* says Pascal. The team travelled in particular to China, Ukraine and throughout Europe. In total, the company consists of fifty handpicked artists who trained for several weeks to achieve the required excellence.

## An outside dome in harmony with the show

The question of the structure in which to house the show arose right at the start of the discussions. It rapidly became clear to the entire organising team that an event of this magnitude required a specific infrastructure, in line with the acrobatic discipline.

*"We didn't want a 'big top' tent, so as not to overload viewers' imagination with a circus connotation,"* Pascal explains. Consultations led on to technical and financial studies, and the idea to build a dome designed in harmony with the acrobatic tableaux was finally accepted. This



construction – which can be easily dismantled – is unique in the world for its size, and its assembly has been an exciting technical challenge for the German company RÖDER and the small Brussels-based company AREAS.

#### Innovation serving art

Creating the Odyseo show, with its complexity and diversity of elements involved, has led the design team to explore a number of innovative avenues, including technology. The project has served to test new possibilities for a number of existing materials. A new aramid fibre application has, for example, helped create an intense moment by allowing, for the first time, the placement of a 40 metre long cable above the stage without lateral bracing.

*“The image is that of a pure line, stretched over a water-like mirror, as if suspended... The qualities of the material also contribute to strengthening our vision of a line that is straight, clean and almost invisible,”* says Pascal. A device reserved for scuba divers has also been adapted for one of the highlights of the show, the disappearance of a person in a test tube filled with smoke and suspended between the rigging loft and the stage.

#### A group of young Kenyans trained to participate in the adventure

Besides this technological dimension, the Odyseo designers also wanted to include in the show the values of social outreach that

have remained throughout the evolution of Solvay. This led them to invite a social circus training centre from Kenya to create one of the Odyseo highlights.

*“We opted for the Sarakasi centre near Nairobi where young artists, sometimes from disadvantaged backgrounds, are trained in acrobatics and in this way regain their sense*

*of self-esteem. The young Kenyans are very proud to participate in such an adventure, and are also very happy to represent their country and their continent by bringing their energy and talent to our project,”* Pascal concludes.

<http://www.solvay150.com/>

### ‘This anniversary only comes once’

As 2013 is arguably a challenging year for the chemical industry, with Solvay no exception, it may seem inconsistent to some that while the Group is minding budgets on one hand, it is planning exciting celebrations on the other.

*“We are well aware of the contrast,”* explains Gaëlle De Vos, Deputy Corporate Secretary. *“Nonetheless, celebrating 150 years of existence only comes once in a company’s lifetime, if a company is fortunate enough to experience it at all. So we decided early on to use these celebrations as a way to not only express enormous appreciation to colleagues, customers and stakeholders for enabling Solvay to have such an enduring history, but*

*also to increase the profile of the newly enlarged Group in order to gain new customers and new partners who will help to ensure an additional 150-plus years to come!”*



GAËLLE DE VOS  
Deputy Corporate Secretary



## Solvay and St Joseph's Celebrate Landmark Birthdays

Year 3 and 4 pupils from St Joseph's Catholic Primary School in Penketh recently visited Solvay's Warrington factory. Martin Griffiths extended an invitation on learning that the school is celebrating its 50th anniversary in the same year that Solvay is celebrating 150 years of operation.



Angus Mackenzie shows Year 3 pupils how to start a pump



Year 4 students with John Knight in the laboratory

Thus, 90 pupils from the school spent half a day learning about the long history of the Solvay company and visiting our modern Hydrogen Peroxide factory. They toured the production unit where they were able to start and stop pumps from the control room console, supervised by Solvay's operators of course! They visited the laboratory where Team Leader John Knight demonstrated the three states of matter: solids, liquids and gases, a core topic of the new curriculum.

Finally, they learned about Solvay's products which are used in such diverse applications as pulp and paper bleaching, water purification, detergent formulations and in salmon farming.

Acting Assistant Head Teacher, Claire Tyerman said, "We are starting a new science curriculum for Years 3 and 4 this year and wanted to launch the year with a special event. We are grateful to Solvay for hosting this visit which gave our pupils an insight into what scientists do and how their products impact on our daily lives."

## Young Achievers

We were pleased to hear from Paul McAleese, Assistant Headteacher at Sir Thomas Boteler Church of England High School in Warrington who thanked Solvay for sponsoring their Achievements' Evening in June.



Ronnie Cornelia, Maja Maiksner and Dominique Haughton

This allowed pupils, who had made exceptional progress at Key Stage 3 and Key Stage 4, to get a keepsake to remember their achievement in years to come.

Charlotte (pictured below) said, "I really appreciated getting an award to keep thanks to Solvay, rather than just a certificate."



Charlotte Whittaker, Lucy Meakin, Lizzy Smith and Laura Nicholson



## Return Visit from Cumbria

In July we were delighted to welcome back Queen Elizabeth School, Kirkby Lonsdale, with a group of year 12 chemistry students. The school had visited us three years ago, with a similar group of students, and had been really impressed by the Warrington facility so we were excited to be returning.

