

Drone Readiness Analysis 2022

VDMA Industrial Drone Solutions

Content

Introduction	3
Participant structure	4
First contact	5
General interest	6
Potentials of drones	7
Planned drone applications	8
Operational environment and automation	9
Expected effects	10
Implementation status and strategy	11
Obstacles	12
Legal and normative framework	13
Acceptance	14
Information offered	15
Conclusion	16
Imprint / Contact	17

Introduction

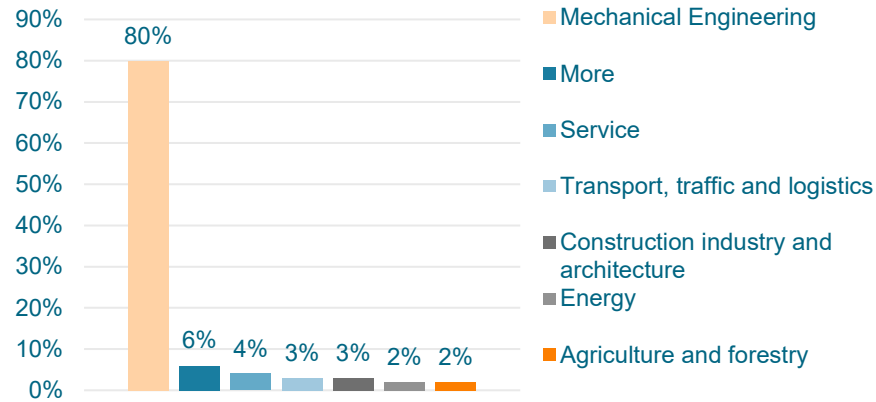
For the second time, the VDMA Working Group Industrial Drone Solutions and the Chair of Manufacturing Automation and Production Systems (FAPS) at the Friedrich-Alexander University Erlangen-Nuremberg conducted a Drone Readiness Analysis to determine how intensively industry and logistics have already engaged with drone technologies. The aim was to find out which drone applications are considered useful in the B2B environment, which are already in use and what basic expectations or obstacles are associated with the technology. Companies from the mechanical engineering, transport, traffic and logistics sectors were surveyed, Construction and architecture, energy, services, agriculture and forestry. The Drone Readiness Analysis is not a representative survey, but shows the mood in the potential B2B customer industries.

The survey was accessible online from 19 May to 7 July 2022. A total of 125 people participated, as in 2020.

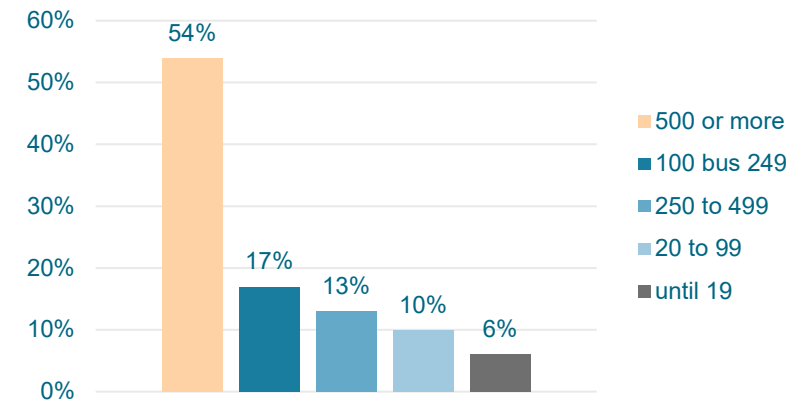


Participant structure

To which sector can you assign your company?



How many employees does your company have?



The vast majority of the participating companies belong to the mechanical and plant engineering sector. Under „More“, participants named the sectors of waste disposal, raw materials extraction, manufacturing, IT services, process engineering, construction machinery trade and packaging industry.

More than half of the companies employ 500 or more people.

Most of the participants come from Germany, but there were also participants from China, Finland, France, Great Britain, Japan, Austria, Switzerland and the USA.

