



4 Apr 2024

<https://github.com/EESSI/meetings/wiki>

Agenda



1. Quick introduction by new people
2. EESSI-related meetings and events in last month
3. Progress update per EESSI layer
4. Update on EESSI production repository software.eessi.io
5. Update on EESSI test suite + build-and-deploy bot
6. EESSI support portal
7. AWS/Azure sponsorship update
8. Update on MultiXscale EuroHPC project
9. Upcoming/recent events: EuroHPC Summit + EasyBuild User Meeting 2024 + ISC'24
10. Q&A

Quick introduction by new people



New people on the call: feel free to introduce yourself!

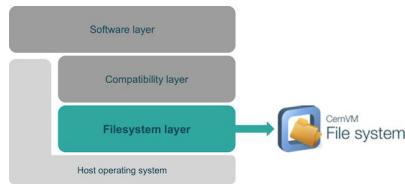
- Who are you, where do you work, on what?
- Why are you interested in the EESSI project?
- Are you planning to actively contribute,
and if so, to which aspect(s) of the project?

EESSI-related meetings & events



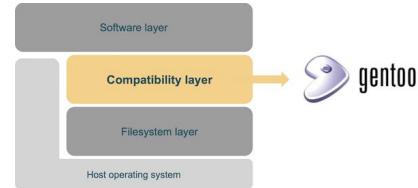
- (11 Mar'24) Azure/EESSI sync meeting ([notes](#))
- (12 Mar'24) MultiXscale WP1+WP5 sync meeting
- (14 Mar'24) AWS/EESSI sync meeting ([notes](#))
- (15 Mar'24) CernVM-FS + EESSI tutorial for EuroHPC hosting entities ([recording available](#))
- (18-21 Mar'24) Many impromptu meetings at EuroHPC Summit Week
- (21-22 Mar'24) MultiXscale General Assembly meeting
- (25 Mar'24) [oneAPI](#) and [UXL](#) Introduction (Alan)
- (Mar'24) EESSI test suite sync meeting ([notes](#), [notes](#))
- (Mar'24) Weekly support team sync meetings (*notes are in private wiki on EESSI support portal*)

Progress update: filesystem layer

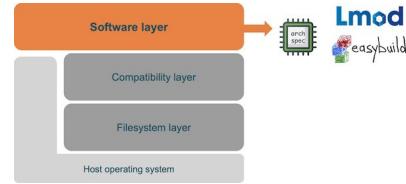


- Get the CernVM-FS sync server configured and documented properly
 - Use EESSI sync server as Stratum 0 (merged [PR #177](#)) + [docs PR #157](#) (still open)
 - Required some changes in the `ansible-cvmfs` role from the Galaxy project
 - Forked the role: <https://github.com/EESSI/ansible-cvmfs>
 - Use our fork of the `ansible-cvmfs` role (open [PR #179](#))
- Script for updating the Lmod caches of all supported CPU targets is in place (PR [#175](#) and [#184](#))
 - It's automatically executed for every ingested software tarball
 - Prevents that Lmod cache is overwritten with outdated copy when tarball is ingested
- New RISC-V development repository: `riscv.eessi.io`
 - Documentation at eessi.io/docs/repositories/riscv.eessi.io
- Make filename check in tarball ingestion script less strict to allow for init scripts being deployed by the build bot (merged [PR #186](#))

Progress update: compatibility layer

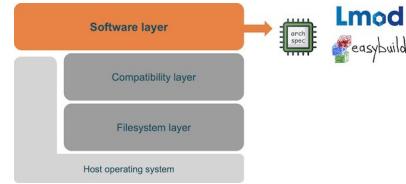


- Make ReFrame test suite more flexible, and allow it to be run on other repos, e.g. `riscv.eessi.io` ([PR #201](#))
- Bump base image version of Debian Sid build container (used for RISC-V) due to backdoored XZ version ([PR #203](#))
- Install `nss-pam-ldapd` and `sssd` in compat layer with custom USE flags (open [PR #199](#) and gentoo-overlay [PR #99](#))
 - Only installs the clients, and communicates with the host daemons; no need for host symlinks anymore
 - Should solve LDAP / user ID resolving issues, see <https://gitlab.com/eessi/support/-/issues/32>
 - This has been deployed to and tested in the pilot ready; ready to be merged and ingested into `software.eessi.io` repo
- Experimental RISC-V compatibility layer ([PR #202](#)) available at `/cvmfs/riscv.eessi.io/versions/20240307`
 - Note: this has the XZ version with the backdoor (5.6.0), but only `x86_64` & `sshd` seems to be affected by it
 - To be sure, currently rebuilding a new version
- 2023.06 version in EESSI pilot repository (`pilot.eessi-hpc.org`)
 - No recent changes here, **EESSI pilot repository is no longer actively maintained!**
 - Initialization script should make this (very) clear
 - Should suggest to / automatically use `software.eessi.io` instead



