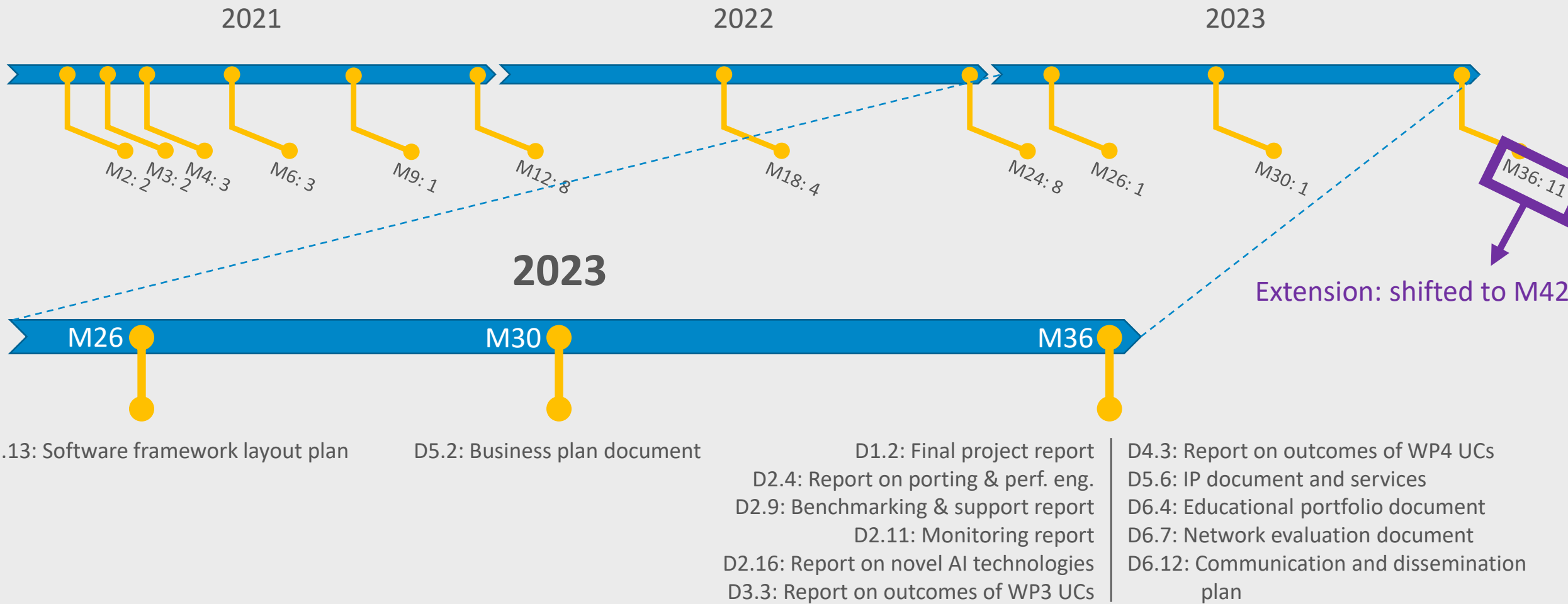# CoE RAISE
All-Hands Meeting in Iceland

28.08.2023

WP1: Management

Andreas Lintermann (FZJ), Jennifer Lopez Barrilao (ParTec)
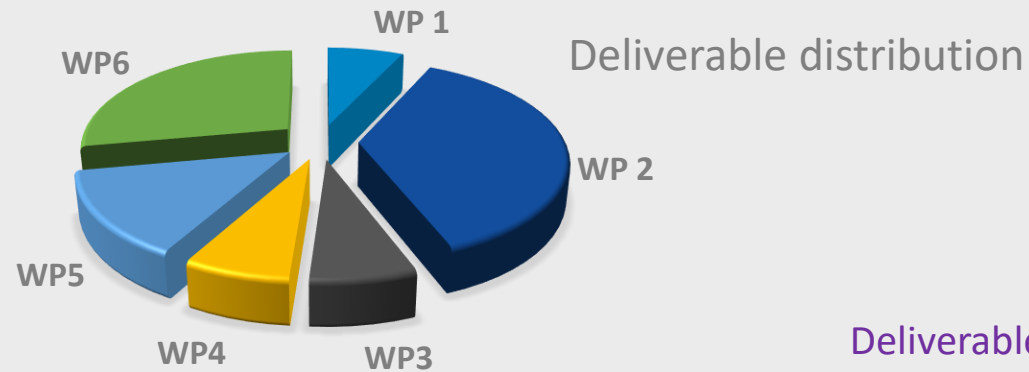
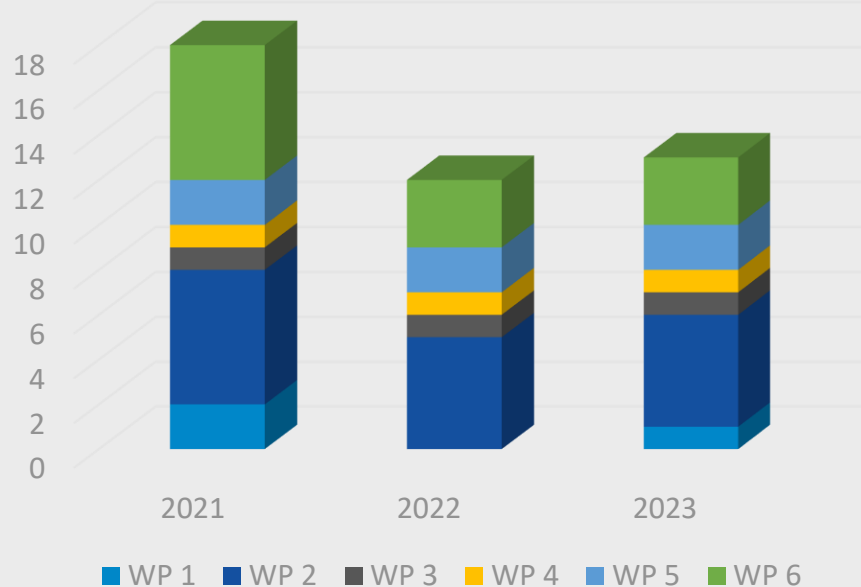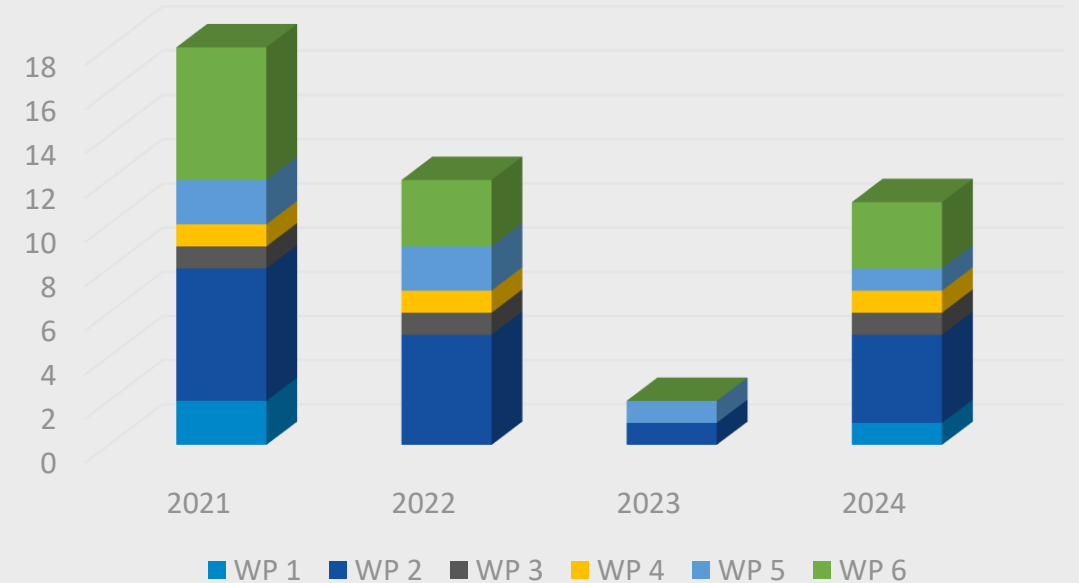# Project Status and Cost-Neutral Extension

Deliverable status

2021   2022   2023

M2: 2   M3: 2   M4: 3   M6: 3   M9: 1   M12: 8   M18: 4   M24: 8   M26: 1   M30: 1   M36: 11

2023

Extension: shifted to M42

M26   M30   M36

D2.13: Software framework layout plan

D5.2: Business plan document

D1.2: Final project report
D2.4: Report on porting & perf. eng.
D2.9: Benchmarking & support report
D2.11: Monitoring report
D2.16: Report on novel AI technologies
D3.3: Report on outcomes of WP3 UCs

D4.3: Report on outcomes of WP4 UCs
D5.6: IP document and services
D6.4: Educational portfolio document
D6.7: Network evaluation document
D6.12: Communication and dissemination
plan