Science teacher, Claire McKirdy said *"Thanks again for having us and the warm welcome all your staff gave us, we really are grateful that you are able to spare us some of your time. The kids really got a lot out of it and were amazed at the scale of the place."*

Here is some of the students' feedback: *"Thank you very much for having us to visit – it was both thoroughly interesting and enjoyable. Furthermore, it inspired me to consider a career in industry, which I hadn't properly considered."*

*"On arriving I was so surprised at the amount of equipment and the scale of the production area, just to make Hydrogen Peroxide. It was massive!"*

*"I enjoyed visiting the control room, although I was surprised at how much was computer automated and controlled. The safety considerations made on site were really interesting to learn about."*



## Solvay Summer School

We were pleased to welcome Sarah Rattigan, Fiona Revell and Gemma Williams (pictured left to right) to our Summer School in July. They spent a productive time with us and were treated to a variety of experiences from 'Careers in Chemistry' and 'CV Writing' to 'Gas Buying' and 'Transfer Pricing'! Finally, our facilities management team, Sodexo, explained how they keep the Warrington site fed, watered, clean and secure.

*"Everyone at Solvay warmly welcomed us into the company and happily gave us advice on how to work towards our desired careers. We were able to gain hands-on work experience rather than learning within a classroom environment which we are used to. We were even challenged to complete some tests given to potential new employees to judge their ability and had a CV statement workshop. Both of these were extremely useful and allowed us to feel more prepared for the future. The three of us, Sarah, Fiona and I are very grateful for the time the Solvay employees spent with us and thank them all for the opportunity we were given."*

**Gemma**

*"My week at Solvay was very eye opening; I learnt so much about the chemical industry and was never bored once as everyone made it so much fun."*

**Sarah**

It is always pleasing to get positive feedback from students that Solvay has been able to support in their various life-changing ventures and here are three stories from Jenny Clarke, Jamie Simpson and Becca Hitchin.

# Operation Wallacea

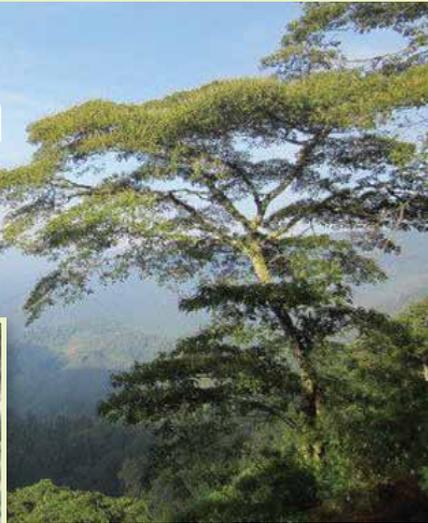


Short training trek

My name is Jenny Clarke and I am 19 and currently studying tropical medicine and disease at Liverpool University. I wanted to contact Solvay to say a massive thank you for their contribution towards my recent trip to Honduras where I learned how to provide medical support to teams working in remote areas.

During my first week I underwent training at 'Base Camp' which included jungle survival skills and we trekked for 4 days to the other side of the mountain. Once trained I was practically thrown into the jungle, shadowing some of the doctors which was absolutely life changing. I had to quickly get used to sleeping in a hammock, which I eventually learned how to put up correctly after a week of getting wet and bitten by mosquitoes!

I was then able to work in a small village called Buenos Aires which is in the buffer zone of the rainforest. I do feel very



privileged that I got to meet a fantastic community that, despite such poverty, were really lovely people. I hope to be able to return in the future and have already been contacting charities in Honduras to try and get some schooling built there.



I then left the jungle to undergo my next adventure on the islands. I completed my dive medicine course and even got to experience swimming with whale sharks although I must admit I held my breath when I first saw them!

I cannot thank Solvay enough for their support; I had an absolutely amazing experience, if not a little scary, although I now call that character building!

JENNY CLARKE (AGED 19)

# Handball Tournament

My name is Jamie Simpson, I am 18 years old and have been playing handball for 5 years. During this time I have been selected as the goalkeeper representing Lymm High School, Warrington Wolves, Cheshire and England.



In January I was invited to selection camps for the Great Britain under 19's squad in Denmark and was delighted to be informed of my successful squad selection. We had been chosen to represent the country in the European Open in Sweden over a 7-day period; the second largest tournament in the world for handball.

We had a fantastic first day and beat Israel 26-22, one of the best seeded teams in our group. This made history for Great Britain handball as it is the first time we had won a game at a major competition. As we progressed through the competition we carried on to surprise first seed teams with close results.



Great Britain Under 19's Squad and staff

For the under 19s team this tournament was a massive experience which, in later years, should help us to compete competitively in big competitions.

I am continuing to play handball for the Warrington Development League Team and again I hope to go on to play for Great Britain in the European Championships in 2014.

I wish to thank Solvay for their financial support which has helped me to progress as a player and a team member and made my handball much more enjoyable.

JAMIE SIMPSON (AGED 18)

# Penketh High School – World Challenge 2013

After 3 hard years of fundraising we finally started out on our month long expedition to Ecuador and the Galapagos Islands on 2nd July 2013.



