

# ParkLake: Putting sustainability at the heart of the shopping centre



 ParkLake	 2,600 parking spaces
 Bucharest, Romania	 200 shops
 GLA 70,000 m <sup>2</sup>	 Sustainability Services

## KEY HIGHLIGHTS

- In the Romanian retail property market, building standards are not yet as stringent as those in other European countries in what concerns environmental and safety preventive design, and to date very few commercial buildings have obtained sustainability-related certifications.
- At Sonae Sierra, we are ambitious in all our developments, striving to achieve the highest standards across everything that we do. Thus, Sonae Sierra was committed to apply in **ParkLake**, our first development in Romania, our rigorous Safety, Health and Environment Development Standards (SHEDS), allowing **ParkLake** to achieve a BREEAM certification with an Excellent Rate.
- A Safety, Health and Environmental Management System (SHEMS) for the construction of **ParkLake** was implemented during whole construction works, allowing us another key certification, regarding Safety, Health and Environment according to ISO 14001 and OHSAS 18001 international standards.

## SOLUTION

- **ParkLake's** fully implemented Sierra's Safety, Health and Environmental Development Standards (SHEDS) with the aim of delivering an asset that would be recognized for outstanding environmental and safety and health credentials.
- By implementing the SHEDS, **ParkLake** could achieve a BREEAM Excellent environmental performance rating due to SHEDS tech features.
- By implementing SHEMS during construction works, allows **ParkLake** a SHE certification according to ISO 14001 and OHSAS 18001.

## KEY NUMBERS AND FACTS

<b>100%</b> SHEDS implementation	<b>More than €322,000</b> in saved costs per year	<b>BREEAM Excellent</b> Environmental performance rating	<b>ISO 14001 and OHSAS 18001 certification</b>
-------------------------------------	--	---	--

# ParkLake: Putting sustainability at the heart of the shopping centre



ParkLake



Bucharest, Romania



70,000 m<sup>2</sup>



200 shops



2 600 parking spaces



Sustainability Services

## Abstract

**ParkLake**, located in Bucharest, Romania, is a multi-award winning retail destination developed by Sonae Sierra. It offers a truly unique retail experience that harnesses the beauty of nature by bringing the outside environment inside, giving it a 'park-like' feel. Having attracted a variety of diverse and high quality tenants, **ParkLake** has become a popular destination not only for people residing in Bucharest, but also those living across Romania.

Sonae Sierra applied its rigorous Safety, Health and Environment Development Standards (SHEDS) throughout the development project, from planning and design through to delivery. The SHEDS encompass a set of holistic requirements to ensure that a shopping centre will operate with minimum safety and health risk to customers, tenants and suppliers whilst limiting its environmental impact and ensuring the most efficient management of utilities consumption and waste production. By embedding the SHEDS throughout the development, and providing a Safety, Health and Environment Management System

continued...

## ParkLake: Putting sustainability at the heart of the shopping centre

(SHEMS) during construction phase, Sonae Sierra has created a future-fit retail destination that fulfils our commitment to creating shared value for our investors, society and the environment. These endeavours were externally recognized with BREEAM Excellent environmental performance rating, as well as the construction works certification according to ISO 14001 and OHSAS 18001 standards.

### Introduction

A joint venture with Caelum Development, **ParkLake** is Sonae Sierra's first development project in Romania and was inaugurated in September 2016. With a €180 million investment, we have created a flagship retail destination which offers around 70,000m<sup>2</sup> of Gross Leasable Area (GLA) within one of Bucharest's largest residential areas. **ParkLake** is situated adjacent to the Titan Park, an extremely popular and easily accessible location for residents who enjoy escaping the hustle and bustle of the centre to reconnect with nature.

The natural environment has in fact played a major part in the design and construction of **ParkLake**, drawing on an approach which aligns to Sonae Sierra's own values as well as growing evidence that links the integration of green spaces and nature-inspired building design with increased satisfaction among tenants, suppliers and visitors. What is more, inspired by Sonae Sierra's vision and objectives, the team rose to the challenge of fully implementing our Safety, Health and Environmental Design Standards (SHEDS) and Safety, Health and Environmental Management System (SHEMS) implemented according to ISO 14001 and OHSAS 18001 standards, with the aim of delivering an asset that would be recognized for outstanding environmental and safety and health credentials.

### Background

At Sonae Sierra, we are ambitious in all our developments, striving to achieve the highest standards across everything that we do. We have earned a reputation for delivering high

quality, eco-efficient and culturally integrated architectural projects which raise the bar for shopping centre design in Europe and beyond.