Structure of CoE RAISE: Work Packages
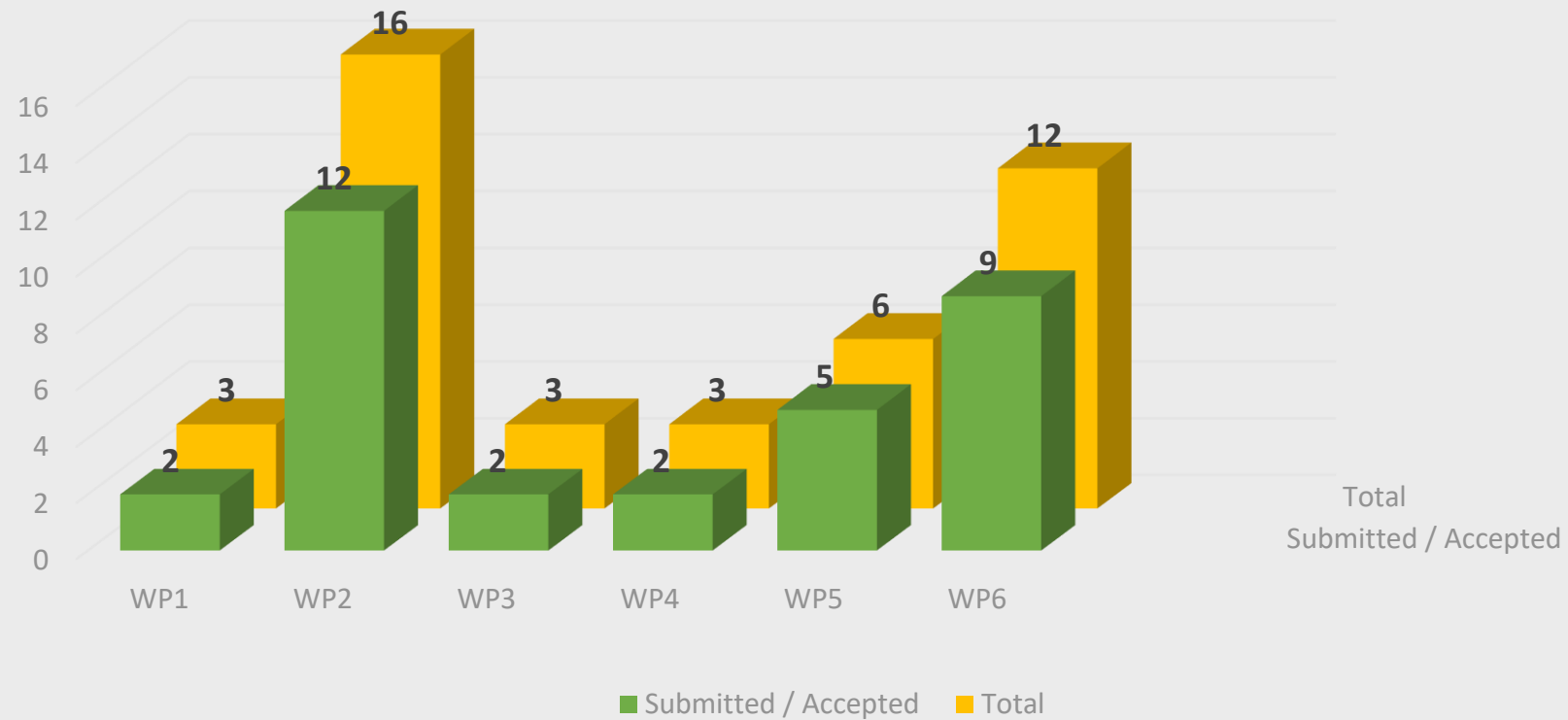

Deliverable distribution

Deliverables per WP per year

Deliverables per WP per year (after extension)

Deliverable status

Deliverables: submitted / accepted vs. total

Cost-Neutral Extension until M42

- What changes from a reporting / administrative point of view?
  - All M36 Deliverables are shifted to M42
  - MS6 is shifted to M42
  - Budget is shifted between partners and between categories
  - All partners provided justification for the shift of budgets[1]

- What changes from a content point of view?
  - All partners provided input to the amendment (DoA) and updated their tasks[2]
  - All partners provided technical reasons for the cost-neutral extension[1]

