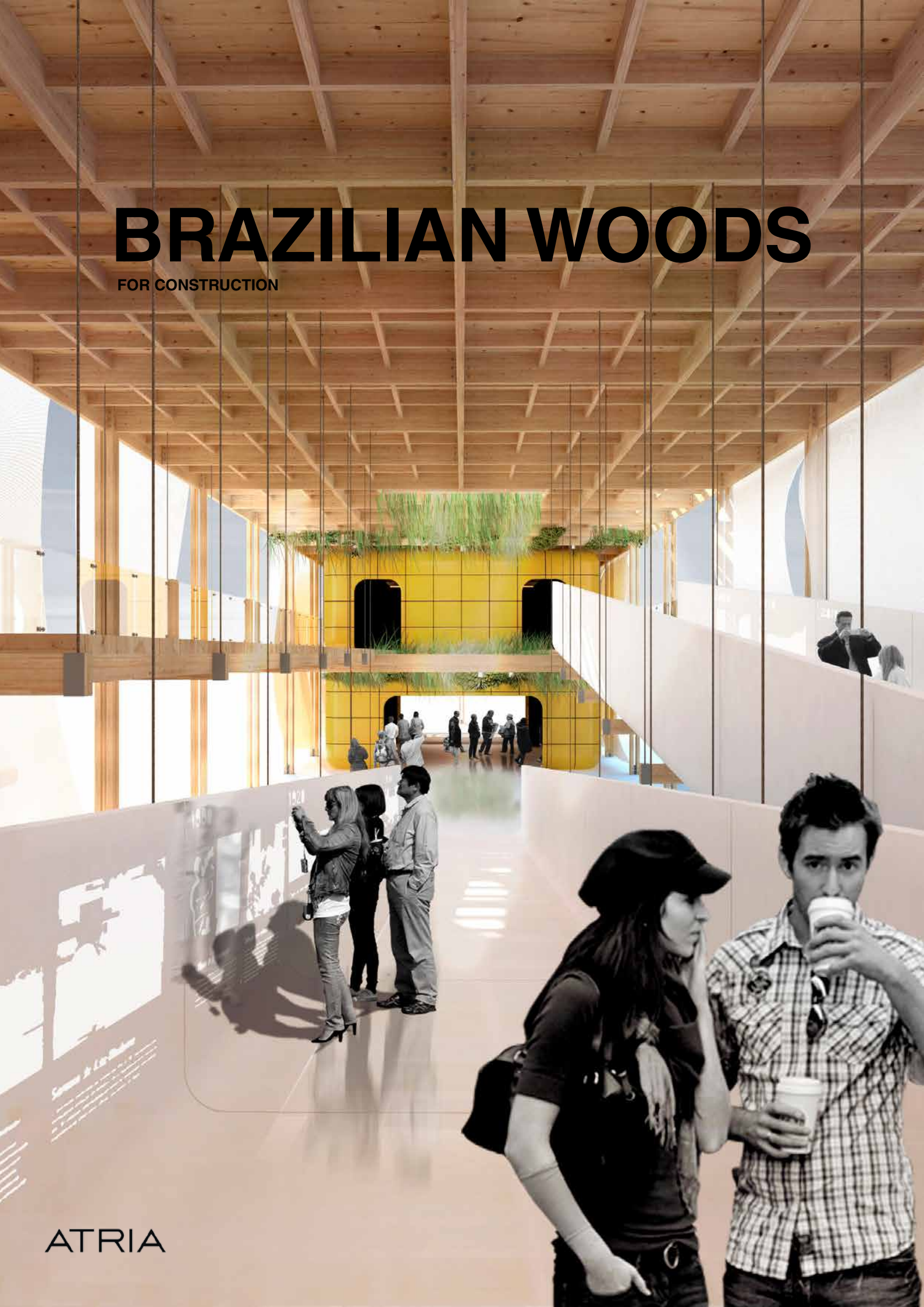


BRAZILIAN WOODS

FOR CONSTRUCTION

ATRIA



Wood is a renewable material able to absorb carbon dioxide from the atmosphere by photosynthesis. It contributes, according to its relative proportions of volume, to the mitigation of greenhouse gases. It supplies different kinds of humanity needs, such as energy, fire, furniture or housing. In civil construction it performs short-term functions such as concrete molds. Wood-based materials can affect carbon dioxide balance in four different ways: “the relatively low fossil energy needed to manufacture wood products as compared with alternative materials; the avoidance of industrial process carbon emissions from cement manufacture; the increased availability of biofuels from wood byproducts that can be used to replace fossil fuels; and the physical storage of carbon in wood building materials”.

ATRIA

SCCS 208 BLOCO C LOJA 34

ASA SUL

BRASÍLIA, DF, BRASIL

bsb@atria.arq.br

+55 61 3443.8654

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| | _Bettiol Law Firm Auditorium |
| | _EXPO Dubai Pavillion Competition |



INTRODUCTION

Brazil is the country with the largest forest area in planet, almost 13% of the total.

60.7% of its territory is covered by forests, out of which 1.3% is planted wood and 98.7% is native; from those, just 6.25% is destined for wood production. The native sawn wood demand was estimated to be 5.81 million m³ in 2009, 79% of which was for the internal market and 21% for exportation.

