# THE COMMERCIAL UAUSILIOUU

21-22 October 2014, Level 2, Olympia, London, UK

The first marketplace for commercial unmanned aerial vehicles



www.terrapinn.com/uav

2 DAYS 1500 ATTENDEES 70+ EXHIBITORS

60+ SPEAKERS

### WELCOME TO THE FUTURE

### THE COMMERCIAL UAVSHOW

Terrapinn are proud to announce The Commercial UAV Show. The first large scale conference and exhibition to bring together current and future UAV end users with manufacturers and service providers and drive innovation in the commercial UAV universe.

### Whatever your commercial UAV end goal, you can achieve it at The Commercial UAV Show

#### THE CONFERENCE

**Discover** ground-breaking case studies delivered by successful commercial end users.

**Investigate** current capabilities and future requirements for UAVs from key organisations across the commercial markets.

**Contribute** on interactive roundtables with your industry peers to deliberate the key topics most relevant to you.

**Secure** your place amongst international businesses gathered together for the first time and discuss your individual successes, challenges and plans for the future.

#### THE EXHIBITION

**Explore** the latest UAV technologies for commercial applications.

**Promote** your role in the evolving market amongst other industry movers and shakers.

**Share** your work and achievements with your industry peers to solidify brand recognition in the commercial UAV space.

**Position** yourself at the forefront of innovation and become a thought leader in this sector.

**Attend** the biggest forum for the future of commercial UAVs and play a role in developing this emerging market.

#### Because at The Commercial UAV Show, the sky's the limit...

### **KEY REASONS TO ATTEND**

Join the only event to bring together Commercial UAV end users from around the world and explore the emerging commercial market space for unmanned aerial vehicles

Hear from successful case studies of UAV use from a variety of commercial markets

Discover how commercial UAVs are increasing organisational efficiency whilst reducing operational costs

Network with 1,500 event attendees to establish new business relationships

Explore the current use and future demand for a variety of UAV platforms within the commercial universe

Gain brand exposure and recognition in the evolving commercial UAV sector, placing you at the forefront of this market space

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08:00 Doors open, registration commen

#### 08:50 Chairman's welcome and opening remarks

#### $\checkmark$ The rise of the Commercial UAV: Exploring current UAV usage and highlighting potential



- **Opening Keynote Address: Commercial UAS Application The Then, The Now and The What Could Be**
- Analysing the current development of a commercial market for UAVs
- Critically analysing the future short term potential for the commercial UAV market
- A manufacturer perspective on the promising roles of UAVs in the commercial universe
  Comparing and contrasting commercial end user requirements across different market verticals
- Mike Rickett, Senior Vice President Air Systems UK, Selex ES Ltd

#### 09:30 End User Show Case

#### Investigating demand: Which market across the industry sectors has the most potential need for UAV use?

- Which markets are currently using commercial UAVs successfully?
- Who is looking to use UAV capabilities more in the future?
- Is there is difference in demand for rotary vs. fixed wing platforms?
- Is there a difference in demand for sUAVs vs. larger platforms?
- No limits: What would be the 'ideal' UAV for commercial projects?



#### How UAVs became business as usual at the BBC

Thomas Hannen, Innovation Producer, BBC World Service's Global Video Unit Owain Rich, Innovation Producer, BBC World Service's Global Video Unit





#### Oil & Gas

David Edem, Head of Business Technology, Tullow Oil



#### Infrastructure

Peter Ellis, Principal Engineer, Network Rail



#### Agriculture

Professor Simon Blackmore, Head of Engineering, Harper Adams University College









#### Panel Interview: To what extent is current regulatory framework influencing commercial UAV use?

- What does current regulation allow and how useful is this for commercial use?
- How are end users currently flying UAVs within existing regulatory rules and boundaries? •
- What does inconsistent regulation mean for end users and how is it causing disharmony in UAV use across Europe?
- The chicken and the egg: Does the responsibility for regulatory evolution lie with manufacturers, regulators or end users?



Maurice LaBonde, Technical Officer. **ICAO** 



Gerry Corbett, **UAS Programme** Lead, Safety and Airspace Regulation Group, CAA



James Williams, Manager, UAS Integration Office, FAA



#### Opening up the airspace for RPAS Operation Carl Loller, Future Projects and Technology Director, BAE Systems Military Air & Information

#### Roundtables: What can you learn from global UAV use across the world? An insight into UAV 12:40 achievements from a variety of countries

#### Interactive roundtables led by successful commercial UAV end users from across the globe

- Exploring the gap in current UAV use: Does the rest of the world risk falling behind?
- How has lenient regulation benefited the successful use of UAVs?
- Opening the door to long distance operations: Analysing the success cases and possibilities of flying BVLOS
- What are the associated risks of operating within a lax regulatory system?



Noah Raford, Advisor, **UAE Prime Minister's** Office



Cpl. Byron



Charbonneau, UAS Coordinator: D-Division **Royal Canadian** Mounted Police

Ahdin Orahovac, Deputy

Director, Bosnia and

Herzegovina Mine

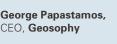






Kelvin Barnsdale, Senior Research Engineer, University of Canterbury





Cpl. Barry Red Iron, UAS Coordinator K-Division, RCMP

Dr Rita Rinaldo, Head of the Institutional Projects Section Integrated and Telecommunications-related applications Department, European Space Agency





Sergeant John Overend, Tactical Planning Unit, **Staffordshire Police** 

> Justin Philips, Aeronautical Engineer AngloAmerican

Andreas Cziferszky. **Geospatial Systems** Architect, British **Antartic Survey** 



Rutger van Hogezand, CEO, Aquademia

Thomas Sylvest, Fire Captain, **Copenhagen Fire Department**  Focus tables will include: UAE Greece England France Canada South Africa Germany Japan China Spain USA Brazil Angola Australia Antarctica Italv Ukraine Sweden Turkey Ireland Norway Scotland Belgium Venezuela

Mexico



#### $\checkmark$ The myth of the danger drone: Overcoming misconceptions about UAV use

#### High fliers: How safe are certified platforms and pilots?

- Demonstrating the full range of critical considerations that are addressed when commencing UAV flights
- The importance of separating professional UAV use and capabilities from the hobbyist community
- Finding answers to platform durability across differing contexts and operational tasks
- Exploring the longevity of current platforms and what improvements are currently required for both flight and platform life span
- What criteria are key to end users when choosing their service provider?

Session available for a sponsor. Contact anna.szelemej@terrapinn.com

#### 15:30 Mini show cases

#### UAVs in a positive light: What can we learn from successful UAV operations in global conservation, preservation and disaster relief?

- Going where no man has gone before: How are UAVs providing aid in disaster relief efforts?
- Environmental saviours? How UAVs are being deployed to protect our planet
- Investigating the role of UAVs in enforcing animal rights
- Science buff: Are UAVs the best new tools for measuring and maintaining the worlds atmosphere
- Transportation from the Sky: Flying donkeys improving cargo deliveries in Africa



Jonathan Ledgard, Director, Future of Africa lab, Swiss Federal Institute of Technology (EPFL)



Dr Peter Enderlein, Senior Marine Science Engineer, British Antarctic Survey



Serge Wich, Co-Founder, ConservationDrones.org

16:10 Afternoon refreshments and networking

#### Man's new best friend? Improving safety, service and security



17:15

#### How UAVs are helping to operate more safely in a high risk working environment

- Exploring the ways in which UAVs can improve company health and safety efforts
- Specific examples of how UAVs are being used to protect against loss to life or limb
- How is replacing man with machine achieving more for the business than previous health and safety regulations allowed?
- Examining how UAV technology can be utilised for future risk inducing roles **Nigel Ellis,** Technology Manager, **Scottish and Southern Electric**

#### Panel: The unmanned hero: UAVs role in protecting the public

- How are civil UAV operations different to commercial operations and what considerations have to be made?
- Discovering what is holding back civilian UAV use: The impact of regulatory limitations and public perception on emergency services capabilities
- Demonstrating the use of UAV for public protection: examples of successful operations
- Restoring the public purse: How employing UAVs is financially beneficial whilst enhancing public service



Andy Cashmore, Station Commander, West Midlands Fire Service



Chris Rainford, Watch Commander, Greater Manchester Fire and Rescue Service



Cpl. Byron Charbonneau, UAS Coordinator: D-Division, Royal Canadian Mounted Police

17:55 Close of conference



#### 08:30 Doors open

#### 🖖 Data output: From sensing to sense making



#### Keynote: UAS Managed Services Rapid, Flexible & Cost-Effective Capability

- Exploring platform capabilities: How much information can a UAV gather before having to return to ground station?
- Understanding the best technology for data acquisition: How do you select the right sensors for the right type of data?
- The importance of establishing secure communication systems for a successful flight
- How easy is it to transfer on board data into a system post-flight?

