

## **UPDATE ON THE “NOUVEAU CENTRE”**

### **BACKGROUND**

1. In 1972, the 8500 m<sup>2</sup> tower building opened to host IARC activities. Construction of the tower was funded jointly by the French Government, the Rhône Department and the City of Lyon on land owned by the City of Lyon.
2. Reflecting expansion of IARC activities, three additional structures were later built on the compound. The Biological Resources Centre (BRC) and Latarjet buildings were built with funding made available by the Governing Council (GC); and the Sasakawa Memorial Hall (including the Princess Takamatsu Hall) was built thanks to a generous donation from the Japan Shipbuilding Industry Foundation. This resulted in the current footprint of 10 050 m<sup>2</sup>.
3. Since 2008, several technical reports revealed the poor state of the tower building infrastructure. In 2012, all local partners and the GC recognized that the state of the tower's infrastructure was such that it would no longer be viable for continued use by the Agency within a period of five to seven years. Presented with various potential options for long-term continuation of IARC's Headquarters in Lyon, the GC agreed with the recommendation made by the local authorities for a move to a newly built structure on new land for a “Nouveau Centre”.
4. Throughout the process of reviewing the options for IARC's Headquarters, the Secretariat benefitted from strong support and collaboration from the local partners which include the City of Lyon, Métropole de Lyon (formerly called “Grand Lyon”), the Rhône Department and Auvergne-Rhône-Alpes Region (formerly called “Rhône-Alpes Region”), as well as the local Government representation, the Auvergne-Rhône-Alpes Prefecture. Clear statements of intent to continue to host the Agency have also been made at the very highest levels of the Central French Government and repeated at the GC sessions by the French representatives.

### **STATE OF THE TOWER**

5. Since 2012, the City of Lyon has invested in a programme of urgent repair works for the tower building (ventilation, air-conditioning and heating systems) in order to ensure occupancy for five to seven years. Despite these concentrated efforts, the state of the building remains a major concern and continues to cause unanticipated interruptions of the Agency's work. During 2017 the incidents to note included: concrete falling from the pillars of the façades; significant leaks and infiltration of rain water in offices, laboratories and biobank rooms during storms; continued burst pipes from the aging piping network throughout the tower and some power cuts which brought to light failures in the building's electricity systems.

6. As a result of the consistent and substantial problems faced with the daily running of the building, the Secretariat has raised to the attention of the local partners the escalating risk that they may need to relocate the Agency to alternative premises before completion of the "Nouveau Centre". Earlier analyses carried out by Métropole de Lyon in 2012 estimated the cost implications for such a relocation at around €28 million for two years. The Scientific Council (SC) at its 54<sup>th</sup> session in January 2018 expressed concern about the current state of the Tower building that may jeopardize the continuity of the Agency's activities.

7. As a mitigation measure and to assess the viability of the current premises for the lifespan of the "Nouveau Centre" building project, the Secretariat requested the City of Lyon to carry out another full technical diagnostic assessment of the tower's physical and system infrastructure in December 2014. This diagnostic was carried out in December 2015, with a second round in March 2016 which concluded that the City of Lyon would help IARC ensuring the continuity of the Agency's activities by acting upon demand and emergency, without a planned, official programme of repair works.

8. Consequently, the City of Lyon agreed to carry out the following major works in 2017: cement repairs on the pillars of the Tower, renewal of the engines of the central air handling system for the laboratories, waterproofing the roof/terrace above the reception area, securing the sources and supply of the electricity system.

## **FINANCING THE PROJECT**

9. Following the detailed study commissioned by Grand Lyon in 2012–2013, the Secretariat presented to the GC, at its 55<sup>th</sup> session, a project scope for a new building of 12 685 m<sup>2</sup> with a cost of €64.5 million. During subsequent discussions with relevant French Ministries in Paris, a reassessment of the scope in line with French public institutional norms was carried out, resulting in a revised project of 11 060 m<sup>2</sup> with an estimated cost of €48.3 million. During this process, it was confirmed that the project would be led by the Métropole de Lyon team (formerly Grand Lyon), under the direction of Mr Gérard Collomb, Mayor of the City of Lyon and President of Métropole de Lyon at that time. This revised project scope was submitted to the GC at its 56<sup>th</sup> session in May 2014, when the financing decision from the Central French Government was still pending.