The Team

The first part of the expedition was the acclimatisation, we were getting used to the altitude, all of our surroundings and the people on the team.

The next phase was the main trek. This took 4 days, we camped at night, and we trekked to the Quilotoa Lagoon which is a volcanic crater. The highest point of this trek was 3910m and some of the team unfortunately did get altitude sickness and were unable to reach this high point. Thankfully I managed to get to the top and it was a great achievement although it had challenged us all both physically and emotionally.

Then we worked on our project which was a small school in an extremely underprivileged village and it was a pleasure to help them by improving their play area. This part of the expedition was challenging because we had to communicate with the locals to purchase the equipment we needed such as cement and a wheelbarrow.



We moved on to the rain forest where one of the treks consisted of walking up a waterfall for which we needed roping up. During these treks the local guide told us about wildlife and plants and suggested we try the local delicacy ... lemon ants, which he found on a tree branch. They actually did taste like lemon juice!

After this we did some white water rafting down a tributary of the Amazon. This was great fun and we all needed the relaxation after the hard work we had been doing.

Then we flew to the Galapagos Islands, which I had really been looking forward to, and we visited 4 of the islands in all. We did several



Becca at the equator

boat trips and the guides told us about the local wildlife, where they nested and bred etc.

We went snorkelling in a few different locations on each island. The main wildlife were sea lions (which were everywhere and didn't mind tourists being very close to them), one particular island was full of Iguanas, and there were, of course, the famous giant tortoises. The sea life consisted of lots of turtles, dolphins, sea lions and very colourful fish.

I had a fantastic experience and am so grateful to everyone who supported me in the fundraising, including Solvay.

BECCA HITCHIN (AGED 15)



Steve Gill, Chairman of Runcorn Cricket Club, thanked Solvay for their contribution towards their new net facility. This is now hugely enjoyed by all and will lead to the enhanced development of their junior players.



Our former colleague, David Cornwell, got in touch recently to thank Solvay for their contribution to St Rocco's Ward Garden where patients and their families can relax and take in some fresh air.



## Jack Bellis Double Take Campaign

Gary Quormby (shown here with girlfriend Andrea) took part in the English Half Marathon in September to raise funds for the training of young motorcyclists

and to highlight awareness of their vulnerability. The campaign had been launched in 2012 following the death of motorcyclist Jack, in a collision with a car at the age of 19. Jack had been a member of Warrington Advanced Motorists and had won their annual award for Motorcycle Associate of the Year in 2011. The award has since been renamed 'The Jack Bellis Trophy' in his memory.

Gary completed the course in 2 hours 26 minutes and raised over £400, including a donation from Solvay. He wants to thank everybody who sponsored him which will subsidise the costs of putting young bikers through the IAM Skill for Life Course. [www.warram.org.uk](http://www.warram.org.uk)

## Race for Life

A group of Solvay Ladies took part in the 5K 'Race For Life' event at Victoria Park, Warrington in July. Thanks to generous donations, over £700 was raised for Cancer Research UK.



L-R Julie, Cath, Cathy, Karen and Vanessa

Lostock staff raised £107 for **St Lukes' Hospice** by raffling off a mountain bike and they also raised £40 by supporting **Jeans for Genes**.

The 2013 Long Service Dinner took place in October, at the Drivetime Golf Centre in Warrington and was well attended by past and present long serving employees.

Following a sponsored charity raffle, Guest Speaker, Frank Shaw – Chairman of the Trustees Committee of the Pension Scheme – talked about the history of Solvay in the UK as we celebrate 150 years. All attendees received a commemorative pad and pen and George Oliver rounded off the evening with a medley of table-top experiments which kept everybody enthralled!

The date for 2014 will be Friday 10th October at the same venue. For further details please contact **Peter Webster** on 01244 343981, [pwebster46@btinternet.com](mailto:pwebster46@btinternet.com) or **Geoff Taylor** on 01925 261254, [geoff.taylor12@ntlworld.com](mailto:geoff.taylor12@ntlworld.com)

Warrington



**Nuno Pombo**  
Shift Manufacturing  
Technician, transferred  
from Solvay Portugal

Warrington



**Gary Quormby**  
25 years



**Julie Hitchin**  
25 years



**Graham Williams**  
35 years



**Peter Flanagan**  
40 years



**Ken Sorton**  
40 years

Lostock – Long Service certificates were presented by Alan Pritchard and Ged Cassidy to the following employees:



**Darren Washburn**  
25 years



**Steve Goodier**  
30 years



**Peter Taylor**  
35 years



Mary & Peter Webster (centre) with Lorna & John Brash

# Long Service Dinner



Frank Shaw



## Retirement

Dave (L) with Craig Schofield

Dave Frodsham retired at the end of July after 36 years' service at Warrington. Friends and colleagues gathered to say farewell and presented him with a pewter tankard and a new fishing seat and reel.



## Science has never been so much fun!

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Solvay is pleased to continue our partnership with the Catalyst Science Discovery Centre. Catalyst's mission to promote the excitement and benefits of science aligns closely with Ernest Solvay's vision 150 years ago.

