egis

Sustainability

CAPABILITY & REFERENCES

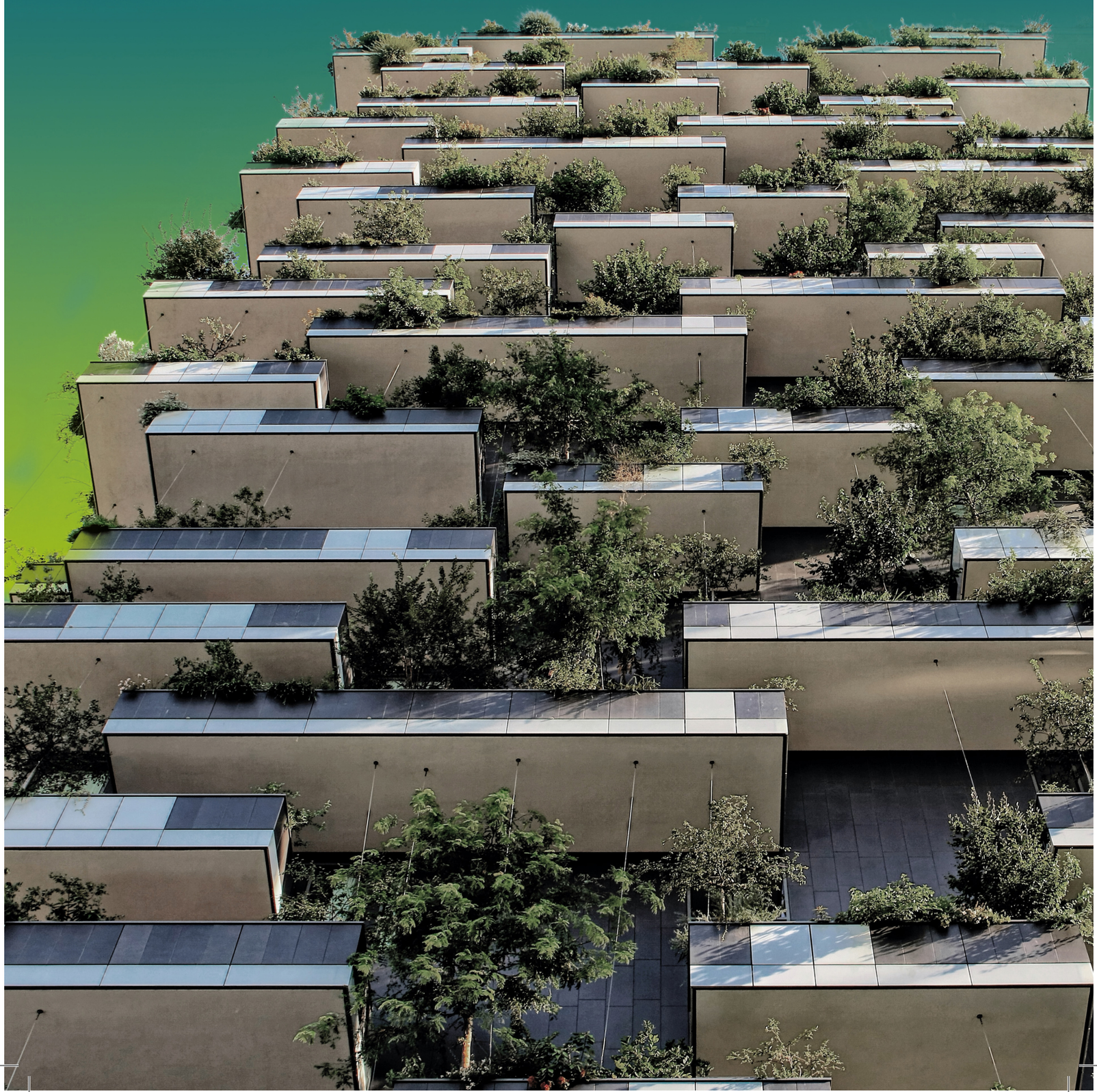
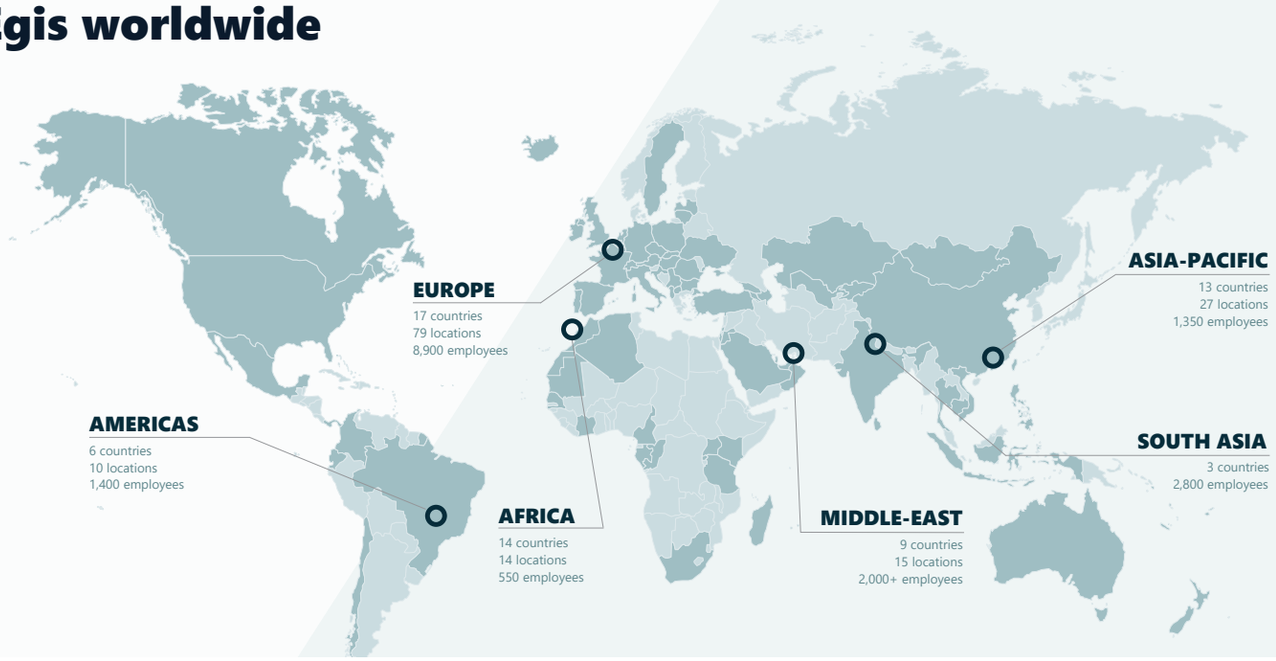