The production of planted wood was 24.987 million m³ in 2010, and 92% of the sawn wood was for domestic consumption. The effective area of the native forest with potential for timber production is close to 350,2 million hectares and there are about 6.510 million hectares cultivated with exotic species. The most commons are eucalyptus (68.2%), pine trees (25.2%), and a small share of other species (6.6%). Last year, the trade balance of planted wood products had a positive increment of 3.5%. Formal Brazilian jobs in the wood activity are about 615.9 millions jobs.

The products of exotic species are used for different purposes, such as beams, planks, laths, shingles, paper and others; the main consumer market of tropical wood is the civil construction as scaffolds, floor, frames, doors, walls, ceiling. The wood can be found in parts of the edification in the total construction.

FOREST MANAGEMENT

Forest management is based on the concept of low impact logging, which is the planned extraction of only a few trees from an ecosystem. For extraction, the forest is divided into 35 parts, and each one will be harvested over the course of one year.

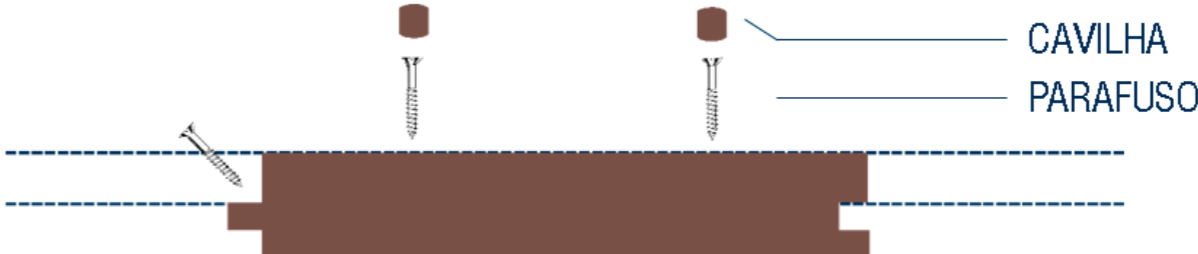
Only during the drought season will paths be cleared to access the area. The trees that can be extracted are identified according to the management plan. Each tree is surgically removed, preserving younger trees of the same species that can restore this ecosystem imitating, in a certain way, the same conditions a forest without human intervention.

After one year, logging in this area is interrupted and its restoration is initiated. Over the next year, the second area is harvested. And so forth, year after year, for 35 years. By the end of the period, the entire forest will have been harvested in a sustainable manner. What we observe, after so much time, is a forest with the same appearance, or exuberance, it had at the start of its extraction.

