

<http://www.everest-h2020.eu>

dEsign enVironmEnt foR Extreme-Scale big data
analyTics on heterogeneous platforms



D7.1 – Project website



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Project Summary Information

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1 (Coord.)	IBM RESEARCH GMBH	IBM	CH
2	POLITECNICO DI MILANO	PDM	IT
3	UNIVERSITÀ DELLA SVIZZERA ITALIANA	USI	CH
4	TECHNISCHE UNIVERSITAET DRESDEN	TUD	DE
5	Centro Internazionale in Monitoraggio Ambientale - Fondazione CIMA	CIMA	IT
6	IT4Innovations, VSB – Technical University of Ostrava	IT4I	CZ
7	VIRTUAL OPEN SYSTEMS SAS	VOS	FR
8	DUFERCO ENERGIA SPA	DUF	IT
9	NUMTECH	NUM	FR
10	SYGIC AS	SYG	SK

Project Coordinator: Christoph Hagleitner – IBM Research – Zurich Research Laboratory

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Internal Reviewer	Antonio Parodi (CIMA)

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30/11/2020	0.2	Francesco Regazzoni (USI)	First draft of the deliverable content
09/12/2020	0.3	Francesco Regazzoni (USI)	Updated with EVEREST template
10/12/2020	0.4	Katerina Slaninova (IT4I), Christian Pilato (PDM)	Document revision
16/12/2020	0.5	Antonio Parodi (CIMA)	Final review

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1 Executive summary

This deliverable presents the structure and the content of the first release of the EVEREST website. The document contains some screenshots and links the related pages on the website.

1.1 Structure of the document

The document is organized as follows. Section 2 summarizes the first version of the website. Section 3 discusses the approach followed for collecting statistics and dissemination KPIs about the website. Section 4 presents the planned extensions to the current version of the website.

1.2 Related document

- Deliverable D7.2: Initial dissemination plan

2 EVEREST Website – Current version

The EVEREST project website is accessible at the following link: <https://everest-h2020.eu/>. The site is hosted by PDM and set up by USI.

2.1 EVEREST Homepage

The Home Page includes the main menu (see Figure 1 – the menu is repeated in each page as also the footer shown in Figure 2), the aim of the project, the highlights on the target applications (see Figure 3), the highlights on the consortium composition (see Figure 4), and the key people (see Figure 5). It also contains the logo of the project. The aim of the project is summarized by the following sentence:

“The EVEREST project aims at developing a holistic design environment that simplifies the programmability of High-Performance Big Data analytics for heterogeneous, distributed, scalable and secure systems. We use a “data-driven” design approach with domain-specific language extensions, hardware-accelerated AI and an efficient monitoring of the execution with a unified hardware/software paradigm.”

– EVEREST Consortium

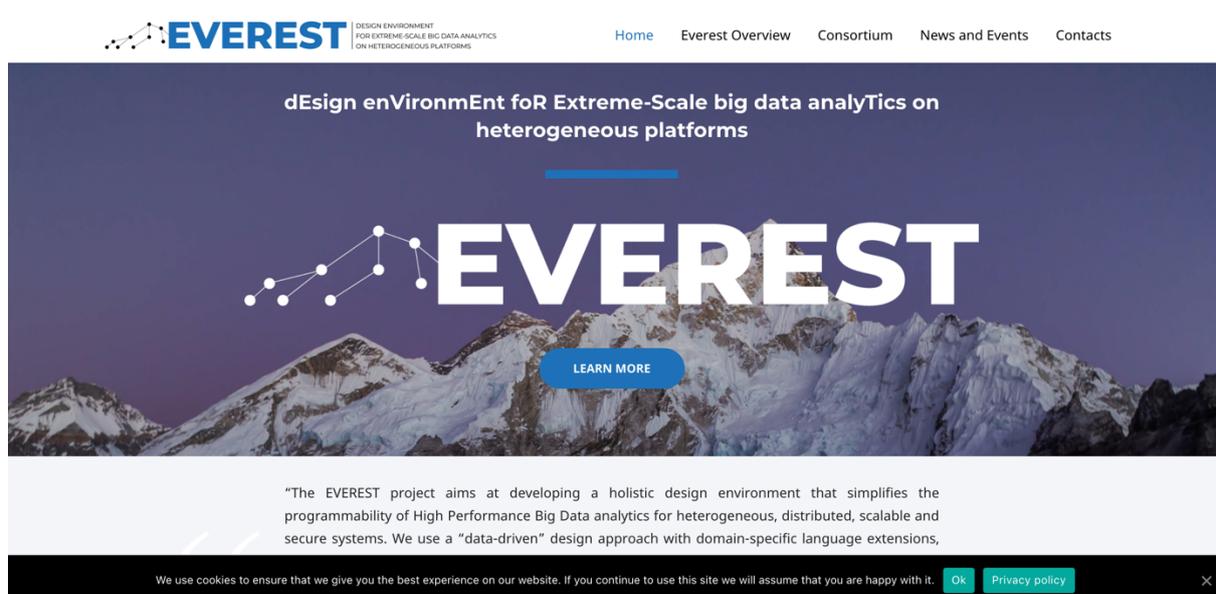


Figure 1 – Homepage of the EVEREST website

The footer of each page also contains the classic acknowledgment to the European Union and the link to our privacy policy.



