DroneDeploy

DroneDeploy's State of the Drone Industry Report 2022

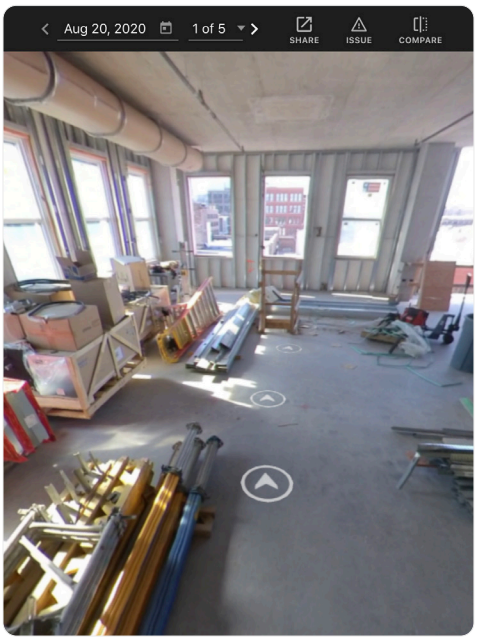
750+ respondents. 20+ industries. 40+ countries. What this year's drone and robotics trends mean for your industry.

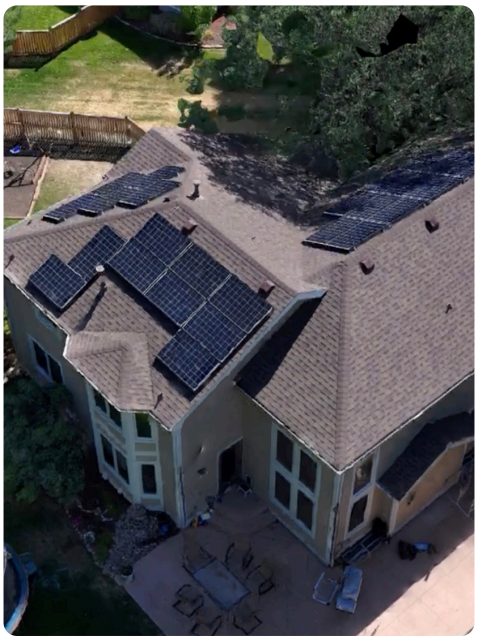
While 2020 was a year of widespread uncertainty for industries at-large, 2021 saw many of these sectors continuing to adapt and retool their operations to help mitigate the pandemic's ongoing impact. Operational shifts that may have been seen as "temporary" in March of 2020 are now the new norm, and "business as usual" may never look like it did a year ago.

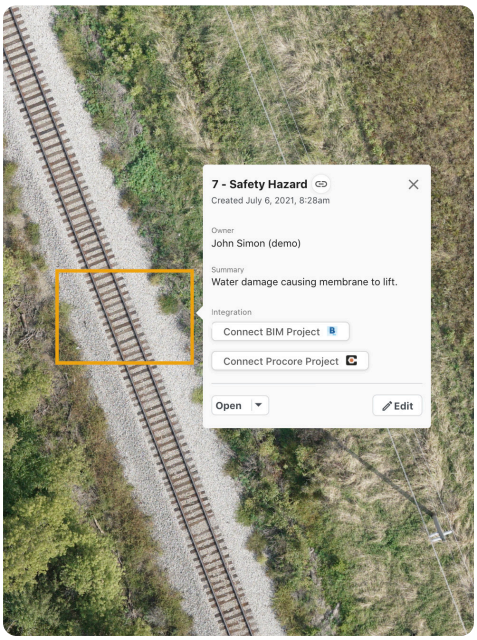
In DroneDeploy's 2022 State of the Drone Industry findings, we can see a few trends emerge at-length regarding the future of construction, energy, agriculture, and other key industries. From our results, it's clear that companies are turning to digital twins, drones, robotics, and automation technologies now more than ever – and reaping the benefits. Across the more than 750+ customers surveyed in 20+ industries and 40+ countries, one finding stands out as universal: digital reality capture is critical for the future of any business.

