



# Meet the BIM-SPEED Competition Winners & Finalists



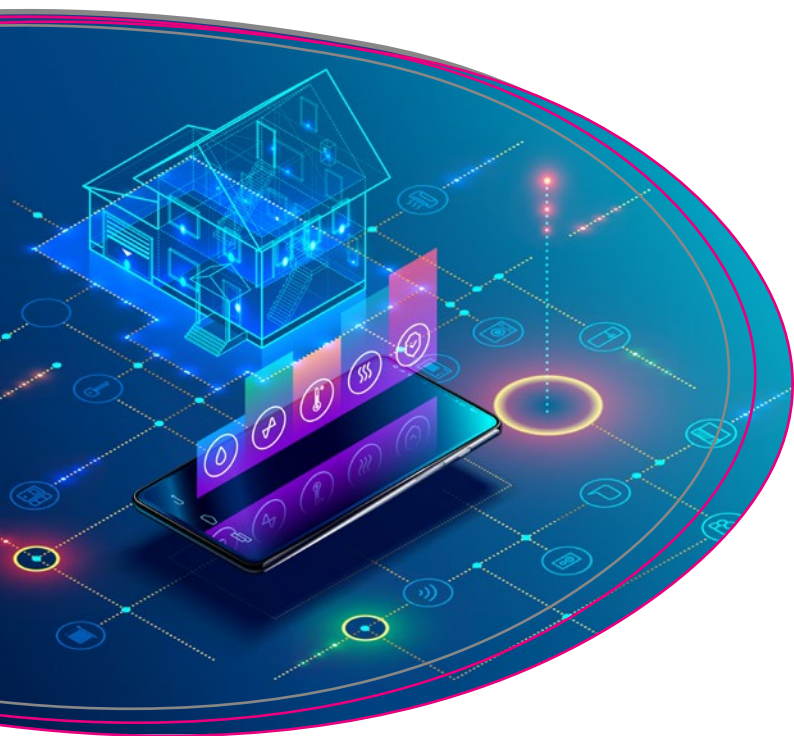
**JASPER VERMAUT**  
Policy & Project Officer  
at REHVA

As part of the BIM-SPEED project<sup>1</sup>, REHVA co-organised the **EU BIM for Building Renovation Competition** together with other Brussels-based EU associations Architect Council of Europe (ACE), European Builders Confederation (EBC) and the European Construction Industry Federation (FIEC). BIM-SPEED with technical support from other partners in the consortium such as the Technical University of Berlin and Erasmus University Rotterdam.

The Competition took place from June 2021 until April 2022 and aimed to engage professionals and students active in the design and construction industry to present a residential building renovation project that applies the BIM tools and methods developed by the BIM-SPEED consortium<sup>2</sup>. The challenge was to **demonstrate a renovation project**, using BIM-SPEED platform for collaboration, in a way that allows **energy saving for the occupants**, improves their **comfort** while **reducing the time and the cost** of the overall process. The participants had to do this by making use of one or more of the tools developed within the BIM-SPEED project and made available through the project's platform<sup>3</sup>. After submission the results were assessed by a jury of professionals who have a long experience with BIM from different perspectives:

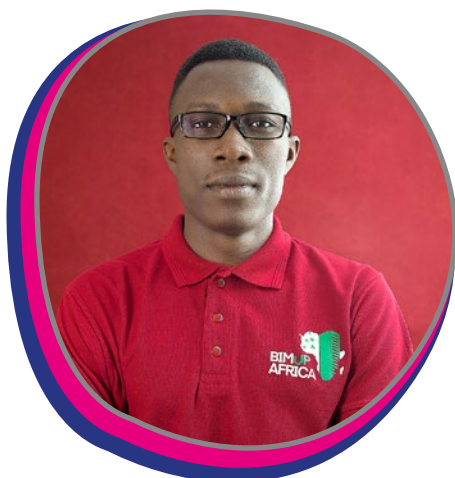
- András Rónai: Mechanical Engineer M.Sc.; HVAC+R and BIM – Óbuda Group – MMK.
- Chiara Dipasquale: Expert in Innovation and Sustainability – Volksbank.
- Olga Venetsianou: Architect PhD, MA in Digital Arts ASFA - Representative from the Technical Chamber of Greece to the Architects' Council of Europe BIM Working Group.

On the following pages we're delighted to present you the winners and finalists of the competition. REHVA interviewed both teams to give the opportunity to present themselves, their experiences with the competition and the BIM-SPEED platform, and what future they see for the digitalization of the construction sector.



