

# THE CHANGING FACE OF TECHNOLOGY

Advances in technology have revolutionised  
the world of business

ISSUE 8. 2015

## A QUESTION OF MINDSET

The importance of understanding  
how individuals view change

## CLEAN ENERGY

Finding the right path to a low carbon future

## ENERGY EFFICIENT

INEOS opens its doors to the  
European Commission

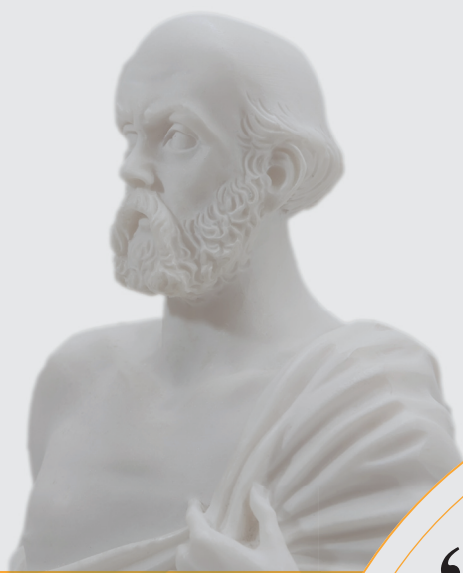
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**INEOS**  
THE WORD FOR CHEMICALS



“The secret of change is to focus all of your energy, not on fighting the old, but on building the new”

**SOCRATES,  
CLASSICAL GREEK  
PHILOSOPHER**



“I alone cannot change the world, but I can cast a stone across the waters to create many ripples”

**MOTHER TERESA,  
ROMAN CATHOLIC  
MISSIONARY**



“Life is a series of natural and spontaneous changes. Don't resist them; that only creates sorrow. Let reality be reality. Let things flow naturally forward in whatever way they like”

**LAO TZU,  
CHINESE PHILOSOPHER**

“Change is the law of life and those who look only to the past or present are certain to miss the future”

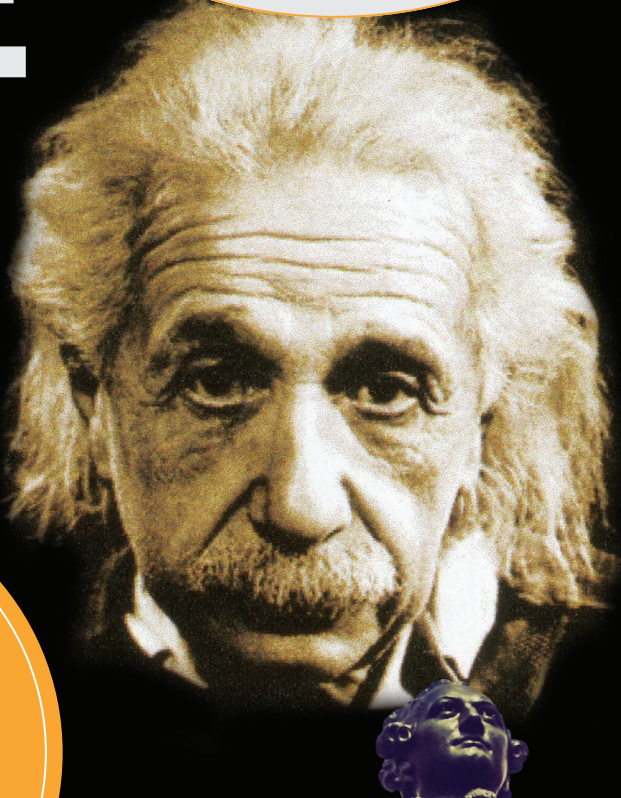
**JOHN F. KENNEDY,  
AMERICAN PRESIDENT**



# CHANGE

“The world as we have created it is a process of our thinking. It cannot be changed without changing our thinking”

**ALBERT EINSTEIN,  
PHYSICIST**



“If you change the way you look at things, the things you look at change”

**DR WAYNE DYER,  
AMERICAN  
MOTIVATIONAL  
SPEAKER**

“Every generation needs a new revolution”

**THOMAS JEFFERSON,  
AMERICAN PRESIDENT**



“Life belongs to the living, and he who lives must be prepared for changes”

**JOHANN WOLFGANG VON GOETHE,  
GERMAN WRITER AND STATESMAN**





INTRODUCTION

THE Irish playwright George Bernard Shaw witnessed many changes in his lifetime.

He was born in 1856 into a world without electricity, cars, planes or telephones – and at a time when it took two weeks by boat for a letter to be delivered across the Atlantic Ocean.

When he died at 94 in 1950, people could fly almost anywhere in the world, wash clothes with ease and send a 300-word transatlantic message by telegraph in eight minutes.

His view, all those years ago, was that progress was impossible without change.

Those who cannot change their minds, he said, cannot change anything.

In this edition, we look at change in all its many guises. We look at how we have changed as a society, the companies that failed to change and the changes that are now needed if we are to survive as a species.

We explore the psychology of change and why some will always resist it.

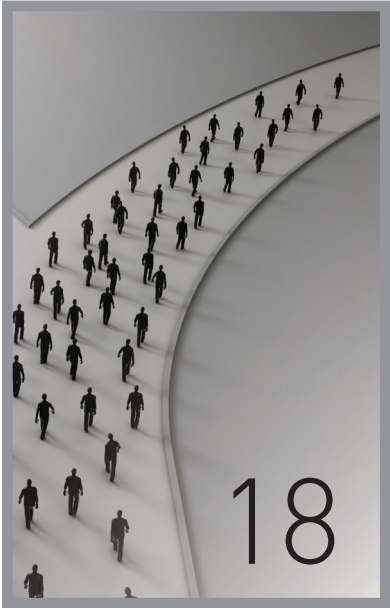
Closer to home, we look at INEOS businesses which have no choice but to change to remain competitive.

It is an edition that focuses the mind.

Change is inevitable. No one is immune from it. Nothing stays the same and, in all honesty, would we really want it to?

Change keeps us on our toes. It keeps us relevant. It keeps us ahead of the game.

As the late Steve Jobs once said: ‘The people who are crazy enough to think they can change the world, are the ones who do.’



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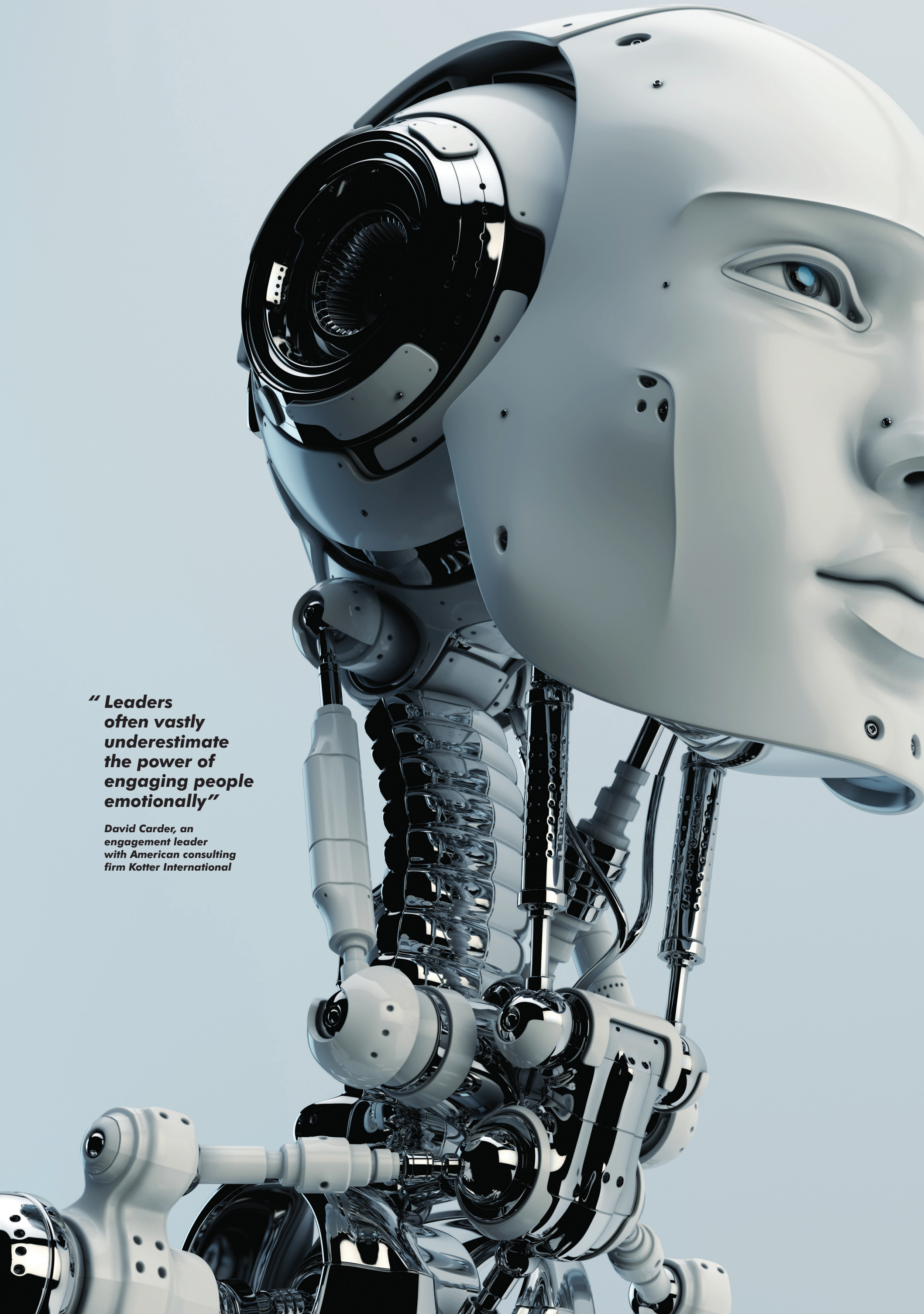
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***“ Leaders  
often vastly  
underestimate  
the power of  
engaging people  
emotionally”***

***David Carder, an  
engagement leader  
with American consulting  
firm Kotter International***







# THE CHANGING FACE OF TECHNOLOGY

## ADVANCES IN TECHNOLOGY HAVE REVOLUTIONISED THE WORLD OF BUSINESS

**Change is the only constant in life. Over the past few decades, though, the pace of change has been alarming. No one is immune and it shows no signs of slowing down...**

OVER the past few decades, life in the workplace has undergone possibly the biggest transformation since the industrial revolution which, in itself, led to sweeping changes across the world.

And the speed of change shows no signs of slowing down.

