The Great Crew Change

An Extinction Level Event In The Making For Oil & Gas?

By Tim Haïdar | Oil & Gas IQ

Oil & Gas iQ
a division of IQPC

Our story starts long ago, 65.5 Million Years BCE

A rock about ten kilometres in diameter hurtles through space at 70 kilometres per second. It rips through the uppermost layer of the Earth's atmosphere and barely ten seconds later slams into the base of the supercontinent Laurasia.

The explosion is equivalent to 100 trillion tons of TNT igniting simultaneously, more than 2 million times larger than the most powerful man-made explosive device ever detonated. The impact crater is 300 kilometres wide.

The impact causes a cloud of super-heated dust, ash and steam to spew out of the crater charring the Earth's surface.

A chain reaction of mega tsunamis and seismic shockwaves sets in motion planet-wide earthquakes and volcanic eruptions. Dust particles will cake the Earth's surface for a decade and palls of ash will block out the sun.

The collision of this heavenly body entrained the Cretaceous–Paleogene (K-Pg) ELE or Extinction Level Event. Over a very short space of time, 17 per cent of all biological families, 50 per cent of all genera and 75 per cent of all species would be driven to extinction.

Fast-forward 65.5 million years and, asteroids notwithstanding, the biological realm is, in the main, far from thermodynamic collapse. However, the same cannot be said in the business world.

In the West, the oil and gas sector is on the brink of an ELE of its own, a "great dying" that will erase half of all geophysicists and engineers from the face of modern industry by 2018.

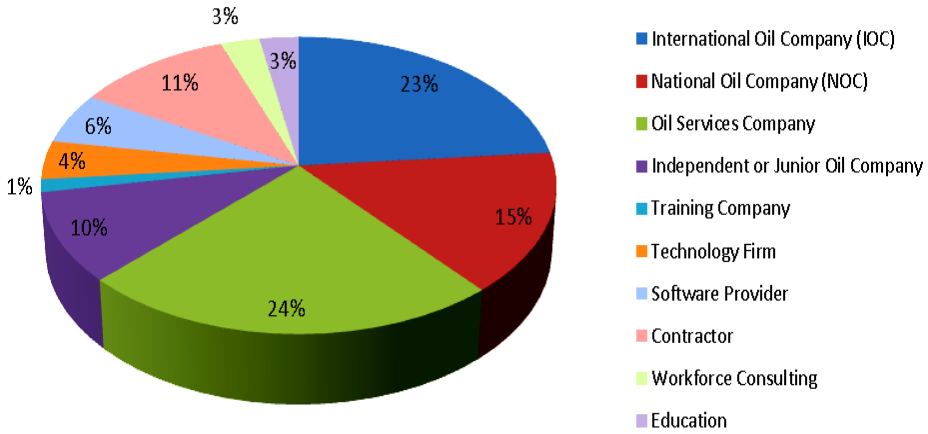
In the following analysis, we will speak with members of industry and academia to find out how and why the situation became so grave and what, if anything, can be done to mitigate the affects of a "Great Crew Change" that could prove to be biggest existential threat in modern business.

Tim Haïdar | **Oil & Gas IQ**

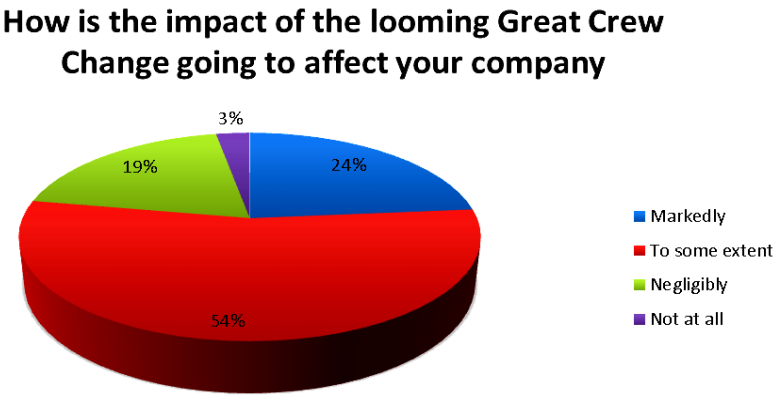
At **Oil & Gas IQ** we surveyed our 67,000 members in one of the largest polls of its kind to find out to what degree the upcoming Great Crew Change was affecting the organisations they worked for.

The split of respondents is displayed below, with just less than 60 per cent coming from the world of the major International Oil Companies (IOCs) and the major oil services companies.

A further 15 per cent of those polled came from the National Oil Companies (NOCs) that today hold 88 per cent of the world's proven hydrocarbon reserves.



