



澳門建築師協會  
ASSOCIAÇÃO DOS ARQUITECTOS DE MACAU  
ARCHITECTS ASSOCIATION OF MACAU

# Macau S.A.R. Report for ARCASIA

## 44<sup>th</sup> COUNCIL MEETING – COLOMBO

15-16<sup>th</sup> JANUARY 2025

Ar. Christine Choi – President of Board of Directors



# 19. ADOPTION OF AI BY ARCHITECTS IN THEIR PRACTICE

## 2024 ARCHITECTURE DESIGN COMPETITION



### ORGANISOR

Co-organized with  
Hengqin Guangdong-  
Macao In-depth  
Cooperation Zone  
(Government)

**Design Competition for  
MACAU Architects –  
(4 weeks)**

### OUTCOME

**SUBMISSIONS**  
**PARK Pavilion Concept  
Design**

**19**

**EXHIBITIONS**  
**HengQin China  
Macau**

**2**

**PUBLICATION**  
**Publication for all entries**

**1**

### FINDINGS

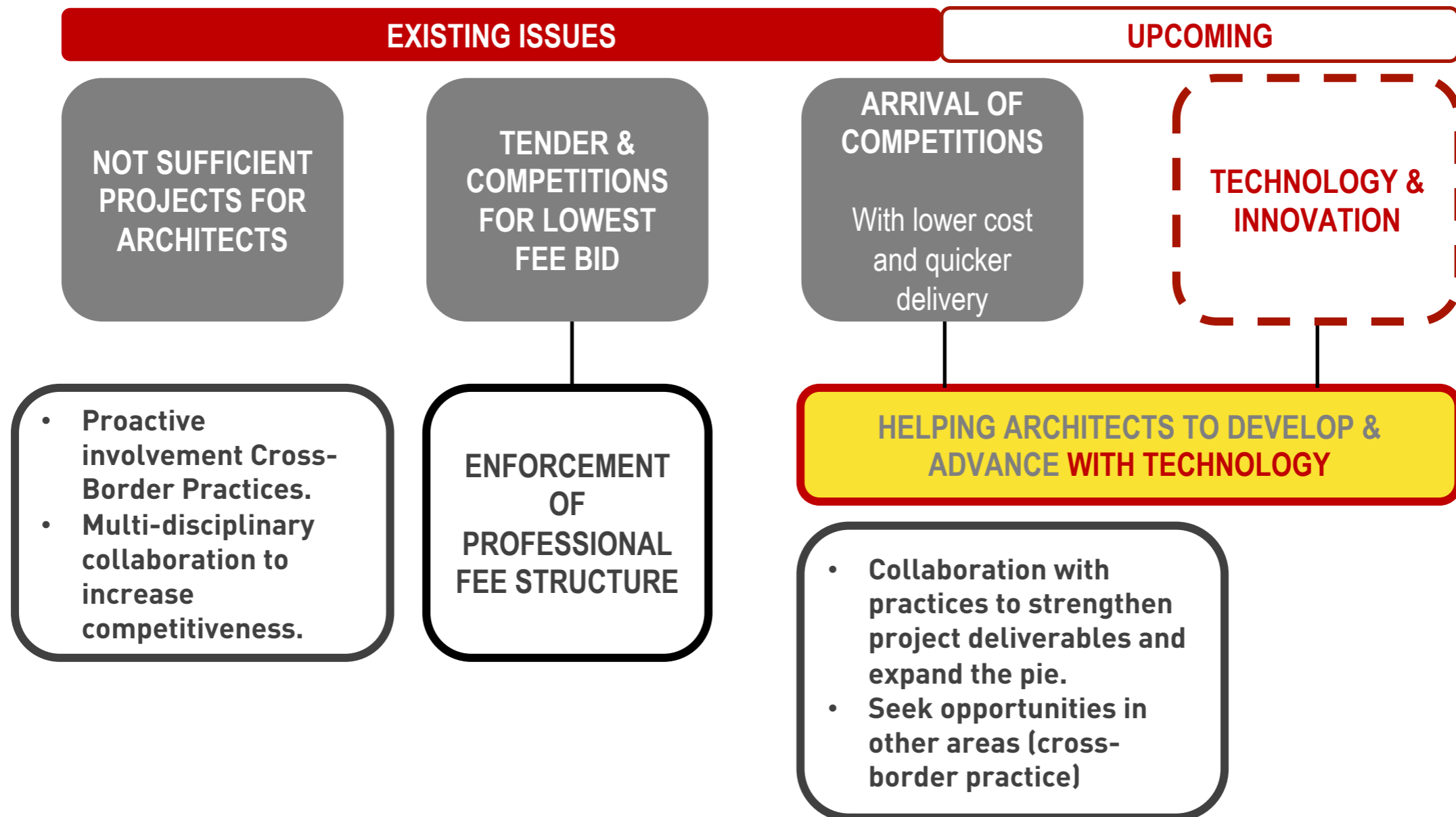
