

# SPM Report

## Outline

- „ Thank you ! “
- „ Sorry ! “
- New PPs approved by the STC
- Transition to ICON / PP C2I4LC
- COSMO/ICON cooperation
- Further research activities & opportunities for cooperation

## Thank you

- I am deeply grateful for all the excellent support which I received to find my way into the job as SPM (I like this job .... not joking!)

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Michael Baldauf

Jean-Marie Bettens

Anastasia Bundel

Flora Gofa

Chiara Marsigli

Andrzej Mazur

Massimo Milelli

Matthias Raschendorfer

Christoph Schraff

Uli Schättler

Xavier Lapillonne

Theodore Andreadis

Roland Potthast

*Thank you for the time you spent in (video) chats and in writing e-mails answering my questions (sometimes more than once) about COSMO!*

## Thank you

- Theodore Andreadis (HNMS)
  - .... for being the „Man behind the web pages“
  - Theodore's contribution to the consortium by taking care of the webpages and maillists and his fast response to our (often late) requests should not be underestimated!
  
- Andrzej Mazur (IMGW-PIB)
  - .... for jumping in as WG4 coordinator and doing an excellent and reliable job under unexpected circumstances

## Sorry ...

- ...for the time you had to spend in (video) chats and in writing e-mails answering my questions (sometimes more than once) about COSMO !

*Might improve with increasing experience of the SPM.  
But never hesitate to contact me for discussions*

- ...for the flow of requests and reminders you (in particular the WG coordinators) receive from me and even more for the increasing strength of this flow when we get closer to meetings (SMC, STC, GM)

*Unlikely to change....sorry again...*

# Approval of new PPs by the STC

## PP CARMENs

### “COSMO Application of Rfdbk/MEC on ENS”

- Project leader: Amalia Iriza-Burca, NMA
- 09/2022-09/2024 ~ 3.25 FTE in total
- Successor of PP CARMA
- extend the implementation and usage of the MEC-Rfdbk system to the evaluation of EPS model outputs
- statistical results for selected time periods of COSMO and ICON-LAM based ensemble systems over national domains to be produced and published on the COSMO Verification web page

# Extension of PP IMPACT

## “Icon on Massively Parallel Architectures”

- Project leader: Carlos Osuna, MeteoSwiss
- 10/2018-09/2022 → 12/2023    4.26 FTE → 10.86 FTE
- The effort for the GPU port with openACC has been considerably larger -- for good reasons -- than planned
- Complete port and merge of missing components to the icon master code
- Optimize ICON on GPU.  
Currently the model is about 2 to 3x slower on GPU than COSMO for equivalent configuration, this makes us believe that additional improvements are possible.