[1] Justification letter https://bscw.zam.kfa-juelich.de/bscw/bscw.cgi/d4177934/CoE-RAISE_cost-neutral-extension_reasons.docx
[2] Updated DoA https://bscw.zam.kfa-juelich.de/bscw/bscw.cgi/d4177195/Amendment_PartB1-3.docx

- Documents [1] and [2] have been sent to the PSB for confirmation

Cost-Neutral Extension: Brief summary of changes

- ➢ **WP1** continue to support the project from an administrative, financial, and controlling point of view
- ➢ **WP5** depends on the outcomes of WP2, WP3, and WP4 and therefore continues its activities
- ➢ **WP6** continues its activities due to its transversal nature
- ➢ **WP2**
  - ➢ **Task 2.1**: extension to the data challenge (network) and training courses
  - ➢ **Task 2.2**: ended, but continues its activities
  - ➢ **Task 2.3**: extension to QA-based HPO and hybrid execution; transfer to other use-cases (Task 3.2 and 4.1); investigations on novel QUBO formulations; potential investigation on gate-based QC
  - ➢ **Task 2.4**: UAIF adoption and inclusion of investigations on JUPITER
  - ➢ **Task 2.5**: continues its activities

Cost-Neutral Extension: Brief summary of changes

- ➢ WP3
  - ➢ Task 3.1: changed objective from noise reduction to increase of net power savings; SVR-ridgeline optimization; Gaussian Process Regression is tested; Q-SVR is explored; Diffusion Probabilistic Model for near-wall flow field reconstruction is tested
  - ➢ Task 3.2: QA-based optimization of turbine positions; coupling to PhyDLL; Transformers and Diffusion Probabilistic Model are explored
  - ➢ Task 3.3: Support for PhyDLL is provided
  - ➢ Task 3.4: continues its activities
  - ➢ Task 3.5: data gathering via more simulations; additional physical effects are taken into account and TL is performed; workflow development: surface feature optimization; further architectures are investigated

Cost-Neutral Extension: Brief summary of changes

> ## WP4
>> **Task 4.1**: parallel training and HPO; data challenge contribution
>>
>> **Task 4.2**: data fusion for RS time series; LSTM and Transformer benchmarking; HPO usage; inclusion of NLP methods for acceleration; 3D dataset usage in training for seismic imaging; AI workflow incorporation into JMI; extension to Transformers
>>
>> **Task 4.3**: Makebench was added and is extended; foundation models; larger Transformers
>>
>> **Task 4.4**: publication of an open-access dataset; further collection of data for this dataset; model fine tuning

Work Package 1

Management

Partners and Tasks of WP1

Partner	FZJ	ParTec	CERN
PM	22	13	2

Extension: +6PMs in-kind

RWTH had 1PM in Year 1

Task	Title	Lead	Duration	Status
1.1	Administrative project management and coordination	FZJ	M1 – M36	**Ongoing**
1.2	Management and steering of technical implementations	FZJ	M1 – M36	**Ongoing**
1.3	Risk management and technical quality assurance	FZJ	M1 – M36	**Ongoing**

Extension to M42

Deliverables and Milestones of WP1

ID	Title	Due	Lead	Status
D1.1	Administrative management plan	M4	FZJ	**Accepted**
D1.2	Final project report	M36	FZJ	**Not started**
D1.3	Technical and risk management plan	M4	FZJ	**Accepted**

Extension: shifted to M42

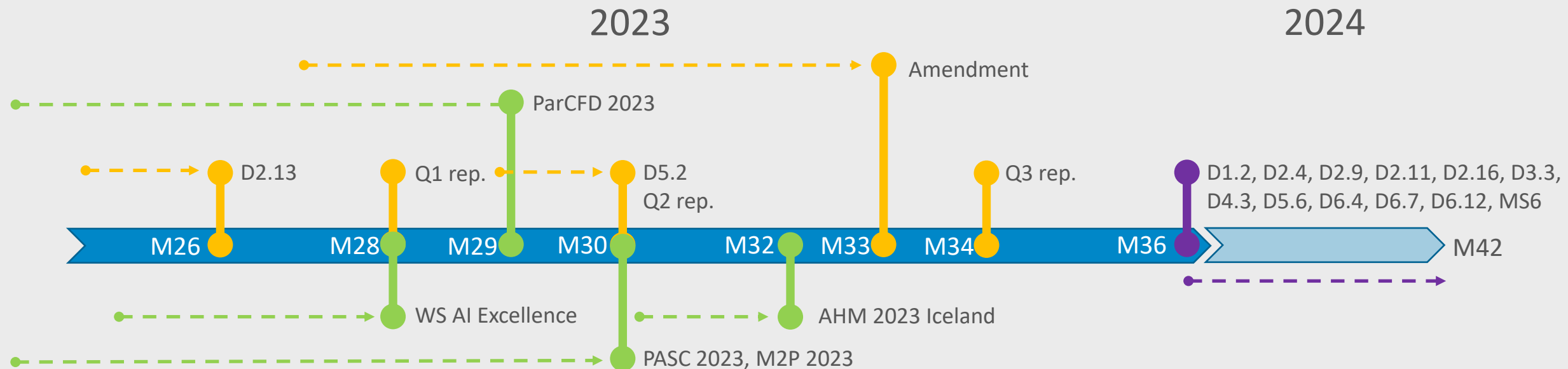| ID	Title	Due	Lead	Status
MS1	Project kick-off	M1	FZJ	**Achieved**
MS6	All final reports	M36	FZJ	**Not yet achieved**