Figure 2 – Footer of the EVEREST website

TARGET APPLICATIONS



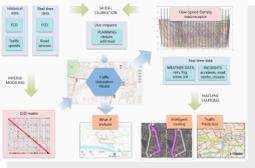
Renewable-energy prediction
Weather analysis-based prediction for the renewable energy trading

LEARN MORE →



Air-quality monitoring
Application for air-quality monitoring of industrial sites

LEARN MORE →



Traffic modeling
Real-time traffic modeling for transportation in smart cities

LEARN MORE →

Figure 4 – Section of the EVEREST homepage related to target applications

PROJECT CONSORTIUM

EVEREST consortium includes ten partners: two large companies, three SMEs, two non-profit research institutes and three universities, spread around six different countries across Europe (Italy, Switzerland, France, Germany, Czech Republic, and Slovakia).

LEARN MORE →

KEY PEOPLE



Project Coordinator
Christoph Hagleitner
(IBM Zurich)



Scientific Coordinator
Christian Pilato
(Politecnico di Milano)

Figure 5 – Section of the EVEREST homepage related to project consortium and key people

2.2 “EVEREST Overview” Page

The page “EVEREST OVERVIEW” includes three sections: “PROJECT SUMMARY”, “PROJECT CONCEPT”, and “PROJECT ORGANIZATION”. The page can be accessed with the direct link: <https://everest-h2020.eu/everest-overview/>.

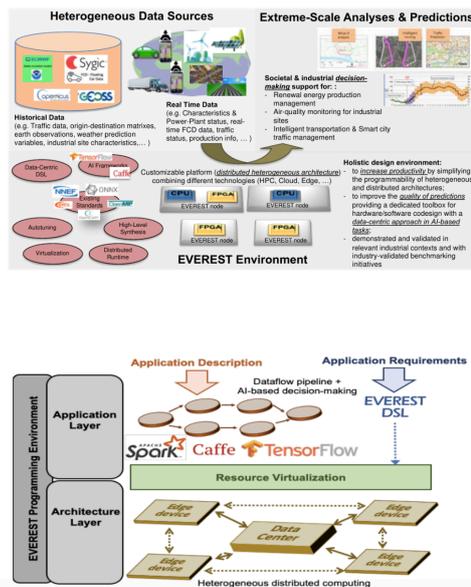
The “PROJECT SUMMARY” section briefly describes the technical goals of the project: *“The distributed and heterogeneous nature of the data sources in High Performance Big Data Analytics (HPDA) applications pushes towards novel computing systems that combine HPC, Cloud, and IoT solutions (for efficient and distributed computation closer to the data) with Artificial Intelligence (AI) algorithms (for knowledge extraction and decision making). The creation of future Big Data systems will be data-driven but will also feature complex heterogeneous and reconfigurable architectures that must be customized depending on the nature and locality of the data, and the type of learning/decisions to be performed.*

The EVEREST project aims at developing a holistic approach for co-designing computation and communication in a heterogeneous, distributed, scalable, and secure system for HPDA. This is achieved by simplifying the programmability of heterogeneous and distributed architectures through a “data-driven” design

approach, the use of hardware-accelerated AI, and an efficient monitoring of the execution with a unified hardware/software paradigm. EVEREST proposes a design environment that combines state-of-the-art, stable programming models, and emerging communication standards with novel and dedicated domain-specific extensions."

The "PROJECT CONCEPT" section briefly introduces the EVEREST architecture and the design environment that will be developed during the project (see Figure 6).

PROJECT CONCEPT



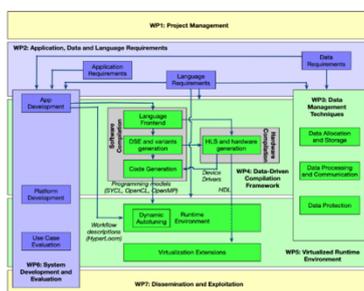
EVEREST aims at proposing a high-performance, distributed and heterogeneous hardware architecture and a companion design environment. The multi-node hardware architecture seamlessly combines CPUs and coherent FPGA accelerators for cloud computing, and disaggregated FPGA devices for edge computing. The design environment uses state-of-the-art programming models, emerging communication standards, and novel domain-specific extensions in combination to provide characteristics of algorithms and data, to better exploit data parallelism, to improve the dynamic control of the distributed execution, and to enforce security. The EVEREST approach will be validated on three industry-relevant applications.

