

Gathering23
Accelerating BIM adoption



MMA
ARCHITECTS

MMA ARCHITECTS

OUR BIM JOURNEY



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ARCHITECTS

ABOUT

- FINALIST IN ATHLONE BUSINESS AWARDS 2017, 2018 & 2022
- ICE AWARD WINNER 2023
- SHORTLISTED FOR 2023 CIAT AWARD FOR TECHNICAL EXCELLENCE
- PROJECTS HAVE BEEN FEATURED IN NATIONAL PUBLICATIONS
- HAVE ADVISED ON NATIONAL STANDARDS
- RECENTLY ADVISED ON THE PROPOSED ROSCOMMON RURAL DESIGN GUIDELINES AND PROJECT IMAGES FEATURED IN IT.



**Irish Construction
Excellence Awards 2023
Winner**

2023 A BIG YEAR FOR US....

ICE AWARDS 2023 –
WINNER

RESIDENTIAL: SINGLE
DWELLING

TEKNABUILD



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COMMERCIAL ARCHITECTURE

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- IRISH LIFE SCIENCES GLOBAL HQ



URBANSVOLT
SOLAR MADE EASY

- PV INSTALL JAN 2022
- 88000 KWH PRODUCED TO DATE
- EQ. OF 62000 KG OF CARBON SAVED

A LITTLE BIT ABOUT MEL....

- GRADUATED IN BSc. ARCHITECTURAL TECHNOLOGY IN 2002
- BECAME A CHARTERED ARCHITECTURAL TECHNOLOGIST IN 2011
- COMPLETED A MASTERS IN DESIGN MANAGEMENT IN 2012
- IN 2015 - QUALITY QUALIFICATIONS IRELAND (QQI) FOR AT
- BECAME A REGISTERED ARCHITECT IN 2016
- MADE A FELLOW OF CIAT
- EXTERNAL EXAMINER ON BSc. IN ARCHITECTURAL TECHNOLOGY AT ATU (GALWAY) AND PREVIOUSLY CARLOW AND TUD.
- I RECENTLY LECTURED THE BIM COLLABORATION MODULE AT TUS (ATHLONE CAMPUS)





CURRENT PROJECTS INCLUDE:

- MASTERPLAN 5HA SITE – PORTLAOISE
- ANALOG DEVICES INC – NEW OFFICE AND RESEARCH FACILITY
- REFURBISHMENT & EXTENSION OF HOTEL (ATHLONE)
- BOUTIQUE HOTEL - TRALEE
- LOUGH SHEEVER (MULLINGAR)– MIXED COMMERCIAL DEVELOPMENT
- ARCHITECTURAL CONSULTANTS – 2 NO. 100 MEGAWATT POWERSTATIONS (MONKSLAND ATHLONE & PROFILE PARK DUBLIN)
- RETAINED ARCHITECTS FOR TWO LEADING OFFSITE MANUFACTURING COMPANIES, CURRENTLY INVOLVED IN BEAUMONT HOSPITAL, MULTIPLE SCHOOLS ETC.
- MULTIPLE RESI SCHEMES THROUGHOUT THE COUNTRY

SOME RECENTLY COMPLETED PROJECTS INCLUDE:



- IRISH LIFE SCIENCES GLOBAL HQ – ATHLONE
- THE BONDED WAREHOUSE TULLAMORE
- SOCIAL HOUSING SCHEME – BALLINAMORE, LEITRIM
- TEMPORARY COURTHOUSE – ROSCOMMON
- INSTITUTE OF EYE SURGERY CLINIC – ATHLONE
- STRYKER – MEDICAL DEVICES, LIMERICK.

SAMPLE RESIDENTIAL ARCHITECTURE



COMMERCIAL ARCHITECTURE

- NURSING HOME, CLONGRIFFIN



MODEL SHARING ALLOWED FOR
MULTIPLE PEOPLE TO WORK ON THE
MODEL USING WORKSETS
INCREASING SPEED AND EFFICIENCY
OF DESIGN.



COMMERCIAL ARCHITECTURE

- LOUGH SHEEVER OFFICES - MULLINGAR

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- LOUGH SHEEVER (MULLINGAR) – 3000 SQ. M. WAREHOUSING
- LOUGH SHEEVER (MULLINGAR) - 3600 SQ. M. OFFICES (CAT A)



COMMERCIAL ARCHITECTURE

ANALOG DEVICES INC.

