

Gathering21

Construction Innovations
for Future Generations

CitA

WELCOME

to virtually, the most important conference
in Irish Construction this year

COLLENS BIM JOURNEY



5th CitA BIM Gathering Virtual Conference
21 - 23 September 2021



Gathering21

Construction Innovations
for Future Generations



Colens BIM Journey

Presented by Stephen Foley, Head of Bid Department, Colleen Construction

Qualified in Architectural Technology, Project Management, Energy Management and holds an MSc in Construction Informatics from TU Dublin.

Over 20 years of diverse professional experience in Design, Property Development, Specialist Subcontracting, General Contracting and Procurement.

I have always had an interest in emerging technology within the construction industry, in order to improve efficiency, productivity, safety and environmental management.

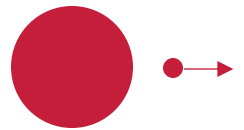


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- About Us
- Our Locations
- Company Structure
- Capacity
- Recent & Live Projects
- Experience- Commercial
- Recent Awards
- Company Accreditation & Systems
- Collen's BIM Journey
- Q&A





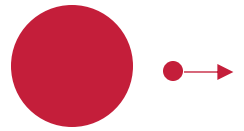
Who are we?

Tier One Contractor and 210 year old family owned business with a reputation for building quality and excellence.



Our Ethos:

To provide a quality service and forge long lasting relationships.



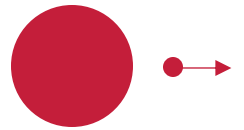
What do we do?

Main Contractor
Design and Build
Joint Venture Partner



Our Mission:

To deliver projects safely, on time, on budget and to the highest quality standards.



Our Teams:

Our staff are our most valuable resource.



Our Clients:

We continually strive to exceed their expectations. Our client list is testament to the excellent service provided on every project.



Ireland

River House,
East Wall Road, Dublin 3
D03 P7Y5

Ireland

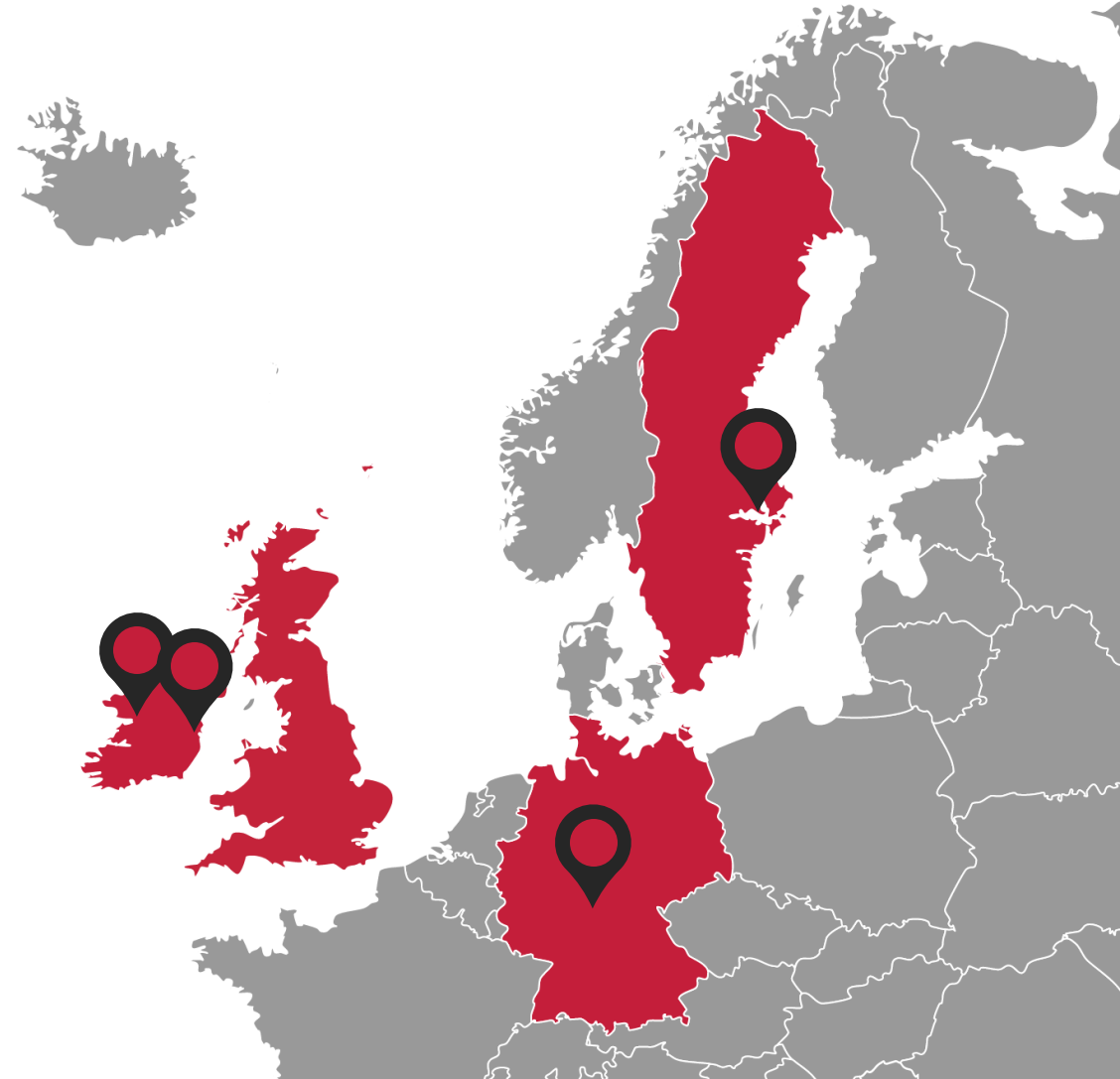
Office No. 3, 2nd floor Purcell House,
Oranmore, Co. Galway
H91 A6FW