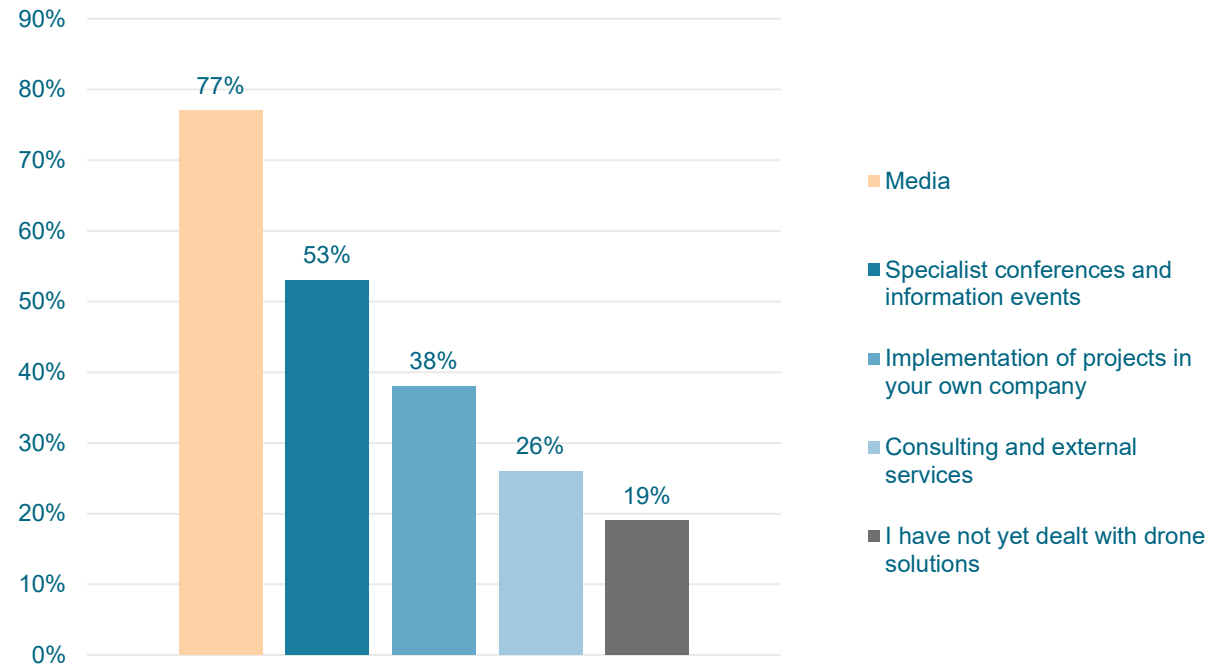
First contact



The majority of participants came into contact with drone technologies through the media. The second most frequently cited source was conferences and information events, ahead of the implementation of projects in their own companies.

In order and weighting, the answers roughly correspond to the results of the first Drone Readyness Analysis 2020.

In which context have you already come into contact with the industrial use of drone technologies? *

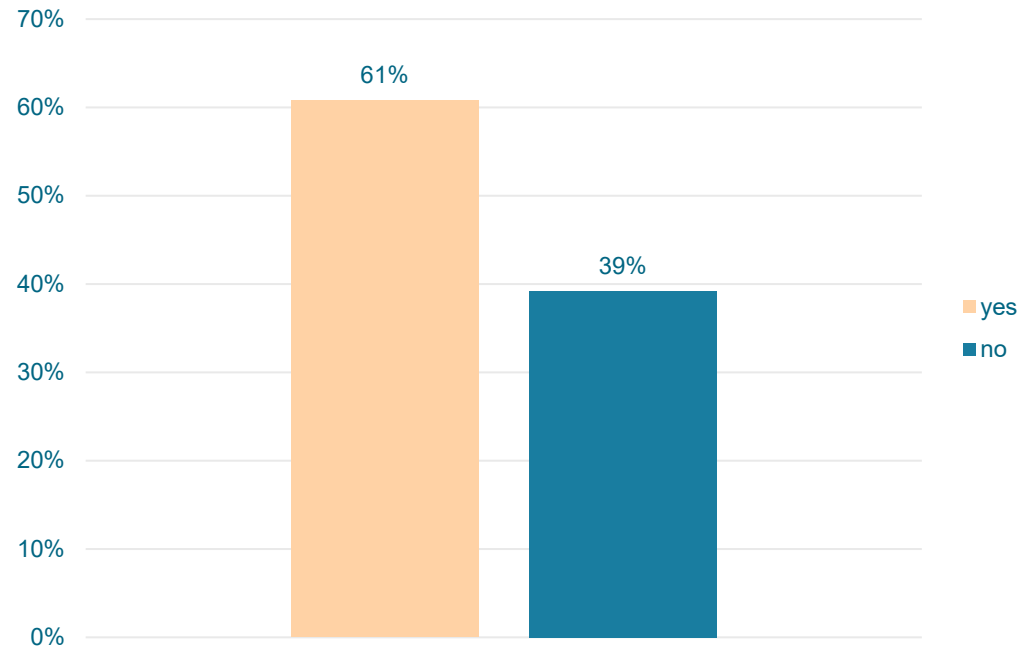


* Multiple answers were allowed for this question.

General interest



Are you interested in the topic of drone technology for your company in general?



Like the first Drone Readiness Analysis 2020, the current survey also shows the mood in possible B2B customer industries and is not a representative evaluation. With a rate of 80 percent, mechanical and plant engineering once again represents the largest group of participants. A separate evaluation by industry is therefore not provided.