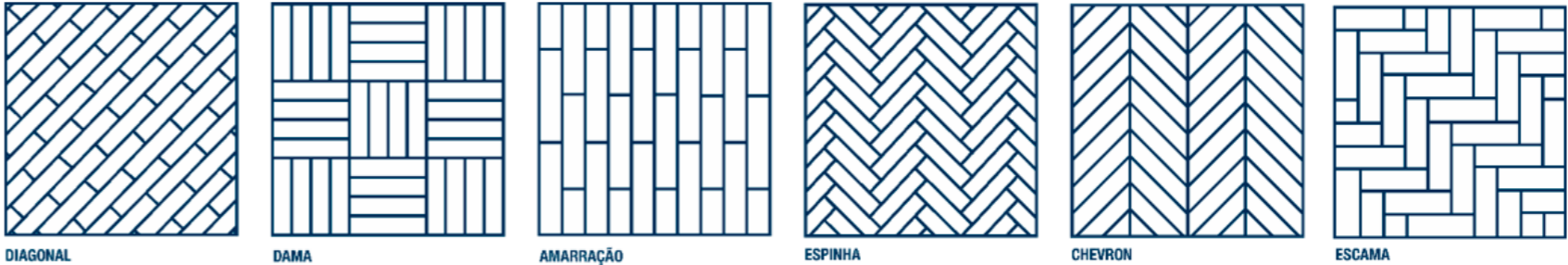


INTERNAL USE

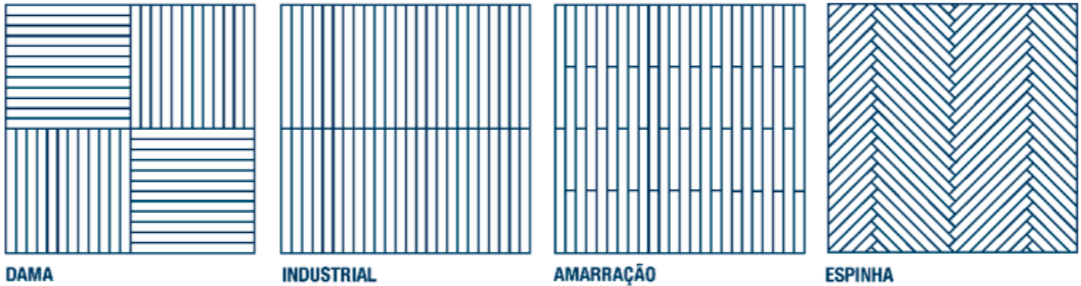
ASSOALHO
ENTABLONADO



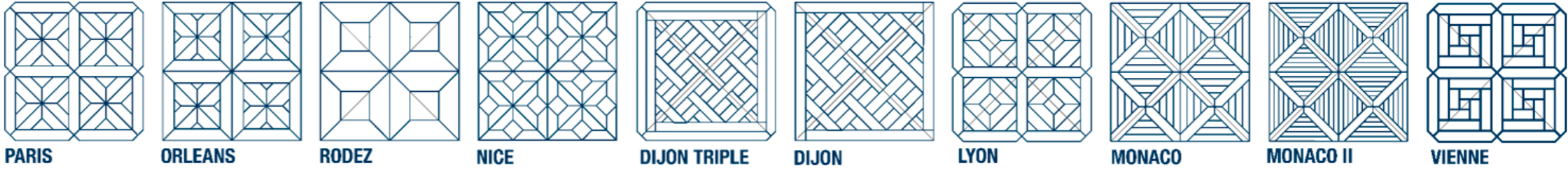
TACO
PARQUET



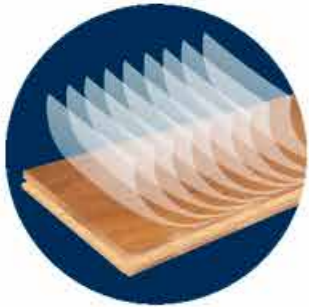
LEGNETO
DAMERO



VERSAILLES



MULTISTRATO | MULTIESTRATO



9 CAMADAS DE VERNIZ
9 CAPAS DE BARNIZ



ENCAIXE MACHO E FÊMEA
ENCOSTRE MACHO Y
HEMBRA