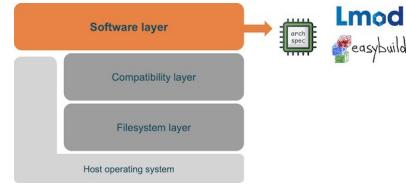
Progress update: software layer (1/4)

- Recently merged PRs (1/2):
 - Additional software: CDO ([PR #492](#)), ipympl ([PR #505](#)), giflib ([PR #513](#)), ImageMagick ([PR #470](#), [PR #498](#)), JupyterNotebook ([PR #495](#)), libspatialindex ([PR #497](#)), libwebp ([PR #513](#)), OpenFOAM v10 ([PR #404](#)), OpenJPEG ([PR #511](#), [PR #513](#)), PyOpenGL ([PR #503](#)), LittleCMS ([PR #513](#)), Qt5 ([PR #462](#)), Z3 ([PR #502](#)), python-casacore ([PR #497](#)), R v4.2.2 ([PR #452](#)), Wayland ([PR #520](#)), WSClean 3.4 + DP3 6.0 ([PR #479](#)),
 - Let bot run EESSI test suite during test phase (part of bot build procedure) ([PR #467](#))
 - Convince Lmod hook that CUDA is available in build container ([PR #475](#))
 - Support rebuilding of software & rebuild OpenMPI 4.1.x to fix smcuda bug ([PR #488](#), [PR #518](#))
 - Rebuild GCCcore 12.3.0 + 13.2.0 to fix aarch64 vectorization issue ([PR #521](#))
 - Deploying of rebuilt software still requires manual intervention for now...



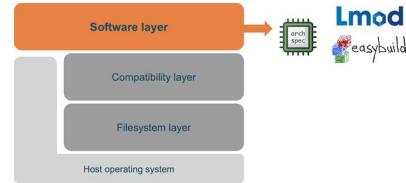
Progress update: software layer (2/4)

- Recently merged PRs (2/2):
 - Make `check_missing_installations.sh` check against develop branch of EasyBuild (PR #486)
 - Fix CI issue for `scripts / build` workflow ([PR #516](#), [PR #528](#))
 - Improved error reporting when building from unmerged EasyBuild PRs ([PR #494](#) + [PR #506](#))
 - Bug fix for the fact that only the last registered hook gets used ([PR #490](#))
 - [PR to Lmod](#) to allow registering multiple hooks
 - Move Lmod hooks from `lmodrc.lua` into `SitePackage.lua` ([PR #496](#))
 - Configure Lmod via `$LMOD_CONFIG_DIR + $LMOD_PACKAGE_PATH`, not `$LMOD_RC` ([PR #524](#))
 - Allow additional Lmod hooks in `host_injections`, e.g. to allow site-specific tuning of OpenMPI ([PR #525](#))
 - Don't update Lmod cache as part of bot build (now done on Stratum 0) ([PR #512](#))



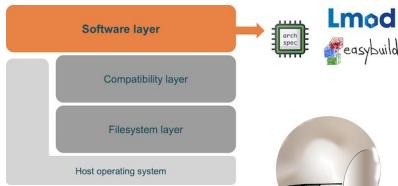
Progress update: software layer (3/4)

- Recent active open PRs + issues:
 - Additional software: GROMACS ([PR #401](#), [PR #463](#), [PR #499](#)), Highway ([PR #529](#)), R-bundle-CRAN v2023.12 ([PR #428](#)), QuantumESPRESSO 7.3 ([PR #504](#)), Modflow + PETSc + SuperLU_DIST ([PR #522](#)), R-bundle-Bioconductor v3.16 ([PR #526](#))
 - Script to determine license for software being included in EESSI ([PR #457](#))
 - Make EESSI compatible with archspec 0.2.3+ ([PR #485](#))
 - Add possibility to ignore certain hooks on local modules ([PR #530](#))
 - EESSI CUDA hook prevents loading even local (non-EESSI) CUDA module ([issue #523](#))
 - Building (and making visible) software for accelerators ([EESSI support issue #59](#))
 - Feedback welcome!