Germany

Flinschstraße 2-4,
60388 Frankfurt am Main

Sweden

Rehmsgatan 5,
113 57 Stockholm





Neil Collen
Chairman



Tommy Drumm
Managing Director



Declan Lowry
Director



David Lee
Director



Donal Hennessy
Director



Tom O'Connor
Director



Kara Stuart
Company Secretary



Philip Walsh
Financial Controller



Gary Morris
Head of Estimating



Stephen Foley
Head of Bid
Department



Joe O'Dwyer
Health & Safety
Manager



Rebecca Reilly
Quality & Environmental
Manager



Jim O'Brien
Senior Planner



Ben Shepherd
Design Manager



Simon Clarke
MEP Department
Manager Europe



Ray Coote
Head of BIM



Philip Dolan
Procurement Manager



Phillip Tierney
Chief Information Officer



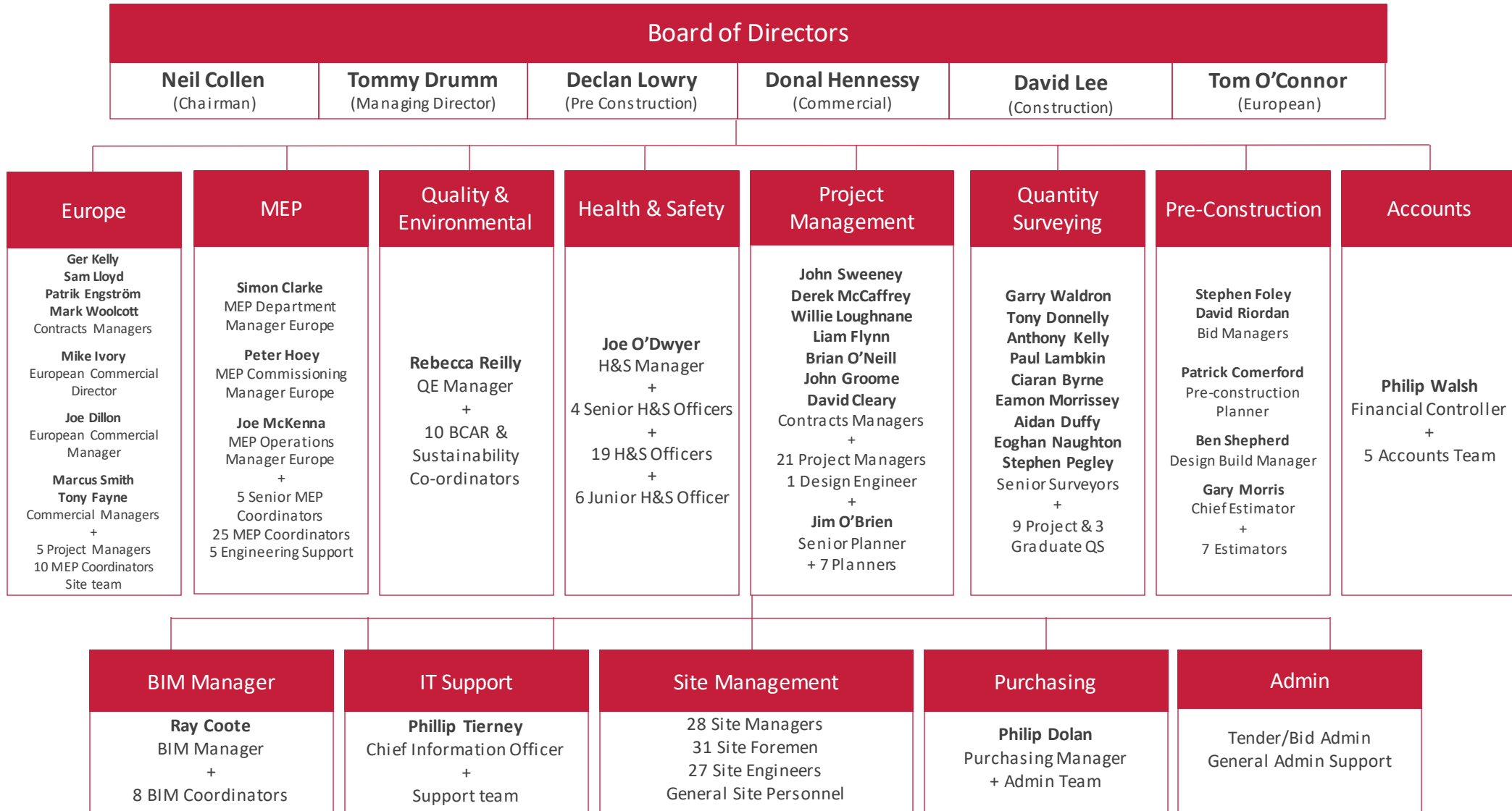
Declan Callan
Head of Legal



Mike Ivory
European Commercial
Director



Colleen Employs Over 350 Full-Time Managers and In-House Staff





- Ranked in the **Top 10** Irish Construction Companies
- **Turnover of €368m** year end 31 March 2020
- Company Construction **Capacity €500m - €600m**
- **Robust** cash flow
- **€35 Million Bonding Capacity**
- **Creditsafe International Score 'A'** (very low risk)

YEAR	TURNOVER YR ON YR%
2021	31.79%
2020	36.30%
2019	35.00%
2018	35.14%
2017	12.12%
2016	-

- Only 3.5% of companies in the industry have a higher financial strength
- D&B Rating 3A 2 (lower than average risk of failure)
- Very well established business
- Strong pre-tax profit over total assets ratio
- Balance sheet values, ratios and trends are satisfactory

(Above taken from D&B report February 2019)