IMAGE. CREATE. ACHIEVE.
a sustainable future

Egis is an international player active in the consulting, construction engineering and mobility service sectors. We design and operate intelligent infrastructure and buildings capable of responding to the climate emergency and helping to achieve more balanced, sustainable and resilient territorial development.

With operations in 120 countries, Egis places the expertise of its 18,000 employees at the disposal of its clients and develops cutting-edge innovation accessible to all projects. Through its wide-ranging fields of activity, Egis is a central player in the collective organisation of society and the living environment of citizens all over the world.

Egis worldwide



Key figures

$1.6 bn — 2022 TURNOVER

65% INTERNATIONAL

79% Consulting & engineering

21% Operation & mobility services

Rankings

21st ENGINEERING NEWS RECORD GLOBAL RANKING

1st FRENCH ENGINEERING COMPANY

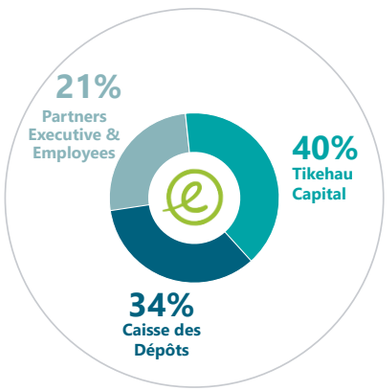
6th IN THE MIDDLE EAST

2022 Turnover

Transportation — 62%

Buildings, Urban Development & Energy — 38%

Our shareholder structure



Operations

28 ROAD OPERATING COMPANIES

20 AIRPORTS WORLDWIDE

16,000 EMPLOYEES IN THE WORLD

79% Consulting & engineering

26% Operation & mobility services

8 active countries

13 locations

17 % of global turnover

US$ 200 mn of global turnover in 2022

700+
COMPLETED PROJECTS IN THE MIDDLE EAST

2600+
EMPLOYEES IN THE MIDDLE EAST

MIDDLE EAST SUBSIDIARIES

Voltere by egis · PROJACS ACADEMY by egis · WME egis GROUP · Inhabit · SB · WW+P · UA · waagner biro bridge services egis · IO · Omrania عمرانية

Our expertise

Energy & Sustainable Cities

- Environment, Water & Energy, Nuclear
- Façade & Sustainability
- Architecture
- Building Engineering

Transportation

- Urban Transport & Infrastructure
- Intercity Transport
- Structures

Consulting & Operations

- Advisory
- Aviation
- Operations & Maintenance

Our awards

CBNME MEP AWARDS 2023
MECHANICAL PROJECT OF THE YEAR
INNOVATION PROJECT OF THE YEAR (UAE Pavilion Expo2020)

Middle East Consultant AWARDS
MULTI-DISCIPLINARY CONSULTING COMPANY OF THE YEAR 2022

Mechanical Electrical & Plumbing AWARDS 2022
RETROFIT PROJECT OF THE YEAR AWARD (Atlantis The Palm - Domestic Hot Water Project)

Our partnerships

EmiratesGBC مجلس الامارات للأبنية الخضراء Emirates Green Building Council

Egis is a Member/Industry Partner of the Emirates Green Building Council.

The Emirates Green Building Council (EmiratesGBC) is an independent forum, formed in 2006 with the goal of advancing green building principles for protecting the environment and ensuring sustainability in the United Arab Emirates. The formation of EmiratesGBC was considered a milestone and a break through towards creating and maintaining a sustainable built-environment and protecting the ecosystem in the UAE, which has become a model for the region to follow.

