

ACCORD

A Consortium for COnvection-scale modelling
Research and Development

3. Governance

3rd ACCORD Assembly – 8 December 2021

ORGANISATION

Assembly *upper governance body of the Consortium*

Marianne Thyrring (Dk) Chairperson
Martin Benko (Sk) Vice-Chairperson
Directors of Dz, At, Be, Bg, Hr, Cz, Dk, Ee, Fi, Fr, Hu, Is, Ie, Lt, Ma, Nl, No, Pl, Pt, Ro, Sk, Si, Es, Se, Tn, Tr NMSs
Observer from ECMWF

Program Manager (PM)

highest executive officer of the management
Claude Fischer (Fr)

Bureau

Chairpersons of the GA, PAC and STAC
PM and CSS

Support Team

Consortium Scientific Secretary (CSS)
Patricia Pottier (Fr)

DAsKIT coordinator
Maria Monteiro (Pt)

Local Team Managers

Chaired by CNA
Dz: Mohamed Mokhtari
At: Christoph Wittmann
Be: Alex Deckmyn
Bg: Boryana Tsenova
Hr: Antonio Stanesic
Cz: Radmila Brožková
Dk: Bent Hansen Sass
Ee: Ivar Anspér
Fi: Reima Eresmaa
Fr: Ghislain Faure
Hu: Gabriella Szépszó
Is: Guðrún Nina Petersen
Ie: Saji Varghese
Lt: Martynas Kazlauskas
Ma: Siham Sbiu
Nl: Jan Barkmeijer
No: Jørn Kristiansen
Pl: Bogdan Bochenek
Pt: Maria Monteiro
Ro: Alexandra Craciun
Sk: Jozef Vivoda
Si: Neva Pristov
Es: Javier Calvo
Se: Susanna Hagelin
Tn: Haythem Belghrissi
Tr: Yelis Cengiz

Programme Team

Project Team

Management Group Chaired by PM

Area Leaders

Dynamics: Ludovic Auger (Fr)
Surface: Patrick Samuelsson (Se)
Meteorological QA: Carl Fortelius (Fi)
E.P.S.: Henrik Feddersen (Dk)
Transversal activities: Piet Termonia & Daan Degrauwe (Be)
System: Daniel Santos (Dk)
Data Assimilation: Roger Randriamampianina (No)

Integration Leader
Alexandre Mary (Fr)

CSC Leaders

CSC Arome:
Eric Bazile (Fr)
CSC Alaro:
Martina Tudor (Hr)
CSC Harmonie-Arome:
Jeanette Onvlee (Nl)

all manpower
committed
by Members and
acceding Members

Coordinator for Networking Activities (CNA)
Maria Derkova (Sk)

CSCs management structures

Scientific and Technical Committee (STAC) *advisory body*

Chair: Saji Varghese
vice-Chair: Christine Lac

3 MF Members
Alain Joly
François Bouyssel
Christine Lac

3 RC-LACE Members
Christoph Wittmann (Au)
Kristian Horvath (Hr)
Simona Tascu (Ro)

3 Flat-rate Members
Rafiq Hamdi (Be)
Ilian Gospodinov (Bg)
Vanda Costa (Pt)

3 HIRLAM Members
Xiaohua Yang (Dk)
Sami Niemelä (Fi)
Saji Varghese (Ie)

Observer from ECMWF

PM

Policy Advisory Committee (PAC) *advisory body*

convened when necessary on request of the Assembly

Chair: Daniel Gellens
vice-Chair: Florinela Georgescu

2(+1) MF Members
Alain Joly, Marc Pontaud
(Samuel Morin), Fr

2(+1) RC-LACE Members
Florinela Georgescu (Ro)
Radmila Brožková (Cz)
(Jure Jerman, Si)

2(+1) Flat-rate Members
Daniel Gellens (Be)
M. Fatih Büyükkasabbaşı (Tk)
(Mohamed Mokhtari, Dz)

2(+1) HIRLAM Members
Jussi Kaurola (Fi)
Jørn Kristiansen (No)
(Ben Wichers Schreur, Nl)

PM

Version 29 November 2021

3.2 Updated versions of the research and benchmark licenses

- Research license: MoU Annex IX
- Benchmark license: MoU Annex X
- The Assembly is invited to approve the new versions, including the changes (from KNMI) received during the emailing procedure

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4.1 Report on 2021 activity

3rd ACCORD Assembly

Reporting on 2021 activity

- Management
- Scientific and technical highlights
- Manpower

Management Group Chaired by PM



Area Leaders



Dynamics:
Ludovic Auger (Fr)



Surface: **Patrick Samuelsson (Se)**



Meteorological QA:
Carl Fortelius (Fi)



