

# LAN

Press Release / *April 2011*





# EDF Archives Centre

A strategic project providing a social and environmental positive impact on the region. The building fully integrates into the landscape as well as it meets environmental quality standards, a fundamental aspect for the EDF's building strategy.

This building, symbol of the long term and visible presence of EDF in the Meuse and Haute Marne region, hosts the company's industrial records.

Within the framework of the Meuse and Haute Marne economic support programme, EDF has decided to centralise all its intermediary Engineering Production Management archives in Bure-Saudron. Until now, these paper copy archives had been stored in nuclear, hydraulic and thermal production units, as well as in engineering units and associated services.

The new centre allows the documents' organisation and it also ameliorates the storage and the utilisation processes. These archives, on paper-based and microfilm-based formats, will occupy about 70 km of shelves.

The building has also a laboratory for micro-films, specifically designed for this purpose.

## The concept

We realised a five level, 19 m high building within a plot of 3.30 hectares comprehensive of an archives area

covering approximately 1,400 m<sup>2</sup> and a total surface of approximately 7,000 m<sup>2</sup>.

This approach results in:

- considerable saving in terms of the building's envelope
- improved functionality translated by a reduced number of kilometres covered per year,
- a marginal impact on the landscape (with view points at a considerable distance from the building),
- the possibility of a maximum use of the excavated land around the building's footprint to control water recuperation and treatment on the site,
- an energetically and environmentally extremely high performance building,
- the creation of a symbol representative of the approach taken by the Mouse and Haute Marne economic support programme.

## The typology

An archives storage building needs to have a considerable inertia with a minimal exchange with its external setting. The need for fast and simple site management and optimum storage efficiency led us to develop a simple and rational layout.

## Technical Information

CLIENT: EDF  
LOCATION: Bure-Saudron / France  
BUDGET: € 10,1M excl. VAT  
SITE AREA: 3.30 hectares  
BUILT UP AREA: 6800 m<sup>2</sup>  
COMPETITION: 2008  
COMPLETION: 2011  
TEAM: LAN Architecture (lead architect), Franck Bouté (HEQ consultant), Batiserf Ingénierie (structure), Michel Forgue (surveyor), Base (landscape architects), LBE (utilities)  
PROJECT MANAGER: Christophe Leblond

The building is divided into 2 programmes: archives and offices. The archives' part is composed by 20 storehouses of 200 m<sup>2</sup> each; with regulated temperature and hygrometry. The blocks can resist fire for 2 hours and they are equipped with a sprinkling system.

The offices' part is N/W oriented, embedded in a natural slope planted with trees and plants. The offices have an ideal view on the surrounding landscape.

### **The landscape**

Tree-planted surfaces give some advantages: from an ecological point of view the trees protect the building against climatic issues.

From an aesthetical point of view - and within an idea of landscape integration - they complete the building by inserting a pattern recurring from the landscape: the "merlons", narrow strips of land planted with hardwoods.

The project of the landscape foresees the framing of the views from the offices by planting vegetable masses. Some framings already exist from the highway in the project's direction. A game of sequences is set in combination with the architectural plan in order to vary the visuals and to put an accent on the building's continuity with its landscape.

### **Energy**

Heat production is principally based on renewable energies and a heat pump.

The choice made for the ventilation was to use a double flow ventilation system with heat recuperation.

This limits energy consumption resulting from heating and ensures the good sanitary quality of the air.

Low voltage luminaries will result in considerable savings in terms of internal loads.

Storage areas will be equipped with presence detectors.

The high performance of the envelope combined with economic ventilation and lighting systems reduces energy requirements.

The use of renewable energies and a heat pump will result in a high level of energy autonomy.

**The total power consumed by the building represents 29 kWh/m<sup>2</sup>.**

### **The building's envelope**

To give the impression of a lightweight building in movement, we proposed incorporating stainless steel studs into the earth-coloured concrete cladding. This solution had the effect of blurring

the building's limits and reflecting the surrounding colours and changing seasons.

The envelope has a very high performance resulting from the materials employed and the technology used for attaching the concrete facing (reduced thermal bridges).