Sustainability by Egis

We're proud to lead the way in sustainable infrastructure, mobility and energy, innovating across the entire value chain and every aspect of the built environment. Whether it's fighting climate change, cutting carbon emissions or protecting biodiversity, sustainability is at the heart of every project.

Creating a sustainable future.

For more than 40 years, we've been proactively pursuing an innovation policy that will help you build green infrastructure.

Our size and reach mean we're able to tackle the climate crisis in a systematic way, offering low-carbon solutions across all our sectors.

We also practice what we preach; we're working towards being carbon neutral by 2050. To achieve this – and help our clients do the same – the environment is a critical pillar in our strategy, CSR and innovation programme.

A global leader in green infrastructure

62%
eco-designed in 2020
Most of our projects will be eco-designed by 2025 and 100% by 2030.

43.8%
ISO 14001 in 2020
Nearly half our projects meet international environmental management standards.

€34m
invested in R&D in 2020 million
into R&D, focusing on climate change and biodiversity.

Our key services:

- Sustainable development & eco-design
- Environmental, biodiversity & eco-engineering
- Carbon mitigation & sequestration
- Carbon mitigation & sequestration
- Hydrology & hydrogeology
- Urban requalification, reconversion & extension
- Acoustics, waves & vibrations
- Air & odour pollution & health risks
- Industrial risks & safety
- Waste, debris & asbestos management
- Polluted & contaminated site & soil management
- EMC & lightning protection
- Advice & support for EU eco-label

Our approach

We approach sustainability in two ways. Firstly, always working to minimise the environmental impact on projects. Secondly, we aim to protect and restore ecosystems wherever possible.

Systems thinking.

Our teams think at multiple scales: from sustainable buildings to sustainable cities to a sustainable planet. This is reflected in the leading-edge eco-design expertise we offer across every engineering discipline, in every part of the world.

We can also support you with sustainable solutions across the entire value chain, including consulting, design and engineering, turnkey solutions, operations, training and knowledge transfer services.

Driving innovation.

The climate and biodiversity crisis depends on cutting-edge solutions, so we have launched several innovative eco-design startups:

- Cycle Up helps with the reuse of construction materials to cut landfill waste
- Seaboost and Landboost use 3D printing to create shelters for plants and animals
- Teamber explores new frontiers in building with wood. We also operate several materials and environmental testing laboratories

Multidisciplinary.

We shape our teams to meet your objectives, bringing together eco-design experts, economists and water engineers alongside architects, digital specialists and analysts. These bespoke teams combine deep expertise from different areas and work together to develop new solutions to your challenges.

How we help

Experts in eco-design

Our global experts are leading in eco-design across multiple areas. By 2030, 100% of our projects will be centred on eco-design principles; minimising carbon, reducing waste and energy and protecting biodiversity.

Transforming entire sectors.

We're actively transforming industries that have traditionally been carbon-intensive. From roads to aviation to construction, we're driving sustainable transport and infrastructure models that are more energy-efficient and biodiverse.

Net-Zero emission services.

To minimise the impact of your projects on the environment, we offer low to no carbon services on every project, from consulting to operations and maintenance. Our expertise covers all three aspects of the fight against climate change; mitigation by reducing emissions, adaptation and carbon sequestration. Right across the Egis group, we are reducing our own emissions with the commitment to be carbon neutral by 2050

our 10 strategic priorities to 2026

IMPACT the future

1. Contributing to global **carbon neutrality** by 2050
2. Become a **leading industry figure**
3. Accelerate in Egis' most **successful markets and zones**
4. Impose the **transition to a low-carbon future** as the Group's third pillar
5. Place **intelligence** at the heart of cities and mobility
6. Stay **close to our clients**
7. Step up our **development in Southeast Asia**
8. Link up the **chain of expertise**
9. Enhance **technical and digital excellence**
10. **Help our employees grow**, and continue to attract **new talent**

Climate emergency, our absolute priority

OUR 5 COMMITMENTS
to take concrete action for the environment on a daily basis

- Reduce our greenhouse gas emissions
- Reduce emissions from our clients' projects
- Strengthen carbon sequestration
- Evolving our business portfolio in line with the Paris Agreement
- Strengthen the resilience of territories and infrastructures

OUR COMMITMENTS IN VIDEO

A wide range of engineering services and operational solutions

to fight against climate change and biodiversity erosion

The use of low-carbon alternatives with equivalent timeframes and costs

on operations and projects entrusted to us

→ *During the Covid-19 crisis, Egis drew up 21 proposals for a low carbon economic recovery*

Innovation, a cornerstone of the Egis corporate culture

An innovation policy supported by 3 pillars

01. Co-innovation with our clients
02. Close relations with start-ups
03. An ambitious in-house scheme to encourage and support innovation

Our major innovation drivers

01. Energy and ecological transition
02. Mobility and transportation of the future
03. Sustainable city construction
04. Engineering 4.0

30
INDUSTRY AWARDS
IN TWO YEARS

€30M
R&D
INVESTMENT

40
PARTNER
START-UPS

Our flagship innovations in 4 main themes

ECOLOGICAL AND ENERGY TRANSITIONS

MOBILITY & TRANSPORTATION OF THE FUTURE

SUSTAINABLE CITY CONSTRUCTION

ENGINEERING 4.0

Creativity is a founding value of the Egis group. Our operational teams are committed to providing innovative solutions, particularly in the context of projects entrusted to us by our clients.

