A black and white photograph of three construction professionals wearing hard hats. They are gathered around a table, looking at a set of blueprints. One man in the center is pointing at a specific area on the plans. The woman on the left is looking down at the documents, and another person in the foreground is also looking at the blueprints. The background is a bright, slightly blurred office or construction site environment.

A PRACTICAL GUIDE TO SELECTING CONSTRUCTION SOFTWARE



VIEWPOINT[®]
A TRIMBLE COMPANY

CHAPTER 1: *STAY COMPETITIVE WITH THE RIGHT SOFTWARE*

For commercial contractors, the stakes are high. Deadlines must be met and budgets kept. And the perfect storm of conditions work against them: multiple work locations, specific contract requirements, typically non-standardized processes and a large cast of owners, architects, subcontractors, suppliers and crews to communicate and collaborate with.

If even one job is poorly handled, it can put a contractor's reputation — and prospects for future work — in jeopardy. That's a lot for a contractor to manage, and the challenges only grow when you factor in issues like:

- Lack of data transparency across project teams
- Time wasted converting or reentering data from multiple non-integrated software solutions
- Manual processes that slow communication and collaboration
- Project delays due to mistakes, lack of information, weather and other factors
- Mismanaged or noncompliant subcontractors and other external project contributors

In order to manage these challenges more effectively, you need the right tools. One of the keys to boosting construction efficiency and productivity is finding and using the right construction software. But in the vast landscape of software options, how do you know what you really need? What functionality is best and how will it be implemented? And how do you get your teams to adapt to and use the software?

Poor technology decisions can create more headaches. This guide will help you understand how to make the right construction software decisions for your team and your business.



CHAPTER 2: THE TECHNOLOGY LANDSCAPE

Contractors have historically underinvested in technology which has played a significant part in hindering the construction industry's productivity growth. That isn't to say contractors aren't using any technology. Construction businesses quite frequently adopt software for functions like accounting, payroll, HR, CAD/BIM, estimating, project management and client relationship management [CRM].

UNINTEGRATED SOFTWARE CREATES DATA SILOS

However, the 2017 Construction Technology Report by JB Knowledge found that construction companies tend to adopt software at the department level rather than organizationally. And, in many cases, contractors select out-of-the-box solutions that aren't tailored to the construction industry or don't integrate well with other software programs used throughout the company.

The fact that contractors are adopting software is a good thing, but software chosen by and for one department — and not designed for the unique needs of construction businesses — often isn't the best solution for the whole organization. It's critical that the various tools used across the organization are tightly integrated to ensure information flows easily between them. A construction-specific, unified solution provides a better foundation for a construction business.

Construction companies tend to adopt software at the department level rather than organizationally.

WHAT IS AN INTEGRATED ERP SYSTEM?

You may have heard the term enterprise resource planning, or ERP. Enterprise resource planning is a process in which companies manage and integrate important parts of their business. In construction, this typically means having a unified software system that connects all the departments in order to streamline processes. These solutions handle functions like accounting, HR and payroll, project and equipment management, materials and inventory tracking, service management and much more — all integrated and using the same set of data throughout.

WHY IS HAVING AN INTEGRATED SOFTWARE SYSTEM SO IMPORTANT?

Contractors need to tie the financial health of projects to project execution, which means connecting accounting and operations. If these two parts of a business aren't closely connected, it can lead to poor operational decisions due to lack of accurate job costing and real-time progress reports. Delays can occur while waiting for current data. The chances of project mistakes, incorrect material orders, misuses of equipment and other challenges are higher when data has to be re-keyed or translated into separate software programs to proceed with work.

When departments like accounting employ generic software not designed for construction, it can also create challenges in adapting certain data to be relevant for organizational and project decisions and reporting.

Integrated ERP software, on the other hand, automatically connects disparate teams and synchronizes data so everyone is working from one source of truth. It's easier to find information when needed, and less time is wasted re-entering data or waiting for field data to be entered before important project decisions can be made.

When these integrated ERP platforms are cloud-based, data is available and accessible in real time and can be easily shared across entire project teams. This improves collaboration and enables smarter decision making.



WHY IS IT IMPORTANT TO HAVE AN ERP DESIGNED FOR CONSTRUCTION?

Businesses in many industries use ERP solutions. These systems are often one-size-fits-all packages not specific to any industry.