**DEMAND FOR PROJECT  
COMPETITIONS**

**Short Timeframe:**  
- High Quality of work can be  
seen with the **support of  
technology**. Enabling architects  
to deliver higher quality results in  
less time.

# 19. ADOPTION OF AI BY ARCHITECTS IN THEIR PRACTICE



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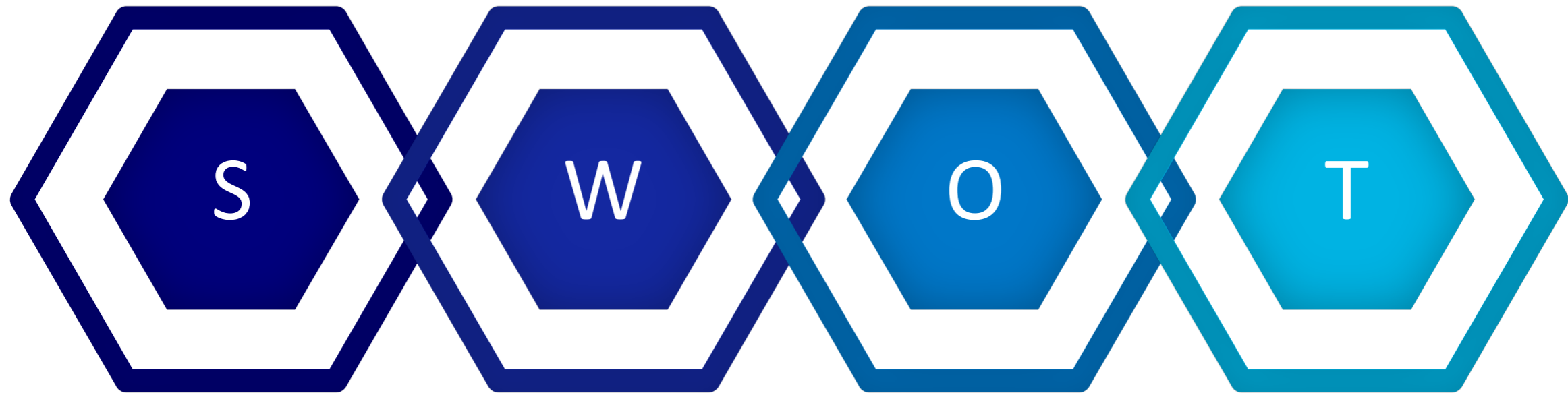


# 19. ADOPTION OF AI BY ARCHITECTS IN THEIR PRACTICE



Current Adoption of AI of Architects in different sectors

## 19. ADOPTION OF AI BY ARCHITECTS IN THEIR PRACTICE



### Strengths

- Enhanced efficiency
- Improved precision
- Innovative solutions
- Redefining T/C/Q

### Weaknesses

- High initial cost implementation
- Requires a special skillset
- Hit or miss, Trial and Error
- Resistance to change