E.P.S.: **Henrik Feddersen (Dk)**



System: **Daniel Santos (Dk)**



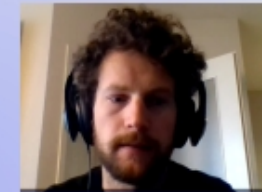
Data Assimilation: **Roger Randriamampianina (No)**



Transversal activities:
Piet Termonia & Daan Degrauwe (Be)



Integration Leader:
Alexandre Mary (Fr)



CSC Leaders



CSC Arome:
Eric Bazile (Fr)



CSC Alaro:
Martina Tudor (Hr)



CSC Harmonie-Arome:
Jeanette Onvlee (NL)

Management tools

- Common Manpower Register (CMR) supervised by the Consortium Scientific Secretary (P. Pottier)
- Rolling Work Plan (RWP): defines work packages & tasks, under the responsibility of the MG. Drafting the RWP involves co-leads with an effort to span the coordination across “families”
- Communication: website (<http://www.accord-nwp.org/>); several email lists (@accord-nwp.org); wiki (CNRM redmine); Google Drive; Slack
- ACCORD Newsletter 1:
<http://www.accord-nwp.org/IMG/pdf/accord-nl1.pdf>
- Budget mechanism managed by MF

Organization of work

- **In the scientific Areas:**

- Focused team building (RT/ST) based on specific ToRs in DA
- A few topical groups organized in Surface
- LTSR: a new forum of System-correspondents, for sharing understanding, knowledge and progressively work practices (on code mngt, tools, specific aspects on scripting etc.) => however, this is not to be seen as an “ACCORD System Team” (ie with dedicated work time & specific tasks)
- Transversal WG’s: Physics Interoperability (Assembly), ML for NWP, VHR modeling, (seamless DA)

- **On code integration & system aspects:**

- More continuous code integration process tested “in real life” for CY48T1

- **Questionnaires to all teams:**

- MQA; System; Model outputs

2021 in a few snapshots (1)

- **Code integration & System:**

- more continuous integration (CY48T1), testing with new tool (“davaï”)
- code optimization “CPU-style”
- source code forge analysis (see *Item 5.2*)

- **SPTR (code adaptation): participation in IDRIS/Nvidia hackaton to port parts of the model to GPU => all current testing confirms that a broader restructuring of the ACCORD codes is needed to reach a high level of readiness for hybrid architectures (of various types)**

- **Data assimilation:**

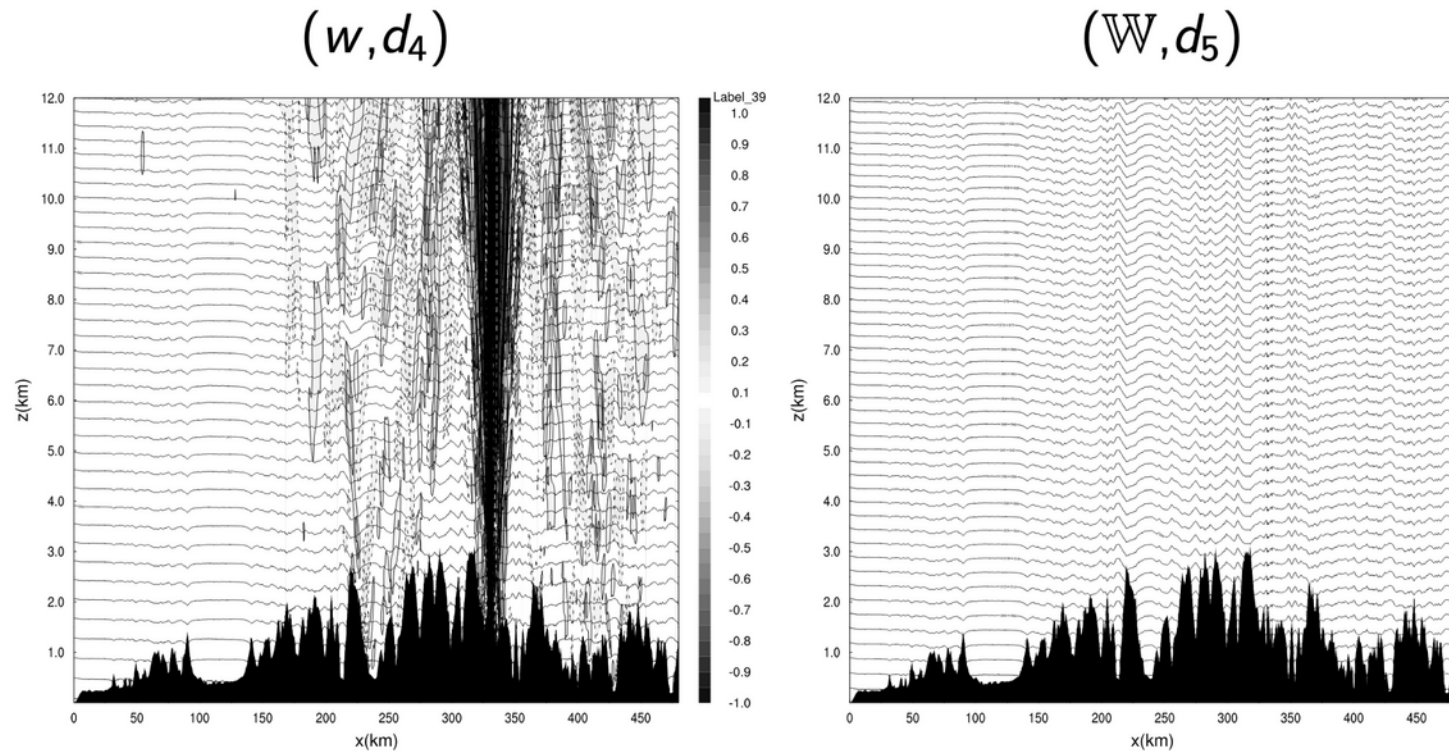
- Progress on the EDA systems; 4D-VAR available in operational environment for Harmonie-Arome; OOPS-based EnVar progress towards pre-operational readiness (Arome)
- RUC and sub-hourly assimilation suite

