Updates on TSVV and ACH projects status

7th E-TASC Scientific Board | 27.10.2022

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5 hubs installed under 3 category:
CAT1 – HPC [CIEMAT, EPFL, MPG] ~52%;
CAT2 – IM [IPPLM] ~27%;
CAT3 – DBs [VTT] ~21%

Gradual increase of ACH resources 2021-2023

2023 onwards – ACHs are running at the full speed

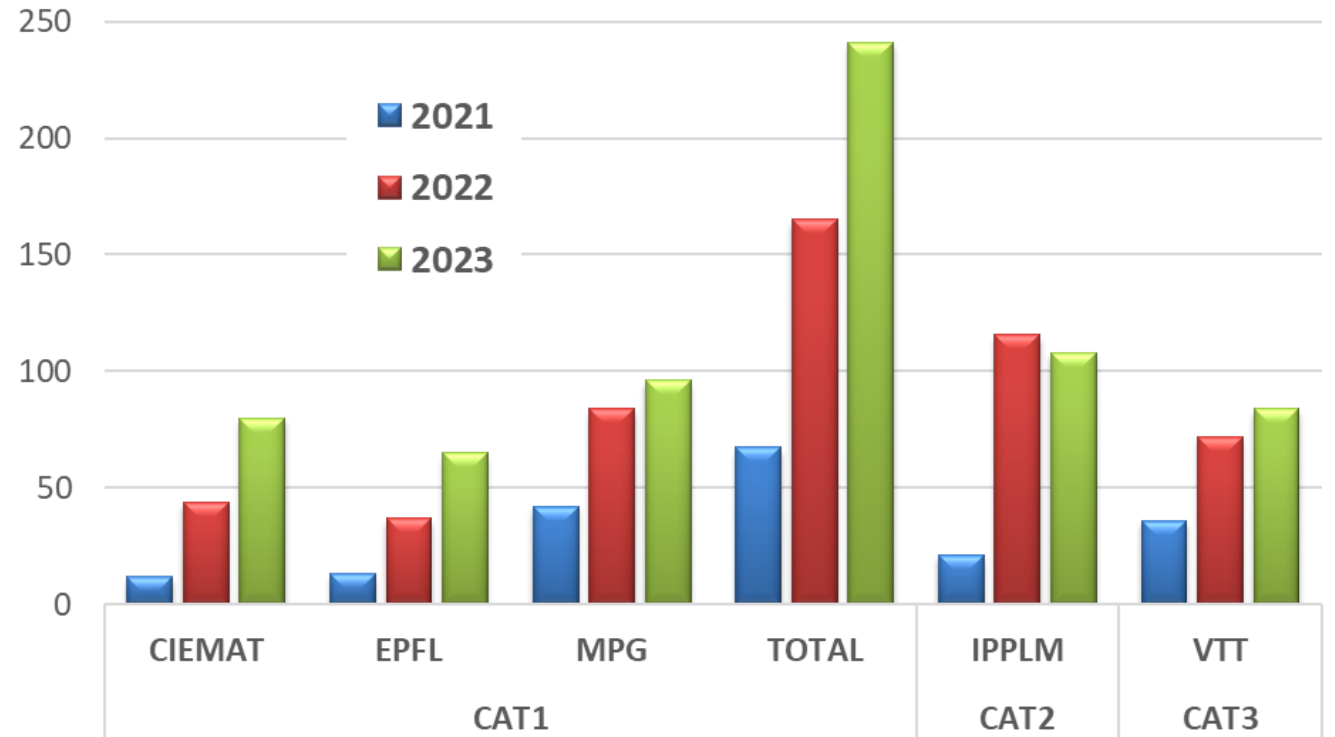Foreseen usage of ACH
resources by the end of:

2021 – 6.5%
2022 – 24.8%
2023 – 47.4%
2024 – 73.6%
2025 – 100%

Resources availability per Categogy/HUB

Foreseen ACH support distribution

Allocation of ACH resources is done on the annual basis by the **E-TASC SB**:

- following requests and priorities indicated by TSVVs (on annual basis);
- matching competences and capacities of ACHs; and
- considering indicative request of ACH resources done in TSVV proposals.