- 80000 SQ. FT FACILITY, INCLUDES:
 - OFFICES
 - LABS
 - GYM
 - SOCIAL SPACES

CURRENTLY IN PLANNING, DECISION DUE IN OCTOBER

COMMERCIAL ARCHITECTURE

- RATHBONE SQUARE, OXFORD STREET, LONDON.
 - £180 MILLION DEVELOPMENT
 - 200,000 FT² OF OFFICE SPACE
 - 145,000 FT² OF PRIVATE RESIDENTIAL SPACE (142 UNITS)
 - 10,000 FT² OF ON-SITE AFFORDABLE RESIDENTIAL SPACE (20 UNITS)
 - 42,000 FT² RETAIL SPACE
 - 45,000 FT² PUBLIC SPACE
 - 8,000 FT² OF COMMERCIAL BACK OF HOUSE FIT OUT



OUR BIM JOURNEY

KEY STAGES

- 2007 – 'LETS USE REVIT!!'
- 2010 – 2014 REVIT BECOMES INTEGRATED INTO THE OFFICE AND AUTOCAD BECOMES A SUPPORT TOOL
- 2015 - 2017 – RATHBONE SQUARE (LONDON) – FIRST L2 BIM PROJECT INVOLVEMENT
- 2018 – CENTREPARCS – WORKING WITH LEADING BIM TEAM SISK
- 2019 – ISO19650 IMPLEMENTATION

RETHINKING



CONSTRUCTION

CONSTRUCTING THE TEAM

BY SIR MICHAEL LATHAM

FINAL REPORT OF THE
GOVERNMENT/INDUSTRY REVIEW OF
PROCUREMENT AND CONTRACTUAL
ARRANGEMENTS IN THE UK
CONSTRUCTION INDUSTRY

WHY DID WE START ON OUR BIM JOURNEY?

I KEEP RETURNING TO THEMES I CAME ACROSS IN
THESE.....

- LATHAM REPORT – CONSTRUCTING THE TEAM 1993
- EGAN REPORT – RETHINKING CONSTRUCTION 1998

WHILST MUCH OF WHAT WE TAKE FOR GRANTED NOW AS GOOD PRACTICE WAS FIRST FORMULATED OR HINTED AT IN THESE REPORTS, UNFORTUNATELY SOME OF THE PROBLEMS ALLUDED TO IN THESE REPORTS, REMAIN ISSUES TODAY.

- too many clients are indiscriminating and still equate price with cost, selecting designers and constructors almost exclusively on the basis of tendered price. This tendency is widely seen as one of the greatest barriers to improvement. The public sector, because of its need to interpret accountability in a rather narrow sense, is often viewed as a major culprit in this respect. The industry needs to educate and help its clients to differentiate between best value and lowest price.

Egan Report – 1998: 25 yrs old and whilst much has improved, plenty has not.

RETHINKING



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EARLY INFLUENCES ON THE JOURNEY

HOWEVER, ONE OF THE KEY THINGS ABOUT EGAN AND LATHAM, IT WASN'T UNTIL THE ARRIVAL 'BIM' THAT WE COULD UNLOCK SOME OF THE REAL CHANGES THEY ESPOUSE.

An Integrated Project Process

If we are to extend throughout the construction industry the improvements in performance that are already being achieved by the best, we must begin by defining the integrated project process. It is a process that utilises the full construction team, bringing the skills of all the participants to bear on delivering value to the client. It is a process that is explicit and transparent, and therefore easily understood by the participants and their clients.

Egan Report – 1998.

OUR BIM JOURNEY

"eliminating waste in the delivery process, innovating and learning from experience" EGAN 1998

