



TOUR a r c h i t e c t e

PARIS // LA DÉFENSE **unibail - rodamco**

PETRACCONI & VODAR ARCHITECTES

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Silvio Petraccone and **Michel Vodar**, one coming from Italia, the other from the United States, met in 1981 to participate, among the Adrien Fainsilber's team, in the definition and realisation of the "Cit  des Sciences", at La Villette in Paris. In 1986, once the museum inaugurated , they opened the Studio Petraccone-Vodar.

During the following years, they participate at numerous concours, on invitation or opened, national or international ("Peak " in Hong-Kong / International Conference Center in Paris, Headquarter of the "Soci t  G n rale Banque", Commercial Center in Paris Bercy, Housing in Fresnes, Toulon City Hall, Triangle of the Folie at la D fense, Tokyo International Forum, Osaka Plaza, Down Town of Potenza, in Italy, Symbol France-Japon....)

Their collaboration with Unibail-Rodamco, as well as with other promoters (Generali Real Estate, General Electric Real Estate) has been followed by numerous building renovations, in Paris and at La D fense (Europe Tower, Polytechnique Fondation, Ariane Tower...).

These works, which tackle with various topics, allowed them to materialize a process seeking to extract the intrinsic qualities of every program and building.

Accordingly, the Studio gives a particular attention to the parameters shaping a project (programmatic, physical, financial, administrative contexts...), effective forces comparable to the one acting in a natural environment, from where emerge an adequately adapted form, necessary configuration.

Forms and substances, seeking each others, will lead the Studio to pursue researches and experimentations and to track down the potentials of transformation which offer the encounter between traditionnal and technological materials and modern tools. This path has been particularly followed with glass which, though possessing a restif and proud nature, authorizes, on a single surface, all tessiture ranging from the gravity of matity to the silence of transparency.

Exhibitions scenographies, various interior design projects will enable the studio to test these various explorations, everyone of which will place in a preminent position the crucial importance of the technical detail, pertinent when in perfect adequation with its object and the material on which it is applied, and redoubtable through the power it possesses in its capability to destroy the whole when being neglected or ill-treated.

The Studio will have the opportunity to deepen this process with japanese clients (Shimizu Corporation, Tokyo gas, Kawakyiu Hotel..) who will recognize in it the features of their own culture.

Besides, these cooperations will prove fertile, mostly in respect of the elaboration of programs, which progress, in Japan, relates with a polishing procedure, terms being rolled from department to department, as from wave to wave, thus acquiring a vital depth and reality.

Sharing with these japanese clients a common sensibility for nature, the Studio will be offered the opportunity to integrate the landscaping of exterior spaces into the project which, as light, wind and rain, permit to insufflate motion and life into architecture.

This approach, which feeds the project with the multitude of its constraints, and this endeavour to determine it precisely, will meet the expectations of a certain number of commettants who will see through it not only a way to master prices and schedules, but also a way to guarantee the quality level required by their product poles, singularly in terms of usage value.



tour ariane

ARIANE TOWER

Built in 1972 by the architects Jean de Mailly and Robert Zammit, Ariane Tower (57000 sqmeters of office spaces) is emblematic of the first generation of towers in La Defense.

Located at the heart of the La Defense mall, Ariane Tower is highly visible, particularly from the place de l'Etoile.

Owner of the tower, Unibail-Rodamco, aware of its aging, began to renovate office floors in 2001.

In 2004, 24 floors having been renovated and thus being able to answer the needs of potential tenants, it appeared that the exterior aspect and public spaces of Ariane gave an antiquated image of themselves which did not fit its new internal reality.

Consequently, Unibail-Rodamco organized a restricted architectural competition: proposals submitted by Petraccone & Vodar were retained.

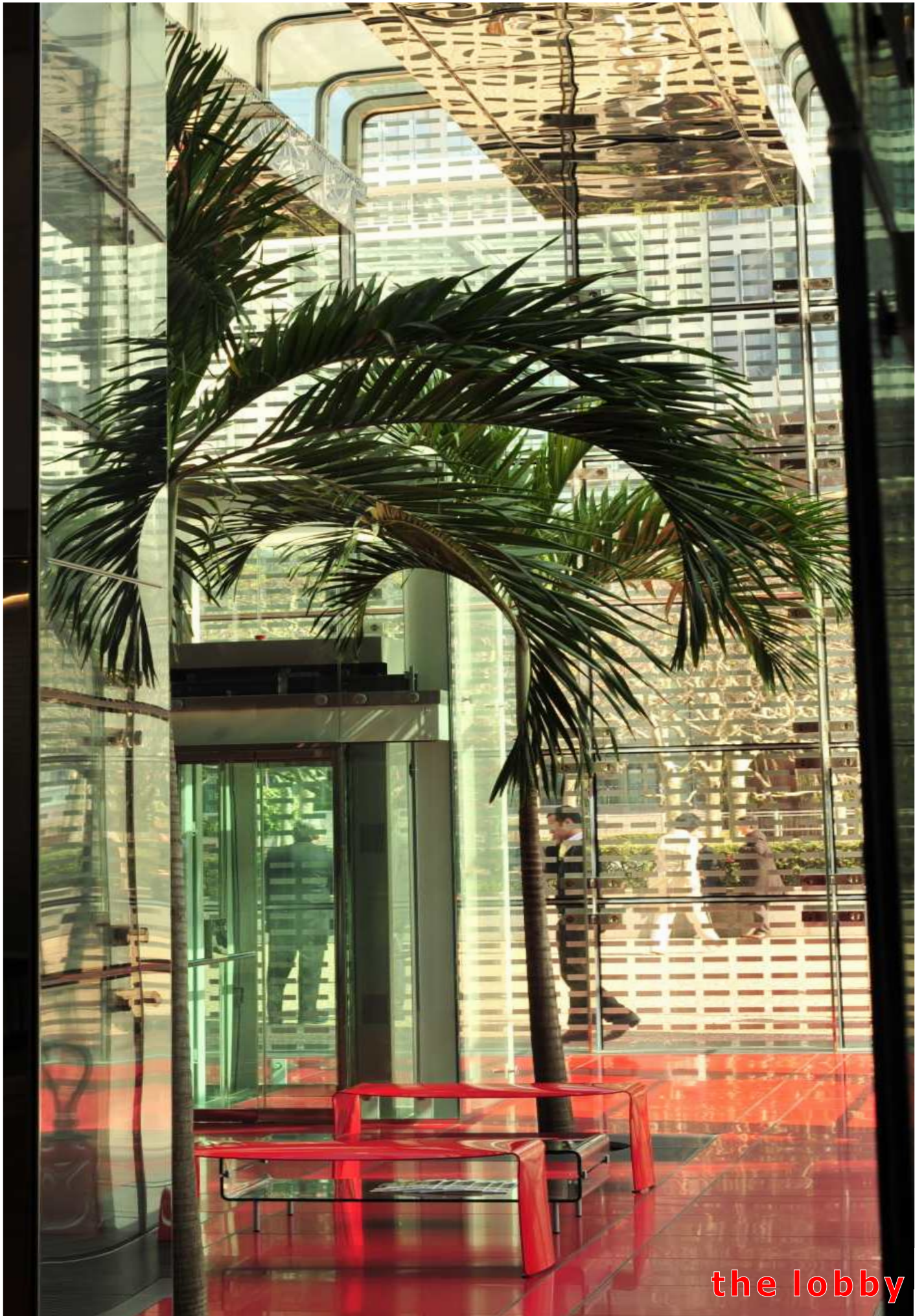
These proposals consisted in :

