INEOS

ISSUE 16. 2019

INEOS HAS ALWAYS BEEN DRAWN TO THOSE WITH GRIT, DETERMINATION AND FOCUS

And for one reason alone: Those kind of people can – and often do – make a difference. And we also like them. They inspire us all.

Take Mavis, the Scottish 81-year-old widow, who has just cycled the length of Britain in memory of her three grown-up children who all died in their 40s. She felt like giving up many times, but didn't. She felt like dying at the 1,397ft summit of Shap in Cumbria, but thankfully didn't. She – and like so many others featured in this edition of INCH – are heroes in our eyes.

And if you read their stories, you will understand why. Our businesses are also striving for perfection. Challenging perception and seeking to make a difference in what we do to make the world a better, safer and cleaner place for all.

We want to drive the hydrogen economy but we cannot do it alone. It needs lots of joined-up thinking.

We want to show the world why they need to stop demonising plastic. We agree that we all need to reduce single-use plastics and find better ways to recycle plastic. But this is about much more than stirrers and straws. The problem is not plastic. It's plastic waste and what we do with it.

In this edition of INCH, you will read about three pioneering companies that are working with us to help us reduce the amount of plastic sent to landfill sites. Society may sometimes see the chemical industry as part of the problem. But it is not. It is part of the solution and one day the world will see that.

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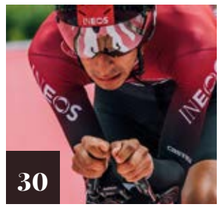

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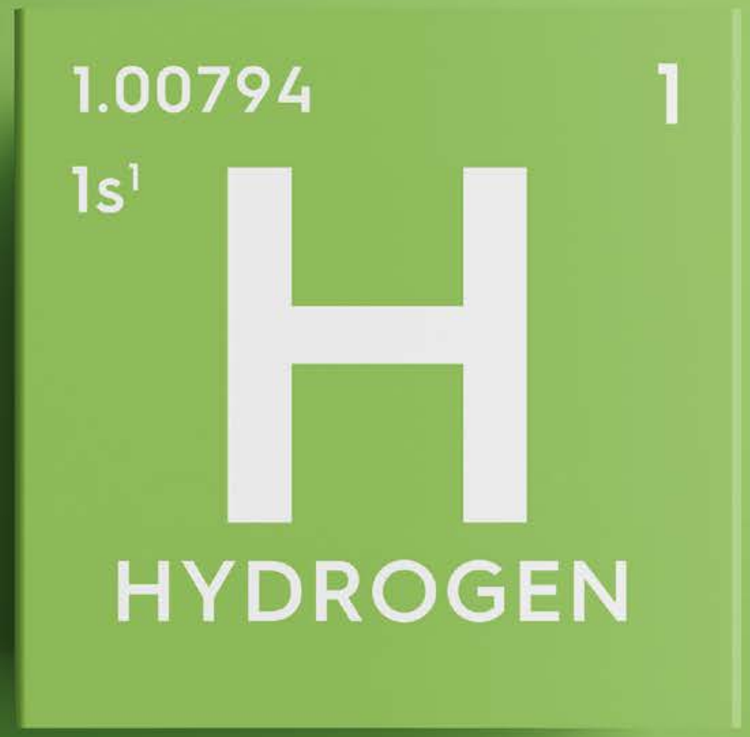


How INEOS could help to drive the hydrogen economy

Fuel for thought

MORE AND MORE HYDROGEN-POWERED VEHICLES ARE BEING ROLLED OUT AROUND THE WORLD

IT has been talked about for decades. But finally, a hydrogen-fuelled economy is no longer seen as just a lot of hot air. Already, some buses in the UK, Germany, France and other countries run on hydrogen.

The big advantage of hydrogen is that when it is used as a fuel, it produces only water. No CO_2 and no potentially harmful emissions are produced. This makes hydrogen vehicles much better for air quality in urban areas.

And the chemical industry, far from being sidelined in the development of a hydrogen economy, is very much involved.

"We have a huge contribution to make," said Pete Williams, INEOS Group Technology Director. "But it cannot be done overnight. It's not like changing a lightbulb."

Today INEOS produces 250,000 tonnes of hydrogen a year. It is a co-product from producing chlorine and cracking gas and oil to make olefins and polymers.

The hydrogen is used in a number of ways: to remove the sulphur from crude oil, as a raw material for other chemical processes, or as a fuel in its plants.

INOVYN, a wholly owned subsidiary of INEOS, had previously used most of it to supply on-site boilers.

But the company is now looking at how that hydrogen could be more widely used to help eliminate harmful air quality pollutants from towns and cities – and power homes and businesses.

Today, about 95% of the world's hydrogen is made from methane gas.

"That's why at INEOS we have often talked about methane as being a transition fuel," said Pete. "Not only is it lower carbon and cleaner than the coal and oil it is displacing, but it also provides the bridge to a hydrogen economy until renewable energy becomes much more widespread."

Shale gas could be converted to green hydrogen in the same way as other natural gas supplies. The key would be to capture the carbon – produced in the process - and store it underground.

It is also one of the reasons why INEOS wants to develop an indigenous source of gas from shale rocks for the UK.

"The majority of the UK's natural gas comes from Norway and Russia via a European pipeline or is imported as liquid natural gas, including US shale gas," said Pete. Home-grown gas would increase Britain's energy security and provide a bridge towards the emission targets that the UK has set for 2050."

Once made, the hydrogen could be stored underground in the same way natural gas is stored today.

For decades INOVYN has used salt cavities in Cheshire in the UK to store hydrocarbons and recently received government funding to continue with a feasibility study (Project Centurion) to look at new hydrogen generation and storage options, including a potential plan to build a 100MW power-to-gas energy storage facilities at Runcorn.

"Storage is a vital component of delivering a viable hydrogen energy system in the UK," said Dr Frank Rourke, UK Country Manager of INOVYN. "We have the opportunity to develop a critical piece of national energy infrastructure at a huge cost reduction compared to above ground storage. Bespoke salt cavities could be created as part of our green economy."

Richard Stevenson, INOVYN's Storage Projects Manager, said INOVYN was ideally placed to drive innovation in the sector.

"Hydrogen production, supply and use has been happening in the North West of England for many years," he said.

INOVYN is now working closely with other members of the North West Hydrogen Alliance to make it happen.

"Hydrogen energy could be transformational for the North West and INOVYN is delighted to be working alongside other alliance members to drive this forward," he said.

Project Centurion will explore how energy storage can produce low carbon hydrogen for heat, decarbonisation of industry and transport fuels as well as contributing towards energy security.

"INOVYN is at the forefront of hydrogen innovation in the region and their knowledge, expertise and influence will be a real asset to our work," said Professor Joseph Howe, Chairman of the North West Hydrogen Alliance.

If hydrogen becomes more available, then it can also become a viable and sustainable green fuel for homes and businesses.

In the UK, gas networks are connected to more than 20 million homes, providing gas for heating and cooking.

National Grid's network could be used to feed hydrogen into homes.

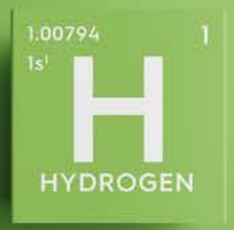
Pete is excited at what the future holds but says tests and investment in infrastructure are urgently needed.

It's not that it cannot be done. It's making sure it can be done economically. If it cannot, it's unsustainable. If it can, it's a game-changer. ➤

INEOS' new 4 x 4 – or at least one of the models – could be run on hydrogen.

The team behind Projekt Grenadier have been given a £121,000 UK government grant to evaluate the use of hydrogen fuel cells, which, like batteries, generate electricity that can drive the motor.

1. *Zero emission fuel cell bus, United Kingdom*
2. *Alstom hydrogen train, Thuringia*
3. *Auto hydrogen fuel fill-up, Los Angeles*
4. *The Toyota Motor Corp. hydrogen fuel cell powered truck*
5. *Electric hydrogen bicycle, France*
6. *Hydrogen powered forklift*



INEOS produces 250,000 tonnes of hydrogen a year at many of its sites around the world

