

### Senegal's UVS uses Atos' BullSequana Intel-based supercomputer to evaluate impact of COVID-19 containment measures

**Paris, November 26, 2020** – Atos announces that the **Virtual University of Senegal (UVS)** is testing a mathematical algorithm which models the spread of COVID-19, to evaluate the impact of containment measures such as social distancing and wearing masks, using Atos' BullSequana X800 supercomputer. This supercomputer, based on 2<sup>nd</sup> Gen Intel® Xeon® Platinum processors is accessible through Atos' new **HPC, AI, and Quantum Life Sciences Centre of Excellence (LSCoE)**. Intel Corporation, among others, has provided funding for this project.

*"We have already made an important step forward in modelling the spread of the virus for the Senegalese territory. With the compute capabilities and expertise provided by Atos' BullSequana HPC platform, we hope to accelerate the simulation of a combination of different containment measures and identify those that are more convenient."* said **Abdou Sene, Professor of Applied Mathematics, Head of the Pole of Innovation and Expertise for Development (PIED) at the Virtual University of Senegal** *"In particular, we have applied the model at a regional scale for Senegal and therefore in order to carry out simulations we aggregated the different systems used by each region into one. Moreover, the model has been age-structured, which multiplies the size of the system by the number of age groups considered. Simulating such a model with accurate data might give evidence of the reason why the pandemic does not have the same evolution in the different regions of the world."*

The Virtual University of Senegal is one of the first users of this platform. In line with the Senegalese health authorities' strategy, renowned researchers at the **Pole of Innovation and Expertise for Development (PIED)** of UVS have created a theoretical mathematical model able to simulate different scenarios in the spread of COVID-19 and needed advanced computer resources to run multiple simulations.

*"Advanced computing platforms like Atos' BullSequana have played a critical role in studying SARS-CoV-2," said **Trish Damkroger, Vice President and General Manager of High Performance Computing at Intel.** "Providing Atos and the UVS with the latest Intel-based compute technologies is allowing researchers to harness tremendous amounts of data to simulate the spread of COVID-19 and evaluate the best approaches to limit its transmission."*

By accessing Atos' leading-edge technologies, such as Quantum, High Performance Computing and AI, supported by Atos' services and expertise, together with this Atos-Intel HPC platform, researchers at UVS are now able to test their model by using different scenarios to measure the impact of containment measures. The model includes a quarantined population variable and looks at the survival of SARS-CoV-2 on surfaces.

*"This new HPC platform, which has been made accessible through Atos' HPC, AI, and Quantum Life Sciences Centre of Excellence, represents a very good opportunity for those like the UVS working on projects that require high in-memory capabilities." said **Alpha Barry, CEO of Atos in Africa** "We're proud to be able to support researchers in Senegal to help advance research to find out more about how the COVID-19 virus behaves and support the fight against this global pandemic."*

This platform is available to all universities and laboratories worldwide working in SARS-Cov-2 related projects and it illustrates the first milestone in the new Atos-Intel partnership in Life Sciences in which Intel provides funding for a platform that is fully managed and operated by Atos experts.

Intel is committed to accelerating access to technology that can combat the current pandemic and enable scientific discovery that better prepares our world for future crises. This solution was funded in part by Intel's [Pandemic Response Technology Initiative](#). For more information about healthcare solutions from Intel, visit [intel.com/healthcare](https://intel.com/healthcare). For more information about Intel's COVID-19 response, visit [intel.com/COVID-19](https://intel.com/COVID-19).

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#### **Technical specifications**

BullSequana X800 supercomputer

8 sockets 2<sup>nd</sup> Gen Intel® Xeon® Scalable processors (Platinum 8280) with a total of 224 cores)

6 TB of shared memory

#### **About Atos**

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