SLIDE 1 - Where has construction safety got to in 2018?

Housekeeping information – no fire drills, toilets u turn & straight through 3 doors.

SLIDE 1 – Introduction – Thank you all for coming, I have prepared my topic without knowing exactly who will be in front of me, your job role or even your industry! What I hope to do is show you how the construction industry is embracing the latest technology, education and techniques to improve the Safety, Health and Wellbeing of the people working in the industry. Each of these 3 topics are worthy of a presentation on their own but time only allows me to share a brief overview with you. Any opinions expressed are my own, not my employer or the JV.

SLIDE 2 - Before we have a look at where we have got to in 2018, we need to have a quick look at where we started out in relation to improving the safety, health and wellbeing of all workers. Just a few slides will illustrate how OHAS legislation has evolved over the last 216 years.

SLIDE 3 - The earliest legislation to be enacted was the first Factory Act in 1802 which was triggered by the horrendous abuse of children working in the cotton and textile mills. Amongst other things a supply of fresh air was introduced and the legislation was enforced by local inspectors appointed by the Magistrates.

SLIDE 4 - In the Factory Act of 1833 the Government set up the first Factory Inspectorate thus creating the first infamous Factory Inspectors, initially 4 of them but rising to 35 by 1868.

SLIDE 5 – In 1837 there was a landmark legal case in which, for the first time, an employee took the decision to sue their employer for work related injuries. A Mr Priestly and Mr Beeton were employees’ of Mr Fowler, a wholesale butcher. Mr Fowler tasked them with taking a cart full of mutton to market but on the journey the cart collapsed causing Mr Priestly considerable injuries. He endured 100 days “lost time” and £50 medical costs. The jury awarded Mr Priestly £100 compensation – 50 for medical costs and 50 for pain and suffering. The captains of industry were horrified that they should owe their employees anything other than their wages. The verdict was later overturned at appeal but the case is often cited as the birth of an employer’s duty of care to their employees.

SLIDE 6 – In the Factory Act of 1856 woman and children over 18 were limited to 12hr shifts, 9 – 18yr olds only had to work a 10hr day. Everyone stopped at 2pm on a Saturday with a maximum working week of 60hrs.

SLIDE 6 – From 1891 woman could not be made to work within 4 weeks after childbirth.
SLIDE 6 – From then on until 1961 there were a series of Factory Acts all improving the working conditions of employees.

SLIDE 7 – By the 1960’s and into the 70’s workplace safety and occupational health legislation was piecemeal and tended to focus on particular groups of workers, equipment and activities and was very prescriptive. In order to address the unwieldy mass of laws the Government, in 1970, tasked Lord Robens to undertake a complete review of H&S laws and the outcome was the HASAW Act 1974. This was mirrored in NI in 1978 by the Health and Safety at Work (NI) Order. The HASAW legislation is not industry or trade specific but covered all people at work and people not at work but who could be affected by the activities of those at work.

SLIDE 8 - 1st January 1975 the Health and Safety Executive was formed

SLIDE 8 - In 1979 the NI Health and Safety Agency was formed, this became HSENI as we know it today on the 1st April 1999 (April Fools Day) (1998 Order)

SLIDE 9 – A major change in the approach to managing construction health and safety came in 1994 with the Construction (Design and Management) Regulations. These Regulations introduced three main stakeholders into the frame, Client, CDM Co-ordinator and P Contractor with a legal duty to co-ordinate, plan and manage construction projects in relation to health and safety.

CDM was revised in 2004 and again in 2007, this time absorbing the Construction Regulations 1996. Another revision occurred in 2015 (2016 in NI) to include work by domestic clients and the CDM Co-ordinator was replaced with the Principal Designer.

Finally in 2011 Prof Lofstedt, on behalf of the Government, undertook a review of current H&S law, seeking ways to “combine, simplify or reduce” the burden of H&S laws on industry.

That was a whirlwind tour through the centuries showing how the UK has become the safest place to work in Europe as shown by HSE statistics.