Rafnes, Norway

Lillo, Belgium

Stenungsund, Sweden

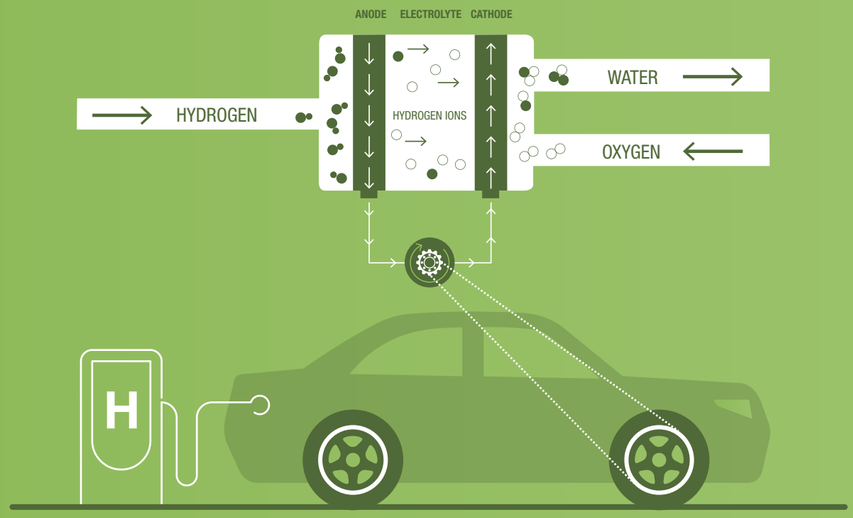
Runcorn, UK

Rhineberg, Germany

Jemeppe, Belgium

Tavaux, France

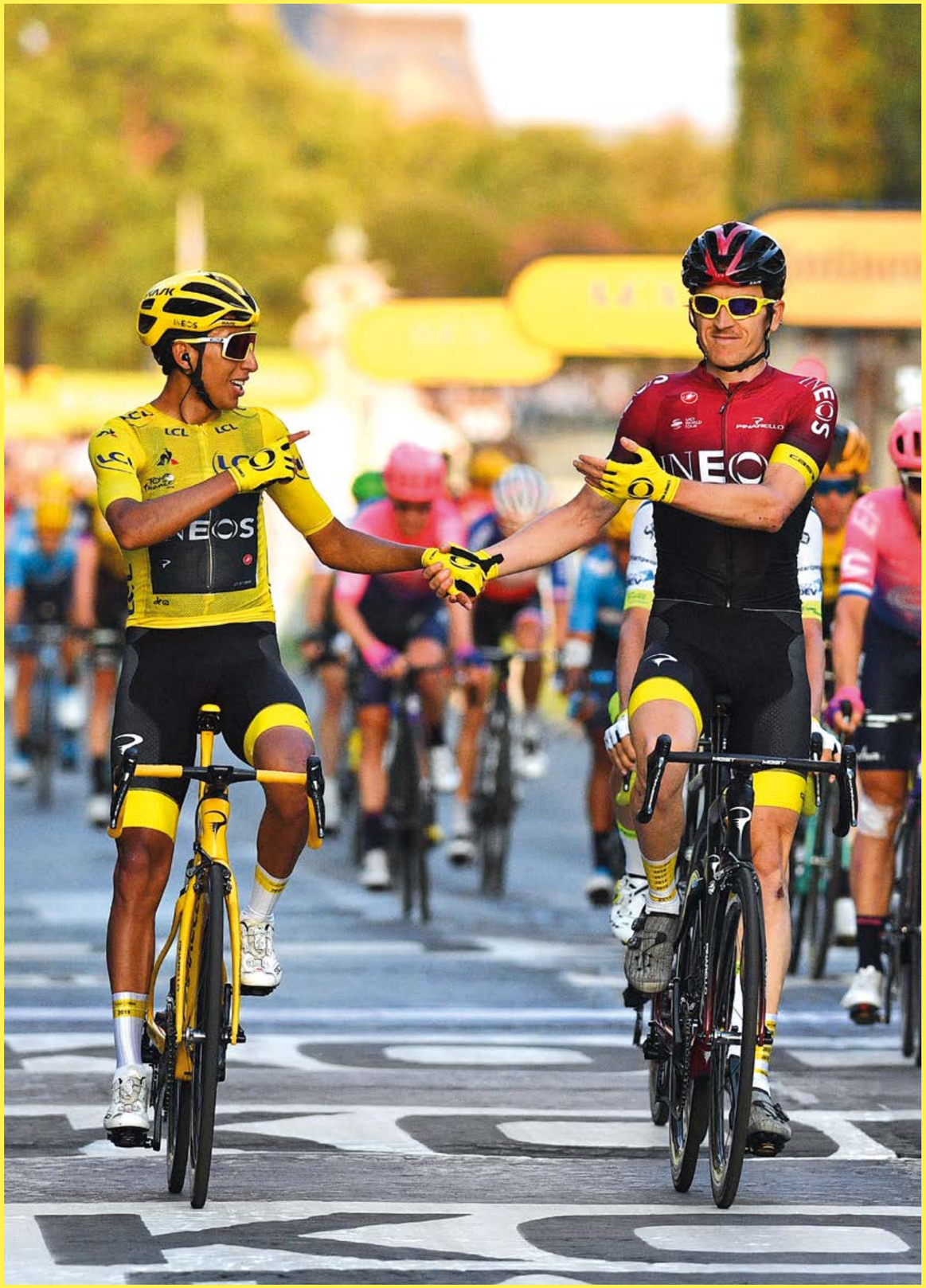
Rosignano, Italy



How hydrogen fuel cell vehicles work?

Fuel cells are a bit like a cross between an internal-combustion engine and battery power. Like an internal-combustion engine, they make power by using fuel from a tank (though the fuel is pressurized hydrogen gas rather than petrol or diesel). But, unlike an engine, a fuel cell doesn't burn the hydrogen. Instead, it's fused chemically with oxygen from the air to make water. In the process, which resembles what happens in a battery, electricity is released and this is used to power an electric motor (or motors) that can drive a vehicle. The only waste product is the water—and that's so pure you can drink it!

Think of fuel cells as batteries that never run flat. Instead of slowly depleting the chemicals inside them (as normal batteries do), fuel cells run on a steady supply of hydrogen and keep making electricity for as long as there's fuel in the tank.



-1-

Egan is the first Colombian ever to win the Tour

-5-

The 2019 success is the Team's fifth Tour title in a row

VICTOIRE

— Egan Bernal Tour de France Winner 2019 —

— A united Team INEOS make history in Paris —

-1909-

Egan became the youngest rider in 110 years to win the Tour de France

-7-

The Team have now won a remarkable seven Tour de France titles

Egan Bernal takes Tour de France victory

IN THE Team's first Tour de France as Team INEOS, Egan Bernal was the toast of Paris, making history by becoming the first ever Colombian to win the Maillot Jaune in the 106th edition of the race.

It was a magnificent effort from the whole team and staff throughout the three weeks, with 2018 winner Geraint Thomas joining Bernal on the podium, securing second place overall, for a remarkable 1-2 finish – with the pair embracing as they crossed the finish line in Paris.

The Team's Tour de France record went from strength-to-strength as a result of Bernal's victory – that's now a remarkable seven Tour victories, 17 stage victories and 91 yellow jerseys.

The man of the moment was visibly overcome with emotion at the end of the final stage, commenting: "Wow. It's incredible. It doesn't seem true. I've won the Tour de France but I'm struggling to understand it all.

"I saw my family after the finish and we celebrated together. It's just an incredible feeling."

In only his second year at World Tour level, Bernal's victory completes a quite remarkable 18 months or so for the 22-year-old Colombian, who only joined the Team at the start of the 2018 season.

A winner at Paris-Nice and Tour de Suisse already this year, this victory elevates him to superstar status both in the sport and back home in Colombia.

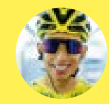
Victorious Team Principal, Sir Dave Brailsford, added: "To be able to deliver Colombia's first ever Tour de France champion is something really special – I feel very proud.

"A lot of people may have questioned having two leaders. It's worked to perfection and you can't get better than second and first.

"It's a privilege to get to work with all these people – fantastic riders, fantastic staff, fantastic new owners."

A Tour which offered countless twists and turns and endless dramas, the likes of which this race hasn't seen for many editions – yet at the end of one of the most unpredictable races in years, Bernal and Team INEOS reigned victorious, for a first Grand Tour success under INEOS' ownership.

Chapeau Team INEOS!



Name
Egan Bernal

DOB
January 13th 1997 (age 22 years)

Born
Zipaquira, Colombia

Joined Team INEOS
2018

Honours
2018:
Tour of California
Tour Colombia
2019:
Paris-Nice
Tour de Suisse
Tour de France

"He is really humble. He's still a kid who's enjoying being on the bike. This is the secret with him and the secret that we have to keep there for the future. We can't lose this perspective. We have to keep him enjoying himself, because we know he's going to keep working hard and if he's also enjoying himself, that's a big, big thing to achieve."

Xabier Artexte (Coach)

"He's a pleasure to ride with. I don't want to put pressure on the lad but he's 22, he's got 10 years in front of him, he could become one of the greatest ever. Froome is probably the best Grand Tour rider at the moment with his record and consistency but I think Egan can be just as good, or even improve."

Geraint Thomas (teammate)

"The harder the race gets, the better Egan gets. I think that's why as a Grand Tour contender now and in the future, the ability to resist fatigue is one of his greatest strengths."

Sir Dave Brailsford (Team Principal)

TEAM INEOS 7

War on Plastic with Hugh and Anita was a three-part series televised on the BBC earlier this year.

War on plastic waste

The public's perception of the plastics industry as evil, is hardening. So what can INEOS, as one of the world's biggest producers of plastic do to inform the debate and help tackle the real issue which is plastic waste?

SOCIETY would be lost without plastic. But it continues to be demonised in newspapers, on TV and on social media.

In the latest attack – watched by millions on television in the UK – Hugh Fearnley-Wittingstall questioned whether companies, like INEOS, should be making less plastic. Not more.

"The more plastic this industry produces, the more plastic will end up in our lives, whether we want it or not," he told viewers.

But the main focus of the three-part BBC series, War on Plastic, was on single-use, plastic packaging.

"The fundamental premise was that plastic packaging is evil," said INEOS Communications Director Tom Crotty. "But there was no recognition of the benefits to the reduction in food waste because it keeps food fresh for longer."

More troubling though for INEOS, was that the importance of plastic to our everyday lives was overshadowed. Viewers were left with the feeling that all plastic is bad.

"Much of the rise in plastics' demand around the world is not from packaging," said Tom. Plastic is in demand from car manufacturers, the construction industry, the engineering and pharmaceutical industries and hospitals.

Lightweight plastic parts in cars and planes have reduced fuel consumption, leading to a reduction in harmful emissions.

Insulation makes modern buildings far more energy efficient.

Heart stents, catheters, syringes, blood bags, prosthetics, pill casings, MRI machines, incubators, dialysis machines, sterile pharmaceutical packaging and operating theatres are all made of plastic.

And plastic pipes – which are easier and cheaper to install – are being used in some of the poorest parts of the world to bring fresh water to villagers for the first time.

"80% of our plastic goes into these sorts of applications and not into packaging," said Tom. "That's what's driving our growth. It is much more than straws and stirrers."

During the hour-long programme, Hugh also questioned the logic of INEOS' decision to ship shale gas from the US to Scotland so it could make more plastic.

But Tom said the manufacturing base had simply shifted from China and the Middle East to the USA because America had become, thanks to vast reserves of cheap shale gas, more competitive.

"Growth doesn't come from making more plastics," he said. "It comes from demand for the plastic by consumers. I could build a factory to make a billion typewriters but nobody would buy them."

INEOS, which manufactures billions of translucent plastic pellets every year for other industries, had provided the BBC film crew with open access to its Grangemouth site.

INEOS Communications Director Tom Crotty gives Hugh Fearnley-Wittingstall and the BBC a tour of the Grangemouth site in Scotland and explains the importance of the shale gas shipments to its business.

During filming, Tom said 100% of INEOS polymers could be recycled, but currently, only about 14% of plastic was recycled. "Much of it ends up in landfill but we think this is a waste," he said. "We want to use recycled plastic waste as a raw material because plastic should be used over and over again. And then, at the end of its life, we can recover the useful energy it contains by burning it."

INEOS is currently working on how to chemically recycle plastic. A new, leading-edge, non-mechanical process would turn plastic back into its basic molecular level so it could be fed as a raw material back into the plastic processes.

"This holy grail of plastic recycling is fast becoming a reality and will mean we can reduce our reliance on fossil fuels to make our products," he said.

INEOS has signed joint development agreements with Pyrowave, Agylix and GreenMantra. Using their patented technology and INEOS' manufacturing infrastructure, waste plastics could be turned back into chemical monomer building blocks.

"These building blocks will replace a portion of virgin raw material in our polymerisation process," said Tom.

And on the ground, INEOS is obsessive about zero pellet loss, at its own plants and through its hauliers and customers, as part of its commitment to Operation Cleansweep, the plastic industry's global initiative to handle plastic pellets with care so that they don't ultimately end up in the sea. ➤

'Plastic in all its forms is a good thing. It is one of the greatest and most successful materials ever created. A solution to a lot of our human problems. I care deeply about the environment and the future of our planet and believe behaviour change, government policy and science could all help to get this marriage between humans and plastic back on track.'
– Professor Mark Miodownik, a material scientist at University College, London

Plastic Fantastic!
Discover more about plastic on Mark's podcast on the BBC website

Zero Pellet Loss

Actions always speak louder than words. And that's why Operation Cleansweep, the plastic industry's pledge to prevent plastic pellets being lost to the environment, is working at INEOS' sites

A VOLUNTARY initiative to help prevent tiny plastic pellets from being lost to the environment is working. INEOS says Operation Cleansweep has made a huge difference to the way it runs its sites in Antwerp, Rønningen Grangemouth and other sites around the world.

And the company says its success is largely due to intensive training, the sharing of best practices, a change in attitude across the entire supply chain and significant investment, which involves the redesign of the polymer loading chutes.

It has also provided them with a framework so they can judge their own performances.

Today, even one pellet lost at any of INEOS' sites is considered unacceptable.

"We are all very proud of what we are doing here," said Inge Nilsen, Production/ Process Engineer at INEOS Bamble, the polyolefin production unit at Rønningen Industrial area near Rafnes in Norway.

INEOS makes the tiny, translucent pellets before they enter a complex supply chain for other manufacturers to melt, mould and convert them into all kinds of plastic products.

In the past, those pellets might have been lost anywhere within the complex supply chain. But times have changed.

In Norway, any spillages on INEOS' site used to be registered, to be fixed later. "Any spillage now is dealt with immediately," said Inge.

Today even one pellet lost at any of INEOS' sites is considered unacceptable.

At Rønningen, double guards have also been fitted to every gutter to stop the translucent pellets from being washed into the underground drains.

