

20 contestants in race for UAE Drones for Good Award

- *Semi-finalists in International and National competitions vie for AED 4.67 million in prize money*
- *Successful semi-final entries from UAE, Canada, Australia, United States, United Kingdom Ethiopia, Greece, and the Philippines*
- *Projects offer innovative solutions in the fields of environment, education, logistics, transport, construction and infrastructure, health, civil defence, tourism, social services, economic development, and humanitarian aid*
- *Qualified teams selected from among 1,017 projects submitted from 165 countries around the world*

Dubai, January 13, 2016: The Organizing Committee of the UAE Drones for Good Award has announced that 20 contestants have qualified to the semi-finals stage at the National and International competitions of the award, which attracted entries from all parts of the world.

The UAE Drones for Good Award is the biggest award of its kind, offering a total prize money of AED 4.67 million (US\$1 million for International Competition and AED 1 million for National Competition).

Launched by the UAE Government during the second Government Summit in 2014, the UAE Drones for Good Award is aimed at making optimal use of technology to serve humanity and create happiness in the community.

Saif Al Aleeli, Chief Executive Officer of Dubai Museum of the Future Foundation and Coordinator General of the UAE Drones for Good Award, said the qualification of these innovative projects to the semi-finals stage highlighted their advanced approach to addressing the challenges faced in different sectors, especially since they were selected from 1,017 projects submitted from 165 countries from around the world.

He said that the second edition of the Award witnessed large number applications that displayed high levels of innovation and technological development,

strengthening the international position of the Award globally to achieve its goal of using new technology to serve humanity.

Al Aleeli said the UAE Drones for Good Award has today become a global benchmark for applied innovations of drones in major sectors involving governments, organizations and individuals. It has encouraged the use of technology in a cost-effective manner as the scope of employing drones technologies in the area of government services continues to grow amid significant advancement in research and development.

Al Aleeli commended the participating national universities for their key role in the award and for coming up with the advance levels of projects compared to the first edition. Stressing the importance of exchanging knowledge between national and international teams to develop this sector, Al Aleeli invited the public to the Award event to enjoy the live performances during the semi-finals and finals competitions which will be held in Dubai Internet City from 4 to 6 February 2016.

The successful entries to the semi-final stage of the second UAE Drones for Good Award have come from a range of countries, including the UAE, Canada, Australia, United States, United Kingdom Ethiopia, Greece, and the Philippines.

The largest number of successful entries is in the Environment category with four semi-finalists, followed by Health and Humanitarian Aid sectors with three each. Transport and Construction sectors have two semi-finalists each, while Economy, Civil Defence, Education and Logistics sectors have one each. Two semi-final entries have been received in other category.

International Competition - Semi-finalists:

SaveME - A drone that performs as a mobile phone - Greece

Among the semi-finalists, SaveME project of the SenseLab Research Group from Greece makes use of a smart phone that transforms into a drone to support people in emergency health conditions, especially those in situations when people are trapped, lost or wounded and in urgent need of assistance.

If there is no mobile phone service in the area, the drone is capable of flying to acquire connection, and automatically inform authorities of the situation, tracking the position of its owner or even fetching the required medicine.

Panagiotis Partsinevelos, who has led the SenseLab team, has estimated that the market cost for off-the-shelf product for customers will come to about US\$150-250, depending on design parameters and the optimization benefits of the implementation phase.

“The phone-drone SaveME application will cost a few hundred dollars, which, when compared to health maintenance issues and medicine costs, is a small investment for a great value. Hiker clubs or tourist groups can share just one in case of going to an excursion. In addition, the governments should use them for emergency conditions including hazards and civil protection,” said Partsinevelos.

Being considerably small in size and used only when emergencies arise, the drone is considerably safe while in operation. Moreover, the final implementation includes obstacle avoidance through proximity sensors, said Partsinevelos.

Citing funding as a major concern for the development of the project, Partsinevelos commended the initiative taken by the UAE government to encourage innovation and technology to serve people.