***“We won’t experience 100 years of progress in the 21st century, it will be more like 20,000 years of progress,”*** says Ray Kurzweil, an American described by Forbes magazine as the ‘ultimate thinking machine’.

Advances in technology have revolutionised the world of business.

In 1975, George Pake, then head of research at Xerox, predicted the office of the future.

***“There is absolutely no question that there will be a revolution in the office over the next 20 years,”*** he told Business Week. ***“What we are doing will change the office like the jet plane revolutionised travel and the way that TV has altered family life.”***

He predicted that in 1995 his office would be completely different. A TV-display terminal and keyboard would sit on his desk.

***“I’ll be able to call up documents from my files on the screen, or by pressing a button,”*** he said. ***“I can get my mail or any messages. I don’t know how much hard copy [printed paper] I’ll want in this world.”***

Apart from the paper bit, he was spot on.

Today, though, we now have wireless internet, email, smartphones, virtual video conferencing tools, and social networking sites with clout such as Facebook, Twitter, TripAdvisor and Rotten Tomatoes, all of which have been growing at a phenomenal pace.

People can communicate with those they know – and those they don’t – throughout the world in seconds from their home, their car, their office or while cruising at 25,000ft.

Social media has given power back to people. Companies, which underestimate that power and ignore negative feedback about their products and services, do so at their peril.

***“Trust plays a huge part in this new world and customers are more willing to trust a peer or customer review than a company’s claims about its product or service,”*** said John J. Sviokla, a Principal in PwC’s US Advisory practice where he serves as business leader for strategy and innovation.

But who is driving this change?

Customers are certainly demanding better, faster, cheaper and want to do more with less.

But equally, companies, facing tough competition, are under increasing pressure to innovate.

In 1975 the fastest supercomputer cost \$5 million. Today a \$400 iPhone would be able to perform equally as well.

Last year an estimated 4.55 billion people owned a mobile phone. That equates to nearly 70% of the world’s population. Those with a smartphone numbered 1.75 billion.

Smartphones now generate almost twice the volume of mobile traffic to that of PCs, tablets and routers – and that is predicted to grow ten-fold by 2019.

To take advantage of today’s changing climate, companies will need vision, tenacity, and, ultimately, the ability to organise, execute and change.

***“These qualities are even more important today because the world is more complex now than it was a decade ago,”*** said Mr Sviokla. ***“But there are actions that management can take so that they benefit from this rapidly-changing environment, rather than become overwhelmed by it.”***

PwC recently interviewed 1,322 chief executives from 77 countries.

Far from overwhelming them, more than half of those questioned saw more opportunities today than three years ago.

***“If 2014 taught us anything it’s that, in our increasingly technology-led world, no industry, no company and no government, even, is immune from the effects of change,”*** said Mr Sviokla.





**“If 2014 taught us anything, it’s that, in our increasingly technology-led world, no industry, no company and no government, even, is immune from the effects of change”**

**John Sviokla, PwC business leader for strategy and innovation**

**“But even with this rapid pace of change, we’re seeing an underlying sense of optimism from CEOs, despite an increasingly fluid and disrupted business environment.”**

Those who survive, and thrive, will, says Mr Sviokla, be the companies which think strategically and actively seek partnerships with a diverse mix of businesses, even their competitors, to gain access to new markets and new technologies.

David Carder, an engagement leader with American consulting firm Kotter International, said it was also important not to overlook ‘the engagement of the heart’ when implementing change.

**“Leaders often vastly underestimate the power of engaging people emotionally,”** he said. **“But that can go a long way towards fuelling the tenacity and stamina needed to withstand the challenges of change and the courage to take on the changes in the first place.”**

One way to do that, he said, was to bring the company’s vision to life through stories, video and personal experiences.

That said, he felt many individual business leaders were overwhelmed at the pace of change.

Mr Carder said the way companies were structured was becoming outdated.

**“It worked well in the late 19th and early 20th century because it suited the environment at the time,”** he said. **“But we’re seeing that it’s much less effective now. Today companies need to be agile with network-driven groups of colleagues who can innovate and adapt much more quickly.”**

It’s hard to predict what technologies and trends will affect our lives in the future.

But McKinsey’s Global Institute recently had a stab at it. It identified 12 potential technologies, from robots with

enhanced senses to self-driving cars, which could have a massive impact on the global economy between now and 2025.

**“The parade of new technologies and scientific breakthroughs is relentless and the list of the ‘next big thing’ grows ever longer,”** said a spokesman. **“But some technologies do, in fact, have the potential to disrupt the status quo and alter the way people live and work. Business leaders need to understand how the competitive advantages on which they have based their strategy might erode or be enhanced a decade from now by emerging technologies.”**

Some technologies detailed in McKinsey’s report have been in the making for years; others are more surprising.

No one is sure what the Internet of Things will mean for business, where machines will be able to talk to each other, but the effects on society, the economy – on everything – are expected to be huge.

Effectively it is about creating the technology to connect 50 billion devices.

**“It’s easy to scoff at the hugeness of the concept but it’s already happening, bit by bit, sector by sector,”** said Peter Day, the BBC’s global business correspondent. **“Cars are already hugely computerised.”**

The 7th Future of Wireless International Conference made its London debut in June.

**“The technology revolution has only just started,”** said a spokesman for conference organisers Cambridge Wireless. **“As with all revolutions, there will be unexpected changes and new beneficiaries. Existing players and structures may become obsolete or need to adapt radically. But with change comes opportunity as well as challenge.”**

Not all, though, see what’s happening as a force for good.

Professor Susan Greenfield, a neuroscientist at Britain’s Oxford University, believes the effect of all this change – and the speed of this change – will affect our brains over the next 100 years in ways we might never have imagined.

**“Our brains are under the influence of an ever-expanding world of new technology - multichannel television, video games, the internet, wireless networks, Bluetooth links,”** she said. **“And the list goes on and on.”**

It is a trend that worries her deeply.

**“We could be raising a hedonistic generation who live only in the thrill of the computer-generated moment, and are in distinct danger of detaching themselves from what the rest of us would consider the real world,”** she said.

In 1909 E M Forster penned a short story entitled The Machine Stops, an apocalyptic view of a future dominated by computers.

**“Anybody who uses the Internet should read it,”** said Paul Rajlich, a research programmer at the National Center for Supercomputing Applications in Illinois, America.

**“It is a chilling, short story masterpiece about the role of technology in our lives, and it is as relevant today as the day it was published.”**

Whatever the future holds the pace and scope of change is guaranteed to be beyond our wildest dreams.





# THE NINE BILLION PEOPLE QUESTION

**AS THE POPULATION GROWS,  
CAN WE SURVIVE AS A SPECIES  
ON A PLANET WITH LIMITED  
RESOURCES?**

**The world is filling up. Sustainability must be at the top of everyone's agenda if we are to survive as a species on a planet with limited natural resources. But with the global population expected to top nine billion in 2050, how can we do both? It's become the nine billion people question. And opinion is divided**

BRITAIN'S best-known natural history film-maker Sir David Attenborough is not a man to mince his words. Neither is he prone to exaggeration.

Over the past four decades, he has seen parts of the natural world destroyed by mankind to such an extent that animals no longer exist. He has literally witnessed nature change in front of his eyes.

And he blames the growing population.

**"I have no doubt that it is the fundamental source of all our problems, particularly our environmental problems,"** he said in a recent interview with The Wellcome Trust. **"I cannot think of a**

**single problem that wouldn't be easier to solve if there were fewer people."**

He said during his career, the world's population had tripled.

**"If we are able to stem it, we might have a better chance to grapple with the problems but we cannot,"** he said. **"The best we can do is slow down the rate of increase. I thank God that the Trust has administrators who are scientists, not politicians."**

Last year in an interview with INCH magazine, Jonathon Porritt, one of the world's leading environmentalists, said he too was putting his faith

in the chemical industry to play a pivotal role in tackling the challenges of sustainability.

And it is.

Since the first historic Earth Summit in Rio de Janeiro in 1992, the global chemical industry has helped to enable farmers adopt sustainable agricultural methods and ensure more and more people can access cleaner, safer drinking water.

Further work has led to medical breakthroughs, transformed the way energy is used and helped to cut greenhouse gases.

The International Council of Chemical Associations, the worldwide voice for the chemical





industry, said such progress had been the result of innovative ideas, technologies and processes all made possible through chemistry.

INEOS is one such company which works to develop innovative, sustainable solutions to complex and challenging issues because it recognises that it can have enormous influence on what the world does now – and in the future.

One of its products that makes a huge difference to the world's nutrition and health is acetonitrile, which is used to make essential drugs such as insulin and antibiotics, and also plays an important role in treatments for cancer. The clear, liquid solvent is also used to produce agrochemicals which ensure higher crop yields. INEOS currently meets about half of the global demand for acetonitrile. And much of what it doesn't produce is manufactured by others using its licensed technology.

There is no doubt that humanity faces profound questions about how the planet is to sustain nine billion people beyond 2050. Demand for food is rising, natural resources are challenged, and climate change has created a need for new, lower carbon energy sources.

Tim Benton, a professor of population ecology at the University of Leeds in the UK and a food security expert, said people had to understand – and recognise – the finiteness of the world to give us what we want.

***“It is the only way we’ll ever approach sustainability,”*** he said. ***“Demand is the killer. And unless we tackle demand, we will over exploit land and water and accelerate climate change.”***

By 2050 the planet will have to feed a third more people but there is only so much land that can be farmed.

***“Surely technological advances will make our use of land more efficient, but we cannot extract ever more from ever less,”*** said Tim. ***“The only way we’ll ever approach sustainability is to moderate our demand.”***

He said the world currently produced enough calories for 12 billion people but people in the developed world ate too much, a good proportion went to feed livestock and the rest was wasted.

***“It’s not about formulation and individual nutrients, or 3-D printers,”*** he said. ***“It’s about building resilience, reducing waste and modifying our diets. In future, the agri-industry cannot persist with the ‘demand is***

***growing, we have to supply it at all costs’ mentality. It simply has to change.”***

Friends of the Earth, which has been campaigning for more than 40 years to improve the well-being of the planet, recently launched its Big Ideas Change the World, a three-year project.

A spokesman said the extreme pressure that people, predominately those in developed countries, had put on the planet needed to be significantly and rapidly reduced.

***“It is a herculean challenge and, without a global population peak this century, it may well be impossible,”*** he said.

But opinion, about whether the world is doomed or not, is divided.

***“It has been a race between the exhaustibility of resources and innovation and so far innovation has won,”*** Citi’s chief economist Willem Buiter recently told INCH magazine. ***“We have several thousand years of human history to support us on that so I am reasonably optimistic.”***

Robert Aliber, a professor of international economics and finance at Chicago University, said he too remained untroubled.