And a dedicated operator has been hired to drive a street sweeper around the areas considered to be most at risk.

Tobias Hannemann, CEO O&P UK, said changes had been made at Grangemouth to reduce the loss of pellets – even before the site had signed up to Operation Cleansweep. "We've had a number of measures in place including rumble strips and air blowers to remove stray pellets from trucks and pellet water separators on the manufacturing plant," he said. With Operation Cleansweep though, came even more.

Over 200 fine mesh sieves have been installed inside the drains and additional cleaning stations have been created so that staff are never more than 10 metres away from the equipment.

They are also working with specialists to redesign the polymer loading chutes to reduce the risk of pellets being lost when the tankers are being filled.

In addition, the number of daily checks of the wastewater from the polymer plants has been increased and there are 'OCS Champions' on each shift.

"As a local resident and employee, I am extremely aware of how important it is to ensure we minimise our impact on the local environment," said OCS Champion Gemma Taylor. But Grangemouth doesn't just want to keep its own site in order.

"That's the least we can do," said Peter Malley, Supply Chain Project Manager at Grangemouth.

The Scottish site is also working with all those involved in the supply chain to encourage them to sign up to Operation Cleansweep.

"The supply chain system is extremely complex and pellets are handled by many different companies," said Stuart Keillor, Supply Chain Manager.

"We have increased awareness of the principles of OCS right across the supply chain. Whereas previously some of our hauliers may have taken a voluntary approach to OCS, we have now mandated that they incorporate the principles into their operations."

Trucks are now monitored and drivers have become accountable for the cleanliness of their vehicles before leaving the site.

"INEOS is a leader of change for Operation Cleansweep," said Chris Seagriff, Regional Operations Manager for Haulier XPO Logistics. "They have clearly adopted the principles alongside those that were already in place to further enhance their operations and reduce significantly the risk of any pellets finding their way out of the supply chain."

Grangemouth has also been working with environmental groups such as Fidra.

"Plastic pellets on beaches are a totally preventable source of pollution," said Madeleine Berg, Project Manager at Fidra. "As industry leaders, INEOS not only have the opportunity, but also a duty to lead the way practically to solve this pollution problem."

Across the Channel, staff at INEOS' Antwerp site are determined to help with that too as part of their commitment to Operation Cleansweep.

INEOS Styrolution has invested heavily in training and improving equipment on the site to ensure pellets don't ultimately end up in the ocean, where they can be mistaken for food by fish.

It is also following Grangemouth's lead and involve the entire supply chain.

"If we can all get involved, we can make a real difference," said site director Toon Van Melckebeke. ➤

INEOS Bamble, Rønningen, Norway

ACTIONS

- All operators and employees handling pellets have been trained.
- Spillages are dealt with immediately, not simply logged.
- Double guards fitted to gutters to stop pellets disappearing into the underground drains.
- Dedicated operator employed to drive a street sweeper to avoid pellets ending up in the environment.

INEOS Styrolution, Antwerp, Belgium

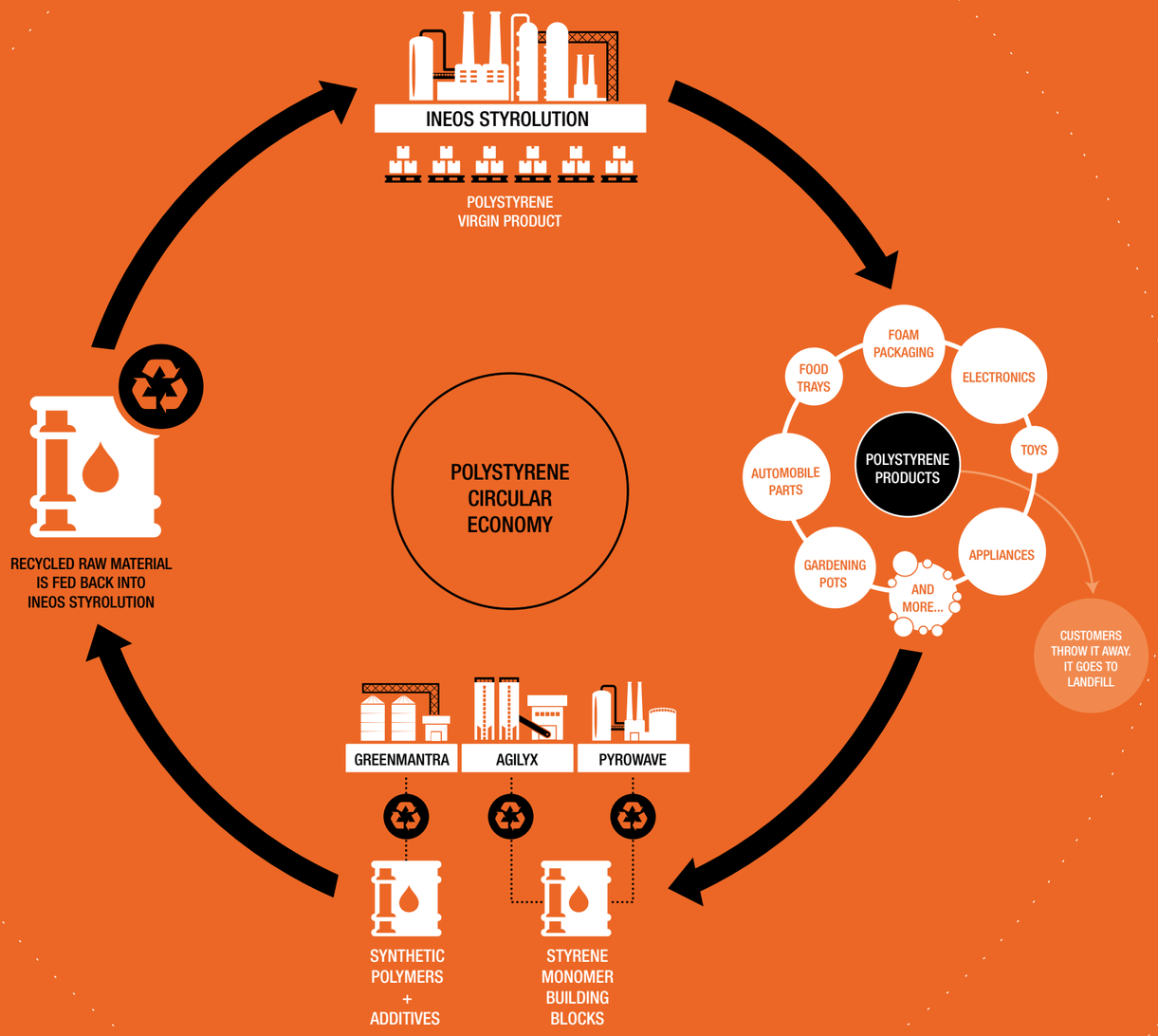
ACTIONS

- Basket filters and collection basins fitted to ensure no pellets leave the site.
- Staff now more aware of the need to keep the site clean.
- Site is part of the 'Zero Pellet Taskforce' organised by the Port of Antwerp and staff regularly join clean-up events.

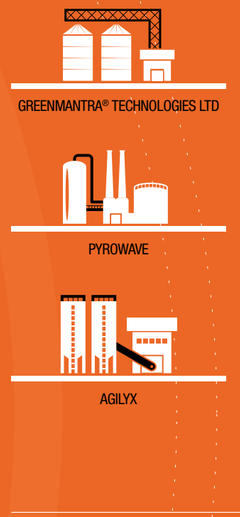
INEOS, Grangemouth, Scotland

ACTIONS

- More than 200 fine, mesh sieves installed in the drains.
- Extra cleaning stations installed.
- Specific specialised training for all staff.
- Loading chutes are also being resigned.



INEOS signs agreements with three companies that share its vision for a sustainable world



INEOS Styrolution is now working closely with three pioneering companies which share its vision for a more sustainable world. And as INCH was going to press more partnerships were being discussed.

Two of these companies, Agilyx and Pyrowave, use depolymerization technology to convert polystyrene waste back into its original styrene monomer building blocks.

"That is a valuable raw material for INEOS Styrolution," said Cassie Bradley, Sustainability and Circular Economy Manager, North America. "We can use our existing infrastructure to convert recycled styrene back into polymer with properties identical to virgin material."

The latest deal is with a specialty chemical company, which has figured out how to convert polystyrene waste into high quality, synthetic polymers and additives.

Through that process, GreenMantra® Technologies Ltd also recovers styrene monomer, the building blocks used by INEOS Styrolution.

"People said it couldn't be done, but it is being done," said Mohammed Abboud, Product Manager at INEOS Styrolution.

He said the partnership with all three companies was important because it meant INEOS Styrolution could create a valuable, renewable pathway for polystyrene waste, by utilising recycled material to make its products.

"In doing that we move ever closer to a more circular economy where plastics are reused rather than landfilled," he said.

These companies are all big hitters. INEOS' partners have the technological expertise; INEOS Styrolution has the manufacturing know-how.

Together they aim to recycle the polystyrene sent to landfill and show society that it is too valuable to simply throw away.

First though, INEOS Styrolution needs to ensure the monomer produced by each partner is pure enough to meet its strict specifications to replace its virgin raw material.

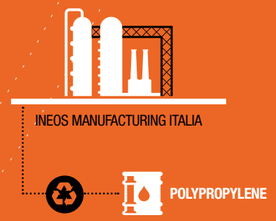
Once achieved, the new raw material will be fed into INEOS Styrolution's polystyrene production facilities alongside conventionally produced virgin monomer.

"It is a pleasure to collaborate with companies that share our commitment to pursuing a circular economy," said Ricardo Cuetos, VP Standard Products, INEOS Styrolution America LLC. ➤

'It is a pleasure to collaborate with companies that share our commitment to pursuing a circular economy.'

– Ricardo Cuetos, VP Standard Products, INEOS Styrolution America LLC

INEOS is investing in a new research facility to develop the next generation of reusable plastics



INEOS is investing millions in research and development to help create a more circular economy.

It is building a new research facility in Italy to develop the next generation of reusable plastics at its site in Rossignano.

It is planning to focus on developing polypropylene which can be used in electric cars and advanced packaging.

"Both of them want more high quality components that are lightweight and easy to recycle," said Andrea Vittone, managing director and site manager at INEOS Manufacturing Italia.

Polypropylene is easy to reuse and recycle and is great for long-term durable applications such as car bumpers.

It is tough, flexible, doesn't react with water and detergents, and can easily be sorted by recycling companies.

Once recycled, INEOS can mix it with a new material so it can have a second life as something new.

Today a lot of packaging is made up of a mixture of different types of plastic which are difficult to separate and reuse.

"All of us are aware of the problems of plastic but now we must work on the solutions," said Andrea.

INEOS is determined to develop new polypropylene products that add value and bring us closer to a circular economy.

"None of us can live without plastic," said Andrea. "But we realise that we must add value to plastic waste and not throw it away." ●

'None of us can live without plastic. But we realise that we must add value to plastic waste and not throw it away.'

– Andrea Vittone, managing director and site manager at INEOS Manufacturing Italia

ALTERED CARBON

RECYCLED carbon fibre is being used by those who are building the boat that INEOS Team UK believes could make history.

So far 1000kg of 'waste' has been used by the British challengers for The America's Cup in the building process for the AC75 boat which will compete in Auckland in 2021. "The reuse of carbon fibre products is a real game changer," said Alan Boot, Naval Architect for INEOS Team UK. "We are diverting waste away from landfill and closing the loop in our production methods wherever possible."

