



Hybrid Big Data Technologies Developed From €4.5M European Union Research Project Enter Final Industrial Evaluations

~ The Open Group joins leading European universities, research centers, developers, and industrial big data users to deliver advanced technologies that address hybrid big data challenges ~

LONDON, UK – December 15, 2020: [The Open Group](#), the vendor-neutral technology consortium, and the [University of York](#) today announced a partnership with a consortium of leading European research organizations, software developers, and industrial big data users. Together, they will make hybrid big data accessible and easy to integrate within new applications and services through developing and evolving next generation technologies.

With support from the European Union, the Polyglot and Hybrid Persistence Architectures for Big Data Analytics (TYPHON) project has already invested €4.5 million (US\$5.3 million) into advanced technology development. This funding has enabled the rapid creation of applications that bridge the many formats and architectures used to store data today. The integrated platform is currently undergoing first deployments within major organizations across the Telecom, Banking, Automotive, and Aerospace industries, and is being made widely available in open source format. By implementing the new technologies, organizations are able to enhance the productivity of their data architects, reduce development time and costs, and deliver new applications and services that make full use of existing big data stores.

Today's development teams face substantial challenges when it comes to ensuring hybrid big data applications and services are designed coherently, which requires capturing a range of different formats that data is held within. To overcome these complexities, the TYPHON project has built a set of tools for developing, querying, evolving, analyzing, and monitoring hybrid big data polystores. These polystores readily combine numerous types of underlying storage technologies, including relational, graph-based, document-based, natural language, and big data islands.

David Lounsbury, Chief Digital Officer, The Open Group said: "The TYPHON project has brought together a range of industry experts who have collaborated to streamline the time intensive process of implementing intricate big data solutions. By connecting many different storage formats, the new technologies enable developers to deliver applications capable of effectively utilizing big data assets within organizations. The Open Group has a long-standing history of working with the University of York on complex systems. Together, we can provide the expertise and guidance needed to drive these technologies through final industrial evaluations."

The advanced tools provide big data systems developers with:

- Technologies for designing hybrid polystores, taking into account the structure of the data, the availability, partitioning, and consistency requirements of different subsets of the data, and the available deployment resources
- Novel algorithms for transforming hybrid polystore design models into preconfigured optimized virtual machines which can be deployed on cloud infrastructure
- An extensible high-level language for querying and modifying data stored in hybrid polystores, as well as capabilities for translating high-level queries into efficient native queries
- A high-performance framework for publishing and processing data access and updating events to facilitate real-time monitoring and predictive analytics

- Technologies for evolving the organization and distribution of data in hybrid polystores, along with tools for monitoring use of polystores for enhanced evolution

Coordinated by [The Open Group](#) with technical leadership from the University of York, which has directed the advanced research, the TYPHON consortium includes:

- [Centrum Wiskunde & Informatica](#), [Edge Hill University](#), [University of L'Aquila](#), [University of Namur](#): recognized leaders in their respective fields of data query languages, natural language processing, data modelling languages, and hybrid data evolution
- [CLMS](#) and [SWAT Engineering](#): leading providers of tools and services for big data applications development
- [ATB](#): a research institute specializing in big data deployment technologies
- [Alpha Bank](#), [GMV](#), [OTE](#), and [Volkswagen](#): industry leaders in their respective sectors - Banking, Aerospace, Telecom, and Automotive - that are undertaking final evaluations of TYPHON project technologies within their big data applications

“With the availability of the TYPHON Modelling Language, Query Language, Deployment Language, and tools for creating, monitoring, and evolving new hybrid big data polystores, software developers can now rapidly create next generation applications and systems,” said Professor Dimitris Kolovos, University of York. “Through addressing key industry challenges, the TYPHON project is dedicated to ensuring hybrid big data solutions are designed, assembled, and configured consistently - ultimately enabling organizations to unlock the power of data.”

The technological advances and innovations resulting from the TYPHON project, as well as the final versions of the technologies in open source format are publically available via the project website: www.typhon-project.org

The TYPHON project receives funding under the European Union Horizon 2020 Research and Innovation Programme, an initiative of the European Community created to foster European research and the development of new technologies, applications, and industries.

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About The Open Group

The Open Group is a global consortium that enables the achievement of business objectives through technology standards. Our diverse membership of more than 800 organizations includes customers, systems and solutions suppliers, tool vendors, integrators, academics, and consultants across multiple industries. Further information on The Open Group can be found at www.opengroup.org.

About the University of York

The Department of Computer Science at the University of York prepares graduates for the workplace at all levels through close collaboration with industry. The majority of the research work carried out has been classed as world-leading or internationally excellent and is focused around seven themes which align our academic strengths to best meet the greater scientific, social and environmental challenges of our time. Research teams work across disciplines within academia and industry with a strong focus placed on transforming research results into tangible solutions for industry. Further information on the University of York can be found at www.cs.york.ac.uk.

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