Interest in drone technology remains high. 61 percent of the participants affirm this for their own company, 39 percent deny it.

Based on their answer, the participants were further guided to different questions after this question. Non-interested people were asked about reasons for obstacles and needed information resources, while interested people were additionally asked about potentials, effects and concrete deployment plans.

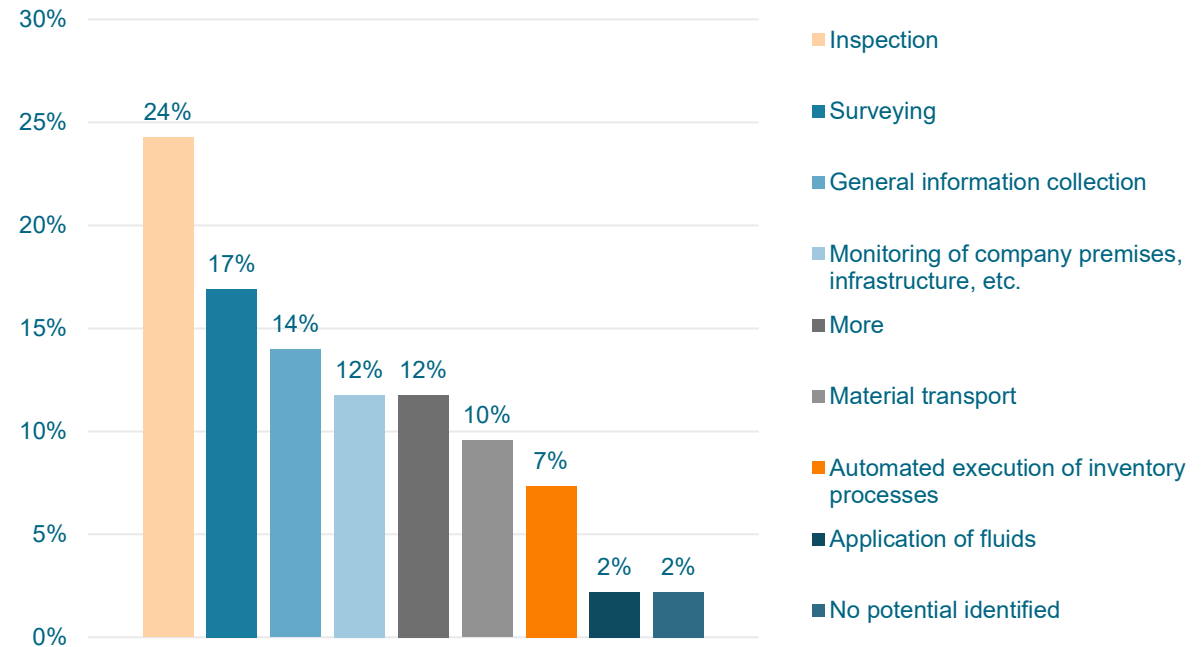
Potentials of drones

As in the first analysis, inspection, surveying and general information gathering are seen as having the greatest potential in terms of potential uses for drones.

Under „More“, aerial photography for marketing purposes, traffic management, field and crop monitoring and apron detection were mentioned.

Only 2 percent of the participants could not see any potential of drones for their own company.

In which areas have you already been able to identify potentials and opportunities of drones in your own business area? *