A few years ago, carbon fibre, which had been used before, could not be recycled. But ELG Carbon Fibre has overcome the technical barriers and developed a method to recycle used composites so they don't have to be scrapped. "Their products have fitted seamlessly into our manufacturing processes which demonstrates how successfully these materials can be in a range of commercial markets," said Alan. He added: "This is a really exciting time in terms of boat production and will hopefully lead the way for other manufacturers to follow suit."

ELG has been working with INEOS Team UK since the campaign – to win sailing's most coveted trophy – began last year. "We both view this partnership as a vital step in addressing the issue of global carbon consumption and raising awareness of the urgent need to move towards closed loop recycling within the marine industry," said Alan.

ELG, a market leader in recycled carbon fibre materials, has been recycling the recovered fibres for INEOS Team UK at its specialist plant in the West Midlands. There, the fibres are converted into milled and chopped products to make thermoset and thermoplastic compounds and non-woven mats.

Although precise details of the INEOS boat's design remain a closely-guarded secret, ELG says its recycled non-woven materials have been used to produce two cradles to support the AC75 during transit as well as the hull and deck moulds.

"This is the perfect partnership," said Frazer Barnes, ELG Carbon Fibre's Managing Director. "Our products are helping to support the vital message of sustainability in elite sport and that is something we are very proud to be associated with."

Meanwhile, INEOS Team UK's AC75 Boat 1 will be launched later this year. Read more on this story on page 28-29.

For more details about ELG visit the website: www.elgcf.com

ELGCF

"Our products are helping to support the vital message of sustainability in elite sport and that is something we are very proud to be associated with."
Frazer Barnes, Managing Director ELG Carbon Fibre

In August 2018, INEOS TEAM UK the British Challenger for the 36th America's Cup launched its test boat, known as T5. It was the first of the teams to launch a small scale foiling mono-hull.

T5

AC75

The AC75 is a 75-ft monohull sailboat class, governing the construction and operation of the yachts to be used in the 2021 America's Cup.

CREW:
11 + guest
MAST LENGTH:
26.50 m (87 ft)
LOA:
22.86 m (75 ft)
BEAM:
5.00 m (16 ft)
LOH:
20.70 m (68 ft)

- **425,000 tonne acrylonitrile plant**
- **400,000 tonne LinearAlphaOlefin (LAO) plant**
- **World-scale PolyAlphaOlefin (PAO) facility**

Welcome to The Kingdom

$2 billion investment in the Middle East is a first in company's 21-year history

INEOS is to invest $2 billion in Saudi Arabia. Chairman Jim Ratcliffe described it as a major milestone in the company's 21-year history. "This marks our first investment in the Middle East," he said.

A new 425,000 tonne acrylonitrile plant – and the first of its kind in the Middle East - will use INEOS' world-leading technology.

"Global demand for acrylonitrile continues to grow ahead of GDP, to meet the demand for lighter, stronger, energy efficient materials such as ABS, composites and carbon fibre," said Paul Overment CEO INEOS Nitriles.

INEOS also plans to build a 400,000-tonne LinearAlphaOlefin (LAO) plant and associated world-scale PolyAlphaOlefin (PAO) facility.

"We are one of the world's leading merchant suppliers of LAO and PAO," said Joe Walton, CEO INEOS Oligomers. "The size and location of these new plants reinforces our commitment to keep pace with our customers' expanding requirements globally."

All three plants, which will produce the key building blocks for carbon fibre, engineering polymers and synthetic lubricants that are pivotal to economic growth in the region, are expected to begin production in 2025.

The decision to invest in the Middle East follows recent investments in Antwerp, the UK, China and America.

Once built, the Jubail 2 petrochemical complex will supply more than $4 billion of downstream derivatives and speciality chemicals units.

"The timing is right for us to enter this significant agreement in Saudi Arabia with Saudi Aramco and Total," said Jim. "We are bringing advanced downstream technology which will add value and create further jobs in The Kingdom." ●

Main Image: Riyadh skyline at night, Capital of Saudi Arabia

VLEC

VERY LARGE ETHANE CARRIER

SHALE gas from America is now being shipped to China for the very first time – thanks to INEOS. Having already made one journey to deliver ethane to Europe, the new VLEC vessel JS INEOS Marlin left the US with its precious cargo of 85,000m³ liquefied ethane gas in July as it began its 18,900 km journey across the Pacific Ocean to Taixing City in Jiangsu province.

For INEOS, which secured the deal with SP Chemicals, it is the start of an historic project to deliver on what it promised the Singapore-an company in November 2017.

"This is another world first," said David Thompson, CEO of INEOS Trading & Shipping. "We are now leading the way in shipping ethane worldwide to meet the needs of an expanding chemicals sector."

INEOS began shipping Ameri-ca's competitively-priced ethane to Europe in 2015 after creating a virtual pipeline across the Atlantic Ocean. That ground-breaking decision saved the Grangemouth petrochemical plant in Scotland from closure.

Today eight 'dragon' ships reg-ularly transport ethane to INEOS' plants in the UK and Norway.

The deal with SP Chemicals re-quired the construction of an even bigger vessel, known as a VLEC (Very Large Ethane Carrier).

"It has approximately three times the cargo capacity of our dragon ships," said David.

The ship was officially named by Aimee Ratcliffe on May 7 at the Enterprise Products Terminal at Morgon's Point in Houston.

It will be operated by Jaccar/ Evergas and is the first VLEC in the company's fleet of gas ships.

SP Chemicals, which already operates styrene and VCM produc-tion plants, is currently commis-sioning a new gas cracker, capable of making over 650,000 tonnes of ethylene from the imported ethane every year.

"This is an important milestone for SP Chemicals to achieve self-suf-ficiency for its ethylene require-ments," said CEO Chan Hian Siang.

Manufacturers use ethylene to make everything from clothing to mobile phones.

INEOS is not concerned about undermining its own competitive advantage in the world by supply-ing China with cheap raw materials.

"There are several further gas cracker projects being planned in China and it is exciting that INEOS will be the first company to export ethane to China," said David. ●

JS INEOS Marlin

The worlds first Type-C 85k VLEC

85,000m³

Liquefied gas capacity

232 metre

Length of carrier

-104°C

Minus 104 degrees Celsius is the temperature necessary to maintain ethane in a liquid state

3x

It has approximately three times the cargo capacity of INEOS dragon ships

SUPER HUMANS

WHY INEOS HAS ALWAYS BEEN DRAWN TO THOSE WITH GRIT, DETERMINATION AND FOCUS

INEOS doesn't believe in half measures. 'That'll do' just won't do. The company believes that individuals can excel when challenged and great teams can achieve extraordinary results.

So it's hardly surprising that it is also drawn to other kindred spirits with grit, determination and the clear focus that INEOS tries to inspire across the company.

Over the years INEOS has donated Millions of Euros and Dollars to help develop a healthy interest in sport, particularly among the young. And it's in any sport. Ice hockey. Football. Rugby. Running. And in virtually every country close to the sites where it does business.

"INEOS revolutionised our club," Sacha Weibel, Chief Executive Officer of Lausanne Hockey Club, told INCH magazine.

More recently, though, INEOS' focus has turned to elite athletes. Those, who despite excelling at what they do, still have the hunger, desire and belief that anything is possible.

"No one should ever tell INEOS that something cannot be done," said John Mayock.

INEOS is now supporting Britain's bid to win sailing's most coveted trophy for the first time in its 168-year history.

Through the INEOS 1:59 Challenge, it is supporting Eliud Kipchoge on his journey to become the first person to ever run a marathon in under two hours.

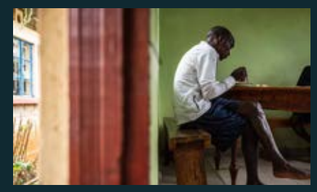
And it is also the proud owner of Lausanne-Sport, one of Switzerland's most established football clubs.

INEOS Chairman and founder Sir Jim Ratcliffe, of course, is passionate about sport. He runs marathons, cycles and has trekked to both the North and South Poles. He understands what drives men and women to push the boundaries of what is deemed humanly possible. He understands what it takes to be a winner, like Team INEOS rider Egan Bernal – the 22-year-old Columbian who won this year's Tour de France. ➤

1:59 CHALLENGE

#NO HUMAN IS LIMITED

INEOS INVESTS IN A KINDRED SPIRIT WITH GRIT, DETERMINATION, FOCUS AND THE BELIEF THAT ANYTHING IS POSSIBLE



'To get a chance to break the magical two-hour mark is incredibly exciting. The secret is believing in myself that I can do it'

- Eliud Kipchoge

GRASSROOTS LEVEL

Two INEOS-backed initiatives to encourage children to be more active and healthy continue to take the world by storm.

GO Run For Fun is now regularly hosting 2km races in seven countries. And at the last count, 302,388 children had crossed a finish line somewhere in the world.

The initiative was launched in the UK in 2013 by INEOS Chairman Sir Jim Ratcliffe amid concerns about the growing obesity crisis among children.

The Daily Mile, which was founded by former Scottish headteacher Elaine Wyllie in 2012, has also become a runaway success thanks to support from INEOS.

From one school in Scotland, it is now being run every day in 8,888 schools and nurseries in 65 countries, including – for the first time – America.

Nearly 2 million children around the world are running a daily mile.

IT'S human nature to push boundaries. To go where no man has ever gone before. Sir Edmund Hillary did it when he climbed Mount Everest. Now it's Eliud Kipchoge's time to shine.

On May 6, 1954, Roger Bannister achieved what many people had thought was near impossible. The then 25-year-old full-time medical student broke the four-minute mile at the Iffley Road track in Oxford, in the UK.

It remains one of the most iconic events in the history of sport. Later this year, it will be Eliud Kipchoge's turn.

The greatest marathon runner of all time will be attempting to run 26.2 miles in under two hours. Many, again, believe it is impossible.

But not INEOS. Nor Eliud. Both believe it can be done. And the stage is due to be set in October as part of the INEOS 1:59 Challenge.

"Eliud has got the great part to play," said INEOS Chairman Jim Ratcliffe. "We can just facilitate it. But however good we are at getting the details right, it's still a super-human feat."

Eliud came close to making history in his first attempt when he clocked 2:00.25 in a specially-created event at Monza, Italy, in May 2017.

"That was the proudest moment of my career," he said. "To get another chance to break the magical two-hour mark is incredibly exciting. The secret is believing in myself that I can do it. And I always say that no human is limited and I know that it is possible for me to break this barrier."

The venue for the INEOS 1:59 Challenge will be Vienna at some point between the 12th and 20th October this year. The selection of Vienna as the location for Eliud Kipchoge's INEOS 1:59 Challenge was the culmination of an extensive worldwide search that started with a map of the world and ended with a pinpoint in the Austrian capital. Vienna offers a perfectly flat looped circuit.

A major marketing campaign will publicise the run and live coverage will be broadcasted across the world.

Tens of thousands of spectators are expected to attend.

In INEOS, Eluid believes he has found the perfect partner to match his vision and who can inspire him and his team, to show the world that no human is limited.

"Eliud is the greatest-ever marathon runner and the only athlete in the world who has any chance of beating the two-hour time," said Jim. "We are going to give him all our support and hopefully witness sporting history." ➤

THE AMERICA'S CUP

FLYING THE FLAG

WORK GOES ON TO DESIGN THE FASTEST BOAT IN THE WORLD

The race boat for the Americas Cup will be a 75 foot foiling mono hull, very different to the INEOS Rebels GC32 class of foiling catamaran, seen here in the GC Racing Tour.