### Opportunities

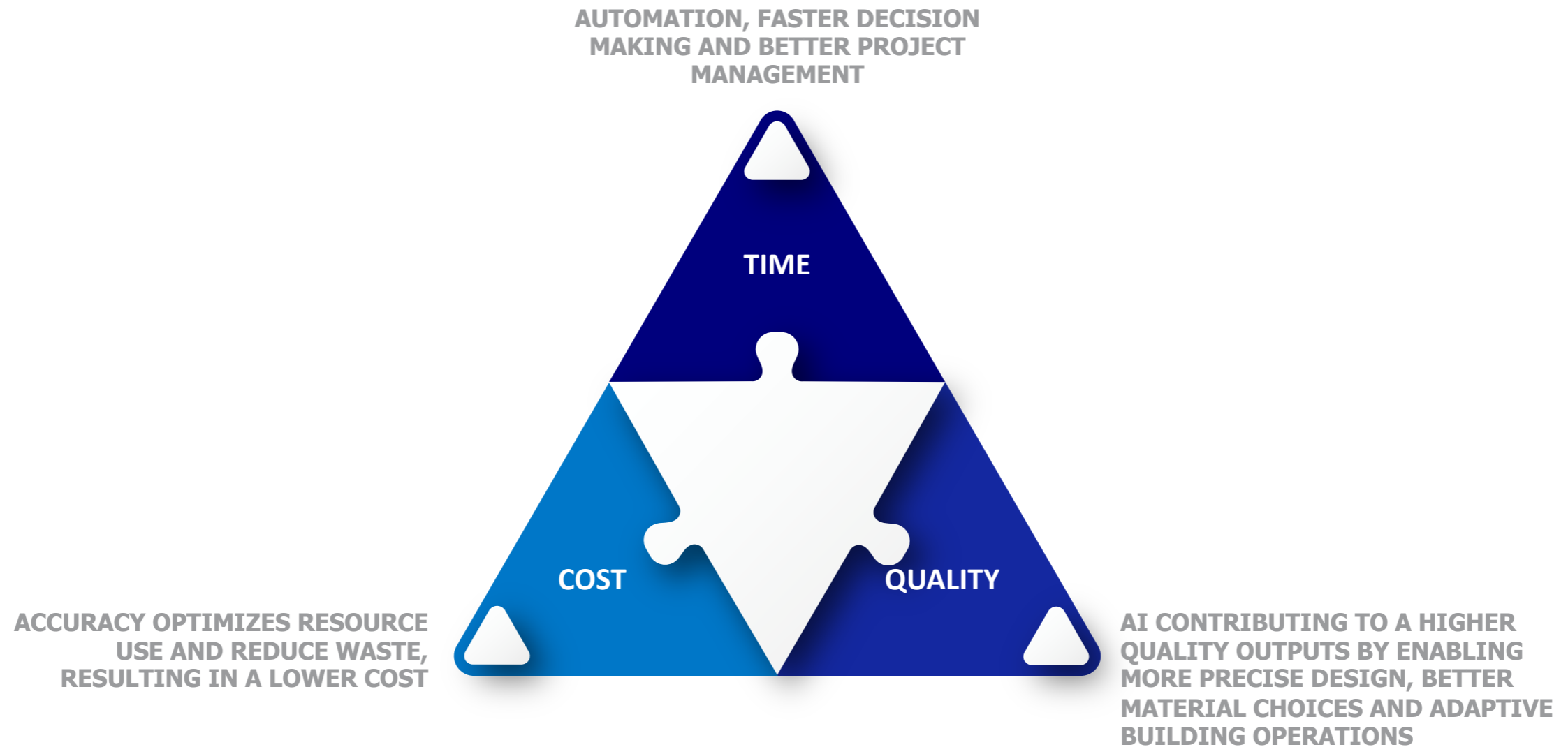
- Competitive edge
- Better multi-disciplinary collaboration
- Design enhancement
- Expansion of services and project typology

### Threats

- Job displacement
- IP Challenges
- Data breaches and ethical concerns.

