

02

Creating the highest value for all stakeholders

BESIX Strategy	14
Main ESG Risks and Opportunities	16
Focusing on Stakeholder Expectations with a Double Materiality Assessment	18
Value Creation Model	20
Value Engineering	22
Engineering Sustainable Value across the Value Chain	24



BESIX Strategy

Meeting tomorrow's challenges

Purpose

Excel in creating sustainable solutions for a better world.

Mission

Thrive as a sustainable and highly integrated full-service provider, with construction at its heart, by offering its clients, in the various markets it operates, value-adding and pioneering solutions and by excelling in delivery, thanks to all group capabilities and trusted partnerships.

Strategic framework

BESIX is a people-first organisation that values unity, improved governance, and a lean organisational structure. As a contractor at heart, BESIX has successfully diversified in the past into exciting new ventures such as Real Estate, Concessions, Operations & Maintenance - and continues to do so. With a focus on sustainability and innovation, the group is always on the lookout for new diversifications that align with its core competencies.

Strengths

Committed staff members

At BESIX, employees are more than just a team – they are a community of passionate professionals united by a strong culture of excellence. With a deep sense of commitment, responsibility, and an insatiable appetite for challenge, BESIX employees deliver exceptional results for their customers, both as a team and as individuals. What sets BESIX teams apart is their unwavering entrepreneurial vibe, which drives everything they do. From start to finish, they put their heart and soul into every project, ensuring that clients receive the very best.

In-house engineering

The BESIX in-house design office is what sets the group apart from the competition. The in-house office leverages its technical expertise, vast experience, and innovative solutions to support clients in developing and executing their most complex infrastructure and sustainable projects. The in-house design office is committed to offering global solutions with exceptional added value from the initial tendering phase to the planning phase and project completion. Its experts work tirelessly to deliver results that exceed expectations, deliver true value to clients, and build a sustainable future.

One-stop shop over the value chain

BESIX is a full-fledged services company that operates on the whole value chain. While construction is still its core business, the group's investments in concessions and start-ups, real estate, and specialised activities have grown steadily. BESIX can rely on a vast and diversified expertise to take on projects from financing to design and construction to long-term maintenance. Through leveraging this diversified expertise, business lines are able to offer bespoke one-stop shop solutions that are tailored to meet the unique needs of their clients, while also remaining their primary point of contact throughout the entire process.

A targeted and sustainable international presence

Since 1909, BESIX Group has opted for a deliberate and sustainable strategy with a focus on establishing a strong international presence on five continents, in addition to its already extensive coverage in Belgium. By pursuing opportunities that align with its risk management requirements, the company is able to diversify its operations while maintaining a long-term perspective in these various geographical areas.

Corporate values

Values are essential to guide the behaviours and decisions of employees within BESIX Group. Here are the corporate values that the group promotes and prioritises.

Unity

This value underscores the significance of cultivating a sense of unity and cooperation among all employees. It urges colleagues to collaborate towards a common objective, supporting each other in reaching that goal. By fostering an inclusive culture and mutual respect, employees are encouraged to embrace unity and work together for shared success.

Passion

This value ignites a drive for employees to dare and accomplish great, sometimes unprecedented, feats. It nurtures an environment of enthusiasm and commitment, motivating staff members to take pride in their work and pursue excellence in all endeavours. Additionally, it cultivates inspiration and motivation, propelling innovation and progress within the group.

Respect

With over 86 nationalities and a diverse workforce, BESIX Group values and respects the contributions of each individual. This core value emphasises the importance of acting with integrity and professionalism consistently, showcasing a strong commitment to ethical conduct and responsible business practices.

Co-creation

BESIX Group boasts colleagues with exceptional expertise in their respective fields. By sharing and combining this knowledge, remarkable solutions are devised for clients' projects, as evidenced by BESIX's global accomplishments. This value encourages a culture of collaboration, illustrating that, in terms of expertise, one plus one amounts to much more than two!

Excellence

BESIX's success stems from its teams' expertise and their unwavering pursuit of quality, performance, and client satisfaction. Cultivating and transferring this level of excellence is the essence of interpersonal connections within the group. It serves as the foundation for intergenerational unity and a prerequisite for nurturing and developing talent.

Behaviours

BESIX Group has identified six behaviours that are intrinsically linked to its corporate culture and therefore expected of each of its employees.

Be Inclusive

Inclusion is a core principle, intrinsically tied to the value of respect. It guarantees fairness, equal opportunities, and an open-minded approach towards all colleagues, regardless of their backgrounds, beliefs, or lifestyles.

Eagerness

BESIX's long-term success in its industry and beyond hinges on its eagerness to seek innovative ways of increasing efficiency and embracing new ventures and business opportunities.

Take Ownership

Employees are empowered to take action, encouraged to assume responsibility, and utilise their talents to their full potential. This is directly connected to the entrepreneurial spirit that underpins BESIX's century-long spirit.

Trust

In line with its entrepreneurial nature, the group's business units and entities maintain a high degree of autonomy and employees enjoy substantial empowerment. Trust is a fundamental aspect of BESIX's operations, acting as an extension of respect and achievable through well-defined expectations and objectives.

Engaged Teams

Every BESIX employee is part of a team, with clear shared and individual objectives, and has opportunities to grow according to their potential and personal motivations. Training, progression, and internal mobility are available to all and highly encouraged.

Resolve Together

United by a strong entrepreneurial spirit, BESIX's team members are known for their unwavering commitment to providing solutions, utilising the remarkable internal resources at their disposal. Both collectively and individually, they draw upon their successes and learn from setbacks, harnessing these experiences to achieve outstanding outcomes for their clients.



Main ESG Risks and Opportunities

BESIX Group recognises the importance of addressing ESG factors and has identified key risks and opportunities affecting its global operations. The group addresses how some of the major short and long-term risks might affect the construction industry and how BESIX Group responds to these risks.

Environment

Risk

The construction industry plays a major role in global greenhouse gas emissions, including CO₂. Climate change brings major risks to both the world and construction, with severe weather, water scarcity, rising sea levels and global temperatures, natural disasters, and floods impacting safety, infrastructure resilience, and construction processes.

