



PROGRAMME  
DE RECHERCHE  
NUMÉRIQUE  
POUR L'EXASCALE

# WP4: Applications

GYSELA motif needs

September 19, 2024

# Purpose of this meeting

- Analysis of relevant application motifs and their covering by the project illustrators.
- The idea is to identify the application motifs we will work on during the project in WP1, 2 & 3 as well as their occurrence in our illustrating applications.

# GYSELA motif needs for I/O optimisation

- Contact persons for GYSELA: Dorian Midou + Kevin Obrejan
- Contact persons for WP1: François Tessier (INRIA Rennes) + Francieli Zanon Boito (INRIA Bordeaux) + Jean-Thomas Acquaviva (DDN)
- The writing of one large files (about 1/4 of the node RAM) by one process per node, all nodes at the same time, every few hours of simulation, including as the very last step of the job.
- The data written might not be contiguous in RAM, but can be at the cost of writing a larger block of data (ghosts cells typically).
- Only the latest write will be read and all previous writes can be disposed of as soon as a write is securely written.
- The read happens with the same distribution as the writes and each process reads exactly what was written by a single specific process.

# GYSELA motif needs for optimized Data workflow

- Contact persons for GYSELA: Virginie Grandgirard + Kevin Obrejan
- Contact persons for WP2: Yushan Wang (MdlS) + Bruno Martin (MdlS) + Bruno Raffin (INRIA Grenoble)
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# GYSELA motif needs for AI

- Contact persons for GYSELA: Virginie Grandgirard + Feda Almuhsen
- Contact persons for WP3: Thomas Moreau
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