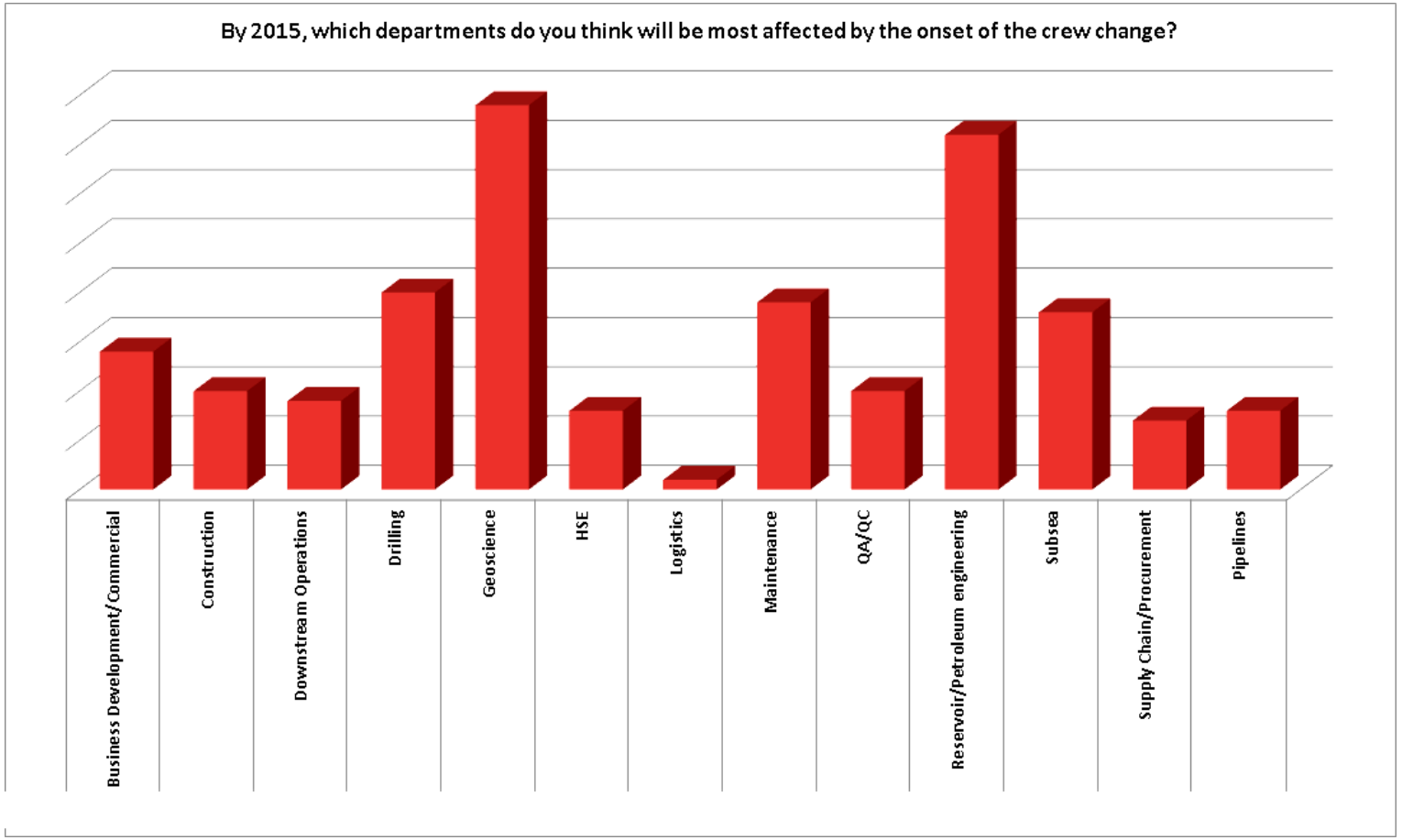
The first question we asked was a simple one: “How is the impact of the looming Great Crew Change going to affect your company?”



The answers were sobering. Almost a quarter of respondents said that it would “markedly” influence their workplace. A further 54 per cent maintained that it would affect their companies to “some extent”.

All in all, almost 4 out of 5 of the professionals surveyed felt that the Crew Change would have a noticeable effect on the way they did business.

When asked which department within their organisations would be the most endangered by looming mass-retirement and under-recruitment, the responses were equally as stark.



The Geosciences and Reservoir and Petroleum Engineering disciplines are going to take a huge hit in the not too distant future.

How and why has this come to pass? When it comes to the “scientific arts”, there are always two sides to the coin: industry and academia.

To have a balanced idea of the hows and whys behind the Crew Change, analysing the obverse and reverse sides of the argument would be crucial.

The Academic

Professor Michael Stephenson is Director of Science and Technology at the British Geological Survey, the UK public sector organisation responsible for advising the UK government on all aspects of Geoscience as well as providing impartial geological advice to industry, academia and the public. Mike graduated with a BSc in 1982 and has written extensively on stratigraphy, and has recently been studying British domestic shale gas exploitation.

Tim Haïdar: Why have we seen such a slump in geoscientists coming into the oil and gas sector?

Mike Stephenson: In petroleum geology what was always a draw was the high salary.

