

GROWTH, SUCCESSSES AND NEW HORIZONS

ANNIVERSARY SPECIAL

Chemical major celebrates
20 years and looks to the future



INEOS

Challengers for the America's Cup 2021

BUILDING A LEGACY



With more than 20,000 employees spread across 171 sites in 24 countries, and sales in excess of \$60bn, INEOS has clearly come a long way since its humble beginnings

Trying to choose a single defining moment in the history of INEOS is no mean feat. It could be the acquisition that literally tripled the size of the business overnight, or when it emerged from the worst economic downturn in history with the renewed confidence of its investors and support of the banks. Perhaps it was the tense negotiations with the unions as it saved its ailing Grangemouth facility, or its \$1bn plan to build a fleet of tankers capable of crossing the Atlantic full of low-cost feedstock.

All have been significant – each an important part of the jigsaw which has helped establish INEOS as one of the world's leading chemical companies.

In the space of just two decades, INEOS has become a major manufacturer of petrochemicals, specialty chemicals and oil products. Today, it is ranked the world's fourth largest chemical company in terms of sales, among the Top 10 oil and gas operators in the North Sea, and its chairman Jim Ratcliffe now heads the UK rich list.

"You never know what's around the

Above - In just two decades, INEOS has grown to become one of the world's largest chemical companies

corner with INEOS," says Ratcliffe. "Last year was tremendously successful - one of our most active and profitable. We've had record profits of \$7bn, record turnover of \$60bn, 85% of our businesses beat budget, 50% of our businesses beat their all-time records, and we have five businesses at, or approaching, \$1bn of EBITDA. We've never seen numbers like that."

Ratcliffe's background in chemical engineering and a stint in venture capital paved the way for the management buyout of Inspec - the business he helped found - and on 4 May 1998, INEOS was born.

The name was a portmanteau, an amalgam of two words from Latin and Greek that roughly translate as "new dawn" or "beginning".

The philosophy of the new business

was simple: to find unloved assets, invest in their facilities, lower the cost base and rejuvenate them. The formula was to prove hugely successful - the acquisition of non-core businesses from chemical majors including Dow, Dupont, ICI, BP and BASF helping INEOS achieve phenomenal growth. The foundations were laid and momentum was building.

The purchase of the acrylics business in 1999 and chloralkali business of ICI in 2001 had now propelled INEOS to the second largest chemicals manufacturer in the UK. It had sales of around £1bn and around 2,500 employees – one of whom was Tom Crotty, now INEOS's director of public affairs.

"I think the fact we were a private company really made a difference," notes Crotty. "Petrochemicals is a cyclical business and we were always able to take the long view; we're not beholden to shareholders or analysts looking at our quarterly results.

"Early on, we developed a system for managing our businesses that we've applied consistently. It's a simple approach where we integrate new businesses into the group and apply a very straightforward focus on costs."

Each business operated independently and had its own board – a rarity for a large petrochemical producer, he notes.

"We have a very decentralised structure that means we don't carry the overheads that are typical for a company of our size. Every business is responsible for itself and that avoids having unproductive spend. It also makes us much more agile and efficient."

Just a few years in and INEOS was growing rapidly. Yet it was the move to buy Innovene, BP's olefins, derivatives and refining subsidiary, for \$9bn that really took the business to the next level.

The deal in December 2005 instantly positioned INEOS among the world's leading players, creating a combined business with a turnover of around \$33bn, with 68 manufacturing facilities capable of producing over 30m tonnes of petrochemicals.

Ratcliffe admits it was a major milestone. "We gambled somewhat but you're only going to get one opportunity like that in your life. It



Jim Ratcliffe, Chairman, INEOS

"You never know what's around the corner with INEOS. This year has been tremendously successful - one of our most active and profitable"

was transformational for INEOS. It transformed us from being a very serious chemical entity to being one of the very largest chemical entities worldwide.”

Yet with the highs come the lows, and shortly afterwards in 2008, the global economic downturn sent shockwaves throughout the industry and hit INEOS hard.

As the oil price lurched from \$140/bbl down to \$40/bbl in the space of six months, it stripped value from the business and triggered several banking covenants, forcing some tense discussions with lenders. Over the next 12 months, the banks took €846m from the company in fees and penalties.

“It didn’t change the way we’d run our business but it was a turning point in the way we related to our lenders,” notes Crotty. “When the downturn hit, our EBITDA halved overnight and we could see we were about to trigger some of our banking covenants. It wasn’t a cash problem but an accounting problem.”

To resolve the situation, difficult negotiations started with a consortium of over 230 banks and investors, and eventually a new five-year business plan was drafted.

“We wanted to get all the lenders together in London and New York so we could talk to them face to face,” he says. “We wanted to tell them how about our business works and how we planned to get out of the downturn really quickly. Banks don’t usually work like that but Jim insisted.”

It paid off and INEOS succeeded in renegotiating all its debt to levels that were better than before the downturn, he adds.

“It worked so well that we’ve done it every year since to tell all our lenders exactly what we’re doing. That’s meant that since 2009, ours has been one of the most favoured pieces of debt in the industry – and whenever we’ve needed to raise money we’ve been able to do it almost instantaneously.”

It also marked the start of a new era for INEOS – a time of renewed investment and ambition.

There followed a hive of activity in 2010 when the company really set out its stall for its future. Still reeling from the effects of the recession, it asked for – but was refused – a one quarter deferral on its VAT bill. It decided to relocate its headquarters from the UK to Lausanne, Switzerland. While it remained committed to its UK operations, the potential tax savings from a move abroad were significant.

In January 2011, INEOS announced a new trading and refining joint

venture with PetroChina to become known as Petroineos.