Extension: shifted to M42

Task 1.1

Administrative project management and coordination

Task 1.1 – Administrative Processes
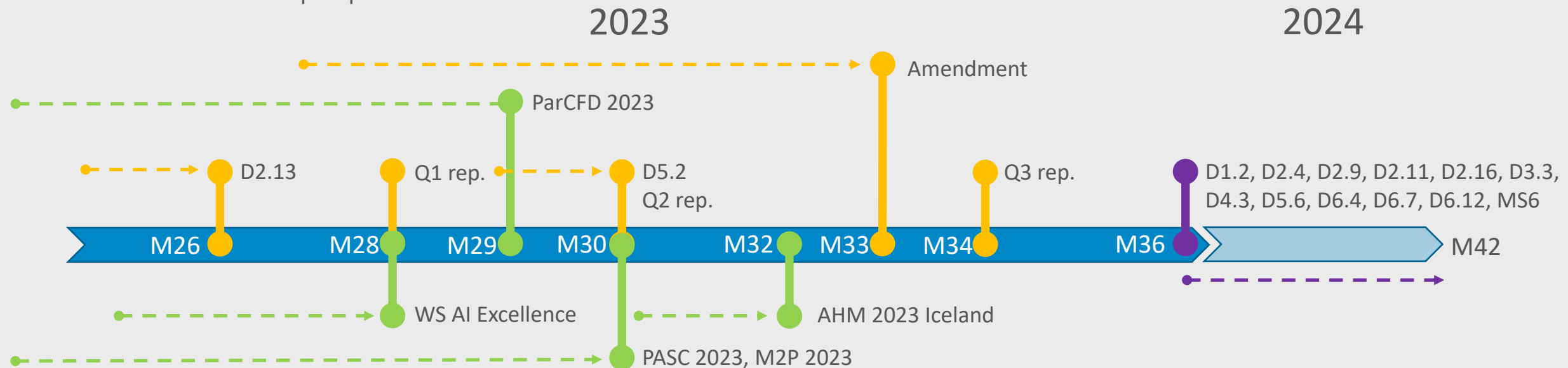
This task established administrative processes:

➢ Organized, reviewed, and submitted Deliverables (incl. LaTeX template provision)
➢ Organized and analyzed quarterly technical WP and financial reports
➢ (Co-)organized conferences and releated activities

Task 1.1 – Administrative Processes

PO / EU communication:

- ➢ Deliverable / milestone submission
- ➢ EuroHPC GB / PRACE complaining letter
- ➢ Budget transfers, PM redistributions, etc.
- ➢ Amendment preparation

2023   **2024**

Amendment

ParCFD 2023

D2.13   Q1 rep.   D5.2 / Q2 rep.   Q3 rep.   D1.2, D2.4, D2.9, D2.11, D2.16, D3.3, D4.3, D5.6, D6.4, D6.7, D6.12, MS6

M26   M28   M29   M30   M32   M33   M34   M36   M42

WS AI Excellence   AHM 2023 Iceland

PASC 2023, M2P 2023

Task 1.1 – Contribution to Dissemination

Conference and workshop (co-)organization:

➢ ParCFD 2023 mini-symposium

➢ PASC 2023 Engineering Track

➢ ECCOMAS Math2Product 2023 MS

➢ Workshop with the EU Networks of AI Excellence

ParCFD 2023

2023 M2P

Coming up:

➢ ParCFD 2024 Conference Organization in 09/2024

ParCFD 2024

Task 1.1 – Contribution to Dissemination

Further dissemination of CoE RAISE activities:

- HPC3 participation
- AI Insights recording and publication Ep 1. – Ep.4
  - RWTH, UOI, RTU, BSC
- Contribution to the website
  - Open data, open source
  - New use case: respiratory flows
  - Publications
  - JupyterJSC as service

Coming up:

- SC 2024

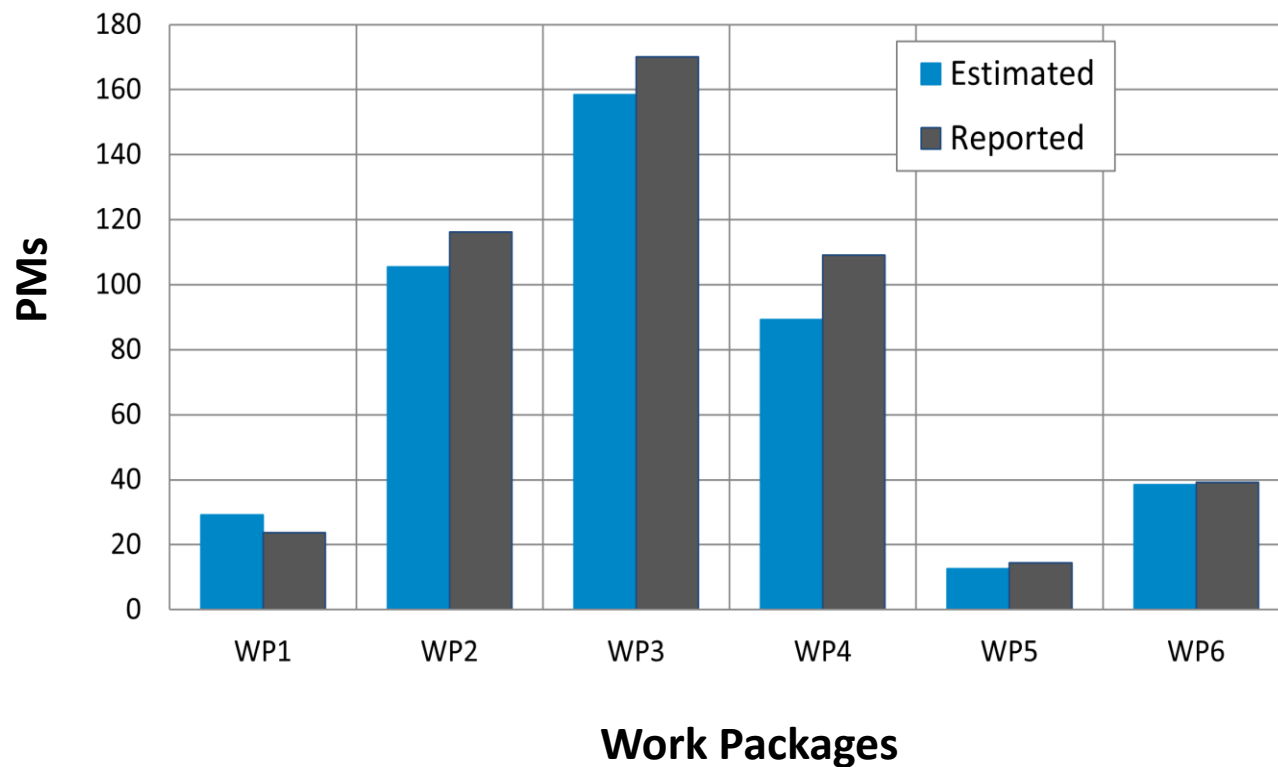# Task 1.1 – Collaborations

Collaborations:

- Digital Twin development
  - interTwin through the involvement of CERN, CERFACS, and FZJ

- Initialized Quantum computing collaborations with
  - ARAMCO (no follow up)
  - with DESY/CERN through CYI
  - for the organization of a hackathon in 11/2023 with TU Delft and RWTH

- EuroCC2 through
  - discussion with NCCs (about the UAIF)
  - the organization of a potential scalable AI/MATLAB workshop