THE British team who are plotting to win sailing's most coveted trophy are on cloud nine.

They believe they may already have designed the boat that can win the 36th America's Cup. But with the race scheduled for March 2021, it is still too early to say and they know there is no room for complacency.

"When we get to the race, we have to know that the team we have and the boat we have, cannot be built any better," said Sir Ben Ainslie, skipper and team principal of INEOS Team UK.

David Carr, one of the sailors, said the team had now entered a new age of America's Cup racing. "We are no longer floating," he said. "We are flying."

'Pushing a boat through water is harder than pushing it through air'
- David Carr

The aim is to get their boat up in the air and out of the water for one simple reason. "Pushing a boat through water is harder than pushing it through air," he said.

Once airborne, the new AC75 boat can travel at 60mph – about four times faster than the speed of the wind.

The boat will be relying on the same technology as an aircraft, using hydrofoils instead of wings to lift it out of the water. The secret is in the shape.

"It is such a unique class of boat we are designing and it is a really big technical challenge," said CEO Grant Simmer, who has won The America's Cup four times.

"We are really heading into unknown territory with this class of boat."

To test what will, what won't and what might work, INEOS Team UK designed a 28ft boat, known as T5.

"The great thing about the T5 was that we launched it really early so we have been able to learn a lot and quickly about this new style of boat," said Grant. "And because it is a relatively small scale boat, we have been able to do things fairly economically."

Ben said the actual race boat would be unlike anything the world had ever seen before.

"Every decision we make will really push the boundaries of innovation," he said. "But we are not just building a boat. We are building a team."

That team of sailors is now complete. The 17 athletes are made up of 'afterguards' and 'grinders'. The afterguards' role is technical; they are not needed to power the boat.

As such, they need to be lean and light – and watch their weight. The grinders are effectively the engines. They get to eat. A lot.

Ben Williams, head of human performance, said the importance of recovery after arduous training sessions had also changed to reflect the new roles in the boat.

The squad was recently issued with top of the range Specialized road bikes by INEOS Chairman Jim Ratcliffe, who is a keen cyclist himself.

"Sitting on a bike in a gym can be quite monotonous and boring, so having access to a road bike where they can have a bit of fun and be out in the fresh air, is great," said Ben. "The only difference is the grinders get to eat cake at the coffee stop."

GRASSROOTS LEVEL

Disadvantaged children are being given the chance to learn to sail for the first time – thanks to INEOS.

The 1851 Trust, the official charity of INEOS Team UK, has been funding 10-week courses across the UK for children from inner-city schools.

The Trust has also been helping to bring science and technology to life in the classrooms and has launched a free, digital education programme for 11 to 16-year-olds.

TEAM INEOS

FORTUNE FAVOURS THE BRAVE

COLUMBIAN, 22, MAKES HISTORY AS HE WINS TOUR DE FRANCE FOR TEAM INEOS

THE world's best team of cyclists have an ideal partner in INEOS. Both want to be the best they can be. And both demand nothing but the absolute best.

Even though Team INEOS lost lead rider Chris Froome earlier this year to injury, the team still had one goal: to win this year's Tour de France.

The team was unveiled as Team INEOS in May.

At the launch Sir Dave Brailsford, the team's principal, said INEOS' takeover from Sky heralded an exciting new beginning.

"We have had a very successful team and we will be looking to maintain that," he said. "But we are looking to grow as well. This is about something new, something pioneering and building something bigger and better."

The first race in the team's new colours was the four-day Tour de Yorkshire, which Team INEOS went on to win.

Chris Lawless finished off an incredible display of teamwork to clinch overall victory.

"To repay INEOS like this, at a home race, is really special," he said.

The team are also now riding a brand new bike – the Pinarello Dogma F12 – deemed to be the hottest bike in the world.

"It is an absolute weapon," said a spokesman for the Global Cycling Network. ➤

"I cannot believe what happened, I cannot believe it."

– Egan Bernal, Team INEOS

GRASSROOTS LEVEL

IN 2017 INEOS was no longer happy to just watch the Tour de France from the sidelines.

So it challenged its staff to match the miles covered by the real riders each day – and raise money for charity.

By the end of the first Tour de France Challenge, more than 1,000 people – working in teams – had collectively cycled 324,393km.

Last year they rode 400,000km – the equivalent of cycling 10 times around the Earth – bringing the total raised for charity to almost €100,000.

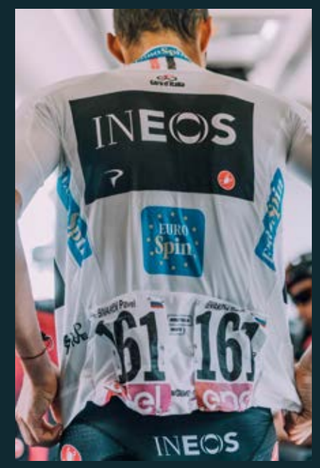
This summer, 1,325 members of staff from Belgium, France, Germany, Switzerland, the US and the UK went even further.

The 64 teams covered 625,387km, squeezing in their mileage before, during and after work.

In 23 days INEOS' cyclists burned more than 10 million calories as they scaled the equivalent of Mount Everest 323 times, losing almost 20,000 litres in sweat in the process.

The winning team – nicknamed Team Cool Colonia – clocked up 25,449km.

The men's winner of the yellow jersey was Raymond Schmitt and Jodi Garner won the women's vest.



FC LAUSANNE-SPORT

FEVER PITCH

AS THE NEVV STADIUM TAKES SHAPE, INEOS LOOKS FORVVARD TO A BRIGHT FUTURE AT FC LAUSANNE-SPORT

THE new stadium at FC Lausanne-Sport is taking shape. The Swiss club, which INEOS owns, hopes the Stade de la Tuilière will host its first game in June next year.

"It will be a magnificent stadium, especially for the players, the staff and the supporters," said Bob Ratcliffe, President & CEO.

The new training centre, which INEOS believes is essential for the club and its success, is also currently under construction.

INEOS bought the club, which then competed in Switzerland's top football league, in November 2017.

It has since been relegated, but INEOS remains confident that the club can claw its way back to the top.

"We had hoped to do it in one year, but we didn't quite achieve it," said Bob. "Like all fans, we were disappointed and frustrated, but opportunities exist and we will work on each of them."

He said INEOS wanted to develop the club. "We are going to try new things and we will do things differently," he said. "All may not be successful but we will try. Again and again."

GRASSROOTS LEVEL

YOUNG African footballers will soon have the chance to develop their skills at a world-class facility in their own country.

Two football academies will be built and operated.

David Thompson, CEO INEOS Trading & Shipping, said the deals between INEOS and the Tanzanian and Rwandan Football Associations, had been inspired by INEOS Chairman Jim Ratcliffe.

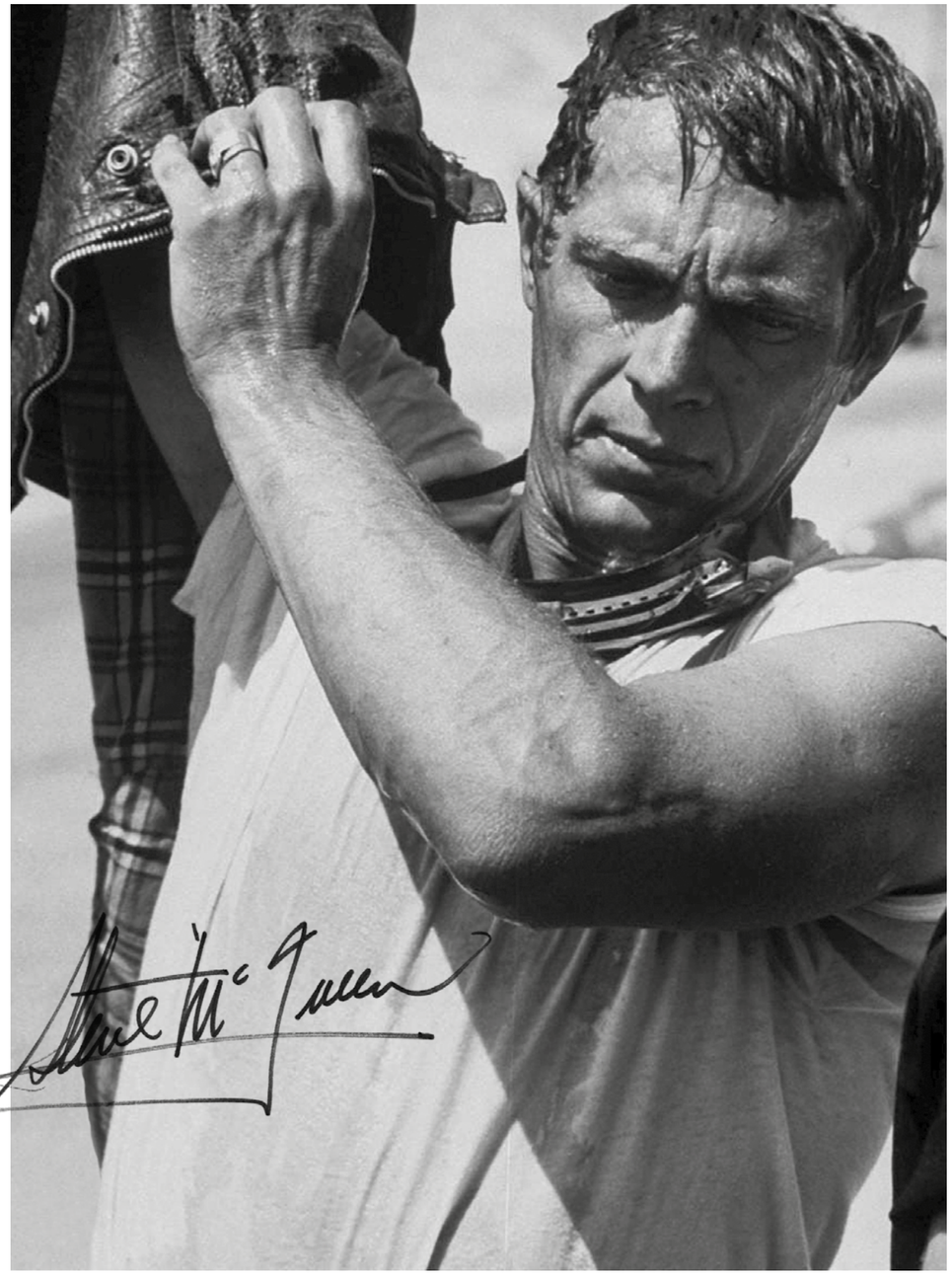
"Jim thought young people deserved to have such an opportunity," he said.

Each academy will have at least three full-sized pitches, some five-a-side pitches, and a gym with medical facilities, classrooms, offices, a laundry, a kitchen, a dining room and accommodation for up to 96 students.

The training will be aimed at the U15s, U17s and U19s with extra camps laid on for younger players during the holidays.

David, who said negotiations were taking place with the Botswanan government for a possible third academy, said football would not be the only focus.

"The concept is very much one of a three-pillar structure," he said. "All students will be expected to continue with full-time education, and we will be providing advice and education regarding social and welfare issues including the importance of diet."



Steve McQueen
An American actor nicknamed The King of Cool. His anti-hero persona developed at the height of the counter-culture of the 1960s and made him a top box-office draw during the sixties and seventies.

A History of Adventure

From exploration, aviation and motorsport to catwalks across the world and a firm favourite among the great and good. Belstaff has been synonymous with adventure ever since it was founded in 1924 by Harry Grosberg and his father-in-law Eli Belovitch, who traversed the globe in search of innovative technologies. And that label has stuck.

