



Progress in 2007

July 2008

GSE has been successfully developing the General Contractor business for over 30 years. The GSE concept, based from the start on a single contact and a guaranteed price and deadline has progressed with time, making GSE the European leader in the construction of large activity buildings.

The GSE teams have strengthened over the years, integrating specialists in every stage of the project:

- Real estate consulting : land search, legal and financial arrangements, scheduling,
- Engineering: technical and architectural design, administrative procedures,
- Build-to-suit construction within the framework of a guaranteed price and deadline contract
- Property management: building maintenance and operation after delivery

GSE has sought to undertake a sustainable development commitment by joining the Global Compact, launched in July 2000 at the initiative of then-Secretary General of the United Nations, Kofi Annan.

Based on the essential values of respect, innovation and involvement, GSE seeks to work for harmonious growth for our planet and to make a real contribution through the good practices the Group continues to develop.

Jean-Pierre Hugues  
President



## **Labour Standards**

**Principle 3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;**

**Principle 4. The elimination of all forms of forced and compulsory labour;**

**Principle 5. The effective abolition of child labour; and**

**Principle 6. The elimination of discrimination with respect to employment and occupation.**

The men and women working for the GSE Group, with their strong character, talents and expertise, make up GSE's number one asset. GSE emphasises a mix of origins and cultures to maintain diversity and enrich internal communication.

In 2007, 41% of the turnover at the GSE Group was made outside of France, in the UK, Germany, Belgium, Spain, Italy, Romania, Croatia, Hungary, Poland, Ukraine, Russia, and China. Sales outside of France have grown by 16%, and have increased sharply in Eastern Europe. To continue to serve its longstanding and more recent clients abroad, GSE has forged strong, competent teams and a solid strategy.

More than 12 nationalities work together daily within the GSE Group. In terms of new hiring, GSE seeks a wide mix of origins and cultures for it is a source of innovation and sharing of experience. The goal is to mobilise teams from different horizons in order to better understand and serve GSE's clients' needs and to adapt project to country specificities.

Despite the distances, the GSE structure with a staff of 400 maintains close relations and offers the advantages of a dynamic mid-sized firm where each employee is known and acknowledged, wherever their location. This spirit of sharing knowledge, open communication and shouldering of responsibility enables GSE staff to continually advance in their profession.

Company growth and international expansion have created new opportunities for careers which meet the ambitions of each. Given that one of GSE's strengths is the cultural diversity of its teams, internal mobility is also strongly encouraged. Such mobility corresponds to a determination to adapt to a constantly changing market. Knowledge and savoir-faire are also a source of development and progress for all.

September 2007 was the time for the very first "class" from the GSE University. Sixteen young graduate engineers from outstanding engineering schools and 7 different countries joined GSE for a year of integration, theoretical training and operations in the field. This was an original and stimulating way for these young men and women to approach the corporate world as they started work with an open-ended contract.

Through regular training sessions, coaching with experienced seniors and invaluable transversal contacts, these young graduates gained knowledge throughout the entire year. As they become successfully integrated into the Group, career opportunities will be encouraged. Professional orientation and cooperative connections will enable them to access positions with increasing responsibility and to work in their areas of expertise in various business fields and geographical territories. This genuine policy of liaison and exchange enhances professional development for all of GSE staff, a real asset at GSE.



## Environment

### **Principle 7. Businesses should support a precautionary approach to environmental challenges:**

Flumilog: the fire-testing campaign. A real first in Europe in logistics real estate.

Focused on the goal of environmental protection and risk prevention, a working group has been forged to launch a campaign of fire tests and define a calculation method to determine the distances at which a warehouse fire impacts the environment, a basic element of environmental impact studies.

This project has been christened “Flumilog” and was created by several partners, including GSE, in the logistics real estate field\*. The development work leading to this calculation method has been performed by the Ineris, the CNPP and the CTICM, laboratories, recognized for their fire engineering expertise. They have analysed the currently applied calculation methods and the latest international research results to develop a theoretical model which is currently being validated by a medium- and large-scale real test program.

This test program started with the mid-scale test which took place on 18 September 2007 in a 100-m<sup>2</sup> GSE-built warehouse, deliberately set on fire under the careful scrutiny of 200 scientific, technical, manufacturing and construction participants, major players in the logistics and the risk prevention fields. Their objective: to study the influence of the fire load on flame geometry and to validate, by experimentation and measurements, the calculation model for the distances of the fire’s thermal effect.

Video recordings, temperature measurements in the storage areas and on the walls, measurements of residual quantity after the fire, influences of climatic factors (wind speed), smoke trajectory – the results from the real tests are providing experts with information on several specific points including flame geometry, the kinetics of fire spread, the changes in temperature on a given wall, estimation of fire power, wind influence on combustion, the path of smoke plumes.