Task 1.1 – Finance: Personnel resources – PMs per WP

Personnel resources per WP (M1-M30)
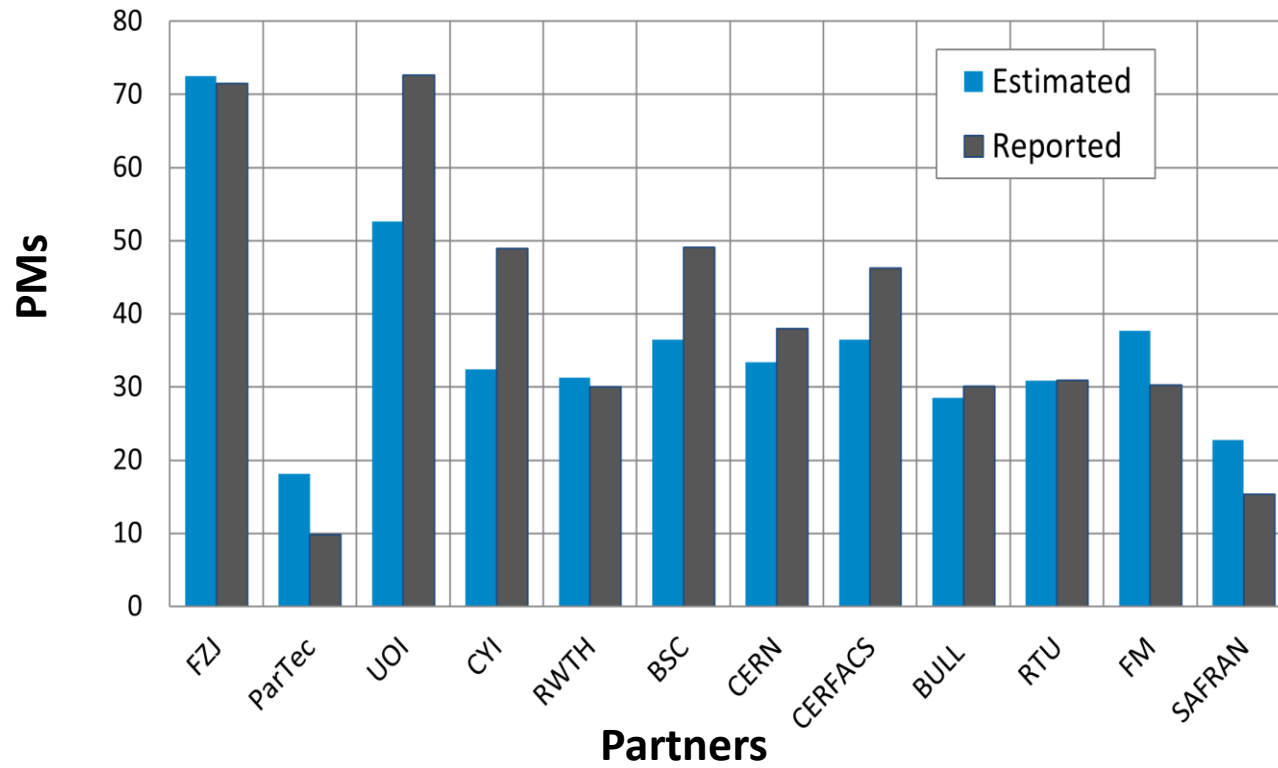
Person Months (PMs) M1-M30	
Estimated	**Reported**
433	473