Opportunity

BESIX Group recognises the importance of tackling environmental risks head-on and actively devises solutions like eco-friendly building materials, waste-to-energy and green hydrogen plants, and timber construction. From project inception, the group offers sustainable design and construction services. Furthermore, the growing occurrence and impact of extreme weather events due to climate change present new opportunities for the group to utilise its extensive expertise in construction, adaptation, and infrastructure maintenance. This expertise will be essential for projects coping with rising sea levels and increased weather extremes. There's a rising demand for sustainable construction, retrofitting, and

renovation services, with new sustainable construction standards making these services even more vital in meeting evolving needs and generating new revenue streams

[+ Read more on p. 22.](#)

Finance and supply chain management

Risk

The construction industry grapples with challenges stemming from rising interest rates, inflation, and disruptions in global supply chains. Recent interest rate hikes by central banks aimed at curbing inflation have adversely affected this sector, particularly those heavily reliant on borrowing. Higher lending costs have led to project delays or cancellations. Moreover, events such as the war in Ukraine and several geopolitical tensions around the globe and disturbances in energy markets have caused transportation disruptions and driven up material prices, resulting in cost increases for companies like BESIX Group. The escalating tensions between the US and China further exacerbate the strain on the global supply chain.

Opportunity

In response to these challenges, companies must adapt and mitigate risks wherever possible. The diversification of supply chains and the usage of price indexation mechanisms are strategies that BESIX employs to limit the impact of these issues.

Digital transformation

Risk

Digitalisation presents numerous advantages, like streamlining processes and boosting productivity. However, it also introduces challenges, particularly in cybersecurity. Like any organisation, BESIX is exposed to cyber threats such as data breaches, hacking, and ransomware attacks. To counter these risks, the group implements various measures, including compulsory staff training, fortified infrastructure, and strengthened access controls to information systems. BESIX's proactive stance on cybersecurity helps minimise the chances of financial losses, reputational harm, and legal ramifications stemming from cybercrime.



Opportunity

BESIX Group has been at the forefront of embracing digitalisation, making Building Information Modelling (BIM) a standard requirement for many of its construction projects. Beyond BIM, the company implements various other technologies such as material passports, smart buildings, further enhancing data management, and tools that streamline design, construction and maintenance processes. BESIX also leverages on the collection of data across multiple tools through interfaces to enhance comprehensive dashboarding, thereby supporting better decision-making and reducing errors. Additionally, BESIX is delving into the potential application of Generative Artificial Intelligence across several business processes, aiming to enhance efficiency and convenience.

[+ Read more on p. 24.](#)

Social

Risk

The global construction industry is a key job provider, but it encounters notable social challenges, potentially affecting its ESG performance. These challenges include safety, diversity, inclusion, worker welfare, and human rights. The shortage of engineers and technical experts is a pressing issue, prompting the need for solutions. Aging workforce concerns also spur innovation in skills development and staff retention. Construction companies acknowledge the significance of local communities, striving to reduce environmental impact and build community support through collaboration.

Opportunity

To tackle this, BESIX Group has implemented various strategies for a sustainable future. This includes investing in training programmes, offering career opportunities, internal mobility, projects aligned with engineers' expectations, and a respectful and caring work environment that promotes harmony, development, and excellence. BESIX prioritises the health and safety of its employees, enforcing strict safety protocols, delivering high-quality training, and providing appropriate protective equipment. The group also fosters local businesses and economies through procurement and employment practices, engages in community development initiatives, and contributes to social infrastructure like affordable housing, community centres, and schools. Furthermore, the group engages in public-private partnerships that can spearhead the development of senior living communities, schools, healthcare facilities, and other infrastructure projects tailored to society's demographic and social evolution.

[+ Read more on p. 40.](#)

Governance

Risk

Corruption and unethical business practices present a major risk to a company's governance, potentially resulting in legal consequences, harm to reputation, and erosion of trust among stakeholders. These issues include labour, environmental, conflict of interest, and safety concerns, among others.

Opportunity

BESIX Group is deeply committed to upholding governance and ethics, safeguarding its reputation and relationships with stakeholders against corruption and unethical practices. Recognising the repercussions of non-compliance with laws and regulations, all BESIX employees adhere to a Code of Conduct emphasising integrity, transparency, and respect for human rights. Regular audits on subcontractors and suppliers ensure adherence to these standards, with a focus on sustainable procurement practices. BESIX Group introduced a Whistleblowing Procedure based on the EU Whistleblower Directive, providing safe reporting channels to its staff and collaborating organisations who have access to information or data, become aware of serious wrongdoing or irregularity, and decide to report these to the company's attention.

Moreover, BESIX Group actively engages with local communities and prioritises sustainable sourcing, selecting suppliers that align with its values and sustainability commitment. By transparently reporting its sustainability performance in line with international guidelines such as the Sustainable Development Goals (SDGs), ISO26000, or the Global Reporting Index (GRI), BESIX Group cultivates trust with stakeholders and establishes itself as a responsible and ethical construction company.

Conclusion

The company addresses the global risks described above at various levels, from the Board of Directors and the Executive Committee to several specific management levels in the company.

Besides these global risks, BESIX systematically manages specific risks in projects throughout their life cycle, as outlined in the online Sustainability and ESG Appendix.

In 2023, the group conducted a 'Double Materiality Assessment' to address ESG risks and opportunities. This process has allowed for the identification of potential risks and opportunities that will shape the group's sustainability and ESG strategic roadmap. For more information on the assessment, please refer to p. 18.

Focusing on Stakeholder Expectations with a Double Materiality Assessment

Committed to understanding its environmental, social, and governance (ESG) influence across its operations, BESIX fosters an open and ongoing dialogue with a diverse range of stakeholders. Employees, clients, business partners, suppliers, NGOs, communities and regulators all have a voice - and their concerns are documented and addressed in the group's sustainability strategy.

Regular meetings, surveys, and conferences cultivate transparency and collaboration. BESIX actively participates in industry associations to share best practices and stay informed on evolving ESG expectations. Key takeaways are then incorporated into the group's ESG framework.

By tailoring engagement to each stakeholder group, BESIX ensures a two-way communication channel, ultimately driving continuous improvement in ESG performance. The measurable outcomes of these initiatives will be demonstrably linked to BESIX's sustainability goals in future reports, in line with the EU's Corporate Sustainability Reporting Directive.