10. At the end of 2015 the French Government and the local authorities signed a financial agreement confirming the joint financing of the "Nouveau Centre" for the relocation of IARC from the current premises to the Biopôle area of Gerland, on land provided by the City of Lyon<sup>1</sup> with a financial envelope of €48 million divided as follows:

- French Central Government: €17 million
- Métropole de Lyon: €18 million
- Région Auvergne-Rhône-Alpes: €13 million

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<sup>1</sup> The land provided by the City of Lyon had been estimated at €13.0 million. The estimated value does not appear in the financial agreement signed by the French authorities.

11. At the beginning of 2016, while finalizing the definition of the project scope and detailed specifications ("Programmiste" study) which had begun in July 2014, the Métropole de Lyon project team raised the issue that the financial envelope agreed by the French Government and the local authorities would not be sufficient for IARC's requirements. On the other hand, the project scope and cost could not be further cut as a reduction of 1625 m<sup>2</sup> or €16.2 million of cost were already made as a result of the reassessment performed by the French authorities in 2013 (see paragraph 9). Therefore, additional financing for the project was necessary.

12. To ensure a budgetary buffer, the Secretariat met with Mr Gérard Collomb, President of Métropole de Lyon and Mayor of the City of Lyon at that time, in May 2016 and agreed on the proposal to increase the global budget of the "Nouveau Centre" project from €48 million to up to €49.26 million, taking into account part of the value of the future sale of the Latarjet and BRC buildings, owned by IARC, into the project financing to a maximum contribution of €1.26 million. Those IARC buildings were estimated by the City of Lyon to have a potential sale value of €2.5 million. The GC resolution on the transfer of these buildings to the local authorities and to part finance the "Nouveau Centre" project was passed subject to IARC being provided with suitable alternative premises that meet the Agency's requirements and on financial conditions and terms to be agreed between the Secretariat, the host country and the local partners (Resolution [GC/55/R12](#), paragraph 4 refers).

13. Following the financial agreement mentioned above, the IARC Secretariat validated the Nouveau Centre "Programme" (detailed technical and functional specifications) and the Métropole de Lyon launched the bid for the combined design-build contract on 13 May 2016.

14. Nine joint teams submitted their expression of interest. The appointed "first-step" jury met on 4 November 2016, with the Director representing IARC, to select the five best-adapted teams to compete for the project.

15. The five selected teams received the solicitation documents, including the specifications, on 27 January 2017 and submitted their projects at the end of May 2017. The technical assessment of the five competing projects was led by the Métropole de Lyon project team in June and July 2017, including IARC and several other experts in the process.

16. The appointed "second-step" jury met on 7, 10 and 13 November 2017, with the Director representing IARC, to make recommendations on the best suited project.

17. After an 18-month international competitive bidding process for the design and construction of the "Nouveau Centre" (combined design-build contract) the winning team was selected by the Métropole de Lyon on 15 December 2017 (see Annex 1). The team consists of Demathieu Bard (general contractor), Art&Build (architects), Unanime (architects), WSP (design engineering company), and Inddigo (sustainable development engineering company).

18. The selected project was the most compliant with IARC's needs and proposed the most modern and innovative building, which should reach the Silver level of the WELL BUILDING STANDARD, ensuring low energy consumption and align with sustainable development goals for new buildings (see Annex 2 – "Architectural note").

## CURRENT SITUATION AND PROJECT TIMELINE

19. At the time of writing this document, the global budget of the project is being revised by the Métropole de Lyon to include the amount of the Design-Build contract, taking account of the latest adjustments in the design of the building. Potential cost increases above the current global budget of €49.26 million are subject to discussion between the four national funding partners.

