

Exploring the design challenges and opportunities faced by Revit and Civil 3D users

This whitepaper introduces Naviate, a technology eco-system which enables Autodesk Revit and Civil 3D users to:

- **Increase productivity**
- **Reduce the risk of error**
- **Focus on more valuable design tasks**

This paper contains data from surveying over 100 organisations regarding the challenges and opportunities for users working within Autodesk Revit and Civil 3D.

Why read this paper?

Symetri has been working within the Architectural, Engineering and Construction (AEC) industry for over 30 years, supporting customers with not only their software needs, but also enabling them to work smarter.

Working across a diverse range of customers throughout this time, has enabled us to gain knowledge around the common challenges and opportunities the industry faces.

This paper provides an insight into some of these challenges and opportunities, together with an overview of what Symetri has developed to address them.

3 main take-aways:

This paper has been created by collecting data from several private screening webinars hosted by Symetri which introduced Naviate to the UK market. We asked several questions and established the following:

- **Time and Capacity**

When there is a skills gap or lack of automation, the time needed to work on projects is unnecessarily high. Our customers are eager to find a way to get time back and use the increased capacity for valuable design work, quality assurance, innovation, upskilling and establishing a better work life balance.

- **Productivity Toolsets and Consolidation**

It is evident that some organisations already use several third-party tools to improve productivity. This normally ranges between 3-10 and clearly expresses the requirement for additional features and much needed automation to supplement the core technology. Whilst individually these can address a variety of gaps, procurement, management, compatibility, and user adoption is still a challenge.

- **The User Community**

Organisations are working in silos to improve their organisation's working processes and in turn replicating considerable investment. There is a strong desire for a user-based community, dedicated to sharing the challenges faced and collectively working with specialist partners to overcome them.

Continuous Learning and The Value of Knowledge

When asked *"What are the key challenges in being able to fully utilise the capabilities of your design software"*, the following lists the most common 10 areas of feedback.

DEADLINES **CONFIDENCE**
KNOWLEDGE **TRAINING** **INVESTMENT**
AWARENESS **SUPPORT** **SKILLS**
AVAILABLE TIME **CHANGE OF MINDSET**

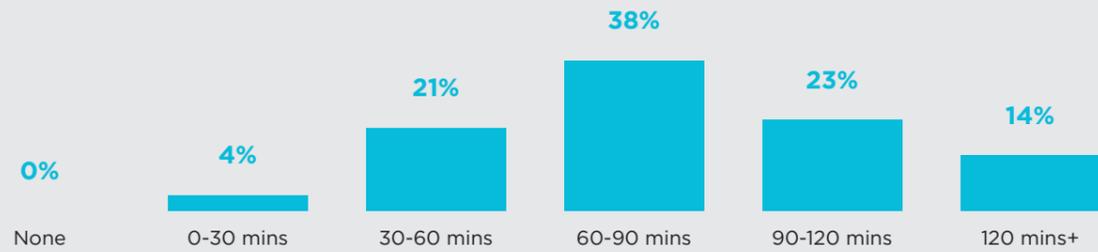
Architects and Engineers have a strong dependency on the technology that fundamentally underpins the design process and optimising a team's capability through training is key. Quite often users don't necessarily get to realise the true value of their core software investment. In many cases valuable toolsets are simply hidden away and only exposed by accident rather than having the means to proactively explore them. There is a tendency to not move past basic training and forget the importance of continuous learning. Ensuring that users are keeping abreast of the latest developments, new methodologies of working and helping to achieve more with less, rather than sticking with what they know.

Knowledge retention is also a key challenge when not exercised regularly. An interesting book called 'Committed to Memory' referenced the fact that unless actively used, 1 hour after learning 56% has gone to the wind, 1 day later 66% had evaporated and after 1 month 80% had gone altogether. So, whilst active learning is important, it also needs to be relative to the task in hand and available on demand. Applied directly after consumption, the chances of retention increase tenfold and provide a much better foundation for recall down the line.

It is highly likely that fellow colleagues may be leant on to share knowledge, which not only effects their productivity but also puts into question how knowledgeable they are.

Whilst reflecting on the drivers behind productivity, what is also critically important for us to consider, is the wellbeing of an organisations most valuable asset, their people. Continuous learning and personal development is clearly a key selling point when trying to attract the industries best talent, but not only this, it helps breed confidence within a team, allowing them to flourish, maximise their potential and as a result, maintain a positive working culture.