***“Thomas Malthus predicted in 1798 that unchecked population growth would doom the Earth to starvation,”*** he said. ***“He has been proved wrong for the past 200 years so why should he be right in the next 100?”***

Overcrowding is a problem in some corners of the world. That’s a fact that cannot be denied.

Award-winning Danish photographer Mads Nissen said he witnessed the problem of too many people living in too little space when he visited Manila in the Philippines nine years ago.

In 1980, 50 million people lived in the Philippines. That number is expected to rocket to 180 million by 2050.

***“Manila is already one of the most overpopulated places on earth,”*** he said. ***“Families live in home-made shacks built in cemeteries, or between railroad tracks or under bridges. They live wherever they can find some space. Even the city’s toxic garbage dumps are home to people who eat, sleep and live surrounded by rotting trash.”***

But the World Population Balance believes that the future can be changed in a humane way.

***“We can create a new vision, a new dream for the planet,”*** said founder and president David Paxson.

He said the solution was a global campaign to encourage people throughout the world to have fewer children.

***“Today we are spending millions to create a more sustainable planet but all we are getting is a more polluted one,”*** he said. ***“Sustainability on an overpopulated planet is impossible and the world is significantly overpopulated right now.”***

He claimed two billion people now lived in poverty. ***“That is more than the population of the entire planet less than 100 years ago,”*** he said.

Mr Paxson said it would be an uphill battle to successfully cut the population but nothing compared with coping with overpopulation’s devastating consequences.

The debate over how on earth we can feed nine billion people will continue to divide opinion.

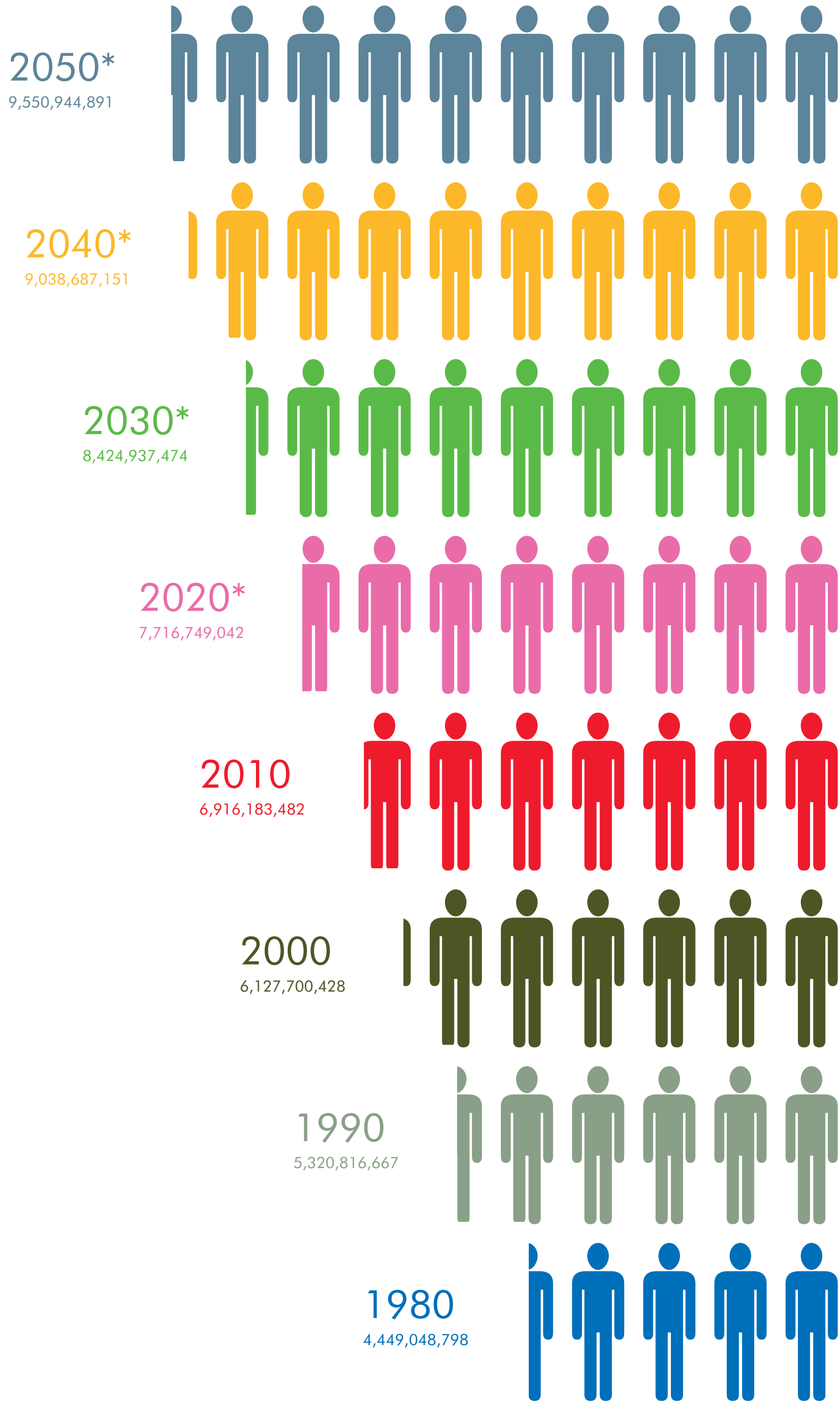
But as that debate continues, it falls to the chemical industry, which is at the start of almost all other industry, to continue to focus its efforts on producing essential items to help tackle many of the issues presented by an ever-changing world – in a more efficient way and in a way that not only reduces its own impact on the environment, but also the impact of industries it serves.

And it is not just about saving money. INEOS knows it has a huge responsibility to provide the materials necessary for the technologies of tomorrow, to use fewer raw materials to help society to consume less energy in a world with finite resources.

That is why you’ll find INEOS at the heart of the chemistry behind our basic human needs. The need for food, transport, communications, water. And for energy.

It has been providing that chemistry for years. And it intends to do so for generations to come.





\*Projected figures  
Source: Population Reference Bureau



# THE MOST CROWDED PLACE ON EARTH

**Nothing comes close to Mong Kok in Hong Kong**

If you love people watching, Mong Kok is the place to be – if you can stand the crowds.

For this Hong Kong district is believed to be the most densely populated place on planet Earth.

With more than 340,000 people per square mile, nothing comes close.

Charles Reynolds, though, who has lived and worked in Hong Kong for the past nine years, says it doesn't feel overly crowded.

***"I have been to other places where it's just chaotic and people cannot move," he said. "But in Mong Kok the foot traffic flows quite nicely."***

Just about everything you can imagine is bought, sold or haggled over in Mong Kok where there are entire streets dedicated to selling luck-bringing goldfish, flowers, kitchenware and bath tubs.



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# CLEAN ENERGY

## FINDING THE RIGHT PATH TO LOW CARBON ENERGY

**Global demand for energy has been rising ever since the 18th century when mankind started using the earth's natural resources to fuel the Industrial Revolution. It brought great change across the world. But the recent rapid industrialisation of countries like India and China continues to fuel a further huge increase in demand. So what does the future hold?**

THE demands for global energy are unlikely to trouble the average man or woman in the street.

But Governments, scientists, academics, environmentalists and energy-intensive companies like INEOS are continually looking at improving energy efficiency. It's a major concern.

Fossil fuels currently feed manufacturing plants around the world, where tons of chemicals are manufactured every day so that others can produce everything from paints to plastics, medicines to mobile phones and cars to clothing.

***"Many of the problems that threaten mankind's survival on the planet results from the increased consumption of energy, water and raw materials,"*** said a spokesman for Friends of the Earth Europe.

So what are the alternatives? Could wind farms and harnessing the sun's power hold the answers?

Yes, say Friends of the Earth Europe.

In part, says INEOS. They are part of the energy mix but they won't meet mankind's needs all the time.

It will take decades, however, to fully transform how Europe generates electricity and heat, so in the interim INEOS has to rely on fossil fuels to meet its energy needs. But gas has around half the emissions of coal, so INEOS believes it has an environmental

duty to encourage a move towards gas rather than coal.

Renewable technologies are important customers of INEOS. INEOS make the raw materials that go into wind turbines and into solar cells. Raw materials that are made from the molecules we get from gas.

***"Gas is needed in the long-term as a raw material to underpin manufacturing"*** says Leen Heemskerk, Chief Financial Officer of INEOS Olefins & Polymers Europe (North).

Gas is not just a fuel that INEOS burns for energy. It is also a raw material used in the manufacture of chemicals that have application in a wide range of essential products including medicine, clothing, buildings, vehicles, computers, and green technologies, such as wind turbines and energy efficient materials.

INEOS will still need gas to make these essential items once it has made the transition to low-carbon energy. It is vital, therefore, that Europe has a secure and competitive long-term supply of gas to underpin the future of the manufacturing sector.

***"INEOS support the innovation drive to find alternative energy sources but we need to be realistic at what pace we can de-carbonise our economy,"*** said Leen.

The world currently consumes about 529 quadrillion British thermal units every year. Fossil fuels currently supply nearly 80% of the world's energy. And industry, which supplies the products on which society depends, is its biggest customer.

America, with just 5% of the planet's population, currently consumes about 20% of the world's total energy supply.

But the global demand for energy is expected to double by 2040 as people in India and China, which between them contain more than a third of the planet's people, get richer and want more energy-consuming goods such as computers.

Environmentalists say society must change its ways if it is to avoid an energy crisis and have a hope of averting climate change.

Increased regulation and restrictions on greenhouse gases, have helped, they say.

But Friends of the Earth Europe believes wealthy nations also need to cut down on the amount of energy consumed.

So too does the European Commission.

It is setting ambitious targets for Europe that could ultimately force industry to drastically cut down on the amount of energy it uses.





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FILM: GAS! WHO  
NEEDS IT?

INEOS argues that this could have unintended consequences, including a shift of investment and a growth of industry outside of Europe.