In this year's ebook, we'll examine:

- **What drone spend and usage trends looked like in 2021, and what challenges may lie ahead**
- **What DroneDeploy features customers value most, as well the tools most preferred for site digitization**
- **What's next for the drone market, from data security trends to interests beyond aerial mapping**







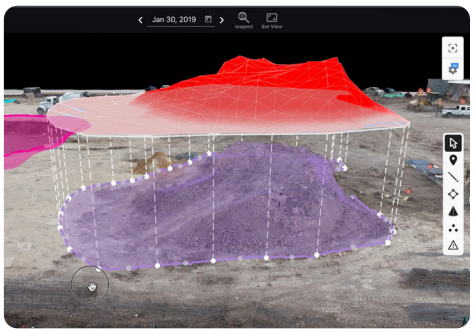
The Current State of the Industry

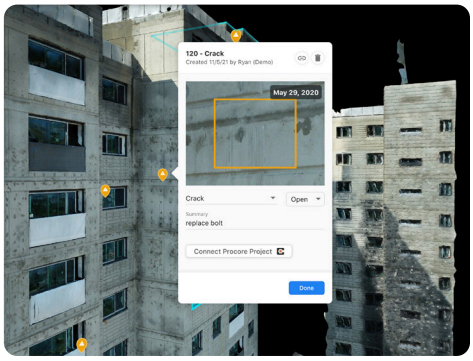
In 2020, we saw DroneDeploy usage spike across our platform like never before, with the number of enterprise users on the platform growing by 1.6x more in 2020 than in 2013-2019 combined. In 2021, this growth has continued, with 76% YOY growth in active users as compared to 2020.

As recent adopters in industries such as construction, agriculture, and energy settle into their drone programs, they expect their drone spend to rise in 2022. In fact, more than half (**56%**) of all respondents said that they planned to increase drone expenditures in the coming year, with **19%** intending to grow spend by over 50%. In terms of usage, **51%** of respondents use drones either daily or weekly, though this often varies by industry.

However, this growth in adoption and usage is not without its challenges – as of 2022, **42%** of respondents are having trouble keeping track of the changing laws and regulations in the drone space, as compared to **25%** reported in 2020. Pandemic labor shortages are also impacting industries looking to scale their drone operations – **24%** of respondents are having trouble training enough pilots to keep up with demand, while **20%** are having difficulties finding drone service providers or eligible pilots. The issue of finding relevant talent is particularly salient given that the grand majority (**63%**) of respondents have decided to build out their own in-house drone program versus using other flight services or drone service providers.

In these next sections, we'll see how customers are overcoming these challenges to create successful drone programs.



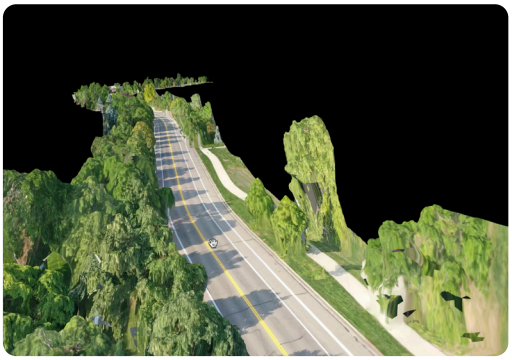


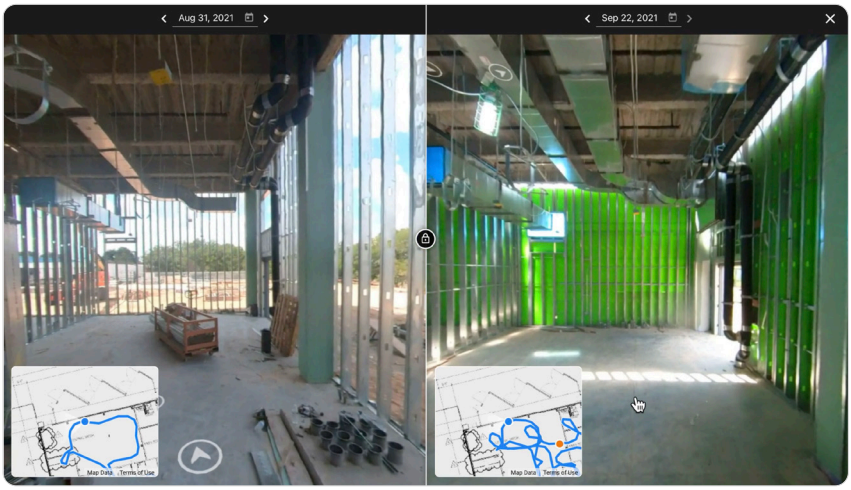
Product Usage & Growing Trends

When asked what DroneDeploy features were most important to them, customers overwhelmingly pointed to our robust measurement capabilities. **70%** of respondents said the ability to take measurements was most important to their operations, while **47%** of respondents most valued DroneDeploy being "one solution to see all site media."