- the creation of a **Lobby**, immediately related to the Mall.
- the renovation of the existing **Hall**.
- the creation of a **V.I.P. Hall**, linking directly the car access level (level "Entrepont") to the new lobby.
- the modification of the **façades**.
- the creation of a **Cafeteria**, taking place of the precedent V.I.P access, directly related to the new lobby through escalators and to the Interentreprises Restaurant (level -3), through two dedicated elevators.
- the creation of a **foot-bridge** linking Ariane to the public EPAD car park (Parking Villon).
- the creation of a **night exit**, giving direct access to Parvis Level.
- the complete renovation of the **Inter Entreprises Restaurant** and its kitchen (level -3).

It has to be noted that the competition project proposed the hightening of the tower, in order to drastically modify the aspect of Ariane, through the creation of an upper Plaza. Besides, the landscaping of the vast private exterior spaces located on both sides of the new lobby, though having been accepted by Unibail-Rodamco, could not be realized because of a requirement of EPAD (Etablissement Public d'Aménagement de la Défense) who needed to preserve a public passage from the Mall to the momentarily vacant lot located south of Ariane.

On another plan, the Tower being occupied by 4.000 people, the works required to realize these various projects, which interested strategical spaces (mostly points of access) and necessitated to penetrate various occupied levels (technical ducts and pipes), had to be phased and organized in such a way as to preserve the security and the comfort of the users.





the lobby

THE LOBBY

Transition space between the Mall and the Hall itself, the new lobby gives Ariane Tower an immediately visible façade along the building line of the Mall.

Besides, it gives a depth to this welcoming space, which towers of the first generation lack because of the proximity between the inner core and the façades.

The new erected volume (26,00 m x 14,00 m x 7,00 m) emanates from the geometry of the northern façade, from which it is extruded.

Six steel porticos (26,00 m long, 1,00 m high, 10 cm wide), restrained at each foot, bear the load of the roof and the façades from which they are suspended ; the existing concrete trusses on which the porticos are anchored had to be reinforced consequently (15 tons per foot).

The roof of the lobby is composed of a series of U shaped laminated, tempered, curved glass elements, automatically heating when necessary to avoid condensation.

Between each of these elements, plane surfaces take place, acting as gutters and maintenance paths.

The façades, entirely glassed, are clamped to the porticos (structural glass), clamps having been specially designed for this operation. The Northern façade, facing the Mall has been treated with extra clear glass, punctually silvered (mirror effect), in order to create a veil of intimacy from the public exterior space.

The floor, made of reconstituted stone of two different nuances of red which dynamise this point of access, follows a layout (perpendicular to the North façade) intended to bring depth to the lobby.

The ceiling, between each glass vault line has been treated with mirrored stainless steel panels, accentuating the lightness of the roof. Six palm trees punctuate the space where the presence of their green leaves introduces a festive spirit.









hall

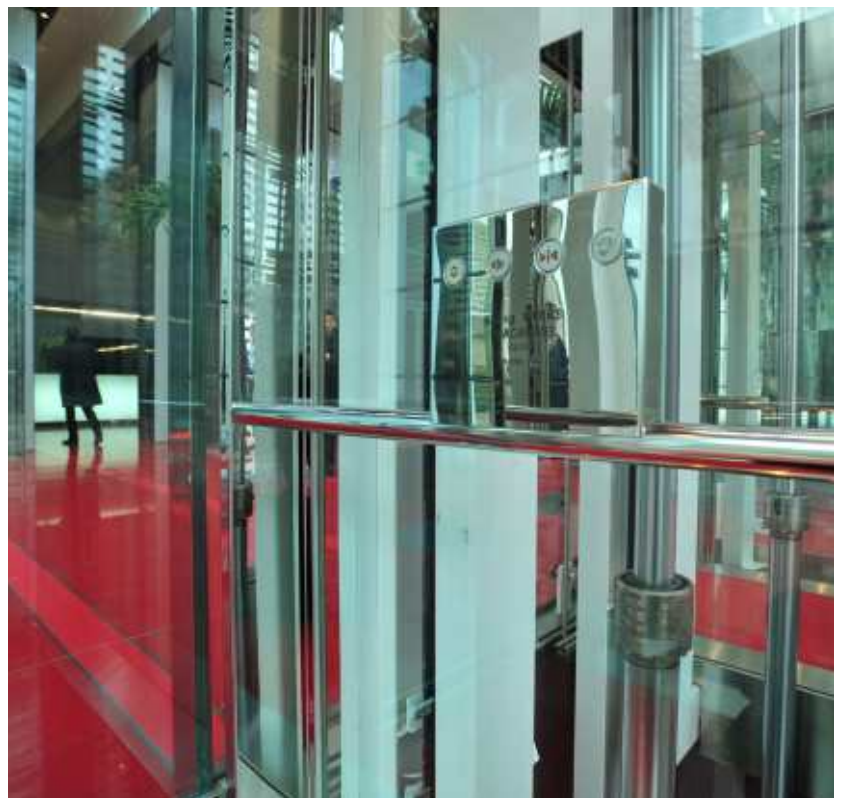
HALL RENOVATION

The renovation of the existing Hall consisted in extending the Lobby into this volume. Thus, the two lateral façades of the Lobby penetrates inside the Hall, as the geometry of the Lobby roof does.

