



March 2016

Institute of Quarrying

Lancashire Branch Newsletter

IOQ Lancashire Branch - Chairman's Foreword

On behalf of the Lancashire Branch, Gordon Dick is looking for new committee members. Anyone interested please contact either him or Mark Broadley for more information.

There are a few places still available for the Charity Dinner Dance, details are given below.

Looking forward to seeing you all at the next Technical evening (AGM) on the 12th April. The subject will be - Strengthening Lock Arklet Dam .

Charity Summer Bail

10th June 2016 - Imperial Hotel Blackpool

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The Lancashire Branch held a Technical presentation on the 8th March. (Drones — The Law and Benefits)

Adrian Wilkinson (Managing Director and UAV Pilot at QuarryDesign) gave a highly visual presentation to the Lancashire Branch of the Institute of Quarrying on “Drones – The Law and the Benefits”.

The talk was presented in a light manner with nearly every slide being either a picture or a video clip but with a serious underlying message.

The presentation began with traditional geological and geotechnical survey methods and why (following the first successful prosecution of a small geotechnical consultancy under the Corporate Manslaughter Law) QuarryDesign looked at what newly emerging technologies were becoming available that could be used to remove their geologists and surveyors from potentially hazardous situations. This culminated in them investing in a long-range high-resolution LiDAR scanner and a Drone (they now have 4) that collect point-cloud data. Their early adoption of these technologies won them a prestigious “Joint Runner-up” in the Engineering Initiatives category of the 2013 MPA Safety Awards.



Adrian Wilkinson (Drones — The Law and Benefits)



Adrian went on to explain what point-clouds surveys were and how point-clouds are obtained by LiDAR and Photogrammetry. A history of aerial photogrammetry and military drone use followed with a discussion on how the miniaturisation of equipment was enabling the costs to fall to a level that enabled companies such as QuarryDesign to adopt the technology. In a field dominated by anachronisms, Adrian explained how Drones should correctly be referred to UAV's, UAS's, RPAS's. With the number of bad-news drone stories in the press, Adrian showed examples of what was (and what was not) permissible under the CAA rules for flying drones and took the audience through the legal requirements that both the Operating Company and their Pilots must obtain to fly drones commercially. He also explained that not all drone surveys will be the same and that accuracy in the resultant survey model is dependent on the stability in the air of the UAV being used, the way the camera captures the photographs (including active gimbals keeping the camera looking vertically down, the lens quality and the sensor size), the location and number of ground control markers, what software is used and whether the surveyor understands the actual processes involved.

The second half of the presentation showed a number of case examples of where both LIDAR and UAV photogrammetrically derived point-clouds had been obtained and interpreted from a wide range of UK quarries. Examples included obtaining surveys of difficult to access areas (silt lagoons and large hot stockpiles), a detailed survey of an archaeological feature for Natural England in a quarry extension, examples of remote geological and geotechnical mapping of quarry faces (joint sets, identification of thin weak clay bands, planar and wedge failure analyses and break-back distance calculations and the production of accurate cross sections for rock-fall assessments). He also presented surveys of sink-holes, coastal erosion and videos of detailed quarry face inspections and close-up fixed processing plant (screening house) inspections.

He ended his presentation with three examples of huge surveys of various parts of the east side of Gibraltar (of which the last survey required MoD and CAA approval to extend their permitted flight limits from the legal limits presented earlier in the presentation).

On behalf of the members, branch chairman Gordon Dick led the vote of thanks to Adrian for his excellent presentation



Dates for your Diary 2015-2016

15th September - Mike Tetley - H.S.E -

13th October - Technical Evening - Cab Care -Machine Fops –Rock Guards.

10th November - Technical Evening - Colin Scott Leibherr

9th December - Technical Evening - To be confirm

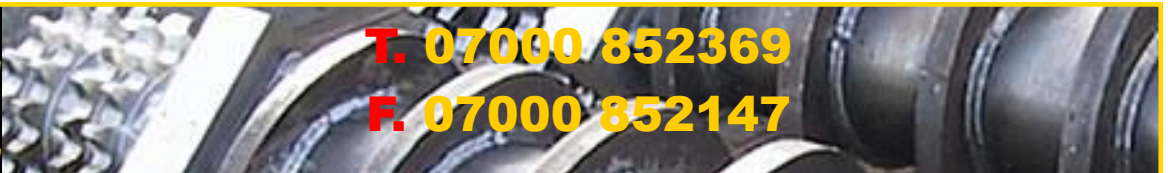
12th January -Technical Evening - Michael Bibby KAL TIRE– Tyre Safety Awareness

9th February - CPD Event -

8th March Technical Evening - Adrian Wilkinson Quarry Design (Drones) The Law

12th April- AGM and Jim Shields of BAM Ritchies –Strengthening Lock Arklet Dam

More details on these events will follow, to book a place please contact Gordon Dick .



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