Indicative distribution of the ACH resources over TSVVs (total 2021-2025 per TSVV):

TSVV-01: ~ 12.4 PPY / TSVV-02: ~ 6.2 PPY / TSVV-03: ~ 12.4 PPY / TSVV-04: ~ 12.4 PPY

TSVV-05: ~ 8.7 PPY / TSVV-06: ~ 6.2 PPY / TSVV-07: ~ 12.4 PPY / TSVV-08: ~ 12.4 PPY

TSVV-09: ~ 7.4 PPY / TSVV-10: ~ 12.4 PPY / TSVV-11: ~ 12.4 PPY / TSVV-12: ~ 12.4 PPY

TSVV-13: ~ 8.7 PPY / TSVV-14: ~ 3.7 PPY

In addition (to TSVV support) ACHs are running several tasks important for entire community
(e.g. DevOps, support for MARCONI, WPCD workflow maintenance, DMP)

From 2023 onwards a small number of tasks from other WPs will receive the ACH support

USE OF ACH RESOURCES PER TSVV
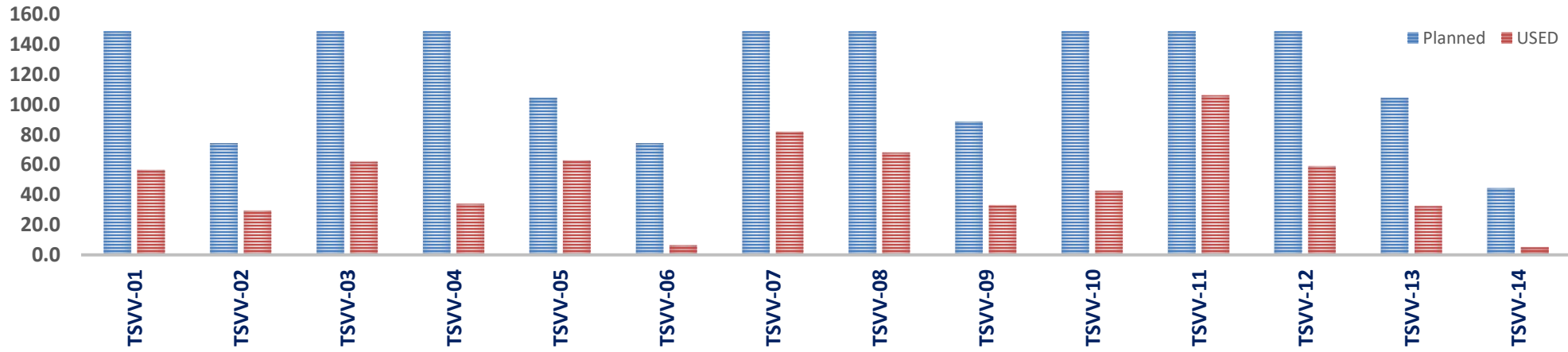
USE OF ACH RESOURCES PER CODE

Progress towards EUROfusion standard software

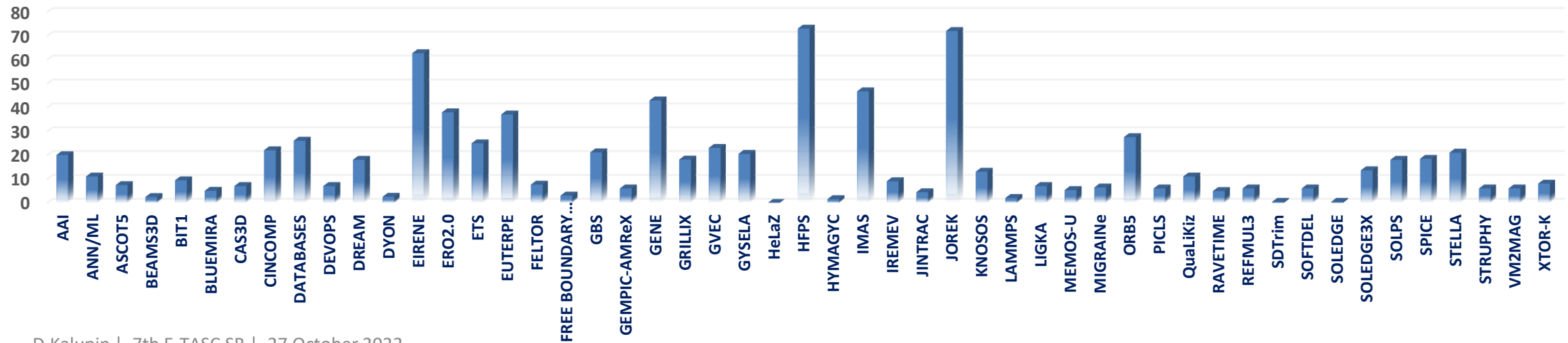| CODE	SOFTWARE ENGINEERING				INTERFACES			VVUQ				DISSEMINATION		DOCUMENTATION		USER SUPPORT	
	1. Version control implemented	2. Software engineering standards	3. Coding standards established	4. Performance optimization on HPC systems	1. User-friendly interface	2. Post-processing and visualisation tools	3. Interface to the IMAS Data Dictionary	1. Specific plans for code verification	2. Code verification studies accomplished	3. Inter-code benchmarking accomplished	4. Code validation studies accomplished	1. Up-to-date release version on the Gateway	2. Trainings provided to code users	1. High-quality technical documentation	2. User manual available for download	1. Responsive support team	2. Tools for managing support requests
GENE	Completed	Completed	Completed	In Progress	In Progress	In Progress	Not started	In Progress	Completed	Completed	In Progress	In Progress	Not started	In Progress	Completed	Completed	In Progress
BIT1	Not started	In Progress	Completed	In Progress	In Progress	Completed	Completed	Completed	Completed	Completed	Completed	N.A.	In Progress	Completed	Completed	Completed	Completed
FELTOR	Completed	Completed	Completed	Completed	Completed	Completed	Completed	Completed	In Progress	In Progress	Completed	Completed	In Progress	Completed	Completed	N.A.	In Progress
GBS	Completed	Completed	Completed	In Progress	N.A.	Completed	Not started	In Progress	Completed	In Progress	In Progress	Not started	Not started	In Progress	In Progress	In Progress	Completed
GRILLIX	Completed	In Progress	Completed	In Progress	Not started	In Progress	Not started	In Progress	Completed	In Progress	In Progress	Not started	Not started	In Progress	In Progress	Completed	In Progress
HESEL	Completed	Completed	N.A.	Not started	Completed	Completed	Completed	N.A.	N.A.	Not started	Completed	Completed	N.A.	Completed	Completed	N.A.	N.A.
GENE-X	Completed	Completed	Completed	In Progress	In Progress	In Progress	Not started	Not started	Not started	Not started	In Progress	Not started	Not started	Not started	Not started	Not started	Not started
GYSELA	Completed	Completed	In Progress	In Progress	N.A.	Completed	Not started	In Progress	In Progress	In Progress	Completed	Not started	In Progress	Completed	In Progress	Completed	Completed