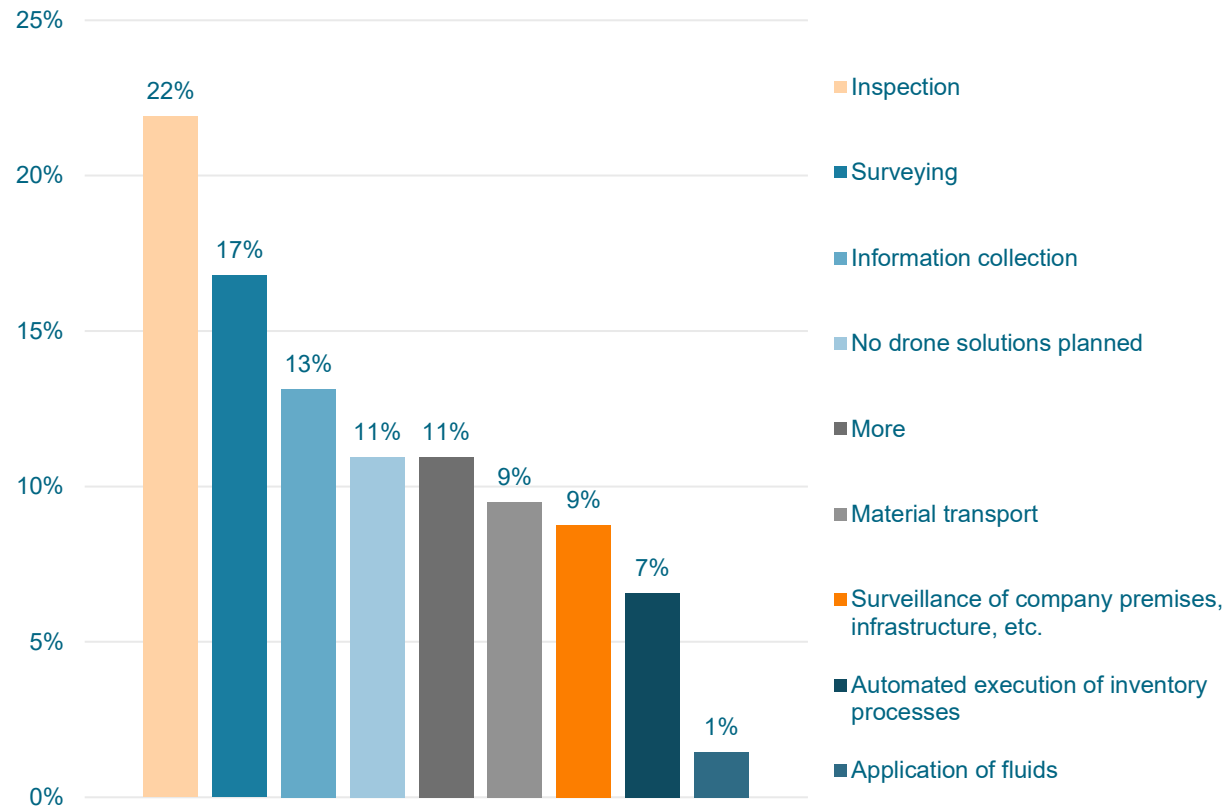


* Multiple answers were allowed for this question.

Planned drone applications



What drone applications are you planning in your company for the future? *



The participants were even more specific when asked about their application plans in their own companies. 22 percent of the respondents would like to implement a drone solution for inspection tasks in the future, another 17 percent for surveying tasks and 13 percent want to collect information with a drone. No drone application is planned for 11 percent of the participating companies.

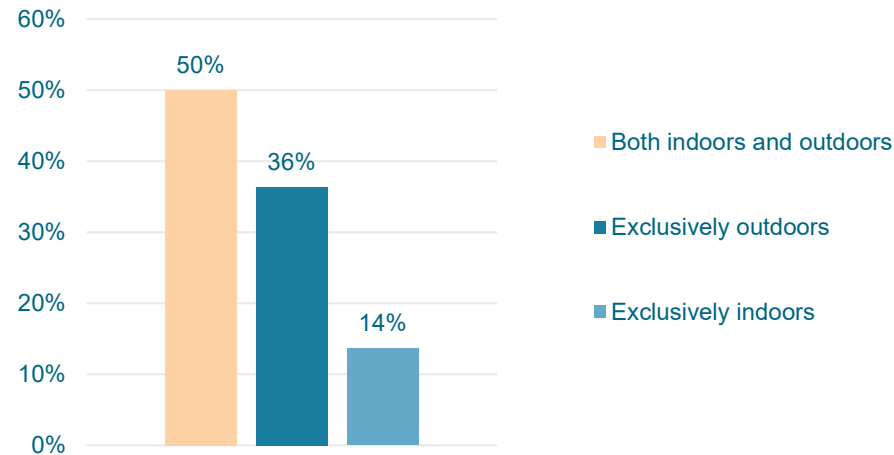
Under „More“, the participants mentioned applications such as marketing and advertising, monitoring of plants, machines or traffic, service inspections, leakage detection and transport of laboratory samples.

* Multiple answers were allowed for this question.

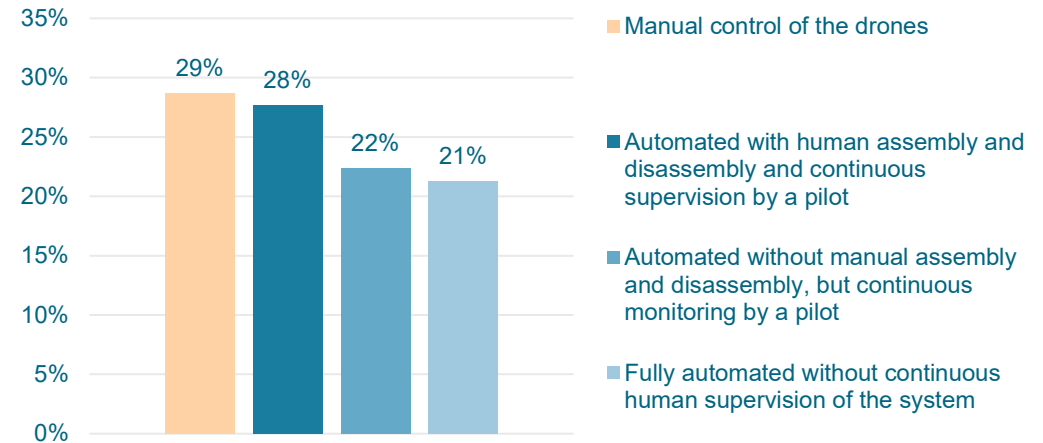
Operational environment and automation



Which environment is planned/interesting for the use of drones in your company?



