

# digital transformation

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## in the AEC sector

**Chloe Nguyen**

School of Information Systems and Technology Management,  
Business School, University of New South Wales

**Supervisors:** Scientia Prof **Shan Pan** & Dr **Xiangyu Wang**

# Personal Background

## Experience

7-year experience in **Information Systems**

## Education



### Bachelor of Commerce

Major: Business Information Systems



### PhD in Information Systems

Supervisors

- Scientia Prof Shan Pan
- Dr Xiangyu Wang



February 2024

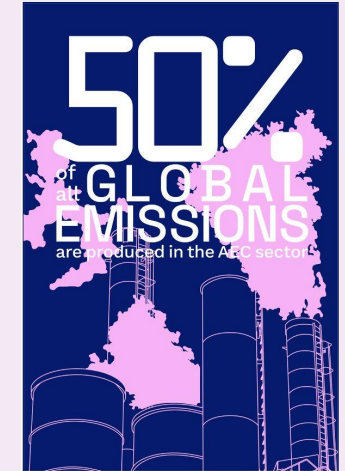
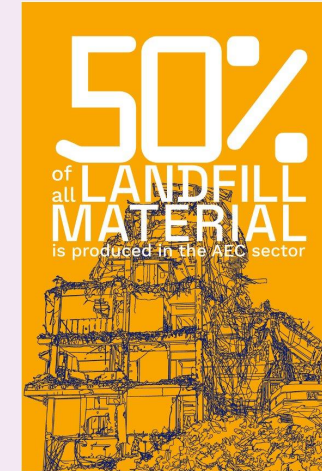
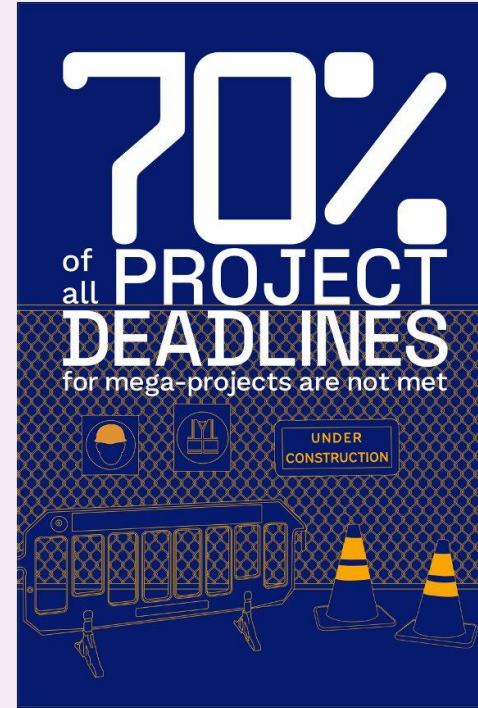
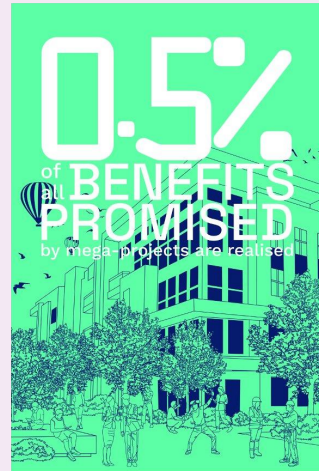
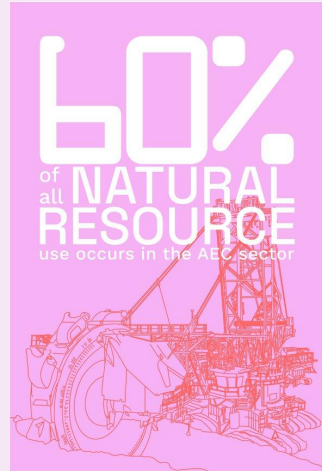