Shai Shammai, Head of Business Development, QinetiQ



#### Where the real value lies: How to effectively analyse collected data in order to maximise value from UAV use

- Understanding how to pull mission-critical information from large volumes of data
- Comparing and contrasting UAS data superiority against manually retrieved information
- Demonstrating the importance of well stored data for use as an actionable work product **Nicolas Pollet,** Head of UAV Project, **SNCF**

#### Panel: How can the efficiency of a UAV be improved to enhance the quality of data collection?

- Examining how to effectively integrate UAV data into a working industry data base
- Fast track solutions: How real-time data could facilitate immediate decision-making
- Emphasising the need for lightweight sensors for accurate UAV data collection
- Utilising all the senses: The impact of multi-sensor platforms for data acquisition
- The sixth sense? Improving aerial measuring by moving from traditional photogrammetry to liDAR technology



**Dr Jeremy Price,** Principal Meteorological Officer, **Met Office** 



Andy Vick, Principle Investigator, UK Astronomy Technology Centre



Susan Stevens, Scientist Remote Sensing, Scottish Environment Protection Agency

#### 10:30 Morning refreshments and networking

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#### UAV Showcase: Major successes and future growth markets



#### **End-user case study**

- Man power versus unmanned power: What are the potential rewards of employing a commercial UAV?
- How do UAVs help to minimise disruption to company operations?
  - Investigating how the use of UAVs can turn dangerous operations into low risk tasks.
- Access all areas: Achieving greater quality data collection from previously hard to reach locations.
  - The race against time: A comparison of UAV speed against traditional manned procedures

Barnaby Wiegand, Marine Specialist, Project Development Directorate, EDF



#### UAS: A game changer in oil and gas security

Dave Phillips, VP, Small and Medium Endurance Unmanned Aerial Systems, Textron Systems Unmanned Systems

#### Panel Interview: The best new tool in the box: What UAVs are achieving that has not been achieved before

- Uncovering the differing benefits of rotary vs. fixed wing platforms, which is the best design for the job?
- Examining how to seamlessly integrate UAVs into an already established business model
- Exploring how the UAV tool facilitates workload management
- What further UAV development is needed to reach fully satisfy end user needs?



Justin Philips, Aeronautical Engineer, AngloAmerican



Lewis Whyld, Visual Journalist and Innovations Specialist, The Telegraph



Maxime Lecchi, **Research Engineer**, **GDF SUEZ** 

13:00

#### Into the future – Highlighting critical sensor and payload developments

#### Seeing is believing: Examining sense and avoid technology developments as a key driver for UAV evolution

- How does sense and avoid technology effect commercial UAV operations?
- How effective will sense and avoid capabilities be in multiple UAV deployment?
- Are sense and avoid capabilities as reliable as a manned aircraft?
- Investigating how influential sense and avoid developments will be on advancements in regulation

Session available for a sponsor. Contact anna.szelemej@terrapinn.com



#### Payloads over platforms: The importance of technological payload capabilities

- Improving the guality of data received, a push for sensor technology development
- Understanding the critical need for extreme reliability: UAV autonomy •
  - Exploring the need for sensor miniaturisation to facilitate migration from manned aircraft •
- Investigating interoperability of modular payloads
- How can sensors work effectively whilst operating in variable conditions? •
- Rory Doyle, Project Co-ordinator, SUNNY Project

14:15

#### Roundtables: Examining demand for future payload technology

15:05





#### Agriculture

Led by: Andrew Riche, Agronomist, Rothamsted Research

Chris Harry Thomas, Farmer and Precision Farming Consultant, **Paviland Manor** 



#### Transportation and logistics

Led by: Joep Rutten, Global Implementation Manager, TNT Express Jasper de Jonge, Global

**Innovation Manager, TNT Express** 



#### Civilian Led by: Sergeant. Simon Luck, Gatwick Airport Community Safety

Team, Sussex Police Dawn Huckson, Police Search

Advisor, Runway Protection Team, Sussex Police

Alec Martin, Station Manager Urban Search and Rescue. **Hampshire Fire and Rescue** Service



#### Media and broadcasting

Led by: **Theo Webb**, Assistant Producer, BBC Natural History Unit



#### **Oil and Gas**

Led by: Professor John Howell, Chair in Geology & Petroleum Geology, University of Aberdeen



#### **Environment and** conservation

Led by: Philip Anderson, Head of Marine Technology, The Scottish **Association for Marine Science** 

**Prof. Dr. Jens Bange** Environmental Physics, University of Tübingen

Jamie Quartermaine, Project Manager, Oxford Archaeology



#### Infrastructure

Led by: Robert Forde, Examination Data Manager, Network rail



# **SPOTLIGHTON ROUNDTABLES**

What can you learn from global UAV use across the world?

An insight into UAV achievements from a variety of countries.

Roundtables provide the opportunity to get fully immersed in topical debates with your peers, set the perfect occasion to exchange business cards, share ideas and discuss the latest challenges facing the evolving market.

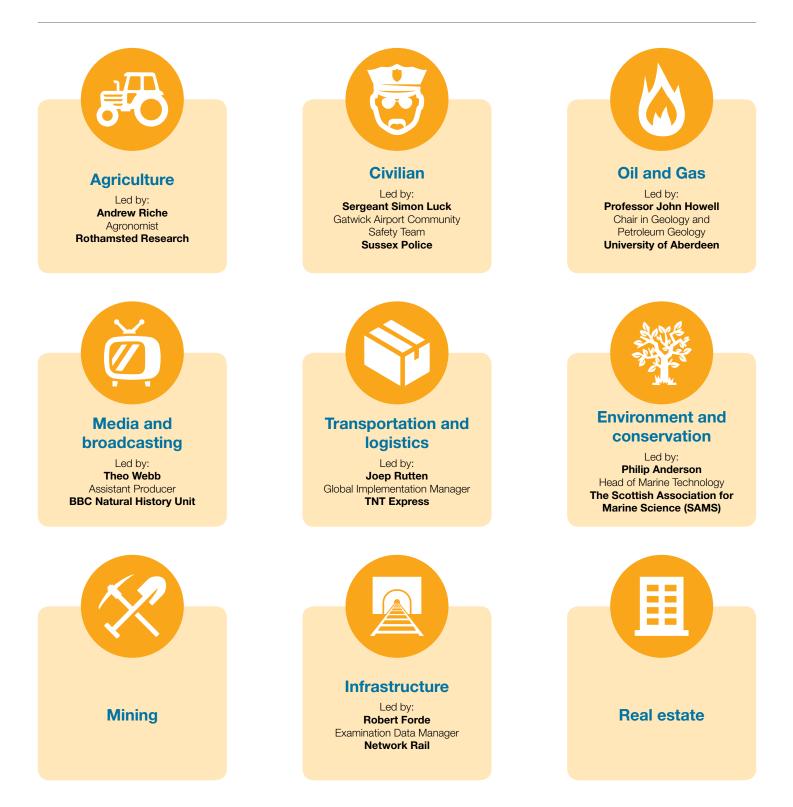
Each table will be hosted by a successful UAV end user.



### **EXAMINING DEMAND FOR FUTURE PAYLOAD TECHNOLOGY: END USER CASE STUDIES**

The roundtables will focus on a particular industry and its unique needs.

Each table will be hosted by a successful UAV end user.



#### **SPOTLIGHT ON OIL & GAS**

UAVs are emerging as a new and very effective tools for the oil and gas sector. UAV applications here are vast, including; pipeline monitoring, flare stack inspection, decommissioning projects and oil spill detection.

Key sessions for the Oil and Gas industry to attend:

Premium keynote conference End user showcase David Edem, Head of Business Technology, Tullow Oil

#### **Exhibition floor open seminar**

10:30 Oil and Gas Workshop: A 'How to' on achieving efficient pipeline surveillance, increased rig security and improved flare stack inspection Led by **Cyberhawk** 



#### SPOTLIGHT ON INFRASTRUCTURE

The key benefit of UAV use in Infrastructure is the reduction of costs and operational risks whilst improving workload efficiencies simultaneously.