SLIDE 10 - Moving on from the 19th century mills to the 21st century let’s see how the construction industry is using IT to improve OHAS. Firstly let’s look at site inductions, these are required by the CDM Regs and then look at site auditing and inspection.

Slide 11 - PowerPoint – what can I say? Death by PowerPoint; often dull, continual repetition of site rules or industry standards, slides packed with text all delivered by the “safety man” or an engineer who just wants you out to start working. It doesn’t have to be like that if the presentation is appropriate and relevant to the people attending. An induction presentation at the start of a project
is not fit for purpose several months into it; the presentation must be continually reviewed and updated with visual impact to hold peoples’ attention.

What else is on offer apart from PowerPoint? Three examples – if you have deep pockets.

**SLIDE 12** – Online inductions, one company currently offering this service is INITIAFY based in Dublin.

Initiafy online induction is currently in use by Balfour Beatty on the Manchester Smart Motorway Project, I have spoken to their H&S Manager and they are pleased with it. We are currently at the initial stage of evaluating this online induction for use here on the A6 project. Very briefly, all personnel coming to a site must complete an online induction, upload training records and complete some test questions. Both the presentation and questions are supplied by the customer. At the start of the session the person’s photo is taken via a web cam and then taken several times at random during the session to ensure the same person is doing the presentation. After successfully answering the test questions the person is given a unique code which they take with them to the site. On arrival at site the person’s code, test records and ID are checked. It is the customer’s discretion if any further checks or inductions are carried out. The cost is based on the annual number of inductions, currently £18.89 for up to 1,000 inductions per year.

**SLIDE 13** – Role play – this is definitely not your standard site induction.

This is part of the 1 day induction on the Thames Tideway project in London and is carried out by a team of professional actors from the company ATT. It is interactive and based on the events leading up to the death of a fictitious worker, Michael Clark, and the impact of his death on his mates and family. The Thames Tideway budget is £4.2billion and like mega projects of this scale they have a training budget that we can only dream about. Much more information is available on the project web site.

**SLIDE 14** - 360° immersive presentations

This last option includes facilities for inductions and also ongoing training such as hazard spotting, daily briefings, and planning etc. Basically, a 360 deg. camera captures footage which can be show on multiple screens or in a special room with 4 projectors displaying on the four walls. The easiest way of describing the system is to show you a short video clip where you can see 3 projectors being used.

Press Esc to move on.

We have actually bought one of the easier to use 360 cameras and the software to produce the 360 footage. We are in the early stages of using this on site and are fortunate to have the use of the room.
with four projectors courtesy of CITB at Nutts Corner. Their set up is around £90k. Feel free to have a look at the camera afterwards.

So that’s some of the latest site induction techniques.

SLIDE 15 – Audits and Inspections

Next let’s look at some of the cloud based auditing software systems available.

SLIDE 16 - iAuditor – a fairly straight forward system where a company can choose from 100’s of templates shared online by others, these templates can be modified to specific company requirements or you can build your own template from scratch.

SLIDE 17 - Field View – part of the 4Projects (now known as View Point) family of document management software system widely used in the construction industry. Templates are drafted to company specification and easily distributed.

SLIDE 18 - BIM - Business Information Modelling – an excellent software system for constructing 3D models for design and planning but not so easily adapted for audits and inspections. The latter facilities can only be used as part of a BIM license which costs many thousands of pounds.

SLIDE 19 - Corechex – based locally here in Toome, templates are made to individual company requirements. This is a good straightforward system especially for the smaller companies.

All these systems can be used on smart phones and tablets, my favourite feature is that they allow photos to be embedded within the audit, also a scoring system can be added, easily distributed to third parties and everything is stored in the Cloud. Also they are capable of building up a database of non-compliance for audit items, close out date alerts and trends for non-compliance etc.

Disadvantage? – I have found no major disadvantages but there are company and personal preferences involved depending on exact needs. But it is a major disadvantage if you don’t have Wi-Fi!