### MSc in Computing Science (by Research)



Thesis: Multimodal Machine Learning  
in Medical Screenings

# Problem



70% of all project deadlines for mega-projects are not met

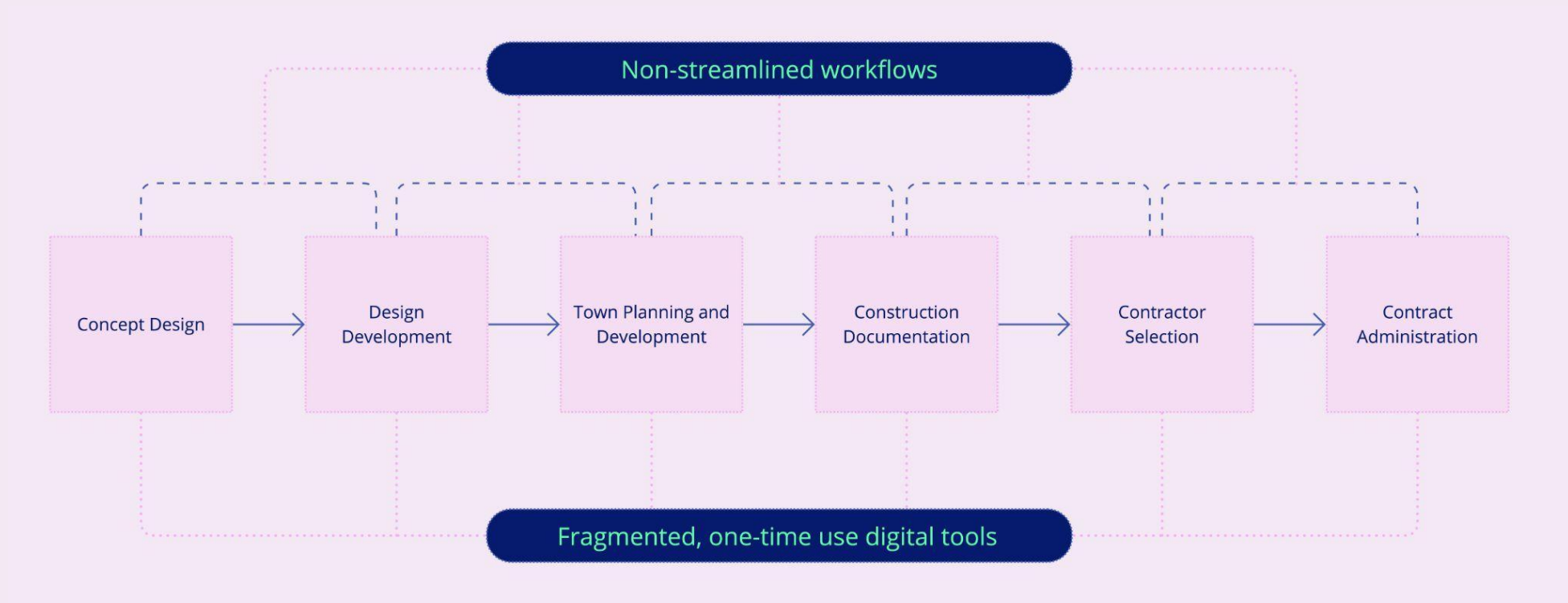
Speed

Efficient use of resources

Productivity

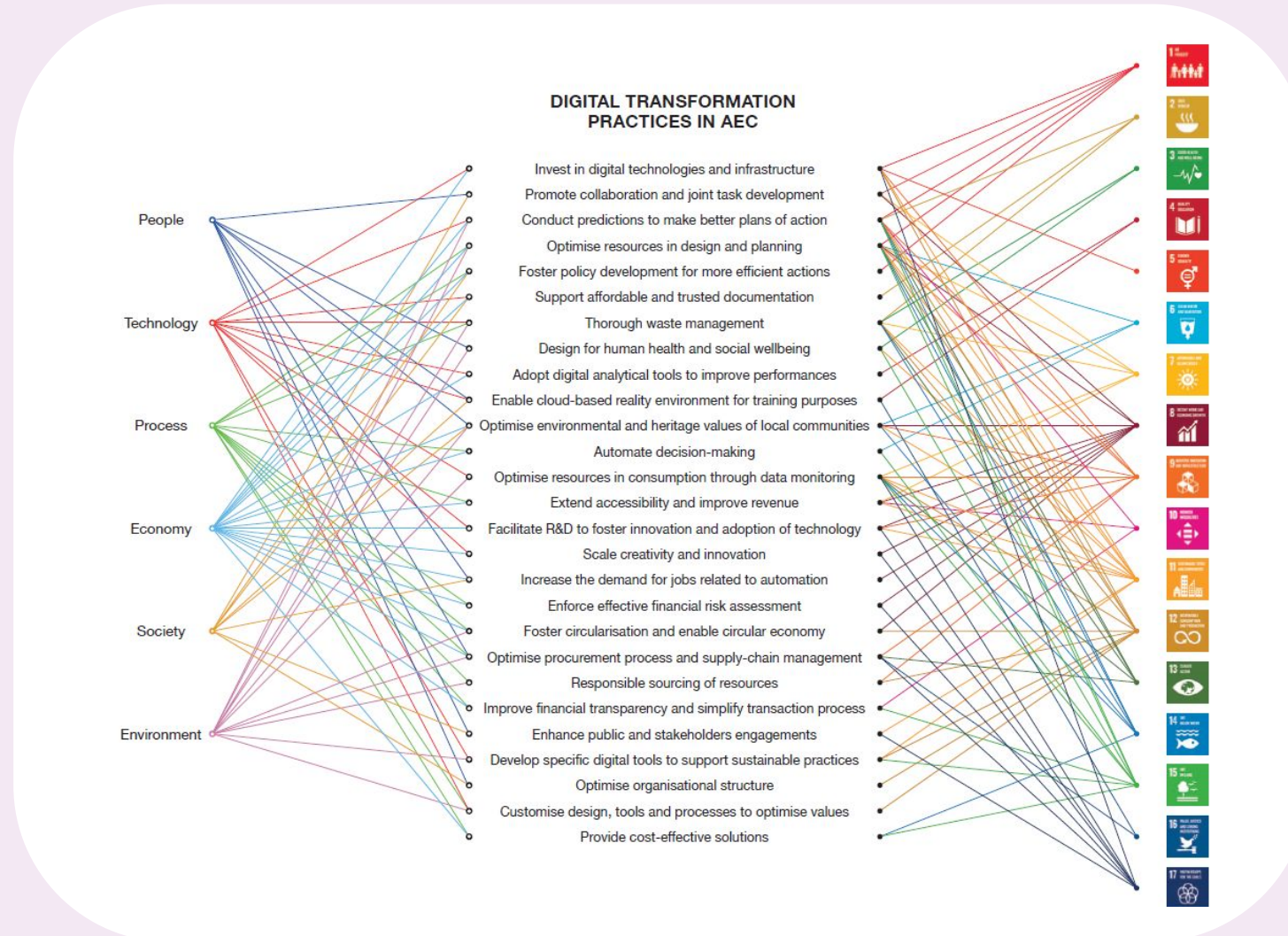
# Problem

The design process is **not linear**...



