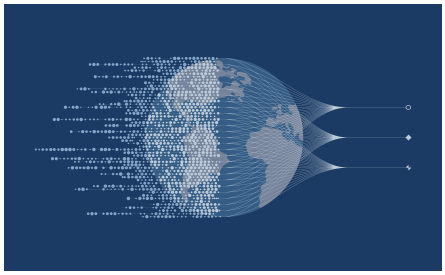

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up the ATM Pipeline: Boosting Performance and Efficiency

The Atmospheric Transport Modelling (ATM) pipeline is essential for linking radionuclide measurements from the International Monitoring System (IMS) to potential source locations. Operated by the Comprehensive Nuclear-Test-Ban Treaty Organization's International Data Centre (CTBTO-IDC), it has been fully functional for many years. Despite its effectiveness, several components need refinement to meet the Provisional Technical Secretariat's (PTS) standards, for example, through automated CI/CD with GitLab. As a computationally intensive segment of IDC data analysis, ATM executes hundreds of simulations daily. Key objectives include, for example, reducing current meteorological file sizes to facilitate ensemble modelling and high resolution applications, boosting computational efficiency for greater simulation throughput, expediting the delivery timeline of final products on our platform, and upgrading the ATM model version. This presentation will showcase the present status of the ATM pipeline alongside a detailed roadmap outlining planned enhancements over the coming years aimed at aligning with PTS standards and ensuring scalable performance improvements.

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