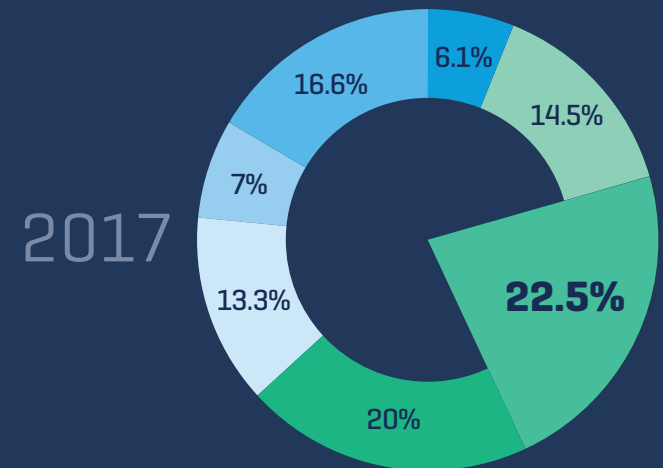
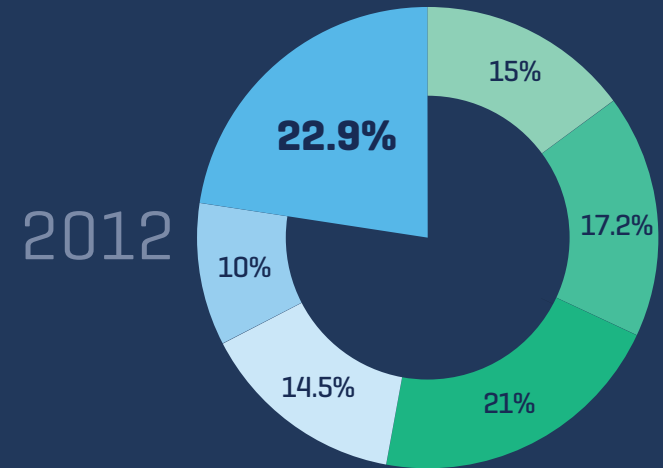
COMMON PROBLEMS CONTRACTORS RUN INTO WHEN USING A GENERIC ERP INCLUDE:

- Lack of features for specific construction job roles
- Inadequate features for construction job or project costing
- Inefficient approval workflows
- Poor or lack of vendor and subcontractor management and compliance features
- Reporting features not specific to construction
- Lack of applications or features accessible to field teams
- Generic fields that limit certain construction coding and naming conventions
- Weak supplemental features relevant to construction
- Lack of customization

AN ERP DESIGNED SPECIFICALLY FOR CONSTRUCTION, ON THE OTHER HAND:

- Accommodates all types of users across construction project teams
- Has construction-specific terminology, fields, forms and processes built in
- Is designed to track and manage construction-specific items like equipment and materials
- Is collaborative and allows for easy access to information and data entry in the field and sharing of data across entire project teams
- Includes functionalities tailored to construction businesses
- Is both customizable to fit specific contractors' needs and scalable to accommodate future growth and technology advancements