PICLS	Completed	Completed	In Progress	Not started	N.A.	In Progress	Not started	Completed	In Progress	Not started	Not started	Not started	In Progress	In Progress	Not started	Not started	Not started
EIRENE-NGM	Completed	In Progress	In Progress	In Progress	Not started	In Progress	In Progress	In Progress	In Progress	In Progress	Not started	In Progress	In Progress	In Progress	Completed	Not started	Not started
EMC3	Completed	In Progress	In Progress	In Progress	In Progress	Completed	N.A.	In Progress	Completed	In Progress	In Progress	In Progress	In Progress	In Progress	In Progress	In Progress	N.A.
SOLEDGE3X	Completed	Completed	Completed	In Progress	In Progress	Completed	In Progress	Completed	Completed	In Progress	In Progress	Completed	Not started	In Progress	In Progress	Completed	In Progress
ERO2.0	Completed	In Progress	Completed	In Progress	N.A.	In Progress	Not started	In Progress	In Progress	Not started	In Progress	Not started	Completed	Completed	In Progress	Completed	Completed
MEMENTO	Completed	In Progress	In Progress	In Progress	N.A.	In Progress	Not started	Completed	Completed	Completed	Completed	In Progress	In Progress	In Progress	In Progress	Not started	Not started
MIGRAINe	In Progress	In Progress	Completed	In Progress	N.A.	Completed	Not started	Completed	Completed	Completed	Completed	In Progress	In Progress	In Progress	In Progress	Not started	Not started
RAVETIME	Completed	In Progress	In Progress	In Progress	In Progress	In Progress	Not started	In Progress	In Progress	In Progress	In Progress	Not started	In Progress	In Progress	In Progress	In Progress	Not started
SDTrimSP	Completed	In Progress	In Progress	In Progress	In Progress	Completed	Not started	Completed	Completed	Completed	Completed	In Progress	In Progress	Completed	Completed	In Progress	In Progress
SPICE	Completed	Completed	Not started	In Progress	In Progress	In Progress	Not started	In Progress	In Progress	Not started	In Progress	Not started	In Progress	In Progress	Not started	Completed	Not started
JOREK	Completed	In Progress	In Progress	In Progress	In Progress	In Progress	In Progress	Completed	In Progress	In Progress	In Progress	In Progress	In Progress	In Progress	In Progress	Completed	In Progress
DREAM	Completed	Not started	Completed	In Progress	In Progress	Completed	In Progress	Completed	Completed	In Progress	In Progress	Not started	In Progress	In Progress	In Progress	Completed	Completed
ETS	Completed	Completed	In Progress	Not started	Completed	In Progress	Completed	In Progress	In Progress	Not started	Completed	Not started	In Progress	In Progress	Not started	Completed	Completed
EUTERPE	Completed	In Progress	In Progress	Not started	In Progress	Completed	In Progress	In Progress	In Progress	In Progress	Completed	In Progress	Completed	In Progress	In Progress	Completed	Completed
HAGIS	Completed	Completed	In Progress	Not started	In Progress	In Progress	Completed	Completed	Completed	Not started	Completed	In Progress	In Progress	In Progress	Not started	Not started	Not started