LAMELA COM BASE DE
MADEIRA LAMINA CON BASE DE
MADERA



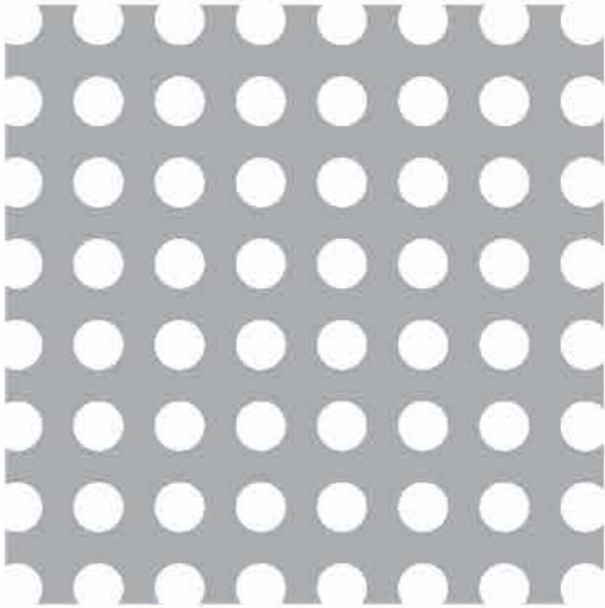
TRIPLY



BREEZE



PASTILHA | PASTILLA

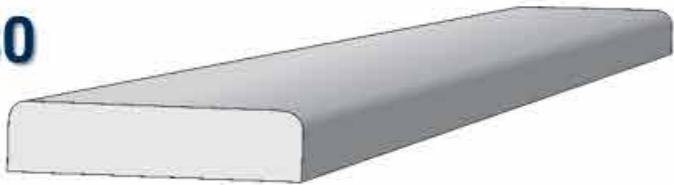


PLACAS

TELA DE SUPORTE

EXTERNAL USE

DECK LISO



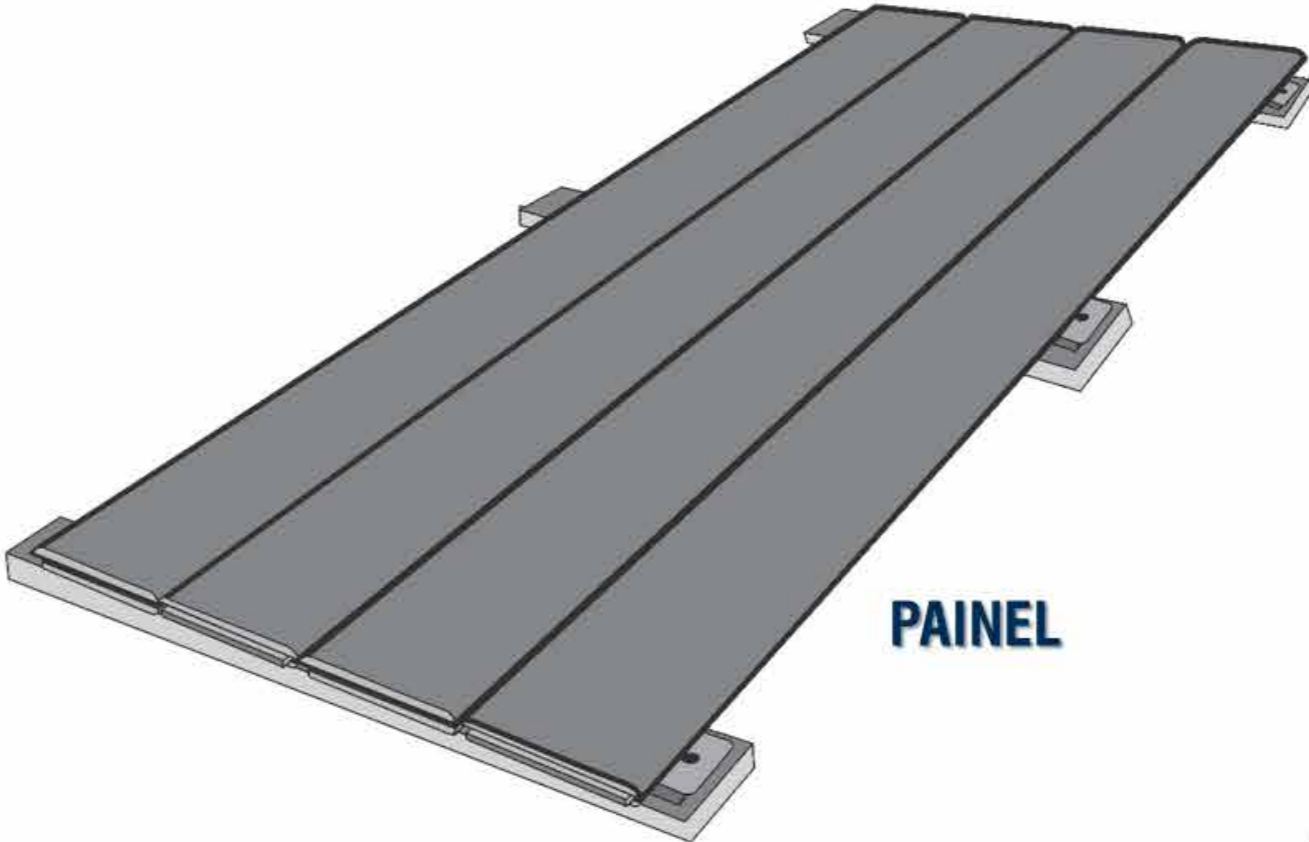
DECK LISO (F/ F)



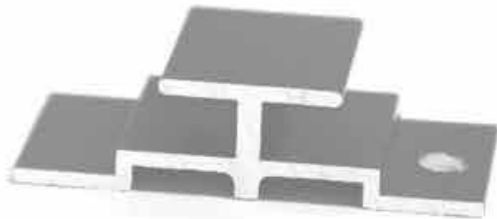
DECK FRISADO



DECK ZIGRINATO (F/ F)



