

## USE CASES & TOOLS

### Message from the Use Case leader, Christophe Prud'homme



Dear HiDALGO2 community,

Welcome to the latest issue of our newsletter! As a use case leader of the [Urban Building](#), I have some exciting news to share. The Urban Building pilot continues to make significant strides in enhancing our urban building modeling capabilities and user interfaces.

In this newsletter, you can find a [brief overview of the latest advancements](#). These updates and upcoming enhancements underline our commitment to providing state-of-the-art tools for urban modelling and simulation. We are excited about the possibilities these developments open up for urban planners and policymakers worldwide.

Stay tuned for more updates as we continue to push the boundaries of high-performance computing to address global challenges.

With warm regards,  
Christophe Prud'homme

## Mini-symposium gets accepted in the ParCFD 2024

Our partners from HLRS and FAU are among the organisation committee of the mini-symposium on CI/CD and CFD, which was accepted at the ParCFD 2024 (35th International Conference on Parallel Computational Fluid Dynamics) in Bonn in September 2024.

[Read more](#)



## HiDALGO2's Wildfire Simulations Illuminate the frontlines of environmental understanding in Spain



Our partner, Meteogrid, presented the latest advancements in numerical and immersive visual simulation and their potential application as a tool for training on how to confront wildfires at *Toledo Military Academy*.

[Read more](#)



Our partner, Meteogrid, presented the progress in visual simulation and supercomputing applied to wildfires within the framework of our project at the Conference on Wildfires and Natural Risks.

[Read more](#)

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## EVENTS



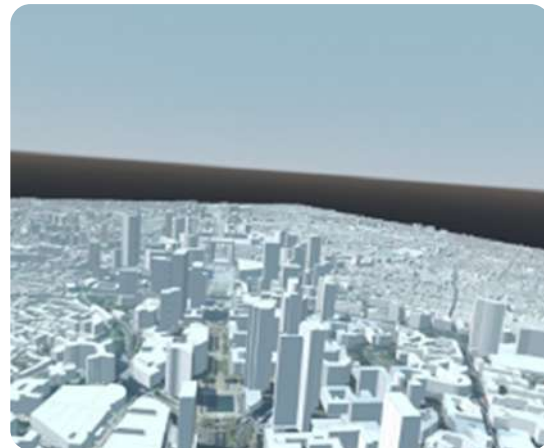
[HiDALGO2 at ICS 2024](#)



[HRLS at the 4th Baltic HPC and Cloud Conference](#)



[HiDALGO2 in EuroHPC Summit 2024](#)



[Lecture on Urban Building Modeling and Simulation](#)



[The Insights of the HiPEAC Conference](#)

## TRAINING

Visit our fresh new [training](#) section on the project's website to learn more about all the workshops, seminars, hackathons, and other events that have been held

throughout the project's lifetime and those that are upcoming.

[Read more](#)



### Hackathon by HiDALGO2 SEAVEA & CIRCE projects

Summer 2024 starts with a hybrid joint hackathon that focuses on enabling *Verification, Validation and Uncertainty Quantification (VVUQ)* for HPC simulations while focusing on the SEAVEA toolkit. You can register at this link:

<https://forms.gle/4ytFD4TNEWFcA3>

[5u9](#) until **31 May 2024**. For more information and inquiries, you can contact:

[diana.suleimenova@brunel.ac.uk](mailto:diana.suleimenova@brunel.ac.uk) and  
[flavio.galeazzo@hlrs.de](mailto:flavio.galeazzo@hlrs.de)

[Read more](#)



### HiDALGO2's workshop at PPAM 2024 Conference

HiDALGO2 project is glad to organise a workshop entitled "*Workshop on advancements of global challenges applications*" (AGCA) during the 15th PPAM 2024 Conference that will be held at Ostrava, Czech Republic, in September.