Deviation / Overdue
~ 8,5%

Task 1.1 – Finance: Personnel resources – PMs per Partner

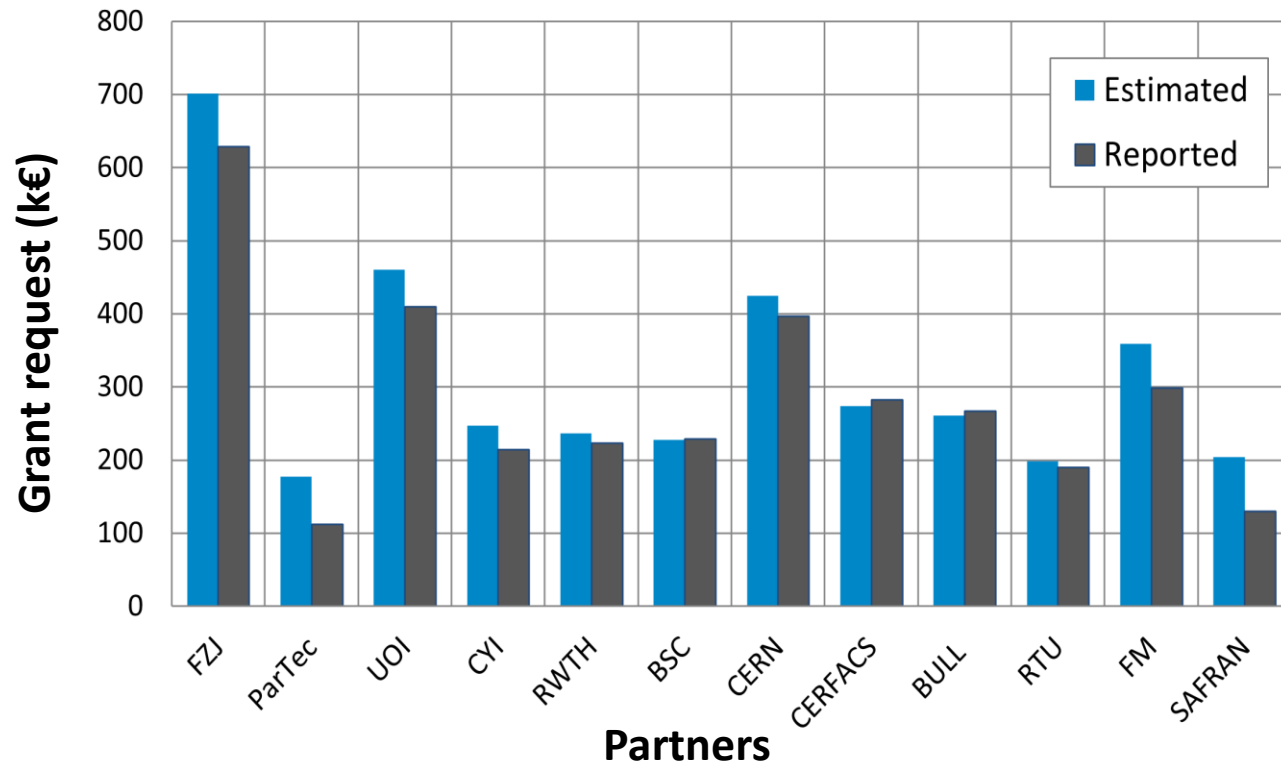Personnel resources per Partner (M1-M30)

Person Months (PMs) M1-M30	
Estimated	**Reported**
433	473

Deviation / Overdue
~ 8,5%

Task 1.1 – Finance: Personnel resources – Budget in EUR

Grant request for personnel resources (M1-M30)

Personnel Budget M1-M30	
Estimated	**Reported**
3.8 M€	3.4 M€

Deviation/ Underspend

~ 10 %

All figures incl. 25% overhead

Task 1.1 – Finance: Other costs after M30

- Travel expenses:
  - So far ~67 % (~145 k€ incl. 25% overhead) of total budget, e.g., for participation in ParCFD, IGARSS 2022 Conference, ISC 2022 and ISC 2023, SC22, AHMs.

- Other Direct Costs except travel expenses
  - Until now ~81 % (43.9 k€ incl. overhead), spent by some partners for, e.g., Ansys tool, camera, GPU, registration fees, dissemination activities.

- Subcontracting
  - 6,870 € (without overhead) of the requested 16,450 € was accounted by FM for micro-Computer Tomography scans and ParTec for the consultation of a law firm regarding task 5.3 topics.

Task 1.2

Management and steering of technical implementations

Task 1.2 – Summary and Highlights

This task's organizational / administrative work:

- ➤ TCB meetings syncing the activities of the technical WPs
- ➤ Tracking of technical issues (together with the risk management in *Task 1.3*)
- ➤ Innovations were tracked together with WP5

This task's technical work:

- ➤ Contribution to the Mural Board and Interaction Room discussions for all use cases
- ➤ Supported writing compute time proposals and extension proposals for the RAISE data project
- ➤ Organization of the data challenge (WP2 – WP4)

Task 1.3

Risk management and technical quality assurance

Task 1.3 – Summary and Highlights

This task

➢ monitored risks and issues:
  ➢ technical risks were collected jointly with *Task 1.2* (in TCB meetings etc.)

➢ provides the technical tools for organizational and management purposes

➢ guides quality control mechanisms together with *Task 1.1*:
  ➢ internal reviews for all documents leaving CoE RAISE (Deliverables, Milestones, dissemination material, etc.)

Summary and Conclusions

- ➢ WP1 - Management
  - ➢ Organized many events (TCB, review, project-wide discussions, conference contributions, etc.)
  - ➢ Guided the project and took care of EU matters (Deliverables, Milestones, etc.)
  - ➢ Performed financial / project controlling and risk management
  - ➢ Took care of contracts and initiated new collaborations

- ➢ Next steps:
  - ➢ Continuation of the aforementioned activities
  - ➢ Final preparation cost-neutral extension
    - ➢ PSB voting
    - ➢ Amendment submission

drive. enable. innovate.

RAISE
Center of Excellence

Follow us: