

WHITEPAPER

2018 Insights into the Civil Engineering and Survey Industries

In July 2018, IMAGINiT Technologies conducted research on trends in the civil engineering and survey sectors. Over a period of two weeks, 194 individuals responded. The results revealed the following insights.

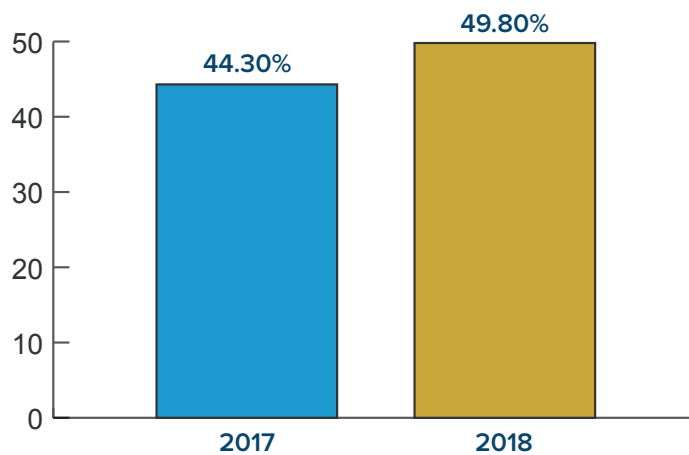
Firms continue to be optimistic about the economic outlook.

Nearly half of the survey respondents (44.5%) plan to increase their survey, design, and/or engineering staff in the next year. In fact, the data suggests that firms may already be taking action on the hiring front:

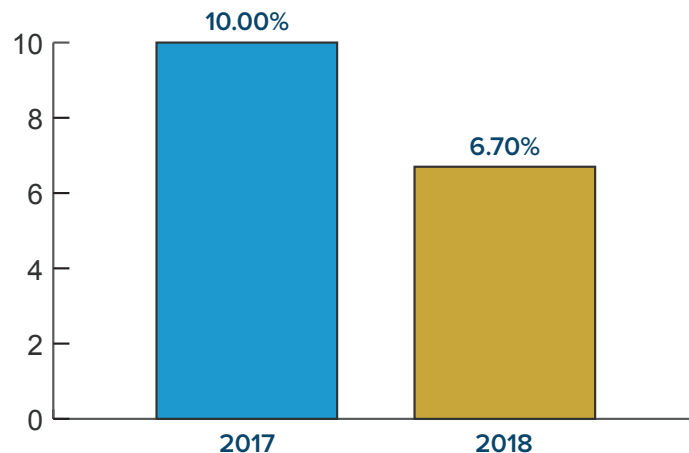
- Around half (49.8%) report having a full-time CAD manager. This is up from 44.3% in 2017.
- In addition, only 6.7% of firms indicated that not having the right people to spec projects was their biggest challenge when winning new projects. Last year, 10% of respondents identified this as their greatest challenge.

With regard to pricing, over half of respondents (53.6%) reported that their firm evaluates its fees every year.

Organizations with a Full-Time CAD Manager



Organizations Indicating that Not Having the Right Staff to Spec Projects Is Their Greatest Challenge to Winning New Projects



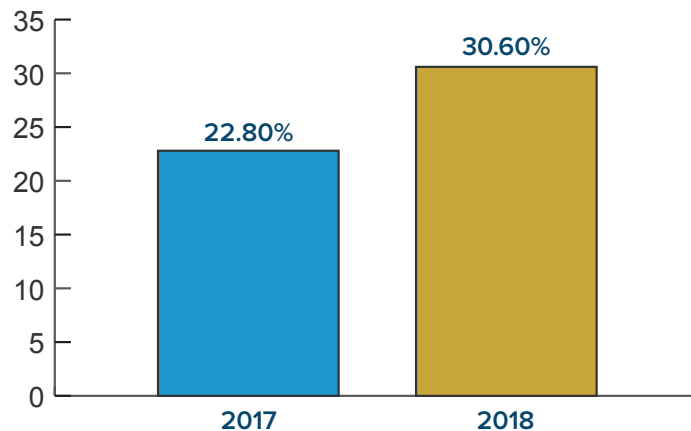
On the technology front, CAD and 3D modeling/BIM dominate.

