

# Enabling factors for the adoption and use of BIM and OSM

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# From inhibitors to enabling strategies

Despite the multiple inhibitors facing construction firms in taking up and using digital technologies (e.g., BIM) and OSM, some firms have been successful.

Construction firms that have successfully adopted and are using BIM and OSM have:



**1. Strong, committed leadership and management**



**2. A Digital Transformation Strategy**



**3. Capable supplier networks**



**4. Trust-based relationships with their clients**



**5. Training and skills development initiatives for their employees**

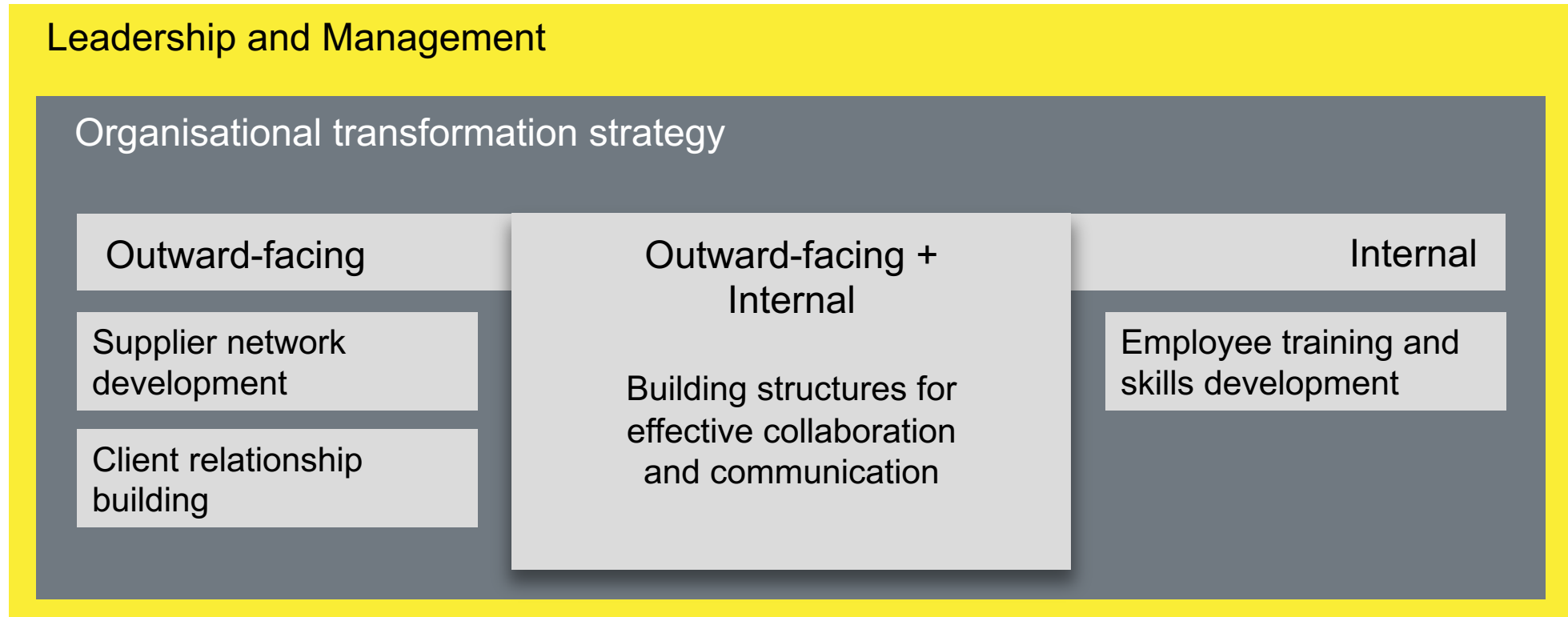


**6. Robust structures for effective collaboration and communication**

The factors are linked, and their implementation has both internal (intra-organisational) and outward-facing (inter-organisational) implications