PAINEL



PRESILHA DE ALUMÍNIO

CASE STUDY

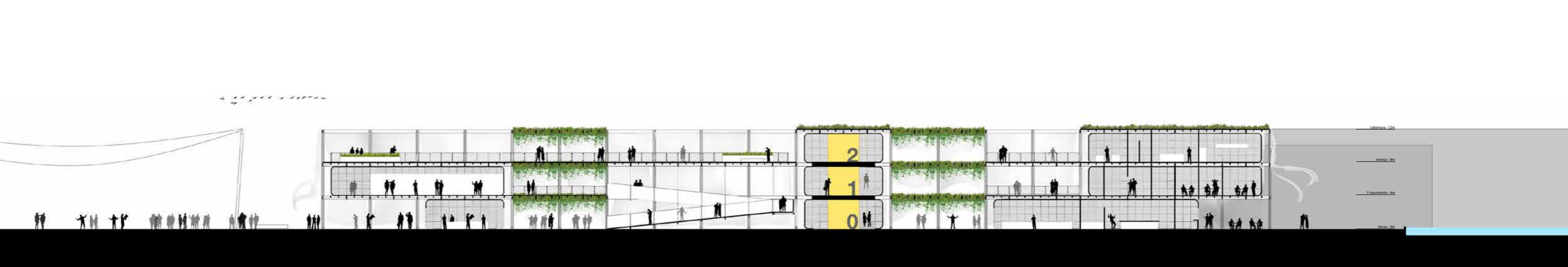
EXPO MILAN PAVILLION COMPETITION

2nd place

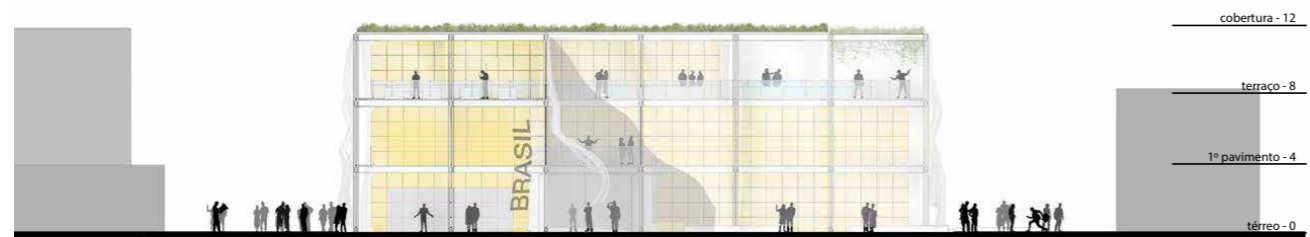
ATRIA & TIAR Studio
2016



Perspectiva Sudeste



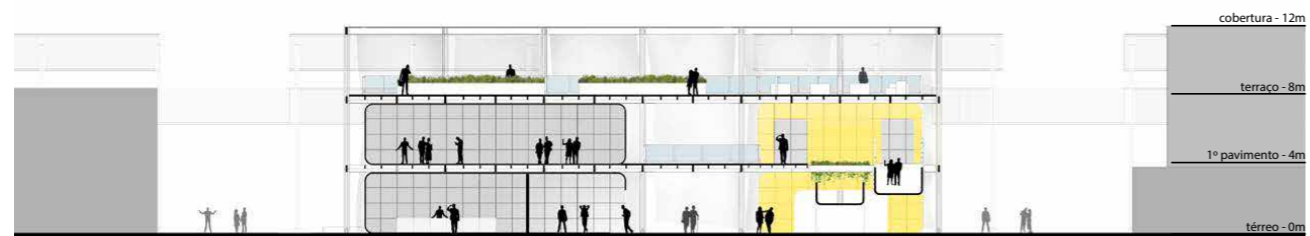
Corte C



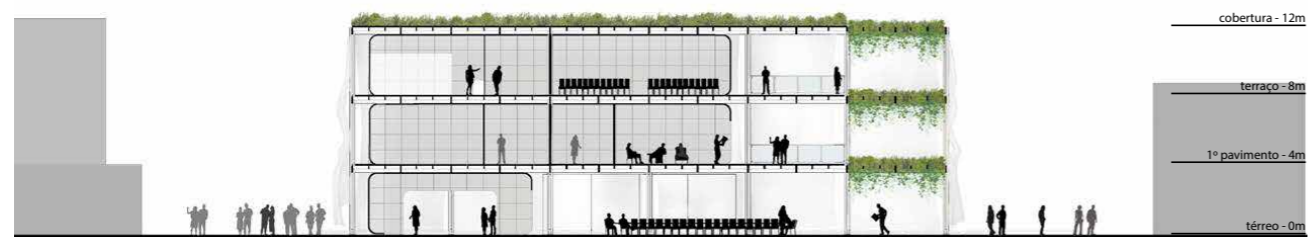
Elevação Sudoeste



Elevação Nordeste



Corte A



Corte B



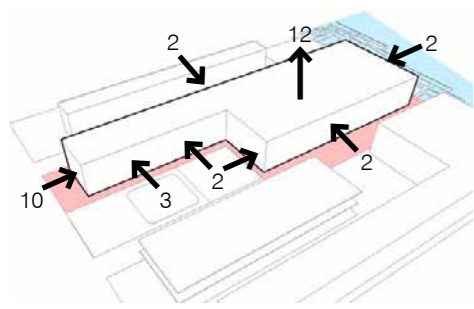
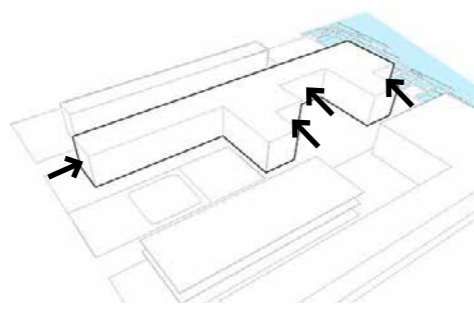
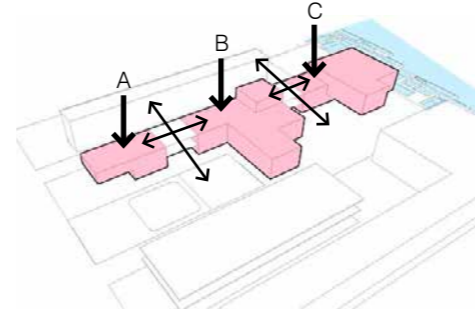


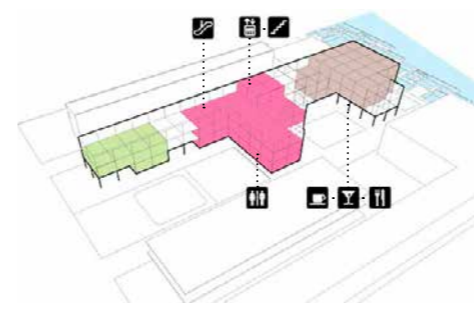
Diagrama de massas / tolerâncias do terreno