***“There is a very big misunderstanding of the chemical industry,”*** said Greet Van Eetvelde, INEOS Manager of Cleantech Initiatives. ***“We are energy intensive but we are not energy inefficient. We are continually looking at ways to reduce the amount of energy we use to produce our products. It makes good business and environmental sense. But we are also carbon intensive. We use those gas molecules as raw materials. We still have got a long way to go before the officials understand what we are about. To them, industry is just industry. But the process industry is different, and without the chemical industry in particular, modern life would not be possible.”***

Dan Byles, chairman of the UK Government’s All Party Parliamentary Group for Unconventional Oil and Gas, said it was not whether the world wanted low carbon energy that was in question. ***“It is the pathway to getting there,”*** he said. ***“Gas must be seen as a bridging fuel between an energy system still dominated by oil and coal and the low carbon future energy mix that we all want to see.”***

He argued that a choice should not be forced between gas or renewables. ***“We need both,”*** he said. ***“And we will do for some time.”***

Coal – the worst offender – has fuelled China’s meteoric rise from a small, emerging market into the second biggest economy in the world. But it’s come at a huge cost to the environment, with China now emitting more CO<sub>2</sub> than any other country in the world.

Last year China’s dependence on coal fell for the first time this century and was coupled with a rapid increase in the use of renewable energy.

That, said Greenpeace East Asia, gave the planet a ‘window of opportunity’.

***“The significance is that if the coal consumption growth we have seen in China in the last 10 years went on, we would lose any hope of bringing climate change under control,”*** said Lauri Myllyvirta, energy campaigner at Greenpeace East Asia. ***“It may not be the peak yet but it is a sign that China is moving away from coal.”***

Alternative energy sources need to be found because, as the world’s population grows, so too will the demand for energy.

In the developed world, access to safe, reliable and affordable energy has transformed people’s lives – and it could do the same for those living in the poorest places in the world.

One who wants to see that happen is Microsoft founder Bill Gates, one of the richest men on Earth.

***“In the rich world, we are right to worry about conserving energy, but in poor places, people need more energy,”*** he wrote in a recent blog. ***“For countries to lift themselves out of poverty, they need lights in schools so students can study when in the dark, refrigerators in health clinics to keep vaccines cold and pumps to irrigate farmland and provide clean water.”***

Mr Gates said the onus was now on wealthy countries like the US to invest more in research into clean energy.

***“It’s about developing energy sources that produce zero carbon,”*** he said.

The chemical industry, although it consumes much of the world’s energy supply, is at the heart of many of those developments – and is helping to decarbonise the world economy.



Global emissions have been cut thanks to improvements – driven by the chemical industry – in insulation materials for the construction industry, chemical fertilisers and crop protection, plastic packaging, lighting, marine anti-fouling coatings, synthetic textiles, automotive plastics, low-temperature detergents, engine efficiency, and plastics used in piping.

**“These savings highlight the vital role of the chemical industry in decarbonising the economy,”** said a spokesman for the International Council of Chemical Associations. **“In reality, achieving the equivalent CO<sub>2</sub> savings without the benefits of chemical products and technologies would not be possible.”**

The use of chemistry in energy-saving products, such as building insulation, compact fluorescent lighting, and lightweight plastic vehicle parts, saves America alone up to 10.9 quadrillion Btus of energy and up to \$85 billion in energy costs annually.

In layman’s terms, that means the US has cut its energy consumption by 11% and has saved the energy needed to power 135 million vehicles for a year.

**“That is 55% of all the cars on the road today,”** said Ryan Baldwin, spokesman for the American Chemistry Council.

The International Council of Chemical Associations said recently that chemical products for vehicles were now saving 230 million tons of greenhouse gas emissions every year.

And INEOS is at the heart of many of the advances being made by manufacturers to make cars lighter, stronger and more fuel efficient. Plastic is one. Carbon fibre is another. But there are also a host of other raw materials made by INEOS that are finding their way into fuel efficient tyres, and synthetic oils that are improving engine efficiency.

INEOS also manufactures components for wind turbine and products for the solar industry. In short, it is enabling other industries – the renewables sector – to save energy and cut CO<sub>2</sub> emissions.


The transition to renewables, though, is unlikely to happen overnight because, although the renewable sector is growing, it is not growing fast enough and the available green technologies do not generate enough energy all the time to meet the demand.

The National Academies, advisers to America on science, engineering and medicine, says reducing the amount of energy lost is as important to our energy future as finding new sources.

**“Gigantic amounts of energy are lost every minute of every day in converting it into a useable form,”** said a spokesman.

That, too, is an area in which INEOS works creatively. It has to, if it wants to stay in business in Europe where the cost of energy is now twice as high as it is in America.

**“We have got to continually maximise our energy efficiency,”** says Jean-Noel Large, who has been given the job of improving the efficiency of the Petroineos at Lavera in France. **“It is up there with the safety of the site.”**



All power to its elbow:  
INEOS manufactures the  
essential products for  
wind turbines



# SHALE GAS IS PATH TO THE FUTURE

## INEOS SETS SIGHTS ON WINNING RESIDENTS' HEARTS AND MINDS IN BID TO HELP REVOLUTIONISE MANUFACTURING IN THE UK



**INEOS' decision to pursue shale gas exploration in the UK has set it on a collision course with environmentalists and protest groups. But INEOS is not one to run from a challenging situation especially when it believes it is the right thing to do**

INEOS is now officially the third largest shale gas company in the UK.

Its deal with IGas – announced in March and finalised in May – has now given it access to almost a quarter of a million acres of potential shale gas reserves in Scotland and the North West of England.

***“These are first-class assets that have the potential to yield significant quantities of gas in the future,”*** said Gary Haywood, CEO of INEOS Shale.

In August INEOS was awarded three additional shale gas licenses from the UK Government. The additional acreage cements INEOS position as one of the UK's leading shale gas businesses.

The company believes an indigenous shale gas industry will revolutionise manufacturing in Britain (currently one of the most expensive places in the world to make petrochemicals), give the UK energy security for the first time in many years, and create thousands of jobs.

But public support remains a challenge for this nascent industry across the UK.

In March INEOS had been buoyed by a Greenpeace-sponsored survey which revealed more people in the UK supported fracking than opposed it.

***“It clearly showed that more and more people are seeing the potentially huge benefits of UK-produced shale gas,”*** Tom Crotty, INEOS Corporate Affairs Director, said at the time. ***“UK shale gas is a once-in-a-lifetime opportunity that we cannot afford to miss. North Sea oil created great wealth for the UK and shale gas can do the same.”***

Opponents of fracking claim it is dangerous and disruptive, triggers earthquakes, contaminates drinking water and the air we breathe.

Supporters say – done properly – it is safe, provides countries with a valuable domestic resource, creates jobs, underpins manufacturing and will help to cut CO<sub>2</sub> emissions.

America is already proof of that. There, fracking has led to a manufacturing renaissance, created thousands of jobs, driven more than \$150 billion worth of investment – and helped to slash US carbon emissions by displacing coal, which emits twice as much CO<sub>2</sub> as gas. In 2012 energy-related CO<sub>2</sub> emissions, according to the national Energy Information Agency, fell to their lowest level since 1994 because of shale.

In April and May this year INEOS met with local residents for the first time, as part of a concerted effort to explain the facts around shale gas development, and answer the questions posed by people in the Scottish local communities which would be directly affected.

***“There will always be a hard core of opponents who are philosophically opposed to fossil fuel development, despite shale gas having only half the carbon footprint of coal,”*** said Gary. ***“However, many local residents fear shale development for more local reasons – and these are the people INEOS wants to address, to reassure them of the impacts of shale development. We believe that most people are open-minded about shale development, but want more information. It is an important part of our job to give people the facts, so they can make an informed decision on whether shale gas can happen safely and successfully within their communities – which we very much believe it can.”***

The meetings achieved their goal and communities appreciate the opportunity to hear from INEOS first hand, and the opportunity to get their questions answered.

The team will be following up the first set of public meetings with exhibition-style events in Scotland in September.

***“Reassuring people that the industry can operate without long-term damage to the environment or their way of life is critical,”*** said Gary. ***“It is also vitally important to make the case for why shale gas development is beneficial for communities, and for the country.”***

Shale gas is widely viewed as the most important bridge to any future renewable – and affordable – energy source because of its low carbon footprint – half that of coal.

As it stands, rising energy costs in Europe threaten to undermine the ability of manufacturers in the EU to compete on the world stage.

The UK is currently losing jobs to the US where they have access to cheap gas, thanks to shale. In an attempt to protect its UK petrochemical business before it's too late, INEOS is already investing \$1 billion to import shale gas from America to make its site in Grangemouth profitable and to enable the long-term growth of its site at Rafnes (Norway). In a world first, those shipments of liquefied ethane will begin arriving in Rafnes later this year, and into Scotland next.

***“Our success in the UK depends on access to competitive energy and feedstock supplies,”*** said Tom. ***“Having access to more competitively-priced feedstock and energy would transform the fortunes of the UK petrochemicals industry and help it to compete in a global market.”***

It is hard to believe that Britain – as the founder of the industrial revolution – was once the powerhouse of world trade.

Today manufacturing in the UK is perceived as an industry of the past and has steadily declined with the loss of more than three million jobs over the past 20 years alone.

Yet the chemical industry is even more relevant – and important than ever in helping to create a greener economy – today.

Although it may still rely on fossil fuels to run its plants, it is estimated that for every ton of CO<sub>2</sub> it uses, more than two tons are saved by its products, which include catalysts, insulation, components for wind turbines, and solar cells.

Drilling for shale gas may be a new venture for INEOS in the UK, but the INEOS team is being guided by three world-leading pioneers who led the development of the first commercial shale play in the US, the Barnett Shale. Since the development of the Barnett, they have gone on to work on many other shale plays in the US and around the world.

Petroleum engineer Nick Steinsberger and geologists Kent Bowker and Dan Steward, who are now working exclusively for INEOS in Europe, have more than 20 years of industry experience. They have drilled thousands of shale wells without encountering any major issues and will be advising INEOS on how best to safely access Britain's vast reserves.

***“We believe our knowledge and experience in running complex petrochemical facilities, coupled with the world-class, sub-surface expertise we recently added to our team, means that INEOS will be seen as a very safe pair of hands,”*** said Gary.

He added: ***“Shale gas is not about short-term speculation for us. It is about securing our manufacturing base which provides thousands of jobs in regional economies.”***

For information about shale gas visit: [www.ineosupstream.com](http://www.ineosupstream.com)



# ENERGY EFFICIENT

## INEOS OPENS ITS DOORS TO THE EUROPEAN COMMISSION

**The European Commission wants drastic cuts in energy consumption in Europe. It argues that it will be good for the environment, for jobs, energy security and the economy. INEOS, which spends 1.3 billion euros on energy every year, begs to differ**

THE European Commission is being urged to understand the significant day to day focus that the chemical industry has on improving its energy efficiency instead of imposing yet more targets. It is appealing to the Commission, which wants a 27% reduction in energy consumption by 2030, to see that saving energy is already a fundamental part of how INEOS operates.