Key sessions for Infrastructure companies to attend:

#### Premium keynote conference

End user showcase Peter Ellis, Principal Engineer, Network Rail

#### Premium keynote conference

Presentation Where the real value lies: How to effectively analyse collected data in order to maximise value from UAV use **Nicolas Pollet,** Head of UAV Project, **SNCF** 

Premium keynote conference

End-user case study Man power versus unmanned power: What are the potential rewards of employing a commercial UAV?

Barnaby Wiegand, Marine Specialist, Project Development Directorate, EDF

#### Premium keynote conference

Presentation How UAVs are helping to operate more safely in a high risk working environment **Nigel Ellis,** Technology Development Manager, **Scottish and Southern Electric** 



### **SPOTLIGHT ON**

UAVs are lending mining organisations a sturdy hand across a variety of operations including, gas monitoring, hazardous site mapping and inspections of isolated and dangerous sites.

Key sessions for mining companies to attend:

#### Premium keynote conference

Panel Interview The best new tool in the box: What UAVs are achieving that has not been achieved before **Justin Philips,** Aeronautical Engineer, **AngloAmerican** 

#### Premium keynote conference

#### Roundtables

What can you learn from global UAV use across the world? An insight into UAV achievements from a variety of countries.

25 Interactive Roundtables: Led by successful commercial UAV end users from across the globe. Justin Philips, Aeronautical Engineer, AngloAmerican



#### SPOTLIGHT ON BLUE LIGHT AND EMERGENCY SERVICES

Over the years UAVs have been recruited by the emergency services as an additional and advanced tool in a variety of operations such as; search and rescue missions, crowd control and accident investigations.

Key sessions for blue lights and emergency services to attend:

#### Premium keynote conference

Panel discussion The unmanned hero: UAVs role in protecting the public Andy Cashmore, Station Commander, West Midlands Fire Service Chris Rainford, Watch Commander, Greater Manchester Fire and Rescue Service Cpl. Byron Charbonneau, UAS Coordinator: D-Division, Royal Canadian Mounted Police

#### Premium keynote conference

Roundtables Examining demand for future payload technology: End user Case studies Sergeant Simon Luck, Gatwick Airport Community Safety Team, Sussex Police Dawn Huckson, Police Search Advisor, Sussex Police

#### Premium keynote conference

Roundtables What can you learn from global UAV use across the world? An insight into UAV achievements from a variety of countries. Sergeant John Overend, Tactical Planning Unit, Staffordshire Police

#### **SPOTLIGHT ON AGRICULTURE**

Agriculture has long been noted as a key commercial industry benefiting from the use of UAVs. Here they lend themselves to further improving precision farming techniques including; crop scouting, field mapping and stock monitoring.

Key sessions for farmers and agricultural organisations to attend:

#### Premium keynote conference

End User Show Case Investigating demand: Which market across the industry sectors has the most potential need for UAV use?

Professor Simon Blackmore, Head of Engineering, Harper Adams University College

#### Premium keynote conference

Roundtables Examining demand for future payload technology: End user Case studies Andrew Riche, Agronomist, Rothamsted Research



#### **SPOTLIGHT ON** ENVIRONMENTAL AND CONSERVATION

UAVs are helping various charities and disaster relief organisations in their mission to save our planet. The diverse platforms have been applied to; animal conservation, habitat monitoring, weather tracking and as a means of transport for inaccessible areas.

Key sessions for Environmental and Conservation organisations to attend:

#### Premium keynote conference

Mini Show Cases UAVs in a positive light: What can we learn from successful UAV operations in global conservation, preservation and disaster relief? Jonathan Ledgard, Director, Future of Africa

Edward Strickland, Lead airframe designer, Open relief Dr Peter Enderlein, Senior Marine Science Engineer, British Antarctic Survey Serge Wich, Co-Founder, ConservationDrones.org

#### Premium keynote conference

Roundtables Examining demand for future payload technology: End user Case studies Philip Anderson, Head of Marine Technology, The Scottish Association for Marine Science (SAMS)

#### Premium keynote conference

Panel Discussion How can the efficiency of a UAV be improved to enhance the quality of data collection? Dr Jeremy Price, Principal Meteorological Officer, Met Office Andy Vick, Principle Investigator, UK Astronomy Technology Centre Susan Stevens, Scientist Remote Sensing, Scottish Environment Protection Agency







#### Noah Raford, Advisor, UAE Prime Minister's Office

Noah will be hosting an Interactive Roundtable providing a key insight into the UAE's forward thinking approach for the future of UAVs for document deliveries.



#### Nicolas Pollet, Head of UAV Project, SNCF

Nicolas is head of SNCF's UAV project and will provide a fully comprehensive presentation on the projects achievements, discoveries and challenges thus far, including their approach to analysis of UAV data output.



#### Cpl. Byron Charbonneau, UAS Coordinator, D-Division, Royal Canadian Mounted Police

Corporal Charbonneau has been involved in unmanned aerial systems (rotorcraft) for many years and has firsthand pilot in command experience in a wide range of active mission environments. He is currently undertaking a collaborative effort with partners in the field of Forensic Anthropology in an effort to use small unmanned aerial systems for the detection of clandestine human burial sites.



#### Justin Philips, Aeronautical Engineer, AngloAmerican

Justin has taken the lead at AngloAmerican in South Africa, working within a strict regulatory body to help discover and further push innovation for UAV use in the mining industry.



#### Andy Cashmore, Station Commander, West Midlands Fire Service

Andy's role as Station Commander at West Midlands Fire Service, means he is directly involved in executing a successful UAV programme in the second largest Fire Service in the UK and Wales. The fire West Midlands service has used a quadcopter platform for many years and Andy will be conveying their past operations as part of our blue light and emergency services UAV Panel.



#### Professor John Howell, Chair in Geology & Petroleum Geology, University of Aberdeen

Prior to Aberdeen he was based in Bergen Norway where we was the CTO for an independent Oil Company and held research positions at the University of Bergen and UniCIPR. His research focuses on the use of geological outcrops (cliff sections) to improve understanding of the subsurface, with special reference to predicting the behaviour of fluids in oil and gas reservoirs.





#### Peter Ellis, Principal Engineer, Network Rail

Peter is responsible for the design, development of technical and safety assurance programmes. Peter's role involves managing a process that ensures Plant, Traction and Rolling Stock equipment intended to be operated on and across the GB Railway network is compliant to specification and regulative requirements.

#### Joep Rutten, Global Implementation Manager, TNT Express

Joep will lead an Interactive Roundtable on how TNT Express perceives the potential value in using commercial UAVs for delivery purposes.



#### Dr Jeremy Price, Principal Meteorological Officer, Met Office

Jeremy has been exploring the use of UAV payload sensor technology and capabilities for an array of weather forecasting and measuring purposes. Jeremy will be joining a panel discussion focussed on data collection to relay to our audiences what has been achieved and what further development is required for fully accurate, reliable and durable sensors for unmanned aerial vehicles.



#### Sergeant John Overend, Tactical Planning Unit, Staffordshire Police

Sgt Overend comes to The Commercial UAV Show with many years of operational UAV experience in the Staffordshire police force. He will be sharing examples of past successful UAV operations and his involvement in an in-house UAV training programme, which educates fellow forces on the multitude of UAV uses in the blue light sector.



#### Filippo Tomasello, Rule Making Director, EASA

Since 2008 Filippo has been the focal point for rulemaking on Remotely Piloted Aircraft Systems (RPAS). Furthermore he was assigned to different ICAO groups, including the Study Group on Unmanned Aircraft Systems (UAS) of which he was elected co-chairman in 2012.



#### Maxime Lecchi, Research Engineer, GDF SUEZ

Maxime Lecchi works as a research engineer for GDF SUEZ since 2009. Within CRIGEN, GDF SUEZ R&D center, Maxime is now in charge of studies related to the safety and integrity of gas infrastructures. In this context, he soon started to work on unmanned aerial systems for pipelines monitoring.





#### Rory Doyle, Project Co-ordinator, SUNNY Project

Rory will be sharing the ongoing work of the SUNNY Project with our audiences as part of an on stage interview. SUNNY stands for The Smart UNattended airborne sensor Network for detection of vessels used for cross border crime and irregular entrY and aims to contribute to EUROSUR by defining a new tool for collecting real-time information in operational scenarios.