SLIDE 20 - Health

Moving on to our second topic, a look at health issues within construction. It is now generally accepted that up until quite recently the health of construction workers was the “whispered” part of health and safety. Within NI HSENI estimate workplace ill health costs the economy over £219 million per year with 319 workplace health related deaths per year.

There are 3 no main groups in NI tackling health issues at work:-
HSENI via their 2018 – 2023 Corporate Plan which we heard about last month

BuildHealth - developed by the NI construction industry, with support from the HSENI, employer organisations and trade unions.

and the recently formed NI Workplace Health Leadership Group which is supported by a range of organisations involved in workplace health.

We are probably all familiar with the workplace health hazards relating to asbestos, dust, noise, HAV and MSD so I will look at just two issues – Drugs and Alcohol and Safety Critical Workers

**SLIDE 21** – These are the NI statistics for drug related deaths – not good. D&A testing on construction sites in the norm in GB but not so common over here. On this project we test for two reasons – periodic random testing and with cause i.e. people involved in an incident.

The easiest way to explain the D&A testing procedure is to show you a typical test obviously without the actual sample.

Show breathalyser and how it works. 35mg/l limit, same as drink drive limit in NI.

Drug test. This is done in accordance with the legally defensible European Guidelines for Workplace Drug Testing in Urine.

Sample pot – indicators for 14 types of drugs, sample temperature indicator, sample between 32C - 38C

Essential donor gives details of any medicine taken in the last 7 days. These may show in the result.

Sample collected in controlled room, sample collector is not present, the donor provides sample in private. Prior to collecting a sample taps taped up and a disclosing agent added to the WC etc. This is to prevent dilution of the sample. Sample urine is available online!

Two red lines – the control line which must remain and the indicator line

If one or more of the bottom red indicator lines disappear the test is recorded as non-negative

Two sealed samples prepared in the donors presence and sent to the lab. The donor is suspended until the lab results are available.

Result within 3 or 4 days – negative – donor can return to work; positive donor is dismissed from the project.

Not a pleasant job.
The other health topic is Safety Critical Workers

This is best explained by the definition on the project induction slide and illustrated by comparing to two different workers.

**SLIDE 22** – the definition. When these category of workers come for induction they are asked if they have already had a health assessment done, 9 out of 10 don’t, so we ask them to complete a simple but comprehensive tick box questionnaire. They have no problem doing this.

**SLIDE 23** – two examples of how a heart attack can have different impacts.

Last topic - Wellbeing

**SLIDE 24** – This is a relatively new aspect of our working lives where employers are making inroads in the whole health of their employees. Currently this seems to be a shared effort between H&S and HR Departments. As with previous topics we have looked at today, we could spend hours talking about this but as my time is nearly gone I will quickly give you some headlines which you can check out later.

Mental Health – just mention these words in the site canteen and listen to the reactions – mostly unhelpful descriptions! Macho man is still alive and kicking. Construction men are the most obstinate people when it comes to their health.

**SLIDE 25** – Watch this short clip from CrossRail.

How often does this happen in real life? Probably more than we realise. We often say “I’m fine” when we know things are not so good.

Press Esc

**SLIDE 26** – Just look at the suicide figures for NI in 2015/16. Check out the suicides for the younger age groups and the middle aged. Practically all suicides get little attention.

**SLIDE 27** – Again, where do we get help and information? Mates in Mind website and our Public Health Agency publications.

**SLIDE 28** - Closer to home, a Mental Health First Aid course is available in NI, it is an excellent 2 day course. I did it last year, it’s challenging, especially on how to handle a potential suicide – I’ll say no more.

**SLIDE 29** - Ladies and Gentleman that’s me, I’m done. I hope you have learnt something about where construction health and safety is in 2018. There remains many challenges, the 21st century H&S
Manager must maintain a wide range of skills – technically savvy, good communicator, legal expert, IT, training and people management; it’s a far cry from the Factory Inspectors of the 19\textsuperscript{th} century.

Thank you.