Virtually all the survey respondents (97.1%) use CAD today and over half (54.9%) are using 3D modeling or BIM. Interestingly, reality capture continues to be an up-and-coming technology for a growing number of organizations.

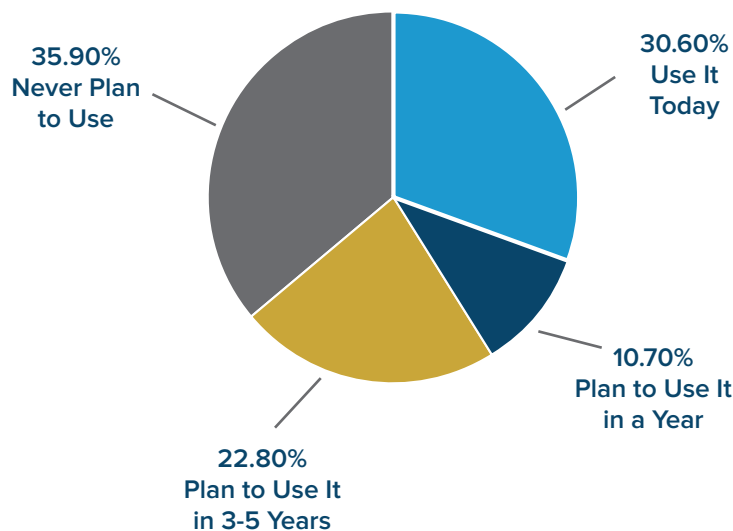
Reality capture is gaining in popularity.

Close to one third of respondents (30.6%) are using reality capture today, up from 22.8% in 2017. In addition, 10.7% plan to be using reality capture in a year and 22.8% plan to use it in three to five years (up from 16.5% in 2017).

Percentage of Organizations Currently Using Reality Capture

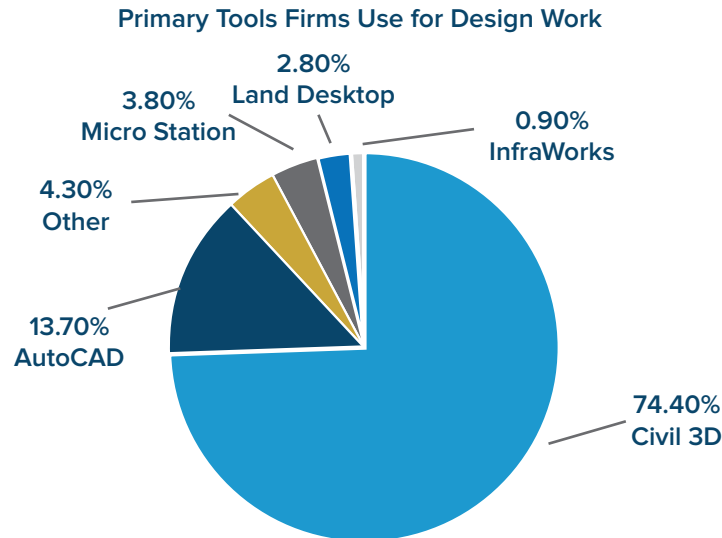


Expected Timelines for Reality Capture Use



When it comes to design tools, Civil 3D is the standard.

Around three quarters of respondents (74.4%) indicated that Civil 3D was their primary tool used for design work. Close to one third (30.6%) also use the Architecture, Engineering, and Construction Industry Collection (AEC Collection). This was a marked increase from 2017, when 15.5% of respondents indicated that they used these tools for design and collaboration.



The top obstacles to winning new projects are typical business challenges such as price and competition.