This device, completed by the setting of a translucent wall, parallel to the core, permitted to redefine this space, accentuating its depth.

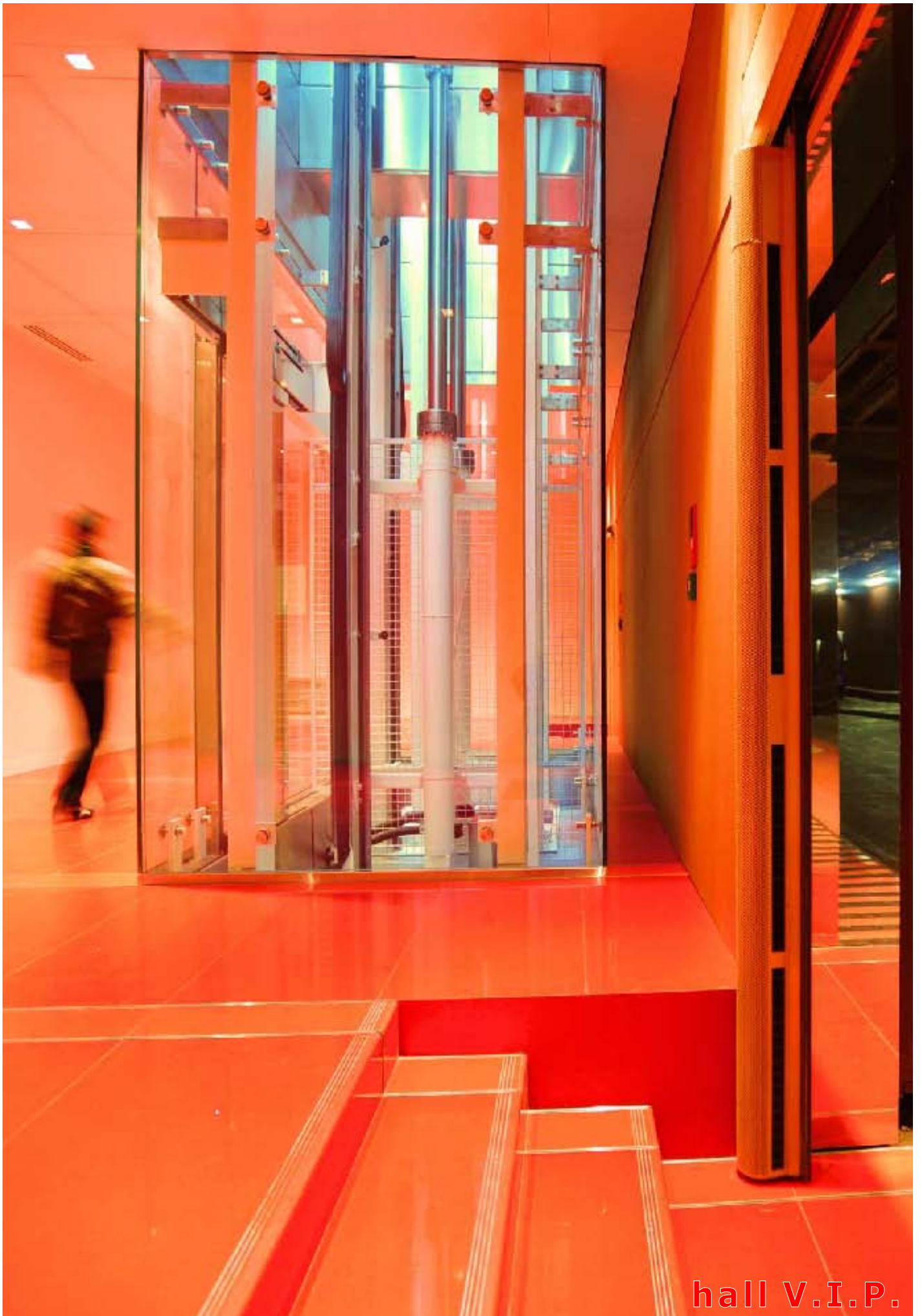
The extension of the mirror steel ceiling and the treatment of the existing façade posts using the same material enhance the general impression of lightness and fluidity, conducting the Hall and the Lobby to be read as a vast single volume.

A long reception desk (made of opale glass and white lacquered aluminium) has been associated to the access control equipment to guarantee hospitality and security.