HMGC	Completed	In Progress	In Progress	In Progress	N.A.	Completed	N.A.	Completed	Completed	In Progress	Completed	N.A.	In Progress	Completed	Completed	N.A.	N.A.
HYMAGYC	Completed	In Progress	In Progress	In Progress	In Progress	Completed	In Progress	In Progress	In Progress	In Progress	In Progress	In Progress	In Progress	In Progress	Not started	Not started	Not started
LIGKA	Completed	In Progress	In Progress	Not started	Completed	In Progress	Completed	Completed	Completed	Not started	In Progress	In Progress	Not started	In Progress	Completed	Not started	Not started
ORB5	Completed	Completed	Completed	In Progress	N.A.	Completed	In Progress	Completed	Completed	Completed	In Progress	Not started	In Progress	Completed	Completed	Completed	Completed
XTOR	In Progress	In Progress	Not started	Not started	Not started	In Progress	Not started	In Progress	In Progress	Not started	Not started	Not started	In Progress	In Progress	In Progress	Not started	Not started
HCD-WF	Not started	Not started	Not started	Not started	Not started	Not started	Not started	Not started	Not started	Not started	Not started	Not started	Not started	Not started	Not started	Not started	Not started
HFPS	Completed	Completed	Completed	Not started	Completed	Completed	Completed	In Progress	In Progress	Not started	In Progress	In Progress	Completed	Completed	Completed	Completed	Completed
QLKNN	Completed	Completed	Completed	Not started	N.A.	Completed	In Progress	N.A.	Completed	Not started	In Progress	In Progress	N.A.	Completed	Completed	Completed	Completed
ASCOT5	Completed	Completed	In Progress	In Progress	In Progress	In Progress	In Progress	In Progress	Not started	In Progress	In Progress	In Progress	In Progress	In Progress	Not started	In Progress	Completed
CAS3D	Completed	Completed	In Progress	In Progress	N.A.	Completed	N.A.	In Progress	In Progress	In Progress	Completed	Not started	In Progress	Not started	In Progress	In Progress	Not started
GVEC	Completed	Completed	In Progress	In Progress	N.A.	In Progress	Not started	In Progress	In Progress	In Progress	In Progress	Not started	Not started	Not started	In Progress	In Progress	In Progress
KNOSOS	In Progress	In Progress	Not started	In Progress	Not started	In Progress	Not started	Completed	In Progress	Completed	In Progress	Not started	In Progress	In Progress	In Progress	Completed	Not started
VM2MAG	Completed	Completed	Completed	In Progress	N.A.	N.A.	Completed	Completed	Completed	Completed	Completed	Not started	In Progress	Not started	In Progress	Completed	N.A.
GENE-3D	Completed	In Progress	In Progress	Not started	Not started	Completed	Not started	Not started	Completed	Not started	In Progress	Not started	Not started	In Progress	In Progress	Completed	Completed
STELLA	Completed	In Progress	In Progress	In Progress	In Progress	In Progress	Not started	Completed	Completed	In Progress	In Progress	Not started	In Progress	Completed	In Progress	In Progress	Not started
BLUEMIRA	Completed	Completed	Completed	In Progress	N.A.	Completed	Not started	In Progress	In Progress	In Progress	N.A.	N.A.	In Progress	In Progress	Completed	Completed	Completed