- **Observations: radiances, radar, new obs types (crowd-sourced etc.)**

- **DasKIT program (coordinated by M. Monteiro - IPMA)**

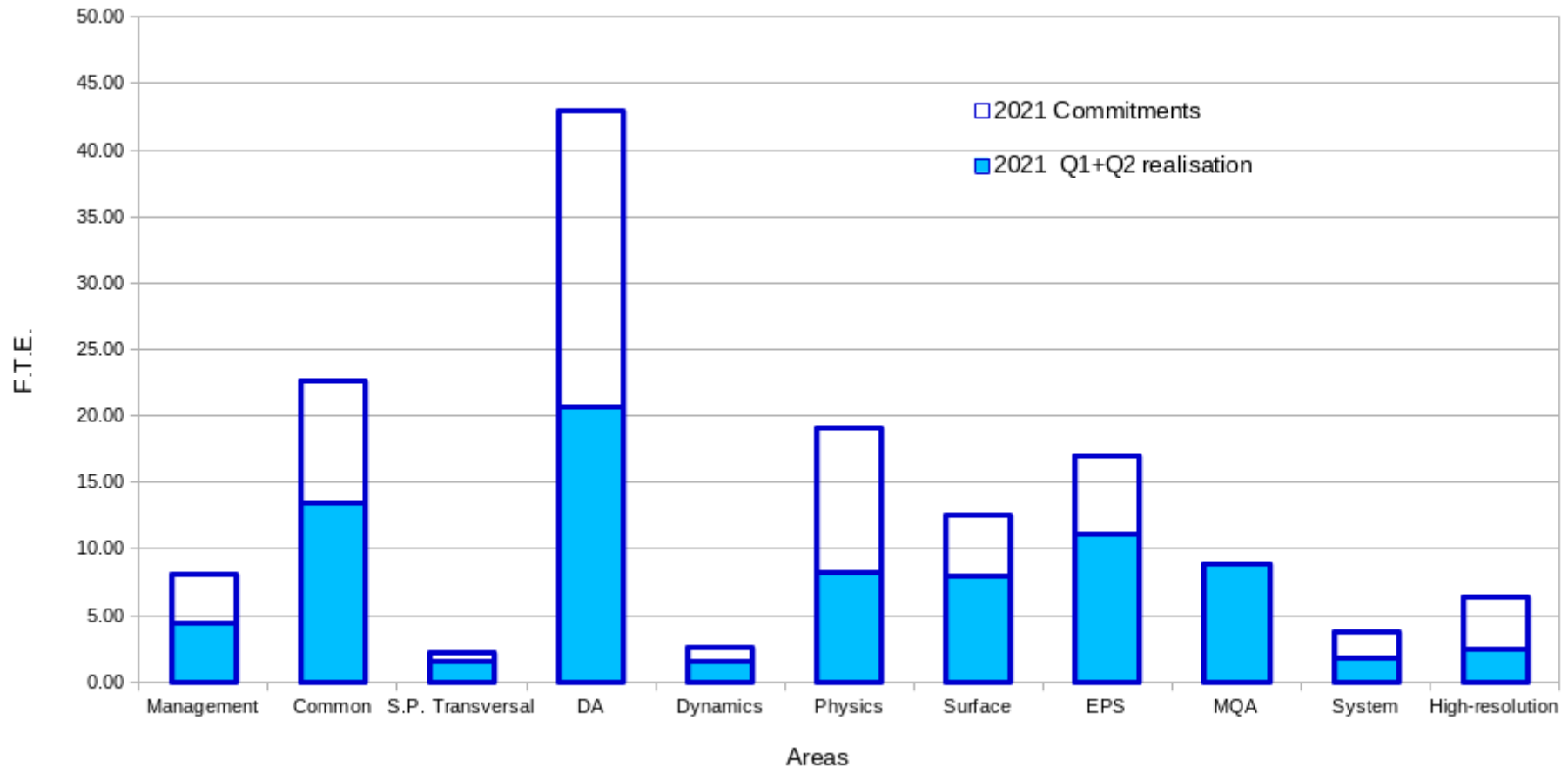
2021 in a few snapshots (2)