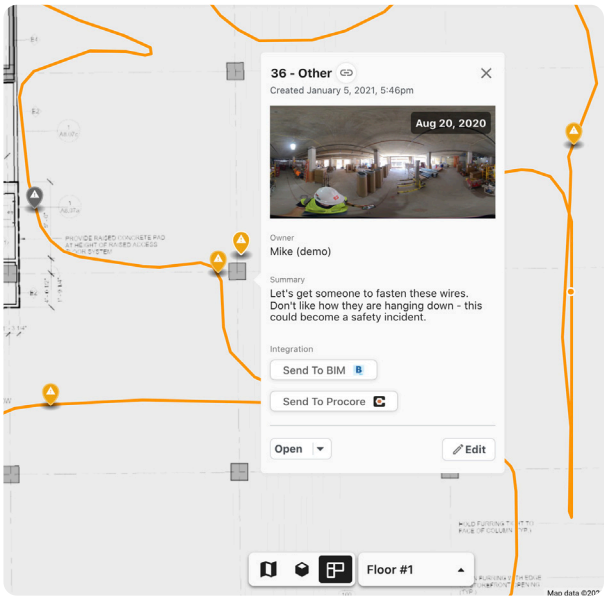
Being "one solution" – or one centralized hub of site information – is a result of our continued work in not just aerial, but also ground, interior, and 360 mapping. In 2021, our acquisition of ground robotics software company **Rocos** and progress on building out our **360 Walkthrough** product helped streamline documentation for our customers with both exterior and interior/360 mapping needs. This created a single-platform efficiency for collaboration and sharing across teams, from both the ground and the sky.

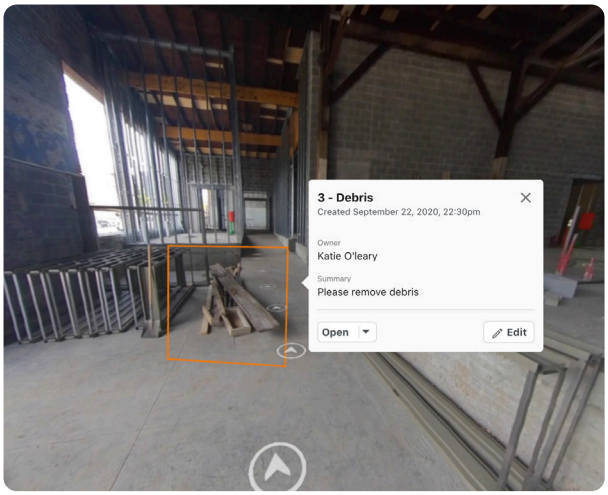
Another new term resonating amongst customers is "digital twin." **53%** of respondents reported that capturing a digital twin was important to their business, with **22%** of construction respondents and **27%** of energy respondents saying it was "extremely important." Although energy companies may be more familiar with digital twins – both oil & gas and the renewables industry often use digital twin technologies to monitor distributed assets – the rise in usage among both construction and agriculture





companies points to growing widespread interest in site digitization technologies. On this, **Markets and Markets** predicts that the global digital twin market will reach $48.2 billion by 2026, driven in part by pandemic-era adoption.