Ajustes de volume/ Praças



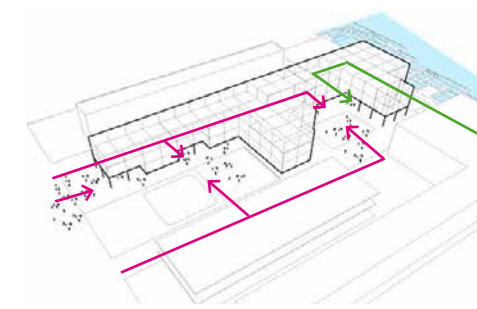
Edifício híbrido / Volumes interligados



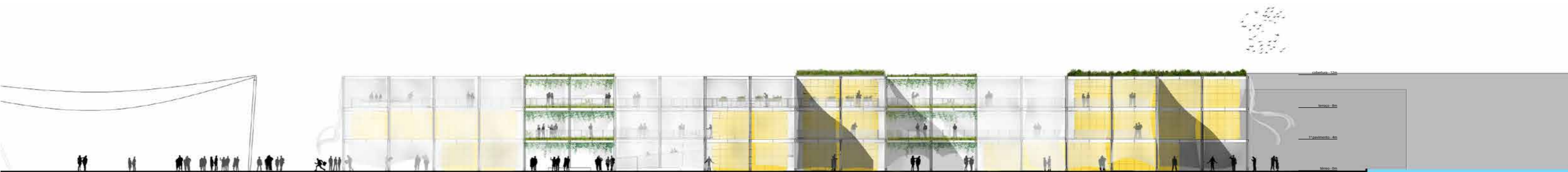
Ocupação dos edifícios / Funções



Áreas verdes / Terraços



Acesso público / Acesso restrito



Elevação Sudeste



Elevação Noroeste

CASE STUDY

BETTIOL LAW FIRM AUDITORIUM

ATRIA
2016





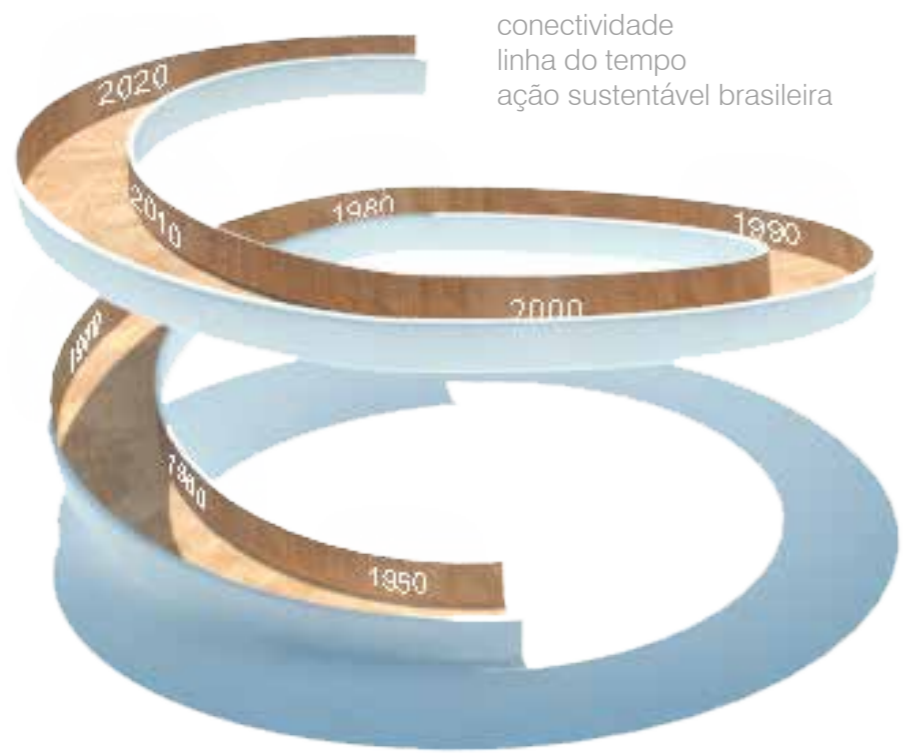


CASE STUDY

EXPO DUBAI PAVILLION COMPETITION

ATRIA
2018





conectividade
linha do tempo
ação sustentável brasileira



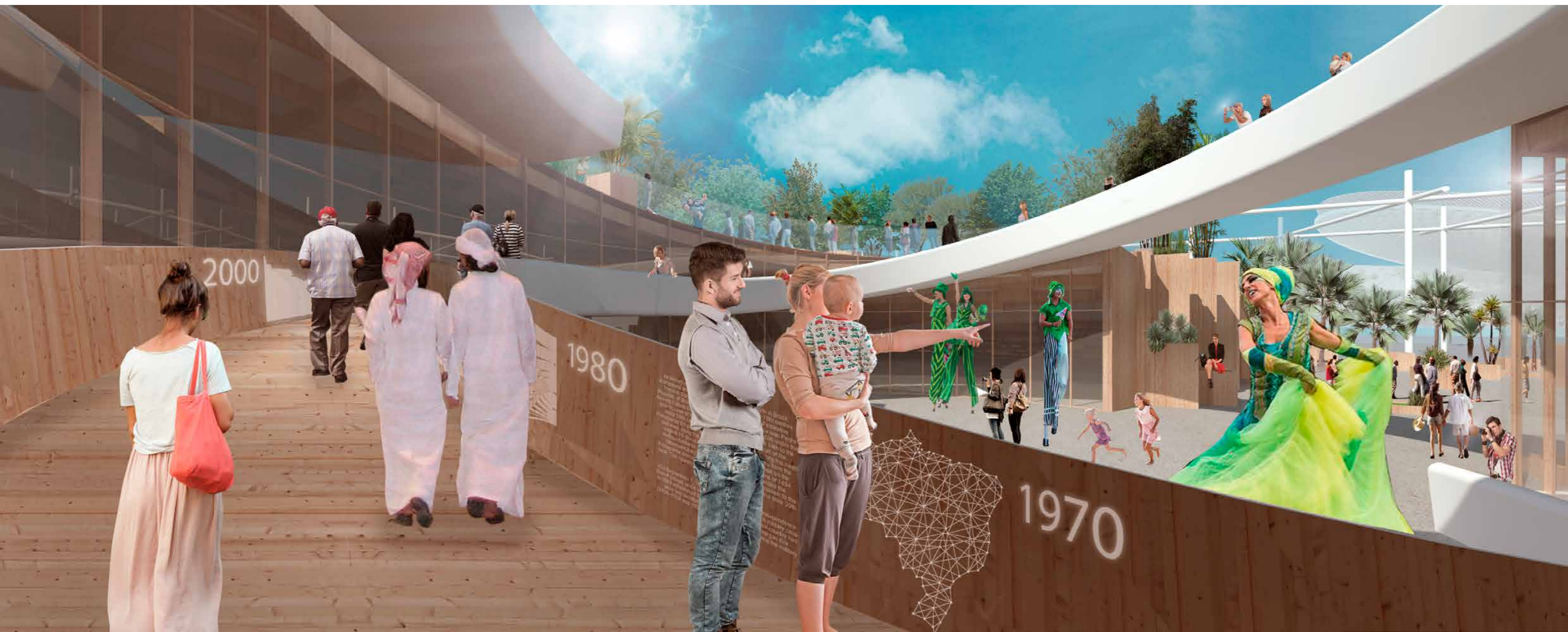
laboratório interativo
tecnologia da produção
agronegócio