BELSTAFF
ENGLAND 1924

Ernesto "Che" Guevara
An Argentine Marxist revolutionary, physician, author, activist, guerrilla leader, diplomat and major figure of the Cuban Revolution.

Amelia Earhart
An American aviation pioneer and author. Earhart was the first female aviator to fly solo across the Atlantic Ocean.

"Belstaff is, at its heart, a brand for those who want to push the limits"

Doreen Evans
One of the leading female racing drivers of the 1930s. Doreen Evans was the youngest child in a motor-racing family whose business, the Bellevue Garage in Wandsworth, was a leading MG agency.

LITTLE may be known about Eli Belovitch and his son-in-law Harry Grosberg but their names will forever be linked to one of the most iconic clothing brands in history. For Belstaff, now owned by INEOS, owes its origins to those two men who set up a business in Stoke-on-Trent in 1924 – the same year that explorer George Mallory vanished on Mount Everest.

Had Mallory lived, he too would probably have become a fan of their waxed cotton, breathable, waterproof jackets. For although chiefly designed for motorcyclists, Belstaff quickly became the adventurers' brand of choice. And it's a label that stuck.

Pioneer Amy Johnson wore a Belstaff jacket when she became the first woman to fly solo from England to Australia in 1930. Mountaineer Chris Bonington sported Belstaff gear when he made the first ascent of 'The Ogre', a steep, craggy and challenging 23,901ft peak in Pakistan's Karakoram range. And British Army officer Lawrence of Arabia's tunic of choice was a Belstaff 'colonial coat'.

In fact, over the past 95 years, Belstaff has kitted out some of the most daring people the world has ever seen, including Communist revolutionary Che Guevara who was shot dead by a soldier in Bolvia in 1967.

"Belstaff is, at its heart, a brand for those who want to push the limits," said creative director Sean Lehnhardt-Moore.

The Trialmaster waxed-cotton jacket that Che Guevara – and others – wore is still made by Belstaff today.

When it was introduced, it was designed to survive the harsh weather and riding conditions of the Scottish Six Days Trial. First to put it to the test was 18-year-old Sammy Miller who went on to wear Belstaff in more than 1,000 races and has a line of jackets named in his honour.

But it is perhaps actor Steve McQueen who should be credited for widening Belstaff's appeal.

He sported a Belstaff jacket in the classic, 1963 wartime film, The Great Escape and soon after it began to gain cult status among the rich and famous.

Today Belstaff jackets have been seen on the backs of Ewan McGregor, Kate Moss, Will Smith, David Beckham, Angelina Jolie, Johnny Depp, Brad Pitt and Hilary Swank.

And they have appeared in a host of Hollywood films including Mission: Impossible III, The Curious Case of Benjamin Button, Wall Street 2, Harry Potter and The Half Prince, and Eastern Promises.

INEOS Chairman and Founder Sir Jim Ratcliffe said, when INEOS bought Belstaff in 2017, that he wanted to champion iconic, prestigious British brands.

"We have a lot in common," he said. "We are British, we are entrepreneurial, straightforward, adventurous and most importantly, we are successful." ➤

Levison Wood
British Army officer and explorer, who was known for his extended walking expeditions in Africa, Asia and Central America.

David Beckham OBE
English former professional footballer, the current president of Inter Miami CF and co-owner of Salford City.

Tracey Curtis-Taylor
British aviator who has organised and piloted multiple flight expeditions with historic aircraft across Asia, Europe, Africa, Australia and America.

Sir Ben Ainslie
One of the most successful sailors in Olympic history. He won medals at five consecutive Olympics from 1996 onwards, including gold at the four Games held between 2000 and 2012.

Meet Refresh Refuel

Belstaff is going hell for leather to give its customers all over the world more than they expect from a high street store.

It is investing in the iconic brand because it wants people to see the shops as more than just places to buy clothes.

And in the UK – where Belstaff reopened its Spitalfields store in East London in February - it's not gone unnoticed.

"Where other shops are closing down in bigger numbers than ever before, Belstaff are innovating and reopening left, right and centre," said Natasha Colyer, editor-in-chief of Seen in the City.

The Spitalfields store has been modelled on Belstaff's industrial heritage and now has a corner where customers can meet, refresh and refuel.

"Customers can now enjoy a hot drink, or, if the mood takes them, something a little stronger, like a perfectly-mixed G&T," said Belstaff's creative director Sean Lehnhardt-Moore.

But the Spitalfields store is just the first store to acquire the new-look. All of Belstaff's stores, all over the world, will follow suit.

In May Belstaff moved its flagship German store to 25 Residenzstrasse in Munich and opened Café@Belstaff on the first floor. The café itself has always been a destination, thanks to the incredible mural that features behind the bar.

Café@Belstaff, which serves coffees, teas, German wines and beers and cocktails, is being run by the owners of Frank, a much-loved restaurant across the road. ●

BRUTAL AND BRILLIANT

IN NAM 19

GRADUATE DESERT CHALLENGE

29 INEOS GRADUATES

7 DAYS

325KM

SEARING HEAT

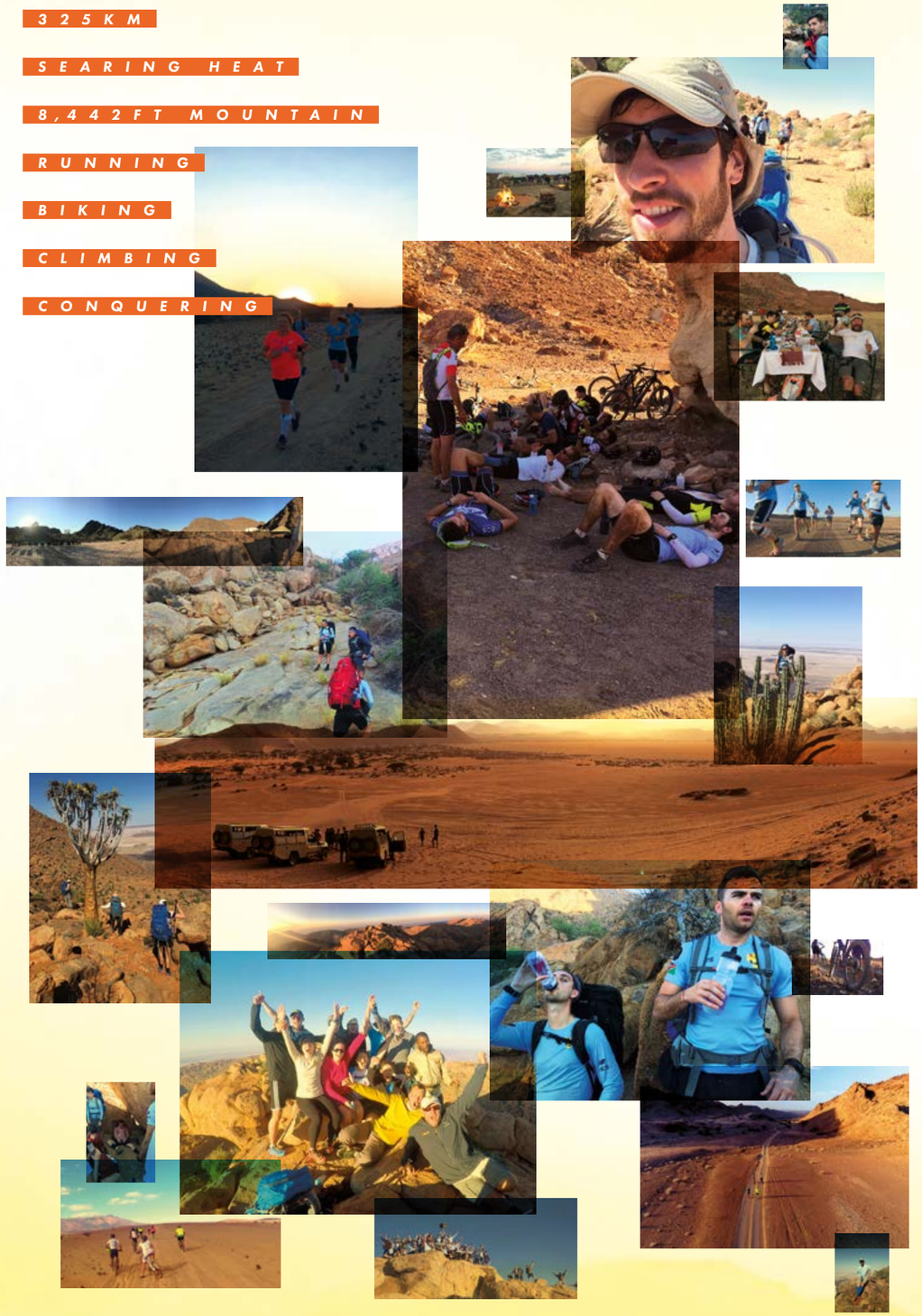
8,442FT MOUNTAIN

RUNNING

BIKING

CLIMBING

CONQUERING



There are no words for the stunning beauty of the sun-baked landscapes of the deserts of Namibia. And there are no words to describe the determination, true grit and positive energy shown by all the graduates.
– Hans Casier, CEO INEOS Phenol

Anything is possible if you put your mind to it. Preparation is key. I learned to see past the struggle and focus on the sweetest bit of each day – a pint of beer in the knowledge that I had successfully completed that day's challenge.
– Davidson Ching Process engineer (Asia Pacific)

My teammates helped me realise that any extremely difficult task can be made easier, and maybe even fun, with the support of your team.
– Cara Lauber Process controls engineer Chocolate Bayou, America

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I learned that even when times get tough – and they did in Namibia – the only feelings that remain are proudness, gratitude and joy about the accomplishments.
– Benedikt Kannenberg Safety engineer, INEOS O&P Europe North

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Teamwork is the most important thing. Alone you may go faster but as a group, you can go further.
– Nicolas Monino Optimisation & planning engineer PetroINEOS, Lavera, France