If you're a researcher and you've done a PhD, you have a blue sky interest in geology, and what becomes unattractive about the oil industry is that money is the bottom line and pure research is something secondary because the company doesn't want to spend large sums of money on things which they can't see as close to their business case.

So, inevitably, what happens is that we in academia, although we don't pay anything like as well as an oil company, we do offer that opportunity to be a pure scientist which you're not really allowed to be in an oil company.

We've managed to attract quite a few PhD people that you would have thought would have gone straight to oil companies, but they've said no, we want to do a bit of science, we're quite interested in exploring the intellectual side and they weren't convinced they'd get that in an oil company.

So I found that quite surprising that we've taken on people who could have earned twice as much, but have come to us.

Tim Haïdar: So, the oil and gas companies are not “scientific” enough for those coming through and that is turning people away from industry?

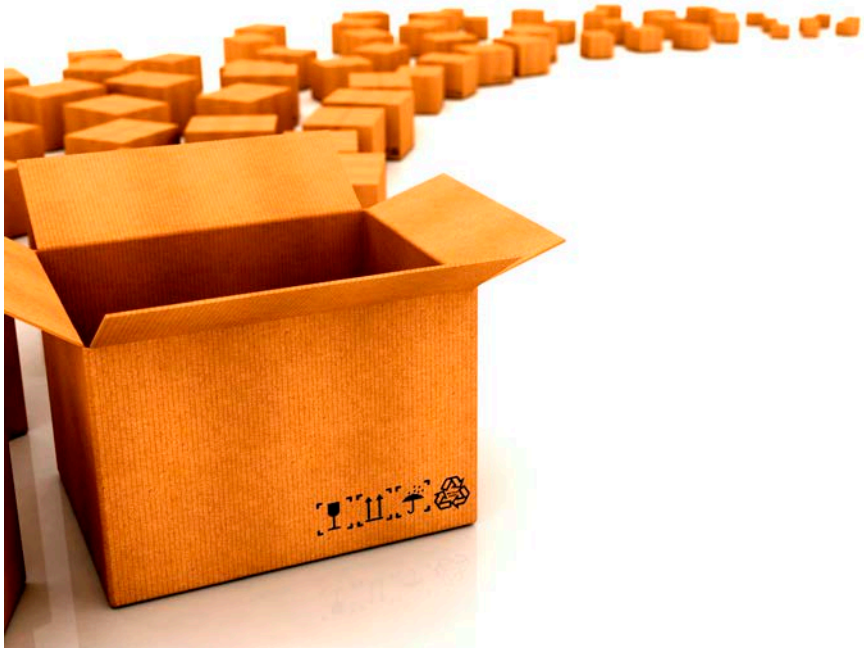
Mike Stephenson: I've heard other people say “we don't like to science it up too much”. If you talk to geologists in companies, they talk about the bean counters and they say well, the accounts run the companies now, not the geologists.

And when the accounts go wrong? They look at two ways of saving money or two ways of bringing a play into production.

One might be to spend a load of money on geology and understand better, another might just be to buy a better drill package or something to that effect. Geologists are seen as, perhaps, slightly more of a “nice to have” sort of thing, possibly that might be a reason for this.

Tim Haïdar: So the commerciality of modern day industry is a big problem then?

Mike Stephenson: You could say that some of the work that geologists in the past have done has been commoditised.



And what I mean by that is that it's become a service rather than a truly scientific activity. It's been packaged and the prices have been cut - it's become a service.

So, for example, biostratigraphy, - fossils and dating layers etc. - is a very important part of the oil business.

It's now done in a small number of consultancies and it's very cheap. It's been turned into something which is rather mechanistic. It's out-of-a-box, off-the-shelf stuff. It's no longer a true scientific activity.

The more science becomes like that, and you've gone beyond the period of innovation and cleverness and thoughtfulness it probably becomes less attractive to very clever people.

Tim Haïdar: These are all rather esoteric reasons for a drop-off in talent going into industry. Is there anything more structural behind this?

Mike Stephenson: In the UK, another factor has definitely been the overall decline in the last 30 or 40 years in the number British geological university departments, there's no doubt.

There is this reorganisation by Lord Dearing, where lots of British geology departments were merged and some were just got rid of. Nottingham University, for example, which had a strong geology department, was closed.

What's emerged from this are half a dozen very strong departments which rely mostly, in money terms, on high profile grants from people like the Natural Environment Research Council (NERC), for example, and possibly they see their bread buttered in very much the academic direction, so perhaps some of the top universities have not worked as much with companies as they might have done in the past.

There are some universities that are incredibly bound up with companies like Heriot Watt, for example or Imperial College or Aberdeen.

But possibly the decrease in the number of universities offering Geology means that, perhaps, there are fewer geologists and amongst the universities, some of them might have turned off that commercial angle a bit.

Then there is the PR side. The oil business has a bad image in the eyes of the general public. Money is not all that matters. Young people are rather differently motivated. Us old blokes, well, all we care about is money, but when you're young, you have a different set of principles and ethics.