***“We don’t need more regulations or targets,”*** said Tom Crotty, INEOS Group Communications Director. ***“Energy efficiency is already a core business value because it makes good business sense. And nearly every technology available and affordable to reduce energy consumption has already been installed at our sites. To us a further cut in energy consumption would mean a cut in production.”***

The Commission believes setting an ambitious energy efficiency target will be good for the environment, for jobs, energy security and the European economy.

INEOS, which spends 1.3 billion euros on energy every year, says the target is unrealistic, unworkable for the chemical industry and threatens to kill the industry in Europe and, with it, six million jobs.

INEOS believes the problem partly stems from the Commission’s lack of understanding about the importance and on-site reality of the chemical industry.

***“We already have a competitiveness problem in Europe,”*** said Tom.

In a concerted effort to be heard amongst many people who responded to a European Commission consultation on its 2030 climate and energy policies, INEOS and CEFIC invited representatives from the Commission’s Directorate-General for Energy to visit the Köln site.

***“INEOS has been working with great success on energy savings for years,”*** said Gerd Franken, CEO INEOS O&P North. ***“And we believe our sites are amongst the most energy efficient in the world.”***

The Köln site in Germany employs 2,000 people from 28 nations, and covers an area the size of Monaco. It spends 90% of its expenses on energy and feedstock and uses enough to heat, light and power 200,000 homes.

The site might use a lot of energy but that does not mean it is inefficient. Stefan Krämer, energy manager at the site, showed the DG Energy delegation how everyone on the site already worked together to save energy.

***“It is quite a challenge as internal energy networks at the INEOS site in Köln need to be balanced,”*** he said. ***“The nitric acid and acrylonitrile process, for instance, generates steam, and crackers and butadiene production need heat and therefore use steam.”***

By-product hydrogen, rather than being flared, is used thermally in the power plant instead of natural gas –

a move that has saved 80,000 MWh a year of natural gas. And improvements to the cooling tower have saved a further 13,000 MWh a year of electricity.

***“INEOS really is determined to use and reuse everything it produces,”*** said Gerd, ***“It makes clear business and environmental sense.”***

During the visit, Brigitta Huckestein, Communications and Government Relations from BASF, the world’s largest chemical company, also appealed to the Commission to see sense.

For the first-time ever BASF has announced a strategic cutback in European investment, citing stagnant markets, expensive energy and expensive labour.

Brigitta said BASF was struggling to find any further measures to reduce its energy consumption and CO<sub>2</sub> emissions.

The Ludwigshafen site of BASF is the biggest and most efficient, integrated site in Germany. But she argued that the integrated production would lose efficiency if a renewable energy surcharge was applied to self-produced power from a CHP plant after 2017.

***“It will also reduce the competitiveness of this most energy-efficient installation,”*** she said. ***“In short, we already feel driven out. If regulations stipulate the production of basic chemicals in Europe as a measure to reduce European energy demand, we feel it will be dangerous for the German and***



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EFFICIENCY IS  
ALREADY A CORE  
BUSINESS VALUE

**“ Our visit was an eye-opening and enriching experience, which let us take an invaluable insight into the life of the chemical sector and into one of the pillars of the European industry. Learning about the economic and operational parameters and conditions of a leading European chemical company, seeing how its advanced energy management system and state-of-the-art energy efficiency solutions work in practice was an experience that substantially advanced our understanding in a very short time.**

**Let me once more reassure you that a thriving European industry is at the core of our concerns and that our policies seek to increase the European industry’s competitiveness.”**

**Paul Hodson, Head of Unit Energy Efficiency & Intelligent Energy, DG Energy, European Commission**

**“ We don’t need any more regulations or targets. A further cut in energy consumption will mean a cut in production”**

**Tom Crotty, INEOS Group Communications Director**

**European economy because value chains will be destroyed. And if conditions are not favourable, we will invest elsewhere.”**

Alistair Steel, a representative from CEFIC, which is the voice of the chemical industry in Europe, said affordable energy was the key to growth.

**“The competitiveness depends on the industry’s access to competitive, reliable energy supplies,”** he said.

The cost of producing ethylene in Europe is now twice as high as in the US where cheap shale gas has led to a manufacturing renaissance. And while INEOS’ profits in Europe have halved in the past three years, its profits in the USA have tripled.

**“We can only cut so much energy,”** said Greet Van Eetvelde, Manager of Cleantech Initiatives and based at INEOS’ head office in Rolle, Switzerland. **“The European Commission has to decide whether it wants a chemical industry in Europe. It is impossible to meet these targets without significant investment and the economic climate in Europe makes this difficult.”**

Even if INEOS wanted to fund clean technology, it faces an uphill battle.

**“Banks like safe bets,”** said Tom. **“They do not like new technologies. Often the funding of new technologies is also dependent on**

**support by the government which includes a political risk.”**

Stefan said the chemical industry had been working on ways to make their production plants more efficient for years.

**“The self-commitment of the industry to energy efficiency started long before EU directives in 1996,”** he said.

Last year INEOS chairman Jim Ratcliffe warned that Europe’s chemical industry was facing extinction within a decade.

**“I can see green taxes. I can see manufacturing being driven away,”** he wrote in an open letter to Jose Manuel Barroso, then president of the European Commission.

He urged the Commission to wake up.

**“Worldwide the chemical sector has revenues of \$4.3 trillion,”** he said. **“That’s bigger than the GDP of Germany. In Europe, chemicals and autos share top billing with \$1 trillion each. Economically speaking chemicals is one of Europe’s jewels in the crown.”**

INEOS is hopeful that the Köln visit may have opened eyes in Brussels.

Paul Hodson, a member of the Commission delegation, said in an email to INEOS that it had given them a

valuable insight into – and understanding of – the chemical industry.

He said a thriving European industry was at the core of the Commission’s concerns and that its policies would seek to increase the industry’s competitiveness.

**WHAT THE EUROPEAN COMMISSION WANTS BY 2030**

- 27% reduction in energy consumption (non-binding for industry)
- At least 27% increase in renewables
- 40% cut in carbon emissions



# A QUESTION OF MINDSET

## THE IMPORTANCE OF UNDERSTANDING HOW INDIVIDUALS VIEW CHANGE

**Changing the workplace is easy; changing people's mindsets is not. But with the right approach, it's not impossible**

NO ONE likes change.

At least that's the theory. But the reality is that some people do. And some don't.

Companies, looking to win over all their staff, perhaps just need to change their approach.

The master of management, the late Peter Drucker, was very clear about the best way for an organisation to implement change.

***"You have to infuse your entire organisation with the mindset that change is an opportunity and not a threat," he said. "People are secure if they realise that this time of sudden, unexpected and radical change is a time of opportunity."***

Someone who understands that change can cause emotional upset – and lead to a dip in performance – is Dr Fred Wadsworth, a medical director at UK-based Corperformance which has worked closely with INEOS in the past.

***"Poorly-managed change processes can be seen as a threat and cause classic stress responses," he said.***

But he said the fear of implementing change should never deter a company from seeking it.

***"An appetite for change needs to be present and developed but that can be achieved by setting members of staff effective goals, in which they believe," he said. "Those threatened by the journey are usually the hardest to persuade."***

But even those, can be won over.

John Reh, a senior American business executive and author, said understanding what – and how – things needed to be done, was half the battle.

***"You have to help your people understand what the change will be, when it will happen and why it needs to be done," he said.***

Roberta Katz, an Associate Vice President for Strategic Planning at Stanford University in America, described change as an iterative process.

***"Individuals within an organisation will get on the change train at different times," she said. "The leader will have to keep repeating the vision and repeating the strategy so that when everyone is finally on the same train, they will have heard the same message, and will understand the goal to which they are all working. If you are the leader expressing the change, you are bored, you are ready to move on, but you have to remember to keep saying it because even if someone has heard it 10 times, you may not get them to understand until the 11th time when something happens in their life to make it meaningful."***

Resistance to change can often spring from a fear of the unknown.

***"We resist change but fear of the unknown can result in clinging to status quo behaviours, no matter how bad they are," said Dr Stan Goldberg, a former clinical professor at San Francisco State University.***

That fear is often based on staff perception. And perception matters because it is their reality.

The good news, says Dr Wadsworth, is that perceptions – just like personality – can be changed.

***"Personality is a fluid thing," he said. "Values may be set in our teenage years and be like anchors on a seabed but the way we behave is more fluid, like buoys floating on the sea. They remain connected to our anchors but are open to change. That is why goals which are linked to our values are more likely to be achieved than those that are not."***





***“ We have seen many companies that are unable to truly capitalise on technology and change the way they want to because they are held back by their hierarchy and structure”***

***David Carder, an engagement leader at Kotter International in America***

The late Mr Drucker said if a change looked like an opportunity, a company should put one or two good people to work on it.

***“You need someone at the top who enjoys the unexpected,”*** he said. ***“That is crucial because there will be a great many surprises, and if every surprise is a threat, we won’t be around for very long.”***

Mr Drucker said rapid change could be achieved without upsetting people if the staff trusted the company.

***“Building trust is not rocket science,”*** said James Hec, a member of the faculty of the Harvard Business School. ***“It should be pretty simple, in fact. Don’t create expectations that can’t be met. Share knowledge. Hire, recognise, and fire the right people. Be consistent and predictable and avoid large-scale layoffs as much as possible.”***

Dr John Kotter, a Harvard Business School professor, has written almost 20 books about leadership and change.

Last year he launched Kotter International Center for Leaders, a firm of world-class experts in helping organisations change.

***“The rate of change is increasing faster than our ability to keep up,”*** he said. ***“Yet we expect leaders at all levels to deliver ever-better results – and sooner.”***

David Carder is an engagement leader at Kotter International in America.

***“We have seen many companies that are unable to truly capitalise on technology and change the way they want to because***

***they are held back by their hierarchy and structure,”*** he said.

The bottom line, said Mr Drucker, is that change is painful, risky and requires a great deal of hard work.

***“Unfortunately, you cannot manage change,”*** he said. ***“You can only be ahead of it. You can only make it.”***

### **Top 5 tips for a company wanting to implement change**

- 1 Keep staff in the loop – people like to know what is going on, especially if their jobs are directly affected
- 2 Inspire your staff – appeal to people’s aspirations and desires. Goals that are linked to their own values will be more achievable
- 3 Think ahead – changes should be made in the long-term best interests of the company, not simply to save money in the short-term
- 4 Be understanding – staff are more likely to accept change if they fully understand the reasons for it
- 5 Be realistic – Unrealistic goals increase fear, which increases the likelihood of failure





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FILM: INEOS BUILDS  
EUROPE'S LARGEST  
ETHANE TANK



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FILM: THE STEEL  
ROOF OF THE TANK  
IS FLOATED INTO  
POSITION



Grangemouth's ethane  
storage tanks is  
beginning to take shape



# THE CHANGING FACE OF GRANGEMOUTH

## VISIONARY IDEA BECOMES REALITY AT SCOTTISH PETROCHEMICAL COMPLEX

### The face of Grangemouth is changing. And with it, comes the promise of a new and exciting future

ONE of the largest ethane storage tanks ever to be built in Europe is taking shape.