Reference (EUROfusion Standard Software):
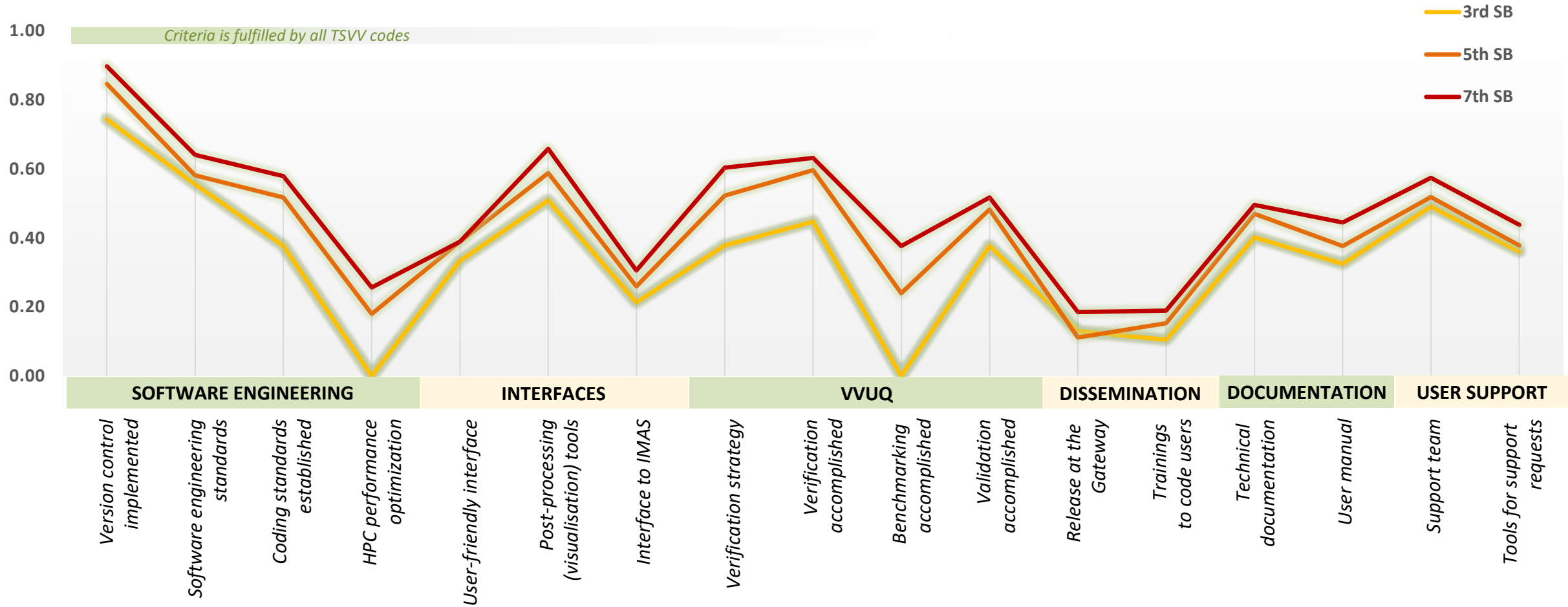http://idm.euro-fusion.org/?uid=2Q72WQ

