

ENGINEUITY



New Features

ENGINEUITY is constantly evolving to keep it **relevant and appropriate** to meet the management training needs of today's construction professionals.

Some of the new features are outlined in the following slides.



Updated Software



From 2023 onwards the Software used by the Teams, known as the Participants' Module, **was updated to run in the Windows Net Framework Environment.**

An extra advantage of the update was that the software, and associated tools, could be **downloaded and installed much quicker** than before.



ENGINUITY PARTICIPANTS AREA

[HOME](#) [SOFTWARE](#) [LEARNING ZONE](#) [FAQS](#)

The **Enginuity software licence** permits anyone to install the software, whether it be for taking part in a current competition, or for evaluation purposes.

The software can be installed on as many client machines (PCs or laptops) as required, work-based or personal, and should be installed on machines running the windows operating system (windows 7 and above).

If you are waiting for your IT people to install the Enginuity software on your work machine, then please install it on your personal machine first, which only takes a few minutes.

INSTALLING THE ENGINUITY 2023 SOFTWARE

- Create a folder "**Enginuity2023**" off the root of your c: drive
- **Download the software (enginuitypm_wnf_2023_version_4.zip)** to the "Enginuity2023" folder
- Unzip the files enclosed in the zip file
- Run "**enginuitypm.exe**" to launch the software
- The download also includes a Guide to Getting Started, the Enginuity Tutorial, and the "trial2023_t1p5.dat" trial data.

GETTING STARTED

Once the software has been successfully installed, please use the 'Guide to Getting Started' to get up and running.



World Events

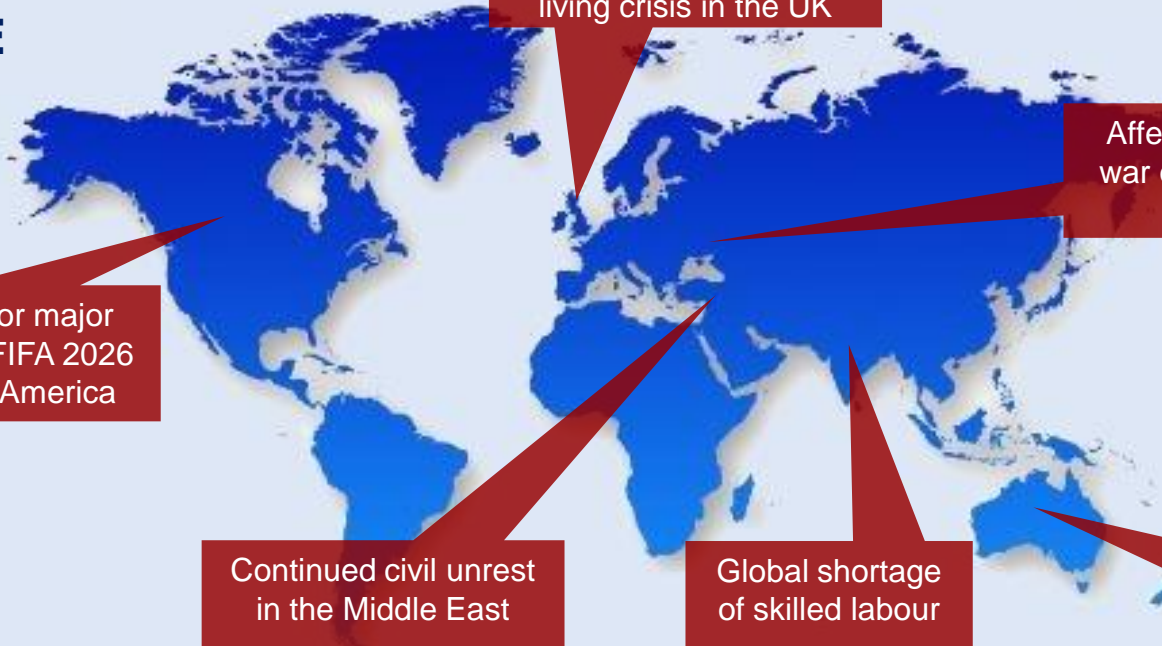


Construction companies do not operate in their own 'bubble', and are **subject to 'real life' external economic, political and environmental world events**, which can impact upon the running of the business.

