

ENGINEUITY



**THE CONSTRUCTION MANAGEMENT SIMULATION
FOR UNDER/POST GRADUATE STUDENTS**



The **ENGINUIITY** Construction Management Simulation is used by students on Undergraduate and Postgraduate degree programmes to :-

- Bring together many of the elements taught into one task, a Competition in which the students compete in teams to see how well they can run a 'Virtual' Global Construction Business
- Help prepare the students taking part for a future career in the Construction Industry by developing Business Management and Employability skills such as :-
 - Commercial awareness
 - Strategic thinking
 - Decision making
 - Problem solving
 - Team working
 - Communication



ENGINUIITY is a very cost effective learning tool.

For teams of up to 6 students per team, for 2025 the cost per team taking part is 250 (GBP).

This represents a cost of just 40 (GBP) for each student.



Where Enginuity Has Been Used



Institution	Country	Department / Programme	Level	Length
Auckland / Canterbury Universities	New Zealand	Civil Engineering (Construction Management)	Ug	Semester
Birmingham City University	UK	Built Environment (Construction Project Management)	Pg	Semester
Continuous Professional Education Centre	Hong Kong	Built Environment (Business Management)	Pg	Semester
Glasgow Caledonian University	UK	Built and Natural Environment (The Engineer in Business)	Ug	Semester
Horizon Campus	Sri Lanka	Engineering / Management (Construction Project Management)	Pg	Semester
Institute of Carlow	Ireland	Built Environment (Quantity Surveying and Construction)	Ug	Semester
Liverpool John Moores University	UK	Built Environment (QS and Construction Management)	Ug/Pg	Semester
Melbourne University	Australia	Civil and Environmental Engineering (Engineering Contract & Procurement)	Pg	Semester
Oxford Brookes University	UK	School of the Built Environment (QS and Commercial Management)	Ug	Semester
Portsmouth University	UK	Civil Engineering and Surveying (General Management in Construction)	Pg	Semester
Queens University, Belfast	UK	Planning, Architecture & Civil Engineering (Civil Engineering)	Ug/Pg	Semester
The Global School of Technology & Management	Singapore	Built Environment (Construction Project Management)	Pg	Semester
University of Limerick	Ireland	Management and Marketing (Project Management)	Pg	2 weeks
University of Manchester	UK	Mechanical, Aerospace & Civil Engineering (Commercial Management)	Pg	Semester
Waterford Institute of Technology	Ireland	Construction & Civil Engineering (Project Management)	Pg	Semester



Where Does Enginuity Fit In



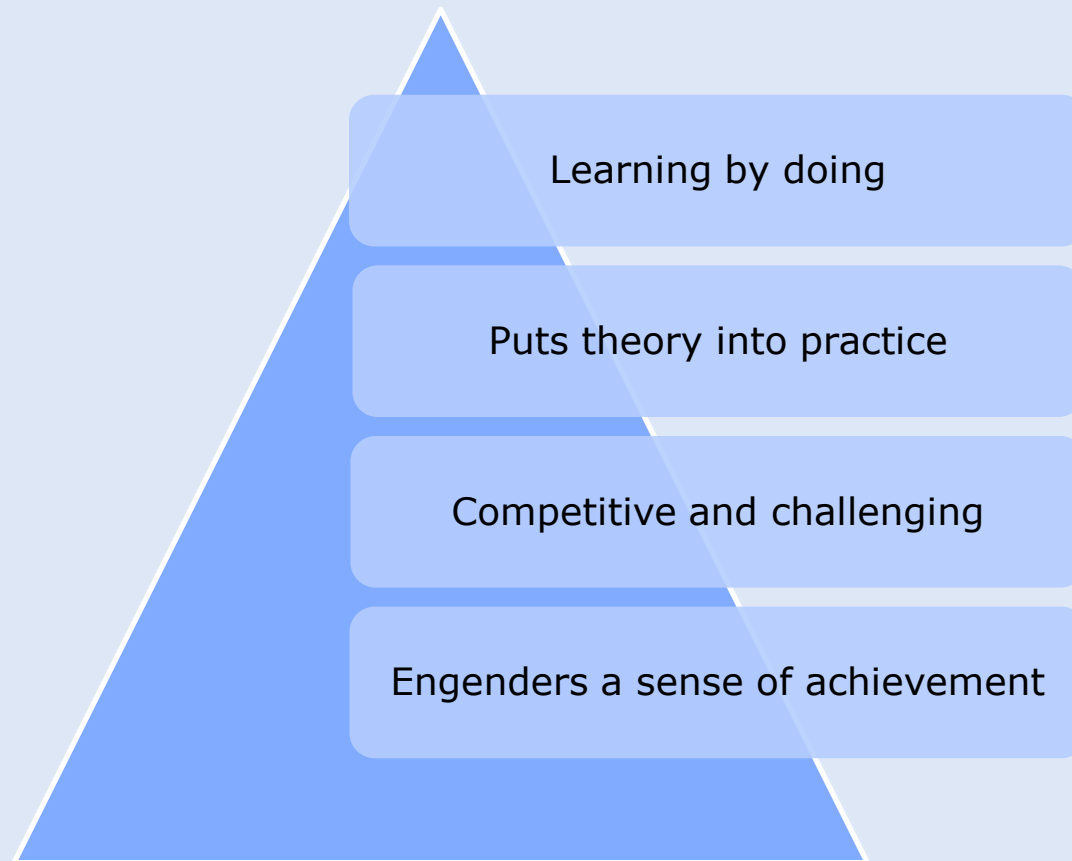
ENGINUITY is suited for a wide range of under and post graduate modules because it incorporates many of the key elements taught on Construction Management and related degree programmes.