Haymarket, Office
€28.0m



Blackrock Retail Upgrade
€10.0m



Two South County, Leopardstown
€26.0m



Bray Primary Care Centre
Confidential



Data Centres
€750.0m



Frascati Apartments
€16.0m



Block H, Central Park
€41.0m



Frascati Shopping Centre
€30.0m



One South County, Leopardstown
€30.0m



Enterprise House
€19.6m



Audi South
€9.35m



Abbey Street Office Development
Confidential



ESB
€20.0m



Life Science Office Fit-Out
Confidential



Docklands
€1.0m



Irish Life
€9.0m



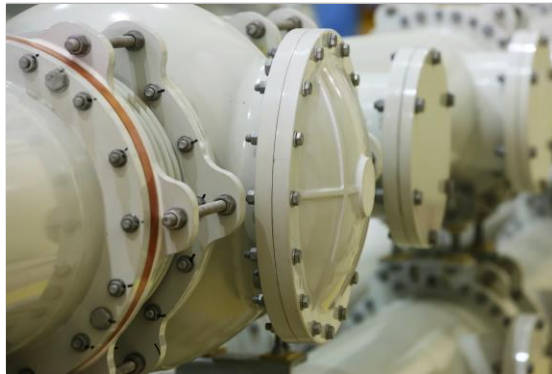
Brickfield Lane Student
Accommodation
€19.6m



Whirlpool
€2.0m



Data Centres



110kv/220kv GIS substations



Takeda Ireland



Abbott Laboratories



Amgen



IPSEN



Fonthill Retail Park
€65.0 million



Horizon Logistics Park
€33.0 million



City Jet Aircraft Hangar
€6.6 million



Profile Park
€4.5 million



Power City, Airside Swords
€2.1 million



DAA Simulator Building
€2.3 million



UCD Ashfield Student
Accommodation
€15.5m



Brickfield Lane Student
Accommodation
€19.6m



Fr Scully House
99 Apartments
€14.0m



232 Units, Tyrellstown
€48.8m



Tallaght Cross West
€16.0m



UCD Roebuck Student
Accommodation
€18.2m



Ferndene Nursing Home
€6.3m



Ferndene Nursing Home
Extension
€3.2m



Bray Primary Care Centre
Confidential



Marlay Residential Care Facility
€11.75m



Affidea ExpressCare Clinics
Dublin and Cork
Confidential



St. Francis Hospice
€1.7m



Blackrock FEI
€10.0m



Molesworth Street
€10.0m



Hugh Lane
€12.0m



Collins Barracks
€9.0m



Dublin Castle
€1.0m



Scot's Church, Abbey Street
Confidential



Gateway Office Fit-out
€20.0m



Brickfield Lane Student
Accommodation
€19.6m



Lighthouse Apartments
€20.0m



Audi Centre
€9.35m



Data Centres
€160.0m



Gateway Mixed-Use Development
€101.0m



Contractor of the Year 2019



Construction Manager of the Year 2019

The CIOB Construction Manager of the Year Award was won by Alan Barnes. He received the Gold Award in the €10m - €25m Category and the overall Construction Manager of the Year Award for his work on VHI Scot's Church, Abbey Street.



Collen Construction won the award for Health, Safety and Wellbeing at the 2019 Irish Construction Excellence Awards.



Innovation in Safety and Health in Products or Services

Collen Construction won the Innovation in Safety and Health in Products or Services for H&S in BIM at the Construction Safety Partnerships Advisory Committee Annual Forum and Collen employee Daniel Fowkes won Safety Representative of the Year 2019.



RoSPA Silver Award

In 2020 Collen received a RoSPA Silver Award - an internationally recognized safety award.






Certificate of Registration
of Occupational Health and Safety
Management System to
I.S. ISO 45001:2018

Collen Construction
East Wall Road
Dublin 3

NSAI certifies that the aforementioned company has been assessed and deemed to comply with the provisions of the standard referred to above in respect of:-
The provision of main building contracting and management of design and build services.




Registration Number: 45-0374
Original Registration: 12 June 2018
Last assessed on: 18 June 2021
Valid from: 18 June 2021
Renews valid to: 18 June 2023

All valid certifications are listed on NSAI's website: www.nsaiconsulting.com. The continued validity of this certificate may be verified under "Certified Company Search".

NSAI (National Standards Authority of Ireland), 1 South Square, Northwood, Sandy, Dublin 9, Ireland | T: +353 1 807 3000 | info@nsai.ie | www.nsaiconsulting.com

CERT-242: NNA ISO 45001:2018 INAB A4 (1)


OH&S System
ISO 45001:2018



Certificate of Registration
of Quality Management System
to I.S. EN ISO 9001:2015

Collen Construction
East Wall Road
Dublin 3

NSAI certifies that the aforementioned company has been assessed and deemed to comply with the provisions of the standard referred to above in respect of:-
The provision of main building contracting and management of design and build services.