“Initiatives such as ‘The UAE Drones for Good Award’ promote humanity, aid people and societies in need, and give opportunities for dreams to become a reality. The UAE provides an unparalleled paradigm to the whole world,” Partsinevelos added.

Precision Hawk offers innovative technology to check infestations in date plantations - USA

Precision Hawk team from the US has created a drone that combines UAV technology and advanced aerial data analytics to identify Red Palm Weevil infestations in date palm trees. Jason San Souci of the team said the goal of this project is to create a data analysis workflow that is easy to deploy as a scalable solution for the automatic detection of such infestations.

While the cost of the project is on the higher side at US\$100,000, Jason said the Precision Hawk drone offers farmers to cut costs and time involved by allocating less resources and manpower in identifying pest infestation in entire palm plantations. The drone can cover 300 acres in an hour, and analyse the data collected to determine exactly which sections of the plantation are positive for infestation.

The Precision Hawk team, which has collaborated with the UAE's Ministry of Environment and Water on the drone, believes that other institutions in the agriculture and food production sector will be interested in exploring their project as it can be easily tweaked and further developed to identify a host of other diseases and infestations in the sector.

Jason said with the UAE Drones for Good Award initiative, the UAE has opened the doors to the next frontier of aerial information tools that have the potential to address a wide variety of global challenges.

ROMEO drone to check dangerous disease vectors and control epidemics - Austria

The ROMEO team from Austria has developed a drone that can release sterile male mosquitoes to check dangerous disease vectors and control epidemics in a cost-effective and environmental-friendly method manner. The ROMEO (Remotely Operated Mosquito Emission Operation) concept is effective in large Area-Wide Integrated Pest Management Programmes and can be used to deliver high quality insects with a more uniform distribution throughout the treated area.

Jeremie Gilles of the ROMEO team said the project holds the capability to save lives by efficiently fighting malaria as well as other diseases transmitted by mosquitoes such as Dengue, Chikungunya, Zika and Filariasis.

Targeted mainly at ministries of health and large private companies as well as entities in public and private sectors involved in disease endemic areas, Jeremie has estimated the cost of the project, including research and development, at 1.5 million euros. However Jeremie pointed to the project's effectiveness, stating: "I believe our project will decrease operational costs by more than 95 per cent and at the same time allow mosquito control in areas which previously could not be reached, reducing the direct and indirect costs of disease cases in these areas."

Loon Copter's multi-rotor innovative platform can fly, swim and dive - USA

The Loon Copter team from the US has submitted a novel multi-rotor platform that is capable of aerial flight, on-water surface operation, as well as diving. Named after a diving duck commonly found in Michigan, the Loon Copter is now in its second prototype and has already demonstrated full operation in all three media, combining into one vehicle the capabilities of traditional reconnaissance aircraft, watercraft, and submarines, and can be employed for surveying, search, and rescue missions, said Osamah Rawashdeh from the Loon Copter team.

Loon Copter has incorporated underwater cameras to search water bodies for evidence of crimes. It also has environmental applications, including lake and river health monitoring. The drone is also capable of examine a bridge by flying underneath it and diving to inspect its underwater structures.

Thanking the UAE for the UAE Drones for Good initiative, Osamah said: “We are ecstatic about the opportunity to highlight positive civilian use of our work through this competition.”

Guide Drone to support blind athletes - USA

Guide Drone project from the US is designed to support blind athletes by eliminating the need for sighted guides. The project uses a commercially available quadrotor that costs about US\$300 and is controlled using a smartphone.

“Currently we are specifically focusing on blind athletes who are familiar with running using a tether. Once we get good results, we hope to expand it to serve anyone who is blind,” said Eelke Folmer of Guide Drone project.

Eelke said safety being a major concern for the blind, the quadrotor features a Styrofoam hull, which protects the runner from the spinning rotors in case of a collision. The drone will also try to avoid the runner in case it gets too close.

Eelke described the UAE Drones for Good Award as a fantastic initiative that puts UAE at the centre of technology innovation, and said competitions such as this can really drive innovation.

Kwago drones can safely fly at night and accomplish multiple tasks - Philippines

The Kwago team from the Philippines has come up with a drone that can safely fly at night and automatically do different tasks. The drone has a thermal camera, collision avoidance system and also an onboard computer for faster processing of data. It uses an app-based system, and is easily adapted to different apps for various sectors and industries.

An ads-b transponder on the drone makes it easily visible to aircrafts with the ads-b system.

Marc Gerard Eugenio of the Kwago team said for the early part of Kwago, the team will be creating four different apps, Kwago Search and Rescue, Kwago Wildlife, Kwago Security and Kwago Inspector.

Kwago Search and Rescue will be used in search and rescue night operations while Kwago Wildlife can be used for wildlife conservation and research. Kwago Security can be used for night perimeter security and border patrol, and Kwago Inspection is useful to inspect hard to reach or risky areas like off-shore oil rigs, power lines and power plants.

Marc said the Kwago prototype costs around US\$9500, and this includes the drone, sensors, onboard computer, ads-b system development, thermal camera, shipping costs and taxes.

Describing potential investor interest in the project, Marc said the team has already received an enquiry from an investor from Australia who is planning to utilise Kwago in the oil and gas industry. “We still have to research on which investor to propose but we are planning to present soon to the International Red Cross and Red Crescent, World Wildlife Fund and oil and gas companies in Australia,” Marc said.

Lauding the UAE Drones for Good Award initiative, Marc said the award has inspired and challenged different groups and organisations to come up with innovative drones capable of improving people's lives.

A new innovation in tsetse eradication - Ethiopia

Rafael Argiles Herrero and his team from Ethiopia have developed a drone that can accurately release tsetse sterile males in selected target areas as part of tsetse eradication projects.

“Tsetse flies can be found in around 39 African countries. They are the carriers of trypanosomes, parasites that cause sleeping sickness in humans and the wasting disease nagana in domestic animals. The control and eventual elimination of human and animal trypanosomoses would significantly contribute to increased productivity of land and livestock, improved human health, and reduced poverty in rural Africa,” said Rafael.

Rafael said the project involves costs of about 41,000 euros. “Considering that the sterile insects have to be released in the field at regular intervals, usually every week, the cost of the yearly flying time hamper the expansion of the programmes. In contrast, the operating cost of the proposed solution is estimated at less than 70 euros per flying hour, which means a reduction of 90 per cent of the current cost per flying hour,” Rafael said.

Rafael added that the drone has an embedded control system that has been configured so that the operation can be performed fully autonomously, eliminating the need of a pilot or high skilled person to operate it.

Commending the UAE Drones for Good Award, Rafael said: “I believe this is an excellent initiative from the UAE and hope it will help improve people’s lives, especially the rural population in less developed countries.

Smartphone driven SwarmNet drones to enhance emergency response - Canada

Humanitas team from Canada has devised HumanIT3D SwarmNet, which runs on smartphone mounted on UAVs. The intelligent multi-UAV management system provides a smart, autonomous, and secure solution for UAV collaboration in low-resources environments for enhanced emergency response, A smartphone is used as the computing unit and a WIFI extender is integrated directly on each UAV. The smartphones, either used by emergency teams or mounted on UAVs, are connected through a 3D mobile mesh network that allows real-time collaboration between UAVs and emergency teams.

SwarmNet provides an affordable ecosystem for automated drone management and swarming, which may be used for emergency teams to collaborate and save lives.

“This advanced autonomous system is ideal for environments where communication infrastructure is destroyed or inaccessible, which can help disaster response through their operations for search and rescue, logistics, site planning, and emergency operation management,” said Abdo Shabah from the Humanitas team.

Abdo said the HumanIT3D SwarmNet is highly secure and efficient. Data collected is stored in encrypted format, both for teams on the ground or on UAVs, allowing it to be accessible only by authorized teams and UAVs.

“As for efficiency, our ecosystem runs on mobile devices, which are powered by batteries lasting up to twelve hours. By relying on mobile technology (smartphones) as the computing unit, independent of internet connectivity, the cost of deployment is highly reduced and the availability is guaranteed in most countries of the world,” Abdo said.

By organizing such a large international event as the UAE Drones for Good Award, the UAE is proving its leadership position in innovation, technology development, social entrepreneurship and in humanitarian causes, Abdo added.

Imitec’s AARM drones capable of mapping nuclear radiation - UK

The Imitec team from the United Kingdom aims to protect human populations by using its AARM - Advanced Airborne Radiation Mapping drones to map the distribution, intensity and energy of radiation in the event of a nuclear disaster but also for more routine civil nuclear applications.

“We have developed a novel micro-computer controlled radiation mapping unit which is interchangeable between different drones and provides the capability for remotely and autonomously mapping radiation without putting humans in danger. The data from the unit can be transmitted by radio or the mobile phone network in an encrypted format and plotted in near real-time by a remote base station computer,” said Thomas Scott from the Imetec team.

Thomas said the development of the radiation mapping unit and associated drone system has involved a R&D expenditure of approximately £0.5 million funded by the UK Engineering and Physical Sciences Research Council, the University of Bristol, Imitec Ltd and Innovate UK. In the payload itself the major component

cost is the micro gamma spectrometer that maps the energy and intensity of the radiation, Thomas said.

“Our drone technology will significantly reduce the cost of routine monitoring at nuclear sites by eliminating or reducing the need for human monitoring teams while significantly increasing the rate at which surveys are performed. The reduction in costs could be as much as 50 per cent or more, depending on the extent to which the technology is adopted,” said Thomas.

The UAE has shown excellent foresight and international leadership in championing the UAE Drones for Good Award initiative, setting an excellent example for other countries to follow, said Thomas.

4Front Robotics designs USAR drones to rescue people in disaster situations - Canada

4Front Robotics team from Canada has developed its Highly Maneuverable USAR Robot drones that can locate and rescue persons from buildings on fire, collapsed building, mines, or other urban and industrial entrapments.

The highly maneuverable UAVs have the capability to fly and navigate in highly confined spaces, and will be able to provide high resolution data in a matter of hours, compared to data that could take two to three days. These USAR UAVs are also useful for structural engineers and fire responders, and due to its unique flying characteristics, they are also applicable in the mining and other industries.

Alejandro Ramirez-Serrano from the 4Front Robotics team said developing four working prototypes of the UAV involved US\$300,000 in costs. “The costs associated with dealing with the operations and restoring the needed infrastructure are enormous. Our UAV will help reduce the costs of the associated operations and more importantly, cut the time required by first responders to help affected people,” said Alejandro.

Alejandro said the team has been approached by search and rescue teams, mining and oil and gas industries, to determine the suitability of the drone in inspecting pipeline for leaks, search for victims, and assessing the environment. We have

been approached by a couple of companies interested in potentially licensing our technology, and two individuals interesting in investing in our technology.

The UAV Drones for Good award will be able to speed up the adoption of UAV systems in numerous and diverse ways, Alejandro added.

National Competition - Semi-finalists:

Flare 2.0 drone comes to the rescue of explorers

Kenneth Wong and Abdulrahman Alserkal from the UAE have come up with a humanitarian aid drone called Flare 2.0, taking inspiration from flare guns used by explorers around the world in times of emergencies.

“We have developed a UAV that can be useful to professionals and enthusiasts operating in outdoor environments away from mobile phone coverage. The hardware and software we have developed integrate flight control systems with GPS and GSM connectivity to navigate the UAV to the nearest zone of coverage and transmit information to emergency services teams for technical or medical assistance,” said Wong.

Describing the drone as a low-cost, cost-effective solution, Wong said the Flare 2.0 team has limited its investment in the prototype to no more than AED1,000. “This constraint encourages us to think of more creative solutions which help us to keep things simple, effective and efficient. So far, our investment has cost us less than half that amount,” said Wong.

He added: “Based on research we did on solutions available in the market today such as SPOT, satellite telephones or personal locator beacons, we realised that existing solutions are either too complex or too expensive (ranging from \$300 upwards) for most people to have. We wanted to be able to deliver a solution with a one-time cost that uses existing emergency service infrastructure such as civil defence and police, and costs less than \$150 with no recurring fees.”

Expressing optimism at investor support for the project, Wong said that within six to eight months from getting the right support and funding, the team is geared to go from a basic prototype to a product that is ready for market testing in limited volumes.

Wong praised the UAE initiative in encouraging the use of latest technology in the service of humanity, stating: “In this age when UAVs are negatively perceived by the general public around the world due to privacy and security concerns, the ‘The UAE Drones for Good Award’ is a breath of fresh air that leverages on key innovations for the benefit of the general public.”

AUS’s SM-1433 drone provides constant unmanned monitoring

A team from American University of Sharjah has developed a hydrogen fuel cell drone capable of constant unmanned monitoring which can be useful for industries such as power utility and oil and gas as well as serve sectors such as national defence, civil defence, public services, logistics and telecommunications services.

AUS’s SM-1433 is capable of flying uninterrupted for up to three hours and survey 75 km stretch of any desired location before heading back to its base. It can also carry parcels, including first aid supplies, to target locations.

“SM 1433 combines both the futuristic trends and operates on renewable energy. Above all, the operational capabilities of SM 1433 solve many problems currently faced by several industries and commercial sectors. Additionally, it addresses those problems at a lower cost than the solutions available currently in the market,” said Sayem Zafar of AUS's SM 1433 drone team.

Zafar said the UAE Drones for Good Award initiative will help highlight the vast potential of drones in civilian sector for the betterment of the society, adding that the initiative also shows that the UAE is preparing for future as a leader in technology and innovation.

IFOR drone inspects solar farm panels efficiently

Team IFOR from the UAE has come up with a drone that can inspect and identify malfunctioning panels quickly at minimal costs, allowing operators to replace the panels and keep solar farms running at peak efficiency.

“Difficulty in maintenance of solar panels is one of the reasons why solar energy is still not fully tapped in UAE despite its huge scope. Our application of using a UAV for solar panel inspection is a cost effective way of maintaining a solar farm and could be used by major multi-million dollar corporations to even a small

community-run solar park, thus opening the gates for the county to truly realize its solar potential,” said Shreya Jain of Team IFOR.

Shreya said the IFOR drone system has built in geo-fencing that prevents the drones from going out of bounds into restricted air-space. Its unique ‘Return to home’ feature activates immediately when the drone suffers a loss of signal or encounters any malfunction, bringing it to the last takeoff point. This prevents unwanted crashes, making the drone safe to operate over expensive solar panels, Shreya added.

Putting the costs for the initial setup of the project, inclusive of the UAV and the ground station, to about AED 8,000 to 10,000, Shreya said implementation of the UAV would translate to a substantial replacement of manpower and increase inspection rates, allowing for early detection of errors and faults. Shreya said initiatives such as UAE Drones for Good have made the UAE one of the most innovative nations in the Arab world.

FlyLab’s drones bring innovation to education sector

Ibrahim Elbadawi of FlyLab team from the UAE said their drone will contribute to the education sector by providing an innovative, low-cost and easy-to-use solution to achieve a shift in the way science, mathematics and other subjects are currently being taught at schools.

“FlyLab enables the students and their teachers to go out of the classroom or the lab to the beach, desert or any outdoor space and carry out their practical experiments in a safe and secure manner. His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, has always emphasized on the need to transform the education in the UAE to act as an enabler to achieve the UAE 2021 Vision to be among the best countries in the world. FlyLab contributes to bring this vision to life. Our solution will enable students to learn new skills such as analytical skills, data science, coding and the use of drones to innovate solutions for real life problems,” Ibrahim said.

Ibrahim said the FlyLab drone and its components cost only around US\$50, adding that FlyLab supports a wide range of drones and related systems and does not depend on one single source of technology, giving schools the flexibility to get their version of FlyLab that suites their needs and budgets.

ReefRover drone supports study of underwater ecosystems

ReefRover team from the UAE has developed a drone that provides marine biology researchers, environmental monitoring agencies and science enthusiasts with new tools to effectively map, explore and study near-shore underwater ecosystems. By autonomously collecting visual and structural content, the ReefRover drone can help increase the rate of coral reef data collection and better organize the data to make it more useful and effective for research.

Hazem Ibrahim of ReefRover team said: “The ReefRover project has potential benefits for people around the world who live in the vicinity of coral reefs. By providing access to rich data that fosters wider appreciation for the delicate balance of reef ecosystems, we envision a future with more mindful coastal development practices and responsible use of the oceans.”

While putting the total cost of the ReefRover prototype to about US\$2,900, Hazem said later versions of the UAV may be produced at scale, reducing platform costs significantly.

Hazem said ReefRover will be of interest to public and private sector entities, particularly national and local environmental management agencies. “We look forward to having discussions with environmental agencies from around the UAE, such as the Environment Agency of Abu Dhabi and the Ministry Of Environment and Water, whose interests would be served by investment in our project,” Hazem said.

The UAE Drones for Good Award competition is an excellent example of the UAE government’s commitment to deliver programmes and initiatives that strengthen the foundation of the growing knowledge-based economy in the country, Hazem added.

See in Sea drone to inspect water pollution

See in Sea team from the UAE has developed a drone that can inspect water pollution caused by oil leakage by flying over the sea and capturing images which are then analysed by the inbuilt software in the drone.

Ishaq Hassen of the See in Sea team said the drone does not involve major costs as it can be assembled using parts found in the general market. Stating that the project

can help users cut costs considerably, Ishaq said: “In normal procedure, a helicopter is sent with 4-5 men twice a day just for visual inspection. Each trip involves considerable fuel and maintenance costs for the helicopters. In case of multiple trips due to any oil leakage, the costs can easily double or triple. Another procedure which involves the use of satellites can also be expensive. Our project can save up to 99 per cent of all these costs.”

Ishaq said the See in Sea project has already been highly appreciated by Dubai Police, and is hopeful about getting customers such as municipal and environment entities.

Aircraft Inspector Drone offers cost-effective detection of aircraft defects

The Aircraft Inspector Drone team from the UAE has developed an innovative idea that allows the inspection of aircrafts by reconstructing a high quality aircraft model to detect anomalies.

“For our aircraft inspection application, the drone has been designed to be fully autonomous, and requires almost no interaction from an operator,” said Randa Almadhoun from the Aircraft Inspector Drone team.

“Given a reference model of the aircraft to inspect, the drone will generate a set of viewpoints that are visited in order to collect the data required for 3D reconstruct, and inspecting the actual aircraft. Once the viewpoints have been generated, the drone will autonomously takeoff and visit these viewpoints sequentially, collecting high resolution images and point clouds (3D depth information) along the way. Once finished, the drone will return to the takeoff location, start processing the data to generate a high density 3D model, and analyze this data to detect any possible defects,” Randa said.

This project relies on off the shelf drone components, retrofitted, assembled and customized to carry onboard highly accurate sensors and computers. The aim is to keep the hardware cost as low as possible to allow for a quick and cheap duplication of the system, Randa pointed out.

As for the software operating the drone to perform the data gathering, 3D reconstruction and inspection had been developed in-house, and the costs

associated with this development include the standard human resource costs, and the operational costs, Randa added.

Targeted at airlines, the Aircraft Inspector Drone team said their project can help drastically cut costs, especially on the human-resource side.