I have to talk to a lot of environmentalists in my role and they mention things like think when BP re-branded, the cost of re-branding was the same as their total budget on the green energy.

Perhaps, if I was a really clever bloke coming out of university in 2013, I would think twice about the oil industry, even though I could earn more money.

Tim Haïdar: The picture you are painting is far from rosy, are there any upsides to this story?

Mike Stephenson: Shale gas. Shale gas is suddenly poking everybody and saying "look, we don't understand shale very well." Suddenly, there will be a lot of innovative activity because academics will say this is really interesting, let's get some PhDs and post-docs on this.

There will be some clever papers published in the next ten years and that bright light will attract lots of clever young students to it. It's very early, but I think it will have probably a very good revitalising effect on the geology side.

Then, over the years, it will become commoditised, but scientific innovation and real-world application always follow that kind of cycle.

So, from the academic side we can see that:

- Many graduates view the contemporary industry as "not scientific enough" to take their fancy as a long-term career option
- The cyclic commoditisation of certain facets of Geoscience has somewhat belittled their importance
- The public image of the oil and gas industry is a turn off to the younger, "more principled" and environmentally-conscious generation of graduates
- The shutdown of Geology departments has meant less that the oil and gas industry has a smaller pool of talent to draw from, and the outlook of the remaining faculties has seen more talent funnelled into academia than business
- The revitalising influence of shale gas as an "undiscovered country" of study and analysis may well provide a well-spring of new talent into the industry

The Industry Academic

Jonathan Craig is the Head of Regional Studies & Exploration Opportunities Selection at Eni Exploration & Production and has worked as a geoscientist in the oil industry since 1980, initially as a field geologist in Africa, Australia and the Middle East, then as a structural geologist with Shell in East Africa and Australia. Crucially, to this piece, he is also a Professor of Petroleum Geology and the Chair of The Petroleum Group at The Geological Society: the obverse and reverse of the coin.

Tim Haïdar: As a man with two hats, how do you see the Crew Change affecting industry?

Jonathan Craig: I think it is already having a massive effect in most companies, particularly around some of the really specialist skills in Geoscience. I think we're pretty well all in the same position in terms of the lack of experience in the ten to 15-year range within the industry. The greatest challenge we face is how to pass that expertise quickly from the senior managers - senior explorationists who are in their mid 50s now and are looking to retire within the next five years - on to those who have five to ten years of experience so that they can move rapidly up the ladder to replace those who are going to retire.

Tim Haïdar: So how do we do it?

Jonathan Craig: I think there are a number of different ways. I think one of the ways of perhaps addressing the issue at the graduate level actually is to be able to allow some of our senior professionals to switch back into a partial academic career.

One of the things that actually we do here in ENI, is to allow some of our senior explorationists who are in their mid 50s and getting towards retirement, to spend part of their time teaching in the universities here in Italy.

So they do two days a week on average teaching in the local university and three days continuing to work as a full-time explorationist in the organisation. That's one way that to feed back the skills at a junior level and experience into the graduate programs.

A lot of the senior geoscientists don't actually want to retire. They enjoy what they do and I think we need to try and be a lot more flexible about the life/work balance for people of that career age, so that they, can work part-time within the industry and continue to provide mentorship for junior staff. As an industry we need to address this in some considerable depth.

Tim Haïdar: So the emphasis should be on education here?

Jonathan Craig: Yes, but don't start at the university level, start way before that. Start in the schools. One of the things that we do in ENI is run a children's education program across the world for 14 to 16-year-olds. It's a two-day programme. The first day we devote to teaching them about the basics of petroleum geoscience and the basics of exploration development and production technology. So we show them not just the exciting science bits that go into it, but also all the high-tech engineering side of things and try and demonstrate that this is a very progressive high-tech industry.

We spend the second day talking about global climate change and energy efficiency.

We turn the picture round and say this is all very well but there are implications for using significant quantities of fossil fuels and there must be a balance.

We hope that the children that come out of those programmes will have a clear review of what the industry is about and ultimately, when they go to the petrol station to put petrol in their parents' cars, the story of how that petrol got to that pump.

It's not necessarily that we would wish them to come into the oil and gas industry, in particular, but at least to go to university and do science. I think that's where you start the process.

Tim Haïdar: That may be one way of turning around the decline. But why have we come so close to the precipice?

Jonathan Craig: Firstly, as an industry we've not been particularly good at promoting our image as an exciting, vibrant, extremely high-tech career to work in. When I go to universities and I speak to graduate students, there's still an underlying impression that the oil and gas industry is a dying industry.

It's low-tech and dirty, why would I want to go and work in oil and gas? There's a perception that we have to change in the public domain if we are to encourage new blood into the industry in the specialist disciplines that are fundamental for the future.

Secondly, I think in the past many oil and gas companies have tended to outsource a lot of their expertise, particularly the specialist skills, and I think a lot of companies are recognising that they need to in-source again the expertise, particularly in some of the specialist disciplines.

But of course the relationship with the consulting groups and contractors is a vital relationship for the industry.