but it can be **more efficient** through **digital transformation**

# How can digital transformation help?

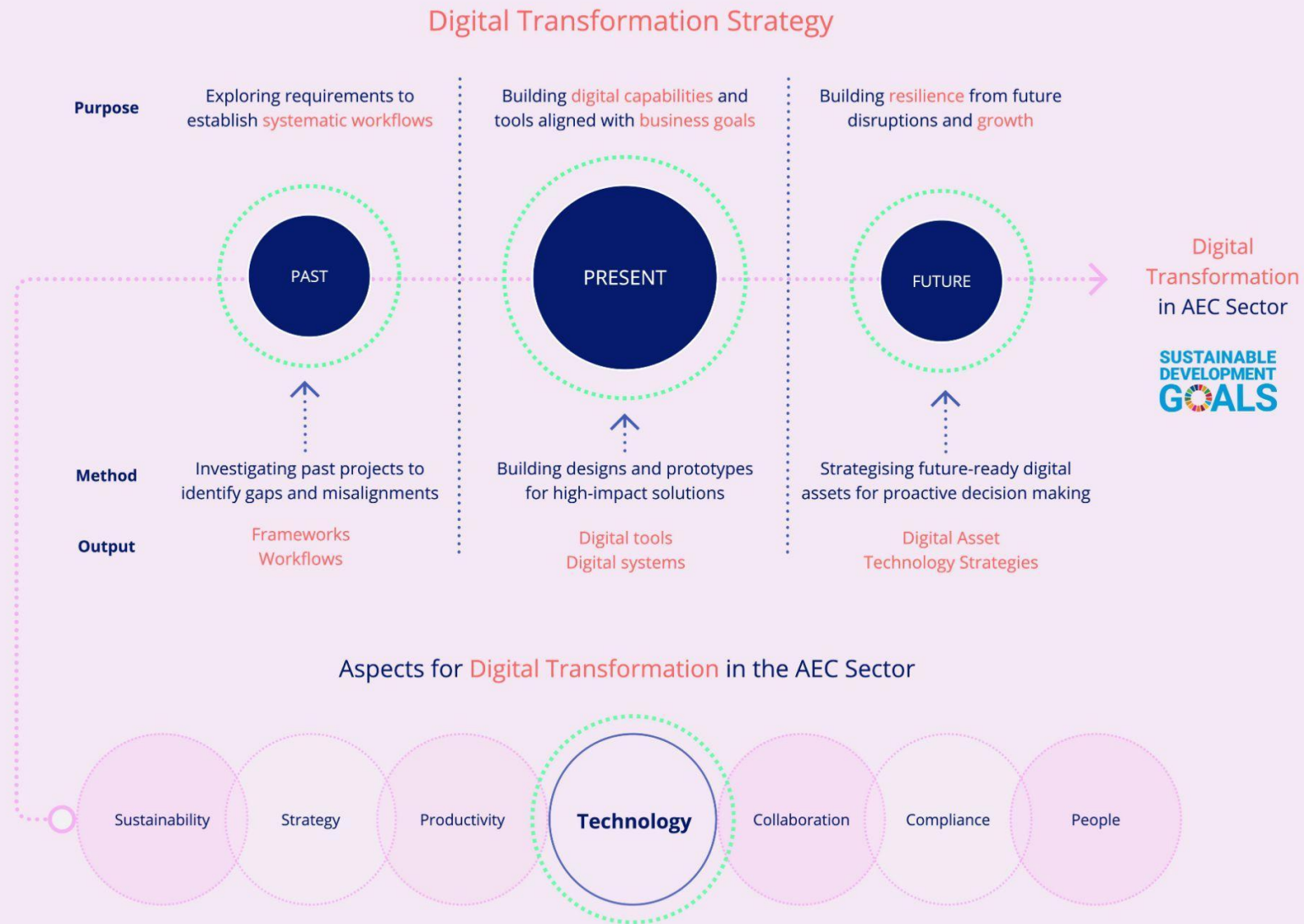


## Management Topic 6

How can Architecture, Engineering & Construction (AEC) organisations develop digital capabilities & information systems for efficient delivery and overcome challenges in digital transformation?