That same year, plans were unveiled about the formation of a new styrenics JV with German major BASF. The new venture would be called Styrolution, with anticipated annual sales of around €5bn. It would combine their global business activities in styrene, polystyrene (PS), acrylonitrile butadiene styrene (ABS), styrene-butadiene block copolymers (SBC) and other styrene-based copolymers.

Yet it was perhaps another development in 2012 that most took the industry by surprise.

With the US riding the shale wave and North Sea gas supplies waning, INEOS wanted to test the water and see whether those advantaged feedstocks could be transported from the other side of the Atlantic over to European shores.

Not for the first time in INEOS’s history, some said it was impossible. They were wrong.

The \$1bn project would see a fleet of purpose-built ships transport ethane from the US to INEOS sites in Norway and the UK – a 3,800 mile (6,116km) “virtual pipeline”.

It was to be a real sea change for the company, helping to transform its existing crackers into some of the most competitive in Europe.

“We also saw our Dragon Ship concept as the perfect opportunity to really dig Grangemouth out of a hole,” concedes Crotty. “At that point, the union had refused to engage in negotiations, we were running the cracker at half rates because we didn’t have enough ethane, and our pension costs had risen to 50% of salary. We needed to see changes to make the site viable again.”

Fast forward to 2015 and the group was going from strength to strength – and was breaking into some exciting new markets too.

“The most obvious sector for us to branch into was oil and gas,” says Crotty. “We saw very competitive valuations in the North Sea and recognised it was in the same position as petrochemicals was 20 years ago – there were many ageing assets owned by companies that were happy to sell. We therefore looked at whether we could apply the same approaches of asset care and cost management to what are essentially chemical plants at sea.”

In one of the most ambitious moves to date, INEOS gained a foothold in the upstream energy industry with the purchase of the DEA UK North Sea gas fields in 2015 to create INEOS Breagh.



“At INEOS, we never rest on our laurels. When we achieve a target, we always look ahead to the next one – and that’s what keeps us hungry”

Tom Crotty,
Director of public affairs, INEOS

Before long, INEOS had cemented its position as a Top 10 player in the North Sea with the addition of the oil and gas assets from Denmark’s DONG Energy, gaining access to three major fields in Norway, Denmark and Shetland.

“It was fortuitous that we were in the right place at the right time to make these acquisitions. It worked well for us,” says Crotty. “Many of the assets were quite new – and of very high quality. We brought in some very good people and that gave us a lot of the subsurface expertise we were looking for.”

This was soon followed by the acquisition of the Forties Pipeline System (FPS) from BP – a 235-mile link between 85 North Sea oil and gas assets and the mainland that delivered almost 40% of the UK’s supplies.

With more of its assets UK based and the government now far more supportive of business, INEOS decided to move its headquarters back to Britain in 2017.

There has since been more expansion and investment, including a commitment to increase the capacity of its existing crackers. It also unveiled some other, slightly less conventional, plans too.

Ratcliffe and his team not only took their first tentative steps into the automotive industry with the development of its own off-road vehicle in February 2017, but INEOS also acquired British clothing brand Belstaff a few months later in October, bought a football club in the Swiss league in November, and sponsored Sir Ben Ainslie’s America’s Cup sailing team in April 2018.

Yet despite this eclectic mix of projects, it was a more traditional announcement that really dominated the headlines.

For the first time in two decades, an entirely new cracker would be built in Europe – and INEOS was behind it.

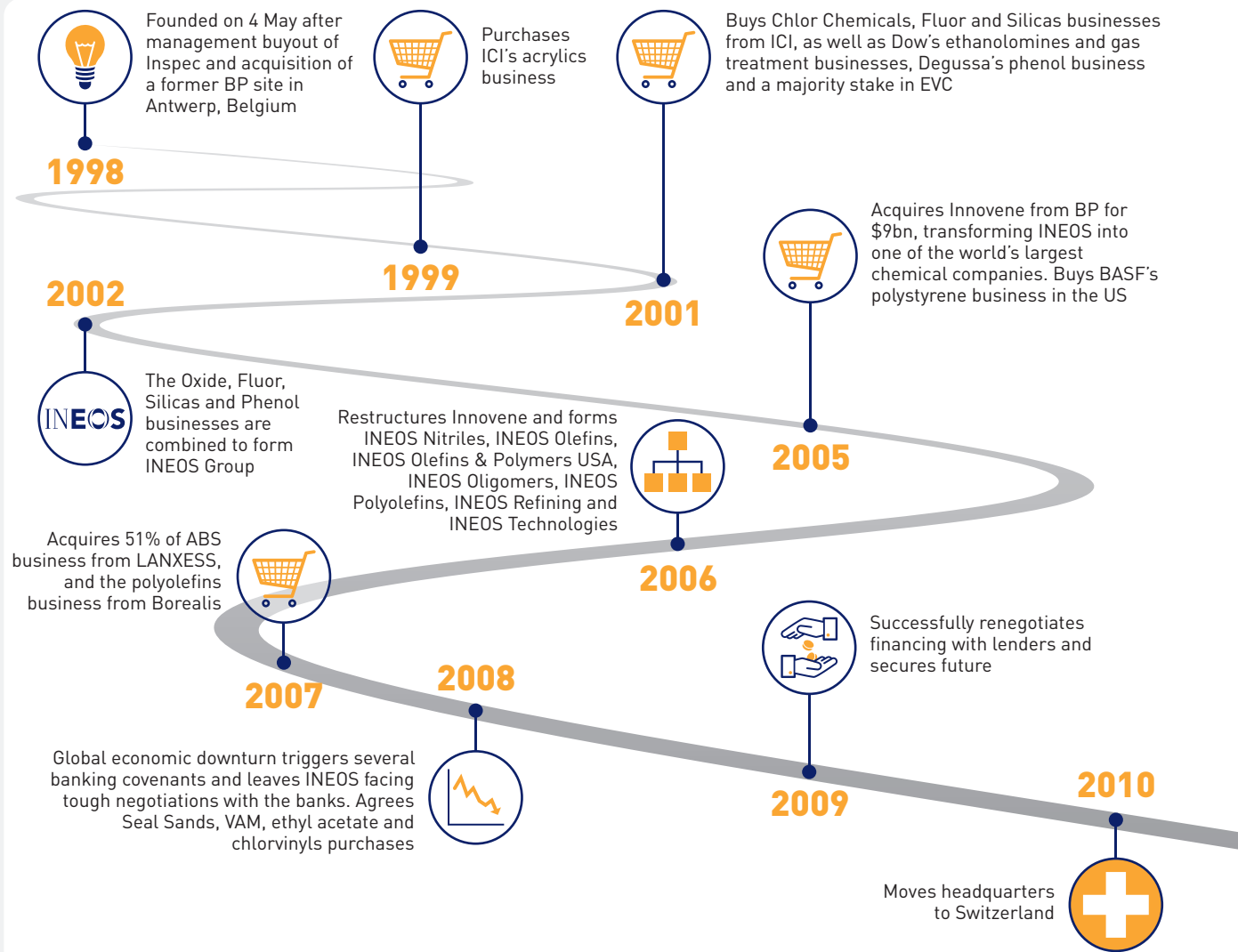
Ratcliffe labelled it a “game changer” – a €2.7bn project that brings a new ethane cracker and propane dehydrogenation (PDH) plant to the region. It is, by far, the company’s single biggest capital investment ever.