<sup>1</sup> <https://www.bim-speed.eu/en> <sup>2</sup> <https://www.bim-speed.eu/en/competition> <sup>3</sup> <https://www.bim-speed.eu/en/training-materials>

## Interview with the Competition Winners: Team ENSTP from the National Advanced School of Public Works (Yaounde, Cameroon)



### **Idriss Tchaheu Tchaheu**

- Works at Consultation et Project D'Afrique (CPA) in charge of digitalization of the construction of French-speaking Saharan Africa;
- Founding member of the the non-profit association BIMUP AFRICA which aims to create awareness on BIM to students and professionals in French-speaking Sub-Saharan Africa.
- Master's Degree in Civil Engineering at National Advanced School of Public Works (NASPW) in Yaounde (Cameroon) in partnership with the University of Padova (Italy) with the thesis topic "BIM applied to the structural assessment of a multi-story reinforced concrete building;
- Team leader of ENSTP BIM team who the second prize of the student BIM competition by BIM Harambee Africa in 2021;



### **Charlène Delavictoire Sobgoum Jiogo**

- Student in Fifth year of Architecture at National Advanced School of Public Works (NASPW), Yaounde (Cameroon) in partnership with the University of Padova (Italy).
- Founding member of the non-profit association BIMUP AFRICA which aims to create awareness on BIM to students and professionals in French-speaking Sub-Saharan Africa;
- Member of the ENSTP BIM team who won the second prize of the student BIM competition launched by BIM Harambee Africa in 2021;
- Team leader of BIM ENSTP team who won the EU BIM FOR BUILDING RENOVATION COMPETITION launched by BIM SPEED 2022.

### **Congratulations on winning the EU BIM for Building Renovation Competition! Tell us more about your team, specialization and career**

The ENSTP BIM Team that participated in the EU BIM SPEED 2022 competition is a team composed of Idriss Tchaheu Tchaheu and Charlene Delavictoire Sobgoum Jiogo from the National Advanced School of Public Works (NASPW) of Yaoundé (Cameroon) in partnership with the University of Padova in Italy. We are passionate about digital technologies that are revolutionizing the construction industry and helping to improve productivity. We are determined to contribute to the technological transition process of the construction sector in Africa.

Idriss is a civil engineer graduated from (NASPW); he works at the consulting firm Consultation et Projects D'Afrique (CPA) which operates for the digitization of the construction sector in Saharan Francophone Africa. Charlene Delavictoire SOBGOM JIOGO is a student in fifth year of architecture at (NASPW).

In 2021, we were members of the team that won the second prize in the student BIM competition launched by BIMHarambee Africa. We are also members of the team that created in 2022 the non-profit association BIMUP AFRICA in order to raise awareness about BIM among students and professionals in French-speaking sub-Saharan Africa.

### **Can you briefly describe the project that you worked for the Competition and how you used the BIM-SPEED tools available?**

The project submitted to our study is located in France in the municipality Massy precisely at 15 Avenue de la Republique, the building is a basement, R + 10 storey for residential purpose. The objective of the study was to renovate the building while using the BIM Speeds tools integrated to the collaborative platform kroqi. The BIM Speed tools used in our project are the Mereen Weather Service and the file naming convention service which was respectively used to collect historical climate data and to define naming convention standard across project files to ensure standardization.

### How does the BIM-SPEED platform contribute to this? Can you tell us more about your experiences with the platform?

The platform allowed us to collaborate smoothly and efficiently throughout our project by deploying a common data environment and workspace, allowing us to work in a hierarchical manner. In addition, the naming convention defined for the files allowed us to discern with precision the discipline, phase and version of the software used for the model. All the data was stored in a hierarchical and easily accessible way inside BIM-SPEED platform that is available through Kroqi.

The Mereen Weather Service that is available through the platform allowed us to collect free of charge historical climate data from 1999 to 2021 in EPW format. This collected climate data was used in Graitec Archiwizard software to simulate the daylighting analysis as well as the energy analysis through which we managed to get the cost savings.

Another available tool in the platform allowed us to increase time efficiency, which is the File Naming Convention Service that uses an automate workflow which consisted on creating; managing and applying a naming standard across project files to ensure standardization.