The combination of two layers of concrete (structure + facing) and insulation (30 cm) ensures that the building has a high level of inertia favouring comfort during the summer and reduces cooling requirements.

### **The facade**

The elevations will incorporate a total of 120,000 stainless steel studs.

Stainless steel studs (7 cm diameter and 1 mm thick) will be incorporated into the formwork during the casting of the integrally coloured prefabricated concrete elevation panels.

The panels will be 15.65 m high and either 2.26 m or 2.33 m wide depending on whether they are on the long or short side of the building.

The 8 cm thick panels will be reinforced with concrete ribbing (+ 7 cm). The complex will be suspended from reinforced concrete walls and held in position using distancing jacks. The elevations will have a total thickness of 68 cm.

The facade's building process was the subject of a patent.

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#### **LAN (Local Architecture Network)**

was created by Benoit Jallon and Umberto Napolitano in 2002, with the idea of exploring architecture as an area of activity at the intersection of several disciplines.

This attitude has developed into a methodology enabling LAN to explore new territories and forge a vision encompassing social, urban, functional and formal questions.

LAN's projects seek to find elegant, contemporary answers to creative and pragmatic concerns.

LAN has received several awards: the Nouveaux Albums de la Jeune Architecture (NAJA) prize awarded by the French Ministry of Culture and Communication (2004); the International Architecture Award from the Chicago Athenaeum and the European Urban Centre for Architecture, Art, Design and Urban Studies, the Archi-Bau Award, the Special Prize at the 12th World Triennale of Architecture, Sofia (2009); the AR Mipim Future Projects Award and the Europe 40 Under 40 Award (2010).

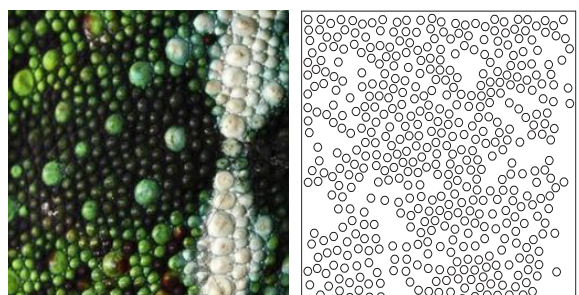




## The patent.

“This invention allows the construction of facades including reflecting units with the aim of giving the building a changing appearance determined partially by the environment partially by the weather around the building (...)”

extract from the EDF facades' Patent



Chameleon's skin  
and a drawing of the facade.





## The facade's panels.

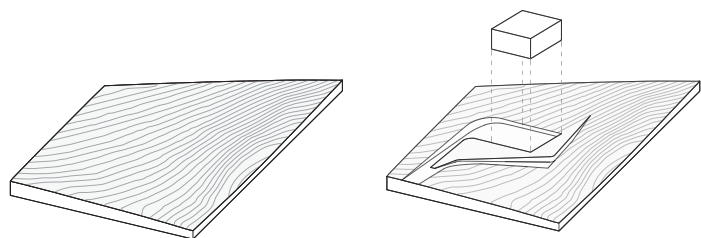
Stainless steel studs will be incorporated into the formwork during the casting of the integrally coloured prefabricated concrete elevation panels. A system of fixing ties holding the studs in position during the casting operation will be used to ensure that the studs and concrete are flush with one another.





## The implantation into the site.

Like a tectonic plate, the ground lifts up showing the entrance and its square. A large opening in the eastern facade allows the appearance of the unloading dock. The offices are located outside the archives and treatment's sections, sliding down in a slight movement of the ground which is connected to the archives by a passage along the patio.