Registration Number: 90-2025
Original Registration: 03 June 2008
Last assessed on: 18 June 2021
Valid from: 18 June 2021
Renews valid to: 18 June 2023

All valid certifications are listed on NSAI's website: www.nsaiconsulting.com. The continued validity of this certificate may be verified under "Certified Company Search".

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CERT-161: NNA ISO 9001:2015 INAB (1)

Quality System
ISO 9001:2015



Certificate of Registration
of Environmental Management
System to I.S. EN ISO 14001:2015

Collen Construction
East Wall Road
Dublin 3

NSAI certifies that the aforementioned company has been assessed and deemed to comply with the provisions of the standard referred to above in respect of:-
The provision of main building contracting and management of design and build services.



Registration Number: 14-0778
Original Registration: 03 June 2008
Last assessed on: 18 June 2021
Valid from: 18 June 2021
Renews valid to: 18 June 2023

All valid certifications are listed on NSAI's website: www.nsaiconsulting.com. The continued validity of this certificate may be verified under "Certified Company Search".

NSAI (National Standards Authority of Ireland), 1 South Square, Northwood, Sandy, Dublin 9, Ireland | T: +353 1 807 3000 | www.nsaiconsulting.com

CERT-161: NNA ISO 14001:2015 INAB (1)

Environmental System
ISO 14001:2015



Certificate of Registration
of Energy Management System
to I.S. EN ISO 50001:2018

Collen Construction
River House
East Wall Road
Dublin 3

NSAI certifies that the aforementioned company has been assessed and deemed to comply with the provisions of the standard referred to above in respect of:-
The provision of main building contracting and management of design and build services.



Registration Number: 05-0709
Original Registration: 12 March 2020
Last assessed on: 11 March 2021
Valid from: 11 March 2021
Renews valid to: 11 March 2023

All valid certifications are listed on NSAI's website: www.nsaiconsulting.com. The continued validity of this certificate may be verified under "Certified Company Search".

NSAI (National Standards Authority of Ireland), 1 South Square, Northwood, Sandy, Dublin 9, Ireland | T: +353 1 807 3000 | www.nsaiconsulting.com

CERT-256: ISO 50001:2018 INAB A4

Energy System
ISO 50001:2018



Certificate of Registration
of Information Security
Management System to
I.S. EN ISO/IEC 27001:2017

Collen Construction
Eastwall Road
Dublin 3
Ireland

NSAI certifies that the aforementioned company has been assessed and deemed to comply with the provisions of the standard referred to above in respect of:-
The provision of main building contracting and management of design and build services in accordance with SOA rev 2.



Registration Number: 27001-02
Original Registration: 1 April 2021
Last assessed on: 1 April 2021
Valid from: 1 April 2021
Renews valid to: 15 March 2024

All valid certifications are listed on NSAI's website: www.nsaiconsulting.com. The continued validity of this certificate may be verified under "Certified Company Search".

NSAI (National Standards Authority of Ireland), 1 South Square, Northwood, Sandy, Dublin 9, Ireland | T: +353 1 807 3000 | www.nsaiconsulting.com

CERT-215: SH WH: 27001:2017 INAB A4 (1)

Information Security System
ISO 27001:2017

One of the first organisations globally to achieve ISO 45001 certification.

First tier one construction company in Ireland to be certified to the new 2015 revisions of 9001 & 14001.



ISO 19650-2 BIM - Building Information Modelling





**Safety Management System
Certified Safe-T-Cert Grade A**



**NISO Occupational Safety Awards
2019
Superior Performance Award**



**NISO Occupational Safety Award
2019
Commercial/Industrial Award**



**Irish Construction Excellence
Awards 2019
Health, Safety and Wellbeing**

Colleen has attained the 'A' Rating with the Construction Industry Federations Safe-T-Cert Scheme in 2020 and have consistently maintained this rating for the last **9 consecutive years**.