- **Dynamics:** progress on
- **Physics:**
 - several transversal WF
 - the WG on physics inter
- **Surface:**
 - surface modeling (SUI)
 - physiography data
 - data assimilation (sev
- **EPS:** representation of impact-based post-processing)
- **MQA:** encourage efforts and communication on verification, further promote “harp” which already is a widely shared tool



Manpower figures 2021 (Q1+Q2 based)

Committed for 2021 and Realised during the first semester of 2021

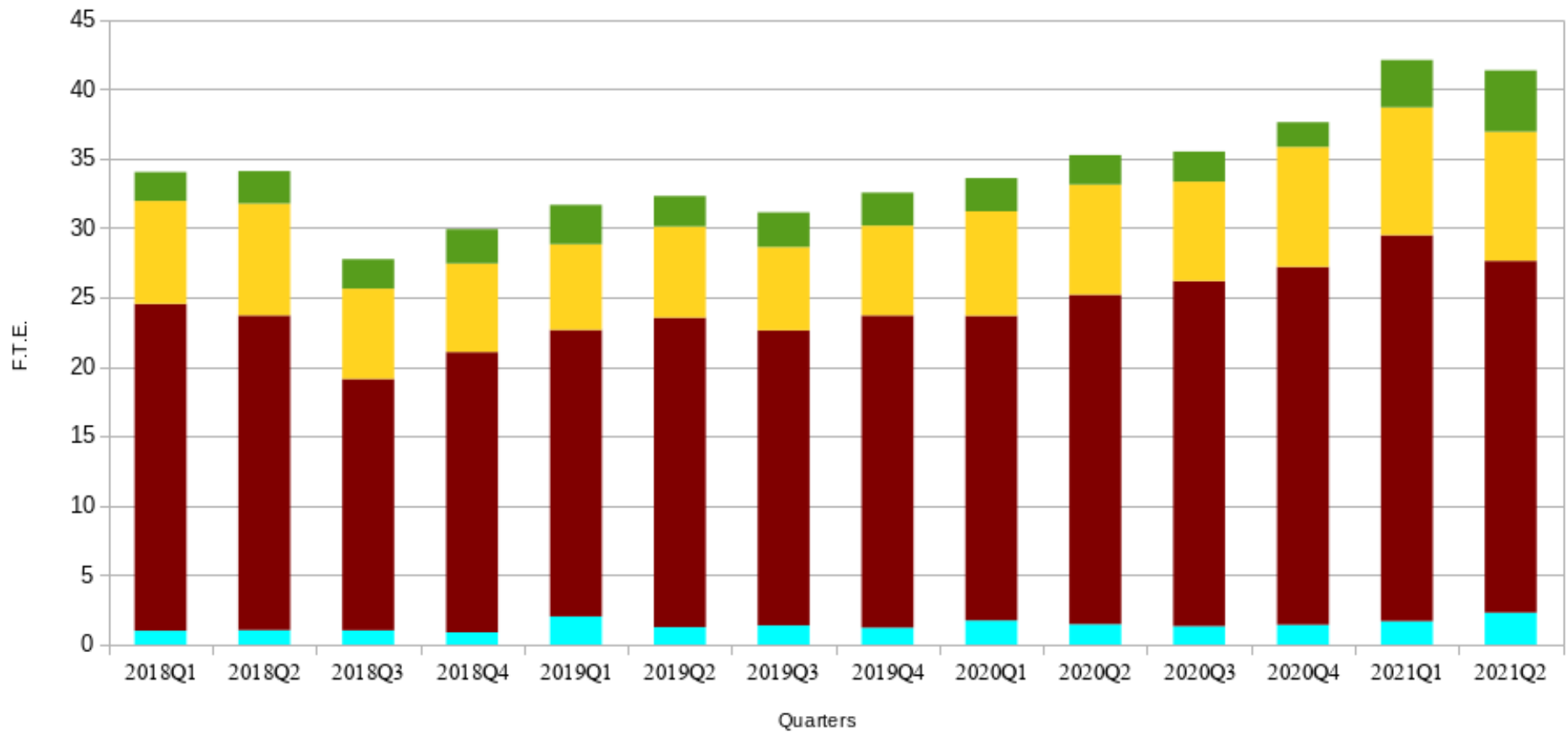


Manpower figures since 2018

1 FTE = 11 pm

Evolution of the quarterly manpower reporting on the RWPs

■ Training & tuition
■ Code Engineering, phasing, Quality Assurance (CepQA)
■ Research & Development
■ Management