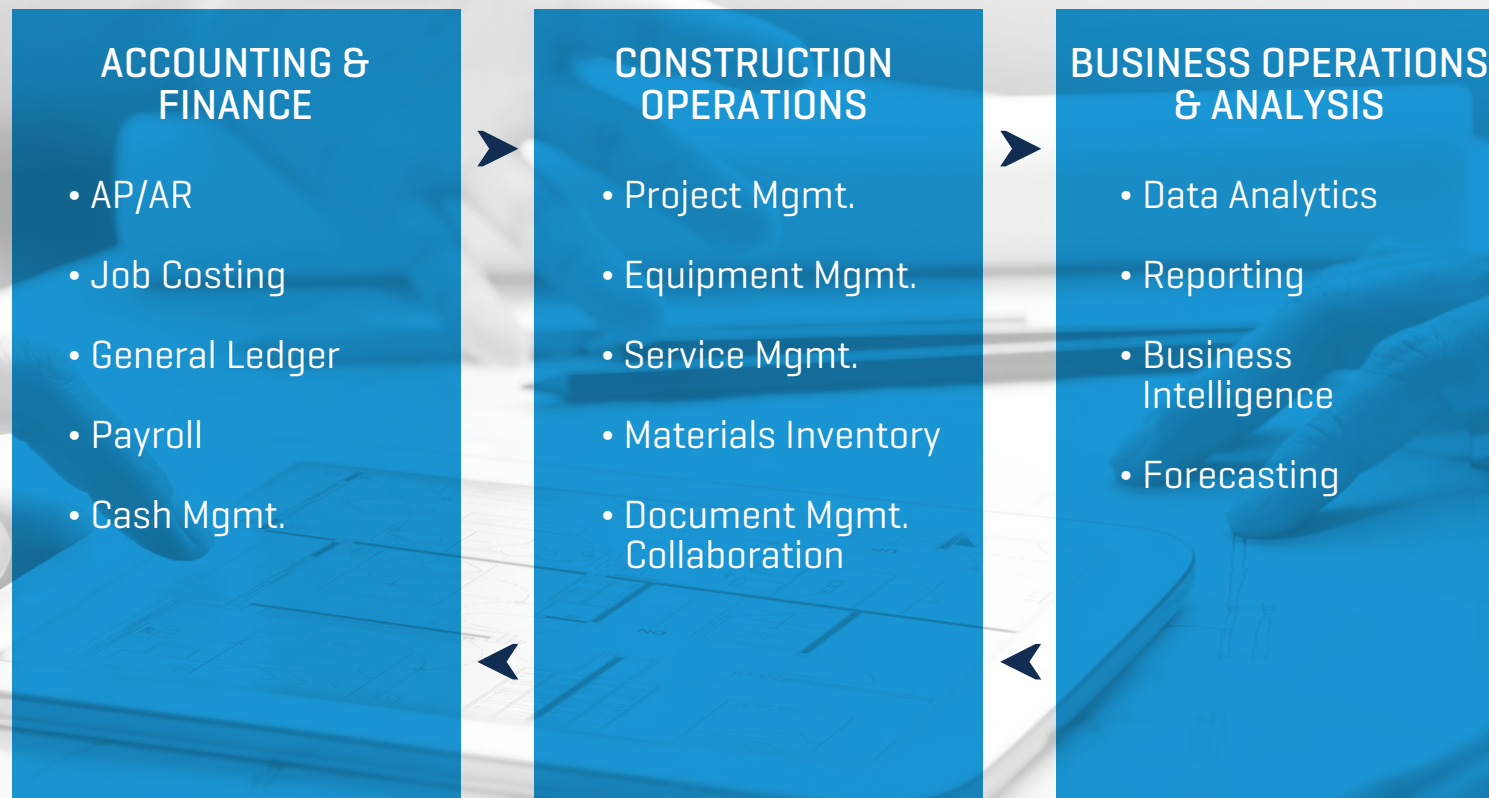
NUMBER OF SOFTWARE APPLICATIONS IN USE



THE 3 PILLARS OF CONSTRUCTION TECHNOLOGY

According to JBKnowledge, contractors are using fewer software applications than they were five years ago, which suggests more companies are opting for integrated solutions that handle many workflows. Contractors most commonly use software for accounting, project management, CAD/BIM and estimating. Having a software system that can connect these workflows improves collaboration among accounting/finance, construction operations and business operations/analysis, the three pillars of construction technology.

CLOUD-ENABLED, MOBILE-FRIENDLY USER INTERFACE THAT IS EASY TO USE



POWERFUL RELATIONAL DATABASE [E.G. SQL SERVER]



*Changing software can be a significant investment in time and resources, but the **benefits are often dramatic** for the business.*

CHAPTER 3: SET EXPECTATIONS

It's true implementing the modern construction management software needed to grow at today's rapid pace isn't a snap decision. Changing software can be a significant investment in time and resources, but the benefits are often dramatic for the business. Some contractors — especially those still using manual management methods or off-the-shelf tools not designed for construction — might not be prepared for what today's integrated, construction-specific solutions can do, what they cost and what's involved in setting these programs up to achieve goals of better visibility and decision-making.

Before reaching out to software providers, it's highly recommended that you have solid business goals in mind. Gather and analyze specific pain points, limitations to growth, policies and procedures in need of change and areas where productivity improvements are necessary. Articulate these to any software provider and they should be able suggest the best technology solutions to meet your needs.

It's also a good idea to do your homework on what types of technology advancements and features are available on the market. You may be surprised to learn that certain features and abilities exist within software today, but generic product demos or videos don't necessarily cover every feature that might be important to you and your team.