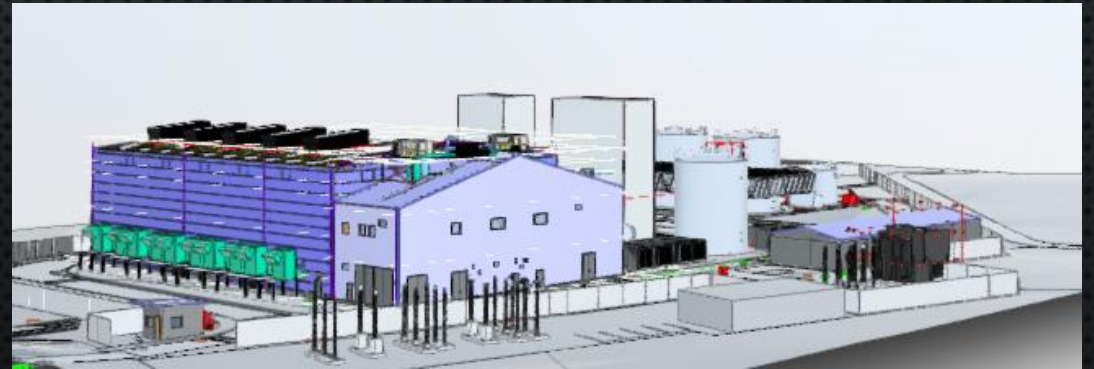
ADAPTING TO NEW WORKFLOWS

- AUTOMATING THE REVIEWS AND AUTHORISATION PROCESS
- EXPLOITING THE CDE – BIM360 & ACC
- ADOPTING THE OFFICE TO THE ISO NAMING CONVENTIONS
- UPSKILLING OUR TEAM TO THESE WORKFLOWS

WE HAVE TRIED TO MAKE THE INNER WORKINGS OF OUR OFFICE TO REFLECT A TYPICAL TASK TEAM – NO MATTER HOW SMALL OR LARGE THE PROJECT.

OUR BIM JOURNEY

- ISO19650
 - ONGOING ADOPTION PROCESS
 - SOME PROJECTS APPLY IT MORE THAN OTHERS
 - TRYING TO BRING CLIENTS AND CONSULTANTS WITH US ON OUR JOURNEY – NOT FOR EVERYONE AND SOMETIMES WE ARE JOINING OTHERS JOURNEY.
 - THERE IS AN APPETITE AMONGST SOME PROGRESSIVE SMALL AEC FIRMS TO IMPLEMENT THIS STANDARD
 - IRISH ANNEX DISTILS THIS AND RELATES IT BACK TO COMMON STAGES IN THE IRISH CONTEXT



OUR BIM JOURNEY

- BIM 'TIERED'
 - NOT EVERY PROJECT HAS TO BE ALL IFC AND UNICLASS, CONTAINERS ETC.
 - START WITH NAMING CONVENTIONS, TIDP, CDE
 - DEVELOP AN INTERNAL BEP – SLIM THIS DOWN TO WHAT IS REQUIRED FOR YOUR PROJECT
 - USE PURPOSE CODES – INSURE THE CORRECT DATA IS BEING USED AT THE RIGHT TIME.
 - IF SLIMMING OR JSUT USING ELEMENTS OF ISO19650, BE SURE TO IMPLEMENT THEM CORRECTLY!

Table NA.4 – Purpose codes

Purpose code	Definition	Explanation
P1	Information	Information container distributed to project stakeholders for the purpose of keeping stakeholders informed
P2	Coordination	Information container distributed to project stakeholders for the purposes of coordinating design and construction models, deliverables, and activities
P3	Statutory submission - Planning Permission	Information container related to planning regulation statutory submission activities
P4	Statutory submission - Fire Safety Certificate	Information container related to fire safety statutory submission activities
P5	Statutory submission - Disability Access Certificate	Information container related to access and use statutory submission activities
P6	Statutory submission - Building Control Compliance	Information container related to building control statutory submission activities
P7	Pre-tender submission	Information container related to pre-tender submission activities
P8	Tender	Information container related to tender preparation and submission activities
P9	Contract / construction	Information container that is to be included as a contract document
P10	Handover	Information container that is to be included in handover activities