Current and anticipated future world events are built into the Enginuity simulation, and add realism to the challenge.

A UNIQUE MANAGEMENT CHALLENGE

WORLD EVENTS INCORPORATED



Political turmoil, higher interest rates and cost of living crisis in the UK

Affects of the Russia-Ukraine war on energy supplies for the world economy

Construction work for major events, such as the FIFA 2026 World Cup in North America

Continued civil unrest in the Middle East

Global shortage of skilled labour

Climatic affects, such as extreme hot weather, flooding etc



The **Engenuity jobs database** is constantly being updated, and a **number of new clients** have been added for 2023 to reflect what is happening in the real world, including FIFA North America 2026 to represent the building work required to host the 2026 World Cup.

FIFA NORTH AMERICA 2026

Base country:

Type:

Profile: FIFA North America 2026 is a publicly funded body established in 2021 to oversee the delivery of the 23rd FIFA World Cup.

The tournament will be jointly hosted by 16 cities in three North American countries: Canada, Mexico, and the United States.

The United 2026 bid beat a rival bid by Morocco during a final vote at the 68th FIFA Congress in Moscow. It will be the first World Cup since 2002 that will be hosted by more than one nation, and the first by more than two.



Country	Description
US	Upgrade to the Gillette Stadium
US	Modifications to the Mercedes-Benz Stadium
US	Upgrade to the Lumen Field Stadium
US	Modifications to the MetLife Stadium
CAN	Modifications to the BC Place Stadium
MEX	Modifications to the Estadio BBVA Stadium
MEX	Modifications to the Estadio Azteca Stadium
US	Upgrade to the Hard Rock Stadium
US	Construction of new training facilities
CAN	Construction of new training facilities
MEX	Construction of new training facilities
US	Construction of new training facilities
US	Construction of base camp for teams
MEX	Construction of base camp for teams
US	Construction of base camp for teams
US	Construction of base camp for referees
US	Construction of base camp for referees
MEX	Construction of base camp for referees
MEX	Upgrading of transport links
CAN	Upgrading of road and rail links
US	Upgrading of road network
US	Upgrading of rail network
MEX	New hospitality complex
CAN	New hospitality complex
US	New hospitality complex
US	New hospitality complex
US	Modifications to electrical grids
MEX	Modifications to electrical grids
US	Upgrade to the Levi's Stadium Stadium
US	Upgrade to Lincoln Financial Field Stadium



Measuring Performance



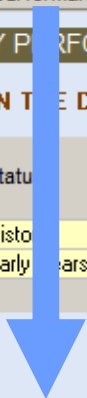
Company performance can now be measured on a simpler one screen interface, with access to both the Key Performance Indicators the Performance Summary, and a menu option for assessing performance in more detail.

Measuring Performance [Assessing performance] [Help]

KEY PERFORMANCE INDICATORS **PERFORMANCE SUMMARY**

CLICK ON THE DATA IN A COLUMN TO SEE HOW THE SELECTED KEY PERFORMANCE INDICATOR WAS CALCULATED

End of period	Status	Year/qtr	Turnover	Gross profit to Turnover	Operating Profit to Turnover	Company Value	Capital Employed	Contract Completion	Forward Workload	Forward Margin	Share Price	Client Satisfaction	Total
4	Historical	2022 (Q4)	40	170	120	170	130	80	70	100	70	50	1,000
5	Early years	2023 (Q1)	74	145	180	164	164	85	49	69	58	70	1,058



Assessing performance [Help]

- Management consultant report
- Financial analysis
- Overhead analysis
- Procurement analysis
- Job performance
- Impact of world events
- Client history
- Consultant history
- Project manager history



Performance Summary



The **Company Performance Summary** has been simplified to make it more intuitive in determining where performance has improved or declined since the History, when the new management team took over the business.