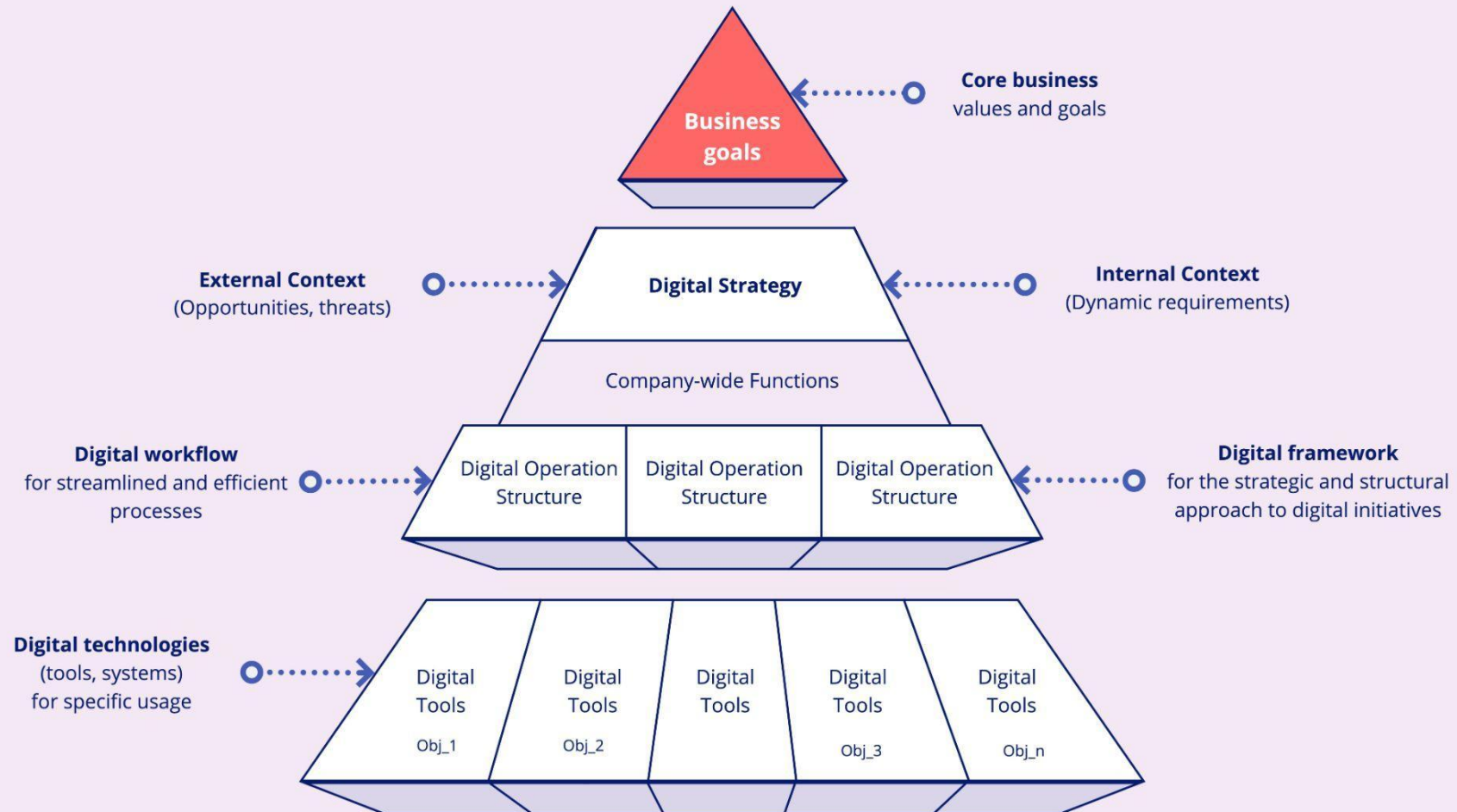


# Approach



# Approach

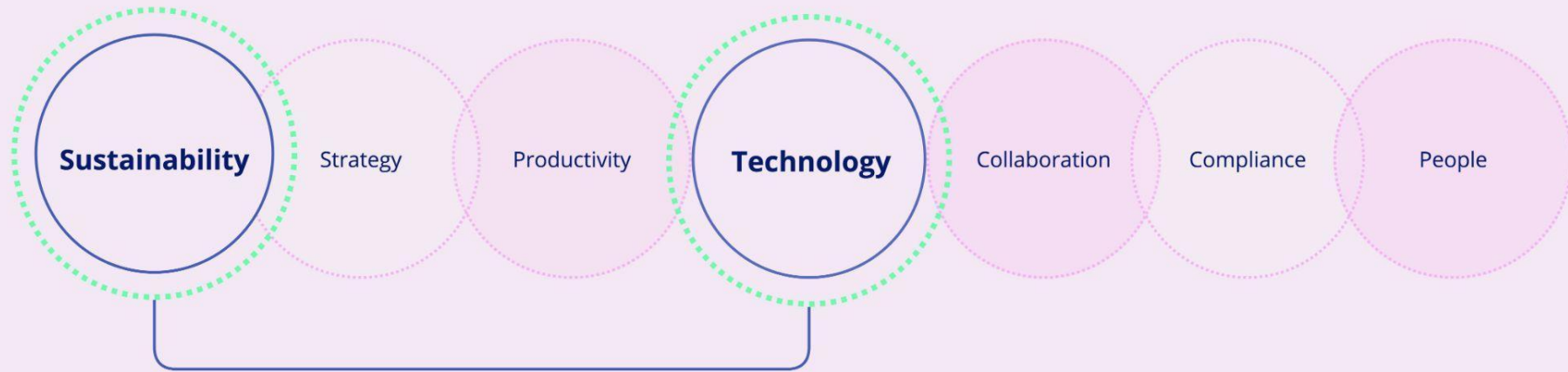
## Digital Transformation Solution Stack