Even after software is purchased, it's not uncommon for many software tools to not be used to their full potential by end users. That's why it's smart to go into any software search with a detailed list of wants and needs, to dive deep into all potential features and functionality and to ask detailed questions during product demos and sales discussions.

Of course, the biggest question most software seekers have is, “How much will this cost?” The truth is, costs can vary significantly depending on your specific needs, company size, number of users and much more. Dedicated construction software packages range from a few thousand dollars for a small contractor with relatively simple needs to hundreds of thousands of dollars for a large enterprise organization with a high volume of users.

That said, most contractors will tell you that any good construction-focused ERP will bring about significant ROI, with notable cost savings from redundant tasks and wasted resources, increased productivity and reduced project mistakes, quicker turnaround on projects, the mitigation of risks that can significantly impact contractors’ bottom lines, increased profit margins and deeper business intelligence into projects to better forecast their health.

The 2017 Hobson & Company survey, “Driving ROI, The Case for a Proven Construction Management Solution”, noted that contractors using Viewpoint’s integrated construction solutions experienced a 50% reduction in time spent tracking unapproved invoices, billing processes and time and material tracking. The study also noted a 75% drop in print and mail costs and a 100% reduction in redundant applications.

The real meat of the findings, however, was that integrated ERP solutions provided clients with a 3% increase in top-line revenues and a 0.75% increase in gross margins. Depending on the business size, that can mean hundreds of thousands or even millions of dollars in regained profit..

50%

Reduction in time spent tracking unapproved invoices, billing processes and time and material tracking

75%

Drop in print and mail costs

40%

Reduction in time managing change orders

30%

Reduction in project delays

3%

Increase in top-line revenues

0.75%

Increase in gross margins



*Technology has evolved quickly and **cloud servers provide secure data storage and backup, reduce hardware costs and streamline IT strategies.***

CHAPTER 4: *DEPLOYMENT CONSIDERATIONS*

Beyond construction software features and functionality, contractors need to consider how it will be deployed throughout their organization.

In the past, concerns about data security and data loss led contractors to purchase and maintain on-premise servers to house data. This on-premise model often resulted in high demands on IT departments to maintain in-office workstations, high maintenance costs, limited storage space, server crashes and often complex accessibility.

Technology has evolved quickly, and many contractors are turning to cloud-based construction management platforms. Today's cloud servers no longer pose the security and data loss concerns they once did. In fact, cloud solutions not only provide secure data storage and backup, they also reduce hardware costs and streamline IT strategies.

With cloud-based software, many vendors offer the option to host the client's data internally or externally. With external hosting, the vendor stores the client's data in the cloud, selling them what's often referred to as "slices," or digital data storage space. This is often a far cheaper approach than the client maintaining physical servers on-site (internal hosting, sometimes referred to a "hybrid cloud software deployment") — though some contractors still prefer this approach.



WHY? JUST A FEW BENEFITS OF CLOUD HOSTING INCLUDE:

- Easier access to data and functions for users — no matter where they're working
- Significantly reduced IT footprint, since countless workstations won't require continual maintenance
- Simple login and interface in a browser environment for users
- Automatic software updates handled on the vendor's end so end users simply log in and start using new functionality right away
- The ability to move to software-as-a service [SaaS] pricing with maintenance and support costs rolled into the annual or monthly payments
- Lower cost of entry, as cloud-based systems allow many contractors to pay a lower up-front cost [capital expenditure] in favor of annual costs [operating expenditure]
- Greater data security
- Smoother implementations that take less time

Cloud-based software allows stakeholders to make project decisions in real time, reducing delays and mitigating risks on job sites. It also fosters true collaboration across entire project teams, letting them spot and correct issues immediately, as well as better manage processes and workflows. Meanwhile, the real-time access to cloud-based solutions allow for better data analysis and business intelligence. This means current projects can be more accurately v and future projects better planned.

And, when contractors don't need to worry about IT issues like workstation software updates and server maintenance, they can put their focus where it's needed: *on construction.*

CHAPTER 5: *ACHIEVE BUY-IN*

Perhaps one of the biggest considerations when looking at new software is how end-users will respond to it. The last thing you want is for a significant capital investment to wind up proverbially sitting on the shelf, collecting dust because no one in the organization wants to use it. Ask yourself and other decision-makers:

1

WHO WOULD BENEFIT FROM NEW SOFTWARE?