# From inhibitors to enabling strategies

Figure 1: A nested view of the enabling factors



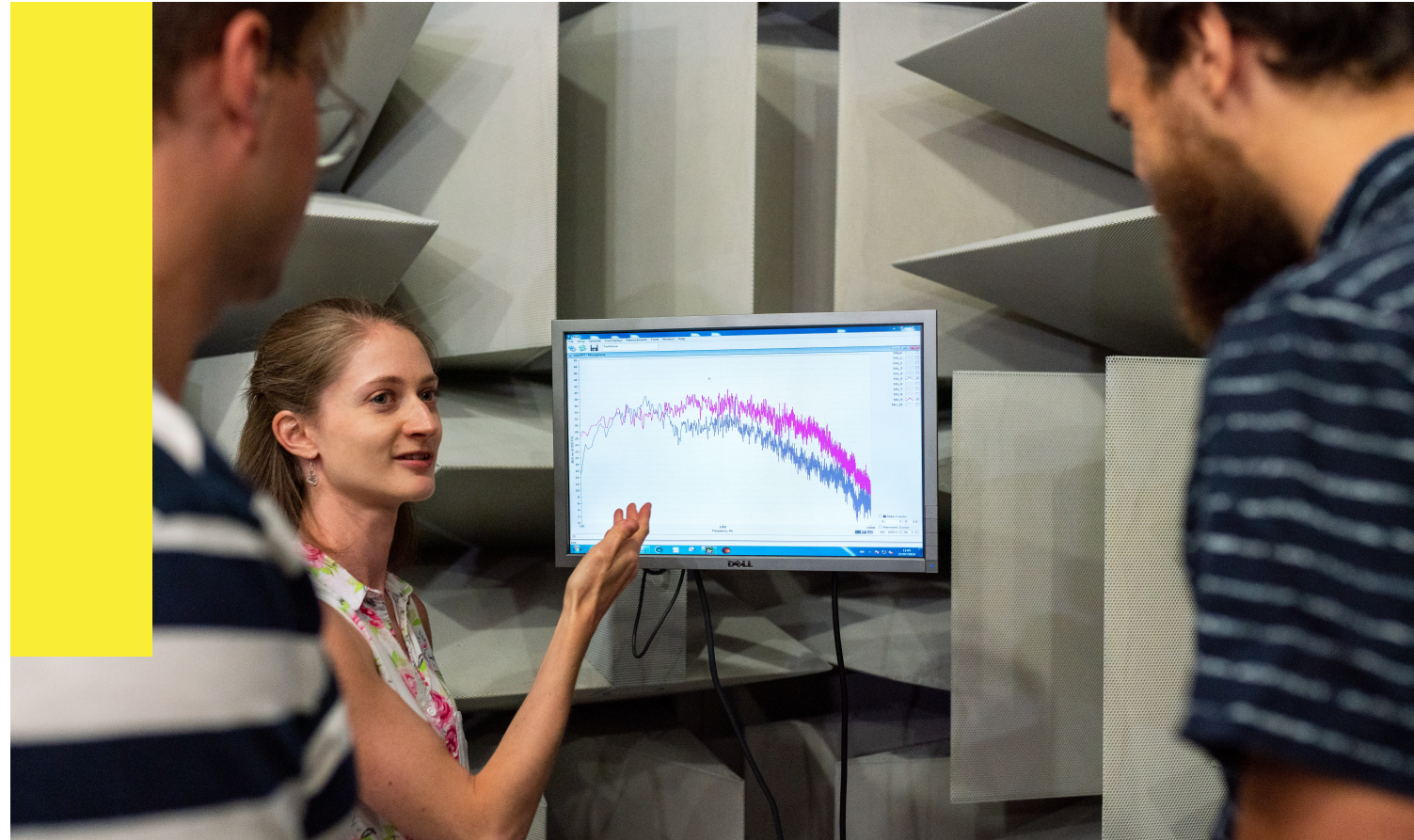
# Enablers for successful adoption and use of BIM & OSM

*From the research, what should construction firms do?*



# Develop and implement a digital transformation strategy

- Clearly identifies where the organisation is at and where they aim to be in the future
- Geared towards establishing a whole new organisational culture
- Tools are available for organisations to undertake digital capabilities assessments and benchmarking



# Good digital transformation strategy

- Simple language to communicate the goal
- Employees have a sense of 'shared ownership' in what is to be achieved
- Consistent and can be repeated over and over
- Considers the needs of people in introducing new technologies and processes
- Provides the needed internal support structures for implementation (e.g., training and support for staff, appropriate software)
- Adaptable to changing demands

# Build capable supplier networks

- Assist firms to be equipped to use the same or similar platforms, software / programs and tools
- Identify and address capabilities gaps with supplier network firms
- A collaborative, 'growing together' approach is helpful

*More attractive when firms share a trust-based history of working together*

"These are firms that have shown up for us when we were in tight spots to deliver on a project so we really value working with them. As we adopt BIM and work increasingly using OSM, we can't just put these guys aside. We are trying as much as we can to get them to learn how to work with these innovations too."