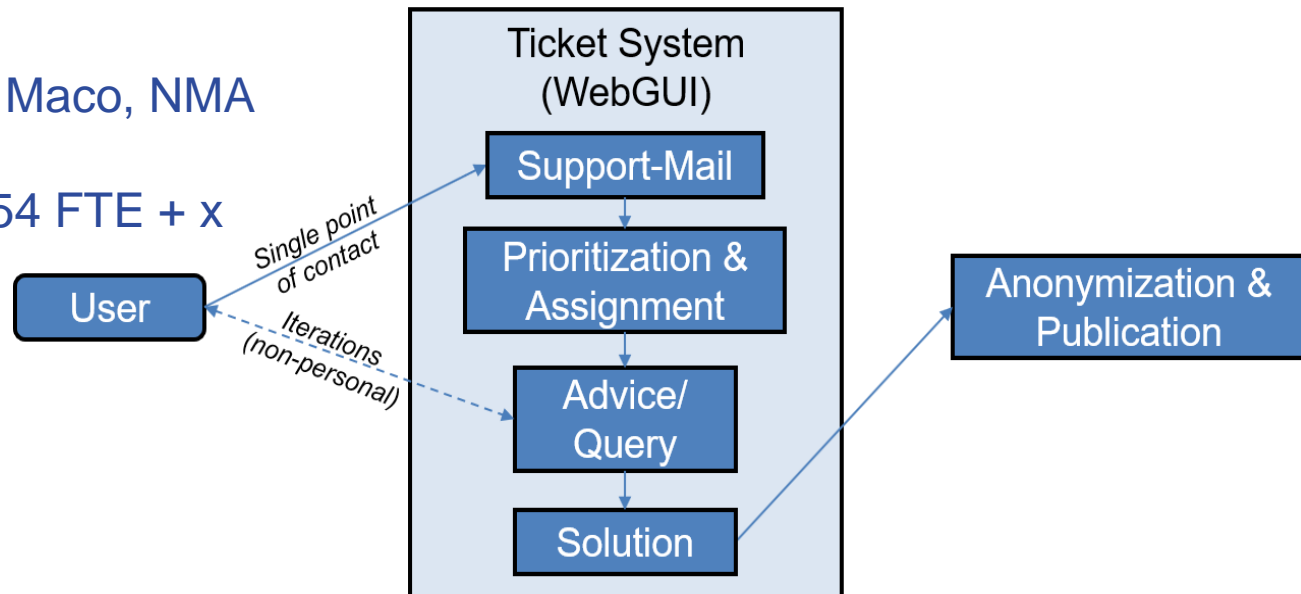


## PP C2I4LC

# “Establishing COSMO to ICON migration for Licensees’ Countries ”

➤ Project leader: Bogdan Maco, NMA

➤ 09/2022-10/2023 ~ 2.54 FTE + x



➤ framework for the support activities that aim for a smooth migration of the COSMO model licensees to ICON-LAM

➤ establish a dedicated team that will start the migration process

## Transition to ICON / PP C2I4LC

- COSMO-internal transition of LAM NWP forecasts → PP C2I
- Transition of COSMO licensees to ICON
  - a successful transition of COSMO licensees to become ICON licensees is important for the consortium as well as for the ICON community
  - importance and visibility of the consortium and the ICON model increase with the number of licensees
  - the forecast performance in critical NWP applications contributes to the reputation of the ICON modelling framework as a whole
  - COSMO licensees to become and to stay ICON licensees cannot be taken for granted and will significantly depend on the support by COSMO

**Please, support PP C2I4LC with resources and active participation!**

## COSMO / ICON cooperation

- There are scientific, technical and administrative/governance aspects to consider in this cooperation → many discussions on different levels are ongoing
- Process to establish a cooperation for the mutual benefit is ongoing with first promising steps, but there many more steps to go
- COSMO took part in the ICON All Staff Meeting in June 2022
  - presentations of PP CITTA and PP CAIR
  - feedback on proposed projects for scientific cooperation has been minor
- ICON-C
  - Important activity to keep a complex code manageable
  - There are concerns that the need of scientific model developers is not sufficiently accounted for in ICON-C
- Coordination on the level of scientific working groups depends (not only) on the coordination between individual scientists

## COSMO / ICON cooperation -- How to proceed?

- Keep contact with ICON bodies/groups, take part in discussions actively
- Start to replace abstract discussions about potential ways for cooperation by tackling specific scientific and technical tasks
  - ➔ motivation by progress
  - ➔ weak links are easier to detect and easier to tighten
- Some adjustment of role definitions will be needed (COSMO ToR)  
recently detected by the SPM:  
*“Adaptation of the COSMO SMC when transiting to the ICON model”*  
*Version 1.0 (8 November 2019)*
- COSMO WGs with their focus on NWP provide a unique contribution to the overall ICON community!
- Keep on going with self-confidence! It is justified by your expertise and experience!

## Further research activities & opportunities for cooperation

- Cooperation with ACCORD to improve NWP for stably stratified boundary layer (Dmitrii Mironov, DWD, Ekaterina Kurzeneva, FMI)
- TEAMx (Uni Innsbruck, Marco Arpagaus, MCH)
- GLORI project ; digital twin with global-regional short-range high resolution prediction capability (Chiara Marsigli, DWD)
  - link to DestinE
  - Special topic of EWGLAM: Opportunities and challenges in hectometric NWP
- SINFONY at DWD (Uli Blahak)  
rapid update cycle, combine nowcasting/forecasting, two-moment microphysics
- How can COSMO be active and *visible* in such activities (maybe beyond the PP/PTs approach) *not only as persons, but as consortium?*
  - SMC is asked by the STC to think about activities towards hectometric NWP.  
In which way can we develop the ICON model in this direction?