#### Lewis Whyld, Visual Journalist and Innovations specialist, The Telegraph

Lewis has used a UAV for many applications over the last 4 years for the Telegraph newspaper and has become and in-house expert. A few of his UAV projects include covering the aftermath of the typhoon in the Philippines, the floods in the UK, wolf conservation in the French mountains and the Gold Cup horse racing circuit.



#### Professor Simon Blackmore, Head of Engineering, Harper Adams University College

Simon Blackmore is a key figure in the development of Precision Farming and agricultural robotics, with a world-wide reputation. Simon's personal research focuses on improving Precision Farming by developing more intelligent machines and processes, and making crop production more efficient and sustainable.



#### Thomas Hannen, Innovation Producer, BBC World Service's Global Video Unit

Thomas is currently learning how to build, fly and film with small unmanned multi-rotor helicopters. He will share his wealth of experiences at the BBC with our audiences, on how UAVs can be advantageous for the media and broadcasting industry.



#### Dr Peter Enderlein, Senior Marine Science Manager, British Antarctic Survey

Peter brings a wealth of UAV knowledge to the event, having used UAVs for biological and mapping research at the British Antarctic Survey. Peter has flown multiple UAVs from the research vessel RRS James Clark Ross and near several land-based research stations in Antarctica.



#### Serge Wich, Co-Founder, ConservationDrones.org

Serge is a primate biologist who has studied orangutans in Sumatra for the past 20 years. Serge and ConservationDrones.org co-founder Lian started to implement autonomous missions with UAVs into their research by deploying the platforms over rainforests in Indonesia to survey for orangutan nests.





#### Barnaby Wiegand, Marine Specialist, Project Development Directorate, EDF

Barnaby has been directly involved in EDF's ongoing UAV projects and has witnessed the vast array of applications UAVs can offer the company in enchaining a variety of crucial tasks, including mapping debris for removal, and locating pooling areas of water for flood management. Barnaby will provide a presentation depicting his key findings and highlighting the rewards organisations can reap from using commercial UAVs.



#### Gerry Corbett, UAS Programme Lead, Safety and Airspace Regulation Group, CAA

Gerry is the CAA's focal point for all matters associated with the operation of Unmanned Aircraft Systems in UK airspace. He is also the sponsor for Civil Aviation Publication 722, the primary guidance document for Unmanned Aircraft System Operations in UK Airspace.



#### Susan Stevens, Scientist Remote Sensing, Scottish Environment Protection Agency

Susan established the SEPA UAV pilot project as a trial, operating within Ecology. She has experience with legally setting up the use and operation of the UAV equipment within the organisation for a variety of environmental purposes. Susan has previous experience of remote sensing for marine plants mapping and phytoplankton ecology, GIS and GPS use, survey methods and data management.



#### Chris Rainford, Watch Commander, Greater Manchester Fire and Rescue

As well as front line firefighting, he has spent the last 10 years as a Fire Service Air Observer, flying on the back of the police helicopter up in Manchester. About 4 years ago he was made project lead on UAVS and their possible role within operational fire fighting activities. After several years of hard work, they have just begun a 3 month conceptual trial with an RPAS from Skywatch in Denmark.



#### Jonathan Ledgard, Director, Future of Africa lab, Swiss Federal Institute of Technology (EPFL)

Jonathan comes to the event with a solid understanding of innovative technology, based at the Swiss Federal Institute of Technology in Lausanne. Switzerland is a world leader in robotics, with unparalleled expertise in flying robotics. Jonathan will be demonstrating how UAVs will make a real difference to the world in the future, talking about his flagship project dedicated to development of flying cargo robots in Africa and beyond. These cargo robots will carry 20-50 kilos on fixed networks in Africa.



#### Ahdin Orahovac, Deputy Director, Bosnia and Herzegovina Mine Action Centre

Adhin will present the results of UAV intervention at the Bosnia and Herzegovina Mine Action Centre's minefield near Sarajevo. Covering the necessity for UAV use in mine action, concering the development of non-technical methods in Land Release processes in terms of accelerating process, cost efficiency, effectiveness and safety.

## terrapinn

use your brain

### WHY VISIT?

### Whatever your commercial UAV end goal, you can achieve it at The Commercial UAV Show

The Commercial UAV Show is the first large scale conference and exhibition to bring together current and future UAV end users with manufacturers and service providers and drive innovation in the commercial UAV universe.

If you need to understand how a commercial UAV can add value to your organisation, meet with likeminded peers who are investing in the technology and explore what UAVs are currently available for commercial use - The Commercial UAV Show is the only forum offering you the opportunity to accomplish these goals all in one place.

### **5 KEY REASONS TO VISIT**

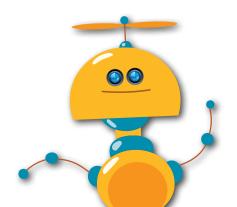
Join the only event to bring together 400+ commercial UAV end users from around the world and explore the emerging commercial market for unmanned aerial vehicles

Take part in On Floor Seminar sessions, to get the latest updates and gain crucial access to case studies from UAV manufactures, service providers and end users from across the commercial universe

Network with 1,500 attendees to establish new business relationships

Meet with established and successful UAV end users in the exhibition End User Zone to understand how a commercial UAV can add value to your organisation

Attend the biggest forum for the future of commercial UAVs and play a role in the future of this emerging market



AT THE COMMERCIAL UAV SHOW, THE SKY'S THE LIMIT DAY 1

Attend The Commercial UAV Show's Technical seminar for two jam-packed days of UAV manufacturer and end user presentations, case studies, displays and audience Q&A's.

The seminar programme is comprised of 20 minute speaking sessions carefully sculpted to provide attendees with a direct insight into current and future successful commercial UAV operations, the latest UAV technologies, future plans for regulation and a sneak peak at some of the high quality data captured by a variety of unmanned platforms.

With speaker participation from a mix of industry innovators and service providers as well as content from successful UAV end users, you'll be able to make new contacts and access pioneering projects that will help benefit your own organisation.

	Day One, 21st October 2014 - On Floor Seminar Agenda				
	Seminar Theatre 1	Seminar Theatre 2			
10:30	Oil and Gas Workshop: How to achieve efficient pipeline surveillance	Agriculture Workshop: How to achieve lower costs and increased yields through precision farming			
11.30	Introducing a new class of survey grade laser scanning by use of UAS RIEGL Laser Measurement Systems GmbH	Rapid prototyping research and low cost civilian UAVs			
	Can Military experience in UAS operations really bring benefit to the commercial sector	James Scanlan FRAeS, Professor of Aerospace Design, University of Southampton			
12.00	Colin Moore, Business Development - ISR and Space Systems, UTC Aerospace Systems	Towards Safer RPAS operations in Congested Areas			
12.30	Multiple UAV platforms for quarrying and open cast mine surveys - recent developments, enhanced deliverables and global case studies	André Clot, Centre Director UK, EuroUSC™			
Ţ	Mark Hudson, Managing Director, SLS Coastway Surveys	Insight and Advantage: UAS Enterprise Solutions for the Unmanned Age			
13:00	The use of Mini UAV for the surveillance of powerline networks – a case study Benjamin Benharrosh, Co-Founder, Sales and Marketing Director, Delair Tech	Sean Baity, Program Engineer/Principle Systems Engineer, Small & Medium Endurance Unmanned Aircraft Systems (SMEUAS), Textron Systems Unmanned Systems			
13:30	UAS/RPAS Integration in the U.S. National Airspace – Progress and Outlook James Williams, UAS Manager, UAS Integration Office, FAA	Unmanned Services for you Shai Shammai, Head of Business Development, QinetiΩ			
14:00	UAS Capabilities Michele Mazza, Head of Commercial and Procurement, Selex ES SpA	In the line of Fire Pat Mika, Chief Fire Officers Policy and Communications Adviser, West Midlands Fire Service			
14:30	Advanced Airborne Electro-Optical Surveillance Solutions Philippe Roy, President and CEO of Aero Surveillance	Laser Range Finders for inspection and positioning of UAV's Adam Gardner, Director, Sentek Solutions			
15:00	Using UAVs for large scale archaeological investigations Paul Baggaley, Director, Wessex Archaeology	From survey to presentation – how English Heritage are increasingly using Small Unmanned Aircraft (SUA) across its estate			
15:30	Precision RTK Mapping with UAS Mat Kellet, Mobile Mapping, UAV & OEM Sales Manager, Topcon	Paul Bryan, Geospatial Imaging Manager, English Heritage			
16:00	Innovative "SPARCS" – the future of UAV rotary propulsion systems Nathan Bailey, Managing Director, Advanced Innovative Engineering	Versadrones with Pix4D, the future of aerial imagery and mapping Elliott Corke, Marketing Director, Versadrones			
16:30	ICARUS search and rescue UAVs and their operational deployment during the Balkan floods Geert De Cubber, Project coordinator, ICARUS Unmanned Search and Rescue	Mapping humanitarian aid with UAVs Rob Fielding, Technology and Innovation Officer, Medair			