Double Materiality Assessment in practice

BESIX is updating the way it reports on these ESG issues. This new approach is in line with the European Corporate Sustainability Reporting Directive (CSRD).

The CSRD requires European companies to report comprehensively on their environmental, social, and governance (ESG) performance. This increased transparency enables stakeholders to assess a company's true impact on the environment and society.

Double materiality: defining what matters

To identify the most relevant ESG priorities for BESIX and its stakeholders, a 'Double Materiality Assessment' (DMA) was conducted in line with the CSRD and ESRS (European Sustainability Reporting Standards) guidelines. This assessment considers two key perspectives: how BESIX's activities affect the environment and society, including both positive and negative, potential, and actual impacts ("impact materiality"); and how ESG issues such as climate change affect BESIX's financial health, including risks such as stricter regulations, and opportunities such as developing sustainable products ("financial materiality").

The DMA covered BESIX's own operations (Real Estate, Construction, BESIX Invest) across its entire value chain (upstream and downstream, from the sourcing of materials to the construction and maintenance of buildings). In addition, internal and industry information as well as the UN Sustainable Development Goals (SDGs) and the Sustainability Accounting Standards Board (SASB) – an industry-specific ESG metrics standard – were reviewed to create a comprehensive list of potential ESG material topics.



Transparency and dialogue are cornerstones of BESIX's approach. An external expert facilitated the Double Materiality Assessment, which involved extensive stakeholder engagement. This included analysing internal documents, conducting an employee survey, and holding consultations with internal and external key stakeholders.

13 sustainability priorities

This rigorous process identified 13 material topics deemed most material to BESIX. These topics are significant because they look at both the positive and negative impacts BESIX's activities have on the environment, society, and the economy. They also consider potential risks and opportunities for BESIX related to sustainability.

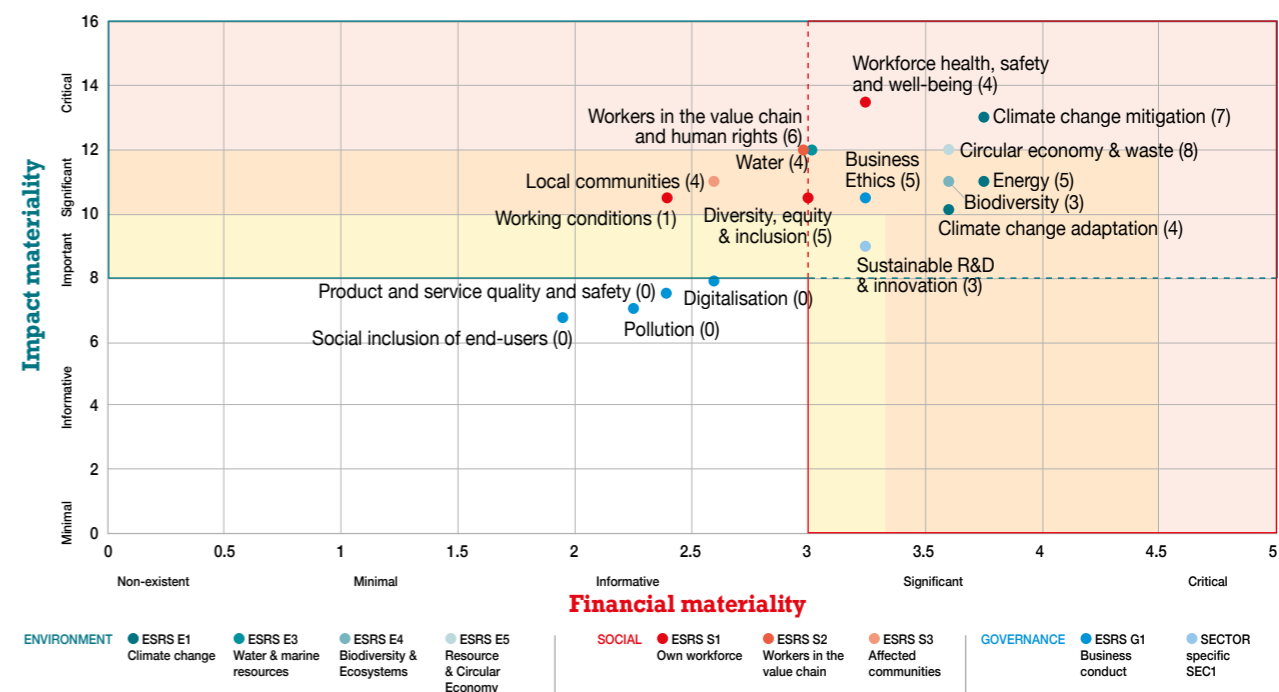
The 'double materiality matrix' below visually represents the impact and financial materiality of each topic. This matrix is crucial for prioritising efforts and developing a clear sustainability strategy.

The results of the 'double materiality matrix' were presented to and validated by BESIX's ESG Board and Executive Committee. This ensures alignment between sustainability priorities and overall business strategy and governance practices. The results were also presented to the key stakeholders who had been consulted.

The Double Materiality Assessment exercise marks a significant milestone on the path to full CSRD compliance by fiscal year 2025. This comprehensive approach to sustainability reporting underscores BESIX's commitment to continuous improvement and creating a positive impact for all its stakeholders and society.

BESIX Group's double materiality matrix

An ESG topic becomes material for BESIX Group if it is material from a financial perspective and/or an impact perspective. The boundaries for impact and financial materiality are highlighted in the matrix. Only the bottom-left quadrant contains non-material topics indicated in a grey font. The number of material IROs per ESG topic are defined between brackets next to each topic.



Value Creation Model

Macro trends

The world in which BESIX operates and the construction industry are undergoing profound changes, influencing business models.

Environmental emergency

Driven by environmental regulations and consumer demands, the construction industry is increasingly adopting green technologies and sustainable materials to balance ecological concerns with long-term efficiency.

Technological evolution

Construction 4.0 revolutionises efficiency and safety through the adoption of technologies like BIM, AI, and IoT, becoming essential for competitive edge and value realisation.

Urbanisation and smart Cities

The rise of smart cities demands innovative solutions for sustainable urban development, enhancing infrastructure and public services for growing populations.

Supply chain disruption and material innovation

Faced with global supply chain disruptions, the industry is prioritising resilience through local sourcing and the innovation of sustainable materials.

