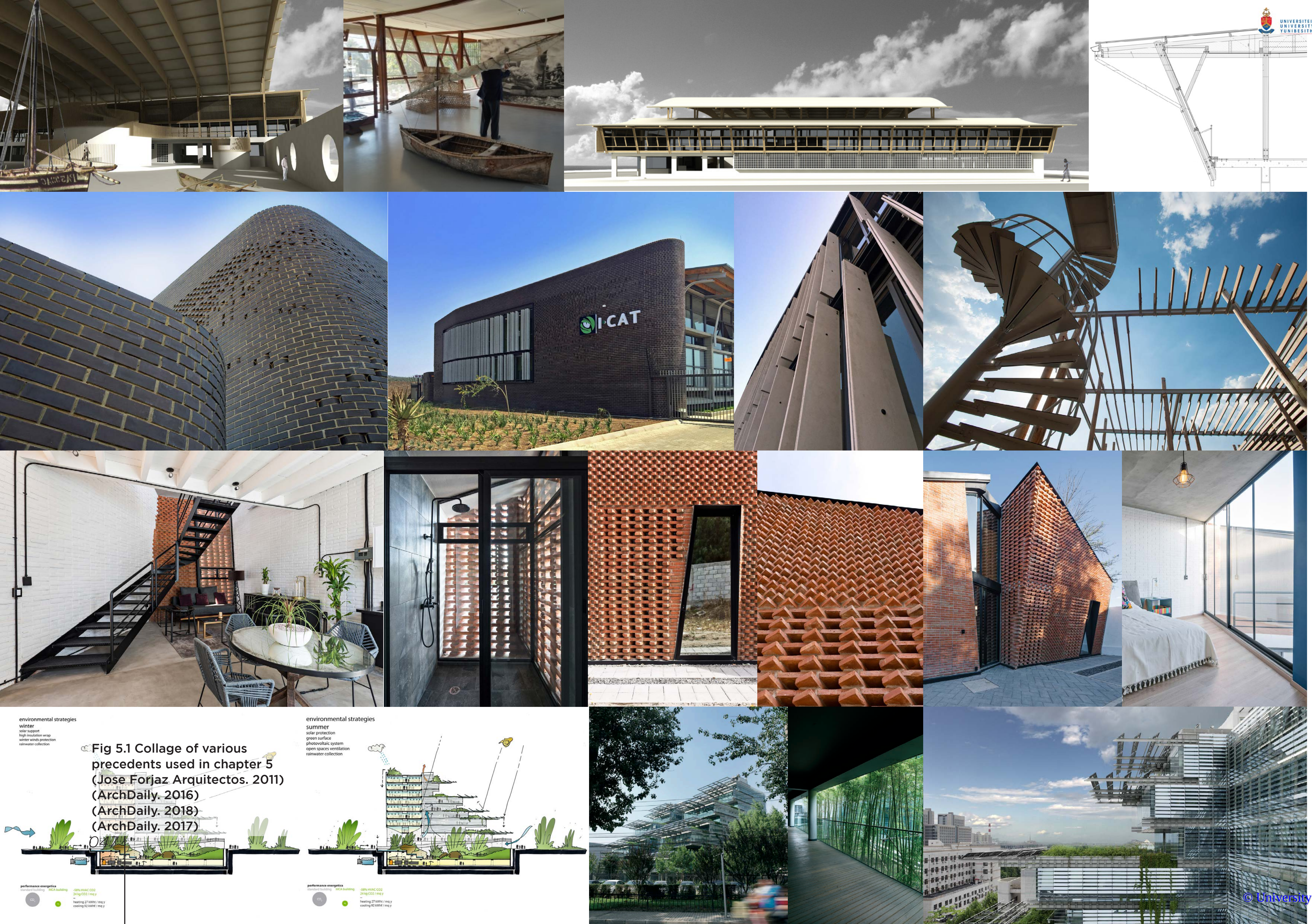


Fig 5.1 Collage of various precedents used in chapter 5 (Jose Forjaz Arquitectos. 2011) (ArchDaily. 2016) (ArchDaily. 2018) (ArchDaily. 2017)

CHAPTER

05

precedents

Fig 5.2 Fisheries museum - Rendering of the museum (Jose Forjaz Arquitectos. 2011)

Fig 5.3 Fisheries museum - Street Elevation (Jose Forjaz Arquitectos. 2011)

Fig 5.4 (L) & Fig 5.5 (R) Fisheries museum - Details (Jose Forjaz Arquitectos. 2011)

05.1 INTRODUCTION

The four buildings described in this chapter were used as informants for the contextual, the design/formal language, functional and technological development phases of the dissertation.