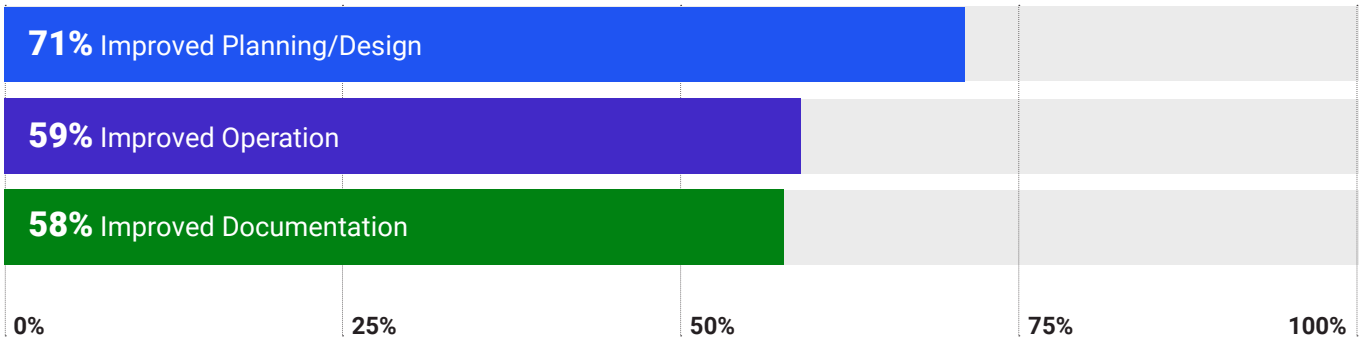


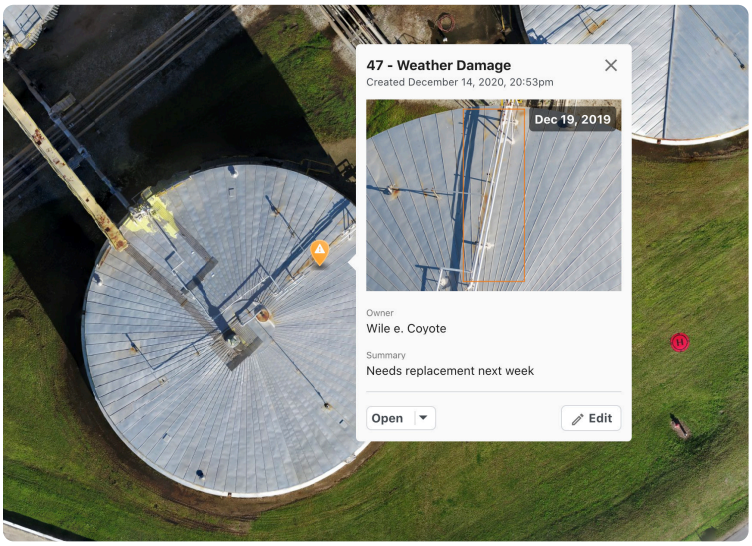
ADDITIONAL LEARNINGS ABOUT SITE DIGITIZATION BY INDUSTRY INCLUDE:

Construction:

- Drones are still king within the construction industry – **94%** of respondents use drones as their primary tool for digitizing their job site.
  - Other than LiDAR (**30%**), **39%** of respondents are also using 360 cameras either mounted onto a helmet, a ground robot, or manually, to digitize their sites.
- Notably, construction respondents have shifted their primary objectives for digitizing their job sites since last year. While documentation (last year's top choice) is still important for a majority of respondents (**58%**), **71%** said improved planning/design is their main objective, followed by improved operations (**59%**).

Site Digitalization Objectives in Construction



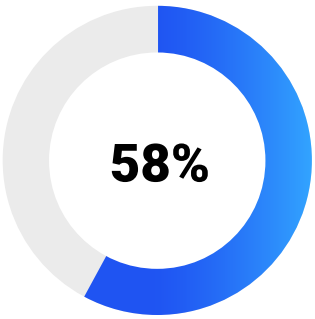


Energy:

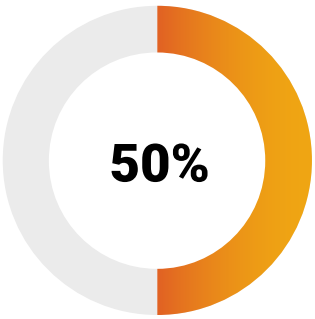
- Most energy companies across renewables, utilities, and oil & gas (**84%**) said sharing operational data across their companies was important to their business – the highest of all industries surveyed. This may be due to the dispersed nature of energy/utility assets and the need to share operational information between these remote locations and distributed offices.
  - **41%** even went as far to say that this was "extremely important."
- Energy respondents were also the most likely to state that capturing a digital twin is important to their business (**67%**), compared to the other industries surveyed.
- Like construction companies, energy companies are primarily leveraging drones (**85%**) as their main tool for digital capture, though LiDAR (**38%**) and other sensors (**28%**) such as tank monitors in the oil & gas industry also play a role in digitization.