What level of automation do you envisage for your drone projects?



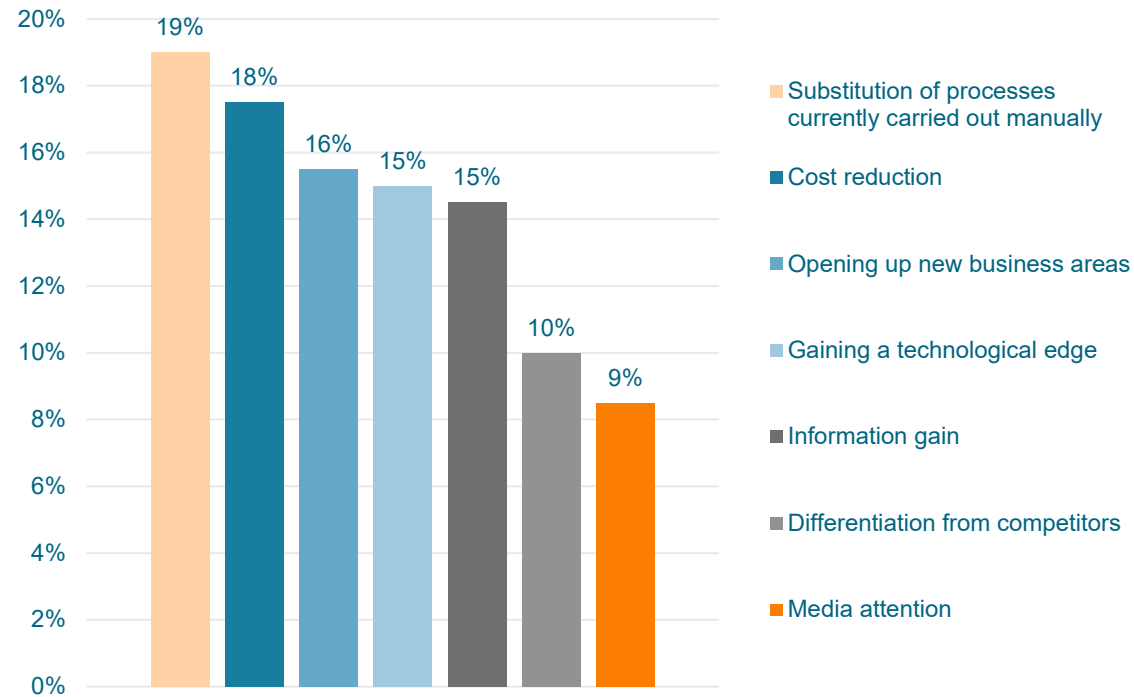
For the first time, the participants were asked for the current Drone Readiness Analysis for which environment and in which degree of automation the drone applications in the company are planned or interesting. For 50 percent of the respondents, a solution for both indoor and outdoor use is a possibility. Only 14 per cent are planning or are interested in an exclusively indoor use.

The fact that 29 per cent of participants currently envisage manual control of drones is possibly related to the existing legal framework, but also to the technical complexity that automation entails. Accordingly, 21 per cent of the respondents are aiming for fully automated flight operations without human supervision.

Expected effects



What effects do you expect the use of drone technologies to have on your company? *

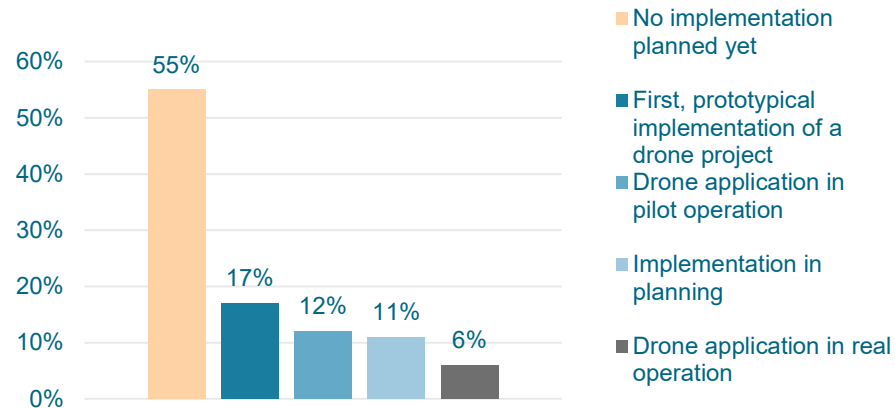


The participants expect the greatest effects to come from the substitution of processes that are currently carried out manually. This is followed by cost reduction, which was stated as the most important effect in 2020. Expectations also exist with regard to opening up new business areas and gaining a technological lead. As in the first analysis, very few participants expect media attention. This once again underlines the existing understanding of the possibilities of drone applications.