05.2 FISHERIES MUSEUM BY JOSE FORJAZ CONTEXTUAL PRECEDENT

The fisheries museum is an excellent example of an African architecture that pays homage to the **context's industrial heritage.** Located in the harbour precinct of Maputo, Mozambique, the building was a competition entry by the Mozambican architect, Jose Forjaz. The museum was built on a very important public square in a historic location, on a very limited budget, as such, and they therefore resorted to building it in phases (Jose Forjaz Arquitectos, 2011).

Functionally the museum provides spaces to view examples of boats and fishing tools used in Mozambican waters. Great care was taken to make economic use of materials, both in the construction process and for future maintenance (Jose Forjaz Arquitectos, 2011).

Why is it important? Attention to proportions, interesting approach to thresholds, use of materials and Forjaz's fundamental understanding of the subject matter he was referencing. The museum is located in an industrial setting, with a particular design language that Forjaz has referenced without it being a cliché.

The architectural language is derived from ship building, yet it does not look like a boat, that would be too obvious, the technology used is derived from boat building conventions, particularly in the shape of its roofs. The ground floor is much more solid (below a boat deck) while the first floor is much lighter and open (above a boat deck).

The same care and understanding to the site's industrial history and context would be applied to the Era brick factory site, where the industrial nature of the old factory will be referenced in the creation of the new architecture, without being a mere carbon copy of the old buildings.

The bricks that will be used in the proposed intervention, were found on site, were made on the site and from the very soil on which the new building would be built.

Fig 5.6 Fisheries museum - Street Elevation Render (Jose Forjaz Arquitectos. 2011)

Fig 5.7 I-CAT Offices and Warehouse - Courtyard Facade (ArchDaily. 2016)

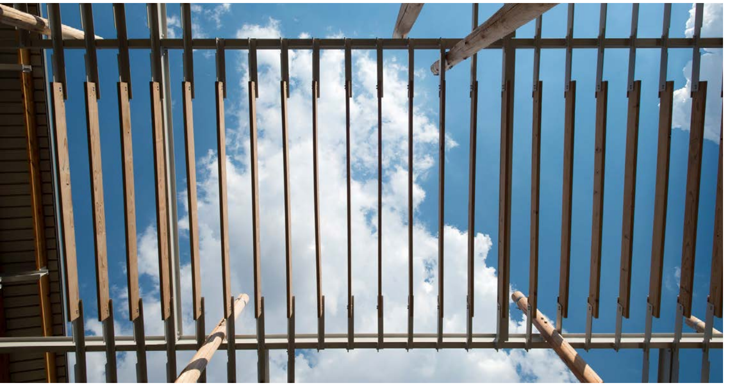


Fig 5.8 I-CAT Offices and Warehouse - Pergola Detail (ArchDaily. 2016)

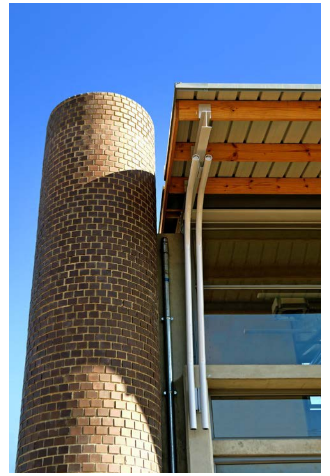


Fig 5.9 (Left) & Fig 5.10 (Right) I-CAT Offices and Warehouse - Details (ArchDaily. 2016)

05.3 I-CAT OFFICES & WAREHOUSE BY EARTHWORLD ARCHITECTS & INTERIORS

TECHNOLOGICAL PRECEDENT

The main concept and design driver for this building was to create a flagship building was based on ecologically sustainable principles, its focus on ecological-, social- and economic sustainability. (ArchDaily, 2016).

The building utilises passive systems like orientation, shading, natural ventilation and lighting, with the main courtyard seen in Figures 5.7 and 5.9, being orientated to the south, with day lighting being a priority (ArchDaily, 2016).

Furthermore, the northern façade was designed to allow for summer shading and winter heat gain. A photo-voltaic system was implemented to supplement the building's electricity requirements. Runoff from the buildings' roofs is collected for use in the building (ArchDaily, 2016).

The same economic principles that guided Forjaz in the previous example were used in the material choices for the I-Cat building, materials and finishes were used to keep maintenance to a minimum. Solid face brick walls were used to great effect as a contrasting element to the "softer" elements as the glass, steel and pergola structures.

From the above mentioned, this dissertation took its inspiration from the use of solid face brick walls as a contrasting element to the softer areas of the building. The attempt to connect the interior to the exterior, through the use of transparent façades and pergolas to soften the transition or thresholds of this building, is of particular interest.

Vegetation and permeable paving were also used to great effect to soften this threshold. The new proposed building would implement the same sustainable principals and use of materials to achieve a similar result.