Day Two, 22nd October 2014 On Floor Seminar Agenda				
	Seminar Theatre 1	Seminar Theatre 2		
10:30	Mapping by UAV – The archaeological perspective Jaime Quartermaine, Senior Project Manager, Oxford Archaeology North	Opening the European market for civil drones – the role of the EU Jean-Pierre Lentz, EC Officer, European Commission		
11:00	UAVs that meet your needs Arturo Galvan, General Manager, Dronetech UAV	Responding to the Unknown - The Future Role of Remotely Operated Aerial Vehicles in Public Safety and Civil Resilience. Phil Storr, Director, MRL Eye Ltd.		
		Singular's UAVs Derek Mendonça, Director, Singular Aircraft S.L.		
12:00	The use of UAVs for freshwater ecosystem monitoring Dr. Monica Rivas Casado, CEnv, CSci Lecturer in Applied Env Statistics, School of Applied Sciences, Cranfield University	A critical review of a technology in transition Dr Fabio Remondino, Head of Research unit, 3DOM – 3D Optical Metrology Unit, FBK, Bruno Kessler Foundation		
12:30	From Survey to Surveillance, managing your data is key Nigel Lambton, Defence Information, BAE Systems	Distributed Reconfigurable UAV Control System Aliaksei Stratsilatau, Chief Programmer, Open System UAV		
13:00	The Civic Drone for a multi used reliable UAV Edouard Guilhot-Gaudeffroy, CEO, Workfly	AERMATICA ANTEOS, the aeronautics small RPAS solution for critical scenarios Paolo Marras, Chief Technical Officer, Aermatica		
13:30	Creating a UAV Center in Northern Europe; challenges, status and visions Michael Larsen, Head of UAS, UAS Test Center Denmark	Integrating Solar Energy in UAVs: Real world challenges and opportunities Sam Cowley, Director, Product Engineering, Alta Devices		
14:00	Using UAVs for meteorological research Dr Jeremy Price, Principal Meteorological Officer, MET Office	Better sensors = better imagery = better output Dr Mike Smith, School of Geography, Geology and the Environment, Kingston University		
14:30	Remote Pilot Training – the Future Craig Lippett, Head of UAS, Resource UAS	mT-Panoptes: Geospatial aerial inspections on PV plants Antonio D'Argenio, Chief Executive Officer and Co-Founder, Panoptes		
15:00	Applications and Tech by Aerialtronics Jeremy Wigmore, CEO, Aerialtronics Lucas Van Oostrum, CTO, Aerialtronics	The use of UAVs for documenting animal cruelty Mike Kobliska, Vice-President, Showing Animals Respect and Kindness (SHARK)		
15:30	Exploring opportunities for commercial UAVs in Asia Pacific Joshua Bishop, Business Development Manager, Terrapinn	Training for Safe Operation         Mike Horton, Business Development Training Solutions,         Rheinmetall		

### **CHARITY ZONE**

The Commercial UAV Show 2014 attendees can now meet with attending global charities in the exhibition Charity Zone. Part of The Commercial UAV Show's message is to help raise awareness and further promote how UAVs are making a positive difference to charity missions across the world.

UAVs are being increasingly utilised in environmental, animal welfare and humanitarian missions and the Charity Zone has been created to support the cause of several international Charities who have adopted UAV technology to aid their missions and make a positive impact to the world we live in.

Join Wildlife Air Service, Conservationdrones.org and Medair at the Charity Zone to find out more.



The end user zone allows attendees to learn about successful cross-sector UAV projects that are happening right now from UAV end users at their individual exhibition booths.

Attendees will learn about current commercial UAV operations and how this emerging technology is helping a multitude of companies to reach their various industry-specific organisational goals.

The end user zone will be especially educational for those attendees who are still in the exploration stage of understanding the various operational efficiencies that UAVs can offer and engaged in a cost-benefit analysis.

#### **Current end-user exhibitors include:**







### **NETWORKING OPPORTUNITIES**

**The Commercial UAV Show presents:** 



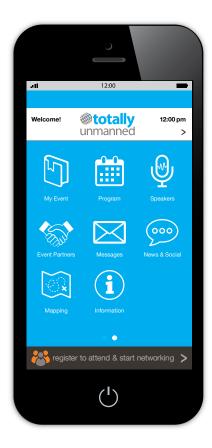
Join us in the Big Top tent for an evening of champagne, networking and flying acrobatics.

*Keep on eye on the website to find out what we have planned.* 

The evening is free to attend for keynote conference attendees. Exhibition visitors register separately for a ticket.

### **IT'S A NETWORKING EVENT**

The Commercial UAV Show is no average exhibition and conference. We recognise the importance of networking and offer an experience which allows you to do just that. From our mobile app to networking manager to peer-to-peer partnering, we ensure that you get the very most from your time on site. Plus, with our interactive roundtables, networking forum and Big Top Flying Circus evening event, you are sure to have an enjoyable and memorable experience of the first ever The Commercial UAV Show!



#### Download our networking app

Download our networking app to get organised and get in touch with all attendees before the event.

Use the Totally Unmanned portal to:

- Plan your sessions
- Build a personalised agenda
- Identify exhibitors to visit
- Set up onsite meetings with key executives
- Network with other attendees

Keep all your messages, appointments and favourites at your fingertips and continue networking whilst you're there.

You can still use the networking tool within the app for a full year after the event so you can follow up with anybody you've missed months down the line.



#### Your networking manager

To help maximise your investment in our event, top sponsors will have the opportunity to benefit from a dedicated Networking Manager who will assist with those vital introductions onsite. Your Network Manager will personally call qualified prospects on your behalf to help arrange 1-2-1 meetings for when your team arrive.



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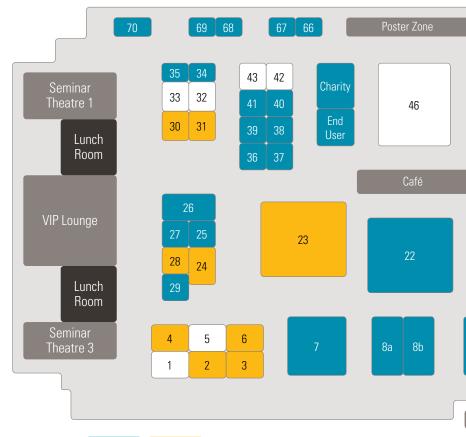
#### **Get involved**

- Book a stand and showcase your innovative solutions to new customers
- Get updates on the latest technology
- Become a sponsor and reinforce brand awareness and business growth
- Speak and foster thought leadership about the future of UAVs in Europe

#### Why exhibit

- Generate new business leads
- Build brand presence and raise
   brand profile
- Forge strategic partnerships and joint ventures
- Showcase latest products and innovations to prospective buyers
- Promote new services to prequalified clientele
- Educate your target market on your latest service offerings

STAND	COMPANY
1	
2	UAVISION
3	Cranfield Aerospace
4	Silkan
5	
6	SmartPlanes
7	QinetiQ
8A	BAE Systems
8B	Euro USC
9	Textron Systems
10	Open System UAV
11	Workfly
12	Fly-n-Sense
13	Novadem
14	Delair Tech

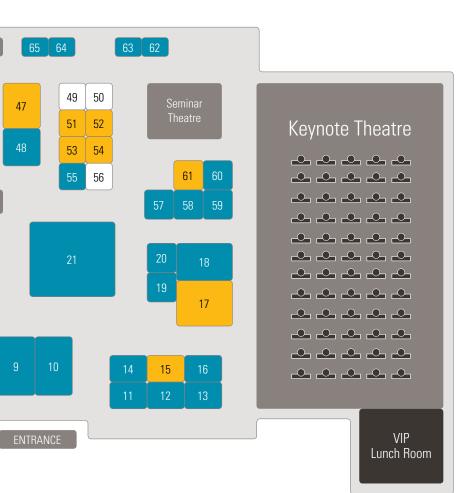


#### SOLD RESERVED

\* Correct as of 12 May. Please contact us for the most up to date version.