All this creativity is illustrated by this innovation book, which has become a must have, presenting more than 50 innovations in 4 main areas: mobility and transport of the future, building sustainable cities, ecological and energy transition and engineering 4.0.

Our Commitments

"The projects we help to bring to life are long term and have a lasting impact on regions, communities and the people who live in them. This gives us a great societal responsibility – one that we approach with conviction and passion. Our employees are proud to use their skills and creativity to address the world's major societal challenges."

Martine Jauroyon
Chief Sustainability, Innovation and Engagement Officer

Climate Change Mitigation
Egis is committed to reducing its carbon footprint and contributing to the global effort to combat climate change. We aim to reduce greenhouse gas emissions through energy efficiency measures, renewable energy adoption, and sustainable transportation solutions.

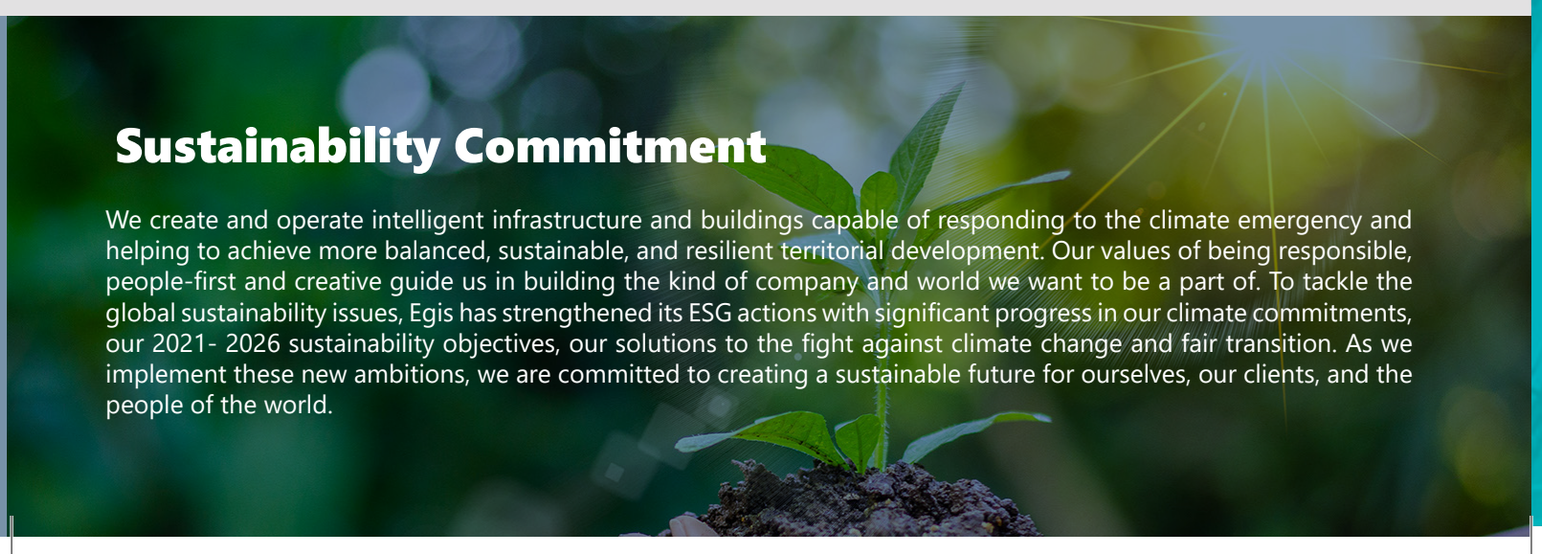
Biodiversity Preservation
Egis recognizes the importance of biodiversity and undertakes measures to protect and restore natural ecosystems. Therefore, promote sustainable land use, ecological restoration, and the preservation of biodiversity in our projects.

Circular Economy
At Egis, we promote the principles of the circular economy by optimizing resource use, minimizing waste generation, and promoting recycling and reusing materials. We aim to foster a sustainable and efficient approach to resource management.

Environmental Compliance
Egis adheres to applicable environmental laws, regulations, and standards. We ensure that our activities are in line with environmental requirements and actively work to exceed legal obligations when feasible.

Stakeholder Engagement
We actively engage with stakeholders, including clients, partners, employees, and local communities, to foster environmental awareness and collaboration. We promote dialogue, knowledge sharing, and the integration of diverse perspectives to achieve sustainable outcomes.

Continuous Improvement
Egis is committed to continuously improving its environmental performance. We achieve this by setting specific targets, measuring our progress, and regularly reviewing and updating our environmental practices to drive ongoing improvement.