Good progress in many software development areas

More work needed:
- Performance optimization
- IMAS interfaces
- Inter-code benchmarking
- Dissemination
- User support

Quantified progress of TSVV codes towards EUROfusion Standard Software

TSVV Missions 2022

TSVV	REQUEST 2022	Estimated # of travel days	Estimated direct costs, k€	Endorsed direct costs, k€	Endorsed CC, k€	Comment	CC for missions approved in IMS, k€	Meetings/Visits covered
TSVV-01	In view of this very strict financial limit, TSVV1 will not be able and hence not be aiming for more than one 2-3 day hybrid meeting involving up to 15 participants (depending on the 2022 COVID developments). This meeting likely needs to take place in Garching, such that mission	18	5.5	4.35	3.81	Assumptions: max-160 EUR/day; 400 EUR/ticket; 3 days; 5 persons (Garching, EPFL and UKAEA are excluded) (0.16*3+0.4)*5 = 4.4kEUR	1.49	TSVV-01 Progress Workshop 2022 (in addition EPFL requests for 3.33 k€ CC)
TSVV-02	Given the constraints, we have no travel requests from TSVV 2.					EPFL participants are not eligible for EUROfusion funds		
TSVV-03	Here is the feedback from TSVV3. Beside the mission that you have already accepted for me in Leuven we plan a visit to Lausanne for 3 people to work on code optimization with the ACH. The requested numbers for these missions are:	17	3.7	3.5	3.06	additional requests might come (mission application to Leuven is submitted and approved in IMS, costs reported = 0.3 kEUR)	3.50	Development of HDG edge plasma solver for TSVV3 in Leuven 10-12.04.2022
TSVV-04	here are the travel requests for TSVV Task 4 for this year: • Funds for a workshop in Garching: o Duration ≤ 2 nights	18	4.3	4.35	3.81	Priority must probably be given to one event (of two proposed) Assumptions: max-160 EUR/day; 400 EUR/ticket; week = 5 working days	3.11	Annual meeting of TSVV-04 in Garching 29-31.05.2022 (in addition EPFL requests for 1.36 k€ CC)
TSVV-05						EIRENE code camp took place in 2021 After the deadline D.Borodin has ascked the possibility for the CC. Resources could be allocated if other TSVVs will underuse their	3.59	TSVV-05 CC in Leuven, 21-24.11.2022 (in addition support to ACH attendance, 1.14 k€)
TSVV-06	1) Mission from CEA to EPFL for one person for working with the ACH on SOLEDGE optimization. Duration: 4 days. Budget estimation: 1500 euros 2) Mission from Aix Marseille University to EPFL for working on impurity transport. 1 person,	8	3	2.4	2.10	Assumptions: max-160 EUR/day; 400 EUR/ticket; week = 5 working days; 2 persons (0.16*5+0.4)*2 = 2.4kEUR		
TSVV-07	We within TSVV-7 would be glad to organize a full team meeting at the end of 2022. From the available mission budget per TSVV it is clear that an offline meeting of such scale is not possible unless financed by other means. Do you think the situation may change in 2023? For					planned for 2023	0.44	Attending SOPS-ITER training