Fig 5.11 I-CAT Offices and Warehouse - Brick Facade (ArchDaily. 2016)

Fig 5.12 Saint Peter House - Street Elevation (ArchDaily. 2018)

Fig 5.13 Saint Peter House - Interior Detail (ArchDaily. 2018)

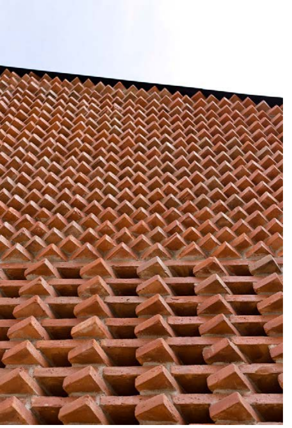


Fig 5.14 (Left) & Fig 5.15 (Right) Saint Peter House - Brise Soleil Details (ArchDaily. 2018)

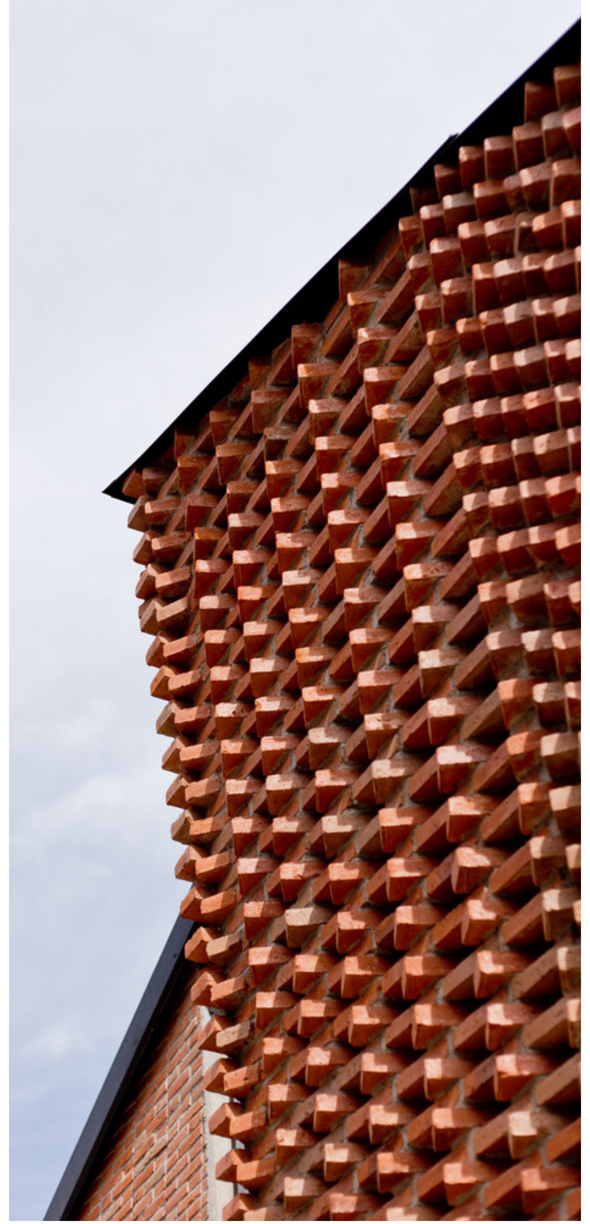


Fig 5.16 Saint Peter House - Brise Soleil Elevation Detail (ArchDaily. 2018)

05.4 SAINT PETER HOUSE BY PROYECTO CAFEÍNA & ESTUDIO TECALLI

FORMAL PRECEDENT

This house was constructed from locally sourced red face bricks. The house showcases a handmade quality with the use of brise soleil and the dramatic geometry of the façades. The geometry allows for interesting openings that provide day lighting, ventilation and the framing of appropriate views.

The abnormal footprint of the building lends itself to an open plan layout on the ground floor. The first floor contains two bedrooms and a roof garden. All these spaces are built around an internal courtyard to help with ventilation and day lighting.

The windows seen in Figure 5.12 and 5.14 are particularly interesting as waterproofing them can be challenging when implementing *brise soleil* in interior to exterior spaces.

05.5 SINO-ITALIAN ECOLOGICAL & ENERGY EFFICIENT BUILDING BY MARIO CUCINELLA ARCHITECTS

FUNCTIONAL PRECEDENT

SIEEB is located at the Tsinghua University in Beijing and houses the *Sino-Italian Centre of Education, Training and Research for the protection of the environment and energy conservation*. Naturally, the building would be designed with sustainability in mind. The building integrates passive and active systems to control day lighting, temperature and fresh air conditions.

This building, like the two previous examples, is also designed around a central courtyard with public spaces that have views on to a garden. The building is orientated to a north-south axis, taking cold winter winds and a transparent southern façade into consideration.