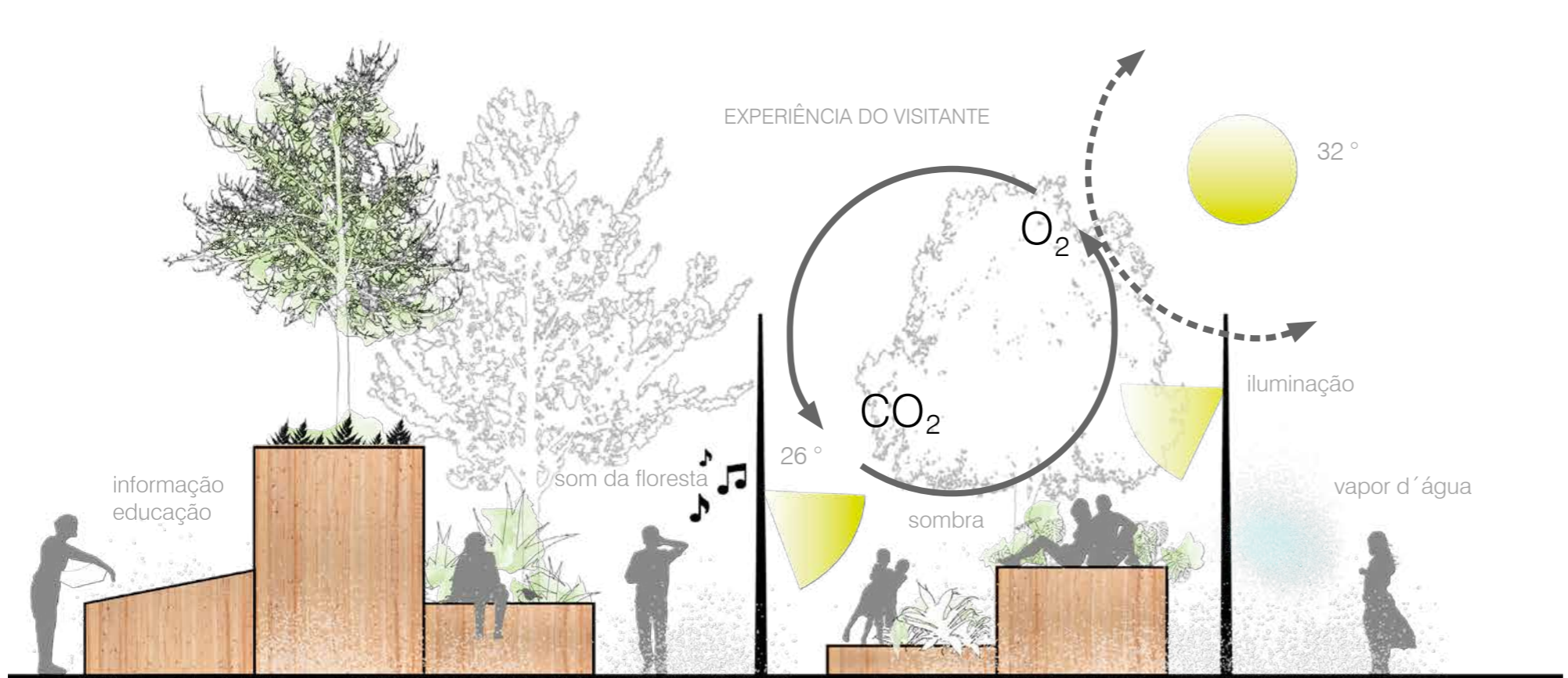
laboratório interativo
tecnologia da produção