A large-scale test on an 800-m<sup>2</sup> platform is scheduled for September 2008 to study the influence of the scale factor.

This method of calculating the thermal effects will enable better design and dimensioning of storage-dedicated infrastructures, in particular the heat screens, optimise logistics platform layout on the land, simplify the preparation and processing of operating authorisation files, and improve safety. The final goal being to improve protection for humans and the environment. Results will be presented in 2008 and integrated in regulatory changes in 2009.

(\* Ineris, CNPP, CTICM, ArcelorMittal, SCMF, Afilog, Cibex, Michelin, Kuehne+Nagel, Proudreed and GSE).



**Principle 8. Undertake initiatives to promote greater environmental responsibility; and**

Within the framework of development on the Optima Design by GSE concept, registered in 2006\*, the GSE R&D department worked in 2007 on other leads for ecological energy savings in operating this type of logistics platforms.

Analysis has focused on distribution of natural light in the various zones of the warehouse – aware that 80% of electrical consumption in the warehouse comes from lighting.

Digital simulations of daylight were performed on a CD CAD model, taking into account several criteria such as the various geographical areas where the building could be located, periods of the year, and with respect to the inside – the storage zone and the loading/unloading area.

Based on the results obtained, GSE has already defined a new approach that it now proposes:

- In the storage areas, natural lighting is limited to solely installing the skylights required for the obligatory smoke removal. Lighting is then provided by targeted electrical lighting in the aisles. With systems such as Ecolight, or a system which provides for solely lighting the aisles being used, which sharply reduces electricity costs.
  
- In receiving / shipping areas however, we combine skylights for smoke removal and natural daylight skylights. They are distributed in such a way that they provide entirely natural, uniform daylight throughout the day time, enhancing user comfort and providing total energy savings.

\* The Optima Design by GSE concept was based on 4 directions: environmental respect, innovation, fast construction and savings on investment and operating costs. This building proposes solutions which quite naturally fit into a sustainable development approach generally using combination wood-concrete structures and the use of alternative energies (photovoltaic plants for electrical production, rooftop solar panels for hot water for a 20,000-m<sup>2</sup> warehouse), and environmentally friendly management of rainwater using natural purification solutions.



**Principle 9. Encourage the development and diffusion of environmentally friendly technologies**

**a) In 2007, GSE created a new subsidiary dedicated to photovoltaic development.**

Within the scope of its policy of developing R&D activities, the GSE Group has affirmed its determined and voluntary approach to sustainable development in creating Nazca, a subsidiary concentrating on the development of “turnkey” photovoltaic plants built into the roof tops of logistics and industrial buildings.

Installing photovoltaic panels on large roof areas, in particular on professional buildings such as logistics platforms and offices, creates true pollution-free, local electricity generating plants. The rooftop position is not visible from the ground and does not affect the building’s architectural aspect.

In starting this new activity, the GSE Group provides its clients, both in France and abroad, with a turnkey offer combining building construction and the installation of a photovoltaic plant producing clean, renewable, environmentally-friendly energy.

**b) Ecoparc, a highly efficient, environmentally-friendly bio-climatic building concept, is easy and comfortable for the occupants.**

The Ecoparc concept developed by CCR, a GSE subsidiary, applies to the design, construction and outfitting of offices which integrate sustainable development standards. The Ecoparc building concept targets the following objectives:

- Operating and construction cost control on a par with the market price for traditional service sector buildings;
- Controlled environmental impact (limited greenhouse gas emission and use of natural resources);
- Controlled energy consumption through reduced requirements, use of energy-efficient equipment, and use of renewable energy sources.

CCR, which launched its first Ecoparc building in 2007 with the construction of 6,000 m<sup>2</sup> of offices, intends to pool its experience and apply this building concept throughout the GSE Group.

Fully aware of the ability to continually improve the building concept, CCR has subjected the Ecoparc building to several research studies:

- Critical assessment of the product by French experts in the Building Environmental Quality field;
- Evaluation of the carbon footprint of an existing Ecoparc building;
- Dynamic thermal simulation to achieve thermal optimisation of the building.

CCR also seeks to maintain active technology watch and has created a scientific committee on the Ecoparc concept, composed of leading building energy efficiency experts (ADEME, EDF, building thermal engineering and design offices, building life-cycle analysis specialists...).



CCR stands for the “Compagnie des Contractants Régionaux” (Regional Contractors’ Company) and is a GSE subsidiary. CCR is the number one national network of local General Contractors organized into regional agencies throughout France. CCR works on real estate projects ranging from 500 to 10,000 m<sup>2</sup>.

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