Discussion about the RWP2021 & Decision

- **Recommendations by STAC:**

- STAC recommended the Assembly to adopt the progress report

- **Any questions or comments by the Assembly ?**

- **The Assembly is invited to approve the reporting of activity for 2021**

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4.2 Realization of the Detailed Action Plan (DAP2021)

3rd ACCORD Assembly

Realization of the DAP2021

Table of the reimbursements to be paid to the ACCORD budget at the beginning of 2022

Partners	Tasks reimbursed by ACCORD in 2021	Tasks completed in 2021	Amount to be reimbursed to ACCORD budget
ALGERIA	3650 €	0 €	3650 €
BELGIUM	8125 €	0 €	8125 €
BULGARIA	4575 €	0 €	4575 €
FRANCE	109375 €	80925 €	28450 €
MOROCCO	3050 €	0 €	3050 €
PORTUGAL	11975 €	1850 €	10125 €
TUNISIA	2125 €	0 €	2125 €
TURKEY	10125 €	0 €	10125 €
LACE	47025 €	8325 €	38700 €
HIRLAM	47125 €	9750 €	37375 €

Decisions on the DAP2021

- Any questions or comments by the Assembly ?
- **The Assembly is invited to:**
 - Approve the amount to be reimbursed by Members in 2022 for non-executed tasks in 2021.
 - Approve an amendment of the bilateral agreement between KNMI and Météo-France to include AEMET.
 - Approve KNMI pays the AEMET fee 2021 in 2022: this amount will be billed together with the 2022 membership fees of the 10 HIRLAM NMSs.

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5. Plans for 2022

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5.1 Proposal for RWP2022 & Recommendations by STAC

Rolling Work Plan 2022

- Re-organized in most Areas by MG
- MG invited co-leads for many work packages; team building was encouraged for working together on drafting the tasks
- MG liaised with LTMs (tasks, staffing, commitments)

RWP2022: snapshots (1)

- **Common Working Environment:** modernize working practices (while still ensuring the creation and quality of new code releases)
- **SPTR (aka “code adaptation” to new HPC architectures):** *following the recommendations by STAC, the RWP2022 work package on SPTR has been adjusted with the most recent information coming from ECMWF*
- **Dynamics:** continue improve stability of our current dynamical core
- **Data Assimilation:** enhance consortium expertise on OOPS-based versions; steady progress on the use of observations

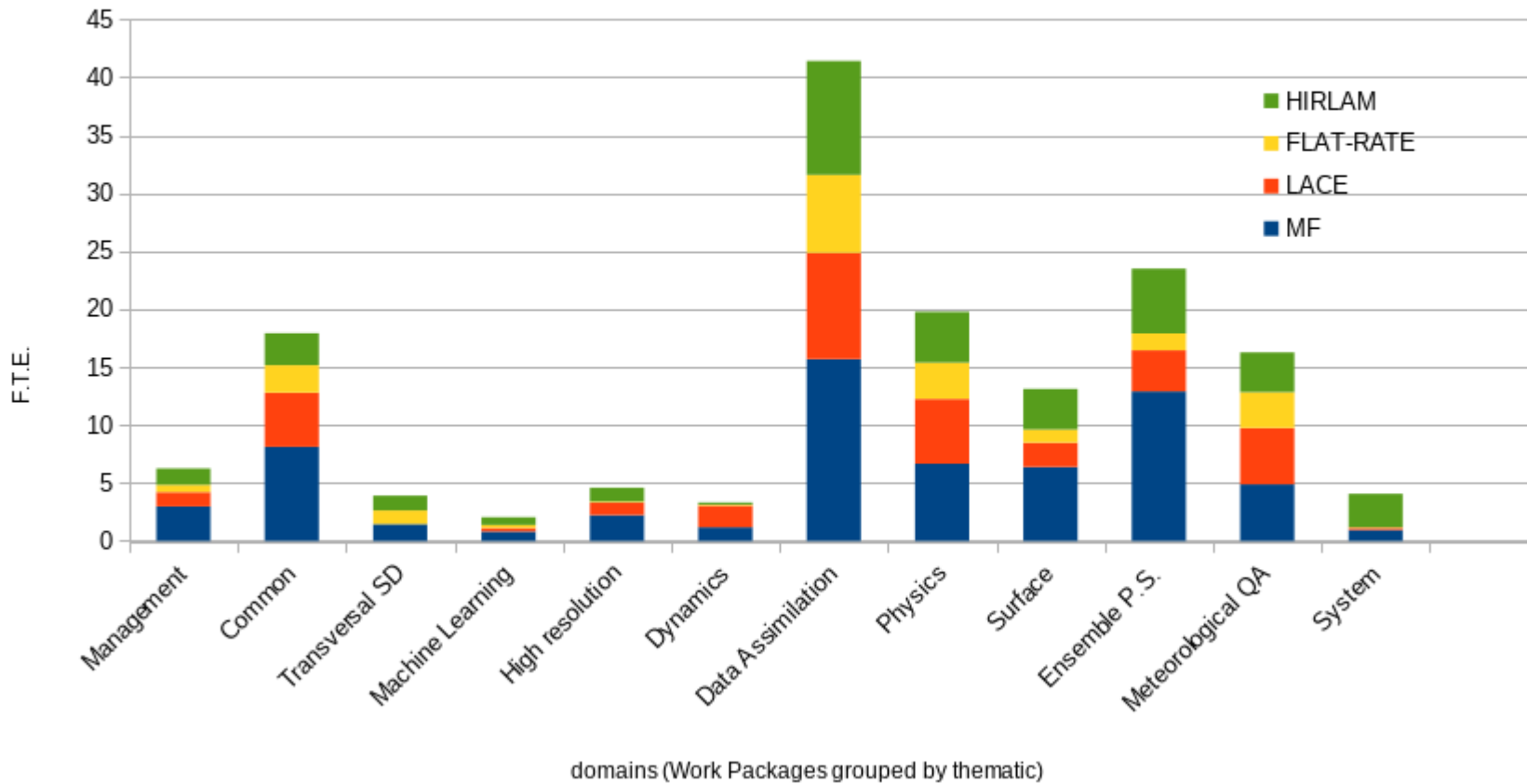
RWP2022: snapshots (2)