The functional spaces, which include offices and labs, on the upper levels have stepped gardens covered by solar-panels that serve as sun shields, pergolas and electricity generators.

The important aspects of this building are, the innovative use of solar panels that serve more than one purpose, the landscape being pulled into the building and the systems that cools and ventilates the building.

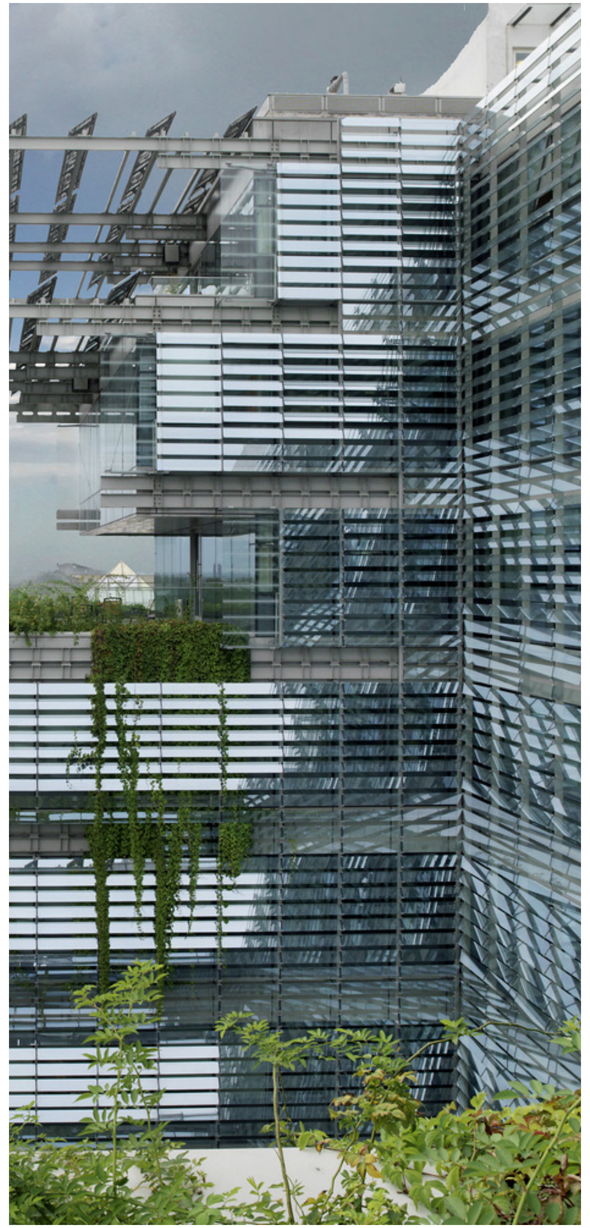


Fig 5.17 SIEEB - Functional Elevation (ArchDaily. 2017)

Fig 5.18 SIEEB - Functional Elevation (ArchDaily. 2017)

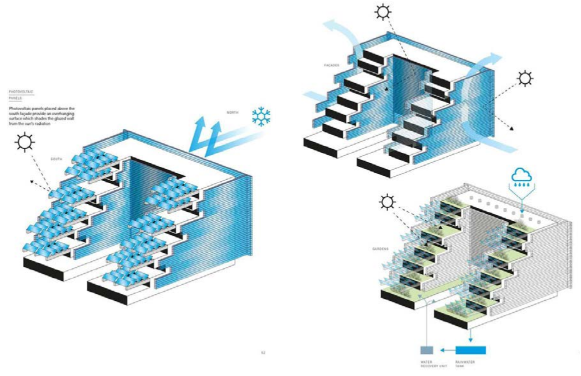
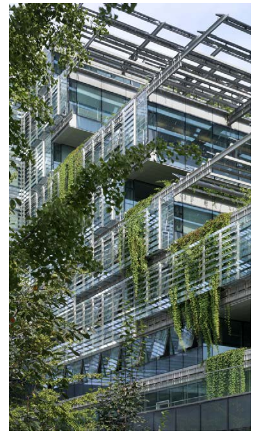


Fig 5.19 SIEEB - Systems diagram (ArchDaily. 2017)



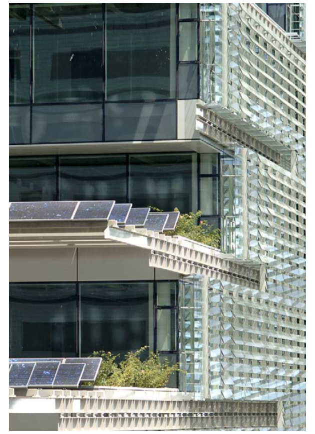


Fig 5.20 (Left) & Fig 5.21 (Right) SIEEB Louvre Details - (ArchDaily. 2017)