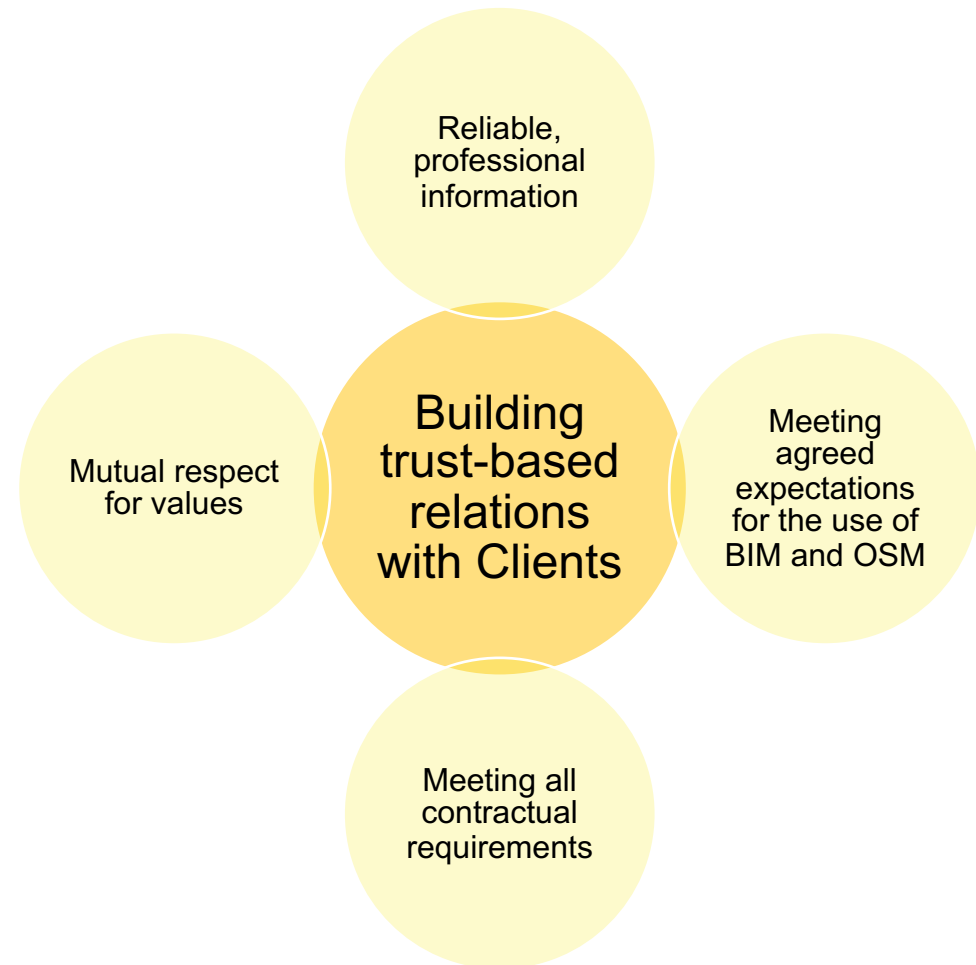
[Digital Transformation Manager, Tier 1 Contractor]