- **Surface:** use SURFEX in all CSC; use more new options
- **EPS:** trigger collaboration on model and surface perturbations; link with SRNWP/EPS program; scripting for common research on EPS ?
- **MQA:** enhance the possibilities of “harp” (metrics, obs, link with output from DA systems)
- **Physics:** finalize roadmap on interoperability; encourage team work in the transversal WP’s; consider to open the position of Area Leader (for 2023)
- **Transversal WG:** Physics Interoperability, Machine Learning, Very High Resolution Modeling

Manpower committed figures for 2022

Commitments in RWP2022

by groupings



Additional proposal for the 2022 work plan

- Following the recommendation from STAC, an additional work plan is proposed to be prepared, with a high level of priority and urgency: “code preparation for code adaptation”
- Timing: start asap in 2022, in order not to delay other tasks on code adaptation (for instance in link with DestinE)
- This work is about re-factoring the existing codes, including codes that control the organization of the physics
- The PM proposes a procedure for preparing a detailed work plan:
 - Identify the code experts
 - Make precise work plan, including manpower estimates (in a technical meeting in very beg. Of 2022)
 - Discuss with the code experts and their LTMs (*Services will have to make choices regarding freeing their experts from other tasks, in order to help implement the work plan*)
 - Implement the agreed work plan within the RWP2022
 - The MG will analyze the impact of this work on other WP’s of the RWP2022
- The work plan will be reviewed by STAC and presented to the Assembly

Recommendations from STAC

- Importance of code adaptation work (aka “SPTR”)
- Increase communication on this aspect across all partners, including with ECMWF
- Update the SPTR WP taking into account all relevant recent information
- Urgency of making progress on code adaptation
- Find trained or expert resources [on code preparation &] on code adaptation
- Taking into account the above remarks, STAC agreed on the RWP2022

Other management aspects

- The PM proposes to add SPTR (including the additional tasks), COM2.T and SY4 to the list of WP that count for the monitoring of “Code Engineering, Phasing and QA”, starting with the manpower registered for 2021. This would come in addition to COM2.1, COM3.1, SY2 and MQA3.
- The MG will, in 2022, also work on:
 - a multi-year roadmap with scientific and interoperability milestones
 - A white paper describing our view of the scope and content of “Research-to-operations” (R2O) interfaces (list the relevant aspects, describe them from the ACCORD perspective)
 - This material will be presented to STAC and to the Assembly
 - It could serve as input to any specific discussion by Members or Groups of ACCORD, which want to assess their own R2O transitioning. Example is Hirlam-to-UWC

Plans for 2022: actions for the Assembly

- Comment
- Approve the RWP2022
- Approve the procedure for setting up the additional work plan on code preparation (for code adaptation) in ACCORD in 2022
- Approve to add SPTR (+ additional work plan tasks), COM2.T and SY4 to the accounting for code engineering, phasing and QA

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5.2 Source forge & modernisation of working practices