Progress update: software layer (4/4)

- Relevant recent EasyBuild PRs:
 - Support for --from-commit + --include-easyblocks-from-commit ([framework PR #4468](#) - merged, incl. EasyBuild v4.9.1)
 - Add generic GCC and Clang compiler flags for RISC-V ([framework PR #4489](#))
 - Set \$LIBRARY_PATH in GCC easyblock + disable building NVPTX on RISC-V ([easyblocks PR #3256](#))
 - Add patch to fix multiarch support for RISC-V to all GCCcore 12.x and 13.x ([easyconfigs PR #20035](#))
 - Add pixman and FriBidi dependencies to recent ImageMagick easyconfigs ([easyconfigs PR #20086](#))
 - Set \$LD_LIBRARY_PATH for python-casacore 3.5.2 ([easyconfigs PR #20089](#))
 - Fix incompatible types errors when building the R extension dbarts on Arm ([easyconfigs PR #20238](#))
- Good progress made towards EasyBuild v5.0...



Bot for building + deploying software layer



<https://github.com/EESSI/eessi-bot-software-layer>

- Improvements in March'24
 - [PR#261](#) update authors and headers where applicable
 - [PR#262](#) improve display of build targets
 - [PR#263](#) use result files for deployment
- Next:
 - check configs at bot start
 - new release
 - improve deployment (ingestion efficiency, single approval PR, flexible tasks)
 - automatic disk cleanup for merged PRs

Old display

Instance `dev-PR254` is configured to build:

- `arch x86_64/amd/zen2` for repo `nessi-2022.11-sw1-deb10`
- `arch x86_64/amd/zen2` for repo `nessi-2023.06-cl`
- `arch x86_64/amd/zen2` for repo `nessi-2023.06-sw1-deb10`
- `arch x86_64/amd/zen2` for repo `nessi-2023.06-sw1-deb11`
- `arch aarch64/generic` for repo `nessi-2022.11-sw1-deb10`
- `arch aarch64/generic` for repo `nessi-2023.06-cl`
- `arch aarch64/generic` for repo `nessi-2023.06-sw1-deb10`
- `arch aarch64/generic` for repo `nessi-2023.06-sw1-deb11`
- `arch aarch64/thunderx2` for repo `nessi-2022.11-sw1-deb10`
- `arch aarch64/thunderx2` for repo `nessi-2023.06-cl`
- `arch aarch64/thunderx2` for repo `nessi-2023.06-sw1-deb10`
- `arch aarch64/thunderx2` for repo `nessi-2023.06-sw1-deb11`

New display

Instance `dev-PR254` is configured to build for:

- architectures: `x86_64/amd/zen2`, `aarch64/generic`, `aarch64/thunderx2`
- repositories: `nessi-2023.06-cl`, `nessi-2023.06-sw1-deb11`, `nessi-2023.06-sw1-deb10`, `nessi-2022.11-sw1-deb10`

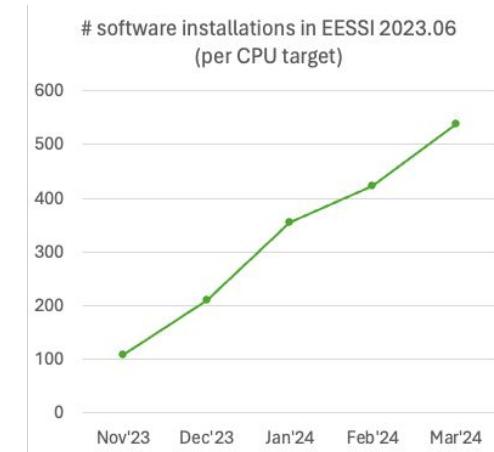
EESSI production repository

eessi.io/docs



`software.eessi.io` is the **production-ready EESSI repository**

- Version 2023.06 is now being populated with software via [PRs to software-layer repo](#) + build-and-deploy bot
 - 8 supported CPU targets: see [eessi.io/docs/software_layer/cpu_targets](#)
 - Initial support for NVIDIA GPUs is in place, see [eessi.io/docs/gpu](#)
 - **We currently have 538 software installations per CPU target**
(+100 compared to last month)
 - 292 different software projects (+41), ~4,295 software installations
(across 8 CPU targets, +775)
 - Current focus:
 - Adding software relevant for MultiXscale project + EESSI demos (incl. GROMACS)
 - Processing incoming contributions to add more software, dealing with failing tests, etc.
 - Actively preparing to also providing optimized software installations for AMD Genoa systems (Zen4)