Measuring Performance

Assessing performance Help

KEY PERFORMANCE INDICATORS
PERFORMANCE SUMMARY

THE HISTORY

END OF PERIOD 4

Company value: 4,341,838

Share price: 1.21

Forward workload: 33,053,420

Forward margin: 1,409,509

DURING HISTORY

Identifying Jobs

Market share: 11 %

Infrastructure

Average capital base: 3,986,430

Average capital base utilisation: 52 %

Procurement

Average number of jobs won: 2.3

Bidding success: 58 %

Average value of work won: 14,482,990

Margin in work won: 4.4 %

Job Progression

Average turnover: 5,197,666

Average amount job profit: 171,226

Job profit: 3.4 %

Company Profitability

Average amount gross profit: 263,553 each period

Average amount overhead cost: 284,200 each period

Average amount operating profit: -27,750 each period

Dividend Payments

Average dividend paid: 121,000 each period

Change in Company Value

Average change in company value: -156,194 each period

SINCE HISTORY

END OF PERIOD 5

4,185,644 **-4%**

1.00 **-17%**

23,001,750

977,750 (4.4% of job cost)

PERIODS 5 TO 5

19 % of overall market identified

90 %

1 each period

25 % of jobs bid for that were won

3,660,884 each period

4.5 % of job cost

13,713,140 each period

406,050 each period

3.1 % of job cost

263,553 each period

284,200 each period

-27,750 each period

121,000 each period

-156,194 each period

SUMMARY INFORMATION

GROWING THE BUSINESS

The key to growing the business successfully is in improving its value.

This is achieved by winning plenty of new work, progressing jobs profitably, and keeping overhead costs under control.

The profits generated from jobs progressed are reduced by the overhead costs to to give the company operating profit, which goes directly into the cash account, increasing the value of the company.

The value of the company is reduced by paying dividends to shareholders, but so long as the dividend payments are offset by higher operating profit, the value of the business will continue to rise.



On-Line Help



The help screens within the software now **link directly to the on-line Learning Zone** to enhance the learning experience.

MAKING Procurement decisions for period 6 in the Early Years


Change period Key information Help

PROCUREMENT RESTRICTIONS
Company Based Limitations

NUMBER OF JOBS IN PROGRESS
At the start of the period, the number of jobs in progress is: 5 (job progression screen)
The number of jobs in progress after bidding cannot exceed: 5 jobs
Hence, the maximum number of jobs that can be won is: 5 during bidding

VALUE OF WORK IN PROGRESS
The initial forward workload is: 23,001,750 (job progression screen)
The current value of the capital base is: 4,069,502 (financial decision screen)
The current capital base can support forward workload of: 40,695,020 (10 x capital base)

Job	Country	Type	BIM
101	Mexico	DB	Yes
102	Australia	BO	No
103	United Kingdom	BO	No
105	United Kingdom	DB	No
106	United Kingdom	DB	Yes
113	India	BO	No
116	United Kingdom	BO	Yes
119	United States	BO	No



ENGINEUITY

LEARNING ZONE (MAKING DECISIONS)

HOME FINANCE OVERHEADS PROCUREMENT JOB PROGRESSION

Each period the company is offered a number of jobs for which a bid is invited.

The jobs were identified by the marketing department in the previous period depending upon the sectors into which the marketing effort was directed.

There are two types of jobs that can be bid for :-

- **Build Only**, where the client has already had the design produced, and the contractor is only responsible for the build
- **Design and Build**, where the contractor has responsibility for both the design and the build

In both cases it is assumed that the estimators have produced an accurate assessment of the costs to be incurred in completing the job, along with planned labour levels for each period of the planned duration of the job.

KEY TOPICS

- Making procurement decisions [PDF](#) [SLIDESHOW](#)
- Setting a bid [PDF](#) [SLIDESHOW](#)
- Bidding strategy [PDF](#) [SLIDESHOW](#)
- The factors that determine if a job is secured [PDF](#) [SLIDESHOW](#)