The EVEREST design environment simplifies the description, optimization, and implementation of extreme-scale Big Data applications (with multiple data sources) onto heterogeneous and distributed architectures having different computational paradigms and requirements. To model the applications, EVEREST combines high-level libraries which describe the workflow pipeline, DSLs, existing AI libraries and frameworks, and communication libraries. To co-design application optimization and architecture, EVEREST offers the generation of optimized code variants, reconfigurable accelerators, and a novel virtualized runtime environment.

Figure 6 – Project Concept section in the EVEREST Overview page

The PROJECT ORGANIZATION part contains information about the structure and the key details of the project (see Figure 7).

PROJECT ORGANIZATION



EVEREST is a new ICT-51-2020 – Big Data technologies and extreme-scale analytics – project lead by IBM RESEARCH GMBH. The Project Coordinator is Christoph Hagleitner (IBM Zurich), the Scientific Coordinator is Christian Pilato (Politecnico di Milano) and the duration is 36 months: October 2020 – September 2023.

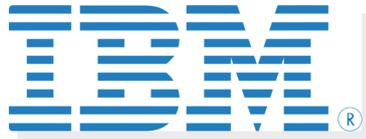
Start Date: October 1, 2020
End Date: September 30, 2023
Grant Number: 957269
EU Contribution: 5'037'372,50 €
Topic: ICT-51-2020 – Big Data technologies and extreme-scale analytics
Call: H2020-ICT-2020-1
Funding Scheme: RIA – Research and Innovation action

Figure 7 – Project organization and key details.

2.3 "Consortium" Page

The section "CONSORTIUM" describes the composition of the consortium and, for each partner, reports the logo (pointing to the website of the partner) and the principal investigator of each institution (see Figure 8). The page can be accessed with the direct link: <https://everest-h2020.eu/consortium/>.

EVEREST consortium includes ten partners: two industries, three SMEs, two non-profit research institutes and three universities, spread around six different countries across Europe (Italy, Switzerland, France, Germany, Czech Republic, and Slovakia).



IBM RESEARCH GMBH

Principal Investigator

Christoph Hagleitner - Project Coordinator



POLITECNICO DI MILANO

Principal Investigator

Christian Pilato - Scientific Coordinator

Figure 8 – Consortium page

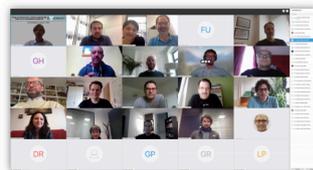
2.4 “News and Events” Page

The page “News and Events” will contain all the news and the events related to the EVEREST project. For each news or event, we will report an image and a short description. Currently, the only event reported is the Virtual Kick off meeting, which was held on October 1, 2020 (see Figure 9). The page can be accessed with the direct link: <https://everest-h2020.eu/news-and-events/>.



1 October 2020

VIRTUAL KICK OFF MEETING



The EVEREST kick off meeting was organized on the 1st October 2020 as Virtual Event.

Figure 9 – News and Event page

2.5 “Contacts” Page

The section “Contacts” contains a form to get in contact with the EVEREST project team. The page can be accessed with the direct link: <https://everest-h2020.eu/contacts/>.

3 Data Analytics

The free version of Google Analytics will be used to monitor the activity on the public website of the EVEREST project. The tool allows us to generate reports about:

- the number of unique users and sessions
- the localization of the users (country and city) in anonymous form
- the language of the users
- system used by the user to connect
- the most frequently visited pages

This information will be used to improve the website and to evaluate the interest on specific topics addressed by the project.

We took all the necessary actions to be compliant with the General Data Protection Regulation (GDPR), addressing with particular attention the problem of data analytics. A privacy policy is available on the website and the users are informed of its presence via a bottom banner automatically showed at the first visit. The WordPress plugin for Google Analytics has been configured to reduce the data gathered from the user, in particular to anonymize the IP address, that is considered a Personally Identifiable Information (PPI) by GDPR.

4 EVEREST Website – Next steps

The development and the maintenance of the website will continue during the whole duration of the project. In the near future, we will publish on the website the page “Dissemination” that will contain all the public material such as publications, deliverables, press release. It will also contain reference to the outcomes of the projects, like the link to the open-source code repository and the tutorials offered by the consortium. This page will be published immediately after the first public material will be available and will be constantly updated. We will also add references to the social media channels and pages (e.g., LinkedIn, Facebook, and Twitter).

5 Conclusions

This document presented the first version of the EVEREST website. The website contains an introduction to the project goals, the use cases, and the partners. The website will be continuously updated during the whole duration of the project and beyond. Immediate extensions are already planned.

References

[EVEREST 2020] <https://everest-h2020.eu/>