

May 2020



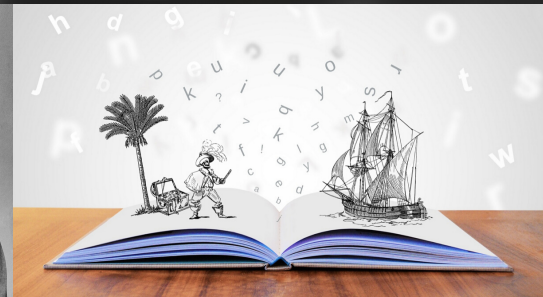
Issue 01

Project Engineering Management Ltd

ENGINEERING PERSPECTIVES

Today's trending topics in engineering

Monthly newsletter



ENGINEERING NEWS

New trends, news and discoveries in the world of engineering.

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Q&A - WITH ANDY STEVENSON

Q&A session with industry innovators and influencers. Andy talks about being Director of an engineering firm and IMechE Teesside region Chair.

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THE BAREFOOT ENGINEER

Hear from the perspective of an award winning design engineer. This month - "It's called Research for a reason".

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TRENDING - TOP WEBINAR TIPS

by Matthew Laskaj

Each month, we will discuss a different theme that is trending in the engineering world. This month, find out tips for planning your own webinars.

We would love to hear how yours went?

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Upcoming training courses:

A Guide to Additive Manufacturing (3D printing)
Virtual 20th & 27th May 2020
09:30 - 11:00

www.ProjectEngineeringManagement.co.uk



TOP WEBINAR TIPS

by Matthew Laskaj, Company Director - Project Engineering Management Ltd.

Webinars, webinars and more webinars. We are spoilt for choice in the current lock down climate and there is an excellent selection on offer whether you want to learn about your industry, develop your professional skills or just learn a new skill. That also means there is a lot of competition if you want to launch your own webinar. How do you attract an audience? Here are a few tips to help you get started.

Who ?

Who is it aimed at? Before you start, decide who your audience is and why they would want to listen to what you have to say: age, industry experience, skills.

What?

Perhaps before you decide on 'who', you need to think of a topic and what the message of the presentation is going to be. What is it that the speaker or speakers are going to speak about? Do you want to talk about one single topic, perhaps best suited for a webinar, or do you want to discuss a range of topics, and run a day-long virtual conference

It has become harder to keep the attention of the audience during online sessions so it will need to be interactive if it is longer than about 45 minutes. Decide if you are presenting content designed to inform viewers, sell your products, announce new products or projects, engage a wider conversation or perhaps to look for solutions.

When?

Time it to not overlap with other known or similar events. There is an abundance of webinars and online sessions currently so check to see if something similar is being run at the same time. Mid morning or during a lunch break is generally best for short webinars so that people have time to get set early in the day before joining but not too late so as to lose their attention as the day gets on.

How?

There are a lot of software options and many are offering free trials so shop around for one that fits your needs.

- GoTo meeting: good for presenter led sessions with paid version allowing up to 150 participants.
- Zoom: simple and fast to use and set up and great for social use. Security issues lately have been in the news so they have made a few upgrades. Can be recorded and saved for later.
- Loom: quick and easy way to record your screen or yourself but no interaction.
- Skype: good security, now offers browser based meetings so no need to install software. Improved functionality recently and links with other Microsoft systems well.
- Facebook live: record and stream live with notifications to subscribers and host joint sessions.
- Facebook messenger: ideal for informal chats with family and friends. An update has just been released which allows up to 50 people to join, for free.
- Youtube: stream live, record and embed to your Youtube channel.
- Facetime: quick video calling for Apple users.
- WhatsApp: excellent encrypted security, good for informal chats and meetings
- Others tools to consider: OBS studio for recording, Adobe connect, Slack, Google meet and join.me.

When it comes to engaging those you do attract:

- Use the sidebar chat so attendees can interact with panelists and each another
- Provide contact details for all presenters
- Record the session and make it available for those working who get distracted or cannot attend live

Why?

Webinars and virtual classes are an excellent way of teaching, informing and demonstrating to a few or to hundreds of people around the world at the same time. They also give the audience an opportunity to put a face with the voice and for the presenter to build a personal brand and connection with the audience. Used well, it can be an effective asset to your presentation tool kit.

IN THE NEWS

A round up of some of the latest news events from the last month.

Chancellor unveils £1.25bn package for UK start-ups.

To support UK start-ups and businesses driving research and development during the COVID-19 crisis, Chancellor Rishi Sunak has announced a £1.25bn government package.

Eligible businesses will be unlisted, UK-registered and will have raised at least £250,000 in equity investment in the last five years. The government is committing an initial £250m in funding towards the scheme, which will initially be open until the end of September. The £750m of targeted support for the most R&D intensive small and medium size firms will be available through Innovate UK's grants and loan scheme.

Facebook add a free group chat for up to 50 people

This month, Facebook have released a new group video chat called Messenger Rooms in a bid to compete with Zoom and Skype as popularity of online video calls have skyrocketed due to the recent coronavirus lockdowns.

Up to 50 people will be able to join a video call with no time limits on the call, and no requirements to have a Facebook account. This is in contrast to other apps which have restrictions on free calls such as Zoom allowing up to 40 minutes on the free service.

A press release by Facebook has claimed the number of calls has more than doubled in many areas since the coronavirus outbreak began. With security of video calls (particularly Zoom) under scrutiny, the new service will have privacy protection such as controlling who sees your room with lock options.