I think it's a balance between externally sourced expertise and keeping in-house the real core skills that are required to make sure that we explore and develop resources economically and safely.

Geoscience is where it all starts. If you don't have the geology right, then nothing else will work.

So, according to our industry academic:

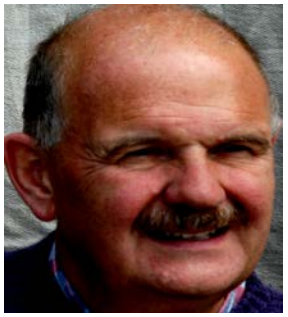
- Across the board we are seeing a dearth of candidates in the 10-15-year experience range and the outsourcing of specialist skills has caused a brain drain for operating companies in particular

- Utilising your people is key - Send experienced geoscientists back into education to mentor the up and coming generations

- Get in early - University is too late to entice the next generation of geoscientists into the oil and gas industry. The groundwork must be laid from a secondary school level

Having spoken to two senior academic and industry geoscientists, I wanted to speak to an experienced head from within the oil and gas fold who was removed from the geoscience equation but had seen the Crew Change conundrum hypertrophy from inception to its ultimate denouement.

The Industry Veteran



Cue Derek Park, with 35 years experience of operational and organisational management in the oil, process and utilities industries.

A chartered mechanical engineer, he spent time as a construction and commissioning manager on major offshore projects and was later an OIM working for BP in the North Sea.

Tim Haïdar: You've been in the industry since the UK Continental Shelf came online in the 1970s, how have you seen the Crew Change problem progress?

Derek Park: For most of my working life I have been about the average age for UK offshore workers.

I first went offshore at 24 and am now 59, so I can safely say I have progressed alongside the Crew Change every step of the way.

For me the biggest enemy for employment in the big operating companies has been short-termism.

In the North Sea, erstwhile flagship operations, such as Forties where I work, have been sold off to smaller operators.

The staff have largely been re-employed on the same terms and conditions, leading to a degradation in the in-house capability of the big operators.

From my experience, big companies have always been at ease with discarding experienced people - be they managers, engineers or technicians - to meet short term budget targets.

There's obviously a knock-on effect there when it comes to handing down experience.

Tim Haïdar: Have any other areas been affected by this short-termism?

Derek Park: Research and development is another victim of the short-term cash flow fixation. Only the engineering companies are investing in research because their survival depends on it.

I think the large operators are much less inclined.

Tim Haïdar: You've spent the majority of your career offshore, have you seen that change?

Derek Park: All operators have squeezed the terms and conditions over the years, which has acted as a disincentive to many. For instance, offshore rotas have moved away from the original two week turnarounds to three and “three or longer” spells now being more usual.

Staff entitlement to annual leave on top of this has largely disappeared. In the early days we used to work seven-in-seven or 14 in 14 days with five weeks annual leave on top.

We could then cash in unused leave which gave us a big holiday bonus. That is no longer the case.

Further abroad, the Middle East and other “extreme” locations used to attract salary uplift and an enhanced pension entitlement of three years pension rights for every two years worked.

This stopped once air conditioning became commonplace in accommodation and offices, so the incentive died out there too.

Whilst graduate recruitment has continued, apprenticeships are few and far between. Grangemouth used to process hundreds of craft and operator apprentices, most of who ended up offshore or working in Grangemouth itself.

When I started, BP had three refineries - Grangemouth, Belfast and Kent - and various other chemical plants in the UK. These were a perfect training ground for generations of technicians and engineers.

They have sold off all these facilities and the training capability has not been replaced. The attitude was “We don’t need that expertise in-house; we can buy it. We can’t afford to train people to do that; we can buy it.”

Then there is the classic Catch 22. Service and contracting companies can't get their people offshore to get experience yet operators only want people with offshore experience.

Tim Haïdar: You have touched on operators and service providers, but there is one big area we haven’t spoken about – the regulators. Is the situation similar for them?

Derek Park: When Offshore Division (OSD) was created in the early 90s post-Piper Alpha, many of the inspectors were drawn from within the industry. At the time though, many of the guys became disillusioned with being seen as the ‘boots on the rig’ whilst the management jobs were still being given to the career civil servants.

Like me they must be getting past their sell by dates now. This may be partly behind the move to absorb OSD back into a wider ‘energy branch’ within the Health & Safety Executive.

My fear is that we will lose our specialists. Interestingly, the unions and Oil & Gas UK are in agreement that OSD should stay.

Another issue must be salaries etc – how can we get the best guys into the regulatory side if they are tied to relatively low civil service pay grades? What will be the recruitment policy?

Is a graduate with a technical degree and no industry experience the right raw material for a new generation of firm but fair (and most importantly respected by the industry) inspectors?

Tim Haïdar: You were offshore when Piper Alpha happened and knew some of those killed in one of the highest profile disasters in the sector's history. How do you think public perception has played a part in the spiralling Crew Change?