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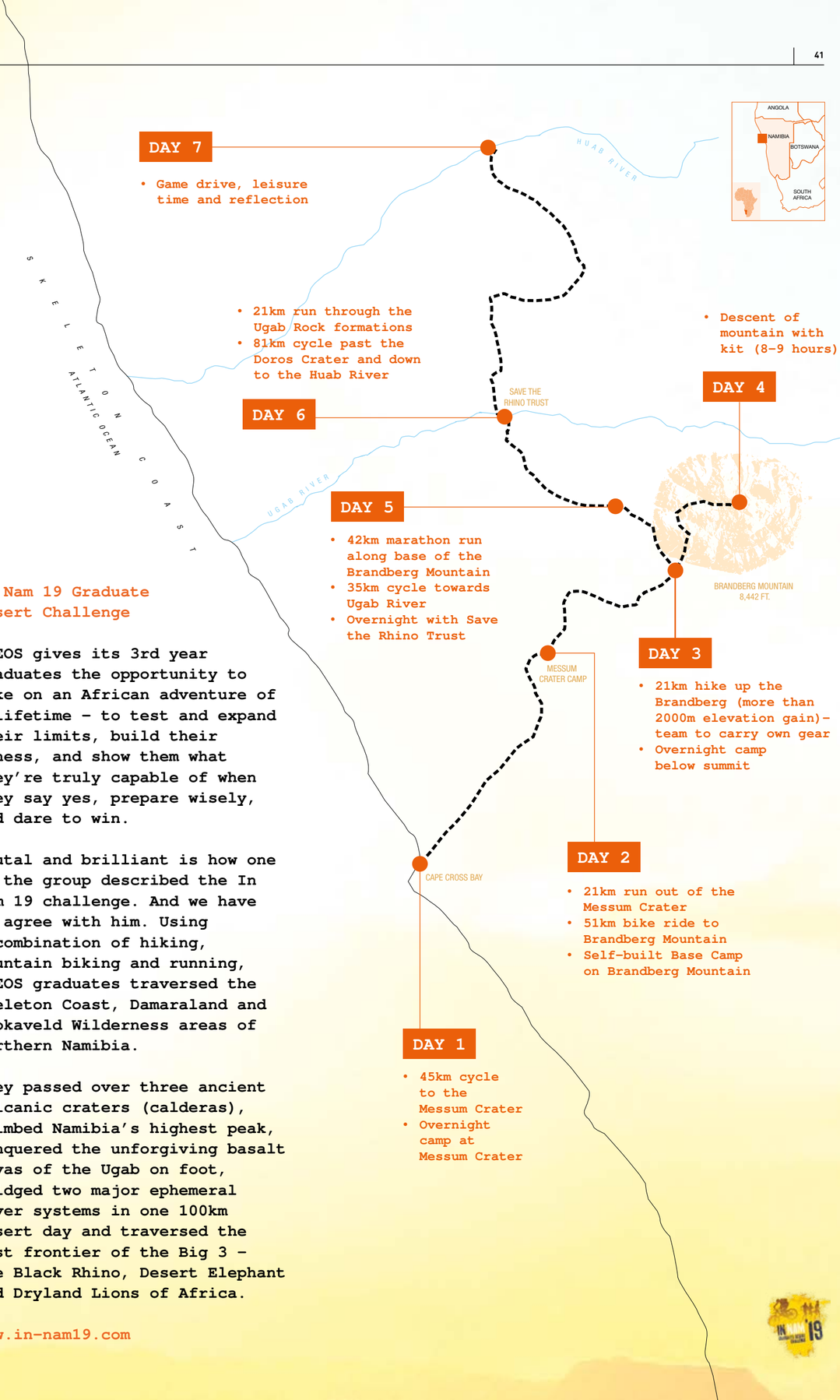
In Nam 19 Graduate Desert Challenge

INEOS gives its 3rd year graduates the opportunity to take on an African adventure of a lifetime – to test and expand their limits, build their fitness, and show them what they're truly capable of when they say yes, prepare wisely, and dare to win.

Brutal and brilliant is how one of the group described the In Nam 19 challenge. And we have to agree with him. Using a combination of hiking, mountain biking and running, INEOS graduates traversed the Skeleton Coast, Damaraland and Kaokaveld Wilderness areas of Northern Namibia.

They passed over three ancient volcanic craters (calderas), climbed Namibia's highest peak, conquered the unforgiving basalt lavas of the Ugab on foot, bridged two major ephemeral river systems in one 100km desert day and traversed the last frontier of the Big 3 – the Black Rhino, Desert Elephant and Dryland Lions of Africa.

www.in-nam19.com



Ripple Effect

INEOS harnesses excitement around The America's Cup challenge to inspire the young

A wave of opportunities are sweeping across the UK thanks to INEOS and their support of Sir Ben Ainslie's bid to win The America's Cup.

Youngsters are learning to sail for the first time and teachers are using lessons, learned by the world's most successful Olympic sailor, to inspire a love of science and technology.

And it's all being done with INEOS' blessing and financial backing through the 1851 Trust, the official charity of INEOS Team UK, which will be aiming to become the first British team to win sailing's most prized trophy for the first time in the competition's 168-year history.

"We're passionate about getting more young people out sailing who wouldn't normally have the chance to try it," said Ben.

"And thanks to INEOS' support, we're able to take our programmes to more young people and make a bigger impact - both in the classroom and on the water."

The 1851 Trust and the team, who will be vying for victory, are based in Portsmouth, but the Trust's educational programmes are spreading far and wide.

The STEM Crew's free online teaching resources, which are sponsored by INEOS, are helping high school teachers to bring science to life.

More than 1,100 secondary schools throughout the UK and overseas are now using those resources to harness the excitement surrounding The America's Cup to open their students' eyes to the wide variety of opportunities in science and sport.

With worldwide research showing how young women are regularly shunning careers in science, technology, engineering and maths, The 1851 Trust also runs roadshows specifically aimed at girls.

But the excitement doesn't end there.

The 1851 Trust recently also launched 10-week programmes to give disadvantaged, inner-city youngsters, aged 11 to 16, the chance to sail for the first time.

The INEOS Rebels Crew programme aims to develop the youngsters' character and resilience as well as a passion for sailing. "Already 1,000 young people are taking part," said Ben Cartledge, CEO of The 1851 Trust.

So far 45 schools have signed up to the programme, which is being rolled out across the UK. The programme runs in partnership with 12 flagship sailing centres, including locations near INEOS sites in Grangemouth, Hull, Runcorn and Seal Sands.

Usman Muhammed, one of the instructors running the sessions in Birmingham, is passionate about INEOS Rebels Crew, having experienced the life-changing benefits of sailing first hand.

"When I was at secondary school, I was very passive during lessons due to my difficult and stressful home life," he said. "Once I was put in a mandatory after-school sailing club, however, this all changed. I began to gain confidence in myself, which played a pivotal role in my GCSE success."

And teachers rate the programme too. "It has been a fantastic experience for pupils and they are desperate to get back and give it another go," said Michael O'Donnell, a teacher at Bo'ness Academy in Falkirk, Scotland.

"We've seen them develop new skills as well as improving their resilience and their confidence. I cannot thank INEOS enough for all that they have done to provide our young people with such a rewarding experience."

This year INEOS Rebels Crew will challenge 3,000 children to get active, learn to sail and be inspired by the sport.

DON'T GIVE UP

Wounded servicemen offer words of encouragement as children take on 2km race at GO Run London

TWO British servicemen, who overcame horrific injuries to become marathon runners, joined this year's showcase 'GO Run London' event at Battersea Park.

Luke Wigman and Ibi Ali lined up with the children for the start of the races, which had been organised by INEOS GO Run For Fun and The Daily Mile charities.

Earlier both men, whose lives and bodies had been shattered by war, had spoken briefly to the 2,500 children about the importance of perseverance, overcoming adversity and challenging yourself.

That's certainly what they did in 2017 when the two ambassadors for The Defence and National Rehabilitation Centre in Loughborough completed seven marathons in seven days across seven continents.

For the first time, schools signed up to The Daily Mile had also been invited so their pupils could run the 2km race in London.

"The two initiatives have so far inspired over two million children throughout the world to get active," said The Daily Mile founder Elaine Wyllie.

This year's event was hosted by GB athlete Jazmin Sawyers and former Blue Peter presenter Radzi Chinyanganya.

And performing on stage was The Voice Kids UK winner Jess Folley. "The kids loved it," said Elaine.

During the event, dubbed GO Run London, The Daily Mile Foundation announced a partnership with Imperial College London.

The three-year research project, which is being supported by INEOS, will be delving deeper into the benefits of primary school children running or walking 15 minutes every day.

Former Para Luke Wigman suffered serious leg injuries in Afghanistan when he stepped on a bomb in 2011.

The accident ended his military career but made him a stronger person.

He went on to finish second in two of the world's most mentally and physically demanding marathons – at the North Pole and Antarctica.

He has also represented Britain in the Invictus Games 2014 and 2016, twice winning the 1500m gold medal.

Ibi Ali was a Captain in the British Army when he was seriously injured by a roadside bomb in Iraq in 2007.

Despite losing his right hand in the blast and sustaining injuries to his left hand and right leg, he continued to lead his men, and was later awarded the Military Cross.

After treatment, he returned to the frontline 18 months later and continued to serve his country until 2013 when he left the Army to help raise money for Walking With The Wounded by climbing Mount Kilimanjaro and skiing to the South Pole with Prince Harry and 12 other injured service personnel.

Since then he has completed the much-vaunted Marathon des Sables in 2015 and earned medals at the Invictus Games in Orlando 2016.

QUICK OFF THE MARK

'A running world is a happy world' - Eliud Kipchoge

THE FASTEST marathon runner in the world has become a global ambassador for The Daily Mile. Eliud Kipchoge, who won his fourth London Marathon this year, hopes to use his new position to inspire even more children across the world to get running and get fit for life. "A running world is a happy world," he said.

Earlier this year, the Kenyan father-of-three visited a school in Oxford, UK, to run The Daily Mile with the children.

Afterwards, they had the opportunity to ask him questions around footwear, nutrition, sleep and Eliud's passion for running.

His visit to the John Henry Newman Academy, which has been running The Daily Mile since April 2018, came shortly after he had announced his INEOS-backed bid to become the first person to run a marathon in under two hours.

The Daily Mile, which Eliud supports, is a simple initiative founded in 2012 by a Scottish headteacher who was worried about her unfit pupils.

Today it is up and running in 65 countries, including America, which recently hired its first Daily Mile team member based in the INEOS O&P office in Houston, Texas. Currently 122 American schools have signed up, but The Daily Mile Foundation is keen to recruit more and is working on other partnerships to help spread the word.

Back in the UK, 250 children from 35 primary schools, all sporting Daily Mile T-shirts, took part in the London Marathon's Westminster Mile.

It was The Daily Mile's third appearance in the race, which this year was started by founder Elaine Wyllie and athlete Mo Farah, who is also a Daily Mile ambassador.

Research has shown that children, who run or walk The Daily Mile, are not only fitter, leaner, healthier and happier, but they are also more eager to learn when they return to their desks.

Today about 1.8 million children from 8,600 schools all over the world now regularly run for 15 minutes every day – thanks, in part, to INEOS, which has helped to spread the word.

"We know how important it is to encourage children to get fit and healthy and look after themselves, not just for today but for the years to come," said INEOS Chairman Jim Ratcliffe.

THE BRICK MAN

Mark Cranston is mad about bricks and has collected nearly 3,000

www.scottishbrickhistory.co.uk
brickmarks@gmail.com

A RETIRED police officer has been unearthing fragments of Scotland's glorious past close to INEOS' site in Grangemouth.

But Mark Cranston believes more treasures could be lurking within the perimeter fence that surrounds the petrochemical plant.

"I have spent many hours searching around the Firth of Forth and INEOS' plant at Grangemouth but I'd love to explore the shoreline and river bank areas within the site itself," said Mark.

But he's not searching for gold; he's looking for bricks that helped to shape Scotland's brick manufacturing industry.

"The humble brick is very much underrated, underappreciated, undervalued and overlooked," he said. "Yet it has had such a huge impact on Scotland's economic, social and industrial history."

Over the past nine years he has amassed about 3,000 bricks, all of which he keeps in two converted stables in his garden.

"The shoreline between the INEOS site and Bonnybridge is littered with old bricks covering many decades of brick manufacture," he said.

Many are fire bricks which Scotland exported all over the world due to their high quality.

"Ship's captains and owners were keen to ship these orders because the loads doubled up as ballast to steady their ships on rough ocean voyages," said Mark. "That's also the reason why Scottish bricks have turned up in dozens of countries around the world."

The Falkirk area was the epicentre of fire brick production in Scotland. Many industrial sites, such as the Carron Iron Works, exploited fire clay seams and made bricks for themselves.

"It is entirely possible that at some point INEOS' Grangemouth refinery site did likewise, because they would, no doubt, have needed bricks," he said.