Agriculture:

- Holding steady to 2020, a majority of agriculture respondents said the main objectives of digitizing their job site were improved operations (**58%**), followed by improved planning/design (**50%**).
- Like energy companies, agriculture also primarily uses drones (**68%**) and a variety of other sensors (**21%**) to digitize job sites. In agriculture, these sensors may measure anything from soil moisture and chemical presences to airflow of certain crops.



Improved Operations



Improved Planning/Design

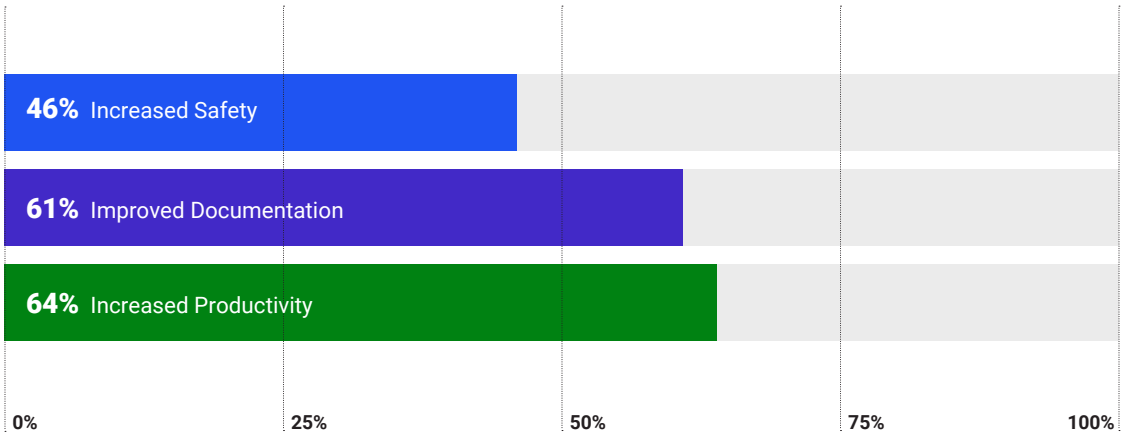
The Future of the Drone Market

In last year's **State of the Drone Industry Report**, "improved safety" and "documentation" were DroneDeploy customers' top-reported benefits. With the pandemic in full swing, companies turned to drones to help ensure worker safety and to keep thorough documentation on all aspects of operations for budgetary and compliance purposes.

These trends have continued into 2021. **46%** of respondents said increased safety was a top business problem that drones were helping solve, up from **39%** in 2020. Meanwhile, documentation still arose as a top business problem solved by drones (**61%**, vs. **77**% in 2020), but increased productivity took the top spot among respondents at **64%** (vs. **54%** in 2020). With many activities such as commercial and residential construction bouncing back, plus newfound labor shortages hamstringing nearly every industry, customers have looked to drone programs to provide operational efficiencies and increase productivity across the board.

With rising documentation also comes increased interest in data security for most customers. This year, we were proud to achieve the SOC (Service Organization Control) 2 Type II certification, in addition to our previous existing SOC 2 Type I certification. In our survey, **73%** of respondents said data security and privacy are important in their decision to purchase drone technology, with **39%** saying it is "extremely important." This comes as a grand majority of respondents (**73%**) say sharing operational data across their companies is important – which means that customers are making sure that the collaboration and sharing of data within their operations is private and properly secured.