It is not the first time that INEOS has taken the industry by surprise, and it will not be the last – but it certainly makes choosing a single defining moment in the company’s history that little bit tougher.

In the space of 20 years, the group has flourished – never afraid to take a risk, break new ground or push the boundaries.

“At INEOS, we never rest on our laurels,” insists Crotty. “When we achieve a target, we always look ahead to the next one – and that’s what keeps us hungry.”

by Andy Brice



THE EVOLUTION OF INEOS

Finding the right chemical formula

The past two decades have seen INEOS establish itself as one of the world's largest chemical companies and a significant player in the oil and gas sector – with a leadership team that is never afraid of a challenge.

Despite an increasingly competitive marketplace, tough economic conditions, and

ever-changing regulations and environmental obligations, the business has continued to break new ground and seize opportunities.

Proud to be recognised as a standard bearer for manufacturing and best practice, INEOS is now embarking on a period of unprecedented investment – just one of many major landmarks in the company's 20-year history.



Announces new trading and refining JV with PetroChina, to be called Petroineos. Forms Styrolution, a 50:50 styrenics JV with BASF

2011



Grangemouth facility restarts after strike. Agrees survival plan and additional investment to ensure site's long-term future

2013



Buys Sasol's solvents business, along with remaining shares of Styrolution

2014



Makes waves in the North Sea by buying assets from DEA Group and Fairfield Energy. Forms INOVYN JV with Solvay

2015

Buys assets from Dong Energy to become Top 10 oil and gas company in the North Sea. Agrees to buy Forties Pipeline System and Kinneil Terminal from BP. Diversifies business with Projekt Grenadier and development of 4x4 off-road vehicle, acquires clothing brand Belstaff and buys Swiss football club, Lausanne



2016

Forms INEOS TEAM UK and invests £110m to challenge for the America's Cup. Announces €2.7bn investment in Europe and region's first new cracker in 20 years



2018

First shipment of ethane from US to Europe using purpose-built vessels - part of a \$1bn project. Moves headquarters back to the UK. Buys Solvay's stake in INOVYN



Growing from Strength to strength

INEOS is undertaking a massive expansion programme across the business, with flexibility, security of supply and enhanced competitiveness the major drivers

INEOS has entered its third decade of business in a stronger position than ever before. No stranger to making bold decisions, the company has recently announced the largest investment in its history.

In July, INEOS announced plans to spend €2.7bn to build a new petrochemical complex in Europe, with a world-scale cracker – the first new cracker to be built in the region for more than 20 years – and a propane dehydrogenation (PDH) unit. This investment has only been made possible because of the group's \$2bn investment in its Dragon ships, which has created a proven and reliable virtual pipeline across the Atlantic to import huge quantities of shale-based ethane and LPG from the US.

With regard to locations for the new investments, Rob Ingram, CEO of INEOS Olefins & Polymers Europe, says the company is focusing on a coastal site in northwest Europe and there are a number of different factors that will influence the final choice. These include feedstock accessibility, the ability to connect to downstream derivatives production, including connectivity to northwest European pipeline systems, and local government support.

Both projects will be developed in parallel and take four to five years to build. Ingram says INEOS is aiming to make an announcement on site selection by the fourth quarter.

Gerd Franken, chairman of INEOS Olefins and Polymers North, says: "These world-class assets will increase INEOS's self-sufficiency in all key olefin products and support the growth of our derivatives and polymer businesses in Europe. All our assets will benefit from our ability to import competitive raw materials from the US and the rest of the world."