Stakeholders



Clients, partners, subcontractors, and suppliers



Institutions and regulatory bodies



Employees, future hires, academics, and students



Investors, shareholders, and financial institutions



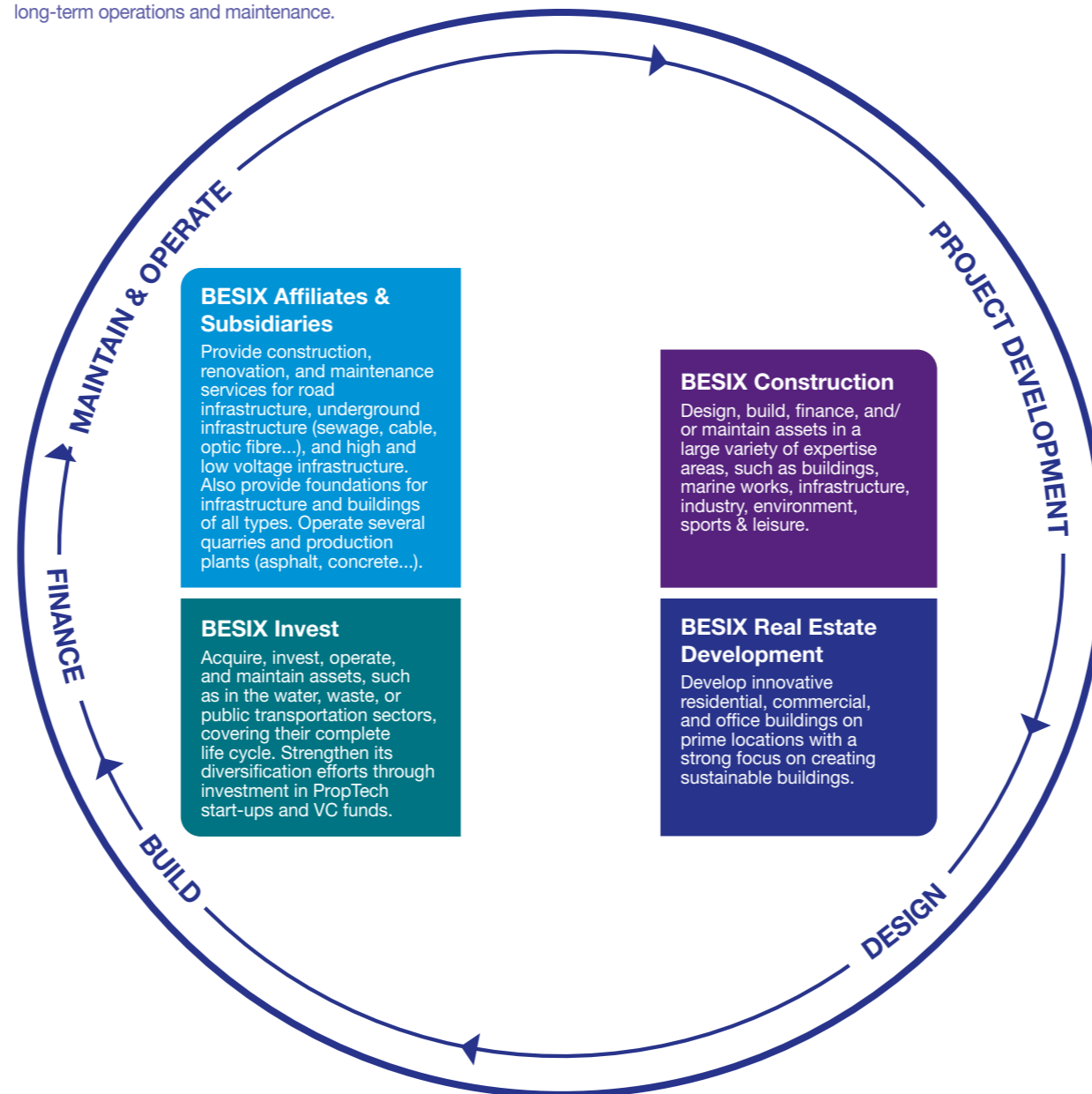
Social partners, unions, and employee representatives



Environmental and societal actors, NGOs, federations, and think tanks

A dedicated partner, from construction to concessions

Always highly regarded as a valued construction partner, BESIX Group has become a full-fledged services company that operates on the whole value chain. While construction is still its core business, the group's Concessions & Assets, Real Estate Development, and Specialised activities have been growing steadily. BESIX Group can rely on a vast and diversified expertise to take on projects from financing to design and construction to long-term operations and maintenance.



Resources

Human and intellectual capital

- 10,382 employees
- BESIX Academy devoted to internal training
- 100 % of staff members have access to training

Industrial capital

- More than 1,000 project sites in 26+ countries
- Several industrial sites (steel and rebar workshops, quarries, asphalt and ready-mix concrete plants, bitumen production plants)
- €300 million worth of equipment and machinery to cater to complex marine and infrastructure works

Real estate capital

- Portfolio of €4.3 billion in market value
- Totalling 950,000 m² under development

Procurement capital

- €2+ billion procured annually at Group level
- 22,000 active vendors across the globe
- 80+ frame agreements with vendors
- Procurement Sustainability Ambition built around 3 pillars: Planet, People, Prosperity

Financial capital

- Stable shareholding structure based on a historical reference shareholder base

Social & environmental capital

- Leading the way in certification and labels
- Level 5 on the CO₂ ladder for BESIX Europe and 11 affiliates or subsidiaries
- EcoVadis Silver Medal
- ISO 9001:2015, ISO 14001:2015, ISO 19650-2: 2018 and ISO 45001: 2018
- IOSH Managing Safety and Working Safely Licence
- International Framework Agreement on Fair Labour Standards

Value creation

Human and intellectual value

- More than 1,300 recruitments in 2023
- Top Employer in Belgium for 5th year in a row in 2024

Read more on pp. 40 - 55.

Environmentally responsible projects

- BESIX's sustainability experts accompany the design, procurement, and execution of assets to achieve certification levels such as BREEAM, LEED, Passive Buildings, etc.
- BESIX has delivered one of the largest hybrid-timber office buildings in the world in The Netherlands
- BESIX is progressively electrifying its corporate and equipment fleet in Europe

Read more on pp. 34 - 39.