From over 100 organisations surveyed, the following results demonstrate how much time is typically lost due to the skills gap within core design technologies (per week, per person)



On average this equated to 1.4 hours per week, per person

If designers have the right skills and a continuous development programme, how many more projects could an organisation undertake? How much more time would be available for valuable design work, quality assurance, innovation, further upskilling or just establishing a better work life balance and driving a more positive culture?

Workflow Optimisation

It is recognised within the industry that there are limitations within the most commonly used software suites such as Autodesk's, which has led third party organisations to expand, enhance and automate tasks simply to reduce the amount of time spent on non-valuable activities.

Autodesk have quite openly stated, that whilst they develop and support core functionality, they rely on third-party developers to add additional value and expand on the capabilities of the platform.

We commonly get feedback that whilst there are various third-party productivity plug ins to choose from, many are purely individual tools which address a specific customer need. This means, that not only does a customer have to procure these from multiple sources, which collectively becomes expensive, they also have the ongoing management overhead of deploying them individually and keeping each one of them up to date.

When asked "What 3rd party technologies are being utilised and for what purpose?", the following established the most common areas of need / automation.

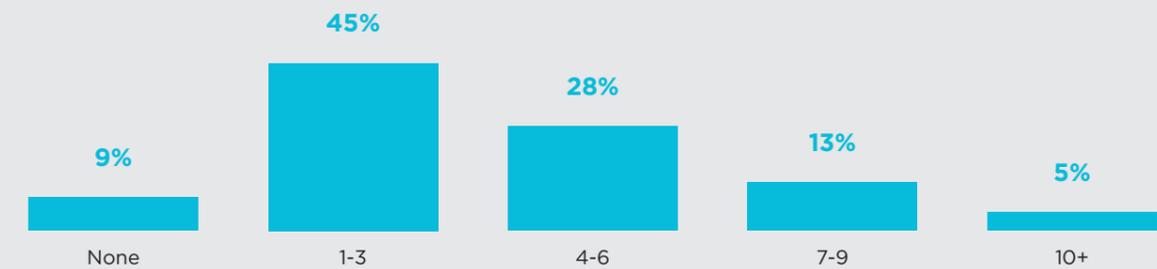
PUBLISHING **MODEL SEARCHING** **RENUMBERING**
FAMILY MANAGEMENT **QUALITY ASSURANCE**
PARAMETER MANAGEMENT
DOCUMENTATION **INTEROPERABILITY (EXCEL)**
PROJECT MANAGEMENT **IFC TOOLS**

Another aspect we must also consider is the user experience, the inconsistency of utilising different tools, and the resulting challenge that this can have on user adoption and of course, the resulting benefit.

Whilst there's a limited number of tools available within the market free of charge, we do need to ask ourselves what the real cost of these are. Many can be poorly managed, out of date, and if one was to corrupt the model you're working in, would that developer accept ownership and have the capacity and technical expertise to put things right?

As consumers ourselves, we prefer multiple tools packaged up within a single subscription and our customers are no different.

From over 100 organisations surveyed, the following results demonstrated how many 3rd party add-ins are required to optimise working methods and streamline process.

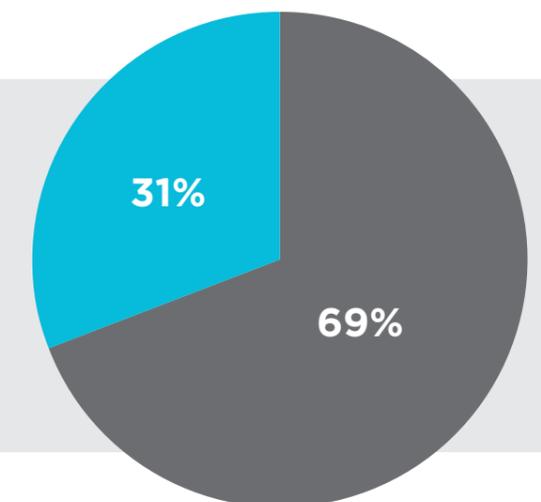


On average this equated to 3.9 Add-ins per organisation

Another way of achieving much needed automation, is through the utilisation of tools such as Autodesk's Dynamo. Whilst this is a great solution for specific requirements, it has been identified that a large amount of time is needed to develop the solution and manage it going forward. Quite often, the adjustments made are owned by one employee, which offers a potential risk if that individual leaves your organisation.

What's more, with everyone looking to achieve the same automation within many of these common areas, it makes sense we bridge these gaps together instead of individual investments.

From over 100 organisations surveyed, the following demonstrates that 69% of organisations are creating common automation scripts and potentially investing separately within the same requirement.