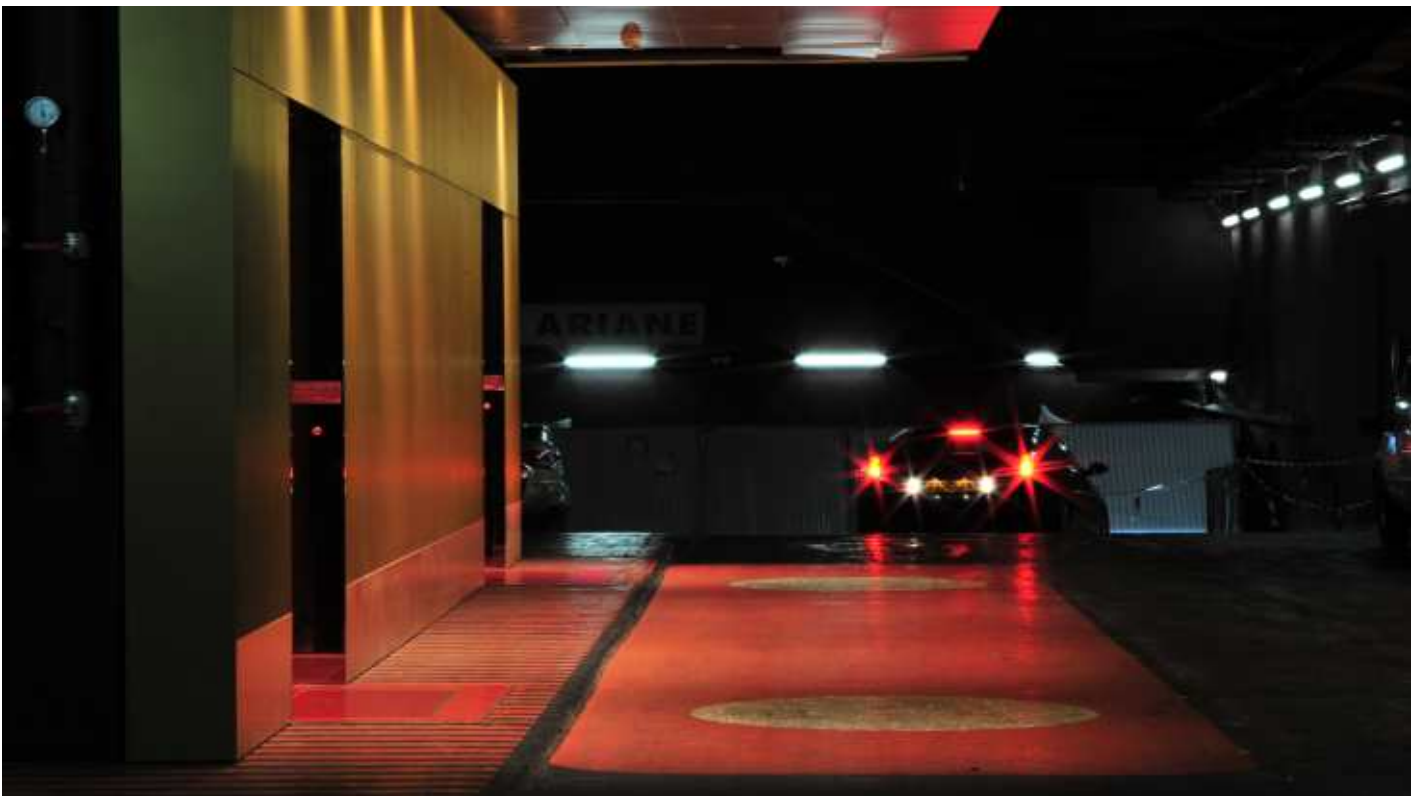


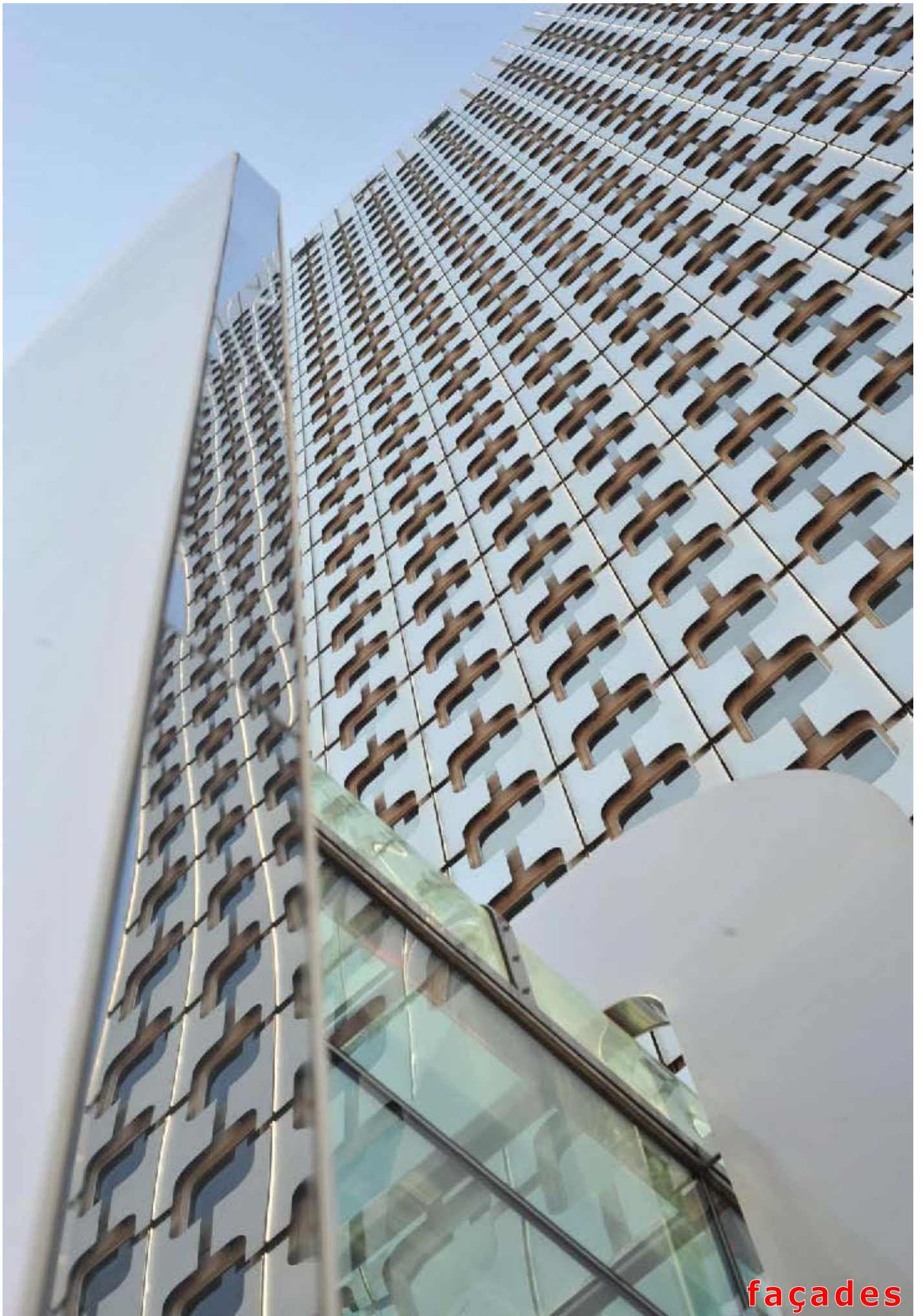
hall V.I.P.

V.I.P. HALL

This Hall has been grafted along the private automobile access which Ariane benefits at the level Entrepont. Its location permits the direct distribution of visitors toward the Lobby through two hydraulic glass elevators : natural light penetrates this underground space, which has been treated identically to the Lobby, strengthening their mutual identity.

To enhance the identity of the V.I.P. Hall, the whole private automobile zone (which could not be modified because of the presence of untouchable major technical organs irrigating the whole Tower) has been treated in a dark color, the façade of the V.I.P. Hall, brightly lit, appearing as a theatre curtain.





THE FAÇADES

The high quality of the existing façades which gives this huge building (60,00 m x 30,00 m x 130,00 m) an impression of general equilibrium and lightness, had to be recognized.

This impression comes from the presence of aluminium shields, acting as a second skin, which gives the façade a depth, a thickness and a "modele" of great subtlety.

However, Ariane looked aged.

This image was due to the way the basis, the capping and the angles of the building were treated, letting the concrete walls appear.