With growing pressure on governments to reduce the impacts of climate change, we believe that regulations regarding the resource consumption and environmental impact of buildings will become more stringent. In the long term, operational costs are likely to rise; buildings with low energy performance ratings may face penalties or be burdened by upgrade costs and thus will become less attractive to investors and tenants. Conversely, assets which boast high quality, efficient design and strong environmental and health and wellbeing performance in operation are likely to sustain their value for a longer period.

It is therefore one of our priorities to ensure that our shopping centres are run to the highest standards of eco-efficiency; that risks to people are minimized and their wellbeing enhanced. We have developed our own unique, integrated Safety, Health and Environment Development Standards (SHEDS) for shopping centres that are based on globally recognized best available solutions; and internationally recognised certification schemes such as BREEAM and LEED. There are 93 standards in total, among them covering a range of impacts and risks aspects. They are revised on an annual basis to ensure that they are kept up to date and reflect the learning outcomes of projects we have delivered.

Concerning our SHEMS, this system was also developed based in certified international standards, to minimize the environmental impacts and the risks to people through the implementation of good environmental practices (i.e.: waste segregation/recycling, water and energy minimization measures, risks assessment and mitigation).

### Challenge

Within Europe, the Romanian retail property market is still relatively nascent, but it offers a lot of potential and has attracted a significant amount of investment capital in



## ParkLake: Putting sustainability at the heart of the shopping centre

recent years. Building standards are not yet as stringent as those in many other European countries in what concerns environmental and safety preventive design, and to date very few commercial buildings have obtained sustainability-related certifications.

In this context, Sonae Sierra had to first convince stakeholders of the advantages of implementing the SHEDS and SHEMS, which were much more demanding than the regulatory requirements. Secondly, the team had to ensure that both systems were effectively understood and supported by a large and complex wider team of people involved in the project.

### Solution

By effectively engaging its partners and suppliers, the team was able to demonstrate the value that could be realised by implementing the SHEDS and SHEMS at ParkLake.

A variety of projects were put into place which were shown to improve the building's overall energy performance and reduce the number of reportable accidents, among other outcomes. By delivering the requirements of the SHEDS along with International BREEAM requirements, ParkLake was able to achieve a BREEAM Excellent environmental performance rating. This in turn raised the external profile of the project, increasing the level of media coverage and positive reception from stakeholders, helping ParkLake to establish its position as a leading retail destination in the Eastern European region.

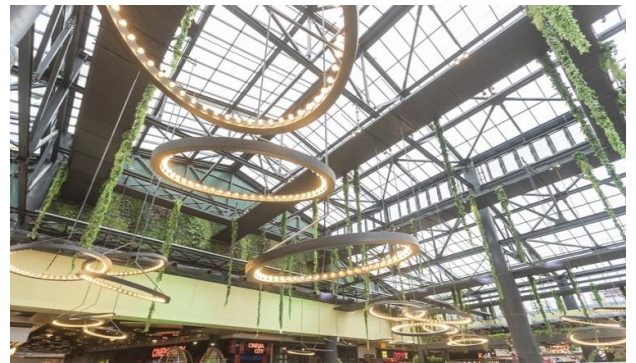
### SHEDS and BREEAM implementation

#### ENERGY EFFICIENCY FEATURES

ParkLake integrates the use of several heating, ventilation and air conditioning (HVAC) technologies to reduce environmental impacts and operational costs. For example, the use of high efficiency cooling equipment; boilers and fans enables savings of approximately €304,952 per year

in energy costs and avoids more than 1,500 tonnes of CO<sub>2</sub> when compared to the performance of standard buildings.

Daylight control in the mall area is used to maximise efficiency in lighting use, and escalators and travellers are fitted with variable speed drives. Furthermore, a sophisticated energy management system combined with a sub-metering network was installed to effectively monitor and increase energy efficiency in day-to-day operations, and Sonae Sierra's energy performance software tool was customised for use in ParkLake, allowing for further cost savings of more than €15,540 per year, when compared to a standard building.



#### WATER EFFICIENCY FEATURES

A greywater collection system was installed. The water from washbasins and showers are collected and treated. Afterwards water is stored in tank (both tanks with by-pass valves). That water is reused on irrigation and in the toilet, flush equipment's. A rainwater collection system was also installed and the collected water from mall roofs and uncovered park is used on irrigation.

Furthermore, all WCs are fitted with water efficient equipment and fitted with flow meters to help monitor consumptions throughout the whole centre. Combined with an advanced irrigation system, these features enable ParkLake to avoid €2,000 per year on its water bill, when compared to a standard building. These features were achieved combining SHEDS and BREEAM requirements,

# ParkLake: Putting sustainability at the heart of the shopping centre

showing that both are fully connected and ParkLake have the best and most efficiency solutions.