- Project management
- Business strategy
- Commercial and financial management
- Tendering and procurement
- Value and risk management
- Leading and managing people

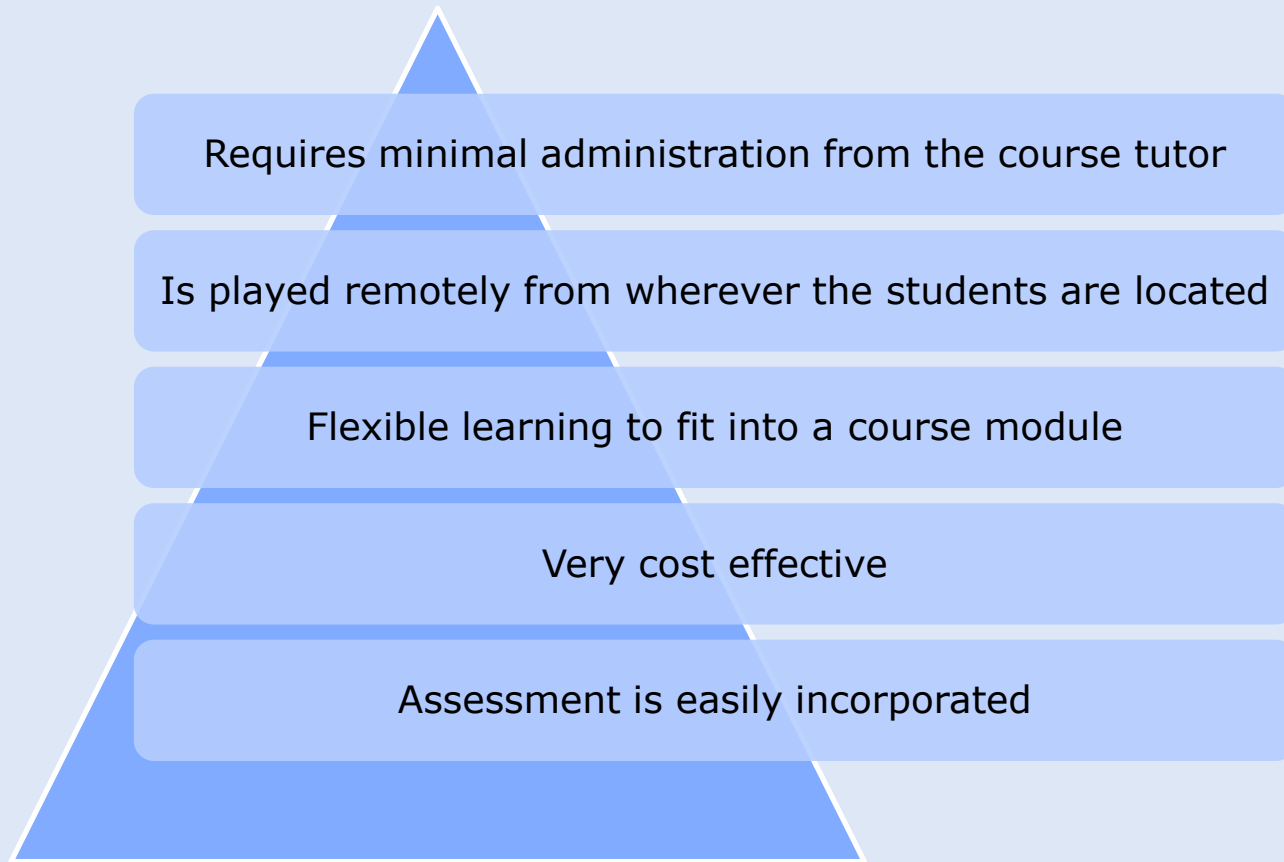


What makes the **ENGINEUITY** unique is that it is delivered as a Competition between the students (split into management teams) that enhances the learning environment.





ENGINEUITY is easy to integrate into an appropriate course module.



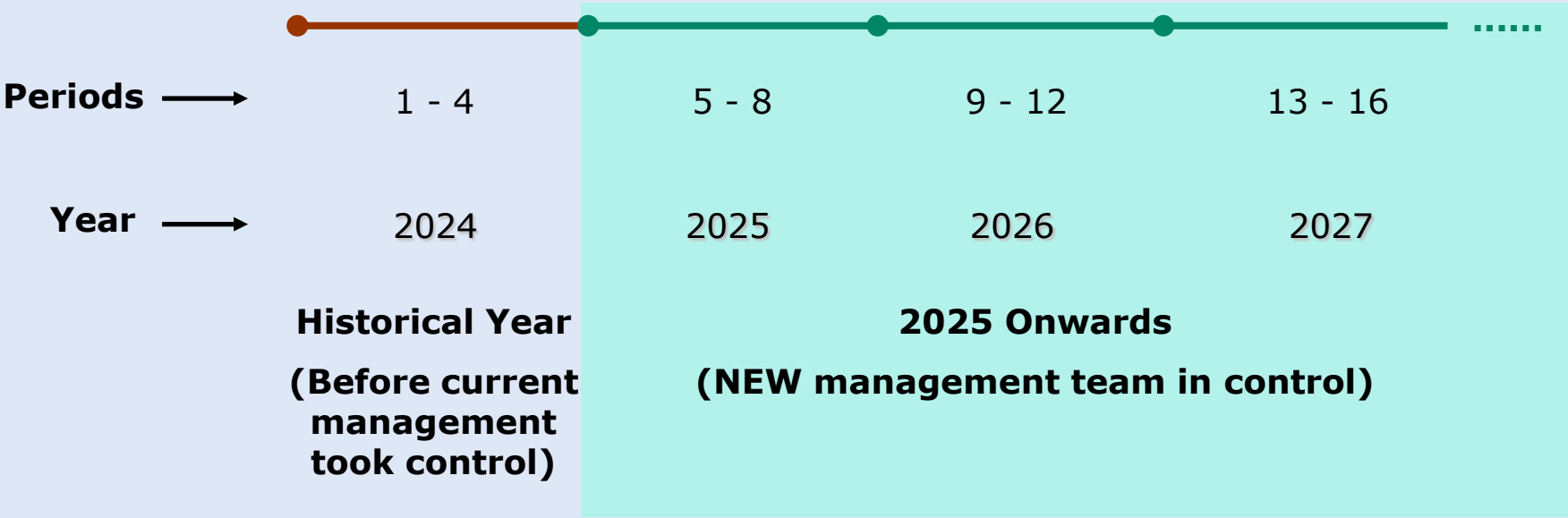


Each competing team is thrust into the same 'Virtual World', and are given the challenge of running their own UK based **GLOBAL CONSTRUCTION BUSINESS** for a number of simulated years, where success is measured by key performance indicators published on a league table.

It will not be easy, with stiff competition for work, a dynamic jobs market, and external world events that can impact upon the business just like the real world.

Developing a successful business strategy is essential, as is being able to work effectively as a team, make key decisions, and solve problems as they arise.

Ultimately there can be only one winner, but everyone also wins if they can grow a successful business.



Decisions are made for a **period**, representing 3 months, or a quarter, in the real world, in a number of key management areas :-

- Financial management
- Overhead management
- Bidding for new work
- Job progression



Measuring Performance



The performance of each team each round is measured by **10 Key Performance Indicators**.

