



Year of Autonomy – Societal Acceptance Event Hosted by ASV Global



Guest speakers – (left to right) Dr Will McNeill – University of Southampton, Geoff Pugh - Consortiq, Zeyn Seigol – Transport Systems Catapult & Dale Richards – University of Coventry

On 1st March 2018 ASV Global (ASV) hosted the finale to the series of Year of Autonomy events with a day focussed on Societal Acceptance. The event, which took place at the National Oceanography Centre, drew upon the factors that affect the acceptance of autonomous systems within society, both now, and in the future. The programme featured a host of speakers from across industry, academia and government, each sharing their insights and observations on this topical subject.

Speakers and presentations:

- Dr Will McNeill – University of Southampton, *The Deep Learning Conundrum*
- Geoff Pugh - Consortiq, *Gaining Trust: How Data and Regulation Can Build Societal Acceptance of Drones*
- Dan Hook – ASV Global, *Societal Familiarisation with Marine Robotics*
- Zeyn Seigol – Transport Systems Catapult, *Intelligent Mobility*
- Dale Richards – University of Coventry, *Human-Autonomy Teaming: How Humans Interact with Autonomous Systems*

Unfortunately, the event was affected by snow meaning around half of the 70 people registered were able to attend on the day. The presentations have since been made available online at this link: <https://www.asvglobal.com/year-of-autonomy-societal-acceptance-presentations/>

Theme Discussion:

Technology has become an everyday part of our lives with Automated systems taking over more and more dull and sometimes dangerous tasks from humans. Automated systems are everywhere we look from traffic lights, to cash machines and even household appliances like programmable coffee makers. They've now expanded from the simple tasks to be used across air, land and sea for more troublesome tasks; even as far as being utilised for medical procedures. Now, they're expanding into the more

dangerous areas such as mine countermeasures, search and rescue and operating in hazardous environments for the oil & gas industry.

Adoption of autonomous systems into the marine, aviation and travel industry has been happening for some time with driverless cars appearing on our roads, unmanned aerial vehicles utilised for surveillance and aid distribution, commercial work-class vessels used for offshore construction support to the oil & gas industry and smaller vehicles utilised for inshore surveys. It seems that a few key factors are increasing their acceptance within industry, populating our environment with more autonomous systems than ever before.

However, societal acceptance is still a hurdle that remains a challenge for the industry, particularly with media perception often showcasing the dangerous, but not the revolutionary.

The first speaker of the day was Geoff Pugh from Consortiq. Geoff's presentation gave several recent examples of negative media around the operation and application of aerial drones underpinning his key message that perception of this technology drives peoples attitudes and behaviours towards it. He then touched upon the importance of building data to drive regulation which he believes will play a huge part in gaining societal acceptance.

Dale Richards from Coventry University was up next and talked about his research around how humans interact with autonomous systems. He found that trust is a huge element and how bridging the gap between manned and fully autonomous using decision support is a way to help build trust. He echoed points made in the first presentation about the influence media has on society with negative headlines. He also suggested building case history is a huge factor in human acceptance of autonomous systems.

Will McNeill's presentation delved deeper into the aspects affecting human acceptance of developing and unexplainable systems such as autonomous systems that use deep learning methods to train their artificial intelligence such as neural networks. He echoed some points from Dale Richards' presentation but explored the true meaning of 'trust' and what builds this up philosophically and how companies can achieve this. He outlined that key methods moving forward relies on achieving proven reliability over time with an independent regulator, high-level of explicability, meta-AI and finally, transparency and honesty with the public and end users.

Event chairman Dan Hook presented next talking about societal acceptance in a marine robotics context. Dan illustrated how robotic systems have been used at sea for much longer than society realised and unlike other autonomous technology, because it doesn't feature in the media very regularly, it often goes unnoticed. He discussed how the application of marine robotics is changing; systems that used to only be used offshore, are now being used in ports and coastal environments. No longer will these systems be "out of sight, out of mind", he believes media and societal interest will spike as a result. Dan highlighted some key factors marine robotics companies should consider as autonomy at sea becomes more prominent in the mind of the public. The factors included: responsible operation, physical appearance of the system (including its name), positive PR and engagement with the local community.

The morning was rounded off with a presentation by Zeyn Seigol from the Transport Systems Catapult. Zeyn spoke about a recent research project which saw him and his team test a real life unmanned system on the streets of Milton Keynes. After facing a variety of challenges including overcoming obstacles presented the local infrastructure, refining the safety case and informing all of the local authorities the trial proved very successful. After having seen the system in operation and seeing how



Marine – Land – Air

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2017



well it worked, 61% of adults in Milton Keynes said that they would be interested in using the self-driving pods.

The day ended with a panel discussion centred around the key findings in the presentations. It was found that the key factors affecting societal acceptance were as follows: data to provide proof of reliability, regulation, negative headlines, perceptions of disruptive technology, trust, job security and safety assurance.