ULTIMATELY THIS IS ABOUT GETTING THE RIGHT INFORMATION TO THE RIGHT PEOPLE AT THE RIGHT TIME

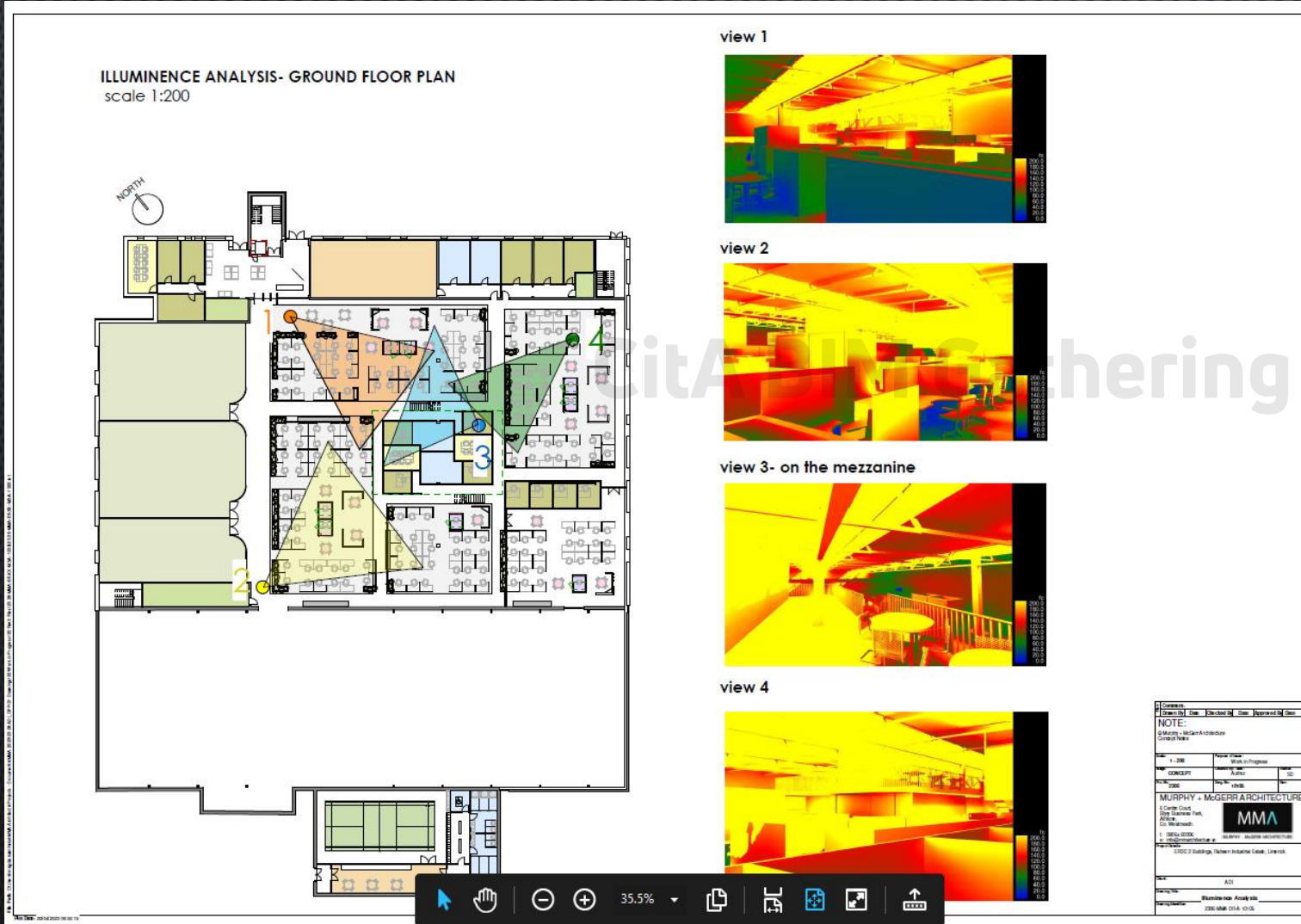
OUR BIM JOURNEY

- SO WHAT ARE THE 'EASY' BITS OF BIM WORKFLOW?
 - NAMING CONVENTIONS - NOW VERY COMMON. LITTLE COMPLEX INITIALLY, BUT WHEN YOU GET USE TO THEM, THEY BECOME SECOND NATURE AND MAKE NAVIGATING DIGITAL DATA VERY EASY.
- APPROVALS PROCESSES – ALIGN TO ISO 19650 (ALSO HELPS WITH ISO 90001 CERTIFICATION)
- SPATIAL MANAGEMENT AND CLASH AVOIDANCE
 - WE MODEL VENTILATION SYSTEMS FOR DOMESTIC DWELLINGS TO IDENTIFY POTENTIAL ISSUES BEFORE WE GO TO SITE - THIS IS OUR TOOL FOR OUR OWN PEACE OF MIND - AND TO PREVENT COSTLY HEADACHES FURTHER DOWN THE LINE.
- SCHEDULING OF ROOMS, AREAS,
 - CALCULATION OF PURGE VENTILATION REQUIREMENTS
 - CHECKING TRAVEL DISTANCES FOR FIRE - ALL NOW AUTOMATED.

