

ChEESE

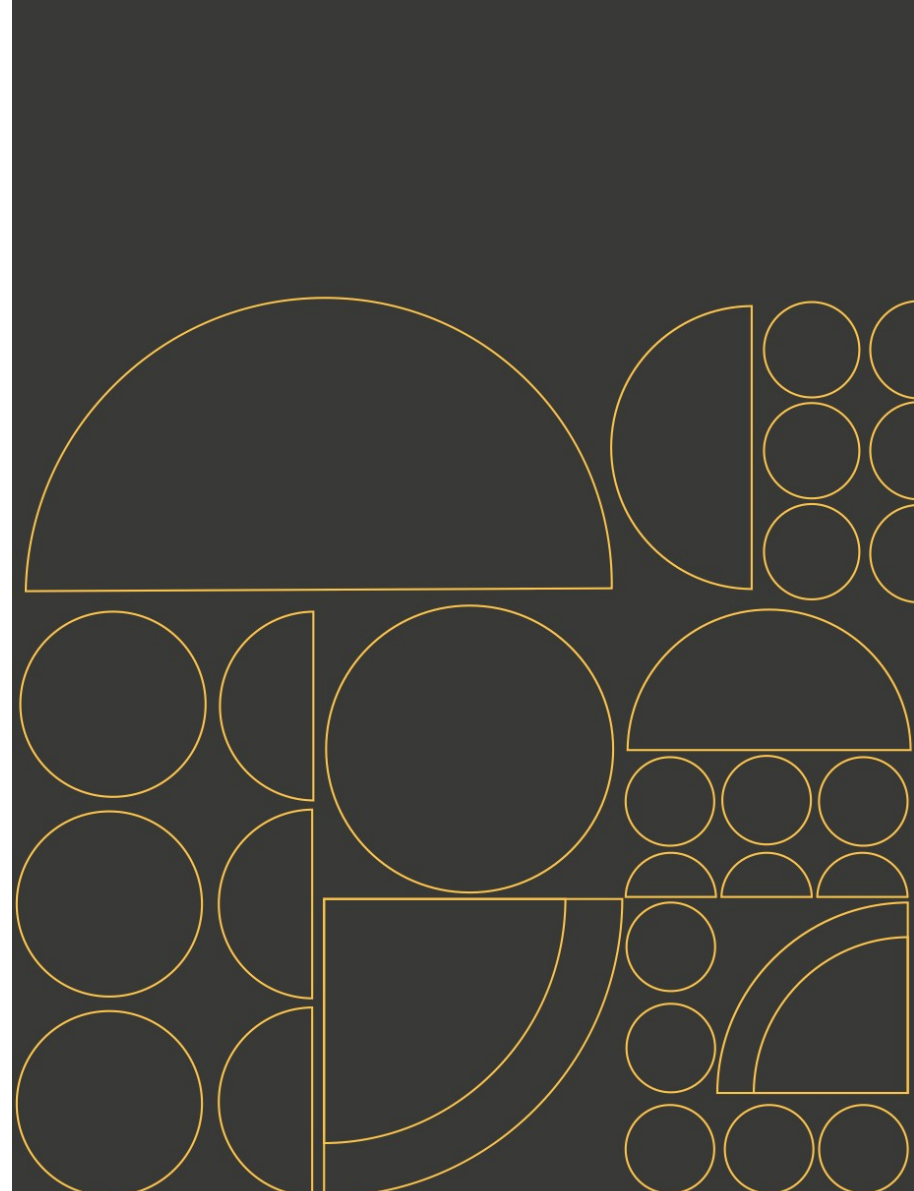
Work Package 5: Farming Pilot Demonstrators

12th Zoom meeting,
5 May 2025

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CNRS



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Deliverables M30 :

→ PD1, PD4, PD6, PD7, PD8

→ D5.2, D5.3, D5.4, D5.5, D5.6



WP5: Tasks

WP5 tasks				
Task	Name	Lead partner	Start month	End month
T5.1	Novel features (physics) in flagship codes	CNRS	1	24
T5.2	Developments in Pilot Demonstrators	CNRS	7	42

WP5: Deliverables

D	Deliverable name	Lead	Type	Level	M	Date
5.1	New version release of flagship codes	CNRS	OTHER	PU	24	Dec 2024
5.2	Demonstrator of PD1	TUM	DEM	PU	30	Jun 2025
5.3	Demonstrator of PD4	NGI	DEM	PU	30	Jun 2025
5.4	Demonstrator of PD6	INGV	DEM	PU	30	Jun 2025
5.5	Demonstrator of PD7	CNRS	DEM	PU	30	Jun 2025
5.6	Demonstrator of PD8	UM	DEM	PU	30	Jun 2025
5.7	Demonstrator of PD2	CNRS	DEM	PU	36	Dec 2025
5.8	Demonstrator of PD3	UMA	DEM	PU	36	Dec 2025
5.9	Demonstrator of PD5	IMO	DEM	PU	36	Dec 2025
5.10	Demonstrator of PD9	CSC	DEM	PU	36	Dec 2025

WP5: Task 5.2 Developments in Pilot Demonstrators

No	PD name	Aera	Related flagship codes	Initial TRL	Target TRL	Underpinning concept	ECC
1	Extreme-scale modeling of seismic hazards	CS	All CS codes	5	7	multiphysics multiscale	ECC1 ECC3
2	High-resolution seismic inversion and tomography	CS	SPECFEM3D	4	6	multisource	ECC1
3	Global tsunami hazard and uncertainty quantification	T	HySEA	6	8-9	multiscale	ECC6
4	Complex multi-source tsunami modeling	T	HySEA, ExaHype, SeiSol	3	5	multisource multiphysics	ECC4 ECC5
5	Ensemble-based volcanic dispersal at multiple scales	V	FALL3D	5	7-8	multiscale	ECC7 ECC9
6	Multiphase 3D volcanic explosion modeling	V	OpenPDAC	4	7	multiphysics multiscale	ECC8
7	The Earth's dynamo model	MHD	xSHELLS	3	5	multiscale	ECC10
8	Geodynamics to geohazards	GD	LaMEM, pTatin3D	3	5	multiscale	ECC11 ECC12
9	Glacial outburst floods	GL	Elmer/Ice	2	4	multiphysics	none

Demonstrator or PD

- Deliverable Type: DEM — Demonstrator, Pilot, Prototype
 - Not a traditional report — but includes a demonstration setup + short description
- Expected content: simulation setups, workflows, scripts, etc.
 - Preliminary prototypes allowed (Task 5.2); final ones must support Milestone 6 (M42)
- Content shared via Zenodo or ChEESE repository
 - Includes: input files, scripts, postprocessing tools, documentation
 - One setup per PD prototype (one per Simulation Case if needed)
 - Short PDF uploaded to EU portal with goal, setup, and link



Timing, Milestones, and Dependencies

- Deliverables D5.2 to D5.10 due at M30-M36 — benchmark results
 - Note: slight mismatch in schedule (M30 vs. M36)
- Task 5.2 continues until M42 — production runs go into D6.2–D6.10
- Milestone 6 (M42): 'Exascale pilot deployment'
 - Milestone reached if PDs tested successfully (D4.4, D5.2–D5.10)
- Each PD with multiple SCs may need one prototype setup per SC



Next Steps and Open Questions

- Prepare PD prototype setups (inputs, scripts, guides)
- Decide on sharing strategy: Zenodo (DOI, permanent) vs. ChEESE repo
 - Write short PDF for each (intro + link to setup)
- Open questions:
 - One prototype per SC?
 - Zenodo vs. Git-based delivery?
 - Align with flagship code release?



