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Unmanned Aerial Vehicle System for Critical Infrastructure Inspections Improving Safety at Transmission Lines, Cell Tower, Railroad Bridges and Facilities

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Interview conducted by:
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CEOCFO Magazine

CEOCFO: ***Mr. Culler, what is that is the focus for HAZON Solutions today?***
Mr. Culler: Providing the most professional services to our customers every day and improving tomorrow. We conduct critical infrastructure inspections utilizing unmanned systems. We are working with several Fortune 500 companies providing inspection services on transmission lines, cell towers, railroad bridges, facilities and supporting crisis response. Critical infrastructure inspections is a big part of what we do at HAZON, along with delivering actionable information back to our customers once the inspections are complete. We also have training capability; providing companies and individuals with basic and advanced UAV (Unmanned Aerial Vehicle) training, as well as helping them design and develop their own UAV capability from the ground up. We just designed and developed a UAV program for a Fortune 500 energy company with great results; they now have the ability to do basic spot inspections, a new competence that will enhance system reliability across the enterprise.

CEOCFO: ***Are these areas that could not be inspected before or that required eighty foot ladders? What are you replacing and how are you expanding what is available?***
Mr. Culler: Transmission line inspections for example are usually conducted utilizing helicopters and having linemen climb the structures. Obviously, both options don't come without risk. Unmanned systems provide a safer and more effective way of accomplishing inspections, along with being more environmentally friendly. We've had great results with meeting and most times exceeding inspection requirements, more so than what helicopters are currently able to do. The unique vantage points you can get with UAVs has helped ensure these improved results. Improving safety and providing more actionable information at an affordable cost is reaping great benefits for the utility industry and other companies utilizing this technology.

CEOCFO: ***What might you be able to find that are not found otherwise or are unlikely to be found?***
Mr. Culler: It's impressive what we're able to find and provide back to our customers. For example, we're capturing small cotter keys backing out of insulators, loose nuts, missing lock washers, stripped bolt threads, small chips or corrosion on the underside of structure components; most of which is very hard to see from the ground or even for someone climbing the structure. On cell towers, we're reading bar codes on equipment from 15 to 20 feet away – again, utilizing this technology improves safety by preventing a tower climber from ascending over 200 feet to capture this type of information. Utilizing infrared sensors, we can capture imagery that is not visible to the human eye, and provide temperature readings to better understand the health of components being inspected. The proximity and unique vantage points you can get utilizing unmanned systems is opening up a level of fidelity and imagery we haven't seen before.

CEOCFO: ***How does the UAV know what to look for? How does it know what to report on?***
Mr. Culler: We operate with two-person team. One of the team members is the pilot in command, responsible for safely operating the UAV and flying a specific flight profile around the structure. The other team member is the sensor operator, responsible for operating the sensors, for example, a high definition or infrared camera. The sensor operator is capturing