20. The detailed design studies have started with inputs from IARC experts, notably in relation to the specific laboratory plans.

21. Should there be no further significant delays, the current project timeline is as follows:

- *Winter 2017–2018*: adaptation of the project and signature of the contract with the selected design-build team.
- *Spring 2018–Spring 2019*: design studies and administrative procedures (building licence).
- *Spring 2019–Winter 2020*: building works.
- *Spring 2021*: IARC works and move.
- *Mid-2021*: opening of the "Nouveau Centre".

22. Aside from the budget adjustments by the Métropole de Lyon mentioned in paragraph 12 above, the finalized "Programmiste" study allowed the Secretariat to assess a better defined cost of the project, which had triggered discussions on whether certain cost elements fall outside of the budget scope under the Métropole de Lyon's responsibility. These include items such as the physical move and installation of all or elements of IARC's operations (e.g. the substantial number of samples in the biobank, which require specialized transportation), including the purchase, transport and installation of laboratory equipment and benching and the installation of specific security requirements as mandated by UN Security Standards.

23. Other potential costs associated with the move relate to modernization to ensure the best possible working environment in the new IARC Headquarters. This includes the replacement of some of the oversized or old office furniture, outdated laboratory equipment, as well as auditorium and meeting rooms video and sound systems. The Agency would also like to take this opportunity to replace old freezers in the biobank and transition to a modern, automated system.

24. The SC reviewed progress on the "Nouveau Centre" at its 53<sup>rd</sup> session in January 2017 and supported the proposal of the installation of a fully automated biobank and state-of-the-art IT and laboratory facilities.

25. The additional costs of items outlined in paragraphs 22 and 23 above are estimated at €7.78 million, with a significant portion being costs related to the modernization of the biobank. The Secretariat has identified the following funding to partially cover these costs:

- Inter alia the Director has put in place a mechanism to set aside €1.5 million from earned overheads over the five year period 2015–2019 to partially cover the physical move.
- The City of Lyon will provide an estimated €1.24 million from sales proceeds of the Latarjet and BRC buildings to be utilized to partially cover office design and installation costs.
- The residual balance of funds previously approved by the GC (Resolution [GC/54/R6](#) refers).
- Anticipated revenue from sales of old furniture and equipment.

26. Notwithstanding the above, the unfunded balance of approximately €5.04 million remain to be mobilized. The Secretariat has thus made the "Nouveau Centre" one of the priorities of its resource mobilization efforts during the next four years. One of the options being considered is to identify donors for equipping the IARC Biobank and the conference rooms, including the auditorium, with the possibility of naming those facilities after the donor concerned where the contribution is considered substantial.

#### **REQUEST TO GOVERNING COUNCIL**

27. The GC is requested to recognize with appreciation the strong support received from the host country institutions, both for the continued efforts to ensure adequate conditions of the current premises and for the progress made on the "Nouveau Centre" project.

28. The GC is requested to recognize the remaining unfunded balance of €5.04 million to be mobilized prior to the planned move to the "Nouveau Centre" in 2021, and to encourage Participating States to contribute with voluntary contributions towards this target.

29. Revenue from sales of equipment and furniture is normally credited as miscellaneous income to the Governing Council Special Fund (GCSF). The GC is requested to allow future funds credited to GCSF originating from sales of old equipment and furniture during 2018–2021 to be used towards the Nouveau Centre project.

30. The GC is requested to authorize the Director to sign the agreement(s) with City of Lyon regarding the sale of Latarjet and BRC buildings.

#### **ANNEXES**

Annex 1 – Different views of the selected project.

Annex 2 – Architectural note for the "Nouveau Centre".