Consequently, the action conducted on the façades has consisted in extending the "shield principle" to these three points.

In order to underline discreetly the gap between times, the added shields have been covered with an iridescent paint, coming from the automobile industry, allying pigments and mica particles : this device make the new shields change colors as the position of the sun varies, going from grey aluminium to light sky blue.

The angle curved shields link fluidly the various planes of the façades, asserting the homogeneity and totality of the tower.

The naming of the tower, "ARIANE", has been modified, using small characters letters, more appropriated to the "new Ariane" identity than capitals.

Besides, the electric signs have been redispached, one facing East, visible from the noble axis going from the Etoile to the Grande Arche, the second facing the Mall.







cafeteria

CAFETERIA

The premises liberated through the creation of the V.I.P Hall gave the opportunity to integrate a cafeteria, in direct relation with the Lobby and the restaurant, as well as some complementary office spaces.

The contiguity between the cafeteria and the Lobby/Hall volume gives this configuration the characteristics of a hotel Lobby, seldom existing in high rise office buildings, which offers its users diversified waiting and meeting spaces.

Being considered as an extension of the Lobby, the cafeteria has been treated accordingly, using the same materials and colors.

It has to be noted that the cafeteria takes place in a "protected zone" (CHC), which can be assimilated to a fire security exit corridor where no calorific potential can be placed.

The drinking counters are, thus, made of a series of curved steel sheets, red lacquered, topped with stainless rice beads sheets.







passerelle

FOOT BRIDGE

Like many of the towers of La Defense, Ariane did not possess dedicated parking spaces, situation which compels its inhabitants to walk through the long and dark corridors situated underneath the Mall.

Unibail-Rodamco wishing to better this state and the Villon parking, belonging to EPAD, being close from the south side of Ariane, a link between them was feasible.

Indeed, Villon parking elevates its floors above ground level (rue Delarivière-Lefoulon), one of them being almost perfectly level with the level -2 of Ariane.

Independently from its access role to Ariane, this foot bridge had to be designed with care because of its impact upon the public domain and of its proximity with a vacant lot where Unibail intends to build a Tower (MAJUNGA project).

The project consisted in realizing a 12 meters long foot bridge bore on a bracket attached to the Villon façade and anchored to the façade posts of Ariane.

Structurally, it consists of a general frame using stainless steel IPE 240 linked to one another, on the vertical plan, by a series of small irons which make the whole work as a continuous truss.

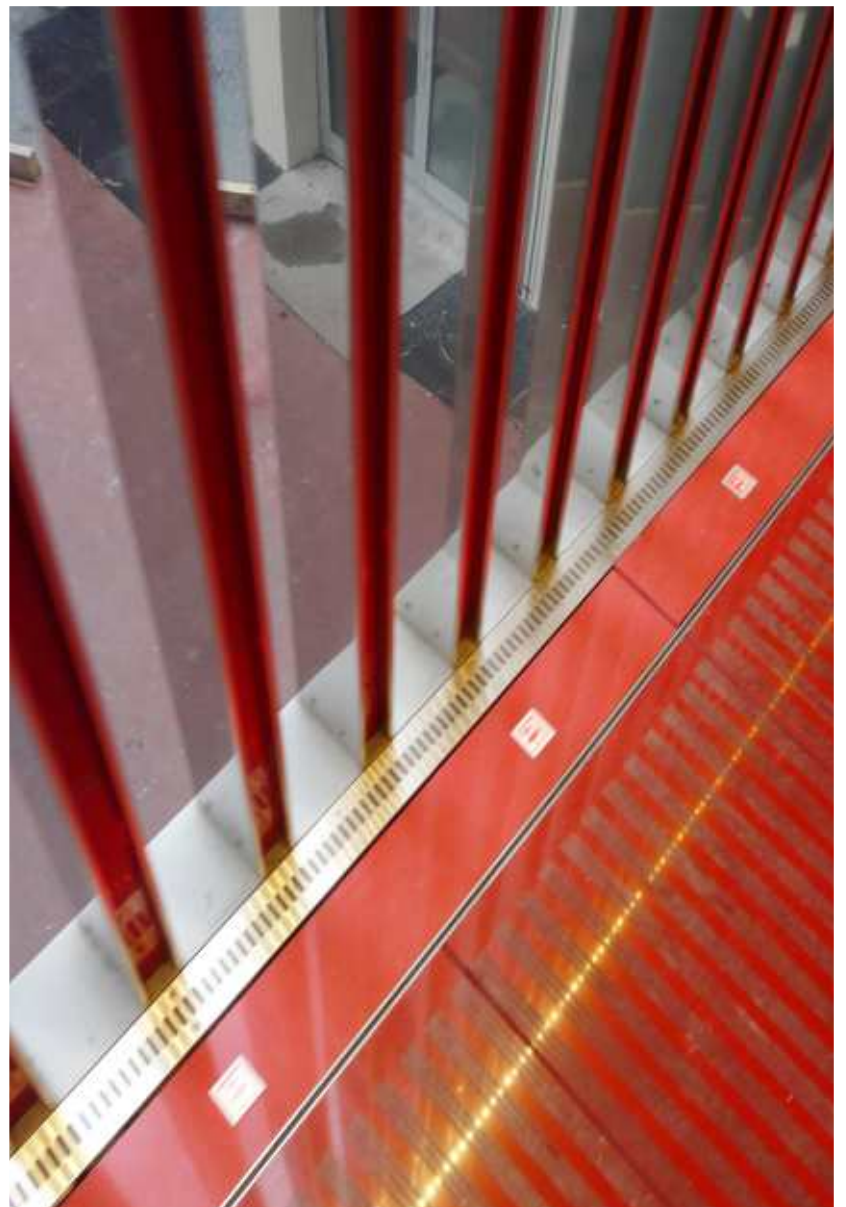
The horizontal cross-bracing is realized through the floor and the roof.

The treatment of this bridge reconducts the spirit of the Lobby, guide line of the new identity of Ariane : the same red stone pavement is used, the entire inside volume being red, giving a stimulating blow to the visitors coming out of the greyness of the parkings.

The two long façades, made of the numerous vertical irons, create a disorienting impression, expanding the inside of the corridor, their lateral facets, being of mirror like stainless steel, bringing in the fragmented environment and diffracting rays of light.

This foot bridge, discreet linkage element, gives to the façade of the Villon parking a bright and joyful note and gives a major embettering to the users of Ariane who can, from now on, access the tower and go back to their cars in a decent and comfortable way.







sas nuit

NIGHT ACCESS and EXIT

In the same order as the need for an access to cars, Ariane dit not possess a convenient night access, or exit, for the users wishing to join the Mall level after the Lobby had been closed : they then had to go through the fire-men access located at the Entrepont level, leading to the dark and uncomfortable underground pathways.

To answer this question, a discreet equipment has been located in the main North façade, close from the Lobby.

To create a security proof unipersonal "sas" and accept handicapped persons, it conjugates a sliding door and a folding door, both automatic, operated by the use of personal badges.

It is notable to see how much such a modest equipment enhances drastically the well being of Ariane users.





R.I.E.

The "Restaurant Inter Entreprises" (R.I.E), (3.500 sqmeters / 700 seated people) occupies the entire level -3 of Ariane tower, last floor to be naturally lighted through it's south façade, opened on the "rue Larivière-Lefoulon". Put aside its aged appearance, the RIE required to be improved in terms of fire security, hygiene and functioning. Functioningly, the RIE was unefficient because of the location of the unique cashiers pole which induced long waiting times in long waiting files encroaching largely upon the scramble space.

Another reason resided in the existence of a single point to deposit trays, situated at the east extremity of the floor, too far away to be operant, leading people to leave their plates and remainder on their tables.

Concerning the fire security aspect, the project consisted in creating the fire protected corridors (CHC) required by the regulation, in installing a general sprinkler system, a smoke detection system, a smoke extraction system, in renewing the general electricity installation, in dividing the floor into two fireproof compartments in the modification of the evacuation pathways scheme, conducting to modify and create two stairs leading to the Mall level. The amelioration of the hygiene level went through the creation of a totally new kitchen, including the employees'coat-room and bathrooms (level -4), the renewal of the air extraction system, the creation of public sanitarities.

Functioningly, two cashier points have been created, on both sides of the scramble, as well as two washeries situated along the natural path leading to the elevators.

The treatment of the restaurant consisted in imprinting the "new Ariane" spirit, which was achieved through the painting of the core in the same red color used in the Lobby.

In order to bring warmth and comfort into the dining rooms, the colors used recall natural earth colors (sand, ocher) which have been combined with totally lighted ceilings, erasing the lack of natural light in some of the dining rooms. In the V.I.P. restaurant, walls and ceiling have been entirely treated with oak acoustical pannels which give the natural nobility of wood to this formal space.

The floor of the corridors is made of shining light colored resin which, presenting no joint at all, enhances their vastness and clarity.

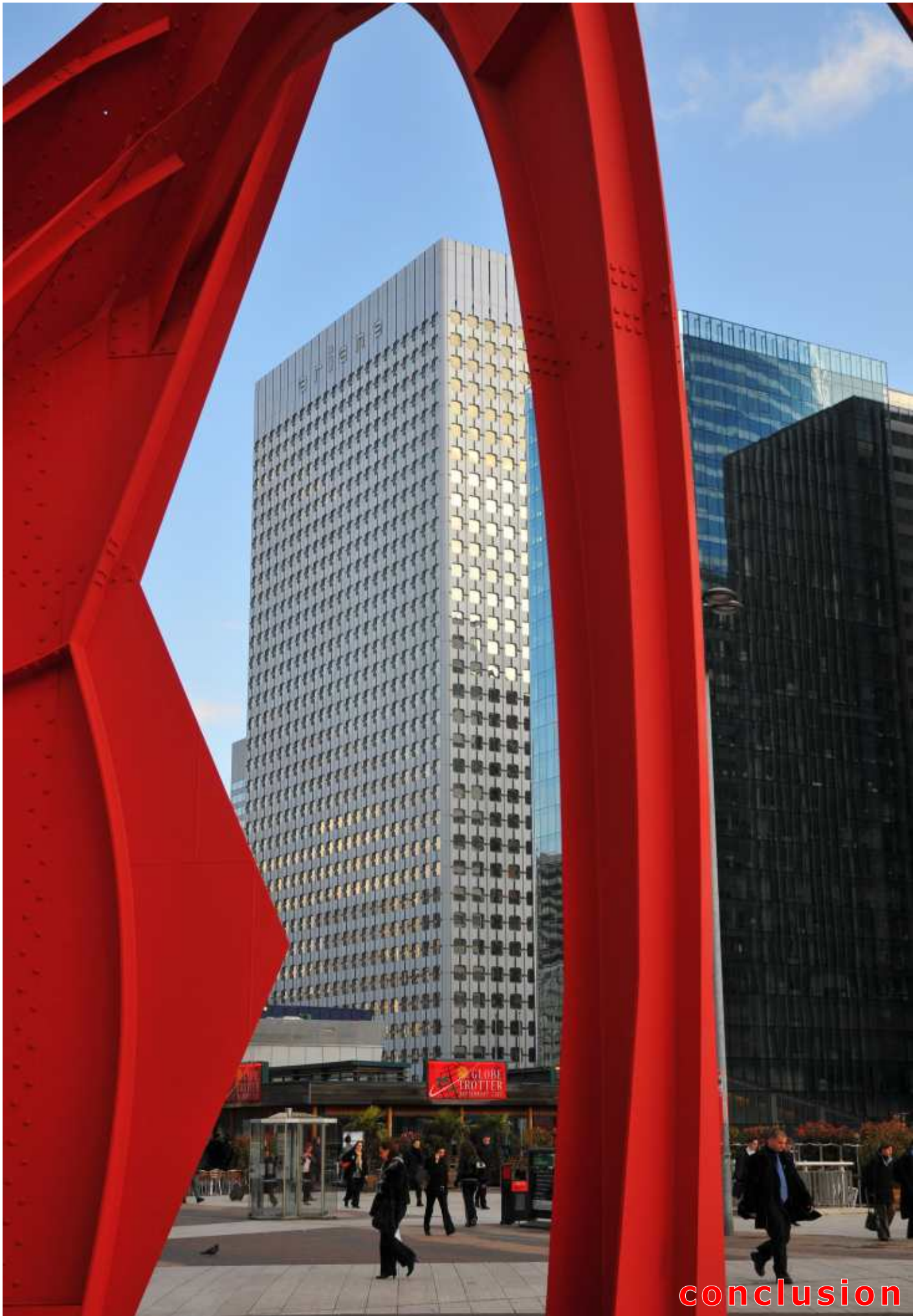
The protected corridors circling the core have been covered with micro ondulated mirrored steel sheets which distort reflections and expanse the space; the dining rooms have been carpeted, bringing comfort and participating in the acoustical quality.