Modernisation of working practices

- Goal is to modernise and improve the working practices on the common codes:
 - More collaborative and more continuous
 - While abiding to the IFS-Arpege practices (which are also planned to evolve)
- We will explore GIT-based technical solutions (Integration Leader; System AL)
- Based on the technical exploration, we will prepare precise questions to consider in 2022
- The potential questions could be on code policy (security of access, privacy of data, LAM codes at ECMWF), maintenance & manpower, pricing
- There is a high interest in adopting the chosen solution asap

Actions for Assembly today

- The Assembly is invited to take note and make comments on the next steps.
- The Assembly's attention is drawn to the potential policy or organisational questions that could be raised once a concrete solution can be presented.
- The Bureau will review the relevant policy and organisational questions, arising from the technical proposal.
- **The Assembly is invited to delegate to the Bureau the decision to convene PAC for addressing them, jointly with STAC.**

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5.3 2022 budget and 2022 fee

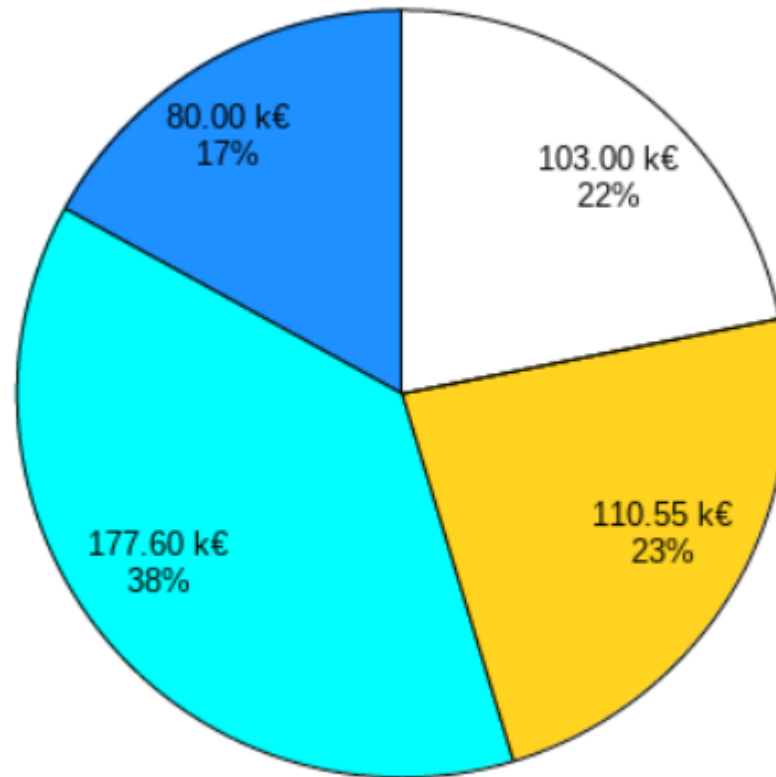
3rd ACCORD Assembly

PM & CSS propose as available budget for 2022

- same Membership fee as in 2021: 11k€ per Member (paid by 26 Members)
- AEMET fee from 2021: 11k€
- reserve from 2021: 27.85k€
- reimbursement by Members of 2021 non executed actions: 146.3k€

PM & CSS propose the following partitioning of the expenses

Proposed repartitioning of 2022 expenditures



■ PM (salary) ■ Governance & networking ■ WW & scientific visits □ Surplus

Regarding the surplus

- The MoU foresees that part of the budget can be used for new human resources on specific tasks or for expenses of general interest
- A procedure is proposed for organizing the recruitment of an expert (by one ACCORD Member):
 - MG identifies understaffed priority tasks (and tries to staff them)
 - If staffing within ACCORD proves impossible, draft a *complete proposal* for submission to STAC
 - Submit to Assembly for approval
- A procedure is proposed for identifying expenses of general interest:
 - Discuss goal of expense in MG
 - Submit for recommendation to STAC
 - Propose to Assembly for approval

Actions for the Assembly today

- Approve the amount of the membership fee for 2022: 11k€ per Member.
- Approve the partitioning of the expenses for 2022.
- Approve the proposed procedures for organising the recruitment of expert(s) or for expenses of general interest.

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6. DestinE Initiative and ACCORD

3rd ACCORD Assembly

Steps since last Assembly & Potential benefits for ACCORD

Conclusions from last Assembly:

- DestinE is interesting for ACCORD members and the development of ACCORD as a consortium.
- There will be an open process (...) and ACCORD members are invited to join this process.
- *The other concluding items were on time constraints, flexibility of shape of partnership, diplomacy.*

There now is a Provisional Advisory Board & a core Management Team. There are draft work packages (WP) with leads and co-leads. The interested teams have formed drafting teams to address the content of these WP's.