Annex 1 – Different views of the selected project

View from Tony Garnier Avenue (South East corner)



South East aerial night view



Aerial view



View from the garden



View of the lobby



View of the auditorium



The laboratories



Cross-section of the building



GC/60/11 - Annex 2

# ARCHITECTURAL PROJECT NOTE

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## I. THE CHALLENGES OF THE PROJECT

The ideal project should:

- be **iconic** and symbolize the excellence of IARC's activities
- reflect the international aspirations of the Métropole de Lyon
- promote research, encourage intellectual synergy, and foster interdisciplinary interactions
- provide a pleasant working environment that promotes the health and well-being of the building's occupants
- set an example in terms of environmental sustainability through its design and energy-efficiency.

## II. AN ICON FOR THE IMPACT OF RESEARCH

The new building is a **symbol** of IARC's activities, and is something that Lyonnais people can be **proud** of. It is simultaneously outstanding, remarkable, exemplary, and revealing. We wanted it to be an international standard for its promotion of health and well-being and for its embodiment of hope through research, without being arrogant or ostentatious.

The design is completely different from the architecture of the other buildings in the Biopôle area, such as those of pharmaceutical companies. Whereas those buildings value secrecy, the IARC project will be open and transparent to the world, and represents the capacity of IARC to serve humanity.

The design has the **stature of a United Nations institution**: the building is large, environmentally friendly, and innovative, and it represents optimism in a world that is in need of hope.

This project is like a nest for scientists, but it is also a medium of communication, which is essential for IARC's activities. The project has been designed as a communications tool, and the meaning of the building can be understood on several levels.

Each level of interpretation offers a different perspective, expressed either directly by the uniqueness of the volumes and spaces, or in a more metaphorical way by the innovative façades, which are inspired by nature (biomimicry).

At night, the building will communicate an unusual message, thanks to the design of lighting by Gilbert Coudène and his company, "Les Allumeurs de Rêves".

IARC is not subject to the whims of trends and fashions, and IARC and its building should remain solid in order to stand the test of time and to provide the time needed to understand the causes of cancer and how to prevent it. Time is an essential factor in research, and also in architecture.

The Gerland area has several buildings, without much coherence, with showy styles. In order to differentiate the IARC building, we have imagined a building reduced to its simplest expression:

- A monolithic structure, with rigorous and clear shapes, will appear to be suspended in the air. This monolith will be composed of research areas and administrative offices.
- The IARC Biobank and storage areas will be protected through their location on a semi-underground floor, which is not visible from the outside public area.
- The public areas (conference rooms, cafeteria, etc.) will be located between those two volumes, between earth and sky, and will be as open and transparent as possible.
- In the middle of the building, a circular atrium will enable good communication between research groups and a democratic organization of work spaces.
- At the centre of the atrium, an extraordinary garden will simultaneously provide a peaceful area, a space for meetings, and a place to just relax and enjoy the green outdoor space.
- Two enormous "tectonic faults" in the monolith will contain plants and will allow views into the heart of the building. These urban windows will show the informal meeting areas of the Agency, the spaces where research on cancer is discussed.
- Along the axis of the monolith, directly linked to the transparent base, there will be a forecourt of a size that represents the institutional aspect of the Agency.
- The green space of Parc de Gerland will be extended along a pedestrian path with a small garden on the western side of the building.

- The flags of the IARC Participating States will be aligned along the front of the monolithic building. The flag poles shouldn't hide the building but should support the institution.

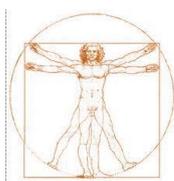
### III. A LOGO, A SYMBOL, A METAPHOR

**“An international cancer research institution under the auspices of the United Nations and engaged in a fight for life”**

—Charles de Gaulle

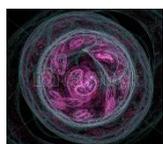
IARC should represent:

- international collaboration
- the improvement of human welfare
- scientific progress and development.



This is represented through a balanced design which is subject to different interpretations.

At first sight, the square and the circle bring to mind **The Vitruvian Man**, Leonardo da Vinci's famous representation of the ideal and perfect proportions of the human body. In that sense, the shape of the building can be interpreted as an allegorical symbol of the Renaissance, of rationalism, and of Man at the centre of it all.