STAND	COMPANY
16	Aero Surveillance
17	Vanguard Defense Industries
18	UTC Aerospace Systems
19	Topcon
20	SPH Engineering
22	Selex
23	Lockheed Martin
24	Reserved
25	Singular Aircraft
26	Jabil
27	Insyen
28	Reserved
29	Vulcan UAV
30	Reserved
31	Reserved

# BITION



#### Who should exhibit?

- UAV and UAV systems
   manufacturers
- UAV operators
- Systems integrators and prime contractors
- Payload technologies and subsystems
- Sense and avoid technology
- Imaging systems
- ESM and communications
- Navigation systems
- Automatic take off and landing systems
- Engine manufacturers
- Surveying and Aerial Photography

Contact us today to secure your stand. Secure your spot now.

Call Anna Szelemej on + 44 (0)207 092 1174 or email anna.szelemej@terrapinn.com

STAND	COMPANY
34	Meggitt
35	Airinov
36	RSK Orbital
37	RIEGL
38	IO Industries
39	VT Group
40	Spacemetric AB
41	Aeronix
44	Reserved
47	OIS-AT
48	M.R.L Eye
51	CES
52	Panoptes UAV
53	exeGesIS
54	Reserved

STAND	СОМРАНУ
55	Resource Group
56	Walkera
57	Advanced Innovative Engineering
58/59	Aerialtronics
60	Rheinmetall
61	Cella Energy
62	Cyberhawk
63	Alta Devices
64	Air Real
65	Dronetech UAV
66	John Heath Insurance Brokers
67	Versadrones
68	2D3 sensing
69	Sentek Solutions
70	Panoptes

#### **DIAMOND SPONSORS**



#### Selex

Selex ES, a Finmeccanica company, is an international leader in electronic and information technologies for defence systems, aerospace, data, infrastructures, land security and protection and sustainable 'smart' solutions. From the design, development and production of state-of-the-art equipment, software and systems to through life support, Selex ES partners with its customers to deliver the information superiority required to act decisively, complete missions and maintain security and protection for operational effectiveness.



#### QinetiQ

Welcome to QinetiQ Unmanned Services, leading the development and delivery of unmanned services. We offer a unique combination of facilities and specialists to support a full spectrum of unmanned aviation activities for our customers.

#### **GOLD SPONSORS**



#### **BAE Systems**

**Textron Systems** 

BAE Systems is a global defence, aerospace and security company with over 88,000 employees world-wide. The company delivers a full range of products and services for Land, Air and Naval forces, as well as advanced electronics, security, information technology solutions and customer support services. In 2013 BAE Systems reported sales of  $\pounds$  18.1 billion (US \$30.0 billion).

**TEXTRON** Systems

#### Textron Systems has fielded proven unmanned aircraft systems for more than 25 years. Today, our unmanned aircraft support a wide array of intelligence and surveillance missions for users, including the military, energy companies and universities conducting research. With more than 900,000 flight hours, our aircraft have flown in some of the world's toughest environments, including the polar ice caps, deserts and oceans during hurricanes.

#### SILVER SPONSORS



#### **UTC Aerospace Systems**

UTC Aerospace Systems offers a multi-purpose tool suite that allows for the remote location, cataloguing and sharing of data within a system designed to meet the customer's specific investigative needs. UTC Aerospace Systems provides a user-friendly and intuitive solution to a wide variety of reconnaissance requirements, from expansive geospatial data production to concentrated imagery analysis.



#### UAVOS

The company provides autopilot systems design, development and manufacture, autopilot systems integration in carrier on Customer's demand, autopilot system technologies transfer and UAV helicopters and aircrafts design, development and production. UAVOS is open for cooperation in academic and training projects, scientific and civilian R&D programs.

#### **EXHIBITORS**



#### **Delair-Tech**

Delair-Tech is a French UAV manufacturer based in Toulouse and created in March 2011. The products are the only one to be certified by the French Aviation Authority to fly Beyond Line of Sight on a regular basis. This unique certification has given the company the opportunity to work with the biggest industrial companies for infrastructure monitoring (pipeline, gas lines, power lines, etc..). The focus has been put on the safety, the autonomy, the endurance and the operability of the UAV.

#### Versa Drones

We are based in Ireland and produce professional quality hexacopter and octocopter multirotor UAVs. All our aircraft feature GPS-assisted flight and the failsafe return to base now required by most civil aviation authorities. They also feature carbon fibre construction and the latest camera gimbal technology giving an incredibly stable platform for all aerial sensing, photography and video applications.

#### Air-real

Based in Norfolk, Air-real is the brainchild of Jonathan Blaxill. Already a keen amateur photographer, Jonathan got the bug for building and flying model aircraft quite a few years ago, but it was in 2010 that he decided to combine his twin passions and transform what was then just a hobby into a full-time business. It took two more years of building and testing to construct an Unmanned Aerial Vehicle that was safe, reliable and flexible enough to do the kind of jobs that Jonathan wanted to be able to carry out.

#### Topcon

Topcon Europe B.V. is located in Capelle a/d IJssel (near Rotterdam), The Netherlands. Topcon Europe is the European headquarters of Topcon Corporation, a Japanese multinational company who is a world leader in the manufacture of optical and electronic instruments for medical, ophthalmic, surveying, construction and machine control applications.



Η ΤΟΡΟΟΛ

AIR-

#### EuroUSC

UlgICS

EuroUSC<sup>™</sup> is Europe's leading independent Accreditation Specialist for 'Airworthiness & Pilot Qualifications' covering Unmanned Aircraft Systems (UAS) with a Maximum Take-Off Mass of less than 150kg. EuroUSC<sup>™</sup> is recognised by National Aviation Authorities (NAAs) as a competent body for assessing manufacturers, operators and flight schools.

Control all your unmanned vehicles with single software UlgICS is a software for central management of all types of unmanned vehicles. UlgICS is able to handle whole fleet of drones, whether it is one or tens of drones! UlgICS supports multiple drones of different types and from different manufactures on a single mission in multi-operator mode.UlgICS fits every task, application or UAVS manufacturer due wide customization and adaptation possibilities including re-branding.



#### Aero Surveillance

Aero Surveillance primary mission is to provide next generation airborne surveillance solutions designed for small UAV and manned aircrafts with on board imaging and/or signal processing solutions. Our systems are tested on our own aircraft test bed with the most optimized Size, Weight And Power (SWAP) characteristics to offer best in class operational costs.

#### **EXHIBITORS**



138:

RHEINMETALL



AERMATICA is an Italian aeronautic manufacturer of small RPAS. ANTEOS is the first authorized RPAS by the Italian Civil Aviation Authority ENAC to fly in Critical Scenarios, Industrial and Urban environment. It is designed for safety, a small Aircraft with aeronautic design and production processes, as a platform for multiple applications.

#### SABRE

At SABRE we design and develop advanced, rugged, autonomous and robotic surveying systems for use in the Geospatial data acquisition, inspection and surveillance markets.

Based in Aberdeenshire Scotland, our specialties are Lidar and GNSS/IMU integration and the design and production of unmanned surveying and inspection platforms.

#### **RTP-UK**

RTP-UK is part of Rheinmetall Defence Group, a prominent member of the international Defence and Security industry. RTP-UK operates from Bristol and Blackpool and supplies technical publications, training solutions and logistics engineering services in the military and civil sectors for the armed forces and industry, including the international Airbus range. As well as Interactive Electronic Technical Publication (IETPs), covering such areas as operation manuals, maintenance instructions and spare parts lists, RTP-UK provides bespoke, comprehensive and innovative training solutions tailored to the needs of the customer.

#### **INSYEN AG**

INSYEN AG is an engineering firm with a strong background in international space programs and aerospace product development. Our strength is our willingness and ability to exceed customer expectations on every project we undertake.

#### Aerialtronics

Aerialtronics designs, produces and services unmanned aircraft systems. Aerialtronicsí core product line is the Altura, which is renowned for its reliability, stability and versatility.

Aerialtronicsí systems can be applied to a wide variety of segments including; Safety & Security, Inspection, Creative, Surveying & Mapping, Agriculture and Research.

#### Walkera

We are pleased to welcome Walkera as an exhibitor to the Commercial UAV Show 2014.

#### Panoptes

Panoptes is an Italian start-up company producing multi-sensors systems to enable Light RPAS for technical inspections.