## WASTE MANAGEMENT

During the design stage of the development, a waste plan was defined to ensure a correct and optimized waste management during operation phase taking into consideration a general description of the shopping centre, Legal framework, waste production estimates, solid waste infrastructures needed, technical specifications concerning to waste storage rooms and waste discharge area's. For ParkLake, this study results in 3 rooms for waste storage in each floor, to storage organic and non-organic waste. The waste collected are further stored on the compactors and containers located in the waste zone of each loading bay.

In public areas, the centre is also fitted with waste bins, marked with different colours allowing people put the wastes in correct place. All these measures help centre to have good and efficiency waste management. During its 1<sup>st</sup> year of operation avoids sent to landfill around 286 tonnes of waste.



## SAFETY AND HEALTH FEATURES

ParkLake boasts an automatic fire detection system; a high distribution of portable fire extinguishers throughout all shopping centre areas; clear and comprehensive safety signage and a fully equipped first aid room.

What is more, the interior design and furnishings, including doors, stairways, balconies, kiosks, display boards and other features have been designed and fitted according to the principles of safety prevention.



## PROMOTING HEALTH AND WELLBEING

ParkLake offers cycle routes and footpaths around its perimeter, as well as facilities for cyclists and motorcyclists, to reduce air pollution and traffic congestion in the local area whilst encouraging visitors to take exercise. This achievement was for SHEDS and BREEAM scheme.



Sonae Sierra has made all the efforts in the implementation of SHEDS and to address to a great extent BREEAM requirements, thus several other measures were implemented in ParkLake, such as:

- Flood risk assessment, to evaluate the impact of flooding in the building and how to reduce its impact.

## ParkLake: Putting sustainability at the heart of the shopping centre

- Feasibility study on the integration of renewable energy technologies, to promote the use of renewable energy technologies wherever appropriate to reduce carbon emissions.
- Rainwater collection and reuse system study, to successfully install the rainwater system in the centre
- Other environmental studies and technologies, such as lifecycle cost analysis and a thermal comfort mode to improve the building's performance. Both studies conclude that building has a good performance in terms of comfort and no additional measures were needed.

### SHEMS Implementation

During construction works the Environmental, Safety and Health issues (SHE) were a priority. Thus, high standards and procedures were implemented, such as, our SHE management system (SHEMS).

As in SHEDS, BREEAM has also an important role, since one of the specific requirement from BREEAM, is that all the contractors are environmentally certified which helped **ParkLake** to achieve ISO 14001 and OHSAS 18001 certifications during the construction and to guarantee the centre has good environmental performance during the construction and operational phase.

To measure the safety conditions in field, our system also has a tool, named Safety Practice Index (SPI) which measures the safety conditions and unsafe behaviours. This tool was implemented during whole construction stage and the project had a great result of 92%, which shows a good level of safety conditions. Along with all these procedures and measures, the project had an Accident severity rate (ASR) of 22.9 and a lost workable day's accident frequency rate (LWDACFR) of 1.64.

Concerning environmental aspects, procedures were also achieved:

- 85% of valorisation rate, avoiding send to landfill around 3,357 tonnes of waste.
- Around of 31% of materials used are recycled and reused (ie. 121 ton of glass, 79 696 ton of concrete, 7 301 ton of steel).

### Conclusion

By persevering to implement the SHEDS, SHEMS and BREEAM in their entirety, Sonae Sierra proved that it is possible to deliver commercial benefits whilst reducing environmental impact and enhancing the quality of a retail development to the benefit of investors, tenants, visitors and suppliers alike. In a context where sustainability expectations for commercial developments were not particularly high, **ParkLake** demonstrates that when a compelling business case can be developed, awareness is increased and standards can be raised.

Through the SHEDS/BREEAM/SHEMS **ParkLake** has optimised its operational costs; lowered its environmental footprint; reduced safety risks and built strong connections with the community it serves. As the first shopping centre in Romania to boast a BREEAM Excellent rating, ISO 14001 and OHSAS 18001 certifications, it is a beacon for sustainable development in the retail sector in South Eastern Europe, and serves as an inspiration and reference point to future projects in this market. These not only employ local people but bring new growth opportunities to home-grown brands. And it is this harmony with the surrounding area as well as its distinctive design, its sustainability and superior leisure offer, that all come together to make **ParkLake** a very special and immensely popular new retail destination.