ADDED VALUE

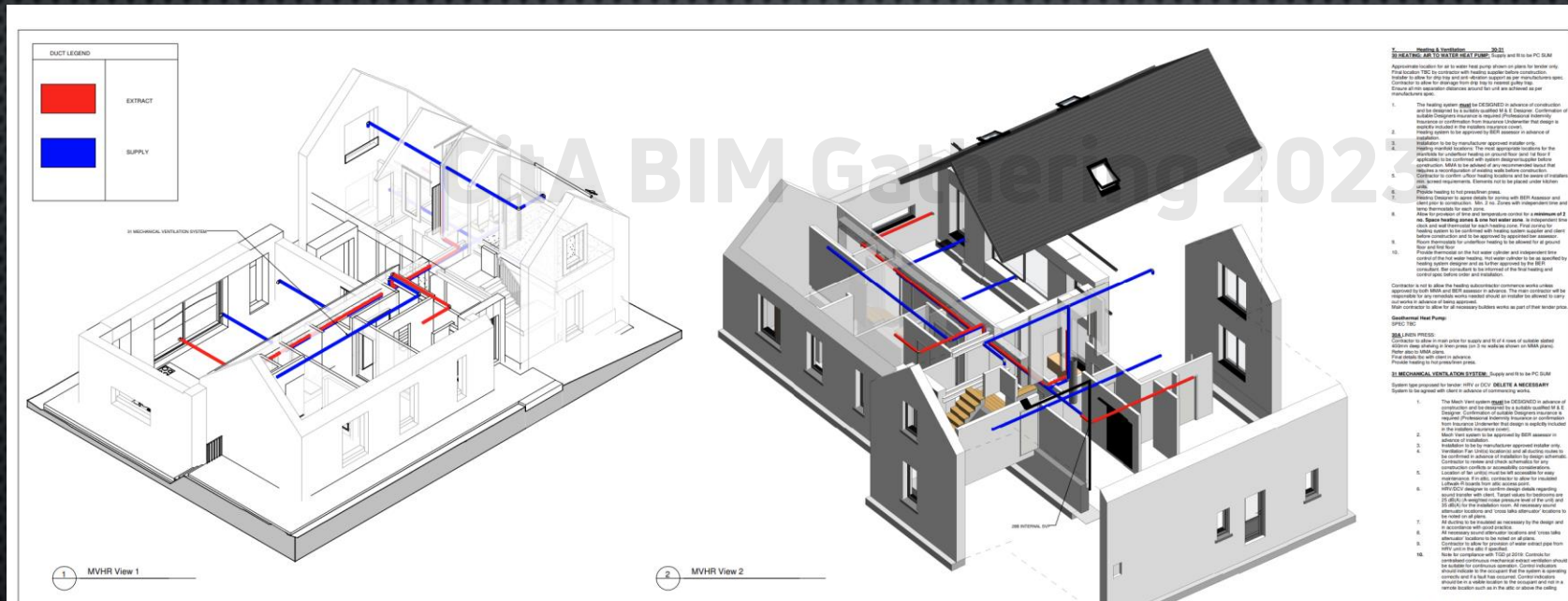


OUR BIM JOURNEY



- EXAMPLE: ILLUMINANCE ANALYSIS
- CLIENT PUTTING SIGNIFICANT EMPHASIS ON NATURAL LIGHTING IN THE BUILDING.
- LEED ACCREDITATION BEING SOUGHT.
- PRELIMINARY ANALYSIS OF THE BUILDINGS ILLUMINANCE LEVELS TO GUIDE OUR INITIAL DESIGN LAYOUTS
- ILLUMINACE THROUGH REVIT 2022.
- FORMAL DETAILED SPECIALIST ANALYSIS TO FOLLOW AS PART OF THE DETAILED DESIGN STAGE.

EXAMPLE: CLASH AND ISSUE AVOIDANCE - DOMESTIC
WE REGULARLY PREPARE IN HOUSE DUCTING DRAWINGS BASED ON SUPPLIERS DESIGN FOR INTERNAL CLASH AVOIDANCE AND ISSUE DETECTION ON COMPLEX HOUSES



THIS IS A 'VALUE
ADD' TO OUR
PROJECT DELIVERY

THIS HAS HELPED HONE SKILLS AND ALLOW US BE
PREPARED FOR LARGER MORE COMPLEX PROJECTS.