We design and realize products for specific fields of application, with a well-defined inspection workflow and keeping in mind the needs of the final user.

#### AIE

AIE was formed with one goal, to be a world class engineering design, development and production organisation.

In order to pursue this goal AIE has brought together a highly experienced team of engineers, operational staff and expert partners whois pedigree spans over 50 years in the automotive, aerospace, rail and energy / power sector.









#### **EXHIBITORS**















#### John Heath Insurance Brokers

We are independent Commercial Insurance Brokers established in 1975, offering a personalised, dedicated, insurance broking service to clients based throughout the UK.

We understand the risks involved in operating Unmanned Aerial Vehicles and have spent considerable time understanding the mechanics and properties of UAVs themselves.

#### Workfly

Workfly is a designer and a manufacturer of civil UAV, made to be reliable and adapted to various applications. Since 2004 our team is designing UAV based on the contra rotative mechanical structure and protect it by a light carbon fairing. This addition of technical solutions allows it to be a high performance drone, for professional missions.

#### **MRL Eye**

Using the latest in aerial vehicle technology MRL Eye offers safety inspections, surveying and monitoring services to clients in the public and private sector. Working with structural engineering and infrastructure management partners MRL Eye provides surveys and assessments for clients with at height structures, hazardous areas or remote inaccessible locations. To see how MRL Eye can support you manage your built environment or complex infrastructure assets visit us on stand 48.

#### 2d3 Sensing

2d3 Sensing, a wholly owned subsidiary of Oxford, UK-based OMG plc, is a commercialoff-the-shelf (COTS) technology leader specializing in the processing, exploitation, and dissemination of motion imagery and metadata. Using innovative vision science techniques and standards-based media management capabilities, 2d3 Sensing improves and extracts the information contained in motion imagery for better situational awareness and intelligence, surveillance and reconnaissance mission results.

#### Meggitt

Meggitt PLC is an international aerospace, defence and energy group with a 11,000-strong workforce and a global manufacturing presence. Meggitt components and sub-systems are on virtually every western aircraft in service, encompassing power generation, conversion and storage, wheels, brakes and brake control, thermal management, ATA Chapter 26 fire protection, polymers and composites, smart ice protection, high performance sensing, condition monitoring and avionics.

#### **Sentek Solutions**

Sentek Solutions supply a broad range of specialised optical electronic devices into the Robotic, Semiconductor Manufacture & Factory Automation sectors.

Established in 2004 we are based in state of the art offices close to Cambridge, the UKis premier technology hub.

#### **Singular Aircraft**

The SA-03 is a Remotely Piloted Aircraft for civil usage with a max. take-off weight of 3(800 Kg and a max. payload of 2¥050 Kg. It can take-off and land on any surface (paved, unpaved, water, snow), and fly more than 60 hrs. It comes in 5 different basic configurations (fire-fighting, agricultural spraying, surveillance, rescue, cargo), and can be customised to any client requirement. Through the use of innovative production techniques, the SA-03 has an absolutelyincomparable acquisition and operation cost, which is unique on the market. Consequently, the SA-03 perfectly combines efficiency, versatility with low acquisition and operating costs.











#### RIEGL

The Austrian based firm RIEGL Laser Measurement Systems is a performance leader in research, development and production of terrestrial, industrial, mobile, bathymetric, airborne and now even UAS-based laser scanning systems. RIEGL's innovative hard- and software provides powerful solutions for nearly all imaginable fields of application.

#### **Resource Group**

Resource Group's Unmanned Aviation Services division is a UK based RPAS Training and Service Delivery Organisation and offers market leading training provision and service delivery to the UAS/RPAS industry in both the UAS military and commercial sectors. This permits Resource Group to assess Remote Pilot competency for RPAS of 20Kg and below and provide recommendations to the UK CAA as to whether RPAS Operating Organisations should be awarded a Permissions to Operate.

#### **Dronetech LLC**

We develop Unmanned Aerial Vehicles which maximize value for our customers. As a multidisciplinary team, Dronetech LLC has decades of experience in airframe design, electronics design, aerodynamic and propulsion science, materials science, robotics, control engineering, remote process supervision and control, Business intelligence and flight testing over 70 different aircraft designs. It is this experience which enables Drontech LLC to develop state of the art, value optimized, operationally sound Unmanned Aerial Vehicles.

#### Vulcan UAV

Vulcan UAV are the UKs leading developer and manufacturer of multicopter systems. With over 14 years development experience that includes a wide variety of VTOL multirotor aircraft, we not only offer a great range of 'off the shelf' airframes and related products, but are uniquely able to offer a full design, prototyping and production service for those with a specific requirement. If you need an 'outside the box' solution, we're the company to talk to.

#### Airinov

Airinov is a french company founded in 2010 by an electronic engineer, a computer science engineer and a farmer's son. Airinov's primary mission is to provide new services to farmers for precision farming. We design the multiSPEC 4C sensor which is able to register reflectance of the vegetation in 4 bands. The sensor is made to measure NDVI (Normalized Difference Vegetation Index) in one shot with reflectance signal correction allowed by the included luxmeter. It is fully integrated with the senseFly's eBee system for now and we are able to adapt it to any other UAV.

#### **Alta Devices**

Alta Devices is (em)Powering the Unplugged World<sup>™</sup> by delivering the world's most efficient, thin and flexible mobile power technology. Converting light into electricity, Alta's technology extends the energy source of a system, and in many cases, completely cuts the traditional power cord. The solution can be completely integrated into the final system, and is ideal for use in unmanned systems, consumer electronics, automotive, remote exploration, or anywhere size, weight, and mobility matter. Alta Devices holds world records for both cell and module single junction conversion efficiency.

#### Cyberhawk

What do we do? We carry out aerial inspection and surveying using Remotely Operated Aerial Vehicles (ROAVs) Unmanned Aerial Vehicles (UAV) whether it's a close visual inspection of a live flare stack, flare tip, live transmission tower or topographic land survey from the air. Who do we work for? Our clients are Oil, Gas, Petrochemical and Utility companies, both onshore and offshore, in the UK, Europe, Middle East and around the globe.

#### ViSiVi

ViSiVi is an enterprise-web-service empowering organisations to benefit from UAV, helicopter and ground based photo-capture. Securely add your own photos to experience ViSiVi blossom into a vivid record of your ever-changing assets. If you have any requests or would like to know more please visit visivi.com



**ALTADEVICES** 



#### **MEDIA PARTNERS**



sUAS News

#### The Burning Issue

The first edition of The Burning Issue was produced in 2003. The magazine then, as now, is dedicated to the UK's Fire and Rescue Service and has since grown to become one of the industry's leading magazines distributed to all UK Fire and Rescue Service divisions.

#### sUAS News

The sUAS News is produced and maintained by industry professionals. The news coverage and editorials are built on solid market knowledge, familiarity with the technology and regular dialogue with industry insiders. The readership visits often, for timely stories candid editorial content, and political advocacy updates written solely for the sUAS News. Our experience and connections afford the reader/subscriber stories and content found nowhere else in print, TV or on the web.

#### AZoNetwork

AZoNetwork is a global information provider for scientists, engineers, technologists, researchers and anyone with an active mind who's interested in the latest in tech. The suite of sites operated by AZoNetwork covers the following sectors; Materials, Nanotechnology, Medical News and Devices, Clean Technologies, Sensors, Robotics, Optics, Mining, Building and Quantum Technologies.

#### **CIE (Components in Electronics)**

Today's design engineer wants and needs information online as well as in print and knowing where to get that information is vital. Now in its 25th year CiE and now CIEONLINE have brought you and will continue to bring you high quality editorial, from features covering every aspect of today's electronics industry to comment and analysis from key players to the latest products and innovations.

#### **City Sercurity**

Like no other publication of its kind, we only cover the security issues that matter to your business. Written by leading security experts, we promote best practice and keep businesses informed on security-related issues.

#### **Commercial UAVs**

Our goal with the site is to help you learn more about drones so you can make the most of this technology for your business.

#### defence suppliers

Defence Suppliers is the Defence Suppliers industry number one Directory of defence equipment manufacturers and suppliers.

#### **Emergency Communications Organisation**

The Emergency Communications Organisation is an all encompassing information service for all personnel involved in Emergency Services and Disaster Relief and the only resource of its type. With over 800 member organisations globally it is a network that reaches far and wide.