Among Mark's collection is a brick from the doorway of the execution cell of Barlinnie Prison in Glasgow.

He also has one that was recovered from the wreckage of SS Politician, whose sinking in February 1941 inspired the film Whisky Galore, and two others salvaged from a wreck off Hawaii.

Mark's short-term goal is to find, recover and record bricks made in Scotland. His long-term goal, though, is to create a Scottish national brick collection and data-base for future generations – and open a museum. "This is a huge story that deserves to be told," he said.

He already works with local individuals, heritage groups and archaeological societies, and liaises with brick collectors and academics from all over the world.

And his efforts have not gone unnoticed. In 2016 he received the Andrew Lloyd Webber Foundation's Scottish Angel Heritage Award. "I was elated to receive that award for my endeavours," he said.

His wife Karen is also supportive and proud of what he has achieved so far, using his own money. "Sometimes he can spend up to 70 hours a week, travelling around Scotland in search of new examples, or on research," she said. "But his collection is proving an invaluable, educational tool for people from all walks of life."

HELP FOR HEROES

New wing will make huge difference to wounded servicemen and women

Photograph provided courtesy of the Defence Medical Rehabilitation Centre. This was used as part of their campaign to help raise awareness of their work nationally.

INEOS has donated £25.3 million to a rehabilitation centre for wounded British soldiers. The money has paid for the new prosthetics wing at the Defence Medical Rehabilitation Centre, in Nottinghamshire, to help those who have lost limbs get the very best treatment and support.

"There is no better cause than to help those who were prepared to lay down their lives for their country," said INEOS Chairman Jim Ratcliffe. "And you know when people come here with a trauma that their head is not in a very good place."

Former corporal Andy Reid said the new wing – named INEOS Prosthetics Wing – would make a massive difference to wounded servicemen and women.

"I know from my own experience how important it is to have the right facilities as well as the correct expertise to help people through their rehabilitation because the journey back from major injury is tough," he said.

Andy was on a routine foot patrol in Afghanistan in 2009 when he stepped on a bomb.

"I remember lying on my back," he said. "I looked down and couldn't see my legs. But straight away, I thought I am a survivor not a victim."

The former corporal, who also lost an arm, is now an ambassador for The Black Stork Charity, the organisation which developed the new centre.

"This new wing has been purpose built to get guys out of their wheelchairs, get some legs on and get them walking," he said.

INEOS' donation is thought to be one of the largest corporate gifts ever made.

It builds on the incredible work of the late Duke of Westminster who came up with the idea of a rehabilitation centre for injured servicemen and women, with the potential for also helping NHS patients.

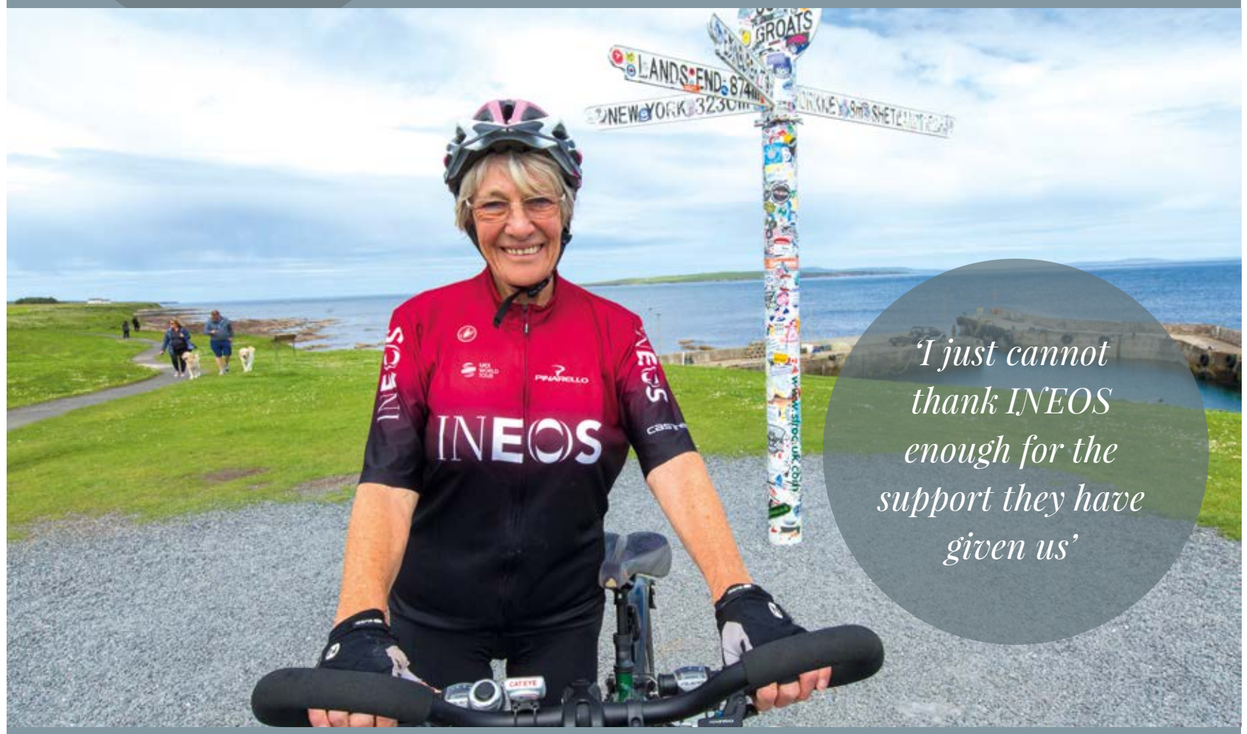
The former member of The Territorial Army for 40 years led the £300 million fundraising drive, donating £70 million out of his own pocket, but sadly died in 2016.

Late last year The Ministry of Defence took over full tenancy of the new centre, which has replaced the former rehabilitation centre at Headley Court in Surrey.

At the official handover ceremony, his son Hugh told guests: "My father was a man who liked to do things and get things done. It seems unjust and sad that he didn't live to see his gift to the nation honoured and formalised. In a life full of projects, this was the one that meant the most to him."

Inspirational
People

Many of our employees, business partners and broader INCH readers are actively supportive of great community and international causes. If you'd like to share information about a project needing wider assistance which might be of interest to the INCH readership, please contact us on inch@ineos.com and we'll look to feature it below.



Marvellous Mavis

£10,000 and words of encouragement from Froome & Co spur her on

AN 81-YEAR-OLD widow has become the oldest woman in the world to cycle the length of Britain. Mavis Paterson arrived in John O'Groats in Scotland on June 22 – 24 days after setting off from Land's End with her friend Heather Curley.

Her epic, 1,027-mile journey not only raised almost £30,000 for Macmillan Cancer Support, but it also earned her a place in the Guinness Book of Records – and the respect of the world's greatest cycling team.

Team INEOS, had sent Mavis a message of support via Twitter as they trained for this year's Tour de France.

"We heard you were doing an even tougher challenge and we wanted to wish you good luck," said Wout Poels during a training ride in Tenerife with teammates Geraint Thomas and Chris Froome. "We believe in you, so smash them."

INEOS had agreed to donate £10,000 to Mavis' chosen charity after being inspired by her story. And during the race, Team INEOS was on hand to help if needed.

Mavis was cycling in memory of her three adult children, Sandy, Katie and Bob, who died within four years of each other. All three were in their 40s. "It's impossibly hard going from being part of a family of five to being alone," she said. "But taking on challenges like this, keeps me going."

As she rode into John O'Groats, sporting the Team INEOS kit, she was clearly relieved it was all over.

She had earlier told BBC Breakfast: "I wanted to give up so many times. It really has been so hard. I didn't realise it was going to be so difficult."

She was full of praise for INEOS, which had also provided her with a replacement satnav for her bike so she did not get lost. "I just cannot thank INEOS enough for the support they have given us," she said. "They're wonderful."

If you would like to make a donation, please visit the link below and search Mavis Paterson:

www.justgiving.com

INEOS

TOUR DE FRANCE CHALLENGE

The Alternative Tour de France Challenge

INEOS likes to challenge its people to go that extra mile for themselves and others. So running a cycling challenge to raise money for charity was always going to be a winner. Once again INEOS taken on its own Tour De France Challenge. As the main Tour hurtled across Belgium and France, 1325 INEOS employees around the world, organised into 64 teams, matched every kilometre on every day for three weeks. The teams that completed every stage stood to win €2000 Euro to donate to a local children's charity of their choice. Many of the teams completed the challenge and many completed the challenge many times over.

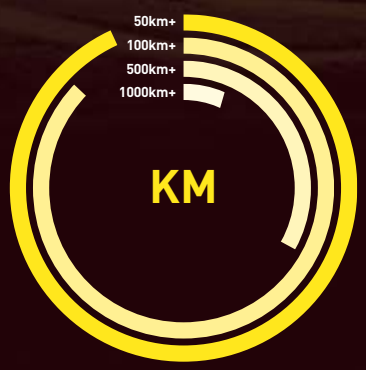
Here are some of the statistics:

625,387 km covered

15 x around the globe

1325 people in 64 teams

23 days



Participants that :

covered 50km+ **94%**

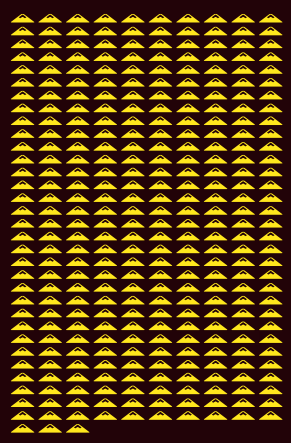
covered 500km+ **38%**

covered 100km+ **87%**

covered 1000km+ **11%**

526,825 m
TOTAL ELEVATION GAIN

= 323
MOUNT EVEREST



JERSEY WINNERS

	MALE	FEMALE
●	Raymond Schmitt	Jodi Garner
	Jacob Dossett	Hanne Schatteman
	Marc Stuyckens	Lynn Campbell

CHALLENGE STATS

RIDES **21,168**

AVG SPEED **24 km/h**

SWEAT **19,272 litres**

AVG DISTANCE **26.5 km**

MOST KM BY 1 TEAM IN 1 DAY **2010 km**

RIDE TIME **1070 hours**

TOP 10 TEAMS

1. Team Cool Colonia
2. LAVERA 1
3. SARRALBE
4. Team GEEL
5. Seal Sands Slipstreamers
6. MOBILE - 1
7. INEOS RUNCORN VELO
8. Styrolution Antwerp ABS
9. Köln 2
10. INEOS Lillo

TOP 10 RIDERS MALE

1. Raymond Schmitt
2. Frans Piessens
3. Marc Stuyckens
4. Frank Prescha
5. Juergen Wies
6. Davie McFarlane
7. Jesper Lykkegaard
8. Andreas Otte
9. Luc Coomans
10. Ron Allan

TOP 10 RIDERS FEMALE

1. Jodi Garner
2. Christina Schulte
3. Mary Trufant
4. Sharon Mcphee`
5. Lynn Campbell
6. Allison Blythe
7. Hanne Schatteman
8. Amy Tayler
9. Christine George
10. Kim Clark

WINNING TEAM

Seal Sands Slipstreamers

Drawn from teams that completed every stage

Team Cool Colonia

based on total km collected

ENERGY
10,151,058
KCAL BURNED

The winner of the INEOS internal team jersey competition is:
Kurt De Keersmaeker from INEOS in Belgium

INEOS ENERGY STATION

ineosenergystation.com

€104,000 raised for charity

from 52 of 64 teams completing the challenge