Top Benefits of Using DroneDeploy

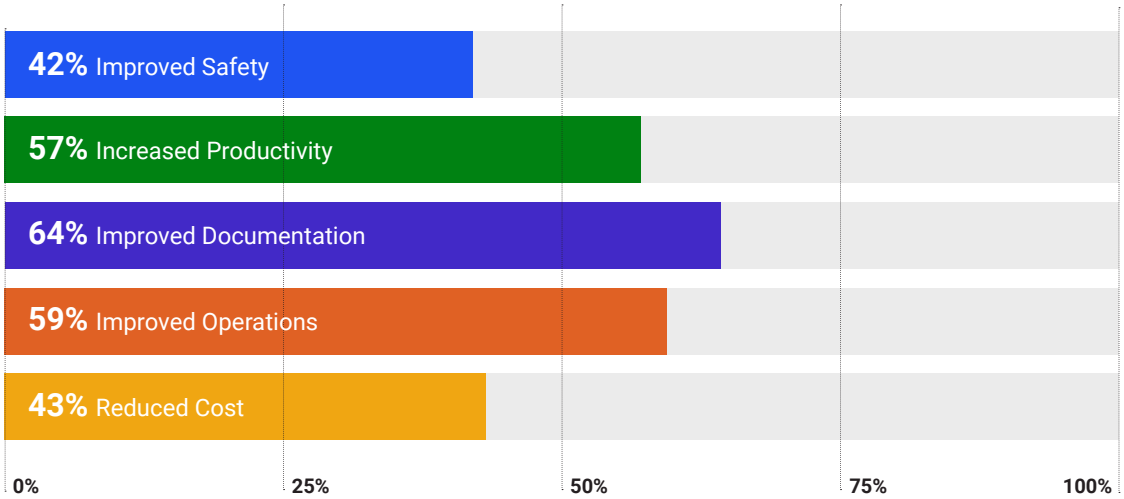


LET'S BREAK DOWN WHAT OTHER FUTURE TRENDS AND USE CASES WE LEARNED BY INDUSTRY:

Construction:

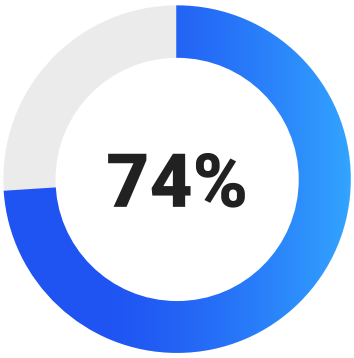
- The construction industry was the only industry where documentation (**64%**) was named the top business problem solved by drone usage. Apart from improved operations (**59%**) and productivity (**57%**), reduced cost (**43%**) and increased safety (**42%**) were top-of-mind for construction and AEC professionals - an order that held consistent with 2020 responses.
- Up **8%** from last year, **53%** of AEC professionals said automation is important to their business. Machine learning also saw a bump in importance to construction operations, at **44%** this year compared to **32%** previously.
- Looking to the future of site digitization, **69%** of construction respondents plan to expand beyond aerial mapping in the coming year, compared to **57%** last year.
  - Construction was the main industry to indicate continued expansion into ground robotics – **8%** said that they currently use ground robotics mounted with 360 cameras to digitize their job sites, compared to just **3%** last year.
- Looking at the next two years, **54%** of construction respondents think drones will become much more common than they are today; with **21%** saying they will be ubiquitous.

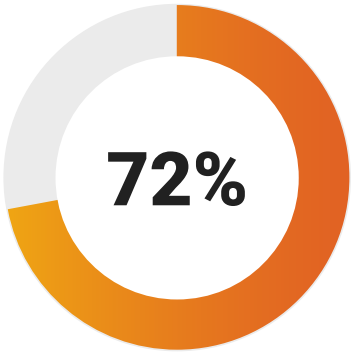
Top Benefits of Using DroneDeploy in Construction