TSVV-08	We have the JOREK general meeting in Garching May 16th-20th. People will typically stay Sun-Fri as we start Mon morning. I expect (dep. on Covid) about 8-10 TSVV 8 contributors travelling to Garching, clearly exceeding the 2kEuro budget.	50	10.2	4.35	3.81	Assumptions: max-160 EUR/day; 400 EUR/ticket; week = 5 working days; 6 none-local participants (excluding EPFL and UKAEA) (0.16*5+0.4)*6 = 7.2kEUR	3.15	Annual meeting of TSVV-08 in Garching 15-20.05.2022 (in addition EPFL requests for 3.24 k€ CC)
TSVV-09	This year, we (TSVV 9 members) organize the Runaway Electron Meeting in Garching (https://www.ipp.mpg.de/rem2022.html). For this, about 7 people from TSVV 9 would need to travel for a duration of 6 days (Sunday-	35	8.4	4.35	3.81	Assumptions: max-160 EUR/day; 400 EUR/ticket; week = 5 working days; 6 none-local participants (excluding EPFL and UKAEA) (0.16*5+0.4)*6 = 7.2kEUR	3.94	9th Runaway Electron Modelling (REM) meeting in Garching 02-06.05.2022
TSVV-10	TSVV Task 10 does not have mission plans for 2022.					none		
TSVV-11	For TSVV11 Monday 25 noon to Friday 29 April 2pm, in Poznan, non CCFE/EPFL TSVV11 member foreseen to travel are 6 persons: J. Citrin, C. Bourdelle, P. Manas, P. Maget, Y. Camenen, C. Angioni	30	7.2	4.35	3.81	Assumptions: max-160 EUR/day; 400 EUR/ticket; week = 5 working days; 6 none-local participants (excluding EPFL and UKAEA) (0.16*5+0.4)*6 = 7.2kEUR	3.81	Annual meeting of TSVV-11 in Poznan 25-29.04.2022 (in addition EPFL requests for 0.61 k€ CC support to ACH attendance, 1.2 k€)
TSVV-12	Nobody of our TSVV needs travel budget for 2022, however our members of the TSVV 12 would like to have a team meeting in 2023. We believe that such a meeting would enhance collaboration and knowledge exchange and would therefore be very beneficial.					planned for 2023		
TSVV-13	On the TSVV13 side, only one mission has been requested so far. Here it goes: Duration of the meeting: 1 week	5	2	1.2	1.05	Assumptions: max-160 EUR/day; 400 EUR/ticket; week = 5 working days; 0.16*5+0.4 = 1.2kEUR	1.75	Development of STELLA and its diagnostics
TSVV-14	Sorry for the delay, I don't plan for any missions for 2022.					only KIT participants are eligible		
		181	44.3	28.85	25.24		24.77	

Other Points

Additional travel funds in 2023-2025 (25k€/year) to allow at least one in person annual meeting per TSVV have been requested to the Project Board

First training on TSVV developed tolls is planned for Jan 2023.

Some new tasks have been accommodated by WPAC (*compared to original scope defined prior to start of FP9*) have been added to WPAC for benefits of the wider community (AAI, DevOps, DMP)

Provision of IMASified data on request of TSVV (Coordinated action between TSVV PIs and ACH/DMP might be needed to guarantee data delivery in 2024)

Improving interactions and information exchange between projects (no interest from PIs)