A great attention has been given to the integration of the numerous fire security elements, particularly doors, which maintained open as a regular rule (only closing in case of fire detection), are imperceptible.









conclusion

CONCLUSION

After nine years of works, Ariane Tower offers her occupants a level of comfort, efficiency and security comparable to the one of her younger sisters of La Défense.

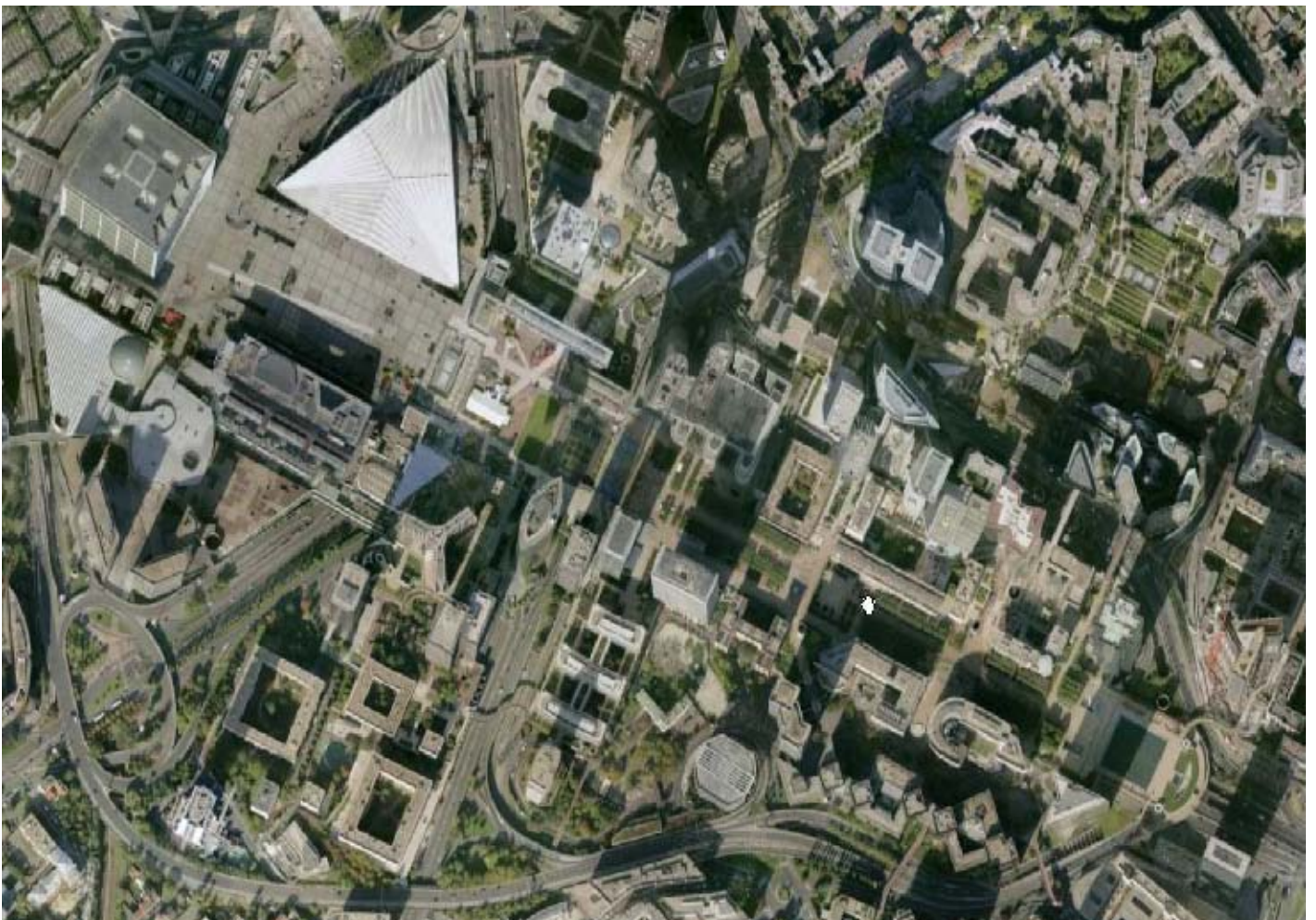
The duration of the building campaign reflects the complexity of the tasks (structural, technical, logistical..) to be conducted inside a building occupied by 4.000 people, where the safety of persons and security of goods had to be maintained at every moment.

It has to be noted that, besides the welcome prerequisite of the high architectural quality of the existing building, the success of such an operation lies on the pertinency of the diagnosis (architectural, fonctionnal, technical...) of the anterior state which permits to define precisely the points on which to apply actions.

These actions, precisely calibrated and located, give the opportunity to create nodal points from where a new concentrated energy can be injected into the total body of the building sending into it the vigour necessary to face today's exigencies and, up to a point, those of the future.

Pursuing this line of idea, Unibail-Rodamco asked for a proposal aiming at answering the "smokers' problem", which every high rise building has to face, smokers packing in erratic clusters in front of every main entrance of every high rise building.

Ariane benefitting of a private exterior space, the project will be located on the west side of the lobby, closely related to it and to the cafeteria through the night exit : it will aim not only to provide the smokers with wind and rain sheltered spaces, but to give every user of Ariane the possibility to spend his moments of pause in a comfortable and decent way.



FICHE TECHNIQUE

Tour ARIANE : Surfaces : 57.000 m² // 36 niveaux superstructures // 6 niveaux infrastructures

Maîtrise d'Ouvrage :

Maîtrise d'Ouvrage Déléguée :

Assistance M.O.D.(RIE) :

Architectes :

Maîtrise d'Oeuvre d'Exécution :

Economiste :

B.E.T. Fluides :

B.E.T. Electricité :

B.E.T. Structure :

B.E.T. Structure (passerelle) :

B.E.T. Amiante :

B.E.T. Cuisine (RIE) :

B.E.T. Façades :

Bureau de Contrôle Technique :

Coordonnateur SPS :

Pilotage :

Images de synthèse :

Photographes :

UNIBAIL-RODAMCO

ESPACE EXPANSION

B.P.E.I.