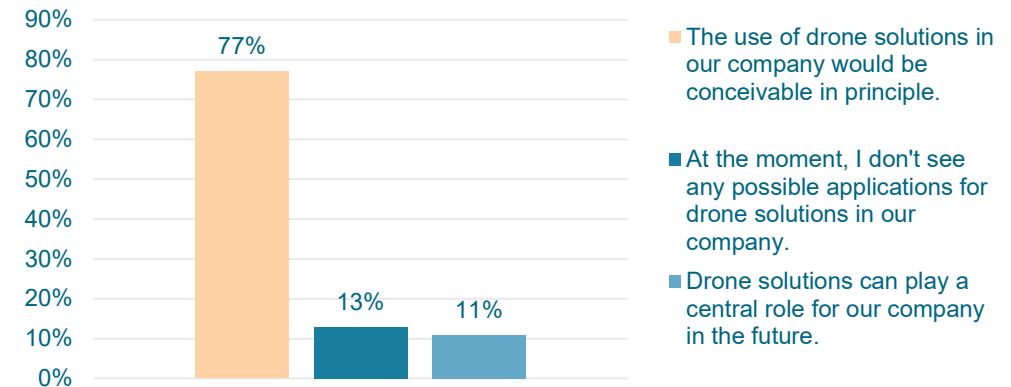
* Multiple answers were allowed for this question.

Implementation status and strategy

At what stage of implementation are the drone projects in your own company?



How do you assess the importance of drone technologies for your future corporate strategy?



After potentials and concrete application possibilities in the company, the participants were asked about the implementation status of drone applications. As in 2020, the majority of companies have not yet planned any concrete implementation. Nevertheless, 17 percent of the companies have already implemented a prototype (15 percent in 2020) and another 12 percent have a drone application in a pilot project (only 9 percent of the companies surveyed in 2020). Applications in real operation are running at 6 percent of the participants, compared to 5 percent in 2020. On the other hand, there was an increase in projects in planning status. Currently, 11 per cent of the analysis participants are preparing an implementation, compared to only 5 per cent in 2020.

Drone applications are still not a central element of corporate strategies, but the willingness and openness for the technology field is growing. In the current analysis, significantly more participants (77 percent) consider the use of drones in their own company to be conceivable in principle (in 2020 it was 51 percent), only 13 percent see no application possibilities (2020: 40 percent) and in the case of 11 percent of respondents may see drone solutions taking on a central role in the future (2020: 9 percent).