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	History	2023 (Q4)	40	170	120	170	130	80	70	100	70	50	1,000
5	Early Years	2024 (Q1)	47	207	182	180	156	105	139	205	94	73	1,388
6	Early Years	2024 (Q2)	61	174	148	179	173	129	123	173	87	102	1,349
7	Early Years	2024 (Q3)	70	187	172	190	186	134	127	174	101	120	1,461
8	Early Years	2024 (Q4)	79	197	189	203	195	156	129	174	114	143	1,579
9	Early Years	2025 (Q1)	86	208	207	218	203	188	136	176	135	169	1,726

During a competition, each team’s performance relative to each other is displayed on a **league table** published at the end of each round, which only shows the overall KPI score of each team.

University of Manchester Competition 2024													
TEAM LEAGUE TABLE													
At the end of period 9 (Early Years)													
Position	Name	Sponsor	Location	Total KPI	Improvement	From	Change						
1	SiX GoLdZZ	University of Manchester	Manchester	1,726	9 %	1	0						
2	GOATS	University of Manchester	Manchester	1,719	21 %	10	8						
3	Quantum Quokkas	University of Manchester	Manchester	1,662	8 %	3	0						
4	Beauties no Beast	University of Manchester	Manchester	1,643	11 %	7	3						
5	Yesmola	University of Manchester	Manchester	1,589	5 %	4	-1						
6	Wonder Six	University of Manchester	Manchester	1,587	6 %	6	0						
7	Biz-Brains	University of Manchester	Manchester	1,576	1 %	2	-5						
8	Vwo50	University of Manchester	Manchester	1,576	15 %	16	8						
9	Goodgoodstudydaydayup	University of Manchester	Manchester	1,566	4 %	5	-4						
10	Echo	University of Manchester	Manchester	1,559	7 %	8	-2						



Postgraduate students from the Department of Civil and Environmental Engineering at the **University of Melbourne** have been playing an annual Enginuity Competition since 2010 as part of their module 'Engineering Contract & Procurement'.

During the latest Competition between August and October 2024, there were 164 students split into 27 teams, and competing over 8 rounds, or two simulated years.

UNIVERSITY OF MELBOURNE 2024



Postgraduate students from the Department of Civil and Environmental Engineering took part in their own internal Enginuity Competition as part of their their module **Engineering Contract & Procurement**.

The students were split into 27 teams, and competed over 5 rounds, or one and a quarter simulated years, between August and October 2024.

COMPETITION DETAILS

The final league table
The story, period by period
Comparative assessment of all teams

THE FINAL RESULT: "'Procurement Pro Consulting' are the 2024 Champions!"

In a dramatic final round, **"Procurement Pro Consulting"** held off a strong challenge from their rivals to emerge as the University of Melbourne Enginuity 2024 Champions with an impressive finishing score of **1,663** pts. Ultimately their success owed much to them demonstrating one of the guiding principles in running a successful business, consistency, having led the competition for 2 of the 5 rounds, and having never been out of the top 8.

The Final Round saw some amazing growth figures for many teams, and none more so than **"Sunny Side Up"**, who produced a stunning final round with 27% growth to lift them off the bottom of the table and up 5 places. At the top of the table 11% growth from **"Business Empire Pty Ltd"** enabled them to climb 3 places, and almost pipping the Champions, but they had to settle for Runners Up, and the leaders from period 6, **"Hexagonal"** dropped once place to finish 3rd.



WEEK 1

INTRODUCTION & TEAM SETUP

- **Slideshow introduction** provided by Virtual Management simulations (VMS)
- **Teams registered** (3-6 students in each team)
- **Data and instructions** for the Competition sent to each team
- **Software installed** by the students on their personal computers

WEEKS 2-4

LEARNING HOW TO PLAY (TRIALLING)

- **Teams learn how to play** Enginuity by trialling, individually/group
- VMS provide **detailed feedback** with each trial to help the students learn quickly
- VMS provide **7-day support** to the students

WEEKS 5-10

THE COMPETITION

- 6 **weekly rounds**
- Dedicated **Competition web page** with league tables

WEEK 11

POST COMPETITION ASSESSMENT & FEEDBACK

- **Assessment** in form of reports/presentations by the teams
- VMS provide a **graphical performance report** to the teams and tutor(s)
- VMS can, where appropriate deliver an on-site **feedback session**