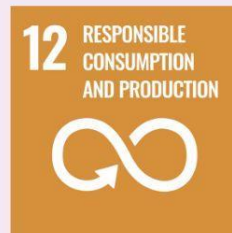
# Progress

## Aspects for Digital Transformation in the AEC Sector



Embodied carbon  
estimation system

**architectus**

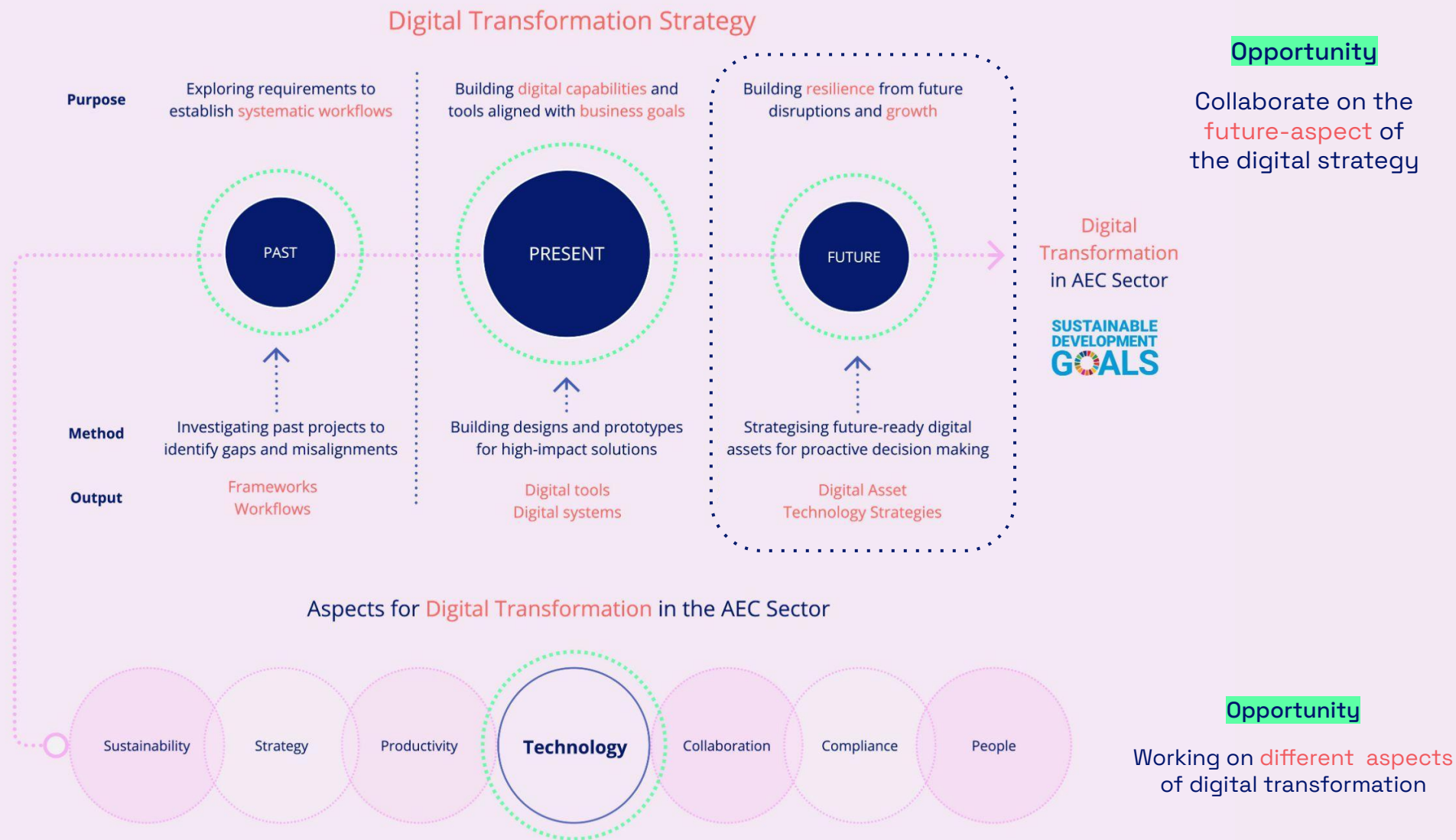


**Starting:** Data Collection in November 2024

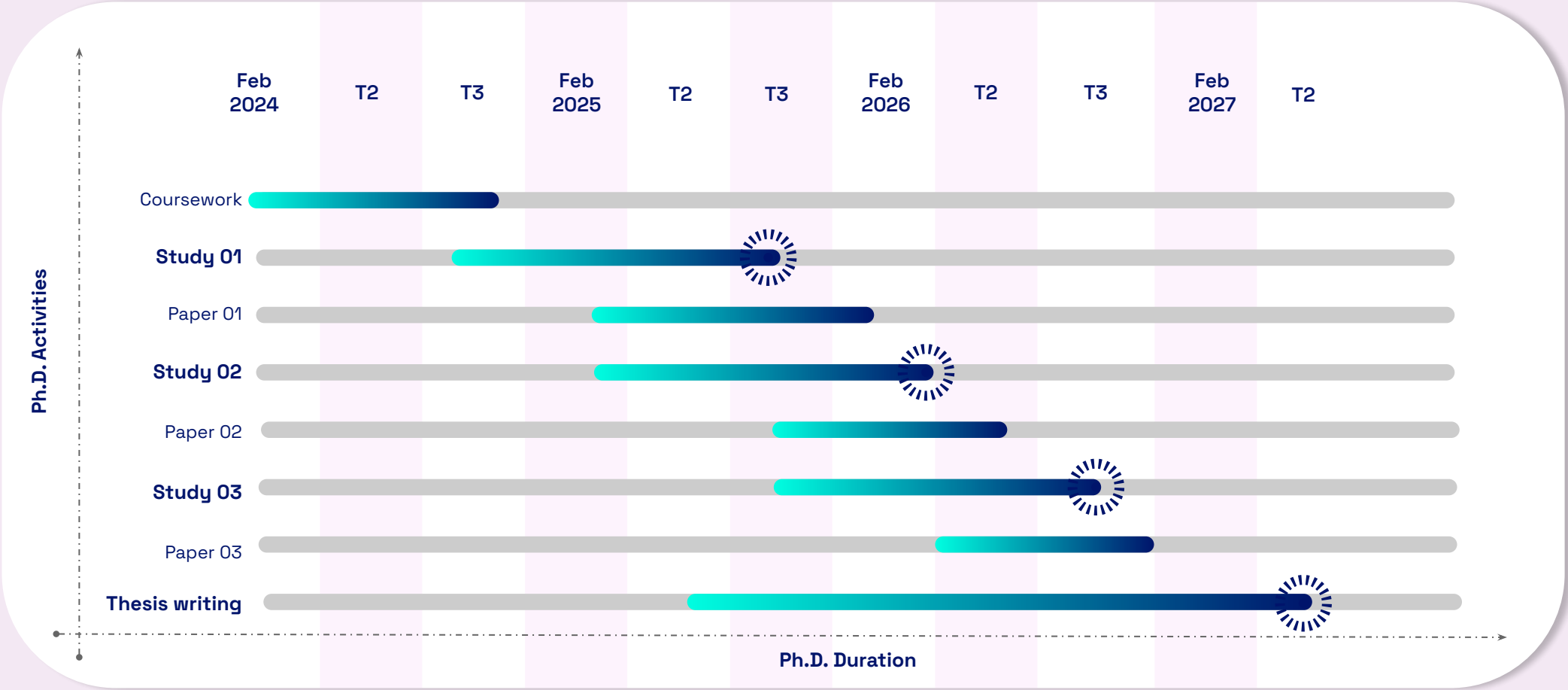
### Methodology & Outcome

- Case Study: **Framework**
- Action Design Research: **System design**

# Future Plan



# Future Plan



“It is not the strongest of the species that survives, nor the most intelligent, but the most adaptable to change.”

- Charles Darwin

# Thank you!

**Chloe Nguyen**

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