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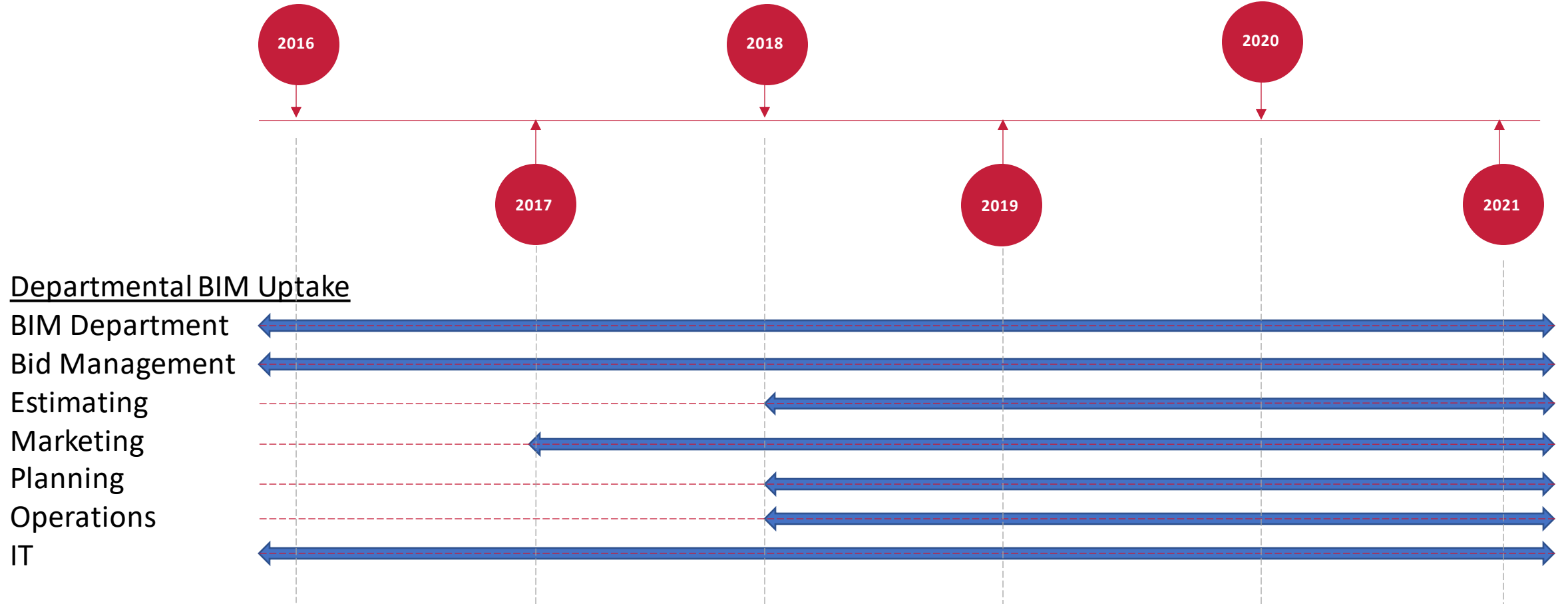
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Department was formed in 2016