INEOS is also planning to further



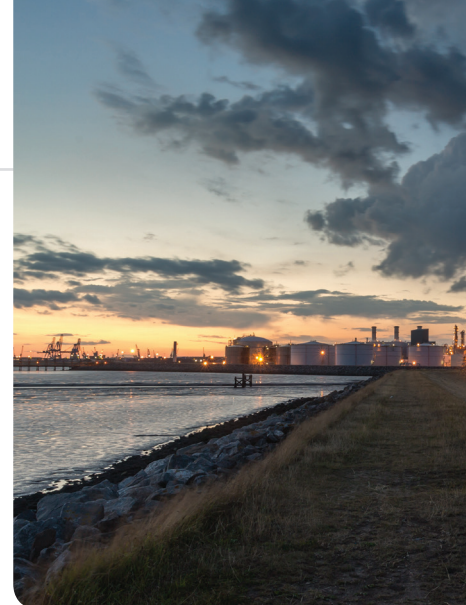
"We have to invest to support our derivatives business and our customers in Europe. These investments enable us to look to the future"

Rob Ingram,
CEO, INEOS Olefins &
Polymers Europe

increase the capacity of its crackers at Grangemouth in Scotland and Rafnes in Norway.

Despite the additional output from these projects, Ingram says INEOS will remain a major buyer of olefins to fulfil a sizable shortfall in European balances. "We have to invest to support our derivatives business and our customers in Europe. These investments enable us to look to the future," he says.

As well as the cracker projects, INEOS has strong plans for the downstream businesses, which will consume the new output. INEOS Oxide CEO Graham Beesley says the group's growth strategy is centred on building up its derivatives output, for which it will need upstream feedstocks such as ethylene and propylene. "All of this helps to improve our offering of derivatives to the market and to increase the value add of our company," he says, adding that INEOS has been putting a lot of growth into derivatives that consume ethylene and propylene in particular.



INEOS Oxide is pressing ahead with several expansions. A sixth alkoxylation unit in Antwerp, Belgium, is due to start up at the end of 2018, along with a 2,000 tonne expansion of ethylene oxide (EO) storage capacity at the site. Beesley says the company is also upgrading EO production at Lavera, France, to support the growing EO need in Europe.

Beesley's eyes are also currently turned to the US where INEOS Oxide plans to build an EO and derivatives facility on the Gulf Coast. It anticipates an initial EO capacity of 270,000 tonnes/year with start-up in 2022.

"Our USA project is a big step out for INEOS Oxide and will replicate the business model of Antwerp," he says. Beesley envisages an "EO campus", where the company will invite third parties onto the site to construct their own derivative facilities and take EO direct by pipeline. EO will also be for broader sale in the region and INEOS Oxide will construct a number of its own EO derivative units on the site. Several sites

SUSTAINABILITY SUCCESS FOR VINYL

The devil can take many forms and back in the late 1990s it was polyvinyl chloride (PVC), according to Greenpeace. The NGO's campaign to completely phase out PVC spurred the industry to come together and make a voluntary commitment to address some major environmental concerns. The first initiative, Vinyl 2010, was launched in October 2000.

INOVYN, formerly a joint venture with Solvay until

July 2016 when INEOS took full control, has been a major driver of the PVC industry's efforts to improve its environmental footprint. Jason Leadbitter, head of sustainability at INOVYN, says the company has invested some €30m in this regard.

VinylPlus is the latest programme in place and builds on the targets met under Vinyl 2010. It is based on a system devised by NGO The Natural Step, and has identified five

key challenges for PVC: controlled loop management; organochlorine emissions; the sustainable use of additives; sustainable energy and climate stability; and sustainability awareness.

Leadbitter says VinylPlus has a target to recycle 800,000 tonnes/year of PVC in Europe by 2020. This compares with the target set under Vinyl 2010 of 200,000 tonnes/year. According to Recovinyl, the recycling arm of VinylPlus, nearly 640,000



Significant investment is planned in the coming years

are being considered and confirmation of the location and technology partner is expected later in 2018.

Other INEOS Oxide projects include expansions of propylene oxide (PO) and dipropylene glycol (DPG) in Cologne, Germany, as well as significant investment in coming years in ethylidene norbornene (ENB) capacity. A major debottleneck will be on stream in Antwerp in 2019, followed by a proposed second worldscale ENB and C5 feedstock plant at a new location to be decided.

Beesley adds that progress continues to be made on a project to produce vinyl acetate monomer (VAM), either in Antwerp or at Hull in the UK.

Meanwhile, plans are also underway to build a world scale cumene plant at the Chemiepark in Marl, Germany. It is due to be completed in 2020 and access existing pipeline connections between INEOS's phenol acetone production site in Gladbeck, the Evonik Chemiepark in Marl, and the BP refinery and cracker complex in Gelsenkirchen. Its location

and connections will allow the plant to be highly efficient, with raw material integration into the refinery and cracker complex, and access to the Marl harbour inland waterway connection.

"This is an important feedstock investment for our European business. It shows a clear commitment by INEOS to its phenol business," says Hans Casier, CEO of INEOS Phenol. "The Marl Chemiepark has been selected as the best location to build a state of the art, world-scale cumene unit with excellent logistics that will underpin our phenol and acetone sites in Europe."

Across the Atlantic, INEOS Olefins & Polymers USA is actively adding capacity. Following the successful start-up of its joint venture high density polyethylene (HDPE) plant with Sasol in LaPorte, Texas, the company is looking to see how much more it can get out of the 470,000 tonne/year plant. "There is enough in the design to get a bit more capacity. We are very confident to push that unit a bit more," says Mike Nagle, CEO of INEOS Olefins & Polymers USA.

Nagle adds that the business is looking at other PE debottleneckings but he believes the Gemini plant presents the quickest and most cost-effective way of adding capacity.

The company has started work on an ethylene expansion at Chocolate Bayou, Texas - due onstream in 2020. It is also pursuing a series of polypropylene (PP) debottleneckings. To date, about 45,000 tonnes/year of PP has been added to its US network with another 55,000 tonnes/year due online in 2020.