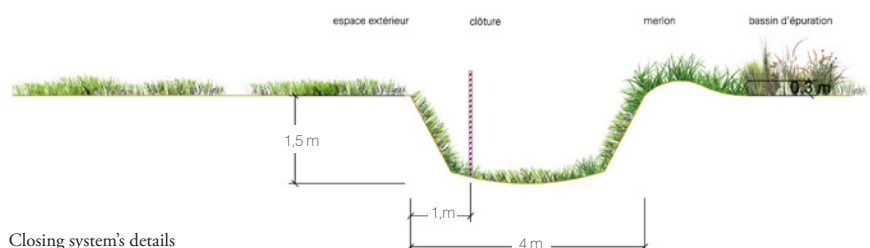
Axonometric view





## Continuity with the territory.

The “ha-ha” instead of a traditional closing system represents the way we decided to deal with the landscape. This choice strengthens the site’s integration while limiting the visual impact of the barriers which are placed inside ditches that are 1.5m deep. Around the site, the ditches create a perspective effect that allows the gardens to continue into the surrounding landscape. As a result the view is limitless and panoramic.



Closing system's details





## The lagoon system.

In order to preserve the building's autonomy, a system of lagoons ensure the treatment of the water that can then be reinserted and reused to save the environment's resources. The water can thus circulate thank to gravity and it passes through the 3 phases of depuration as detailed:







## Awards.

Even before its realisation, the building has been recognised for its energetical qualities which allowed it to be awarded with the following prizes:

LEAF AWARDS 2011  
Best Sustainable Development in  
Keeping with its Environment

ARCHI BAU AWARDS 2009  
1st prize - Green building

SAIE SELECTION 10, 2nd prize

INTERNATIONAL  
ARCHITECTURE AWARDS 2009  
The Chicago Athenaeum & Museum  
of Architecture and Design

INTERARCH 2009  
Special prize of the architects' society  
of Sofia

## Média.

A 15 min. documentary (production:  
*Année Zéro, June 2011*)

A book (AAM/Anteprima, texts by  
Manuel Orazi, pictures by Julien  
Lanoo, Iwan Baan, *September 2011*)

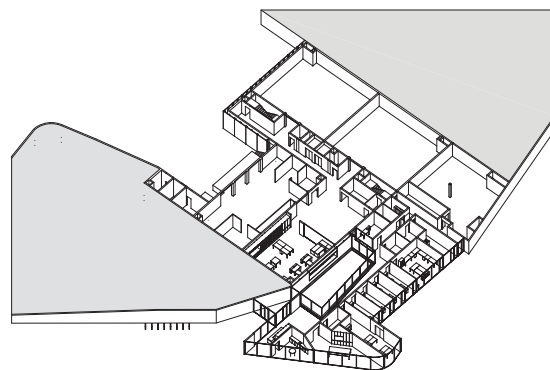
A series of lectures (« Europe 40 Under  
40 », Madrid, *November 2010* – « 1  
Architect 1 Building », Pavillon de  
l'Arsenal, Paris, *March 2011*)





## The offices.

The side of the building occupied by the offices is structured starting from the patio, which creates a strictly visual relation with the archives' area and carries more natural light to the court's corridors. The working space (individual and collective) are completely transparent to take advantage of the view, the light and landscape colours.