Initially with a key senior appointment with strong leadership skills

Formation was driven by Market conditions and increasing client BIM requirements

Data Center and Pharmaceutical projects

Department has grown year on year from 1 to 10 team members

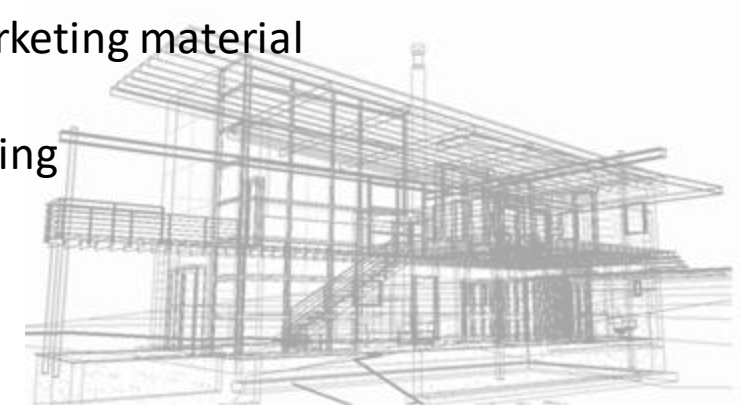
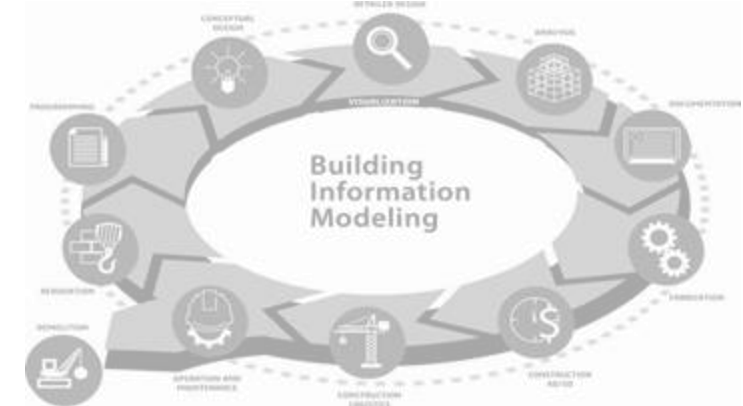
BIM department is key in support Bid and Proposal writing and the production of marketing material

BIM Department is key in supporting Pre-construction and Operational project planning

BIM department is key in operational & logistical Planning

BIM Department is key in Project Preliminary planning and Risk assessment

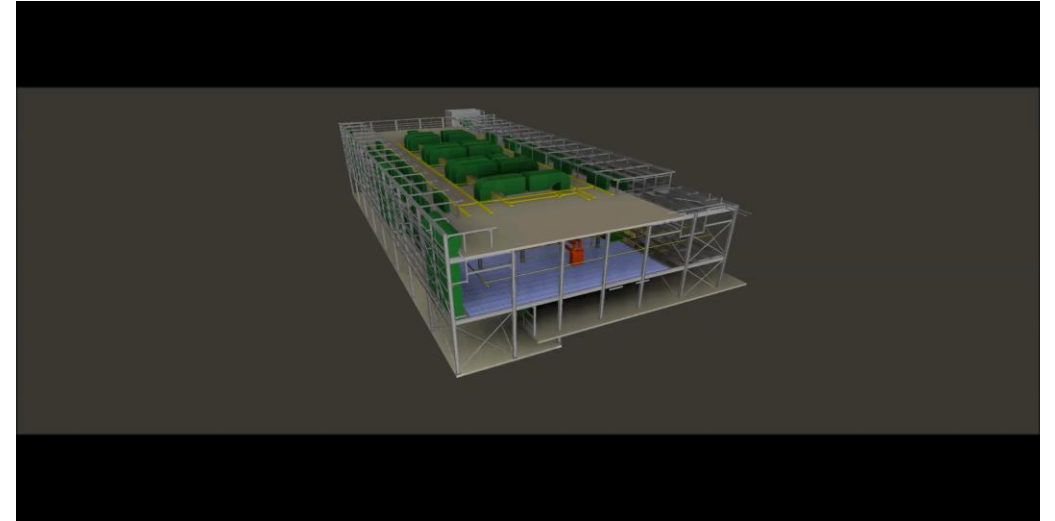
Collen now have a full time VDC animator





Building Information Modelling (BIM)

- Captures reality months in advance.
- Promotes project control and flexibility.
- Allows for early clash detection and resolution.
- Facilitates build sequencing and collaboration.



Design for Manufactured Assembly (DfMA) and Pre-Assembled Modules (PAMs)



- Reduces assembly time and costs.
- Limits risk to site personnel from work at height.
- Improves build quality to factory standards.
- Builds on existing quality with integrated QA/QC Protocols.
- Decreases install and commissioning times.
- Program benefits realised through off-site fabrication.