The design of the building can also be seen as referring to **the cell**. Indeed, the image of a single-celled organism with its central nucleus was a source of inspiration for our team.

Whatever the metaphorical interpretation of the design, the building is clearly identified and its organization easily understood. Its message is simple; **it is itself a logo**. The building is readable and understandable by everyone, whether seen from the ground or from the air.

The words of Charles de Gaulle will be silk-screen-printed onto the glass walls of the ground floor of the building.

### IV. BIOMIMICRY – THE BUILDING AS A LIVING ORGANISM

Through their professional activities, IARC researchers might analyse how the human body works, and assess all the environmental factors that might have a negative effect on the body. They study a microscopic world in which living organisms, cells, and their proteins are organized in astonishingly complex systems.

Cells might be independent organisms, but they also interact with other cells in a social way. Organized groups of cells form living organisms that are much more complex, like human beings, who interact with their environment in a rich social way. Our architecture and design have been inspired by these aspects of the living world.

We have been **inspired by the magic of the cell** to consider the best way of organizing all the elements of the “programme” (technical and functional specifications) of the building, so that the whole is more than the sum of its parts, and the elements are not just juxtaposed, but really work together well.

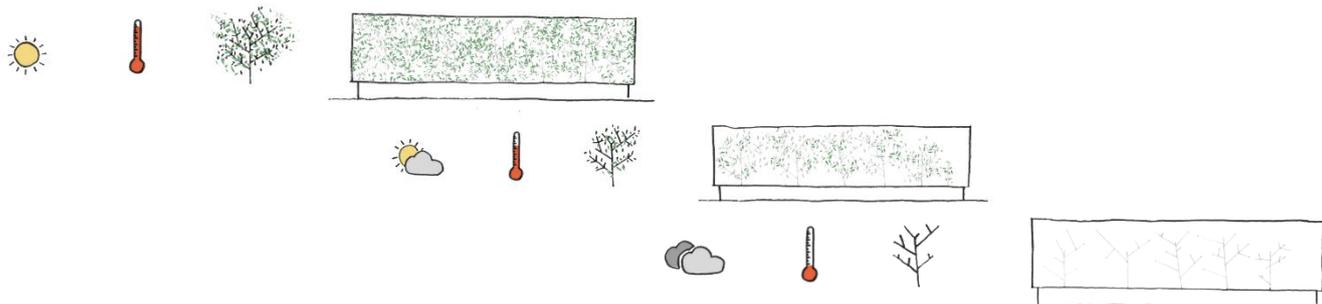
One of the challenges of this building is to make several different functions work together within the same envelope in an efficient way, to form a coherent “body”. By referring to the human body, we would like to show that the building has its own structural skeleton, with its muscles, its fluids, and its outer envelope or skin that protects the internal organs and enables interactions with the external environment.

This interpretation **inspired by biomimicry** has also been applied to the envelope or skin, and thus to the façades of the building.

Our aim was to develop a skin that manages the interactions with the exterior, that filters, protects, and responds depending on exterior conditions.

The façade will adjust to exterior temperatures by varying its degree of opaqueness to provide the need for natural light while protecting the interior. Thus, the transparent glass of the double-skin façade will become more opaque when the exterior temperatures are too high. The building will also protect itself when the light is too intense, and this will be done in an automatic way, without requiring any human manipulation and without using any electricity.

In this way, the double-skin façade, which will also reduce noise, will be alive. Graphics of plants will appear on the façade when the sun is bright, and disappear when it is cloudy. The external perception of the building will change constantly, depending on the time of day, the weather, and the seasons, and will reinforce the fact that IARC is a living Agency.



## V. A CIRCULAR FUNCTIONAL APPROACH

The functional approach is based on the circle at the heart of the building, to be consistent with IARC's research principles and values.

The circle can be interpreted as:

- the nucleus of the cell, both independent within the organism and constantly connected to its environment
- a shape conducive to interactions, communication, and quick connections between different parts of the building
- an esprit de corps, with the values of harmony, sharing, respect, and equality.