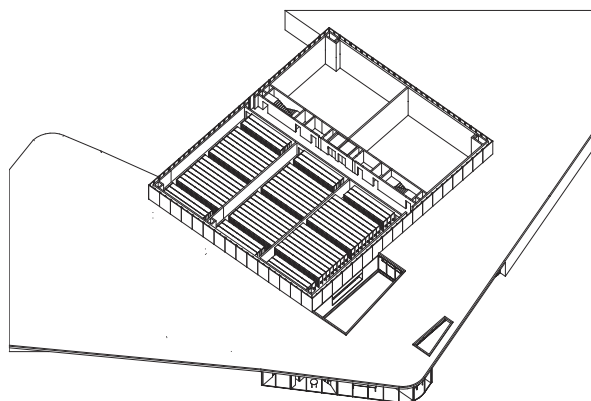
Axonometric view of the ground floor





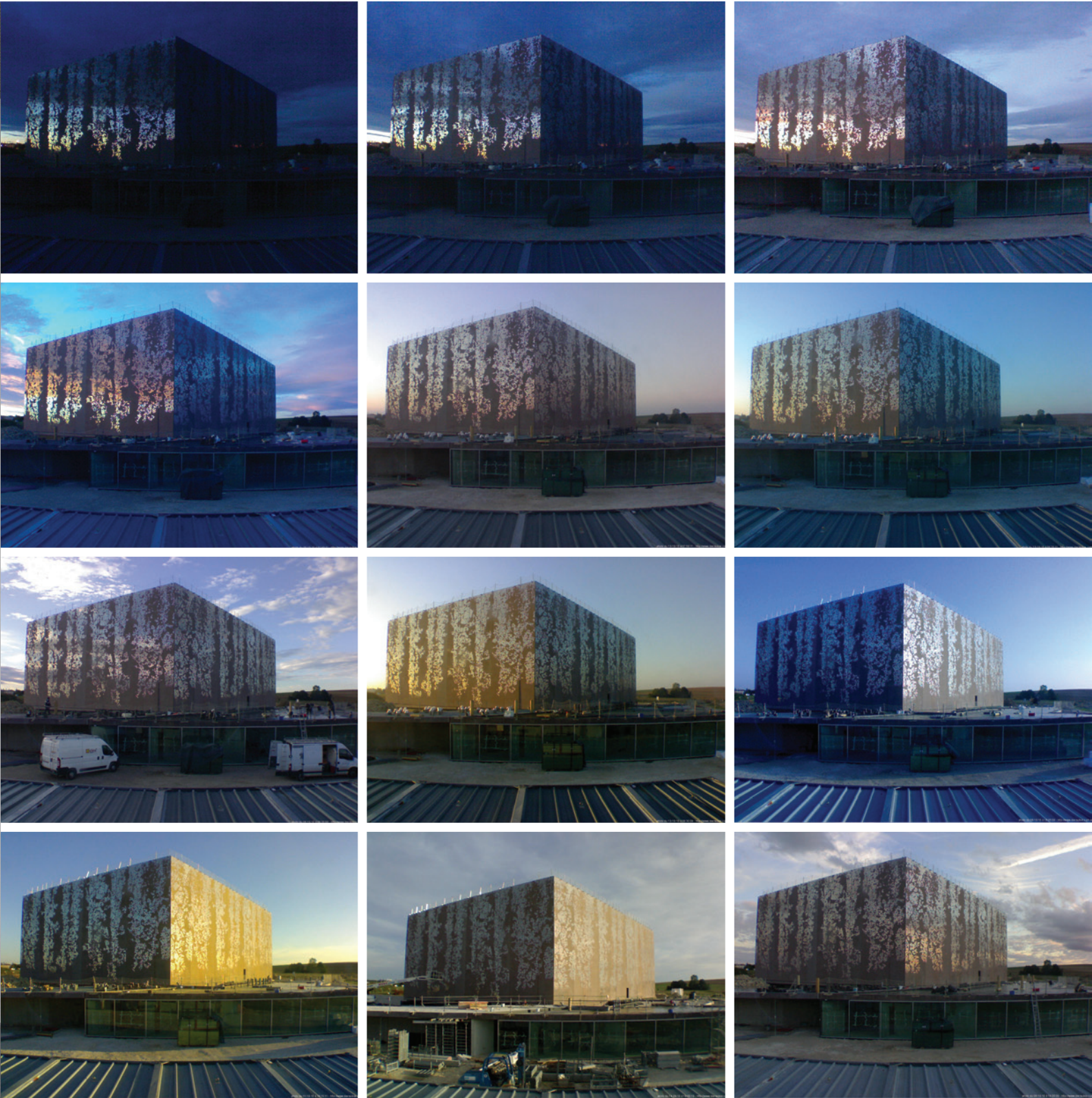
## The archives.

They are located on 4 different floors.  
The different archives are divided on a transversal and nevralgic line where we can find the elevators, the technical rooms and security exits.  
This large corridors (3 meters) permits the exchange of flux without creating difficults of passage.



Axonometric view of first floor





## The building's life.

*«Various life forms exploit a morphological resemblance to an element of their context in order to melt with it. With its forms, the mime resembles a target», our target is the Meuse's landscape. The idea for the façade's conception comes from a simple postulate. The project allows various interpretations, it tells different stories*

according to the distance or the proximity to it. Different elements are discoverable as well as different sensations.





The offices



Conference hall



The patio



The offices

Photo shooting by  
Julien Lanoo.

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