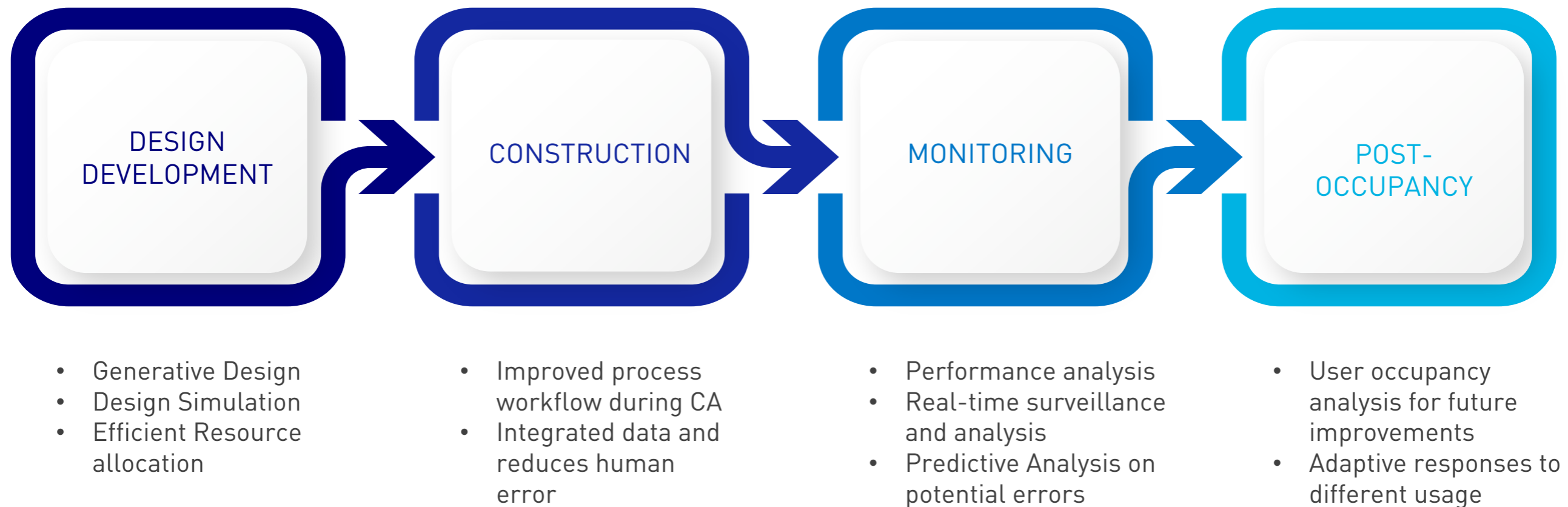
# 19. ADOPTION OF AI BY ARCHITECTS IN THEIR PRACTICE

## AI redefining the Time/Cost/Quality relationship

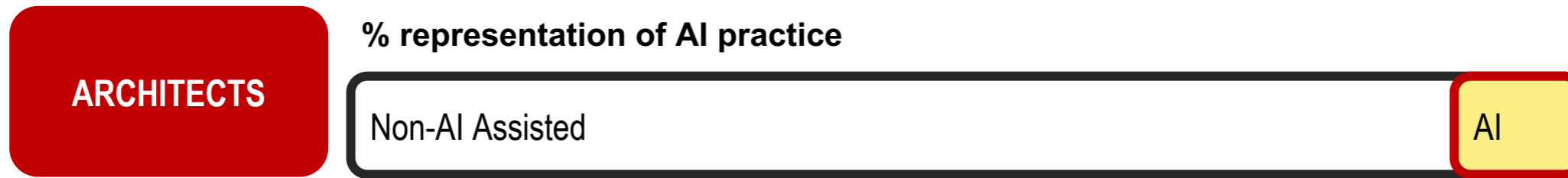


## 19. ADOPTION OF AI BY ARCHITECTS IN THEIR PRACTICE

### AI intervention in different life-cycle of project



# 19. ADOPTION OF AI BY ARCHITECTS IN THEIR PRACTICE



## Current Status – Adoption of AI at preliminary stage

Due to Limitation of Time and Fee, Architectural practice does not have the resource to explore on the use of new technology that requires intensive learning and complex applications.