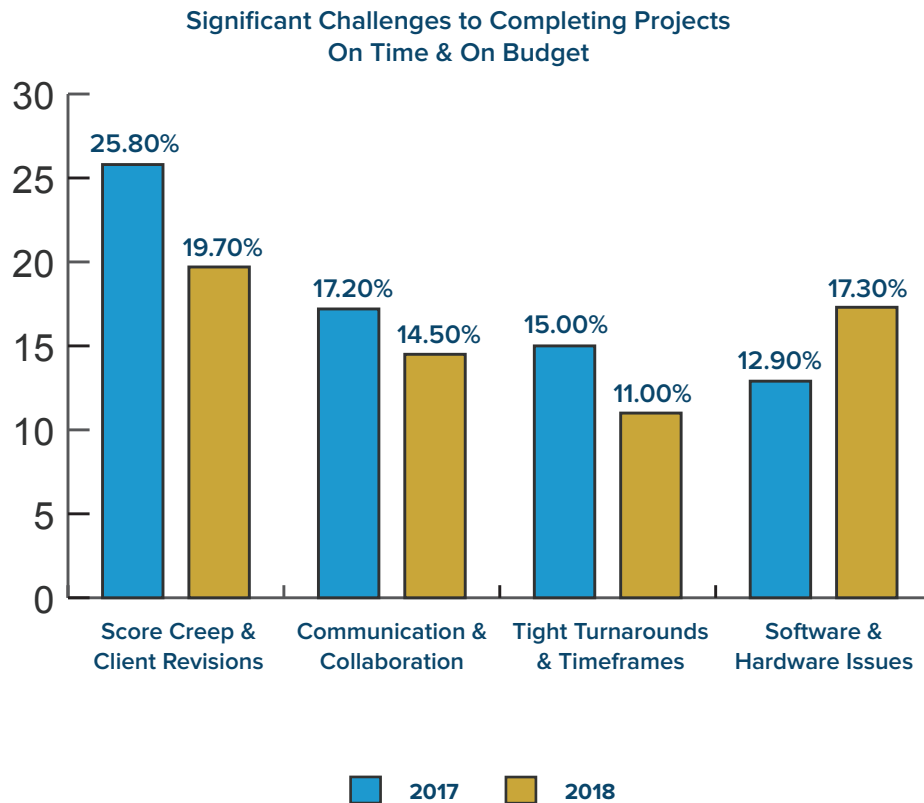
Over one quarter of respondents (28.5%) said cost and price were their biggest challenge to winning new business. This was down, however from 37.6% in 2017. This suggests that perhaps this year, firms are pricing more thoughtfully or clients are becoming less price-sensitive. Other common hurdles to winning new business include competition (17%) and marketing (10.3%).



Communication, project scope, schedules, and technical issues all create hurdles to finishing projects on time and on budget.

Scope creep and client revisions were the top challenge, reported by 19.7% of respondents. However, this was down from 25.8% in 2017. Communication and collaboration, as well as tight turnarounds/timeframes were also major challenges, reported by 14.5% and 11.0% of respondents respectively. This year these two issues were less prevalent compared to 2017.

Software and hardware issues seem to be a growing problem for firms, with 17.3% of respondents indicating they were a significant project challenge. This was up from 12.9% in 2017.



Conclusion

Staying ahead of changes coming in the market is what differentiates successful civil engineering and survey firms from their peers. Based on IMAGINiT Technologies' work with numerous companies, we've seen how firms can thrive by implementing best practices:

- **Pursuing intelligent growth.** As companies increase their staffing levels, they often need more defined processes to maintain productivity, as well as consistency among projects. To grow "intelligently," it may be helpful for firms to engage with experts to assess their workflows and recommend improvements.
- **Identifying the root causes of problems.** This year's survey respondents reported that software issues were a greater challenge to project completion than in the past. The solution to these problems isn't always technical, however. In some cases, the root cause of software issues may be a lack of formal training or process/workflow problems. Identifying and addressing these factors can generate a smoother path for project teams.
- **Embracing new technologies.** When firms adopt new technologies, they want to get up to speed quickly and profit from their use as soon as possible. There are several ways that teams can implement new tools like reality capture. These include training on technical use of the software and workflows, as well as project-based proof of concepts and targeted project assistance from experts.

Working with a trusted partner like IMAGINiT Technologies can help civil engineering and survey companies enhance their productivity, efficiency, and competitiveness.

About IMAGINiT Technologies

IMAGINiT Technologies, a Rand Worldwide Company, is a leading provider of enterprise solutions to the engineering community, including the building, manufacturing, civil and mapping industries. With over 25 years of experience, and over 40 offices throughout North America, we provide the expertise, training and support to help companies realize the full power of design technology, maximize ROI and gain competitive advantage.

IMAGINiT is a leading provider of Autodesk software solutions and the largest North American Autodesk Authorized Training Center (ATC) partner. All of our locations are supported by a vast pool of engineering resources focused on developing real-life business solutions for their local clients.



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Advanced MEP
Product Design & Manufacturing
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