DataBench

Evidence Based Big Data Benchmarking to Improve Business Performance

At a Glance: DataBench

Evidence Based Big Data Benchmarking to Improve Business Performance

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Partners

IDC, Italy

ATOS SPAIN SA, Spain

POLITECNICO DI MILANO, Italy

SINTEF AS, Norway

INSTITUT JOZEF STEFAN, Slovenia

JOHANN WOLFGANG GOETHE UNIVERSITAET, Germany

Organisations rely on evidence from the Benchmarking domain to provide answers on how their processes are performing. There is extensive information on how and why to perform technical benchmarks for the specific management and analytics processes, but there is a lack of objective, evidence-based methods to measure the correlation between Big Data Technology (BDT) benchmarks and an organisation's business benchmarks and demonstrate return on investment (ROI). The DataBench project addresses this significant gap in the current benchmarking community's activities, by providing certifiable benchmarks and evaluation schemes of BDT performance of high business impact and industrial significance.

Main Objectives

At the heart of DataBench is the goal to design a benchmarking process helping European organizations developing BDT to reach for excellence and constantly improve their performance, by measuring their technology development activity against parameters of high business relevance. DataBench will investigate existing Big Data benchmarking tools and projects, identify the main gaps and provide a robust set of metrics to compare technical results coming from those tools. To achieve this goal, the project will pursue the following objectives:

1. Provide the BDT stakeholder communities with a comprehensive framework to integrate business and technical benchmarking approaches for BDT.
2. Perform economic and market analysis to assess the "European economic significance" of benchmarking tools and performance parameters.
3. Evaluate the business impacts of BDT benchmarks of performance parameters of industrial significance.
4. Develop a tool applying methodologies to determine optimal BDT benchmarking approaches.
5. Evaluation of the DataBench Framework and Toolbox in representative industries, data experimentation/ integration initiatives (ICT-14) and Large-Scale Pilot (ICT-15).
6. Liaise closely with the BDVA, ICT-14 and 15 projects to build consensus and to reach out to key industrial communities, to ensure that benchmarking responds to real needs and problems.

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DataBench Approach

The approach followed by DataBench starts with a performing comparative analysis of existing benchmarking initiatives and technologies. In fact, the project's ambition is not to create another benchmark, but to support an approach for efficient usage, evolution, extensions and synergy of the available Big Data benchmarks from the international Big Data benchmarking community related to industrial requirements. Based on that, the project will proceed to establish metrics for the different technical priorities identified and develop a methodology and an economic and market analysis to assess the European and industrial significance of the BDT to be benchmarked. Industrial significance will be assessed through the investigation of the main Big Data use cases, which will allow the correlation of Big Data technical performance with business processes. Based on all these inputs, the project will build the DataBench Toolbox, a tool which will connect and evaluate external benchmarking initiatives. Using the DataBench Toolbox and the methodology and metrics previously defined, evaluation and benchmarking will be carried out considering both business relevance and technical aspects. For the validation of business and technical aspects, DataBench will carry out evaluations on the industrial cases of ICT-14 and 15 projects as well as a set of representative pilots selected from outside the cPPP.

Expected Impact

- Broadly support the research community to prove and describe their approaches based on creating value and helping European industry make informed decisions on Big Data Analytics directly supporting their economic performance.

- Help drive the R&D community to provide technology, applications and solutions proven to create value from Big Data. This will lead to increased productivity, optimised production, more efficient logistics and quicker technological innovation.

- Support putting together the know-how and skills in Big Data Analytics and management in Europe to drive future systems in the industrial and research communities.

- Set the standards and benchmarks for the emerging Big Data ecosystem offering evidence for new business models and optimisation of existing industries integrating BDT into their decision-making systems, such as Enterprise Resource Planning and Customer Relationship Management systems.

- Support the Strategic Research Agenda of the BDVA and the challenge to fundamentally improve the technology, methods, standards and processes of the Big Data industry, building on a solid scientific basis, and responding to real needs.

Outcomes

DataBench will provide the community with important results including:

The DataBench Framework

- Including a complete set of metrics for BDT assessment.

Economic, Market and Business Analysis

- Assessing the European and industrial significance of the BDT examined by the project.

The DataBench Toolbox

- A tool to connect and evaluate external initiatives.

The DataBench Handbook

- Providing guidelines to the use of the project's results, associating the DataBench Framework and the DataBench Toolbox, describing metrics implementation and benchmarks.

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