## Interview with finalists of the BIM-SPEED Competition: Team from the Federal University of São Carlos (São Paulo, Brazil)

### Clélia Mendonça de Moraes

- Postdoctoral Researcher at the Federal University of São Carlos (2018 – ongoing), Postdoctoral Researcher at Institute for Technological Research (IPT) (2013 – 2018);
- Ph.D. Degree in Mechanical Engineering (UNICAMP), thesis on “Thermal comfort in the classroom in Brazil: experimental analysis and numeric” in collaboration with the Indoor Environment & Energy Department in DTU;
- Architect and Urban Planner for the Department of Transportation and Urban Mobility in the Araraquara Prefecture;
- Publications: <https://bv.fapesp.br/pt/pesquisador/54287/clelia-mendonca-de-moraes> & <https://lattes.cnpq.br/4970119616148506>

### Everson de Castro Rodrigues

- Graduate Civil Engineering at *Faculdade Estácio de Belém* (2020);
- Graduate student BIM Manager at Unyleya (2022);
- Designer in architecture, structures, hydraulics and electrical;
- Publications at scientific national events: <https://www.linkedin.com/in/engcivileverson/>

### Anderson André Lima de Souza

- Graduate Civil Engineering at *Faculdade Estácio de Belém* (2020);
- Graduate student BIM Manager at Unyleya (2022);
- Designer in architecture, structures, hydraulics and electrical;
- Publications at scientific national events: <https://www.linkedin.com/in/engcivileverson/>



***Congratulations on winning the EU BIM for Building Renovation Competition! Tell us more about your team, specialization and career***

**Clélia:** I'm a researcher at the Federal University of São Carlos in Brazil at the department of Urban Engineering and work as an architect on smart buildings and urban mobility for the municipality of Araraquara, in São Paulo state. My specialisation is in sustainable design, environmental and thermal comfort, BIM management and the integration of renewable energy in buildings, airplane and cities. I was also part of the scientific committee of the CLIMA: REHVA HVAC World Congress in 2013 and 2019.

**Everson:** I've graduated in civil engineering, during college I started working with BIM and specialised in it further since my graduation in 2020. As a BIM manager I've contributed to research articles related to civil engineering and how BIM can be used for different types of buildings.

**Anderson:** Similar to Everson, I've graduated from civil engineering and working on BIM management but with a focus on industrial design and concrete structures.

***Can you tell us more about the project that you worked on that was submitted in the competition and your experiences with the BIM-SPEED platform?***

**Clélia:** Our project was a residential building for a family in a sustainable urban neighbourhood in Araraquara, São Paulo state. The aim of the project was to lower energy consumption and costs while improving the IAQ and comfort levels of the building. The BIM-SPEED platform made it a lot easier for us to work with each other on this project in the same digital workspace, even if we live in different regions (Clélia lives in São Paulo while Everson and Anderson live on the other side of Brazil in Belém).

**Everson:** We used different tools that were made available through the platform. First there's the File Name Convention tool which allowed us to more efficiently have control over the different documents that we used within the project. We also used the Merein Weather Service on the platform, which allowed us to assess the climate and meteorological data in the region by inputting the latitude and longitude. From there we used BIM to better analyse the surroundings of the building and the amount of solar exposure.

**Anderson:** To a certain extend we've also used the BIMSpeed Library, or at least the concept of it, as the data on the platform was adapted to different European regions. We've used the software and adapted it with data from our own region. Through this we could examine

different parameters in our model for the sustainable use of materials for different element in the buildings, for example of the roof.

**Clélia:** As last we've also made use of the GIS Data Provider to do a study of the terrain while using active and passive technologies to make the building an active generator which contributes to the local grid.

***From your perspective, what do you see as the main opportunities & challenges for the uptake of BIM within the building industry in Brazil?***

**Anderson:** It can be challenging in Brazil to work with as it takes time to get to know new software and platforms that are related to BIM. Many platforms in Brazil that work with BIM can only be used in quite isolated cases, while the BIM-SPEED platform is more universal, which is a key element for the uptake of BIM in our country.

**Everson:** The platform and the available tools don't just focus on one element but consider the full life-cycle of a building, from design to the post-construction phase, which makes it very useful to analyse the full impact of a building.

**Clélia:** The BIM-Speed platform is universal and allows specialists from different fields to work together. For me it's not just important to look at individual buildings but also look at city-level, which is what I focus on for my work for the local government in Araraquara (São Paulo). By looking at the wider level we can see the wider impact that buildings have on the environment around them, which is made a lot easier through digital technologies. We look which neighbourhoods are less energy efficient and how we can better tackle this at a district level. This is why I've been advocating for a long time already to increase the uptake of digital technologies, such as BIM, at the local government. ■

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