Sustainability Commitment

We create and operate intelligent infrastructure and buildings capable of responding to the climate emergency and helping to achieve more balanced, sustainable, and resilient territorial development. Our values of being responsible, people-first and creative guide us in building the kind of company and world we want to be a part of. To tackle the global sustainability issues, Egis has strengthened its ESG actions with significant progress in our climate commitments, our 2021- 2026 sustainability objectives, our solutions to the fight against climate change and fair transition. As we implement these new ambitions, we are committed to creating a sustainable future for ourselves, our clients, and the people of the world.

Sustainability Services

Embodied Carbon Accounting

Operational Carbon Accounting

Carbon Reduction Targets & Plans

Green Materials Configuration

Life Cycle Assessment

Embodied carbon represents the carbon emissions associated with the process of material extraction, manufacturing, transportation and emissions during construction. This is referred to as up-front embodied carbon. The other categories of embodied carbon throughout the lifecycle of the building are associated with maintenance and refurbishment works and demolition or deconstruction at the end of the building's life.

Over the last decade, a significant industry-wide movement has led towards reductions in operational carbon of buildings associated with energy and water usage. However, embodied carbon emissions have been overlooked and it is now more crucial than ever to focus on minimizing embodied carbon of our built environment.

At Egis, we provide life cycle assessment and embodied carbon minimization, management and accounting services covering the entire life cycle of a building. Our ability to influence the embodied carbon of a project is highest at early design stage and this influence keeps decreasing as the design matures through the various stages and more constraints are introduced to the developed design.

We work collaboratively with clients and structural engineers to evaluate various structural systems, design options and material choices to offer pathways for maximum embodied carbon reduction.

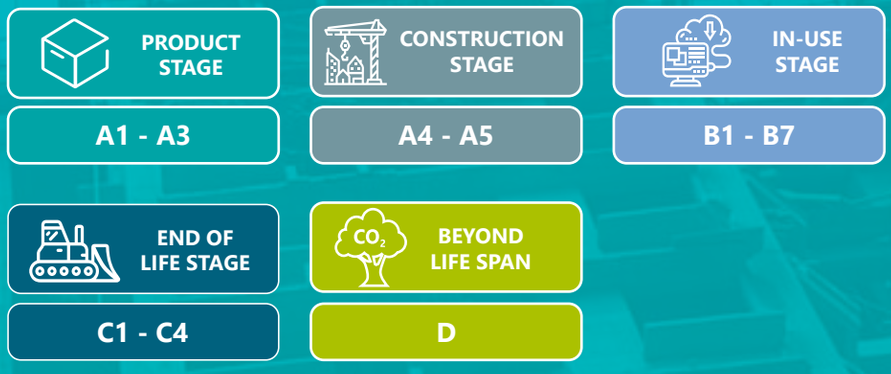


Figure 1: System Boundary EN15978 :2011 Building Life Cycle Assessment Stages.

Computational Modelling

Climatic and Environmental Analysis, Solar radiation, UTCI & Wind

Dynamic Energy Modelling

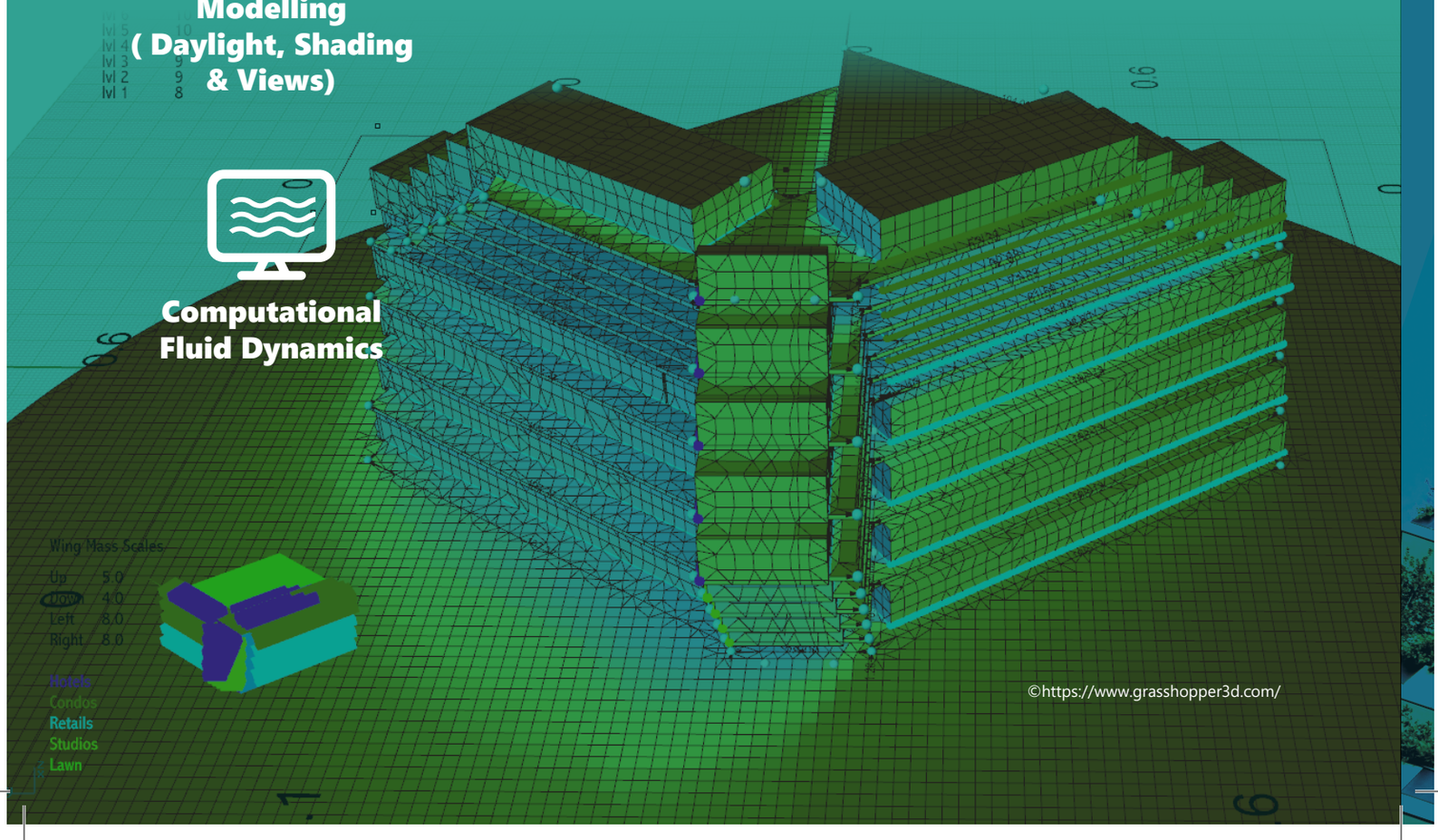
Credit Compliance Modelling (Daylight, Shading & Views)