INEOS Oligomers is building a 120,000 tonne/year polyalphaolefin (PAO) plant at Chocolate Bayou, scheduled to go online in the third quarter of 2019. "We



"This is a really big expansion of our capabilities, working with gas from our fields and we will look to add value where other opportunities exist"

David Thompson,
CEO, INEOS Trading
& Shipping

are building the world's largest single-train low-viscosity PAO unit," says Joe Walton, CEO of INEOS Oligomers. Feedstock will come from the adjacent 420,000 tonne/year linear alpha olefin (LAO) plant, which is also under construction and due to start up in the first half of 2019.

INEOS's expansion programme is not just confined to adding capacity. INEOS has been spreading its trading wings and entered the energy markets as of 5 July 2018. David Thompson, CEO of INEOS Trading & Shipping, says a first step was to take over the gas supply from its business in the Western Shetlands part of the North Sea. The company will be trading all of its own oil and gas business from 1 October. "This is a really big expansion of our capabilities, working with gas from our fields and we will look to add value where other opportunities exist, for example in transportation," says Thompson.

He adds that as a large consumer of gas, the company may have opportunities to optimise its own supply and demand needs, ultimately reducing the volumes it buys from third parties.

A new butane storage tank, which will allow INEOS to import the gas from the US and supply its plants in Cologne, is due to open in 2019 in Antwerp. It will also provide INEOS Trading & Shipping with options to trade butane in Europe, and potentially later extend supply to its site in Lavera in the future.

INEOS has cogeneration units on its sites that Thompson says will yield more chances to optimise its energy purchasing. He says INEOS will start looking at power trading sometime next year.

In another world first, INEOS will supply US ethane from shale gas to China. The company signed a long-term supply agreement with China's SP Chemicals, which includes the construction of two very large ethane carriers (VLECs). The first vessel is due for delivery in the first quarter of 2019, with the second following by the end of 2019.

SP Chemicals is building a cracker in Taixing to produce 650,000 tonnes/year of ethylene with commissioning due in 2019. Thompson says the agreement gives INEOS flexibility in supplying and trading in the Far East.

Never before has it embarked on such a number of projects to enhance its feedstock flexibility and security of supply, and grow its downstream business. Be in no doubt that INEOS is investing heavily to secure its competitiveness for a long-term future, and for whatever may lie ahead.

by Elaine Burridge

tonnes of PVC was recycled in 2017.

Although mechanical recycling of PVC is now well established, with the necessary collection and sorting infrastructure largely in place across Europe, the next challenge is to develop chemical recycling. "The real Holy Grail is in chemical recycling, which is a much more challenging nut to crack," says Leadbitter. "A high-temperature process such as gasification or

pyrolysis that breaks down the molecules into chemical components and feedstock is very interesting and attractive for the INEOS group. He adds, however, that the challenge is "significant and cannot be underestimated".

Leadbitter says INEOS and the vinyls industry have shown that voluntary commitments do work and represent an opportunity for other polymer producers that are now facing tight timescales for

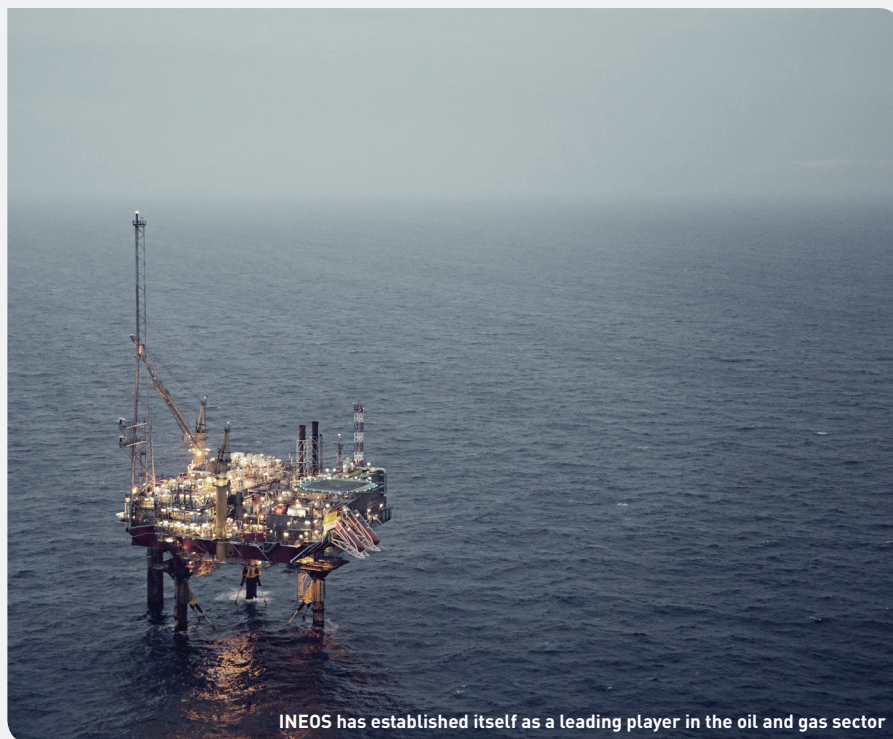
recycling under new EU rules that were adopted on 16 January 2018.

Separately, INEOS is also looking at chemical recycling in its styrene/polystyrene (PS) business. INEOS Styrolution signed a memorandum of understanding in April 2018 with Agilyx Corporation to convert post-consumer PS waste back into styrene feedstock. Another deal was done in November 2017 to support Pyrowave's North American PS recycling project.

BUSINESS LOOKS

TO THE LONG TERM

Ambitious expansion and exploration plans have given INEOS Oil & Gas every reason to be optimistic for the future



INEOS has established itself as a leading player in the oil and gas sector

INEOS is making huge strides with its oil and gas business, which was boosted last year with two major acquisitions, notably DONG Energy and the Forties Pipeline System (FPS).

The DONG deal has turned INEOS Oil & Gas into the biggest private enterprise operating in the North Sea and taken the UK-headquartered group from a producer of 20,000 barrels of oil equivalent per day (boepd) to 100,000 boepd (2016).

The number of fields has grown significantly, with around 570m boe of commercial and potential oil and gas reserves across the Danish, Norwegian and UK Continental Shelves that are ripe for development.

As if the size of the acquired assets was not enough to digest, the company had to deal with a crack in the FPS after just a few weeks of ownership, which presented an unexpected challenge. Geir Tuft, CEO of INEOS Oil & Gas, says that with hindsight, it cemented the oil and gas world's view of the company as a very capable operator of very complicated kit. "It was a challenging start but FPS got a lot of praise from regulators and customers on how it handled the disruption and communicated with stakeholders," he says.

Following the acquisitions, INEOS Oil & Gas designed and implemented a new corporate structure, which split the group into six separate businesses, allowing

each to focus on its core activities.

The businesses are INEOS Oil & Gas Denmark; INEOS Oil & Gas Norway; INEOS Oil & Gas UK, which consists of the Breagh assets and those mainly in the West of Shetlands acquired from DONG Energy; INEOS FPS; INEOS Shale; and INEOS Upstream Services.

In parallel with acquiring and creating new businesses, INEOS Oil & Gas has continued its exploration and development activities. Tuft says the company has drilled four new wells in the Breagh gas field, which is located in the southern part of the North Sea, growing production there by more than 30%.

A large project is also underway to reroute gas exports from the Clipper South field in the North Sea into the Bacton terminal for Shell. The new route is due to go into operation by the end of 2018. INEOS was forced to find a new export route for the gas following ConocoPhillips' decision to close the Theddlethorpe Gas Terminal by the end of 2018.

INEOS Oil & Gas also did another deal last year to farm into some acreage in the West of Shetlands with Siccar Point Energy to tap into a prospect called Lyon, which Tuft says has the potential to unlock that entire area. INEOS has positions in four fields that make up the Lyon cluster: Lyon; Tobermory; Bunnehaven; and Cragganmore. Initial survey work indicates that the cluster has extensive gas reserves of between 3-5tcf of gas. This, says Tuft, would match major gas fields such as Elgin Franklin, Britannia and Laggan Tormore.

"We have great hopes for growth and long-term opportunities," says Tuft. "Further gas is very near to coming on stream in the new Breagh wells and, within a couple of months, in the Clipper South fields, which gives us more long-term potential. Northwest Shetland could also prove to be a prolific gas area as well as other parts of the West Shetlands."



"We have great hopes for growth and long-term opportunities"

Geir Tuft,
CEO, INEOS
Oil & Gas

The company is making progress in Norway and Denmark. Having gained licences in Norway in 2017, INEOS Oil & Gas is now bidding on a handful of new licences in the 2018 round. "Norway is an interesting area for us and there are opportunities that we can progress in acreage and potential other acquisitions," Tuft says.

He adds that the company has also been looking at the opportunities offered in Denmark by the former DONG assets. The Siri field is coming to the end of its life and INEOS is considering options to see if it could get a few more years out of the asset. Tuft says another five years would bring considerable value to both INEOS and to Denmark, but the situation is complicated by the fact that Siri is a chalk field, which means it is more difficult and expensive to extract the oil. However, Tuft says it is easier to take these opportunities now that oil prices have lifted to \$70-75/bbl, than when oil was at \$40-45/bbl. The Brent crude oil price was hovering around \$72/bbl in mid-August.

INEOS Oil & Gas has also been working to take cost out of the Danish operations and has reduced manning to more appropriate levels with Denmark no longer being a corporate headquarters as well as an operating unit. DONG had previously been operating a global business out of the Copenhagen headquarters.

Turning to the UK and shale, Tuft says the company concluded its biggest seismic survey ever in the country last year. The survey of more than 250km² was conducted in the East Midlands area to provide data on the underground rock structure for future drilling.

While noting that attitudes in the UK to shale and unconventional gas are "complicated", Tuft says that operating in the local environment works reasonably well as long as you are respectful and have a sensible dialogue with the community. He explains that, as yet, INEOS has not been fracking but is trying to drill for core samples. "There is a fantastic opportunity in the UK but until we have drilled a few wells, it is difficult to see whether fracking is economically feasible," says Tuft, who adds that the company is talking to local authorities to try and make the current lengthy planning process more efficient.

Tuft is full of enthusiasm and optimism for the future - not surprising given that INEOS has grown into a substantial onshore and offshore oil and gas business in little more than two years.

by Elaine Burridge

PLENTY MORE IN THE PIPELINE

The acquisition of the Forties Pipeline System (FPS) is a good illustration of what INEOS is all about - taking unloved assets and turning them into a bigger and better business.

The move gives INEOS the last piece of the Grangemouth puzzle. Having bought the refinery and chemical plant from BP in 2005, the purchase of FPS reunites the Grangemouth assets. "We are putting the synergy at Grangemouth back together again," says Andrew Gardner, CEO of INEOS FPS.

BP built the 235-mile pipeline system as a means of transporting gas and crude oil from the Forties oilfield, which began operating in 1975. The network runs from the Forties Charlie platform through the Unity riser platform to the terminal at Cruden Bay, and on to Kinneil, Grangemouth. Gardner says there are currently some 85 different oil rigs attached to FPS, which at its peak processes 1.1m bbl/day.

Having sold the Forties field to Apache in 2003, BP kept FPS until April 2017, when the energy giant agreed a sale to INEOS. The deal gave INEOS ownership and operation of FPS, the Kinneil terminal and gas processing plant, the Dalmeny site and Hound Point terminal, sites at Aberdeen, the Forties Unity Platform and associated infrastructure, and made it responsible for delivering almost 40% of the UK's North Sea oil and gas. About half of the gas in the FPS system is used as a feedstock in the KG cracker at Grangemouth.

INEOS took over the business at the end of October 2017. Gardner says the assets were in a mixed condition and some areas require significant investment. He explains that BP believed the assets would probably need to shut down in 2029-2030 because of shrinking oil volumes from the North Sea.

But, INEOS thinks otherwise. Gardner says that FPS will remain open until at least 2040. INEOS is actively sharing this view with customers so that they can continue to invest in their fields and choose FPS as their route to shore.

While it is true that the North Sea is on a declining curve, Gardner is very

optimistic about the future for FPS. He says: "FPS is a really good business. We want to reduce the rate of decline in the North Sea from about 10% to 3-4% and put money back into FPS and revive the assets. We have a very active commercial team chasing every molecule of business to 2040 and beyond."

Gardner adds that INEOS wants to make the UK oil and gas sector healthy again and use the time and positive cash flows so that 10 years ahead, the company can offer a "very attractive proposition" for the remaining oil and gas based on low transportation costs.

The company is now starting detailed engineering studies to determine the best way forward for investment. Gardner expects INEOS FPS will probably have to spend around \$300m-400m in plant and equipment over the next three to four years.

As well as putting money back into the main assets, Gardner says INEOS is also working with employees and contractors to improve the overall condition of the site. The company is currently focused on a programme that it calls asset care, or Ascare: this improves structural

"We are putting the synergy at Grangemouth back together again"

Andrew Gardner,
CEO, INEOS FPS



integrity; operational procedures; and housekeeping. In order to show the importance of Ascare, the company also makes this a condition of the staff bonus scheme.

Gardner says INEOS FPS is investing \$5m this year to improve AsCare. The first phase of the programme is to improve housekeeping. "Our operations teams have taken the initiative and are improving the site condition every day. In addition, every Friday our office staff and our engineering contractor partners take part in housekeeping events to tidy up the site. We have removed about 100 skips of material and rubbish so far. We are putting pride in the site back in place," comments Gardner.

INEOS FPS is also growing the number of staff. Gardner notes that when INEOS took control of FPS, it employed about 300 staff but also relied on another 150 contractors or agency staff every day. The company is bringing people into the business to reduce the dependence on outsourcing.

CHALLENGERS

FOR THE AMERICA'S CUP

Trying to win one of the world's most competitive yacht races is a little outside the usual remit of a leading chemical company – yet INEOS is never one to shy away from a challenge

Over the next three years, the company has pledged £110m to support an attempt to win the America's Cup, one of the few sports titles never to be held by a British team – particularly galling given Britain helped form the event 167 years ago.

Dating back to 1851, it is one of the oldest continuous sporting events in the world – and certainly one of the most hotly-contested.

The newly-named INEOS TEAM UK, representing the Royal Yacht Squadron Racing, and skippered by the world's most decorated Olympic sailor, Sir Ben Ainslie, will be challenging for the 36th America's Cup in 2021. They join two other teams vying for the right to face the current title holders, Emirates Team New Zealand, and win the coveted trophy, affectionately known as the Auld Mug.

Introduced by a mutual friend, INEOS chairman Jim Ratcliffe and Ainslie soon discovered their shared passion for adventure and putting Britain back on the map.

"Jim and I started talking about the challenges of the new boat, our strategy and about creating a winning team – and he very quickly said he'd like to help. Thanks to Jim's enthusiasm and his desire to see Britain lift the Cup, INEOS is now playing a major part," says Ainslie, INEOS TEAM UK's team principal and skipper – and member of the 2013 America's Cup winning team.

"We really want to capitalise on all that experience. You can learn a lot from an organisation that has been as successful as INEOS. Sailing is all about efficiency, attention to detail, determination and our focus as a team – very similar principles to business."

The funding will primarily be spent on the design and manufacture of this



© Henry/INEOS TEAM UK

INEOS TEAM UK founder, Jim Ratcliffe (right) with team principal and skipper, Sir Ben Ainslie

unique vessel, forming a team of top designers and sailors, and helping with the significant logistical costs in shipping everything to New Zealand where the event will take place.

True to form, INEOS will again be breaking new ground in the competition as it requires an entirely new type of boat. The AC75 Class is a monohull yacht fitted with foils – huge manoeuvrable legs not only offering stability at high speeds but helping counterbalance the boats to prevent capsizing.

"We've never seen a monohull this big that is able to foil – it's really pushing the limits," points out Grant Simmer, INEOS TEAM UK's CEO and four-time winner of the America's Cup. "The competition is fairly similar to Formula 1 as it's a sporting event that relies a lot on technology. The boat we're competing in is a completely new concept so requires a lot of technical development and a great team behind it. We're building possibly one of the most high-tech vessels ever."

Work on the blueprints for the new boat started in March and since INEOS has come onboard, the team has been able to capitalise on a huge pool of skills and manufacturing experience. The team are in constant contact with INEOS, and regularly share updates on the progress of the project.

"Clearly, we're now being funded at a level where we can be most competitive but we're also getting a lot of management advice, commitment and support from

INEOS too. They have a great network of contacts, manufacturing and mechanical engineering knowledge as well as high-tech materials. That relationship has been great and is still evolving."

INEOS's experience with Projekt Grenadier, the development of a new uncompromising 4x4 off road vehicle, has been a particular boon, adds Ainslie.

"In many ways, it relates quite heavily to the systems we'll be using on the America's Cup boat," he says. "With the efficiency savings required, advanced control systems, sensors and valves, there are a lot of parallels with developing a new car."

A 28ft prototype has already been built and despite still being very early in the design process, and a fraction of the size of the final vessel, it is providing some valuable insight and experience for the team.

INEOS TEAM UK currently has 75 people working on the project and the crew has already gained some race experience by competing in regattas. In August they won the GC32 Racing Tour's 37 Copa del Rey in Palma on the Spanish island of Mallorca, and are participating in another event in Sardinia as we go to press in September.

"We're now a second-generation team and learned a huge amount in the last campaign," says Ainslie. "We've finetuned the team and got the backing of Jim and INEOS, so have the firepower. It's now down to us to get the strategy right and if we can do that, we have a fantastic opportunity. We really want to do well for one another and desperately want it to be a success – for the team, for INEOS and for Britain. I think it would be a major moment in our sporting history."

by Andy Brice



Full speed ahead for auto project

Auto project steps up a gear

With INEOS's new 4x4 off-road vehicle expected to roll off the production line in late 2020, it is no surprise that the project has been accelerating at pace since its announcement early last year.

"There are so many moving parts to this project," says Mark Tennant, commercial director of INEOS Automotive, "but the INEOS 'can do' attitude is working really well – we're getting things done fast."

MBtech, a former subsidiary of Mercedes Benz, was appointed as Projekt Grenadier's engineering partner at the beginning of the year, bringing a 200-strong team and many years of experience with leading automotive manufacturers. Early design concepts have made the journey from the computer screen, to 1/3 scale models, and now to a full-size clay version.

"As the design has become more refined, the character of the vehicle is really coming through strongly," says Tennant. "The devil really is in the detail of the design process. While we have consciously referenced the original 4x4 pioneers – the first Willys Jeep, and the Series I Land Rover and early Land



"We're not going to be doing things the conventional, automotive way – we want to be different"

Mark Tennant,
Commercial director,
INEOS Automotive

Cruiser that the wartime Jeep inspired – Projekt Grenadier has a distinct style and identity all of its own."

Underneath the skin, a test vehicle – a chassis and suspension mule – has already been put through its paces in on- and off-road conditions, and come through with flying colours. "With the mule, we were able to experience the chassis and suspension set-up that we have developed for our vehicle. Let's just say that after some robust testing, where the mule was pitched against our main competitors in the market, there were some broad smiles on the faces of the project team," adds Tennant.

INEOS has high hopes for its 4x4 and plans to produce around 25,000 vehicles each year, at a starting price in the region of £35,000. Diesel, petrol and possibly an alternative fuel version are planned. Europe and the US are important markets, but so too are sub-Saharan Africa and Australia.

"Today, there are plenty of homogenised SUVs but there's very little on the market that could be called a genuine utility vehicle – and that's where the opportunity lies," says Tennant.

"We want the Grenadier to be as versatile – as usable – as possible," he says. "First and foremost, it is being designed to do a job of work. For the farmer moving equipment, livestock or feed around the farm; for the outdoor sports enthusiast, loading up the surfboards, the skis or the climbing equipment; for towing the horsebox, or RIB; for the camping trip, or the school run. The

vehicle's credibility – and the success of the project – depends on this versatility. It will be a tool – that is also cool – with a focus on function rather than frippery."

Tennant notes that the regulatory and legislative environment is very different to that into which earlier 4x4s were born so every possible avenue regarding efficiency, fuel economy, light weighting and safety is being explored.

There is still plenty of work to be done – including agreeing on a name for the new vehicle. INEOS is inviting suggestions through its website and has already accrued around 4,000 responses. For now, at least, it will continue to be known as Projekt Grenadier – a nod to the Grenadier pub just a stone's throw from INEOS's London headquarters where the idea was born.

The search also continues for a production facility and several suitable sites have now been shortlisted, with a decision expected later this year.

Where appropriate, the team intends to leverage technologies, expertise and knowhow from elsewhere in the business too, he adds. "INEOS is a very significant supplier of commodities, components and composites to the automotive industry, so we're looking to capitalise on our expertise in those areas.

"We like the fact that we're coming into the automotive industry completely fresh but with a wealth of manufacturing and engineering experience. We're not going to be doing things the conventional, automotive way – we want to be different."

by Andy Brice

FITNESS CAMPAIGNS ARE UP AND RUNNING

Childhood obesity remains one of the biggest threats to the wellbeing of young people – so much so that the World Health Organisation has called it one of the biggest public health challenges of the 21st century.

In a bid to keep children active and healthy, INEOS has given its backing to several fitness initiatives: Go Run For Fun and The Daily Mile campaign.

Both aim to promote a healthy lifestyle to children and encourage regular exercise. INEOS chairman Jim Ratcliffe launched Go Run For Fun (www.gorunforfun.com) a few years ago and the events now take place worldwide, drawing more than 260,000 eager participants. The most recent race in Italy this June had more than 2,400 children aged 5-10 taking part – over three times the turnout the

previous year.

The business has also sponsored The Daily Mile (www.thedailymile.co.uk) – a programme that encourages primary schools to get pupils active by taking them for a 15-minute jog or run – making them fitter, healthier and more able to concentrate in the classroom. With INEOS's backing, founder Elaine Wyllie is well on the way to getting every school involved.

INEOS

Founded in 1998, UK-headquartered INEOS has grown to become one of the world's largest chemical companies. It comprises 34 businesses, employs 20,000 people globally and achieved sales in excess of \$60bn in 2017. The vertically-integrated chemicals producer has 171 manufacturing sites in 24 countries, and boasts a diversified portfolio serving the petrochemicals and oil & gas markets.

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