A 3D printer, for \$59

3DFort have released details of a 3D printer for only \$59USD on Kickstarter. The battle has been on in recent years to produce the cheapest 3D printer. We have seen some reviews of those lately and while they do work, your money is perhaps better spent upgrading slightly. print quality is not always ideal unless you want something as cheap as possible to just mess around with. You get what you pay for sometimes. The new printer is aimed at families and children and uses 1.75mm PLA and print volume is 90 x 90 x 90cm.

Q&A WITH

*Andy Stevenson,
Company Director -
Ardmore Craig Ltd,
Chair IMechE
Teesside.*



1. What do you clean most – your house, office, car?

Probably my home office where I keep a lot of the paperwork for the businesses and a lot of engineering and business books. It looks perfectly clean and tidy to me though my wife would say its only tidy....

2. How are you involved in engineering?

I sit as a Director in Ardmore Craig an engineering design and consultancy which has been going for the last decade working mostly in the offshore oil & gas and offshore renewables markets although we do work in automotive, rail, petrochemical, light industry and mining sectors as well. I'm also the CEO of a VC backed start-up business called Laytrix developing innovative rental equipment for a number of offshore sectors. Finally, I'm involved with the Institution of Mechanical Engineers and a number of other organisations who promote science, technology engineering and mathematics to schools and colleges.

3. What are the most challenging parts of managing a consultancy?

As we are always on hand to support our clients solve their problems, our biggest challenge is knowing what projects are next and what's going to land and when. As a result of that we have got pretty good at multi-tasking numerous projects simultaneously and being able to turn around engineering tasks in really quick timescales.

Continued next page.....

Q&A CONT

4. Why is it important to be involved in a volunteer role like IMechE when you are already so busy with your business?

The IMechE has played an important part in my career to date as I pushed to become a Chartered Engineer when I first started working and then became a Fellow of the IMechE some time after that. I think it's important to encourage new people to come into our sector and indeed the wider engineering world and the activities of the IMechE is one route to help publicise the important work that engineers do that. From a business point of view there is a wide membership base so being involved in it provides opportunities to meet new contacts and there is also a wide range of training courses and resources available via the IMechE



Laytrix pipe lay and recovery system

5. How do you see your job has changed over the last few months with the social distancing restrictions?

Our team have all been homeworking which has worked out much better than I would have thought six months ago. We are used to speaking to clients and undertaking design reviews with them via online calls so expanding that, so we review things as a team remotely has been pretty straight forward. We haven't got to see as much of the hardware we produce as normal due to restrictions and I had to cancel a trip to Taiwan just prior to the lockdown and lots of shows and exhibitions have been missed but hopefully these will all be re-arranged for later in the year.

6. What advice would you give to an up and coming engineer looking to get into the industry?

Hard work, commitment and the right attitude to take on new challenges and learn new things will get you far in any job sector. I also think that learning the core engineering basics will allow you to move around trying work in different sectors - there will always be a need for engineers

"IT'S CALLED RESEARCH FOR A REASON"

The Barefoot Engineer discusses the Research processes just as the Chancellor of UK unveils support for small business R&D.

Research, and developing are instrumental in improving society, the way we live, communicate and enjoy our lives. Improved products and processes help us all live longer and fulfilling lives. Just think what life would be like without your Thermomix, cordless drill, social media software or cell phone. These products were all invented. The chances are they started out as an idea, a sketch or a few lines of code. They were then developed into the saleable products that we consume today.



Developing new technology is difficult, time consuming, expensive and not always successful. Failure happens, and the best way to handle it, is to be kind. Be kind to yourself and to your colleagues. It is often a source of embarrassment and humiliation. Having a long term perspective and trying to follow the project brief helps manage the disappointment. There will always be project creep as researching finds new ways of doing something, just be flexible with it.

Research requires commitment and patience, by the researchers as well as management. During the course of development, failure is common, it can be frustrating and intimidating. Taking the emotion out of it, innovation needs ideas, these come from people, it can be the engineers and scientists who have learnt of new materials and processes, it also comes from the sales team who have knowledge of the market and what the end user's needs are. Take and use the ideas from wherever they come from.

Giant leaps of technology are rare, usually innovation occurs in small incremental improvements. Development of new materials, new ways to form these materials leads to new applications, what was once made of wood, is later made of steel, then aluminium followed by manganese or Carbon fibre. These developments make the product lighter, smaller, stronger, better.

Incremental improvements of current products and processes is the most common form of innovation. Building on something we know that works and making it better is easier and more predictable. New ways of putting a product together, how a product is used through its lifecycle, new materials and new methods of forming them, all contribute to the next improved product.

The lead time between researching an idea and product release can be years. While waiting for components to be manufactured, it is usually beneficial to make a model of the components using cheap craftable materials. 3D drawing packages are great for visualisation, however a 3D model is good for checking possible interference. Not all components are drawn in a 3D drawing, items like nuts, screws, cable ties, wiring, pneumatic hoses and other lines. In addition, a 3D 1:1 size model is good communication to the sales team as it can show colour and form, how it is presented and how it is used.

When making a 3D model, using common, readily available materials and processes, can speed the development process up. When developing the working prototypes, the expensive and time consuming specialist tooling, can be manufactured at the same time as the model. One new process that has recently become more accessible is 3D printing, the materials that can be used have improved significantly. This process is a flexible way to make complicated components and can be readily incorporated into the 3D model.

The best inventions haven't been developed yet. As research into Scramjets, hydrogen engines, graphene and better pharmaceuticals continues, we'll see more beneficial products, continuing to improve the way we live, just be patient.



2 x 90mins online sessions
20th May 9:30 - 11:00
27th May 9:30 - 11:00

A GUIDE TO ADDITIVE MANUFACTURING (3D PRINTING)

PEM Ltd Virtual Training Solutions

Find out more here

Hosted by:

Institution of MECHANICAL ENGINEERS