

Yardeni Research



DISRUPTIVE TECHNOLOGIES BRIEFING

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Putting Drones to Work

In last week's 4/11 <u>Morning Briefing</u>, we discussed the various ways companies are using drones to speed up the delivery of goods. Caffeine addicts may soon find their dreams of waking up to a hot Starbucks latte delivered to the front doorsteps have come true.

While consumer drone testing continues, we are reminded that drone industrial applications are already widespread. That was apparent this week when drones helped Parisian firefighters battle the Notre Dame fire. The drones helped track the progress of the fire and find the best positions in which to aim fire hoses, according to a local press report quoted by The Verge in a 4/16 <u>article</u>.

A 1/24 <u>article</u> by CBInsights lists another 38 ways drones are being used by industry. From their bird's eye view, drones are capturing beautiful images, conducting inspections, and keeping humans out of harm's way. Here are some of the most interesting drone activities on the list:

(1) *Drones keeping humans safe*. Drones allow us to see or reach dangerous or inaccessible areas without physically going there—the Notre Dame fire being a case in point. Drones help the US military with surveillance and reconnaissance. And drones fitted with thermal imaging cameras help emergency responders locate disaster victims.

Land Rover and the Austrian Red Cross in 2017 partnered to design "a special operations vehicle with a roof-mounted, thermal imaging drone. The vehicle includes an integrated landing system, which allows the drone to securely land atop the vehicle while in motion. This custom Land Rover Discovery, dubbed 'Project Hero,' hopes to save lives by speeding up response times," CBInsights reported.

(2) *Easy inspections*. Drones are being used for all varieties of inspections. Insurance companies are using drones for inspections of storm-ravaged areas or dangerously high structures. Drones are inspecting for defects in ships, airplanes, telecommunications towers, and assembly lines. In the energy industry, they're used to inspect onshore and offshore equipment to extract, refine, and transport oil and gas in hopes of protecting the environment from leaks and spills. The mining industry and construction industry are using drones to survey operations, and drones are providing security companies with another set of eyes.

Two of CBInsights' most interesting inspection examples: "Surveillance drones outfitted with thermal imaging cameras are being deployed to detect abnormal forest temperatures. By doing so, teams are able to identify areas most prone to forest fires or identify fires just 3 minutes after they begin." In addition, drones are being used to gather data about crops and even pollinate flowers.

(3) *Pretty pictures.* Drones are capturing images only seen in the past by pilots or birds. Drones are monitoring and tracking endangered animals, and allowing humans to observe animals without disturbing their habitat. Realtors are using drones to capture sweeping views of high-priced properties and to make videos of interiors. Drones are filming sporting events, capturing dramatic

aerial scenes for Hollywood film producers and gathering video for news broadcasts. No helicopters needed.

Contact us by email or call 480-664-1333.

Ed Yardeni, President & Chief Investment Strategist, 516-972-7683 Debbie Johnson, Chief Economist, 480-664-1333 Joe Abbott, Chief Quantitative Strategist, 732-497-5306 Melissa Tagg, Director of Research Projects & Operations, 516-782-9967 Mali Quintana, Senior Economist, 480-664-1333 Jackie Doherty, Contributing Editor, 917-328-6848 Valerie de la Rue, Director of Institutional Sales, 516-277-2432 Mary Fanslau, Manager of Client Services, 480-664-1333 Sandy Cohan, Senior Editor, 570-775-6823

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