#### EURAILmag

EURAILmag keeps you up to speed on all the news and events in Europe's railway transport industry. Developments in legislation, regulations and standards, the economic situation, advanced technologies, innovative solutions, new trends and current issues... we deliver the information in the form of technical articles and with interviews with key players in the field.

#### **European Organisation for Civil Aviation Equipment**

The European Organisation for Civil Aviation Equipment is a non-profit organisation, dedicated to technical standardisation for the aviation industry. With the support of the European Commission, EUROCAE gathers manufacturers, regulators, civil aviation authorities and airports, to elaborate the standards of future aviation. Mr Abdoulaye N'Diaye is its current Secretary General.







**COMMERCIALUAVS** 











#### **Azo Networks**

AZoNetwork is a global information provider for scientists, engineers, technologists, researchers and anyone with an active mind whois interested in the latest in tech.

The suite of sites operated by AZoNetwork covers the following sectors; Materials, Nanotechnology, Medical News and Devices, Clean Technologies, Sensors, Robotics, Optics, Mining, Building and Quantum Technologies.

#### Dronelife



Dronelife is an online media platform dedicated to the burgeoning commercial drone industry. With little existing regulation and a lot of controversy surrounding drone use, DRONELIFE. com captures the news, product releases, videos, legal precedents and much more in order to bridge the gap between early adopters and mainstream users. We are a dedicated team committed to keeping our users informed and helping individuals and businesses alike find the drone that best fits their needs.

#### E&P Daily



The Daily e-mail bulletin which presents you with up to the minute vital facts and developments within the global upstream industry. Our expert analysis will enable you to make sound business decisions and alert you to business opportunities worldwide. E&P Daily delivers news you can use - immediately. For a free trial to E&P Daily email your request to subs@ogilviepub.com or register online at: http://www.ogilviepub.com or call +44 (0) 191 567 8497.

#### **Unmanned Systems Tech**

Unmanned Systems Technology (UST) is dedicated to technology and innovation within unmanned air, land, sea and space systems. UST's digital platform, UnmannedSystemsTechnology.com, provides up-to-the-minute information about technological developments and suppliers operating in this sector. UST Magazine, launching November 2014, will delve into the science and engineering of unmanned systems, with high quality technical analysis of core technologies that push the boundaries of modern unmanned systems.



**Global Aviator** 

Global Aviator was launched mid-2009 and in the past five years has shown constant growth with an ever-increasing readership. Readers have been provided with a magazine on which the emphasis has always been on excellent quality with articles ranging from pilot experiences, technical, aircraft and helicopter test flights, news from around South Africa as well as from the USA, United Kingdom and Europe written by well-known international journalists.



#### International Journal of Intelligent Unmanned Systems

Launching in 2013, the International Journal of Intelligent Unmanned Systems (IJIUS) is the official journal of the International Society of Intelligent Unmanned Systems.





COUNTERTERROR BUSINESS

#### Mobility

Mobility keeps you up to speed on all the news and events in Europe's collective transport industry. Developments in legislation, regulations and standards, the economic situation, advanced technologies, innovative solutions, new trends and current issues... we deliver the information in the form of technical articles and with interviews with key players in the field.

#### **Police Aviation News**

Police Aviation news is a monthly news journal for the airborne emergency services industry from PAR. Despite the title we cover news about every aspect of emergency services aviation, from air ambulance to fire to maritime patrol.

#### **PSI: Counter Terror Business Magazine**

Counter Terror Business magazine, launched in 2010, is a specialist publication distributed to heads of security, intelligence officers, procurement officials and department heads in local and central government. Its target audience includes the Intelligence Services, Police, Home Office, Ministry of Defence, Border Control, Customs, Aviation and Port Authorities. Also included in its distribution are heads of private sector concerns and other organisations involved in security and defence.



#### The Survey Association

The Survey Association, known generally as TSA, is the trade body for commercial survey companies in the UK. The association was formed in 1979 to give a focus for private sector businesses in land and hydrographic survey. It is important to realise, however, that it is not a regulatory body.



#### **Tornado and Storm Research Organisation**

The Tornado and Storm Research Organisation or 'TORRO' is a privately supported research body based in the UK. Founded in 1974, data collection, research and co-ordination is undertaken by the staff of TORRO, which is supported by some 300 to 400 observers, investigators and other contributors. Most supporters are British, with a smaller number from elsewhere in Europe and across the world. All our work is undertaken voluntarily.



#### **Totally Unmanned**

Totally Unmanned – Networking group for professionals working with UAV technology. Whether you know them as a UAV (Unmanned Aerial Vehicle), RPAS (Remotely Piloted Aircraft System), UAS (Unmanned Aircraft System) or SUA (Small Unmanned Aircraft) this group will be showcasing the commercial use of the technologies.



#### Weather - Royal Meteorological Society

The Royal Meteorological Society is the Learned and Professional Society for weather and climate. Our mission is to advance the understanding of weather and climate, the science and its applications, for the benefit of all.



#### **AIR International**

The World's Number One Airport Magazine in Circulation and Readership. The longest established, largest circulated and most widely read airports industry magazine. For over 40 years, Airports International has reported on the airports industry enabling readers to make important business decisions. Featuring a broad mix of news, in-depth features and detailed analysis, Airports International details the latest issues affecting ATC, airport security and safety, baggage handling, passenger seating and more. More recently, www. airportsinternational.com has been launched, providing the industry with daily news, events, recruitment services and the most comprehensive supplier database available.

#### **Crisis Response Journal**

**CRISIS** RESPONSE

Crisis Response Journal is the international publication focusing on response, resilience, continuity and security issues arising from large scale natural and man-made disasters, emergencies and terrorist attacks. The aim is to bring agencies, disciplines and nations – as well as the private and public sectors – together in order to increase the understanding of their different roles and perspectives, thereby improving a unified response to large scale crises.

#### Fédération Professionnelle du Drone Civil



La Fédération Professionnelle du Drone Civil (FPDC) est une association régie par la loi de 1901 qui fédère les acteurs privés et institutionnels dans le secteur du drone français, notamment les constructeurs et les opérateurs. L'association a pour but de supporter et coordonner les efforts de promotion nationale et internationale relatifs aux potentialités des aéronefs sans pilote dans le domaine civil. La FPDC souhaite devenir un interlocuteur de référence pour le jeune secteur du drone civil en France, tant auprès des autorités tutélaires que des tiers privés tels que les assureurs et médias. En facilitant l'échange et la coopération entre les différents acteurs du secteur, la FPDC permet de trouver des solutions innovantes communes, ouvrant ainsi à cette nouvelle industrie un avenir porteur.

#### **Geomatics World**

Geomatics World is the leading journal for professional and technically qualified surveyors. GW is published under licence from the Royal Institution of Chartered Surveyors (RICS). Our readers are professional and technically qualified members of the RICS as well as other senior professionals and opinion formers in the industry. Subscribers to Geomatics World (including RICS Geomatics members) also receive our twice-yearly publication, Engineering Surveying Showcase, free of charge.

#### **Shephard Media - Unmanned Vehicles**



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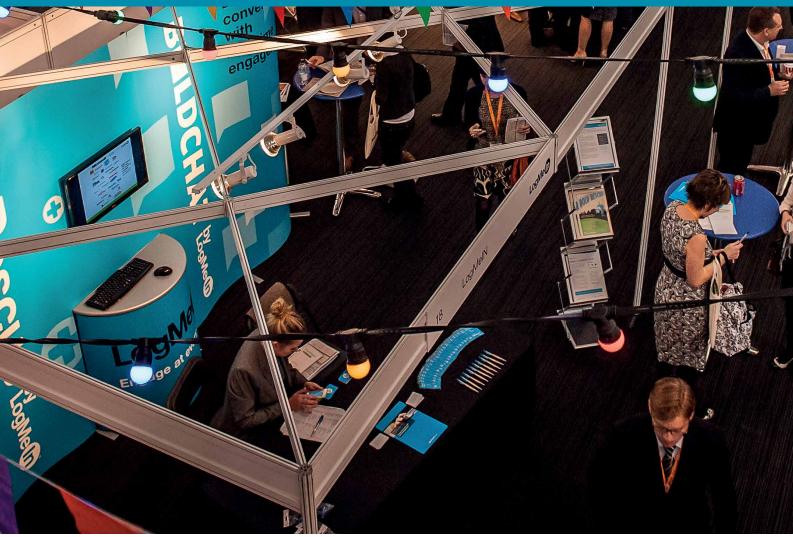
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#### **British Institute of Professional Photography**

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