2

WHAT ARE THE TRUE PAIN POINTS RELATED TO YOUR CURRENT SOFTWARE FOR PEOPLE IN VARIOUS DEPARTMENTS?

3

WHAT NEEDS DO EACH DEPARTMENT AND EACH USER HAVE?

4

WHAT PROCESSES OR TASKS IN EACH DEPARTMENT COULD SOFTWARE IMPROVE?

5

WHAT COMMUNICATION OCCURS MANUALLY RIGHT NOW — VIA PEN AND PAPER, PHONE OR EMAIL — THAT SOFTWARE COULD HELP STREAMLINE?

6

ARE PEOPLE OPEN TO USING NEW SOFTWARE? IF NOT, WHAT WOULD THEY NEED — TRAINING, SOFTWARE CUSTOMIZATIONS, ETC. — FOR THEM TO SEE THE VALUE IN SOFTWARE AND USE IT EFFECTIVELY?





*Reducing
wasted time
is an idea
everyone can
get behind.*

When you're ready to evaluate ERP software solutions, make sure you achieve organizational buy-in. Ideally, your end-users (or at least a good representation of end users) would be involved in software demos, be able to ask questions that perhaps leadership hasn't thought of and provide valuable feedback on how their teams will adapt to new solutions. Providing the opportunity to weigh in is often all that's needed to make people feel heard, regardless of the end decision. It's also very important to communicate why new software is being sought and how certain features or functionality will make their jobs easier and their work more productive along with the overarching business problems you're solving.

Especially with integrated software, it's important that everyone throughout the organization uses it and that manual processes and outdated systems are officially retired. Otherwise, users will still have to work through issues that originally impeded productivity in the first place, like duplicate data entry, data translation, delays and more. Technology can only do so much if it's not being used appropriately.

30% of knowledge workers' workdays
is spent searching for information⁴

If getting buy-in from others is challenging, consider this: Knowledge workers spend 30% of their workday searching for information. Almost everyone in your organization needs to consult documents and look for information at some point during the day. Having a unified software system that creates a single data source for the organization could save time for everyone. Odds are reducing wasted time is an idea everyone can get behind.



CHAPTER 6: *CONSTRUCTION SOFTWARE CHECKLIST*

When shopping for construction software, it's important to have a plan. You need to do research about your options, know your budget, and talk to peers and others in your industry to get their recommendations. Most importantly, know what your organization's needs are, so you can select a software solution with the right features to solve your business challenges.

1

WILL THE SOFTWARE REDUCE WORKLOADS AND SAVE TIME?

2

HOW STRAIGHTFORWARD IS SETTING UP A NEW PROJECT? IS IT EASY TO IMPORT ESTIMATES AND GET STARTED?

3

ARE PROCESSES STREAMLINED FROM INITIATION THROUGH CLOSEOUT OF THE PROJECT?

4

IS THE SOFTWARE INTEGRATED TO ALLOW EASY FLOW OF INFORMATION BETWEEN ACCOUNTING, THE FUNCTIONS AT JOB SITES AND ALL PROJECT TEAM MEMBERS?

5

WILL THE SOFTWARE HELP CREATE A CONSISTENT STRUCTURE ACROSS THE COMPANY THAT ALLOWS EVERYONE TO WORK FROM THE SAME DATA?



6

ARE FORMS AND OTHER REQUESTS — INVOICES, CHANGE ORDERS, RFI, SUBMITTALS, WORK ORDERS, ETC. — EASILY GENERATED?

7

IS THE SOFTWARE SCALABLE AND FLEXIBLE, ALLOWING FOR CONFIGURATION TO FIT YOUR SPECIFIC BUSINESS NEEDS?

8

DOES THE SOFTWARE ENHANCE COLLABORATION AND DISSEMINATE INFORMATION IN REAL TIME?

9

CAN THE SOFTWARE EFFECTIVELY STORE CONSTRUCTION DATA AND MANAGE CONSTRUCTION DOCUMENTS WITH IMAGING AND ARCHIVING FEATURES?

10

IS THE SOFTWARE EASY TO USE? DOES IT HAVE A CLEAN INTERFACE?

