HOW TO BIM IN SOUTH AFRICA

LESSONS LEARNT IMPLEMENTING BUILDING INFORMATION MODELLING.

Gary Mansfield
Digital Innovation Lead | CKR CONSULTING ENGINEERS

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Welcome to this session of How-to BIM in South Africa!

First of all, if you are joining this session, it means that you either about to take the next steps of implementing BIM into your practice or you have started this process and its not going so well or it's going well but you are stuck and not getting to the next level!!

Hopefully, I can give you some insight on how one of the lessons learnt changed our ongoing implementation…

Yes, it's a continuous process of always reviewing and optimising current ways of working.

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I will be taking a slightly different approach in my discussion and will start with the business aspect.

The reason for this approach is based on one of the lessons learned in our implementation process.

Only because we didn't know any better. The start of our BIM implementation was purely technology-driven.

Because at the time the message and conversation throughout the industry were all about technology and how it will improve your business.

The biggest mistake we made was not identifying that technology was only one aspect of the change that we had to make to be able to be competitive and increase productivity.

So, what happened was, because the technology was used in the drawing office, the most business decided to give this new way of working to the drawing office to figure out.

One of the instructions was, to make this look like our AutoCAD standards.

After a year of implementation and training, we realised that our approach wasn't the best.

We re-evaluated the reasons why and redefined the entire implementation process.

What changed….

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Ultimately, it was about identifying the right goals, defining optimised workflows and processes and executing them with confidence.

BIM is not a single piece of software and should never be described or referred to as a software application.

To me BIM is an explanatory concept that is not itself directly observable but that can be inferred from observed or measured data.

So how do we go about deciding the parameters to be used for a successful implementation of BIM.

NEXT SLIDE

DEFINE YOUR GOALS FOR BIM

Who   Where

Why   When

Specific   Temporal

Measurable   Realistic

Assignable

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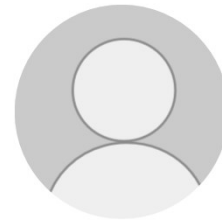
Firstly, we had to take a step back and change the approach by understanding what this would mean for our business.

Changes in the way you do things requires the definition of goals.

It is important that before you start implementing BIM, set clear goals on the why, who, when and where.

A few simple leading questions would be;

- Why do we want to use BIM?
- How can BIM help my organisation?
- How can BIM help my clients?

These are the three questions we asked ourselves and the answers we got ranged from

- We want to design in 3D
- It will assist with Internal 3D Coordination
- We want to be able to extract BOQ's from the models

- We want to have a competitive advantage
- We want to extend value added services to our customers
    - To assist with informed decision making
    - Service delivery
    - Accuracy and quality

Remember that your goals needs to be Specific, Measurable, Assignable, Realistic and Time-Related!

NEXT SLIDE

The best way in my opinion to get started with this process is on an actual project.

Choose a project that is not too big with complex structures etc, however, try and incorporate several services.

Ensure that you create 3D models first, and why, because it will significantly facilitate the designer's work.

Depending on the solutions you implement, you gain other automatic benefits for example the creation of BOQs or reports.

The important thing is to create a dynamic and easy-to-edit model so you can create your documentation based on the 3D model and not the other way around.

Don't be alarmed though, if you come from a 2D design background, remember that you don't have to create complicated 3D models straight away.

You probably going to need to deal with design modifications more than once and if your 3D model is not connected to your documentation, it will increase working time and decrease the profitability of the project.
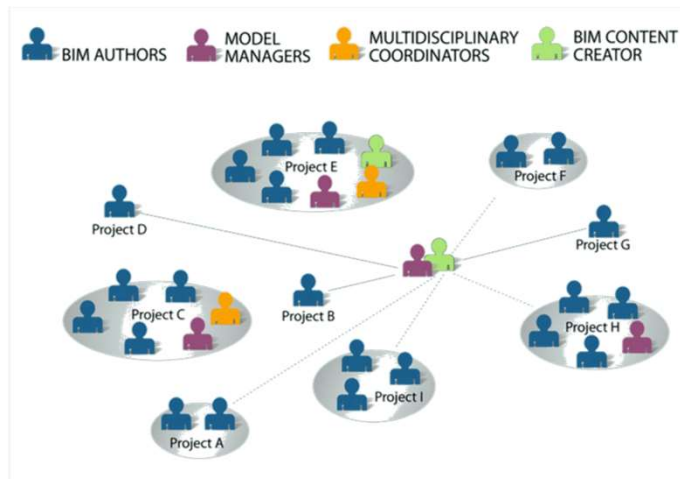
Make sure that the technology you select complements your BIM journey so that it supports dynamic 3D modelling.

Next up would be selecting your team to run the pilot project.

NEXT SLIDE

SELECT THE TEAM

Apart from the project that can make or break the implementation, the team plays an important role as well.

You need like-minded individuals that will be willing to challenge your current processes and workflows.

What you going to experience is that BIM encourages and, in many cases, insists that operators understand what is being modelled.

Because the way these new systems will work is more than just arbitrary lines that are drawn.

They are intelligent objects with properties and inherent characteristics specific to the category of the component.

As such, we identified that the more building-savvy the user, the more efficient they are at modelling and manipulating information in a BIM environment.

Particular skills will naturally emerge and talents for specific tasks will surface among the users.