PETRACONE & VODAR

PETRACONE & VODAR

LE POINT GEOMETRAL

SIPEC

LEFEVRE

GENTRIC

TERREL Group

DIAGNOTEC

ICARE

CEEFF

SOCOTEC Courbevoie

COREGI

OGCI

L'Autre Image Production

Fabrice RAMBERT

Beata KOMAND

PETRACONE & VODAR

LOBBY // HALL // HALL V.I.P.

Surface :

2.000 m²

Montant des travaux :

8.200.000 €

Durée des travaux :

août 2005 à juillet 2007

FAÇADES // NACELLE

Surface :

1.850.000 €

Montant des travaux :

Durée des travaux :

décembre 2006 à septembre 2008

RESTAURANT INTER ENTREPRISES

Surface :

3.500 m²

Montant des travaux :

7.000.000 €

Durée des travaux :

juin 2006 à mai 2007

CAFETERIA

Surface :

500 m²

Montant des travaux :

1.500.000 €

Durée des travaux :

août 2008 à juin 2009

PASSERELLE

Surface :

500.000 €

Montant des travaux :

Durée des travaux :

livraison octobre 2009

LISTE DES ENTREPRISES :

LOBBY // HALL // HALL V.I.P.

DÉSAMIANTAGE // **CMS** // 113 rue Jean Marin Naudin // 92227 Bagneux Cedex
DÉSHABILLAGE // **ARENE** // 86 avenue Lenine // 94250 Gentilly
G.O.+MAÇONNERIE // **LEYMARIE** // 27 rue Ch. Edouard Janneret // 78300 Poissy
FAÇADES VERRE // **LAUBEUF** // 5 avenue du Général de Gaulle // 94160 St Mandé
ÉTANCHÉITÉ // **BATECMO** // Chemin de la Jarrie // 78370 Plaisir
SERRURERIE METALLERIE // **ETS GENDRE** // 21 rue Marzelle de Grillaud // 44100 Nantes
PORTES COUPE FEU // **GESOP** // 9 avenue St Fiacre // 78100 St Germain en Laye
PORTES AUTOMATIQUES // **KABA SAS** // 9 rue Pagès // 92150 Suresnes
FAUX PLAFONDS // **LE STAFF PARISIEN** // 35 rue André Citroën // 95130 Franconville
REVETEMENT SOLS SCELLES // **ILDEI** // 12 rue Léonard de Vinci // 91220 Le Plessis Paté
REVETEMENT SOLS SCELLES // **REAL MARBRE** // 10 rue Saint Florentin // 75001 Paris
PEINTURE BOUCLIERIS // **RIGOLOT** // 35-71 rue Etienne Dolet // 94140 Alfortville
ÉLECTRICITÉ // **VERGER DELPORTE** // 15 impasse Dumur // 92110 Clichy
PLOMBERIE // **ELYO** // 11- 15 quai de Dion Bouton // 92816 Puteaux
CVC // **AMEC SPIE** // 28 bis boulevard d'Ornano // 93287 St Denis
ASCENSEURS // **SACAMAS** // 298 avenue du Général de Gaulle // 92140 Clamart
NACELLES // **SECALT C/O TRACTEL** // 29 rue du Progrès // 93108 Montreuil Cedex
SÉCURITÉ INCENDIE // **SPIE - DET** // 28 bis boulevard d'Ornano // 93287 St Denis
EXTINCTION AUTOMATIQUE // **AXIMA** // 42 avenue Augustin Dumont // 92240 Malakoff
ESPACES VERTS // **PHYTO DESIGN** // 15 rue du Louvre // 75041 Paris Cedex 01

RESTAURANT INTER ENTREPRISES // CAFETERIA // PASSERELLE

DÉSAMIANTAGE // **CMS** // 113 rue Jean Marin Naudin // 92227 Bagneux Cedex
DÉSHABILLAGE // **ARENE** // 86 avenue Lenine // 94250 Gentilly
ERCEMENTS // **MCS** // 146 avenue M. Berteaux // 78500 Sartrouville
G.O.+MAÇONNERIE // **LEYMARIE** // 27 rue Ch. Edouard Janneret // 78300 Poissy
FLOPAGE // **HITEC** // ZI Sainte Apolline 131 Rue des Poiriers // 78300 PLAISIR
PORTES COUPE FEU // **GESOP** // 9 avenue St Fiacre // 78100 St Germain en Laye
DOUBLAGE-PLATRERIE // **IDFP** // 14 avenue de l'Epi d'Or // 94800 VILLEJUIF
METALLERIE // **VULCAIN** // 5-7 rue Gustave EIFFEL // 91350 GRIGNY
MENUISERIES INTÉRIEURES // **TREUIL** // ZI La Porte des Champs BP 16 // 27220 ST-ANDRE / EURE
FAUX PLAFONDS // **LE STAFF PARISIEN** // 35 rue André Citroën // 95130 Franconville
SOL DUR // **BEDEL** // 1 rue de Rome – ZAC de Montevrain // 77144 MONTEVRAIIN
PEINTURE // **RIGOLOT** // 35-71 rue Etienne Dolet // 94140 Alfortville
ÉLECTRICITÉ // **VERGER DELPORTE** // 15 impasse Dumur // 92110 Clichy
ÉLECTRICITÉ // **CEGELEC** // 51 rue des Trois –Fontanot // 92000 NANTERRE
PLOMBERIE+CVC+RIA+DES // **ELYO** // 11- 15 quai de Dion Bouton // 92816 Puteaux
DI // **AMEC SPIE** // 28 bis boulevard d'Ornano // 93287 St Denis
EQUIPEMENT CUISINES // **IDFC** // 1270 av.Saint-Just ZI Vaux le Penil // 77000 MELUN
NACELLES // **SECALT C/O TRACTEL** // 29 rue du Progrès // 93108 Montreuil Cedex
EXTINCTION AUTOMATIQUE // **AXIMA** // 42 avenue Augustin Dumont // 92240 Malakoff
METALLERIE // **DESMOINAUX** // 5 allée des Performances ZI Les Richardets // 93165 Noisy le Grand
FAUX PLAFOND // **LINDNER** // 10 avenue de l'Entreprise 95863 CERGY PONTOISE cedex
SOL DUR // **REAL MARBRE** // 10 rue Saint Florentin // 75001 Paris
METALLERIE // **PITANCE** // Z.I Nord – Chemin des Basses Vallières 69530 // BRIGNAIS
PORTES AUTOMATIQUES // **KABA SAS** // 9 rue Pagès // 92150 Suresnes
ÉTANCHÉITÉ // **BATECMO** // Chemin de la Jarrie // 78370 Plaisir