“Accuracy, speed, and efficiency are major factors that various airlines are trying to optimize without jeopardizing the safety of their aircrafts. The conventional way for performing visual inspection requires a team of inspectors around 20 people. Our proposed solution, partially supported by Etihad Airways, is a cheap and technology driven solution, provides airlines with a very valuable inspection system that outperforms existing inspection methods, thus reducing the required number of inspectors and easing the process of inspection, said Randa.

Ocean Eyes drone to support efficient monitoring of the seas

The Ocean Eyes team from the UAE has come up with a drone that can help monitor the ocean, especially in terms of ocean navigation and surveillance. Mainly targeted at ship manufactures, the Ocean Eyes team’s Visual Marine Navigation System prototype was developed for a total cost involving AED 8,000 said Rishika Kasliwal from the team.

“Our drone replaces seamen required to be on-board to monitor the seas. Also, since its use is for the safety of navigation of ships, every accident prevented due to this drone results in millions of dollars saved. An able seaman earns \$20,000 a year where his task may mainly be to monitor the areas around. Thus, using our \$3,000 drone with a one-time installation saves almost 85 per cent in terms of costs per year,” said Rishika.

Thanking the UAE for the UAE Drones for Good Award, Rishika said the initiative provides a platform for people across the country to come up with ideas that can cut down of costs, save lives, and avoid accidents.

Buildrone drone detects and repairs damages in hard-to-access environments

Talib Alhinai of the Buildrone team from the United Kingdom said their project is a novel construction and repair aerial robot that detects damages and carries out repair tasks in hard-to-access environments. To carry out a repair, such as a leak in a pipeline, or a cracked road surface, or a leaking roof tile, a robot flies close to the damaged area and deposits a sealant material, said Talib.

The drone has a "delta-arm" manipulator on the bottom of the robot which guides the nozzle precisely and counterbalance the effects of the wind and natural elements and enables the robot to patch up repair surfaces with high precision despite the environmental conditions, said Talib.

Talib explained that the target audience for their drone is mainly the industrial, construction and service sectors. “For example the oil and gas industry has a major interest in reducing the losses through leaks and to avoid spills in vulnerable ecosystems and oceans. Carrying out a manual repair of a leak is costly and involves high-risk to human operators who have to deal with hazardous chemicals in addition to the operation costs involved with long lead times when the facilities would need to be stopped and could not operate. Buildrone can provide a much faster and cheaper solution to the need while being also able to do intelligent sensing & monitoring in other aspects of the pipeline and industrial facility, Talib pointed out.

The main challenge has been developing a robot that is capable of not only inspecting structures but also actively interacting with its environment and effectively carrying out repair tasks where needed despite disturbances from natural elements and challenges with battery life, localisation in GPS denied environments, and flying very accurately, Talib said.

At time when other countries are still trying to draft the legal framework for the operation of civilian UAVs, the UAE is becoming a pioneer in the field having already drafted the framework for drones last year, and is now being seen as hub for innovation in UAV technology, Talib added.

IORTA’s Areioi supports 3D mapping of construction sites

The IORTA team from the UAE has conceptualized 3-D mapping of construction sites with the use of their drone, Areioi. Targeted at construction companies and civil engineering students, Areioi was built within an amount of AED 5000, Team IORTA said.

“Areioi is designed to help cut costs in construction projects as it will reduce the manpower involved in surveying. More importantly, it reduces the time taken for completion of the project. We have estimated that the time taken for surveying the project area will be reduced by 40 per cent. Time consuming processes such as leveling can be optimised as the 3D map simulation helps in identifying the defects in topography,” Team IORTA said.

The winners of the UAE Drones for Good Award will be announced on February 7, 2016, at a ceremony in Dubai Internet City with live demonstrations by the contestants in front of a panel of high profile international judges.

The Drones for Good Award aims to harness the technology of unmanned aircraft to improve the lives of people, whether in the UAE or anywhere in the world. It aims to design a legislative structure to provide services through advanced technology such as unmanned aircraft in the areas of serving humanity.

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