Derek Park: The best way to avoid bad publicity from accidents is to stop having accidents. It does not take an expert to see how companies have failed to learn from past incidents.

The public can see this and no amount of slick PR will change things. The right PR is not to have a Macondo. These things are not 100% preventable but they are 98% preventable.

If the oil industry wants to get the PR right they've got to get the job right. Commitment has to be demonstrated.

From the veteran's perspective:

- The crew change has been influenced by short-term planning - the erosion of experience at larger companies has had the knock on effect of little knowledge transfer
- Change to offshore working is a disincentive
- The abandonment of apprenticeship schemes and selling off of proven training grounds has meant a slump in recruitment
- Then Catch 22 - service and contracting companies can't get their people offshore to get experience yet operators only want people with offshore experience
- Regulators are also suffering from a combination of experience and salary constraints
- PR should start by preventive, not reactive

The Recruitment Specialist

Mark Guest is the Managing Director of OilCareers the world's largest oil and gas job board with 1.3 million registered users. Previously he was a Company Director at an Aberdeen based PR firm, working with operators and service companies both in the UK and internationally.

Tim Haïdar: As an industry jobs board with a global reach, why do you think the Crew Change has come about?

Mark Guest: The industry is very conservative about how it approaches a lot of problems and issues it faces, and sometimes, that means that new technologies don't get the opportunity to flourish.

These technologies are what allow the industry to move forward, particularly on our doorstep in the North Sea.

I've lived through the industry when it was $10 a barrel and everybody said by 2010, you better be out of Aberdeen because there won't be anything left.

Now, because of technology, we are in a situation where the industry will continue to thrive in the North Sea until at least 2050 and, perhaps, beyond, and that has come down to the fact that technologies have been applied and you can now do things which were unheard of when I entered the industry in the 1990s.

The reason this relates to the Crew Change is that the industry thrives on people moving and taking their skills from one company to another and it often doesn't create enough opportunities due to that innate conservatism.

If you've got a multi-million dollar well that you're managing and you've got somebody who is inexperienced or somebody who's experienced that can work on it, you're obviously going to choose the experienced person because the additional cost of hiring that individual in terms of salary is nothing compared to the risks if you chose the wrong person to do the job done.

Tim Haïdar: Where are you seeing the biggest holes in applications?

Mark Guest: The biggest challenge is the geosciences; there are never enough geoscientists out there.

There are fewer geoscience jobs than there are engineering jobs, but if you work out the proportion of qualified candidates to the number of jobs that are out there, the ratio is much smaller with geoscientists than it is with engineers.

Tim Haïdar: Why is that?

Mark Guest: When people are going through school and they're approaching university, do they understand what geoscience is? Do they think geology is just about rocks and fossils?

I suspect most young people wouldn't associate geology and other geosciences as being a career path that would be financially very rewarding.

You also have the whole stigma about mathematics and physics and the perception that they're probably too hard, let's go for something easier. I think that's something for government to address more than specifically industry, but, again, I think if you can present to people what the career opportunities are out there, then they will go and do more challenging subjects.

The average salary in the UK oil and gas industry is £64,000. The average salary in the UK as a whole is about £27,000. You don't have to be good at maths to see the difference there.

The best way around that is mentoring young people and bringing young people into the industry. And the people who are approaching retirement age, or should have already retired in terms of normal retirement age, should be in a position to train these people up. I'm sure you've heard that before.

Tim Haïdar: So why haven't these people been brought in?

Mark Guest: There have been lots of reasons for that. A lot of companies have done a lot of talking about the Big Crew Change over the last ten years, paying lip service and not really intending on doing anything.

The problem we have, particularly in the developed areas in the western world and the established oil provinces, is predictions of the future of the industry have been up and down continuously for so many years, fluctuating by oil price.

If you think about it from that point of view, why would you want to bring in young people? What young person would actually be prepared to come into an industry that is not making money?

I'm sure you've looked at the demographic curves and have seen we have this age group that's missing, the 10-15 yearers. If you look at the demographic curves, you can correlate oil price and the level of investment in the industry at those times.

The missing demographic results from those years of lean spending. Now the oil price remains high enough where it is both profitable and sensible to be investing in projects going forward. It's the right time to ensure we do start investing in young people.

Tim Haïdar: You used to be a journalist, what about the role of PR in all of this?

Mark Guest: I have to hold my hands up and say I have to be partly guilty here, in that I was a PR practitioner for oil and gas businesses for years and our focus in oil and gas PR tends to be to talk to each other, to talk to potential clients rather than talk to the wider community.

The wider community is showing oil gushing out of holes in the ground, slicks on beaches and dead sea birds.

They see it as a dirty, old-fashioned industry, which is not what it's about. How do we start getting that message across?

We need to start working with people at all levels. We need to start talking to them at primary school where we need to explain to them what the industry is about.