## Area of AI practice



# 19. ADOPTION OF AI BY ARCHITECTS IN THEIR PRACTICE

## ACADEMICS

% representation of AI practice

Non AI Assisted

AI

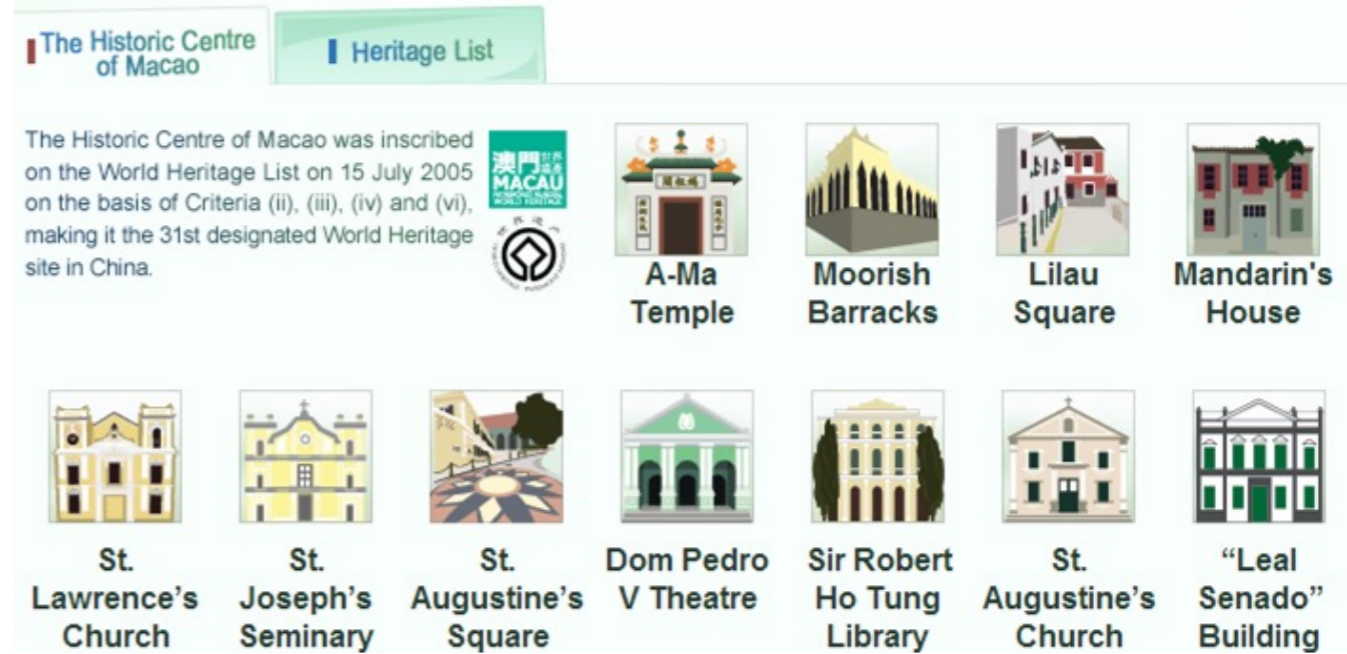
Current Status – Adoption of AI at preliminary stage

### MUST University:

- Encourage Academics to use AI in Teaching.
- Does not enforce Ai use for student but does not object the use of AI as supporting tools.

### University of St Joseph

- No adaption of AI yet.



Area of AI practice

SURVEY

DESIGN & DEVELOPMENT

CONSTRUCTION

MONITORING

POST - OCCUANCY

### MUST University:

Mainly only on Urban Planning and Heritage Preservation Research :

- Machine Learning

Heritage Architecture  
Visual Inspection

# 19. ADOPTION OF AI BY ARCHITECTS IN THEIR PRACTICE

% representation of AI practice

CLIENT / FM

GOVERNMENT

Non-AI Assisted

AI

Current Status : Adoption of AI is at preliminary Stage

Request Architects / consultant

- VR
- Simulations
- Automation Workflows

Request Architects / consultant for:

- BIM
- Digitalization
- Data analysis



Area of AI practice

SURVEY

DESIGN & DEVELOPMENT

CONSTRUCTION

MONITORING

POST - OCCUANCY

Request some projects in:  
**BIM Model, VR**

**Traffic Flow Analysis & Operations**  
- Traffic Lights

**Building Operational Management**  
- Energy Efficiency & Consumption – BMS  
- Property Scanning & Damage Detection

# 19. ADOPTION OF AI BY ARCHITECTS IN THEIR PRACTICE

**CONTRACTOR**

% representation of AI practice

Non-AI Assisted

AI

**Current Status - varies across practices**

With some key Contractor started use of AI in their construction works to effectively manage the construction progress, resource, and safety.



**Area of AI practice**

**SURVEY**

**DESIGN & DEVELOPMENT**

**CONSTRUCTION**

**MONITORING**

**POST - OCCUANCY**

**Site Scanning**

**BIM Model**

**Administrative Works**

- Meeting Minutes
- Presentation: Documents and Voice Generation
- Automation workflows

**Real Time Monitoring**

- Safety Detection – Workers
- BIM – Construction Progress
- Building condition detection
- Building Scanning - Survey

## 19. ADOPTION OF AI BY ARCHITECTS IN THEIR PRACTICE



### MOVING FORWARD

Hope to see Architects to further adopt the use of AI along with contractors

- As we advance, the Architects Association of Macau believe we must embrace the use of AI technology.
- This strategic integration will not only enhance our efficiency, accuracy and data analysis, most importantly opens more room for innovative solution thinking, to further explore creativity and sustainability.



THANK YOU