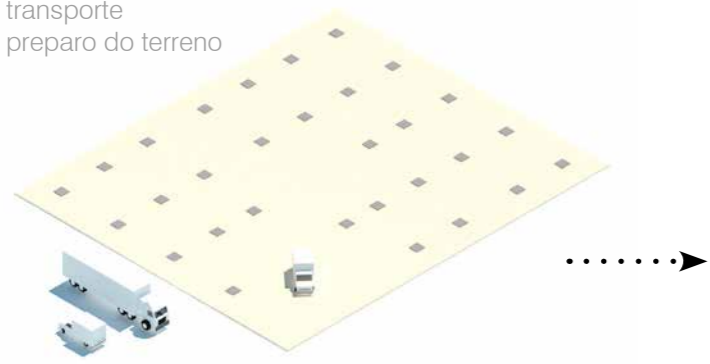
experiência interativa do visitante
gestão climática
ciência oceânica

economia criativa
biocombustíveis
código florestal

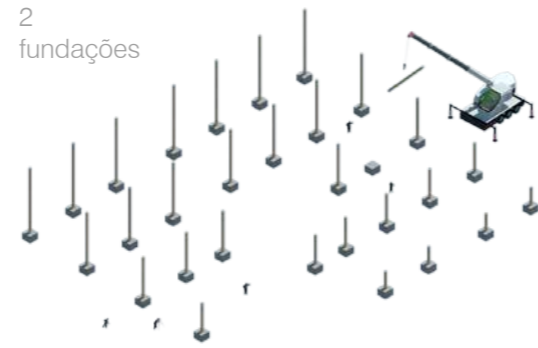




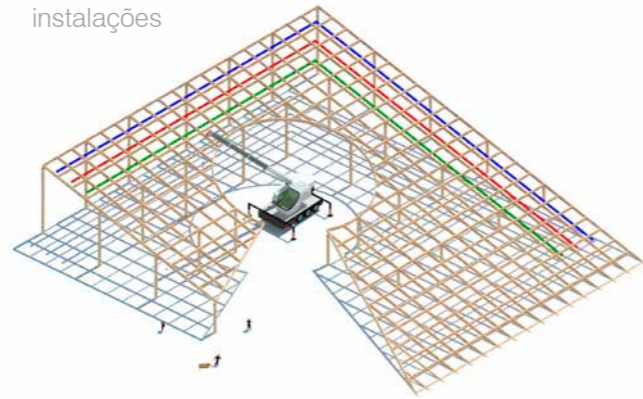
1
transporte
preparo do terreno



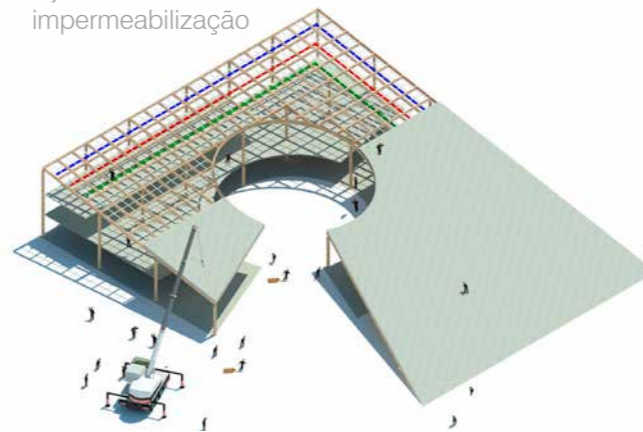
2
fundações



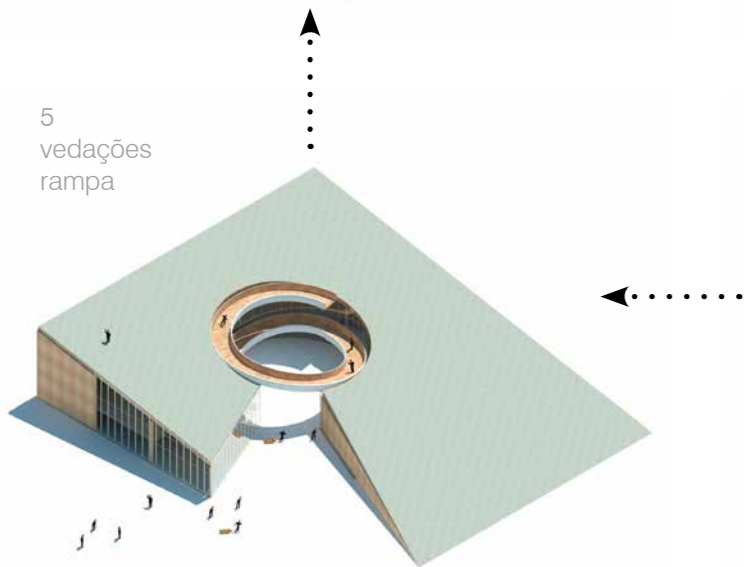
3
estrutura
instalações



4
lajes
impermeabilização



5
vedações
rampa



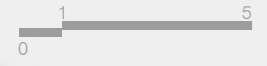
6
acabamentos



7
desmontagem



Corte A - Longitudinal



10.80 m

06.00 m

03.00 m

12.00 m



TEXTS CREDITS:

Key Engineering Materials Vol. 517 (2012) pp 247-260

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doi:10.4028/www.scientific.net/KEM.517.247

