

Tasks and task leaders

Task	Task name									Start	End	Lead	
Task 2.1	Code audits (Jose Gracia, HLRS)									3 (27)	15 (36)	HLRS	
Task 2.2	Increasing the performance portability of flagship codes for different accelerators (Giorgio Amati, Luca Ferraro CINECA)									1	48	CIN	
Task 2.3	Optimisation for exascale (Piero Lanucara, CINECA)									6	48	CIN	
Task 2.4	Continuous Performance Efficiency Monitoring (Marta Garcia, BSC)									18	48	BSC	
Effort (PMs)													
CIN	CSIC	BSC	INGV	HLRS	TUM	LMU	UMA	CNRS	IPGP	BULL	CSC	UM	SU
67	12	18	18	18	22	14	12	28	1	14	8	8	7

Preparation strategy (Pillar 2). Task T2.3

Task T2.3: Optimisation for Exascale.

❑ **Lead: Piero Lanucara, CINECA**

❑ **Partners: CSIC, BSC, INGV, TUM, LMU, UMA, BULL, UM, SU**

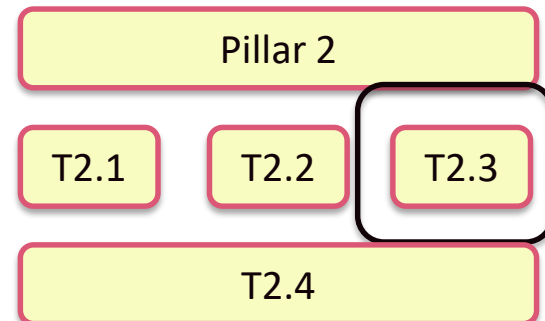
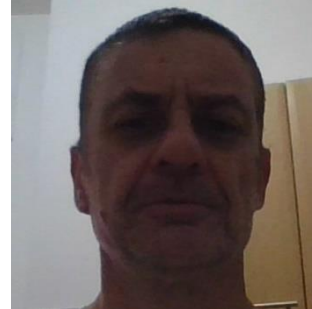
Task T2.3 will guarantee technical support to each flagship code to enhance its performance and scalability.

This task will address primarily the following features (not an exhaustive list):

- ❑ **single heterogeneous node performance**
- ❑ **multi-node performance**
- ❑ **algorithmic improvements**
- ❑ **resilience and fault tolerance**
- ❑ **I/O performance**

Exascale features

Task T2.3 will depends on the output of Task T2.1 and will contribute to Deliverables D2.2 and D2.4



Adequacy of flagship codes to EuroHPC heterogeneous hardware



Task T2.3 objectives and planning

- ❑ (Mostly) audit-driven development and tuning activities addressing known or unexpected code issues, starting from the single-node level and passing through the multi-node scaling, the I/O....
- ❑ plus not audit-driven planned activities (see next steps slides).
- ❑ This task works at full code level (mini-app investigation seems less useful).
- ❑ Most of the expected work to be done in strict cooperation with code-owners.



Task T2.3 objectives and planning

- ❑ This task is supposed to start at M6 and will continue throughout the WP2 life
- ❑ Computational resources on EuroHPC hardware will be needed for debugging, testing new development and tuning steps...
- ❑ **BSC, HLRS, CNRS and IPGP will not participate to this task (is this correct?)**
- ❑ **What to do with xSHELLS and SPECFEM3D in this task?**