KEY POINTS

Integration of BIM into our CDE

Utilization of Augmented Reality

Integration of Field data into models

Clash detection and design development

Digital Cube- Making Models accessible to the site team

BIM in planning and collaboration

Ongoing challenges being met

Complex Data flow management





Construction Safety Partnership Advisory Committee 2019



Health & Safety Excellence Awards 2020

Our BIM team are currently working towards-ISO 19650



Developed initially as 2d packs

Models provided or produced in house

Client and market driven requirements (Competitive/ Marketing)

4d planning is now a critical part of our bid process

Modelling of logistics and spatial constraints is a key risk management tool

BIM models used for estimating processes and prelims costing

BIM models and simulations used for communication of proposals internally and externally

End user requirements drive BIM uptake on live projects

Designers have mostly moved to Revit for design coordination, 2d drawings less prevalent

Collen don't Bid without BIM





As Models became available at tender stage the estimating team started to utilize them

Our team has started to use models for takeoffs and quantity checks

Concern remains around the use of models for specification references due to QC issues

We have migrated our estimating software from Buildsoft to Cubit

Estimators utilize models and simulations for costing project preliminaries.

Most projects will have a level of BIM resources allocated (client driven)





Our Marketing team works closely with the Estimating and Bid departments

Models are utilised for marketing posts and documents

Rendered models are utilised for marketing materials and website content

Simulations and logistics plans are used in our sales pitch with clients at prequal & tender stages

We combine other media and models to produce marketing videos and images, e.g. drone footage, timelapse, video, and rendered images

We utilize BIM based 4d simulations and Logistical plans to produce case studies for marketing and learning initiatives.

We have full time graphical specialists in house for the production of multi media marketing materials.





Our Planning team works closely with the Operations, Estimating and Bid departments.

In a typical bid the programme is produced as early as possible and then utilised to develop 4d build simulations and logistics.

The 4d process has become normal on the majority of larger projects and is a very strong communication and coordination tool

We use several planning software platforms, including Asta Powerproject, Primavera and Project

We use several different software platforms for 4d simulation dependent upon interoperability





The Majority of our projects have a level of BIM deliverables.

Our Data Center and Airport project tend to have a greater client BIM deliverable LOD 300-500, 4d and 5d requirements

The majority of our design and build contracts are designed and coordinated utilizing BIM models

Our site team use the model for workshops, planning and design development.

We have successfully utilised our BIM cube initiative for collaboration and model review.

The majority of our engineering and site management are competent in the viewing and interrogation of federated models.





The IT requirement for our business has dramatically increased since the ongoing digitization of the construction industry

As a result we have grown our IT team to meet this requirement

Many of our clients demand the highest level of IT security and as a result we have had to develop appropriate systems to meet this requirement

The increase IT service requirements both Hardware and Software have identified our need for Digital leadership.

In 2020 we appointed a Chief Information officer to oversee the digital transformation of our business

In Late 2020 we achieved ISO 27001 (Information Security Management)

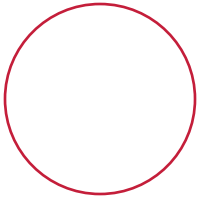




What have we learned

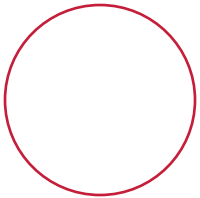
- BIM implementation in our business has driven innovation
- BIM implementation has accelerated our digital transformation
- BIM usage has improved competitiveness
- BIM requirements have improved the project risk management process
- BIM uptake has facilitated the appointment of digital leadership
- BIM has allowed us to retain existing clients and procure new ones
- BIM usage has allowed us to grow technically as a business





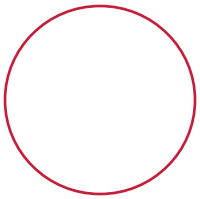
OUR ETHOS

- To provide a quality service and forge long-lasting partnerships.



OUR ETHICS

- We do not partake in below cost pricing in the hope of recouping costs through claims.
- We operate a partnering approach with our clients and subcontractors and we issue payments to our supply chain on time.



OUR COMMITMENTS

- We are committed to completing every project on time and within budget to quality standards that exceed Client expectations.
- We comply with Environmental and Safety, Health and Welfare Regulations and our company policies are implemented at every level.
- We are committed to reviewing and improving procedures on an ongoing basis.
- We are committed to completing every project safely and with minimal environmental impact.
- We are committed to driving innovation through technology in our business.



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