11

DOES IT PROVIDE ANALYTICAL AND INTUITIVE LOOKS AT DATA IN WAYS THAT ARE RELEVANT TO EACH END USER? WILL IT ALLOW FOR USERS TO GLEAN TRUE CONSTRUCTION BUSINESS INTELLIGENCE?

12

IS THE COMPANY PROVIDING THE SOFTWARE COMMITTED TO CONTINUALLY INVESTING IN ITS PRODUCT AND SCALING IT FOR FUTURE FUNCTIONALITY GROWTH?

CHAPTER 7: *PREPARE FOR THE IMPLEMENTATION PROCESS*

The implementation of new construction management software can take time and planning, though many solutions today have streamlined these processes as well. Transferring data from one system to another, ensuring all functionality is working the way it should, setting up workflows and customized features — these are all tasks that need to be properly addressed to ensure a smooth transition, and they take time and resources to do well.

There can often be momentary disruptions in business or processes while implementation occurs, so it's important to have a plan in place and work with the software provider closely during this process. Here are some general steps to consider:

1. GET A HOLISTIC VIEW OF IMPLEMENTATION

Make sure you have an implementation map developed with your software provider. Consult training materials and assess your current processes. Where is data currently housed, and how can it be imported into your new system? Find out how long the process will take [your software provider can give you an estimate] so people know what kind of time frame to expect.

2. MAKE A PERSONALIZED PLAN

Establish a reasonable schedule for implementation with your software provider and those who will be implementing the software on your end. Ensure you have your documented list of software needs in hand when designing implementation so you know all of your customization needs are being met. Software implementations can often take multiple months from start to finish, depending on the scale and complexity, but essential functions can often be set up within a quick few weeks. You'll want to ensure all steps of the process are mapped.





3. COMMUNICATE WITH YOUR TEAM

Implementation can disrupt current systems and processes, so make sure your team is on board and understands when and how to plan for delays to current workflows. In many cases, an hour or two of downtime a day in back office functions can occur while data is transferred and functionality set up. If business delays happen during implementation, keep team members consistently updated.

4. PAY ATTENTION TO PROCESS DOCUMENTATION

In any new system, you'll likely need to do some configuration. Set up workflow steps and fill out details relevant to your processes. It's best to spend time getting these things correct from the get-go so you don't have to backtrack and fix problems later.

5. PROVIDE COMPREHENSIVE TRAINING

All users will need appropriate training if they're going to make the most of the software and use it as you want them to. Your software provider should have training available, so ensure everyone gets the right knowledge and tools to succeed. Nominate a "super user" on your team to truly understand the software, and potentially explore additional in-depth training in order to help the rest of your team as needed.

THE SOLUTION? INTEGRATED CONSTRUCTION MANAGEMENT SOFTWARE FROM VIEWPOINT

Now that you're better prepared to research, purchase and implement new construction management software, we invite you to learn how Viewpoint's suite of leading-edge construction technology software and solutions can be the perfect fit for your organization. Our integrated ERP, project management and mobile field solutions connect a contractor's office, team and field operations, allowing them to use one source of information for real-time, actionable results.

Viewpoint solutions streamline workflows across the entire construction organization and provide powerful functionality to:

- Share data and collaborate across entire project teams
- Increase efficiency and productivity
- Mitigate project risks
- Save costs and boost profit margins
- Achieve construction business intelligence and better plan future work

Connect with Viewpoint to see how we can help your construction organization realize untapped potential.

“

Viewpoint is the partner that can support our business 20 years from now.

– Bud Bowden, Controller, DooleyMack Constructors

It's not just software to us, it's a critical component of how we execute business; Viewpoint is a trusted member of the organization and part of the fabric of what we do every single day.

– Jeff Hanson, CEO, Adolfsen & Peterson Construction

ABOUT VIEWPOINT

Viewpoint, a Trimble company [NASDAQ: TRMB], is the leading global provider of integrated software solutions for the construction industry. We are trusted by nearly 8,000 customers to connect their office, team and field operations, improving project profitability, enhancing productivity, and effectively collaborating across the broad construction ecosystem. Our innovations transform construction by aligning financial and HR systems, project management tools, and mobile field solutions to minimize risk and increase efficiency. With clients in 28 countries, we serve more than 46 per cent of the ENR 400, and more than a third of the ENR 600. For more information, please visit VIEWPOINT.com.

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