Financial contribution

- €3,391 million of revenues
- €18 million of net result
- €5,091 million in order book

Read more on pp. 144 - 150.

Innovation

- 7 ongoing partnerships with start-ups in current PropTech portfolio
- Will secure participation in a European PropTech VC fund by the summer of 2023
- Several academic partnerships with leading universities

Read more on pp. 28 - 31.

BESIX Foundation

- 390 solidarity projects funded since the creation of the foundation in 2009
- 20,000+ volunteers involved since the creation of the foundation
- Projects mainly funded in Belgium and Africa
- Projects funded around construction, education, and environment

Read more on pp. 52 - 55.

Value Engineering

Leading expertise for a client-focused strategy

BESIX Engineering is the dedicated design arm of BESIX, enabling the company to deliver bespoke solutions and project optimisations directly to its clients while ensuring agility within its business operations. The exceptional service quality provided by BESIX Engineering is powered by a team of more than 150 skilled engineers located in Brussels, Dubai, and Brisbane, each an expert in their domain. Young engineers joining the company often start in this hub of expertise, where a structural mentorship programme ensures they are well-prepared and inspired before transitioning to on-site roles in Design & Build projects. Through the years, the innovative efforts of the BESIX Engineering team have enabled BESIX to design and build premier port terminals, state-of-the-art civil infrastructures, and intricate skyscrapers.

Distinct competitive advantage

Having a design office embedded within a construction firm is a unique benefit in the industry, significantly enhancing the value BESIX offers its clients. “The Engineering division within our group is pivotal to both our and our clients’ successes,” says Fabian Boucher, Director of BESIX Engineering. “Early collaboration with clients is immensely beneficial; the sooner we engage in the design process, the greater our ability to optimise and add value. This is why we prioritise Early Contractor Involvement (ECI) projects, which facilitate early collaboration. This approach ensures seamless integration and collaboration between the client and our project design and construction units, yielding benefits in cost efficiency, risk mitigation, construction methodology selection, and planning.”

“Lately, our design office has become instrumental in reducing the carbon footprint of our ventures, offering even greater optimisation possibilities”, adds Fabian Boucher. “The continuous exchange of insights between our Design and Construction departments over time empowers us to meet and exceed the diverse, sophisticated demands of our clients, enabling us to craft distinctive structures and, occasionally, push the frontiers of what’s possible in construction engineering.”

BESIX Engineering on Oosterweel Link (Belgium)

The Oosterweel Link project, developed by Lantis for the Flemish government, is one of the largest infrastructure and urban planning projects ever undertaken in Belgium. It aims at completing the Antwerp ring road to improve traffic flow and reduce congestion in the region. BESIX is involved in several parts of this special project.

An immersed tunnel

One of the endeavours of BESIX Engineering was to design the future Scheldt Tunnel. The tunnel has a total length of 1,800 metres and is currently being built using the ‘immersed tube’ method. This involves building eight tunnel elements of about 60,000 tonnes each in the Zeebrugge inner port. Once built, the eight elements will be towed afloat to Antwerp via the North Sea and the Western Scheldt. There, they will be sunk one after the other in a previously dredged sinker trench in the Scheldt. This technique, in which gravity and the buoyant force of water constantly compete, is one of the most ingenious construction methods in concrete and marine engineering.

The immersed tunnel is the crown jewel from an engineering point of view. Transporting and sinking the tunnel elements via the Scheldt is a feat. It’s also a special project where BESIX has a pioneering role in geotechnics and BIM in the design of the tunnel elements, the construction dock, the Scheldt dykes, the sinker trench, and so on.

A stacked tunnel - and much more

BESIX Engineering is also involved on the Right Bank of the river, with comprehensive works to upgrade the Royers lock area. This part of the project involves the design and construction of a new bridge, new viaduct, and new underground stacked tunnel infrastructure. Unique in this project is the combination of different construction techniques coming together. Just about every possible technique is used: freezing grounds, making diaphragm walls, building according to the Stross method,... And all this, in a fairly urbanised area, with limited space and the presence of obstacles such as the pre-metro tubes!

“In large and complex projects, we always position ourselves as the ideal partner, combining engineering knowledge with practical experience and thus giving the customer complete



peace of mind”, explains Fabian Boucher. “This really stands out in something like the Oosterweel Link, where the client really values the expertise we bring to the table. Of course, unexpected challenges may arise, but our deep understanding of both construction engineering and field operations enables us to respond swiftly. Such adaptability is invaluable, particularly in projects characterised by their significant complexity and magnitude like this one.”

“In the Oosterweel project, our BESIX Engineering team has remarkably led the entire design process across multiple design offices. We have been able to seamlessly transition from conceptual design directly to detailed design, bypassing the basic design phase entirely. This efficient approach, facilitated by our extensive experience, significantly accelerated the project timeline”, he concludes.

Instrumental in reducing construction’s carbon footprint

At the heart of BESIX’s design office, the Sustainability team focuses on developing innovative solutions to enhance the environmental efficiency of construction projects, notably in

the Benelux and the Middle East, where BESIX has pioneered circular construction and energy-neutral infrastructure. “Our sustainability experts play a key role in achieving solid environmental certifications for the assets they design, by considering CO₂ emissions as a crucial design factor, aiming to minimise the carbon footprint of the asset from inception to completion. This includes adopting materials with low embodied carbon, boosting energy efficiency, and incorporating renewable energy, with an eye on logistics to diminish overall carbon emissions”, explains Fabian Boucher.

Additionally, BESIX Engineering is actively participating in R&D efforts, in collaboration with academic entities and suppliers, to mitigate the environmental impact of concrete through the development of ‘green concrete’. This innovative material, incorporating recycled content and alternative binders like fly ash, is part of BESIX’s strategy to explore and apply low-impact concrete solutions, ensuring both environmental benefits and material durability.

For an in-depth review of how BESIX supports its clients in the decarbonisation journey, refer to the article on the next pages.

1. 2. Scheldt Tunnel dry dock, Zeebrugge (Belgium)
3. Fabian Boucher, Director Engineering BESIX Group
4. Oosterweel Link, Antwerp (Belgium)

Engineering Sustainable Value across the Value Chain

How BESIX supports its clients in the decarbonisation journey

The construction industry has long been known for its significant impact on the environment, but in recent years it has also been recognised for its potential to help mitigate that impact. This brings both challenges and opportunities for the sector to embrace more sustainable practices. BESIX Group recognises the importance of being a driving force in the transition towards sustainability, in accordance with the UN Sustainable Development Goals, the European Green Deal, and EU taxonomy.