Once completed, the 60,000-cubic metre tank will hold 30,000 tons of liquefied ethane gas – and herald a new era in the manufacture of petrochemicals.

***“The skyline at Grangemouth has changed somewhat since the 40-metre tank wall was built,”*** said Alan MacMillan, O&P UK ethane project manager. ***“These are exciting times for the O&P UK business and the tank is tangible evidence of the investment being made.”***

The construction of the tank is just one element of a number of synchronised projects and activities that forms O&P UK’s vision for a sustainable and viable future.

INEOS is investing about £450 million to transform the loss-making Scottish manufacturing site, which employs more than 1,300 people directly, into one of the best in the world.

***“It is the most significant investment into UK and Scottish petrochemical manufacture of recent times,”*** said John McNally, CEO INEOS Olefins & Polymers UK. ***“And it clearly demonstrates our commitment to Grangemouth.”***

INEOS needs the ethane, which will begin arriving from the US next year, to replace the dwindling stocks from the North Sea. Only by securing sufficient raw materials to run the manufacturing plants optimally and at full capacity – something it has been unable to do for many years – can the Scottish site begin to turn around its fortunes.

In addition to the storage tank, the ethane supply project encompasses significant infrastructure work.

The business is making changes to its jetty and off-loading facility, where the state-of-the-art ships will dock, and laying miles of pipes to transfer the ethane to the tank and on to the manufacturing plant.

The work will be carried out by a number of contractors who have been hired to ensure the project is completed on time, safely and within budget.

***“Working alongside the many different companies and across a number of interfaces is a complex and challenging task,”*** said Alan.

The plan being implemented at Grangemouth is very similar to the one recently undertaken at INEOS’ Rafnes plant in Norway where the company has successfully built the infrastructure to enable it to import ethane from the North American shale gas fields this year.

Long-term contracts have been agreed with American suppliers to pipe the shale gas ethane cross country to the East and Gulf coasts of America from where it will be shipped across the Atlantic to Norway – and in 2016 to Scotland – in a fleet of eight specially-designed ships commissioned by INEOS.

In the meantime, as Grangemouth awaits those shipments, the O&P UK business continues to work on its strategic survival plan, which will protect the long-term value of the site by creating a global leading chemicals and manufacturing hub with the potential to become a centre of excellence and innovation in Scotland.





# HOW THE MIGHTY CAN FALL

## NO ONE CAN BE COMPLACENT IN TODAY’S FAST-PACED ENVIRONMENT

In today’s fast-paced environment, companies rise and fall faster than ever before. The biggest threat is perhaps complacency. Or as the late Steve Jobs, inventor of the iPhone, put it; “Kill complacency before it kills you.” Here are six companies that were once deemed leaders in their field, before they all sadly lost their way



Few could have predicted how this success story would end. **Blockbuster** was once the undisputed leader in video rental with a market value of \$5 billion. It employed 60,000 people and had 9,000 stores throughout the world. Then Netflix started sending films through the post and cable and phone companies started streaming movies into people’s homes – and Blockbuster failed to respond to customers’ changing habits.



NO ONE came close to rivalling **Kodak** for almost 100 years. The company was built on a culture of innovation and change; it was destroyed by complacency. Most people owned a Kodak camera and used Kodak’s trademark film. But what the company didn’t picture was its own demise with the advent of digital photography, a technology that it invented. It failed to act swiftly enough and others moved in for the kill.



Apple’s iconic inventor Steve Jobs is believed to have idolised the man who pioneered the iconic **Polaroid** SX-70. For Edwin Land was the first to mix cutting-edge technology with design. At its peak in 1991, sales of its mainly instant cameras and film almost hit £3 billion. But its great undoing came when it failed to embrace the digital photography revolution and went bankrupt 10 years later.



**MOTOROLA**

It’s hard to believe that **Motorola** built and sold the world’s first mobile phone, and in 2003 introduced the biggest-selling mobile phone ever at the time – the Razr. But Motorola failed to focus on smart phones that could handle email and pictures and rapidly lost market share.





**Commodore International** was one of the first computer companies to successfully compete for the home market. Its relatively small machines were well made and cheap. In the early 80s, two million Commodore 64s were being snapped up every year and the company had cornered almost 50% of the market. Then it released the smarter Commodore plus/4. A smart move one would think but the company alienated its core customers. The new model was incompatible with the old one which customers loved. The company went bankrupt in 1994.



ICI was once a symbol of Britain's industrial might. At its peak the company, which invented polythene, employed 130,000 people and was one of the biggest chemical companies in the world. But in the 1990s it became too complacent. Paul Hodges, a senior executive at ICI until 1995, said the company became increasingly risk and decision-adverse. "It lost the cutting-edge, the drive to try out new directions," he said. "Instead, 'no surprises' became the motto." It moved into speciality chemicals and sold its commodity chemicals business to INEOS, under whose ownership it has grown from strength to strength. Meanwhile ICI's earnings continued to fall. The company was eventually sold to Dutch company AkzoNobel in January 2008 and its adhesives and electronic materials businesses were bought by Germany's Henkel three months later.





# CHANGE OF SCENE

**ROYAL SALUTE FOR INEOS HR DIRECTOR WHO DISCOVERED  
THE MEANING OF LIFE IN THE FACE OF DEATH**

**Comfort zones are not for everyone. Especially men like Tony Moorcroft. To him, a change is always better than a rest, as INCH discovered**

ON 19th March 2003 American President George Bush addressed the world.

In a live TV broadcast, he said that the Allied campaign to disarm Iraq, free its people and defend the world from grave danger, had begun.

Watching events unravel, perhaps more closely than others, was Army reservist Tony Moorcroft, thousands of miles away at his home in the UK.

For his specialist maritime regiment had already become the first to be compulsorily mobilised since the Second World War.

He had received a letter, sealed in a brown envelope, in the post two months earlier.

***“At the time I had opened it and briefly read it before setting off for work, but I didn’t fully take in the content until a few hours later when I suddenly realised this was for real,”*** he said.

Understandably his family were more worried than he was.

***“You know that it’s what you have been trained and signed up for so you become totally focused on the hour by hour, day to day tasks which enable you to overcome any fears or trepidation,”*** he said. ***“But they have to get on with a things in as normal a way as possible.”***

A week after he had received his call-up papers in



January 2003, he had left the family home in the north of England and joined his 165 Port and Maritime Regiment, a specialist, logistical unit, as part of Operation Telic 1.

Their job for the next five months would be to keep Allied Forces alive as they landed at critical locations in Iraq and Kuwait.

As a non-commissioned officer he also had the added responsibility of looking after a team of men.

**“That really focuses the mind to achieve the outcome everybody wants which is to return safely to family and friends,”** he said.

Although thousands died in the conflict, Tony lived – and returned to his job as HR director for INEOS ChlorVinyls and INEOS Enterprises.

**“After a brief period of leave, I wanted to get back into civilian, normal life as quickly as possible,”** he said. **“For me it was fairly easy to adjust because as soon as I returned to work, I was back into a busy schedule. Family, friends and colleagues, though, gave me a great deal of support and didn’t pester me with endless questions, and the support I received from INEOS was fantastic. Many reservists were worried about their jobs back home. I wasn’t which meant I could focus solely on making sure everyone came home safely.”**

It was an experience, though, that would change his life.

**“I learned a lot about myself and others but it’s not one that I would repeat without trepidation,”** he said. **“I value life more and I think I now handle difficult situations better.”**



The world had been a different place when Tony became a voluntary member of the Armed Forces in 1980. He joined at the height of the Cold War and initially trained as a maritime engineer with the Royal Naval Reserve. But in 1998 during the Strategic Defence Review, the Labour Government scrapped marine engineers so Tony transferred to the Army Reserve, which was then known as the Territorial Army.

**“I initially joined to enhance my engineering skills and further my career,”** he said. **“But being a reservist has changed my life in more ways than one and INEOS as an employer could not have done any more. In the Army Reserve you learn to prepare for very demanding environments where you have no choice but to take responsibility and be accountable for your actions. We face similar challenges and dilemmas in the chemical industry. Over the years I have found that both roles complement each other with the need for leadership, team work, discipline, integrity and respect.”**

He must also have been doing something right.

For last year he was nominated for a Queen’s Birthday Honour – the Queen’s Volunteer Reserve Medal – for exemplary meritorious service in the conduct of their duties by his commanding officer Lt Col CK Thomas RLC.

Only 13 are awarded each year.

**“My initial reaction was shock,”** said Tony, 55. **“But it very quickly turned to pride because so few of these medals are presented each year which makes it very special.”**

He was presented with the medal at Buckingham Palace by Prince Charles who recalled meeting Tony in 1993 at the Battle of the Atlantic commemorations ceremonies in Liverpool.

**“He was particularly interested in my switch from the Navy to the Army because we had both served on the same class of ship during our careers,”** he said.

## BADGE OF HONOUR

ACCOLADES don’t come much higher in Tony Moorcroft’s book than the Queen’s Volunteer Reserve Medal.

But then again, neither does the praise that earned him that prestigious award.

His commanding officer, Lt Col Colin Thomas, who nominated him for the award, said Tony continued to stand out as an exemplary and selfless individual even though he was now nearing retirement.

**“He has always been known for his team spirit and readiness to sacrifice his own ease and comfort if it would help his colleagues,”** he said. **“All those who work with him, and perhaps most importantly those whom he**

**commands, view him with the utmost respect. He is wholly committed, totally dependable and has unbridled enthusiasm, even after more than three decades of both naval and military service.”**

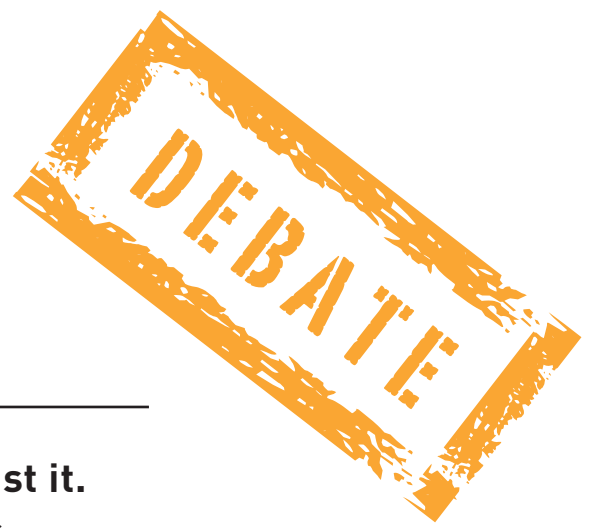
Lt Col Thomas said Tony cared deeply for the welfare of his soldiers when they were deployed in Iraq in 2003.