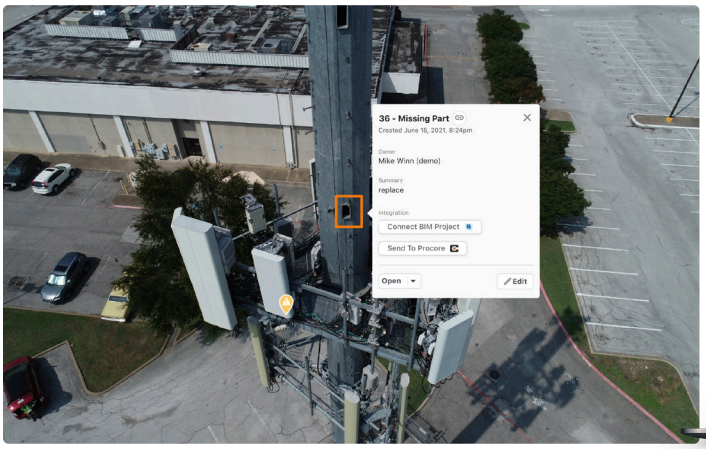


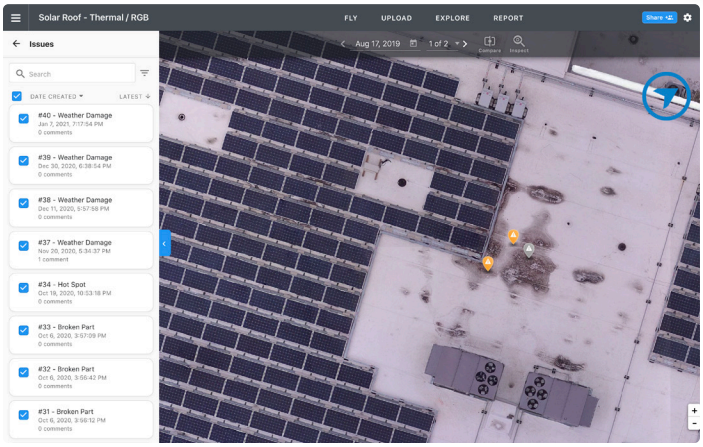
Energy:

- Increased safety (**74%**) was the biggest business problem solved for energy respondents, largely due to the role of drones in eliminating risks in tasks such as solar panel, utility line, or oil tank inspections. The same issue topped last year's responses as well, increasing from **66%** in 2020.
- **72%** of respondents plan to expand beyond aerial mapping in the coming year. This is a marked increase from 2020, when only **42%** planned to expand beyond aerial mapping, and is largely due to increased drone awareness in the energy sector.
  - **51%** of energy respondents think drones will become much more common in the next two years than they are today; and **22%** think they will be ubiquitous.





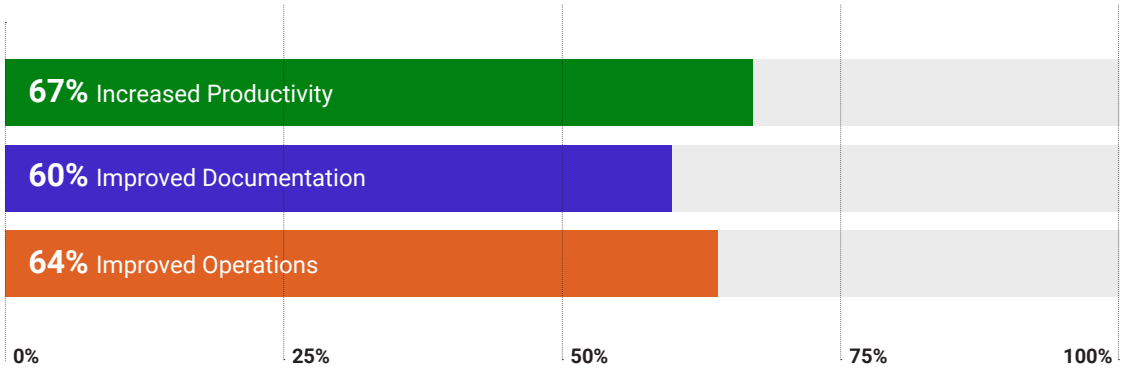




Agriculture:

- Increased productivity (**67%**) is the primary business problem solved by drones in the agriculture industry, followed closely by improved operations (**64%)** and documentation (**60%**). Last year, improved operations topped the list at **56%**, followed by increased productivity (**52%**) and reduced cost (**45%**).
- Agriculture respondents said that automation was more important to their business (**57%**) than other industries, with **30%** claiming it is extremely important.
  - This is also the case with machine learning – **57%** ranked the importance of machine learning to their business as an 8 or above, on a scale of 1-10.
  - However, agriculture saw the least number of respondents with plans to expand beyond aerial mapping in the coming year (**58%**).
- **54%** of agriculture respondents said drones will become much more common over the next two years than they are today; with **15%** saying they will be ubiquitous.

Top Benefits of Using DroneDeploy in Agriculture



Methodology:

DroneDeploy surveyed 766 of its customers across 20+ industries and 40+ countries to reveal their thoughts on drones and the drone software industry, both over the past year and into the future. All respondents are paying customers of DroneDeploy.

DroneDeploy

DroneDeploy is the leading enterprise-grade site reality platform. Trusted by brands globally, our software converts job sites, structures, and assets into easy-to-understand digital representations, generating valuable insights for industries including construction, energy, and agriculture. Through mapping, 3D modeling, 360 virtual tours, analysis, and reporting, we provide a detailed and accurate digital replica of any asset, enabling our customers to take action, save time, and lower unforeseen costs.