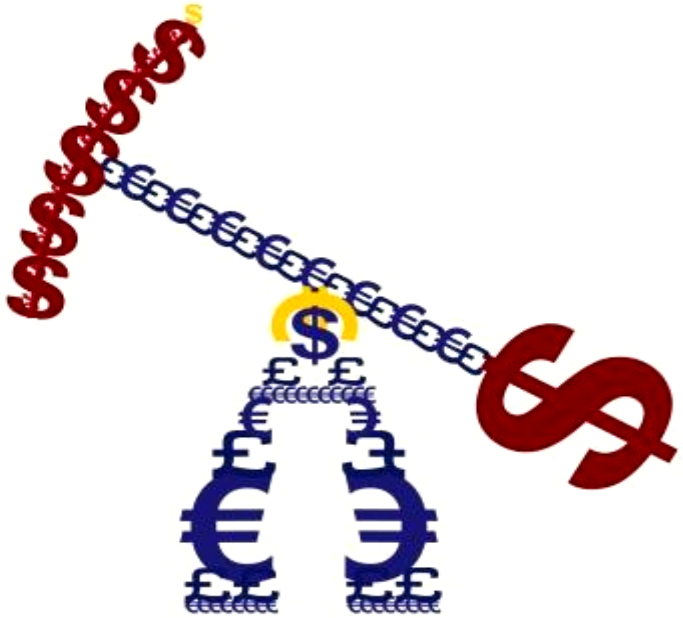
It reminds me of this guy I met in the States, he's trying to tell me the oil and gas industry is dead and he'd just bought a Prius and he didn't need to think about petrol and nobody else did.

“So, “I asked “where did the steering wheel on your Prius come from? What's it made from?” “It's plastic”, he says. “Well, where do you think plastic comes from? Plastic comes from the oil and gas industry. Where do you think your sneakers come from?” “They're leather” he says, “you can't get me on that one.” “Well, I can, the soles are plastic”.

The industry just doesn't get that message across.

Tim Haïdar: People have seen the Great Crew Change coming for decades. In 2015, we're looking over the precipice and in 2018; we'll be in the abyss. Who's to blame for this?

Mark Guest: As a whole, the industry has to be to blame.



It needs to invest in people at all stages of the oil price cycle and not allow investment decisions to influence that.

Governments, too, have a role to play in making sure the industry remains attractive, even if it's under financial pressure. We need to have the right tax environment to make the industry sustainable and profitable at all times.

We need to make sure that every little drop of oil that's out there in the North Sea is produced.

Yes, it's harder to get at than it was before - we've got the technology to do it but technology costs money and if the government go and tax every single penny out of the industry then there won't be an industry. There needs to be give and take.

Tim Haïdar: Is this attitude the same for IOCs and NOCs alike? In the East as in the West?

Mark Guest: The mentality is different. In the Middle and Far East, I think they see oil as a vital commodity for their growth as nations.

The structure of the oil and gas industry in the West is shareholder-based, so it is more financial than state-centred.

Finance comes ahead of longevity and I think that is where you see the mismatch going back in history.

If Britain were to think about North Sea oil and gas in the same way as the Qataris thought about their gas reserves then I think you might have had a different employment pattern during that period.

Tim Haïdar: So what can we do so far down the line with regards to addressing the skills shortage we are facing now?

Mark Guest: There is at least one thing the industry can be doing right now. There are a lot of skilled people coming out of the armed forces and declining industries such as manufacturing, who have the basic skills for a lot of the engineering jobs.

These people can be retrained and put to work in a pretty short turnaround.

We need to put in place opportunities for them, their employers need to be encouraged and given tax incentives to retrain and get them into the industry, because a lot of them are ready and willing to go into a career.

So, from the recruitment side:

- The industry's innate conservatism has meant that experienced candidates have always been preferred to up-and-comers, hence instructing new talent has been hampered
- Geoscience has always been a problematic vertical to recruit for, made more problematic by the flight of students from the scientific disciplines
- Mentoring is crucial to foster the younger generation of technical graduates
- The average UK O&G salary is more than twice the general average UK salary
- Oil price is key to recruitment – low oil price = low recruitment spend. Government incentivisation needs to keep conditions stable for continual recruitment
- PR for the industry has been incestuous or reactive after a disaster rather than proactive
- More of an NOC mindset is necessary – oil reserves are state-critical resources rather than financial assets
- Retraining of professionals from similarly-skilled sectors could lead to an immediate shoring up of the skills gap

Solutions

We have clearly outlined the problems in that exist and propound the crew change problem, but a problem explained is only half way to a solution. This following is how I believe we complete the journey.

Mentoring – The 20 in 70/20/10

In 1996, Robert Eichinger and Michael Lombardo, of the Centre for Creative Leadership came up with their *70/20/10 learning and development models* in relation to business education and managing innovation. They posit that successful career development for the individual can be split into:

- 70% from on-the-job experiences, tasks, and problem solving
- 20% from other people through informal or formal feedback, mentoring, or coaching
- 10% from courses, reading and formal training

If Eichinger and Lombardo are correct, then (at least) 1/5 of professional development in the business world is predicated by the counsel of experienced colleagues. Mentoring is then a crucial part of career progression and those who at the end of their career journey should be enlisted to nurture the technical abilities of those taking their first steps down the road.