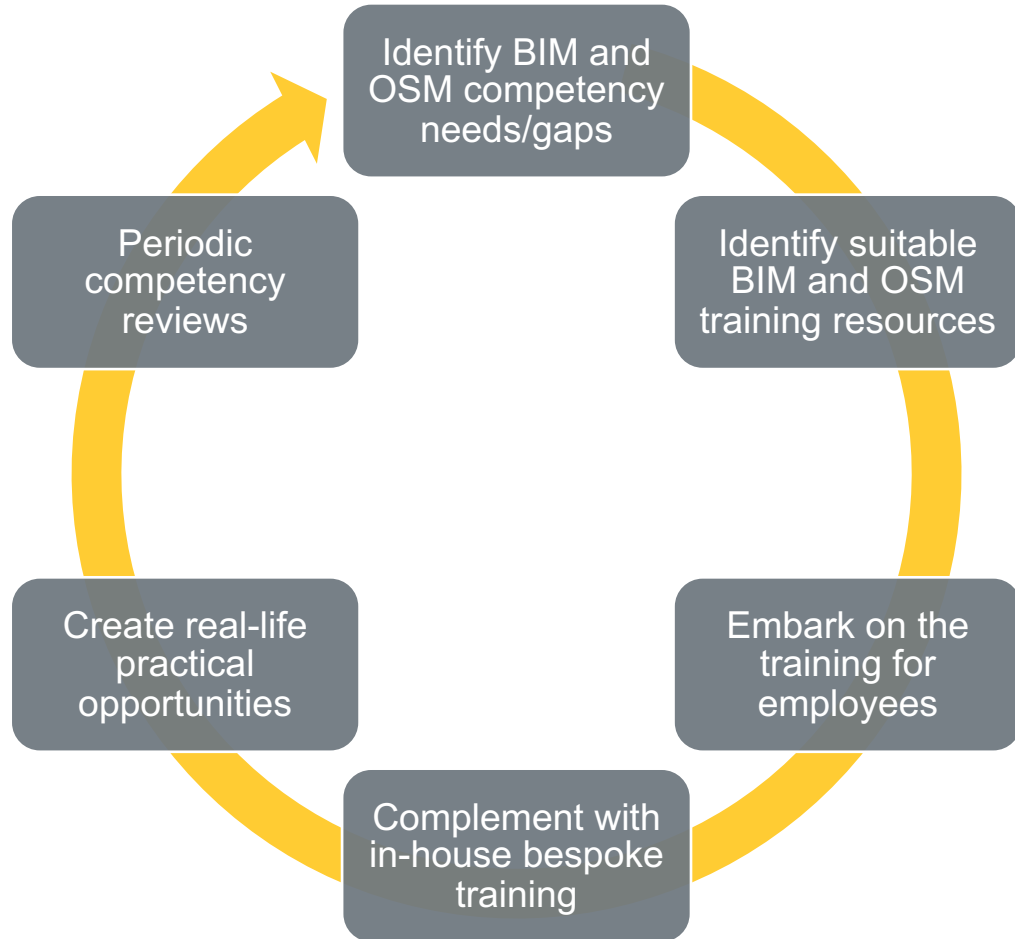
# Build trust-based relationships with clients

A lack of client demand remains one of the major inhibitors to the use of digital technologies (NBS, 2020)

Majority of clients (e.g. in the housing sector) are typically concerned about simply getting their projects operational in order to start making returns on their investments



# Train and upskill employees



## Examples of resources:

- CITB digital competency scale
- Supply Chain Sustainability School modules on digital capabilities, OSM, sustainability, etc.



# Build structures for effective collaboration and communication

The use of BIM and OSM is **changing** how professionals and project teams **communicate** and **collaborate**, **internally** and **on projects**

(Whyte, 2019; Tee et al., 2019)





Build structures for effective collaboration and communication

# What is needed to build such structures?

- Adopt more 'horizontal' structures of communication – facilitate less-restrictive communication across established internal and project hierarchies
- Establish clear channels for communication, internally and on projects
- Establish guidelines for data integrity and accuracy
- Clearly define the responsibility of each employee regarding data input and security
- Embrace the use of more integrated project delivery approaches
- Create a supportive environment that ensures feedback is valued



# Provide committed and supportive leadership & management

Leadership drives everything

Champion the transformation vision and push the strategy

## What does this entail?

- Believe in the urgency of digital transformation and its long-term benefits
- Commit to implementing strategies to achieve the set visions
- **Leadership should focus on the people**
- Changing their minds by appealing to their unique, work-related, aspirational goals
- Helping them reach those goals and adapt to new work practices



# From inhibitors to enabling strategies

What has been discussed in this presentation.

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**5. Training and skills development initiatives for their employees**



**6. Robust structures for effective collaboration and communication**

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