



CAP INGELEC

Ingénierie en Electricité, Automatismes et Génie Climatique

CAP INGELEC, FIRST FRENCH ENGINEERING COMPANY CERTIFIED BY THE EUROPEAN COMMISSION FOR “THE ENERGY PERFORMANCE OF DATA CENTRES” March 2009



Cap INGELEC (170 employees - 23 M€ turnover) is one of the major market player for data centres in France. The company is specialized in engineering for design, building and rehabilitation.

It has just been awarded with the label for “the energy performance of data centres”, issued by the European Commission.

It is the first french engineering company to receive approval on the code of conduct, which is established by Brussels in response to the growth of energy consumption in data centres.

Large European IT centres consume indeed more than 50 billion kWh, roughly the equivalent of 5 nuclear power stations. In six years, their energy has overtaken the cost of their investment. Last example : 10 sq feet in a data centre consumes the same energy as 3 houses.

The official European recognition of the commitment of Cap INGELEC in the "Green Data centre" represents a considerable added value offered to professionals (host facilities, large IT companies, telecommunication operators ...) to reduce their costs of use and thus participate in a concrete sustainable development.

According to Olivier LABBE, CEO of Cap INGELEC, the efforts of the profession were until now mainly focused on improving service levels and integration of the latest technologies (high density). Now, the market needs innovation in the technical management of operating costs and PUE (*).

Therefore Cap INGELEC engineers have developed solutions based on power production and energy recovery, cooling processes and dynamic simulation in order to optimize air diffusion (solutions protected by patent). All of this bring to the company today the award of the energy performance of the European Commission ...

() : Power Usage Effectiveness : ratio between energy consumed by the data centre and energy actually used by the IT equipment.*

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MORE INFORMATION ON :

THE EUROPEAN COMMISSION ENERGY PERFORMANCE LABEL FOR DATA CENTRES

This label was produced in collaboration with the industry leaders to promote performance standards for data centres. Data centres operators undertake to apply the practices of energy-efficient code, validated by monthly measurements and an annual report about their energy consumption. Engineering firms undertake to develop technical solutions to enable Data centres operators to achieve the objectives of energy performance.

Link : http://re.jrc.ec.europa.eu/energyefficiency/html/standby_initiative.htm

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CAP INGELEC

Founded in 1992 by Jean-Paul Calès, CAP INGELEC provides engineering services in project management and turnkey. Around its historic businesses (electricity, automation and cooling), it has developed an recognized offering across seven major areas : energy production, industry and process, buildings (construction-rehabilitation), data centre, air navigation , hospital infrastructure, waterways and ports.

The company, whose headquarters is located near Bordeaux, has a national activity with branches in Aix-en-Provence, Lyon, Nantes, Toulouse and Paris with three offices. It employs 170 people including 90 graduated engineers.

On a professional level, CAP INGELEC is distinguished by reliability and security. In 17 years, she has completed over 3 000 projects and its responsibility has never been involved in any of the cases handled. Overall, the company has thousand customers.

Expanding since its inception, CAP INGELEC recorded over the last three years an increase in income of 68% and in turnover by 37%. This one rised to € 23 million in 2008. The engineering company appears for two years in the Top 100 companies champions of growth and profitability published by the magazine "l'Entreprise". Among the highlights of 2008, we notice the arrival of a new shareholder and the distribution of 13% of the company shares to its key executives.

Many development projects are planned for 2009 : the acquisition of engineering companies in England and Spain, the creation of new branches on the national territory and greater predominance of CAP INGELEC in the data centre market, for which the company is one of the major players.



THE ENERGY CONSUMPTION OF DATACENTERS

Considerable energy needs :

- The air entering a server at 15 ° c clears from it at 35 ° c. Only 2 minutes in case of loss of air conditioning are enough to move from a room temperature of 22 ° C to 41 ° C (in a data centre with average power of 1000 W/m²). In case of failure of air conditioning, a computer room can rise to 70 ° C (we already observed melted screens ...).
- Two thirds of the cost of building a data centre comes from the technical components (electrical, air conditioning etc.).
- Although very expensive for the energy aspect, the data centres will remain ecologically viable. For example, a data centre who hosts an online store site avoids the travel by car which would be required to purchase the item physically.

New technologies and methods to reduce consumption :

- The free chilling (water cooling is cooled by outside air).
- The free cooling (room space cooling is done directly with the cold outside air).
- Recovery of heat dissipated by servers to heat adjacent local.
- Effective management of flows of air diffusion.
- Urbanization of the room (separated zones according to the energy needs).
- Optimization of the use of servers (consolidation, virtualization, etc.).

Innovate to avoid energy losses :

- Up to 60% of the blow under the false floor of the room is diverted from its target (the air escapes through the gates).
- The high-availability architectures generate electricity with redundant circuits. These schemes operate equipment below their rated power, with very deteriorated yields. We are looking to improve these architectures.
- Very high temperature (hot spots) in specific areas of the room jeopardizes the availability and overall energy balance of the data centre.

Have a responsible attitude about the environmental impact of its data centre :

- Manage energy consumption, measuring PUE in operation, measure the carbon footprint of its data centre.
- Raise the thermostat a few degrees.
- Apply the Code of Conduct of the European Commission for the energy performance of data centres.
- Use free cooling sources, consider the production of renewable energy.