Education – Maximus in minimis

We start sending our children to school at 4 or 5-years old, why should we not start telling them the story of the oil and gas industry early in life? From the crayons they draw with to the shoes they wear to the chairs they sit on as they do both of the above, the derivatives of the oil and gas industry pervade our lives on a tangible and palpable basis. So why not shout about it?

Fourteen years later, at the tertiary education level, is a generation too late in the game to start grooming the geoscientists that will form the foundation of the oil and gas industry of the future. The earlier the better to foster children's passion for the scientific subjects that the oil and gas world needs to survive.

It's called "Public Relations" – so relate it to the public

And why stop at schoolchildren? How many adults driving their cars to work or sitting down to their evening meals could guess that the steering wheel they clutch or the fertilisers that helped to grow the vegetables they were eating were effectively hydrocarbon-based products.

So often the only news that we hear about oil and gas is oil spills, dead birds and environmental damage. What about the boundary-pushing uses of technology? The jobs for life? The empowerment of regional and national economies? The force that heats homes, cooks meals and allows many of us to switch the lights on at night?

So often PR in the oil and gas industry is reactive rather than proactive. This *must change* if the image of the industry as dirty, deleterious and dull is to be expunged in the eyes of the general public and, by extension, the pool of potential recruits.

Government intervention

Many believe oil and (geo) politics go hand in hand on the world stage, and with some nations taxing the industry up to 80 per cent on what it extracts from the ground, it is easy to see why. Given that, then there are at least three things that governments can do to ensure that the industry it so depends on is kept in a fit-for-purpose state in the long-term.

- **Keep the playing field level** - Recruitment and oil price go hand in hand. To make sure that the industry keeps on sourcing talent when the prices of a barrel and per MMBTU are low, government incentivisation will be necessary to keep conditions stable enough for continuous recruitment.

- **Think like an NOC** – In many of the countries with a state-owned and sanctioned oil company, the hydrocarbon reserves that underpin their national territories are seen as vitally important for longevity and success of national prosperity. If the national conscience begins to think of its reserves in terms of national security rather than fiscal gain, a Crew Change scenario might not be so forthcoming..

- **Consecrate an Oil Fund and use it wisely –** In the world today there are 35 Sovereign Wealth Funds based on oil and gas resources, the oldest of which, The Texas Permanent School Fund, was established in 1854. A portion of the revenue recouped every year by the Oil Fund should be ploughed back into the industry to ensure that all of the solutions proposed herein are financed in perpetuity.

Retraining – the quick fix to a long-term problem

When the United States entered World War II, General Motors re-tooled from producing cars to tanks in order to aid the Allied war effort. In the same fashion, those exiting sectors like the armed forces with similar skillset to those needed to excel in oil and gas could easily be retrained as a stop-gap to temporarily plug the skills gap.

Encourage the New Frontiers

We have heard how the perceived “commoditisation of science” has precluded many potential graduates from embarking on careers in the industry. Frontier areas of study such as the exploitation of shale and methane hydrate reserves will reinvigorate the scientific passion of those who otherwise would see themselves as one bullet point on a service provider’s prospectus.

Speak with one voice

Each industry is a collection of autonomous and competing entities all working under a single thematic umbrella. The nature of free market capitalism does not usually lend itself to cooperation in the joint cause of business as much as one-upmanship in the pursuit of subjective profit. If ever there were an issue around which the wider oil and gas community needed to rally together, it is the Crew Change. Many other industries speak through a shared mouthpiece, why should the industry that makes up seven of the world’s top 10 companies by revenue be any different? Is that not even more of an incentive?

Space Rocks

I started this investigation into the Crew Change with the story of the extinction of the dinosaurs. In doing so I was careful to refer to the author of this event in no more detail than “A rock about ten kilometres in diameter”. You see received wisdom was that the K-Pg ELE was caused by an *asteroid*. However, current thought posits that that it was actually a *comet* colliding with the Earth that triggered this mass extinction.

How does this relate to the Crew Change?

Whether it was an asteroid or a comet, is irrelevant. The dinosaur that lifted its head skyward as the rock splashed down was powerless to help cataclysm unfold. The disaster belonged to those that bore the hecatomb of flame, water and ash and survived.

Theirs was the responsibility to endure and repopulate the barren Earth. So it is our lot to adapt to a stage where a rock hurtling through space is an encumbrance to our ambitions but not The End.

ABOUT THE AUTHOR

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Prior to working for Oil & Gas IQ, Tim has worked extensively in broadcast and online media and has appeared as an oil and gas expert on Channel 4 and BBC News in the UK.

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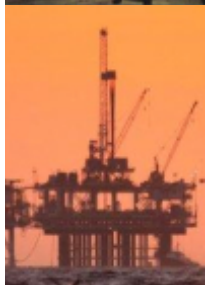

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