Beyond its humanist translation, this particular shape and this organization will establish equality and reinforce the collaborative nature of the Agency.

## VI. THE CENTRAL ATRIUM, A GREEN HEART



The centre of the building is a symbol in itself. The green circular garden, which is open to the sky and has the same area as the courtyard of the Hôtel de Ville de Lyon, invokes a concentrated reflection of nature.

The design of this centrepiece of the project has two aims:

- to improve the comfort of the personnel working in the building, who will be able to enjoy the fresh air and relax in a peaceful garden without needing to leave and go outside the secured area
- to provide a unique experience to all personnel and visitors, through a garden with many surprises, which illustrates the link between research and the richness of nature, including plants that are beneficial to humans. The suggested plants for the planned layout of the garden all have therapeutic properties.

The garden will be inside a perfect circle and will be an idealized image of nature, like a micro-geography that one can pass through but can't really go into. Thanks to the natural shapes of its

landscape, the garden will have a free and random style symbolic of nature, and will already be visible from the reception area.

This approach will be used everywhere in the project. IARC personnel will be consulted for their expertise and ideas.

## VII. ILLUMINATION OF THE BUILDING

Lyon is the "Ville Lumière". The lighting of the building at night offers an additional level of communication. When it is dark, the material appearance of the building will be completely transformed by the play of lights and colours on the building.

The central atrium will be illuminated with a light that fluctuates in intensity, like the beating of a heart.

Light will shine from this heart and through the "tectonic faults" in the building and through the transparent ground floor, in the colours of IARC.

More discreet lighting will be set up at some points inside the double-skin façade in order to make the monolith look ethereal.

Gilbert Coudène and his company, "Les Allumeurs de Rêves", will work on a project to differentiate, in terms of intensity, vertical areas inside and outside the building. This project will consist of:

- lighting inserted with the double-skin façade, between the interior façade and the exterior glass with silk-screen printing
- lighting of the central atrium, which will be visible from the outside of the building through the "tectonic faults" in the building and through the transparent ground floor
- lighting of the biggest trees outside the building and in the central atrium.

This project will benefit from the innovative solutions of "SWING le Lab", Gilbert Coudène's innovation platform, supported by the Métropole de Lyon. These innovative integrated solutions will emphasize the global lighting of the building and its surroundings.

## VIII. HEALTH IN THE BUILDING – THE WELL LABEL

The building in which IARC personnel will carry out research on cancer should be consistent with the aim of IARC's activities.

It was important to us to provide a building that would be seen as a global standard for its promotion of health and well-being in the building:

- by not using any materials that are carcinogens or potential carcinogens
- by designing a building that promotes the health and well-being of its occupants and its visitors.

The quality of the ambience of the interior spaces, the choice of natural materials, the design inspired by biomimicry – all of these elements have been carefully considered in order to create a unique and optimal working environment.

For instance, water quality, air quality, choice of materials, quality of natural lighting, physical activity at work, comfort, and well-being will meet the criteria of the WELL building standard.

## IX. AN INTEGRATED AND SUSTAINABLE BUILDING

Environmental sustainability has been taken into account in the design and future maintenance of the building. The future occupants of the building should be completely satisfied with the design choices that we have made.

- The building is compact.

- The thermal envelope is energy-efficient and airtight, to reduce the need for air conditioning and heating.
- The protective skin is flexible, adjusting its opaqueness according to the amount of sunlight, allowing light into the building in winter and protecting the building in summer.
- The technical equipment is energy-efficient, with low energy consumption, and is designed for easy maintenance.

## **X. A BUILDING IN LINE WITH THE STATURE OF INTERNATIONAL RESEARCH**

This building will signify hope and optimism in preventing cancer.

- This iconic building is in line with the international stature of the Agency and its global standing.
- The building and the Agency share a common goal, and coexist in harmony.
- The working conditions are in line with United Nations standards.
- The building will be energy-efficient and have low energy consumption, and will thus be economical to maintain.