Computational Fluid Dynamics

A pre-requisite for an efficient and comfortable design is to carry out computer-based modelling and simulations beginning from very early design stages. Starting with analysis of climatic conditions of the project site, Egis's team will provide feedback to the design team regarding natural resource opportunities and constraints. These help form the basis of design/massing optioneering exercises at early design stages.

As the project massing and architectural concept is settled, advanced and detailed simulations for energy consumption, daylight and glare, shading and thermal comfort are carried out to validate the design and provide guidance to the design team for further improvements. Egis's team works alongside the design team assessing and validating various options and parameters to help deliver an optimized solution. The final solutions and finalized parameters are also backed by demonstrated upfront capital or operational cost savings.

Additionally, Egis also provide a full suite of detailed design stage simulation services that cover compliance requirements such as whole life cycle dynamic energy modelling, year-round outdoor comfort analysis and indoor comfort analysis such as daylight and glare modelling.



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Green Buildings Certification

Our sustainability team provides a wide range of services that support green building certifications and help our clients in achieving their sustainability goals. Egis's capabilities in green building certifications encompass a wide range of expertise and experience across various building typologies and geographies.

Our team has extensive experience in a variety of green building certifications such as LEED, WELL Building Standard, Mostadam, Estidama and more. We have worked with clients across a range of industries, from commercial and institutional buildings to residential buildings and masterplans. Our green building certification experts provide advice on green building strategies, best practice sustainable design measures and energy and water efficient technologies. We conduct comprehensive assessments to identify areas for improvement and develop detailed documentation to support green building certification applications. Our team also manages the entire green building certification process from start to finish ensuring that all requirements are captured at the appropriate design stage and within budget.

Egis's capabilities in green building certifications are a testament to our commitment to sustainability and environmentally-friendly construction practices. We are dedicated to helping our clients achieve their sustainability goals and creating buildings that are healthy, efficient and sustainable for generations to come.