Through close collaboration with clients, designers, and suppliers, the group rethinks how construction projects are executed to support clients in meeting new regulations on sustainability and green construction. The goal is to help clients and the industry as a whole to achieve their sustainability objectives, including net-zero emissions and circularity.

Additionally, the group is dedicated to guiding clients who need advice and assistance in making their projects more sustainable both in the short and the long term, **across the entire value chain:**

1. Design | Early Contractor Involvement (ECI)

By integrating BESIX's expertise and insights during the project's design phase, an ECI approach between BESIX and its client facilitates a collaborative approach to identifying innovative construction methods, sustainable materials, and efficiency improvements. This early partnership with the client allows for the optimisation of design solutions, minimisation of environmental impact, and efficient resource utilisation, all of which contribute to reducing waste and energy consumption. Furthermore, ECI supports the anticipation and mitigation of potential sustainability challenges, enabling more accurate budgeting and scheduling. Ultimately, this collaborative early-stage involvement leads to the delivery of more sustainable projects, offering better long-term value for both the client and the wider community.



2. Design | Life Cycle Analysis

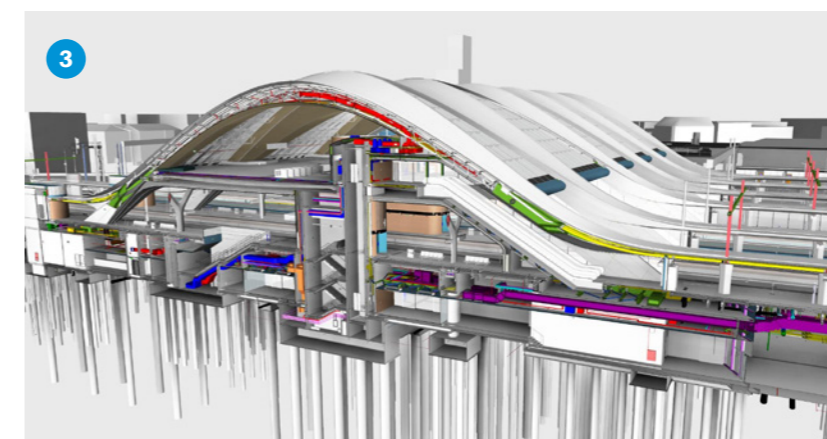
BESIX's sustainability experts are equipped to participate to relevant Life Cycle Analysis (LCA) for the client. This includes evaluating the environmental impact of materials and products throughout the life cycle of the client's assets they design and build. Also, the level of carbon dioxide emissions is systematically considered as a critical factor in the design process. Armed with this expertise, BESIX's sustainability engineers contribute to the design of projects that can achieve high environmental certifications and labels for their clients, such as BREEAM, LEED, HQE, Passive Buildings, Eco-construction, Cradle-to-Cradle, and Zero-Energy projects.



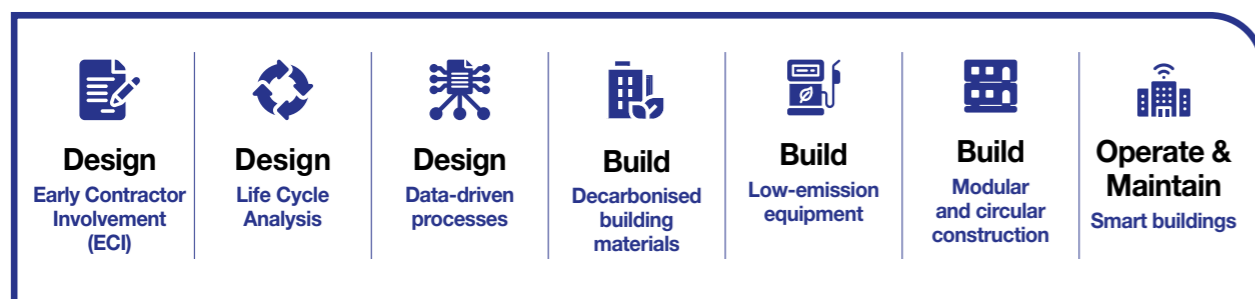
3. Design | Data-driven processes

Data-driven decision-making significantly enhances a project's sustainability and value for money. By harnessing technologies like BIM, parametric design, automation, and robotics, BESIX experts can analyse vast amounts of data in real-time to make informed choices together with the client about materials, design, and construction methods that optimise energy efficiency, reduce waste, and minimise environmental impact. Additionally, these data-driven processes are foundational for efficiently exploring various sustainability scenarios - comparing the impacts of using concrete versus steel, concrete versus wood, or alternative compositions of these materials. This analytical capability forms the basis for the ESG KPIs in the construction sector, allowing for a nuanced assessment of sustainability outcomes and the alignment of project execution with broader environmental goals.

For example, BIM, as both a centralised and shared information management tool, enables the virtual and collaborative construction of a project in a 3D environment before physical work begins, identifying potential issues early and allowing for adjustments that save time, reduce costs, and enhance sustainability. Parametric design uses algorithmic thinking to generate more efficient designs that adapt to environmental conditions, improving building performance and reducing resource consumption. Together, these data-driven approaches ensure that projects are not only more sustainable but also more cost-effective, by streamlining processes, reducing errors, and enabling more precise planning and execution - again a win-win for both the client and BESIX.



1. Renewal and widening of the A27 highway (The Netherlands), a collaborative contract with the Dutch Road Authority
2. Data centre (Belgium), for which an LCA baseline calculation has been performed and various reduction strategies have been proposed
3. Ultra-precise BIM model for the Rail Baltica Central Station (Latvia)



4. Build | Decarbonised building materials

Together with the Procurement experts, the BESIX Engineering team systematically proposes a thoughtful selection of low-impact materials to support the dual goals of sustainability and economic efficiency, making it a smart choice for forward-thinking construction projects.