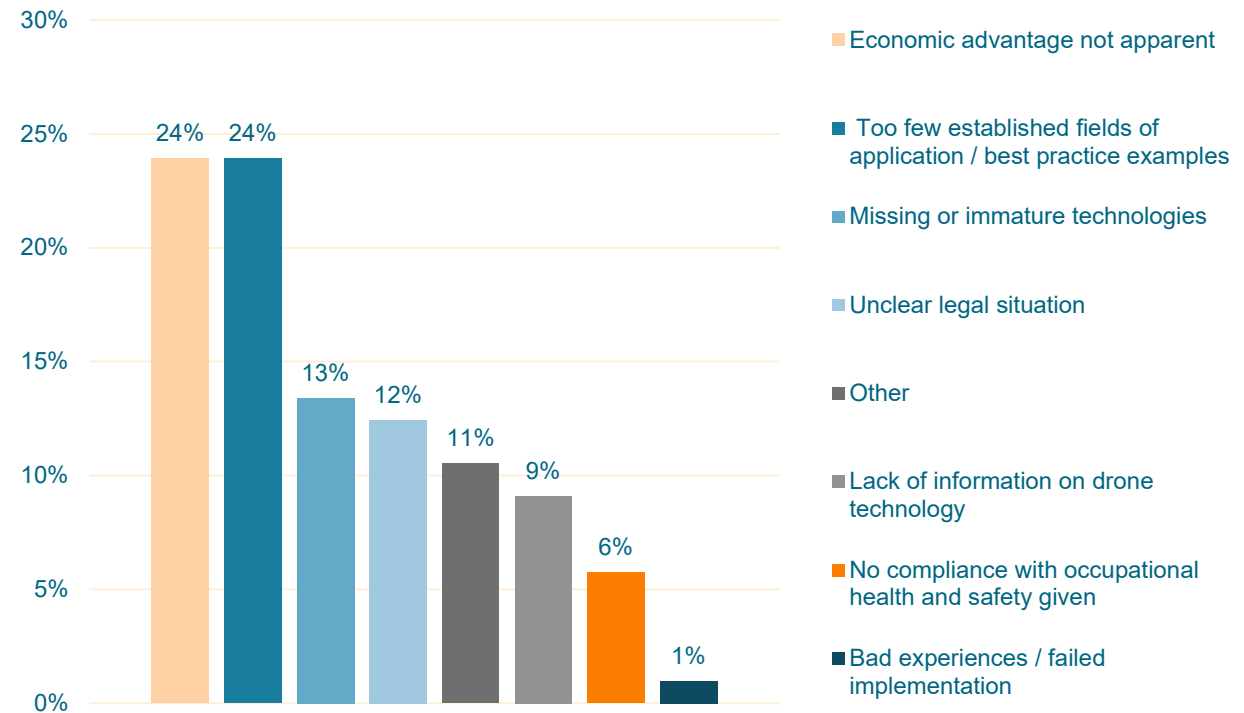
Obstacles



Why does the implementation of a drone application fail? In the current analysis, the participants answered this question primarily with a lack of apparent economic viability and too few established fields of application. These two were already named as the two most significant obstacles in 2020. The lack of or immature technologies as well as the legal framework also prevent the participating companies from implementing a drone application.

Under "Other", the participants mentioned several times that they have no concrete need for application or do not see any application possibilities. Weather dependency, unnecessary bureaucracy, lack of acceptance on the customer side and difficulties with data protection are also current obstacles for the companies.

What reasons currently prevent you from using or further expanding drone technologies in your company? *

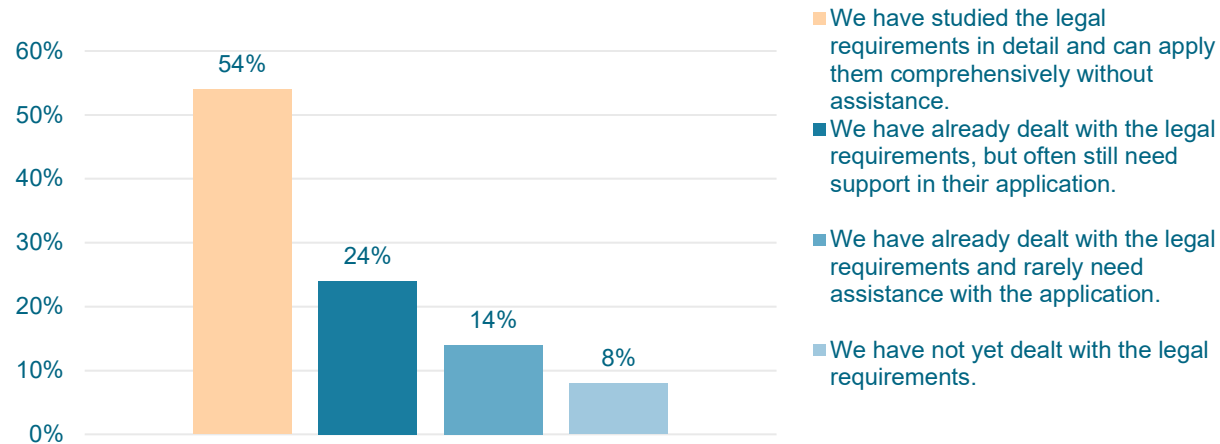


* Multiple answers were allowed for this question.

Legal and normative framework



To what extent are you familiar with the current regulatory and normative guidelines for the use of drones?



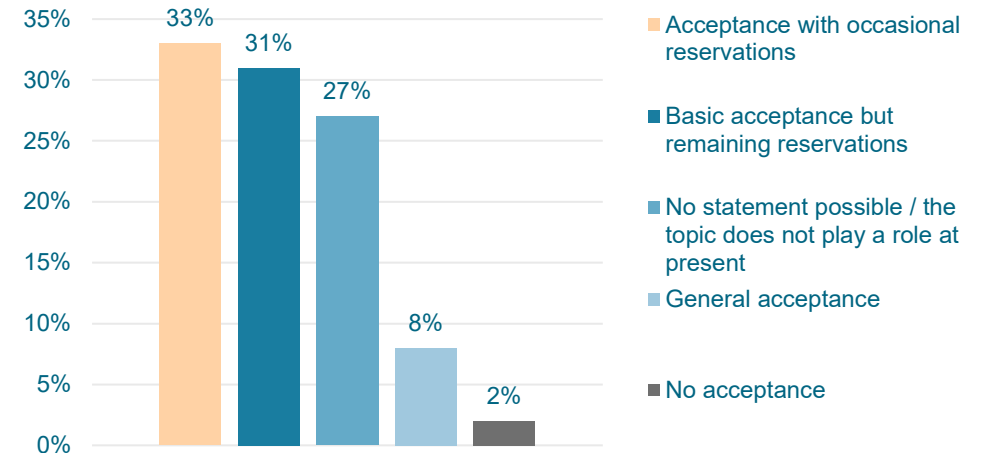
In 2020, 56 per cent of the participants had not yet dealt with the legal requirements. This has changed considerably in the current analysis. Only 8 per cent of respondents said they had not yet familiarised themselves with the legal framework. In contrast, 54 per cent of the participants in the analysis are confident in dealing with the regulatory and normative guidelines for the use of drones.

Acceptance



The increasing general awareness of drones also seems to have a positive effect on acceptance among employees. While in 2020 42 percent of the participants were unable to make a statement on this (2022: 27 percent), currently 33 percent see only isolated reservations in the workforce and a further 31 percent a fundamental acceptance, where reservations would, however, have to be reduced. Only 2 per cent of the respondents assume that there will be no acceptance.

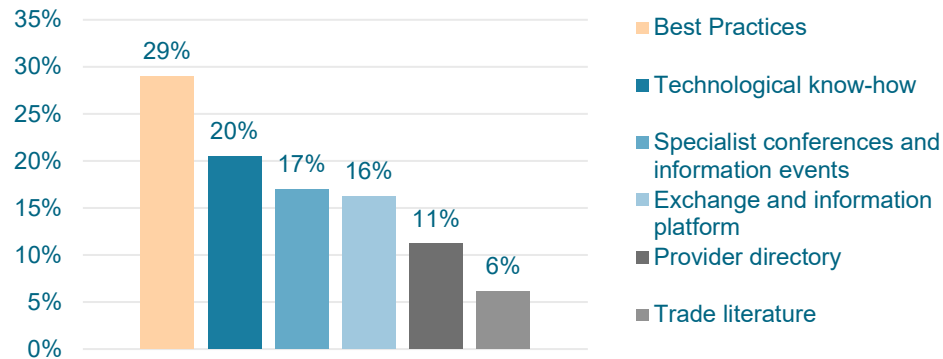
How do you assess the "general readiness / acceptance" of drone technologies among employees in your company?



Information offered



What additional methods / tools etc. do you need to better evaluate / assess the use of drones in your company in the future? *



For 23 percent, the currently available information offers represent a good and well-founded overview, 28 percent of the participants, on the other hand, do not see any added value for their own company.

For 49 per cent of the participants, the information offered provides a basic overview, but not enough detail to be able to assess the importance of drone technologies for their own company.

Accordingly, there is also a great desire for best practice examples as well as technological know-how in order to be able to better assess the use of drones. Specialist and information events as well as opportunities for exchange were also named as suitable means in the analysis.

* Multiple answers were allowed for this question.

Conclusion



Interest in drone technologies in potential B2B customer industries remains very high. For 77 percent of the participants in the Drone Readiness Analysis 2022, the use of a drone solution in their future corporate strategy is basically conceivable. Only 13 percent do not see any application possibilities - in 2020 it was still 40 percent.

The greatest potential is seen in applications such as inspection, measurement and general information collection. Some of the participating companies have concrete plans for implementation in this area. In terms of application environment, drones are to be used predominantly both indoors and outdoors. The companies currently prefer manual control over automated use.

The participants in the Drone Readiness Analysis expect the use of a drone solution above all to substitute processes that are currently carried out manually, to reduce costs and to develop new business areas.

The majority of the companies surveyed have dealt with the current legal and normative framework conditions and are aware of the possibilities and restrictions that currently apply to the implementation of a drone application.

The reasons that prevent the implementation of a drone application are essentially identical in weighting to 2020. Here, above all, the economic viability that is not apparent and too few established fields of application/best-practice examples are named. Accordingly, the respondents would particularly like to receive information material on practical examples. Thus, the "chicken-and-egg problem" remains that too few companies dare to implement and thus create concrete application examples.

Imprint / Contact



VDMA

Industrial Drone Solutions Working Group
Lyon Str. 18
60528 Frankfurt am Main

E-mail ids@vdma.org
Internet vdma.org/drones

Editorial

Juliane Kluge
Markus Lieret, FAPS

Stand

October 2022
© Copyright by Working Group
Industrial Drone Solutions

Contact

Juliane Kluge
Phone +49 69 6603-1508
E-mail juliane.kluge@vdma.org
Internet vdma.org/drones

In cooperation with



Chair of Manufacturing Automation and
Production Systems (FAPS) at Friedrich-
Alexander-Universität Erlangen-Nürnberg