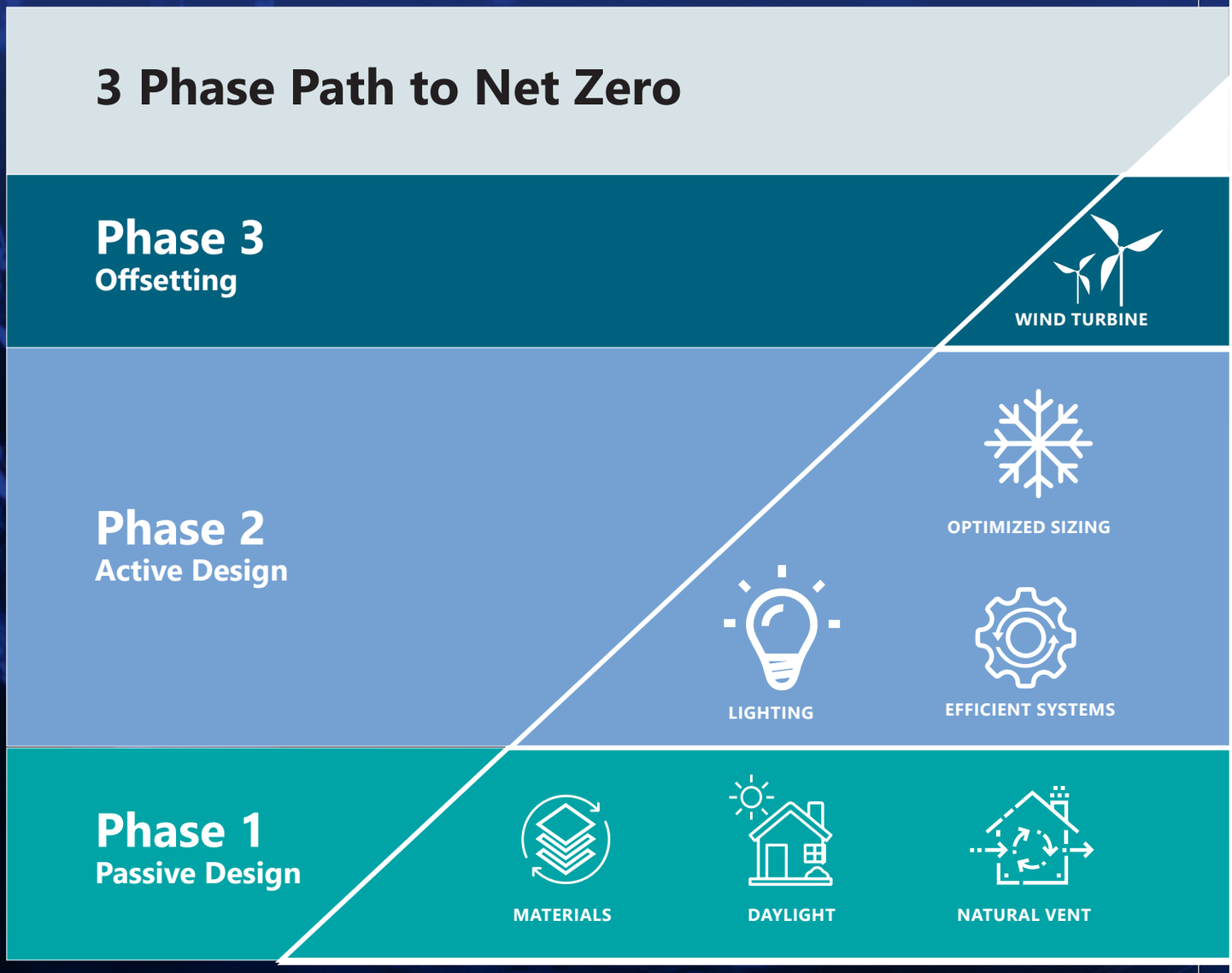
Bespoke Net-Zero Approach

At Egis, we believe that a fundamental requirement of achieving a truly net-zero building is defining the net-zero target as the central objective of the project brief rather than just an accompanying KPI. The key to achieving a net-zero building is to ensure that the entire design process from start to finish is centered around the net-zero end goal.

Our Bespoke Net-Zero Approach offering is split into a three-phase process implemented through various design stages:

Phase 1 – Passive Design

During this phase, we work closely with our clients to identify and establish the net-zero boundary and scope that the project will set out to achieve. This is based on several workshops where the implications and benefits of the various net-zero scopes are discussed with the client and in some instances the wider design team. Once defined, we undertake several early-design stage and passive strategy analysis that focus on minimizing the demand of the building.



Energy

Water

Waste

Embodied Carbon

Phase 2 – Active Design

During this phase, our net-zero experts collaborate and work with the wider design team to assess industry-leading technologies and practices that can be implemented in the design in order to reduce the consumption associated with the minimized demand achieved during Phase 1. We also work with the cost consultancy team to produce high level return on investment calculations associated with the implementation of the selected active measures.

Phase 3 – Offsetting

The third and final phase is to select the most effective combination of innovative and applicable renewable technologies to meet the residual demands of the building. This is complemented by collaboration with suppliers and the design team along with computational modelling to validate outputs. Egis always recommend maximizing on-site generation as much as feasible before exploring off-site offsetting schemes.

Our Experience

UAE Pavilion Expo 2020 Dubai, UAE

Dubai, UAE

Located facing the Al Wasl Plaza, which lies at the centre of the 200-hectare exhibition zone, the UAE Pavilion, whose design was inspired by a falcon in flight, is a major attraction at Expo 2020. Services provided includes building services and AV/IT engineering support, including sustainable design.

Palestine Museum

Birzeit, Palestine

The Palestinian Museum is Palestine's first green building following the LEED rating system. In this, as in the other fields, it aims to present an example of long – term energy sustainability based on international criteria. Energy - saving measures will help the Museum save 15% of its annual energy consumption and 48% of its water consumption. Egis provided Project Management Services during the all the phases: Design, Tendering, Construction and LEED rating process.