Materials like timber, when sourced responsibly, serve as a renewable resource that stores carbon dioxide, thus reducing the overall carbon footprint of a project. Concrete, with additives like fly ash or slag, can significantly reduce the embodied carbon associated with traditional concrete mixes, while still providing the durability and strength required. Similarly, steel, especially when recycled, offers a high strength-to-weight ratio, facilitating more efficient designs and reducing the quantity of material needed. Utilising these materials not only minimises environmental impact through reduced emissions and resource consumption but also can lead to cost savings through more efficient use of resources and longer life-cycle performance.

Collaboration between BESIX, its Engineering department, suppliers, and clients is paramount in the journey to shift to decarbonised materials, as you can read in the text box below.

Sustainable procurement

In 2023, the BESIX Group Procurement Department launched the first BESIX Suppliers' Sustainability Forum, engaging around 40 key suppliers associated with significant Scope 3 greenhouse gas emissions, specifically in cement, concrete, and steel. This forum served as a platform to share BESIX's commitments to ESG and sustainability, alongside the group's procurement vision and goals.

"The Suppliers' Sustainability Forum marked the beginning of our renewed efforts to reevaluate and seek competitive, alternative solutions for high CO₂ emission materials. At Procurement, our goal is to convert regulatory constraints into business opportunities through close collaboration with our key suppliers. We are committed to addressing climate change by developing sustainable practices and co-creating solutions that are sustainable at mutually acceptable prices. Sustainability will increasingly become a key factor in our selection process, alongside traditional criteria such as quality, cost, delivery, and service." Sylvain Sainton, Chief Procurement Officer BESIX Group.

5. Build | Low-emission equipment

For a couple of years, BESIX has been integrating equipment such as electric vehicles for transportation and logistics,

which significantly reduces greenhouse gas emissions associated with fossil fuels, enhancing the project's environmental profile. Additionally, deploying renewable energy sources, like solar panels, for on-site power generation not only diminishes reliance on non-renewable energy but can also lead to substantial cost savings over time. These sustainable technologies contribute to a cleaner construction site, minimise the carbon footprint of the building process, and align with BESIX's and the client's global sustainability targets.

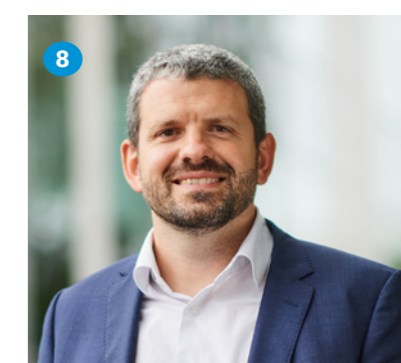
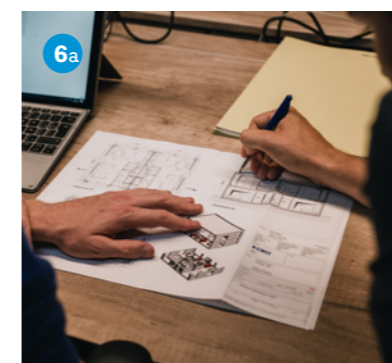
6. Build | Modular and circular construction

In its start-ups' portfolio, BESIX is supporting PropTech companies active both in modular and circular construction. Modular construction involves prefabricating components in a controlled factory setting before assembling them on-site. This method not only reduces waste and material use through precise manufacturing but also shortens construction timelines, leading to considerable cost savings and a reduction in the project's environmental impact. Circular construction, on the other hand, emphasises the reuse and recycling of materials and components throughout the life cycle of a building. By designing for disassembly and future reuse, circular construction minimises waste, extends the life of materials, and reduces the demand for new resources. Thanks to this expertise, BESIX can promote to its clients alternatives with a more efficient use of materials and energy, contributing to a lower carbon footprint and enhanced project value through reduced operational and life-cycle costs.

7. Operate & Maintain | Smart buildings

BESIX regularly integrates smart technologies into its clients' asset design and operation as this forward-thinking approach maximises both economic and environmental performance. Thanks to its expertise in smart buildings and smart services, BESIX harnesses the power of advanced technology and IoT to optimise an asset's performance, significantly improving sustainability and value for money. These intelligent systems can monitor and control a wide range of environmental variables - from lighting and heating to air quality and energy use - ensuring operations are as efficient as possible. By analysing data collected in real-time, smart buildings can adapt to the needs of occupants and the external environment, leading to substantial energy savings, reduced operational costs, and a lower carbon footprint.

Jabba is a good example of a groundbreaking smart energy management system that makes buildings smarter: Jabba leverages artificial intelligence to optimise household energy use in response to the fluctuating dynamics of electricity demand and renewable energy supplies. Partnering with aug-e, one of the start-ups in BESIX's PropTech portfolio, to enhance the functionality of home batteries, Jabba has transformed its platform to offer a community-based interface that consolidates customer interactions and provides advanced services like peak shaving and smart control. This innovative platform enables users to manage energy costs effectively through intelligent buying and selling of power, supporting the broader transition to sustainable energy use.



4. 41,000 tonnes of green steel will be used in the Port of Neom (Saudi Arabia)
5. Electric truck equipped with self-loading crane and hook-lift, used for road infrastructure projects (The Netherlands)
- 6a. Modular homes built by CIRCL in less than 6 weeks (Belgium)
- 6b. BuildUp prefabricates components off-site before assembling them on-site for retrofitting (France)
7. Smart energy management systems are used to optimise energy use in response to fluctuating dynamics of electricity demand and renewable energy supplies
8. Jan Van Steirteghem, COO BESIX Construction

“Our team of in-house experts collaborates with clients to identify areas where sustainability can be improved and offer innovative solutions that are both practical and effective. By incorporating green building practices into construction projects, our clients can benefit from increased asset value, improved risk management and control, and lower operating costs. We encourage our clients to join us in our commitment to sustainability and to collaborate with our team of experts to implement concrete solutions at the earliest stage of a project's design concept. The most value is created at the very beginning of a project life cycle.”

Jan Van Steirteghem, COO BESIX Construction

BESIX Technology's strategic blueprint for sustainable growth

BESIX Technology represents a pivotal arm of BESIX Group, dedicated to expanding the company's revenue streams through strategic diversification. In 2023, under the leadership of Thomas Vandenberg, BESIX Technology has strengthened its journey to secure stable, recurring, and sustainable income sources. This vision is brought to life through a focused engagement with PropTech start-ups, marking a significant stride towards innovating and diversifying income.