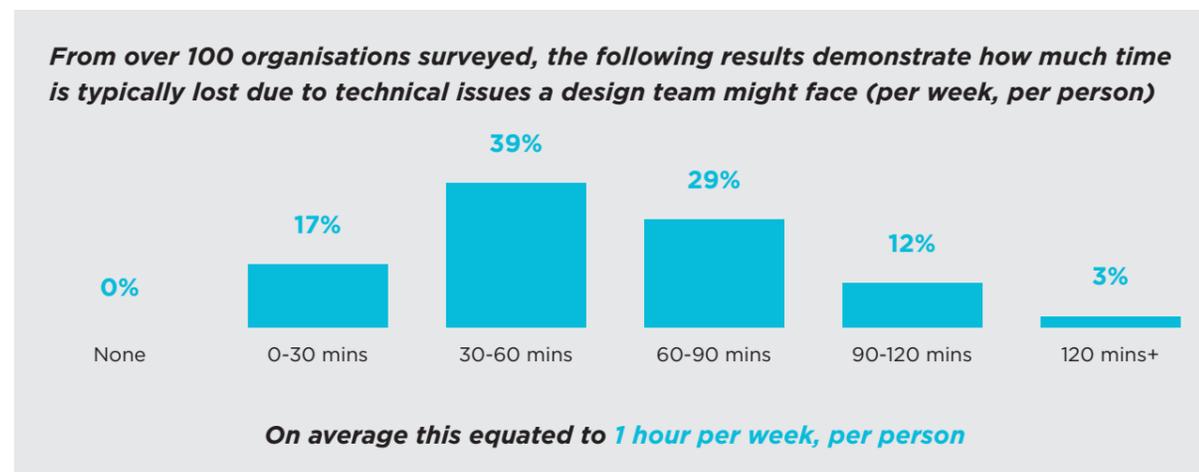
Business Continuity

Another concern raised within the feedback was in relation to available technical support.

When the pressure is on and the clock is ticking, technical issues can cause delays to project delivery triggering unnecessary stress for the design team. Whilst the benefits of optimising workflows and closing the skills gap is evident, this can easily be eroded, if not well protected.

In many cases, the requirement for technical support is not so much about software issues but instead having an expert to lean on when trying to achieve a particular task and determining the best way of going about it.

Whilst 3rd party developers support their own technology in most cases, there is a gap when it comes to supporting the portfolio of core Autodesk technology and the compatibility between the two.



With the potential of being able to close the skills gap, reduce the risk of down-time due to technical issues and drive further efficiency utilising workflow optimisation features, it's common for customers using Naviate to recognise an average productivity increase of approximately 15%. Whilst this can be easily calculated through analysis, what impact does that have in relation to resourcing, time and money?

If quantified across a typical design team of approximately 25 Revit / Civil 3D users and the sum of chargeable hours they have at their disposal, it means a wastage of approximately 648 days across the year. The below table demonstrates how this additional capacity / revenue could be used.

Productivity Increase	Non-Productive Days	Lost Revenue	Cost Savings	Additional Projects	Additional Head Count
14.5%	648	£360,094	£208,425	0.9	7.2

When asked *"What would customers utilise the additional capacity for?"*, the following established the most common areas of feedback.

LEARNING **ADDED VALUE** **WINNING WORK**
THINKING **WORK/LIFE BALANCE** **DESIGN**
QUALITY ASSURANCE **ADDITIONAL PROJECTS**
TEAM WELLBEING **R&D / INNOVATION**

Introducing Naviate

This paper has identified some of the challenges and opportunities our customers face when working with Autodesk Revit and Civil 3D. Symetri has taken customer feedback to develop a solution called Naviate to address these. It's a continuous process, which also evolves with the latest releases of Autodesk Revit and Civil 3D.

About Naviate

Naviate is a technology ecosystem which enables users to spend more time on valuable design work and do more of what they enjoy. It is fully integrated within either Autodesk Revit or Civil 3D and maximises user productivity and reduces the risk of error through an integrated suite of workflow enhancement tools, educational content, and technical support.

Born directly out of industry and user feedback, each function within Naviate can in the main, be directly associated with a customer request. It's this community of about 10,000 + users that have supported its development over the last 13 years and continue to make it so successful today.

The solution consists of four main elements:

Continuous Learning - Naviate comes with an e-Learning platform which provides a full suite of training modules on both the Autodesk portfolio and Naviate itself.