Potential benefits for ACCORD:

- Accelerate work on code adaptation to new HPC
- Accelerate efforts on very high resolution modeling. Some link with studies using ML tools. Perhaps at first, give the ACCORD modeling system some visibility via the DE program
- Possibly also some positive feedback from post-processing or implementation (link with Digital Twin Engine)
- The MG will analyze the impact of DE on the ACCORD work plans, and STAC will review this impact

Details regarding policy aspects

- Only Members contributing to the Digital Europe program are eligible in DE
- The DE bidding consortium will have to establish a license for the use of the ACCORD codes in DE
- For the time being, the available information about the licensing scheme is provided in the DE Contribution Agreement to be signed between ECMWF and the European Commission
- The current suggestion is that the (LAM) bidding partners could propose a license based on a similar derogation than the one for the IFS codes
- The bidding partners also could ask in return ECMWF for a sub-license in order to use any results from DE. This sub-license would be automatic for ECMWF Member or Co-operating States, and would require a specific exchange regarding other countries (see details in preparatory document)
- The concrete details will however only be known once the Invitation for Tender for the on-demand LAM digital twin will be issued by ECMWF

Timeline for DestinE

- **Now until February 2022:** ongoing work by the Consortium drafting team led by the Management Team (Roger Randriamampianina, Kristian Pagh Nielsen, Elisabeth Gérard)
- **February 2022:** publication of ECWMF DestinE Extremes Invitation to Tender
- **March 2022:**
 - Final Bid submission text developed under leadership of the Consortium Management Team
 - Extraordinary ACCORD Assembly meeting to decide on granting a licence for the DestinE consortium purposes
- **Spring 2022:** Deadline for submitting the bid
- **Summer 2022:** Successful bidder commences two year project

Actions for the Assembly today

- The Assembly is invited to take note of the steps taken (...) to prepare a DestinE Extremes related bidding consortium.
- The Assembly is invited to comment on the specific information provided, especially regarding the expected licensing schemes.
- Once the ECMWF DestinE Extremes IT has been published, the Bureau will analyse the status of the bid preparation and its implications on ACCORD. The Bureau currently considers that several aspects could require evaluation by PAC (licensing conditions, use of the ACCORD codes). **Therefore, the Assembly is invited already now to decide to convene PAC, to address the specific questions that Bureau will formulate.**
- **The Assembly should take note that a specific voting will be required** in order to approve the use of the ACCORD codes by the DE bidding partners.
- The Assembly is also invited to comment on a suggestion from COSMO colleagues that an ACCORD-COSMO forum be established.
- **The Assembly should take note that an extraordinary Assembly meeting in the first or second quarter of 2022 could be needed, to be confirmed.**

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7. Dates of 2022 Consortium events, including next Assembly

3rd ACCORD Assembly

Events since the Assembly in July

2nd ACCORD Assembly: 2 July 2021

- 27-30 September 2021: EWGLAM meeting
- CNA meeting on the 13th of September 2021
- 2nd LTM meeting on the 4th of October 2021
- 2nd STAC meeting on the 15th of November 2021
- Bureau meeting on the 19th and the 27th of November
- regular meetings of the MG (every two weeks)
- many half a day meetings, WD or WW

all on-line events but MUSC WW (Helsinki, Nov.)

ACCORD calendar: <http://www.accord-nwp.org/?ACCORD-MG-CSS-calendar>

3rd ACCORD Assembly: 8 December 2021

2022 (main) events

- Regular on-line meetings of the MG, WD and WW organised by MG
- LTM meeting to discuss the scientific visits for the DAP2022 (early 2022, on-line)
- Bureau meeting, last week of February (to analyse the bid proposal for DestinE)
- PAC: end of February or beginning of March, if convened by the Assembly (DestinE)
- Assembly or remote voting (on providing the codes for DE): 1st half of March
- All Staff Workshop, 4-8 April 2022, Ljubljana with MG and LTM meetings
- Bureau: spring (modernisation of working practices)
- PAC + STAC in spring (policy or organisational questions in link with modernisation of working practices)
- STAC in Spring (progress on modernisation, update of work plan, impact of DE on work plans)
- Bureau meeting (preparation of the Assembly)
- 4th Assembly: 27 June in Bologna or on-line meeting in another week ?
- EWGLAM/SRNWP meeting in Brussels (hybrid-format), 26-29 September 2021, with MG and/or LTM meeting
- STAC in autumn
- Autumn: Extraordinary Assembly or remote (silent) procedure to agree on additional expenses (priority staffing or expenses of general interest)
- PAC in autumn if convened by the Assembly
- End of the year Assembly: on-line meeting or 5 or 8 December in Darmstadt ?

AOB & Closing

- 8. any other business ?
- 9. closing

Manpower committed figures for 2022

Commitments in RWP 2022

by groupings