**“In addition to his main job, he put a huge amount of energy into turning his hand to repair or improvise basic facilities which ensured that morale remained high,”** he said.





# IS CHANGE ALWAYS A GOOD THING?



**S**ome people thrive on change; others will do all they can to resist it. But are those who advocate that change is a good thing, always right? INCH sought the opinions of those with something to say

Change is not always a good thing. It may force us out of tired habits and impose better ones upon us, but it can also be stressful, costly and even destructive. What's important about change is how we anticipate it and react to it. Change can teach us to adapt and help us develop resilience, but only if we understand our own capacity for growth and learning. When change makes us better, it's because we have learned how to turn a challenging situation to our own advantage, not merely because change happens.

**Rick Newman, author of *Rebounders: How Winners Pivot from Setback to Success* and a columnist for Yahoo Finance**

One of life's constants is change. Ready or not, it happens. We grow. We age. Technology reinvents each new day. Some relish change; others resist. We like it best on our terms, but don't always have that option. Sometimes all we can do is cope with it. When given the opportunity to exert our will in the matter, we're wise to proceed with caution. Change for the sake of change is a risk – the grass on the fence's other side isn't always greener. The relentless pursuit for "better" can sometimes leave us bitter, regretting changes we didn't need to make.

**Bob Tamasy, author and Vice President of Communications Leaders Legacy, Inc.**

Change isn't inherently good or bad. It's something that is inevitable. Problems are created by the speed at which it occurs and the threat it poses to those being asked to change. A helpful maxim is that the smoothest journey occurs when what you're asking a person, organisation, or country to do, is almost as easy as not changing. Unfortunately, those who push for change are shocked when there's blow-back. Even the most basic understanding of the principles of change would make transitions easier, whether it's the head of a country proposing universal insurance, the CEO of a corporation after for more accountability from his employees, or a wife annoyed at her husband's messiness.

**Stan Goldberg, author of *"I Have Cancer," 48 Things To do When You Hear the Words* and eight other books on the sharp points of life**

Change is inevitable, but are we always forced to change because we live in a highly-connected, fast-paced global environment? I think change for the sake of change has nothing to do with true innovation and fostering creativity or acquiring new knowledge and learning the necessary new skills to stay competitive. For big or small businesses any change in brand identity such as image, logo, slogan, has an impact on the brand image and how the customers perceive the products or services. In most cases, loyal brand lovers hate change so before implementing any change, you need to ask: What additional value do I bring to my customers, employees and other stakeholders?

**Anne Egros, global executive coach**

Many people hate change, yet others look forward to it. Resistance to change is normal yet a very destructive thing. Some managers fail to recognise the symptoms of change as directly related to proposed or actual changes, such as high staff turnover, conflict, lateness, mistakes, injuries, low morale and lowered productivity.

**Eve Ash, Australian psychologist and managing director of Seven Dimensions**

Excellent firms don't believe in excellence, only in constant improvement and constant change. Winners must learn to relish change with the same enthusiasm and energy that we have resisted it in the past.

**Tom Peters, American writer on business management practices**

Change is good. It's also often hard. The status quo can be so much more comfortable. But to succeed in business, you must run towards it. This is the fastest-changing communications and technology landscape we've ever been in. Twenty years ago, you probably didn't have an email address, and now it's hard to imagine life (or your business) without email. Ten years ago, Facebook didn't exist, and now one-and-a-quarter billion people and millions of businesses use it to communicate. Even if you're not directly involved in the communications or technology industries, there's no doubt that technology has played a huge role in changes in your industry. These changes mean you have to change.

**Dave Kerpen, New York Times bestselling author of *Likeable Social Media* and *Likeable Business***

Progress is impossible without change. And those who cannot change their minds, cannot change anything.

**The late George Bernard Shaw, Irish playwright and co-founder of the London School of Economics**





# IN SAFE HANDS

## NEW INITIATIVES ENSURE INEOS REMAINS FOCUSED ON WHAT MATTERS

**INEOS is obsessive about safety. It has to be. Lives can be at stake if it gets things wrong. But when mistakes are made, INEOS is keen to ensure valuable lessons are learned every time**

COMPLACENCY kills businesses.

And in a potentially hazardous business like INEOS, complacency can also cost lives.

One man whose job is to help fight against it is Steve Yee, INEOS Group Safety Health and Environment Director based at Runcorn, UK.

***"It's so important that safety is always at the forefront of everyone's mind," he said. "We all know that the sustainable long-term future of our businesses rests on our track record on safety, health and the environment."***

Whatever INEOS is doing, though, seems to be working.

Last year INEOS' overall safety record improved 23% on 2013 and its environmental breaches hit an all-time low.

***"It was our best-ever safety and environmental performance,"*** said Steve, who collates the Group's safety reports.

He said INEOS had often seen year-on-year improvements but this was one of the biggest.

***"What has been particularly pleasing is to see sites, which were not among the best safety performers, showing improvements,"*** he said. ***"When that happens, it shows very clearly what can be achieved if we set our minds to it."***

INEOS recently switched to OSHA (Occupational Health and Safety Administration), a stricter, US-based system of recording workplace accidents, injuries and illnesses so that outsiders could judge its performance against the very best.

***"We can now see that INEOS compares well against the likes of Shell and Dow Chemical,"*** said Steve. ***"But whilst we are catching up, we are still behind."***

INEOS views an OSHA performance of 0.23 as being the best in class.

***"Dow is amongst one of the top performers,"*** he said. ***"We are at 0.40."***

In December Steve and Simon Laker, INEOS' Group Operations Director, visited Dow's HQ in America to understand how it managed to achieve such an impressive performance.

### THE RULES

INEOS introduced seven life-saving rules after a worker bypassed a safety system to speed up his job.

Those rules are:

- No consumption or being under the influence of alcohol or drugs on company property
- No smoking outside dedicated smoking areas
- No work on live equipment/machines to commence without authorisation
- Safety critical devices/interlocks must not be disabled or overridden without authorisation
- Persons working at height must use proper fall protection
- No entry to confined space without authorisation and gas test
- Lifting & hoisting – no unauthorised person to enter the defined danger zone where objects can fall

***"A number of factors came out and a particularly important one is that whilst the OSHA performance may be improving, the number of life-changing injuries is not,"*** he said. ***"The same is true for us, so clearly we have to be more focused on what we need to do to avoid the more serious injuries and fatalities."***

Steve also realised that reporting across all countries needed to be at a high level if INEOS was ever going to see real improvement.

***"As a management team we are very focused on reporting,"*** he said. ***"It's absolutely no good if the first injury we hear about is a fatality or a loss of limb."***

In an effort to make a difference, INEOS launched a group-wide initiative late last year after a member of staff at one of its production sites by-passed a safety system to speed up the job.

***"New initiatives are always introduced when we review incidents that have occurred because we see what we need to put in place to prevent repeats,"*** he said. ***"Thankfully no one was hurt in the incident but it was good that it was reported to us."***

The life-saving rules now make it easier for everyone to see what INEOS expects – and also help to ensure the safety basics are in place everywhere.

Steve said those rules would be seen by everyone.

***"What makes it easier to check that messages have been clearly communicated to all and understood is INEOS' management structure,"*** he said. ***"We don't have a huge corporate headquarters. Each site is very much accountable for its actions."***



# BREAKING THE MOULD

## STYROLUTION OFFERS ITS VALUED CUSTOMERS AN EXCITING VISION OF THE FUTURE

**The late Steve Jobs had a strategy and a vision for Apple and it started with the customer, not the engineers or the company's awesome technology. The focus was always on the incredible benefits Apple could give its customers. Styrolution shares that vision**

STYROLUTION has come a long way since 2011.

For the staff it has been quite a journey.

For the customers, it has been proof that industry consolidation can work together for the greater good.

Today INEOS Styrolution is a wholly owned business having bought BASF's 50% stake in the 2011 styrenic plastics joint venture for €1.1 billion last year.

And the future for the customers – if it is at all possible – looks even brighter.

The automotive industry will be among those to benefit most from INEOS' latest decision to merge two of its businesses and create a one-stop shop for styrenics, which makes plastics for car components, electronic devices, household appliances, medical equipment, packaging and toys.

**"It is something that no other company can offer on this scale,"** said INEOS Capital Director and Styrolution chairman Andy Currie. **"And that is powerful for us and our customers."**

The decision to merge INEOS Styrolution and INEOS ABS was made in March this year – just months after

INEOS acquired BASF's share in Styrolution, the global market leader for styrenics.

Andy said the merger made perfect sense and offered 'further tremendous opportunities for growth'.

INEOS ABS is the largest producer of styrene-acrylonitrile polymers in North America and is well known there for shaping the interiors of cars. INEOS Styrolution, which operates 15 manufacturing sites in nine countries, has historically had a stronger position in exterior automotive applications.

**"The businesses complement each other beautifully,"** said Kevin McQuade, CEO, INEOS Styrolution. **"High performance and premium aesthetics are key buying criteria for our customers in the automotive industry. And that's what sets our products apart. We are passionate about giving our customers the best solution. It is in our corporate DNA."**

He added: **"In the past, we may have had both companies competing for the same business but now we can build upon each other's strengths to provide customers a more comprehensive offering."**

At the recent international NPE trade show in

Orlando, Florida, INEOS Styrolution and INEOS ABS shared a booth and offered customers a glimpse of the future.

**"We were able to show them that the possibilities of styrenics are endless and they were excited by what they saw,"** said Kevin. **"Quite simply we have always been helping others to shape the future of the automotive, healthcare, electronics, household, construction and packaging industries through styrenics."**

INEOS and BASF had formed the joint venture in October 2011 amid challenging market conditions. Overnight they created a truly global business and secured their number one place in the global styrenics market with a world-class, global manufacturing platform offering customers supply security, access to the very best technology and a broad product and service portfolio.

Together they were also stronger and more efficient. And within two years – instead of the forecasted five – they had generated €200 million in cost savings.

**"We created a completely different and unique company,"** said Kevin. **"It was a game-changer."**







***“ This is something that no other company can offer on this scale. And that is powerful for us and our customers”***

INEOS CAPITAL DIRECTOR AND  
STYROLUTION CHAIRMAN ANDY CURRIE

As part of the joint venture agreement, though, INEOS always had the right to buy out BASF – a decision it took in November last year.

INEOS chairman Jim Ratcliffe described the acquisition as another important step in the growth of the Styrolution business.

***“We are pleased to bring Styrolution fully into the INEOS family,”*** he said at the time.

INEOS Styrolution is now a wholly-owned INEOS business – and looking to expand.

***“Styrolution already has a global asset footprint but new markets are emerging,”*** said Kevin. ***“We intend to expand our footprint in Brazil and in Asia, particularly China. This is an outgrowth of our Triple Shift strategy, which calls for expanding our position across customer industries, standard ABS and styrenic specialties, and emerging markets. With plants all over the world, there is no need to ship goods from Europe to America or vice versa. The goods are on the doorstep of our customers. We really are a truly global business within INEOS.”***

INEOS Styrolution sells its products to the automotive industry as granules. Those granules are then further processed by manufacturers to make and shape parts, for example, for cars.

***“Whatever they can imagine, they can make,”*** said Kevin.

Another industry which works closely with INEOS Styrolution is the construction industry – and it shows.

***“Our customers in the construction market are at the leading edge of innovation and are continually challenged to bring higher endurance, longer lasting, more cost effective and aesthetically-pleasing products to the marketplace,”*** said Thomas Hazenstab, Specialities Business Director.

Together they have created products such as decking, fencing and railings that fare better in bad weather and can also withstand high temperatures.

***“We pride ourselves on working closely with customers to develop new products that meet their specific needs,”*** said Thomas. ***“It’s about setting industry trends. We want to offer the best possible solution to give them a competitive edge in their own markets.”***

Kevin said innovation had been key to the business’ success and would be, even more so, in the future.

***“To thrive in the specialty markets, we need to create added value through innovation for our customers,”*** he said. ***“That’s why we enter into collaborative innovation with our customers to develop new styrenic solutions for the products of tomorrow. Cutting-edge solutions and applications, product and process innovations differentiate us from our competitors and foster our preferred***

***partner position.”***

Styrolution is also the leading, global supplier of styrenics to the electronics industries, which also ensures computer casings and monitors are strong and heat resistant. A major part of printers made in the world today contain Styrolution polystyrene or ABS products.

Both Styrolution and INEOS ABS are also expected to benefit from the merger by reaping synergies which will enhance the efficiency of the business.

Core functions such as marketing and sales, customer service, research and development, supply chain, manufacturing, finance and human resources are being merged and best practices are being shared. Not only will this benefit the whole organisation but customers will enjoy the advantage of having a central source to fulfil all their styrenics requirements.

***“There have been a lot of changes for people within the business,”*** said Kevin. ***“But for our customers, the key message has been continuity. If there are any changes, they will be for the better. This company is in it for the long-term.”***

[www.styrolution.com](http://www.styrolution.com)



CLICK HERE TO VIEW  
FILM: INTERVIEW WITH  
KEVIN MCQUADE





# INEOS GAINS INTEREST OF LENDERS

**ROBUST PERFORMANCE HELPS COMPANY TO SAVE €80 MILLION A YEAR**

**INEOS is not one to miss an opportunity, especially when it comes to managing its financial affairs more efficiently. And this year has been no exception**

A ROBUST performance and INEOS' reputation as a company that can make money helped it to iron out three separate deals during the first half of this year – and slice a further €80 million off its annual interest bill.

***“Although it means investors won't make as much money in interest, it means INEOS can focus on strengthening the business, and is seen as a better 'risk', which is always good for lenders,”*** said Peter Clarkson, Head of Investor Relations at INEOS.

The money saved in interest payments, on the latest €4 billion debt to be refinanced, is likely to be reinvested in the business.

***“It is hard to say exactly what will be done with the extra cash flow,”*** said Peter. ***“But what it does do is give us more flexibility when we are considering business improvements or even some bolt-on acquisitions, to which we remain alert and opportunistic.”***

Over the past four years INEOS has – in a succession of tactically smart moves – refinanced the \$9 billion it borrowed in 2005 to buy Innovene, BP's olefins, derivatives and refining subsidiary.

And in doing so, it has helped to save the company €405 million in interest charges.

***“Since 2011 we have been in a process to improve the debt structure of the group after the restrictions that were put in place after the financial crisis of 2008,”*** said Chief Financial Officer Graeme Leask. ***“That is what has enabled us to reduce our cash interest bill from €763m in 2010 to €358m now.”***

In April 2012 INEOS made history in the financial world when it achieved the largest-ever covenant-lite loan for a European company and the largest globally since the credit crunch began in 2008.

Michael Moravec, head of European high-yield syndicate, described it as a staggering achievement

by a company.

***“Management can now concentrate on what it does best, which is managing a chemicals business,”*** he said at the time.

INEOS has now refinanced most of its loans that were nearing maturity.

***“Taking out the next big tranche of debt requires us to pay a significant premium now, but the premium will reduce and may be a more attractive proposition next year,”*** said Peter.



# IN THE HEADLINES

NEWS FROM  
AROUND INEOS

## INEOS channels energy into new TV show

INEOS has launched a new TV channel to keep its staff in the picture.

It hopes IN:TV, which will be broadcast from a different site every month, will strengthen the bond between its growing, global workforce and the company.

INEOS External Affairs Director Tom Crotty, who will host the 15-minute programme, will be joined each time by a special guest presenter from the local plant.

**"In just 17 years INEOS has grown from nothing into a global chemicals' giant with over 53 manufacturing sites around the world and nearly 20,000 employees,"** he said. **"Sometimes communicating to so many people is a real challenge."**

The first episode was filmed at Grangemouth in Scotland where Tom was joined by Jennifer Prentice, an award-winning chemical engineering graduate in O&P UK.

**"I really think with the innovation of IN:TV that we are leading the way in staff communications for the petrochemicals sector,"** said Tom. **"And given the importance of video and social media to the younger generation, who represent our future employees, and customers, we want to provide as much information as possible to them."**

Each episode will highlight the latest news from around the group but employees will also be given the chance to ask chairman Jim Ratcliffe any questions.

The programme is online – for all to view – at [www.ineos.com](http://www.ineos.com)



## Insight and Ingenuity join INEOS' fleet

TWO state-of-the-art ships commissioned by INEOS to transport tons of liquefied ethane gas from the USA to Europe have been officially named.

JS INEOS Insight and JS INEOS Ingenuity began work in July.

Emblazoned on the side of one of the huge vessels is 'shale gas for manufacturing'; the other bears the slogan 'shale gas for chemicals'.

The ships were named at Qidong near Shanghai, where the first of a fleet is being built for INEOS by SINOPACIFIC. Offshore and Engineering, one of the largest shipbuilders in the world.

Each ship is the length of two football pitches and can carry 40,000 barrels of ethane.

Steffen Jacobsen, CEO of Evergas, the Danish gas shipping company that designed, leased and operates the vessels, has worked in the shipping industry for 35 years.

**"These ships represent a world first on many levels,"** he said. **"No-one has ever tried to ship ethane in these quantities and over this distance before. To do this, we had to invent completely new ways of doing things."**

**These ships are truly unique."**

The naming ceremony marked the latest landmark in INEOS' \$1 billion global project to bring shale gas from the USA to its manufacturing plants in Norway and Scotland.

INEOS will be the first company in the world to opt to ship shale-gas derived ethane from America where the gas has led to a renaissance in manufacturing.

Jim Ratcliffe, INEOS founder and chairman, said the scale of the project, which will help revolutionise the European chemicals industry by bringing US economics to Europe, was extraordinary.

**"We're going to move more than 40,000 barrels of gas a day, every day of the year, for 15 years, from the US to Europe,"** he said. **"Any way you look at it, this is an extraordinary achievement."**

INEOS has launched an app to make it easy for people in the UK to find or publicise their own sporting events for free. No event is deemed too big – or too small – to be included in what INEOS hopes will one day become Britain's largest catalogue of organised sporting events. **'The concept is simple but the impact is potentially huge,'** says chairman Jim Ratcliffe. As an incentive to improve performances, sportsmen and women can use the app to log their times. Visit [www.sportson.com](http://www.sportson.com) for more details

FIND OUT MORE AT  
[WWW.SPORTSON.COM](http://WWW.SPORTSON.COM)

## GO Run For Fun breaks record

INEOS GO Run For Fun team has recently staged its biggest ever event at Queen Elizabeth Olympic Park in London when 6,000 children ran the 2km course alongside a host of Olympians and TV personalities.

**"We know that many parents worry about their kids eating too much and not getting enough exercise,"** said Leen Heemskerk, The GO Run For Fun Foundation Project Director. **"The GO Run For Fun charity aims to tackle that problem in a fun way and the huge numbers who took part show that many people share our concerns."**

Daley Thompson, the British Olympic gold medal winner, led the charge and handed out some of the prizes.

**"It was a fantastic day for all the children,"** he said. **"Everyone had a great time and also learned a bit more about the importance of healthy eating and exercise."**

GO Run For Fun is now the world's biggest children's running charitable foundation.

As well as the run itself, GO Run For Fun also launched a new kids cartoon series based on Dart, the charity's mascot.

Dart TV is aimed at 5 to 10-year-olds and explains the importance of a good diet and regular exercise.

During the day Charlie Webster, a former Sky Sports presenter, chaired a round table discussion looking at the need to get children active early if Britain is to tackle childhood obesity.

**"Physical inactivity is an important factor in the current UK child obesity epidemic,"** said Dr Paul Sacher, an internationally respected child health and obesity expert. **"Considering one in three children are overweight and obese and around 80% of children are not meeting the Government's physical activity guidelines, it is essential that we support initiatives such as GO Run For Fun."**

Daley was joined by Olympic hurdler Colin Jackson, and Commonwealth gold medal winner Louise Hazel.

Also supporting the event was Britain's very own Marathon Man, Rob Young, who has previously set his own world record by running 370 marathons in 365 days.

**"This was a really important day for GO Run For Fun,"** said Jim Ratcliffe, INEOS Chairman and founder of GO Run For Fun. **"On one level, this was about thousands of kids enjoying themselves and learning about the importance of nutrition and exercise. On another level, it is about getting the Government to realise that they need to do much more to help the under 12s get fit and active."**




## SPREAD THE WORD

If you would like to contribute an article to a future issue of INCH or have a topic that you would like covered, then contact us at [info@inchnews.com](mailto:info@inchnews.com)

All submissions are welcome!





***“Progress is impossible without  
change, and those who cannot  
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change anything”***

George Bernard Shaw, Irish playwright and co-founder of the London School of Economics