And what we did was encourage our staff, whether it was senior or junior engineers/technicians or draughtspeople, they need to identify these opportunities and make them happen for them. We obviously assisted where we could.

My saying at the time to the staff was; "MAKE YOURSELF RELEVANT, DON'T WAIT FOR THE COMPANY TO MAKE YOURSELF RELEVANT, BY LEARNING NEW SKILLS. THE INDUSTRY IS GOING THROUGH A CHANGE, SO MAKE SURE YOU ARE RELEVANT TO THAT CHANGE."

You will find that you will have staff that is going take the bull by the horns and run with it! And some will not be that adventurous.

NEXT SLIDE

Circling back to the pilot project, you will start noticing that you will have repetitive tasks.

These activities will include but not be limited to;

1. Exporting PDF and DWG's
2. Exporting models to other formats
3. Naming files and folders
4. Setting up line styles, text styles, dimensions styles etc etc
5. Print settings
6. How you generate drawings
7. How you generate documentation
8. How you will be conducting meetings

The list will go on and on….

The important bit to do here is to analyse and break down each of these activities.

Once you have broken down these activities assign them to flow charts to understand what the workflow is going to look like.

And make sure you document all the workflows, and processes and save them in a location that is shared with the entire office.

For example,

We have implemented an online solution that assists us with documenting workflows and processes.

All our users have access to this platform and with a few characters they can search for specific videos, and how-to documents for a task, workflow, or process.

All these workflows and processes once detailed and shared with everyone will avoid unnecessary expensive changes and mistakes.

Make sure you have weekly sessions with your staff on how these workflows and processes work and challenge your staff to optimize them even further.

Lastly, start developing a BIM Execution Plan that details how you will execute a project from start to finish.

This document will be a WIP document and will update after every project you do, as you become more informed about the BIM Methodology.
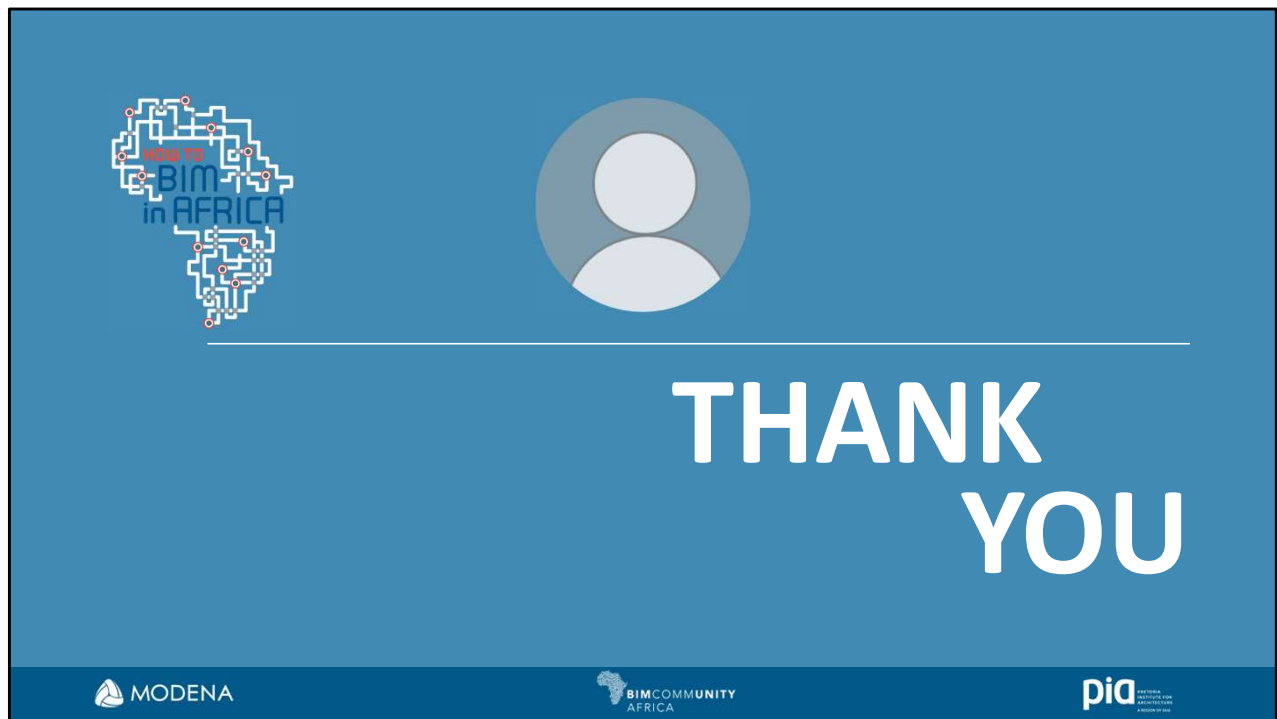
As I mentioned in the first slide.

BIM is not just software. Before you introduce technology into your organisation,

IMPROVE YOUR PROCESSES AND WORKFLOWS, know what you want to achieve for each activity during the design phase.

You may find that you need to change a process that was done the same way for the last 10 years.

At the end of this implementation process, one of your goals will be to design efficiently and provide high-quality documentation.

BIM helped us streamline design and documentation processes. And when done well, I can guarantee you the same results.