OUR BIM JOURNEY

HOW HAS BIM POSITIVELY IMPACTED MMA

- NEW MARKETS
- EXPERTISE TO MANAGE LARGER PROJECTS MORE EFFICIENTLY.
- CAN ALSO PROVIDE MORE INFORMATION MORE EFFICIENTLY ON SMALLER PROJECTS. EXAMPLES INCLUDE:
 - AUTOMATING THE CALCULATIONS FOR PURGE VENTILATION REQUIREMENTS
 - CHECKING FOR ISSUES WITH MECHANICAL VENTILATION
 - STRUCTURAL STEEL
- SHADOW STUDIES
- LIGHTING ANALYSIS IMPACT ASSESSMENTS
- AND MUCH MORE

OUR BIM JOURNEY

WHAT WE HAVE LEARNED:

- WE HAVENT LEARNED ENOUGH!!!
- EMBRACE ISO 19650!
- THE JOURNEY IS CONSTANT
- FOR SMALL PRACTICES YOU NEED TO BE SELECTIVE ABOUT THE SOFTWARE AND THE AREAS YOU ARE GOING TO SPECIALISE IN
- A LOT OF SOFTWARE AVAILABLE – YOU DONT NEED ALL OF IT!

OUR BIM JOURNEY

THE FUTURE:

FOR SMALL TO MEDIUM PRACTICES IT IS ALL ABOUT EFFICIENCY AND QUALITY:

- WE NEED TO CONSTANTLY TRAIN AND UPSKILL
- ADOPTING AND ADAPTING TO AI AND HOW CAN IT START TO SUPPORT WHAT WE DO
- BEING RELATIVELY SMALL WE CAN BE VERY AGILE IN HOW WE ADOPT AND ADAPT BIM TO LEVERAGE IT FOR SPECIFIC PROJECTS



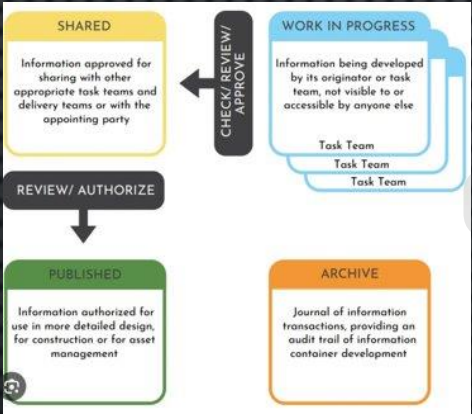
OUR BIM JOURNEY

PROBLEMS/ISSUES/BLOCKAGES:

- COST – OF COURSE!!!
- WE HAVE A CONCERN ABOUT CDE'S.....



OUR BIM JOURNEY – LETS TALK ABOUT THE CDE'S!!



THEY ARE GREAT!!!!

BUT.....



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CDE!!!!!!!!!!!!!!!!!!!!

THERE ARE SO MANY!!!!



DESIGN TEAM



CDE A

CLIENT



CDE B

CONTRACTOR



CDE C

ASSIGNED
CERTIFIER



CDE D

EACH PARTY IS USING THEIR OWN SYSTEM!
.....AND THIS LEADS TO.....



YOU CAN HAVE THE BEST
ARCHITECTS/ENGINEERS/SOFTWARE ETC...BUT IF THE
RIGHT PPL ARENT SEEING THE RIGHT INFORMATION AT
THE RIGHT TIME.....THEN IT IS A WASTE OF
TIME....MONEY...CARBON ETC.



OUR BIM JOURNEY

KEY BIM TOOLS WE USE:

- REVIT
- AUTODESK CONSTRUCTION CLOUD/BIM360
- NAVISWORKS
- LUMION
- AUTOCAD

OUR BIM JOURNEY

HELPFULL TOOLS/SUPPORT:

- ISO 19650 1 & 2
- ISO 19650 IRISH ANNEX
- RIAI BIMPACT (UPDATED TO ISO19650)
- UK BIM ALLIANCE ISO 19650 GUIDANCE DOCS PARTS 1 & 2.
- BIM FORUM LOD 2021

- CONSTRUCTING EXCELLENCE
 - WWW.CONSTRUCTINGEXCELLENCE.ORG.UK



THANK YOU

WWW.MMAARCHITECTS.IE