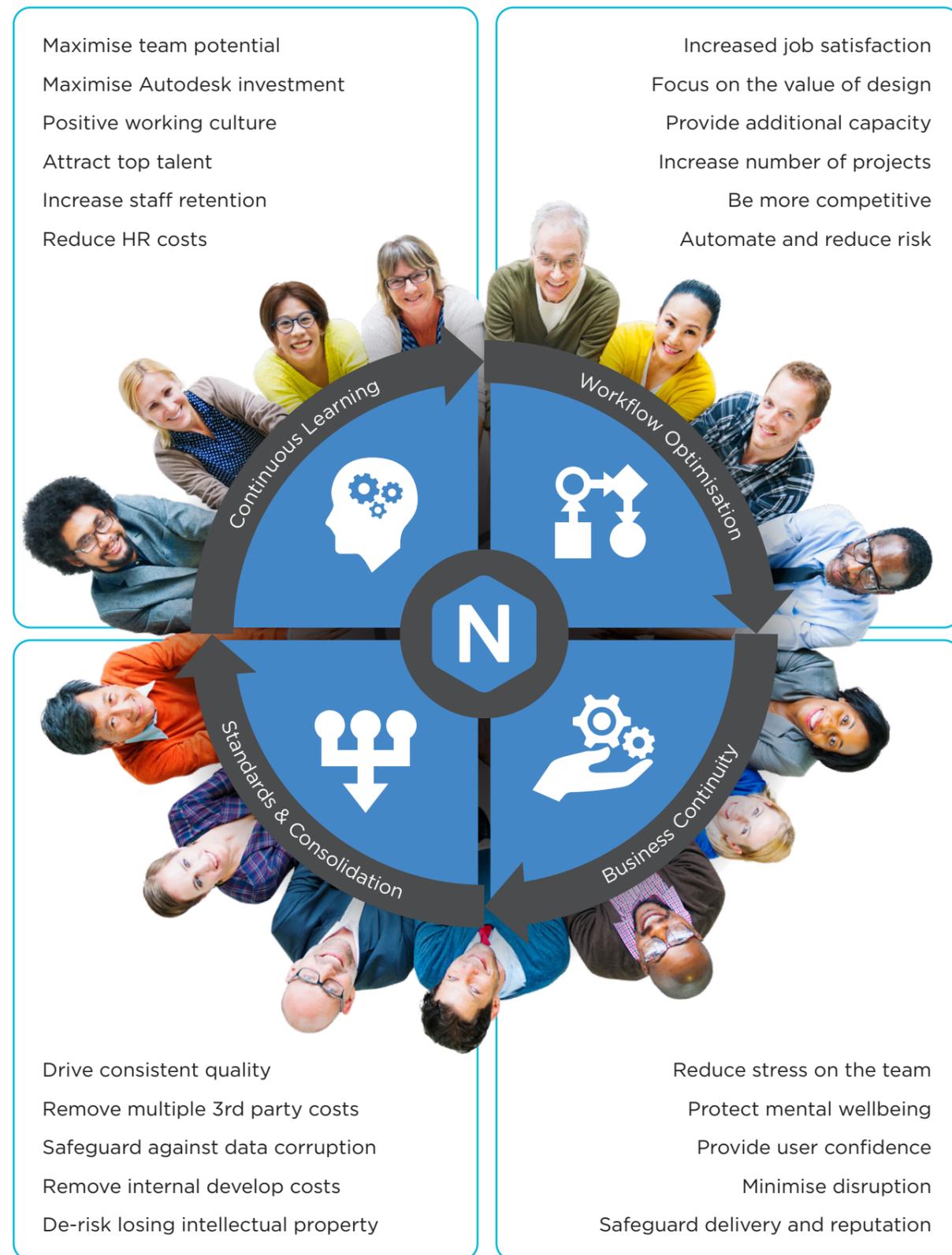
Workflow Optimisation - The solution contains more than a hundred additional productivity tools to remove manual, labour intensive and repetitive tasks.

Business Continuity - As part of the subscription, users gain full technical support from industry leading experts covering both the Autodesk authoring platform as well as Naviate.

Standards and Consolidation - Naviate has built in automation to comply with industry standards supported by a host of consolidated tools within a unified interface.

Four key areas Naviate addresses

Naviate comes in a range of modules to suit the array of different industry sectors including Architecture, Landscaping, Structural Engineering and Civil Infrastructure, addressing four key areas:



Summary

Naviate means different things to different people.

Whilst many customers will appreciate the commercial benefits that Naviate has to offer, there is also the value of increased capacity to spend more time on design, creating more elegant buildings and in turn being able to add additional value to their own clients.

For some, it's removing the need to work late into the evening, possible weekends and instead establishing a more sensible work life balance.

If you would like to find out more about Naviate or experience a free demonstration of the platform, please do not hesitate to get in contact with us.

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We challenge people to
Work smarter
for a better future