[Read more](#)

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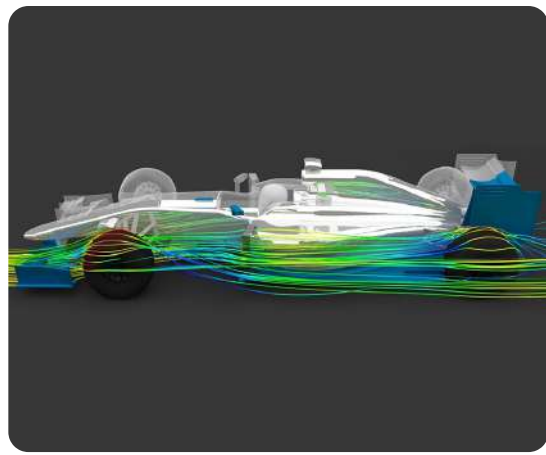
## BLOG



## Assessing Computational Fluid Dynamics on GPU Using Portable Languages

Our partner Atos evaluated portable language performance (OpenMP and SYCL) against native GPU languages (CUDA, HIP, Level0) on three major vendors' GPUs (NVIDIA, AMD, Intel).

[Read more](#)



## Discover the fundamentals of the HiDALGO2 Project

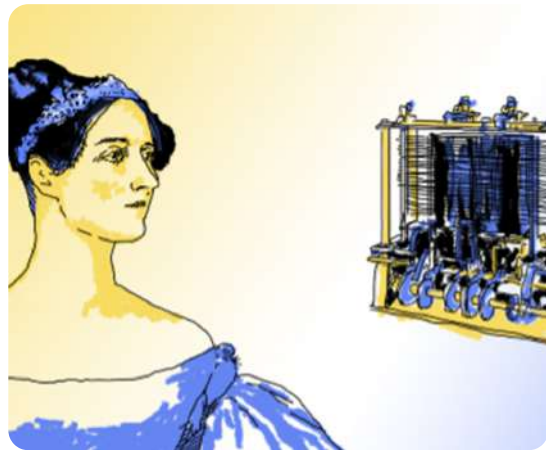
If you have a passion for HPC applications and a keen interest in addressing climate change and environmental challenges, then don't overlook what our project, HiDALGO2, aims to achieve.

[Read more](#)

## Women in HPC Science

Are you aware that Ada Lovelace is a woman who envisioned the potential of computers a century before any were constructed? Explore women's contributions to HiDALGO2 and computer science, traditionally dominated by men.

[Read more](#)



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## PUBLICATIONS

- *Complex-Geometry 3D Computational Fluid Dynamics with Automatic Load Balancing, Fluids.*
- *Open-source complex-geometry 3D fluid dynamics for applications with unpredictable heterogeneous dynamic high-performance-computing loads, Computer Methods in Applied Mechanics and Engineering.*

- *Using dispersion models at microscale to assess long-term air pollution in urban hot spots: A FAIRMODE joint intercomparison exercise for a case study in Antwerp.*

[Read the publications here](#)

## What's coming next in HiDALGO2?

The partners of HiDALGO2 stay abreast of the latest sector advancements and actively champion the project's research and progress by engaging in key industry gatherings. They eagerly look forward to connecting with you in person at upcoming events to delve deeper into fostering a EuroHPC ecosystem. Join them on the following occasions:

🌍 **2024 RISK In time and space - SRA Europe, Athens, Greece, 2 to 5 June 2024**

🌍 **International Post-Exascale Workshop 2024 (InPEX), Sitges, Spain, 17 to 19 June 2024**

🌍 **AGCA event- 15th PPAM 2024 Conference, Ostrava, Czech Republic, 8 to 11 September 2024**

🌍 **International Conference for High-Performance Supercomputing (SC24), Atlanta, US, 17 to 22 November 2024**

Moreover, meaningful collaborations with other Centres of Excellence and National Competence Centres are underway, including exchanging tools, studies, dissemination material, and joined webinars. Stay tuned!

## PARTNERS



H L R I S

Atos



meteo**grid**



**FN** future  
needs

**FAU**  
FRIEDRICH-ALEXANDER  
UNIVERSITÄT  
ERLANGEN-NÜRNBERG

Learn More

To keep up to date with our project's progress, subscribe to our newsletter through our website and follow our social media channels.

[www.hidalgo2.eu](http://www.hidalgo2.eu)

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Co-funded by  
the European Union



**EuroHPC**  
Joint Undertaking

Co-funded by the European Union. This work has received funding from the European High Performance Computing Joint Undertaking (JU) and Poland, Germany, Spain, Hungary, and France under grant agreement number: 101093457.