Austria Pavilion Expo 2020 Dubai, UAE
Dubai, UAE

The design combines traditional building materials with modern techniques to present Austria as a centre of innovation. Services provided included Building Services, AV/IT engineering support, including Sustainable Design

Emirates Pavilion Expo 2020 Dubai, UAE
Dubai, UAE

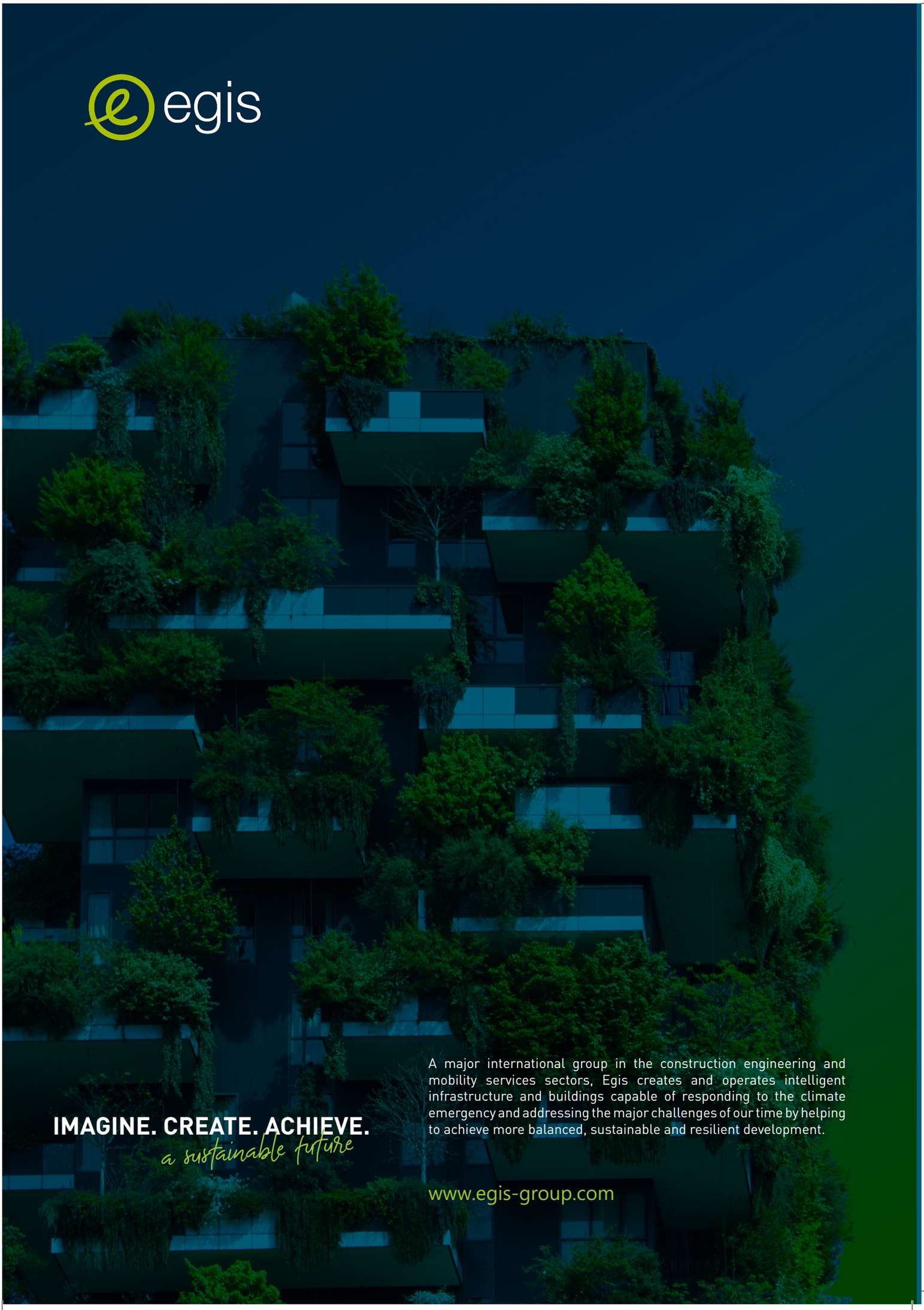
The pavilion will demonstrate the principles of flight and also provide a sneak-peek into the future of aviation. The project will demonstrate the very best use of technology and sustainability to create a low energy, low environmental impact building.

National Bank of Kuwait
Kuwait

Through the design phase, National Bank of Kuwait was adamant on achieving the United States Green Building Council (USGBC) LEEDv3 Gold Certification.
Egis led the process and facilitate the achievement of Certification goal.

Amaala Airport
Saudi Arabia

AMAALA Airport will be the main port of entry for the proposed AMAALA resort. The resort itself is located in a remote section of North-Western Saudi Arabia, meaning air transport will be the primary means for guests to reach the resort. The terminal and control tower design was conceptualised by UK-based architectural and design firm Foster + Partners, while the airport master plan was designed by Egis.


egis
IMAGINE. CREATE. ACHIEVE.
a sustainable future
A major international group in the construction engineering and mobility services sectors, Egis creates and operates intelligent infrastructure and buildings capable of responding to the climate emergency and addressing the major challenges of our time by helping to achieve more balanced, sustainable and resilient development.
www.egis-group.com