The essence of BESIX Technology's approach lies in its investment strategy, both direct and indirect, in burgeoning technology companies within the property sector. By investing in two specialised Venture Capital funds, Rise PropTech (Brussels) and PropTech1 Ventures (Berlin and London), BESIX Technology entrusts these funds to scout and support start-ups with the potential for high growth. This initiative transcends traditional property bounds, extending into sports facilities, infrastructure, and industrial plants, and intersecting with FinTech, ConTech, and Smart Real Estate, among others.

BESIX's investment philosophy differs from that of traditional financial investors. Unlike the latter, who seek rapid returns through short-term exits, BESIX Technology is geared towards long-term value creation, aiming to earn from dividends rather than quick share sales. This long-term perspective underpins BESIX's direct investments in start-ups, emphasising strategic, enduring partnerships over immediate financial gains.

In recent years, BESIX Technology has directly invested in seven start-ups, including BuildUp, aug-e, Neanex, CIRCL, Conneqtr, Square Sense, and Litobox. These investments showcase BESIX's commitment to innovation across various sectors, from off-site construction and energy management to digital contracting and asset information management.

Supporting these start-ups goes beyond providing funding and projects. BESIX Technology plays an active role in shaping these companies' strategic direction, offering guidance through board membership, sharing commercial contacts, and providing support services in legal, insurance, ICT, or HR. Furthermore, the transfer of talent from BESIX to these start-ups facilitates smoother integration and collaboration within the group's ecosystem.

This commitment to nurturing PropTech start-ups underscores BESIX Technology's dedication to a diversified future, where innovation and strategic investment converge to create sustainable, diversified revenue streams.



BuildUp Offsite construction



BuildUp is a sustainable construction company that is changing the way buildings are built and retrofitted. With their offsite construction process, they build high-quality, energy-efficient buildings faster and more sustainably than traditional methods.

BuildUp's offsite methods also allow them to produce and install new, energy-efficient components to retrofit existing houses, turning older buildings into more sustainable ones quickly and efficiently.

BuildUp has transformed 160 energy-dwelling buildings into zero-energy housing, providing them with offsite-produced façade panels and roofs in Wattrelos (France).

buildupoffsite.com



Neanex Information management



Neanex is a data management company that helps large asset owners, engineers, and construction companies to be in control of information about their critical assets at all times.

They do this by providing expertise in asset information management and by bringing the worlds of systems engineering, BIM, design, construction, and asset management closer together.

With Neanex, asset owners have a central source of information which different users and software applications can tap into, to have a single source of truth over the asset life cycle.

Their asset twin platform 'fundamend' has been recognised and qualified as a key innovator by the Innovation radar of the European Union. Their solution is used to support information management and control on the Oosterweel Link, one of the largest infrastructure projects in Belgium.

neanex.com



aug·e Energy management



aug·e is a smart energy management software company that helps businesses and individuals save energy, reduce costs, and improve sustainability.

They do this by providing a software platform that collects and predicts energy production, consumption, and prices. Then, they use these data to steer energetical assets like electrical vehicle charging stations and batteries and hereby reduce energy costs.

aug·e's platform can be used to manage buildings, renewable energy systems, and electric vehicles.

As of the end of 2023, aug·e already operates 1,000 batteries and EV charging points in Belgium, totalling more than 1 MW. The new platform delivered in 2023 is fully scalable and ready for the coming growth.

aug-e.io



Square Sense Asset management



Square Sense is an AI-native asset management software provider focused on transforming the office and residential real-estate ecosystem.

Utilising real-time data, such as occupancy, energy usage, and tenant comfort, the company generates insights for asset managers, operators, and developers, contributing to more effective decision-making for real-estate stakeholders.

Through its scalable data platform and data asset management team, Square Sense aims to lower energy consumption costs, boost financial and environmental performance in real-estate portfolios, and increase tenant satisfaction.

The company offers measurable value, helping define smart building strategies, obtaining certification, and providing easy-to-use business recommendations.

square-sense.com

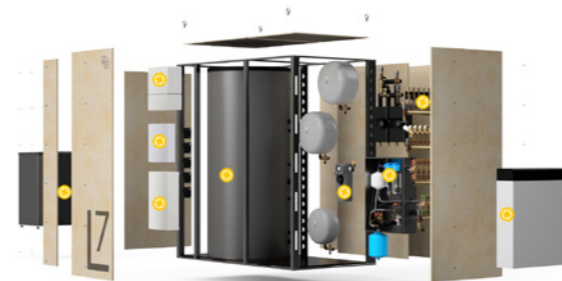
LITO Compact HVAC & energy as a service



LITO is a company that develops and builds innovative modular HVAC systems for homes and other buildings. Their compact products encompass all necessary HVAC components, such as heat pump, buffer tank, and battery pack, to improve efficiency whilst saving valuable space. All this in... just one box.

In the centre of Antwerp (Belgium), eighteen apartments were converted into zero-energy homes in less than one day, via the placement of 4 LITO boxes on the roof, hosting heat pumps, solar panels, and all required connections.

lito.be



Conneqtr On-site information management



Conneqtr has developed a digital platform for all stakeholders active in the construction process, from contractors to suppliers to subcontractors, to better communicate and collaborate.

Conneqtr aims for standardised and paperless processes to reduce the administrative burden of site managers and enable advanced business insights.

Its solution Zen ensures social compliancy, safety, and access control, while Smooth digitalises the entire delivery process from order to invoice. In less than 2 years, Conneqtr has given 'peace of mind' to more than 2,500 users, has set up partnerships around access control and ERP, has been endorsed by diverse sector federations, and has gained the trust of leading construction companies like BESIX.

conneqtr.com



CIRCL Circular Design & Build



CIRCL designs and builds circular homes. It has developed a sustainable building concept that defines a new balance between standardisation and flexibility. All parts of the CIRCL home are optimised for efficient production by its partners. Yet, they can be flexibly adapted to create fully tailor-made homes, for new houses on an empty plot as well as demolition-reconstruction projects.

CIRCL's software automates design and pricing, providing very quickly an optimised design with a guaranteed maximum price for the clients. CIRCL homes can be modified over time to meet the changing needs of their residents in all stages of life.

In 2023, CIRCL has built 2 model houses in Diest (Belgium).

circl.be