EESSI documentation

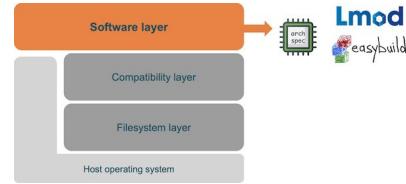
eessi.io/docs - GitHub repo github.com/EESSI/docs

Improvements to the EESSI documentation - merged PRs:

- Update debugging build instructions ([PR #168](#)) - see [docs/adding_software/debugging_failed_builds](#)
- Use Mermaid for flowchart to add software to EESSI ([PR #159](#)) - see [docs/adding_software/overview](#)
- Add page about `riscv.eessi.io` repository ([PR #160](#), [PR #165](#)) - see [docs/repositories/riscv.eessi.io](#)
- Use new URL for status page of pilot repo ([PR #164](#)) - see [status.eessi.io/pilot](#)

Improvements to the EESSI documentation - open PRs:

- Add overview of available software ([PR #161](#), [PR #162](#), [PR #163](#))
- Add instructions on how to rebuild software ([PR #170](#))



EESSI test suite

Merged pull requests:

- Polish & update configuration on daily runs @ AWS, Karolina and Vega clusters ([PR #125](#), [PR #126](#))

Other activities

- Experimented with `httpjson` logger, could be an option for gathering AWS/Karolina/Vega results in one place
- Fixed issues with Karolina daily runs (needed to source `/etc/bashrc` to find `sbatch`)

Open pull requests:

- Test for QuantumEspresso ([PR #128](#))
- Test for PyTorch ([PR #130](#))
- Test for LAMMPS ([PR #131](#))

Support for EESSI (MultiXscale task 5.4)

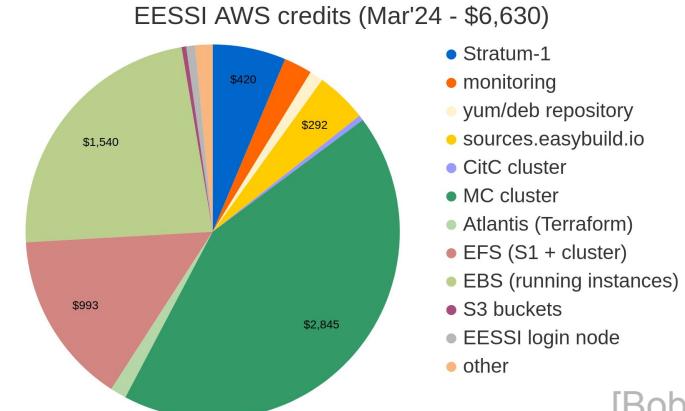
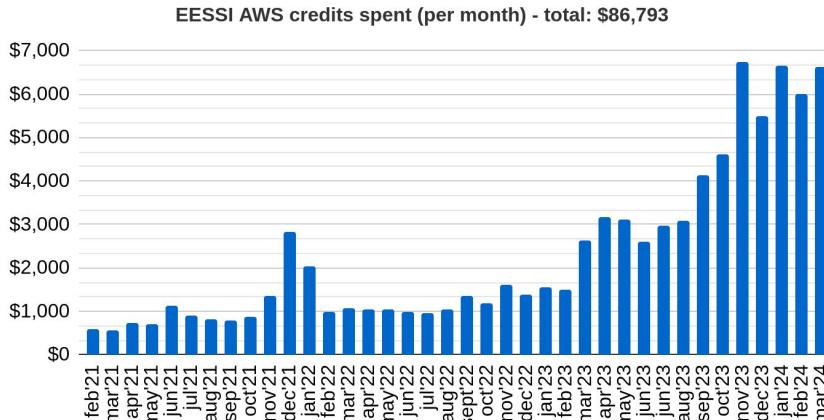


- EESSI support portal: gitlab.com/eessi/support
 - Support requests can be created by:
 - Opening an **issue** in **GitLab**
 - Sending an **email** to `support@eessi.io`
 - Issues in support portal can be public or private (only visible to reporter + support team)
 - **Information on support portal and support policy => eessi.io/docs/support**
 - Support is “reasonable effort” + only for problems with how software was installed in EESSI
 - 4 support issues opened in last month (some of which are by support team to track ongoing tasks)
- Support rotation (in scope of MultiXscale Task 5.4)
 - A MultiXscale project partner is primarily responsible for support for 2 consecutive weeks
 - Weekly regular support sync meetings between MultiXscale project partners
 - Since Jan'24: ~1 FTE dedicated for support effort (across all project partners)
 - Project partners involved in Task 5.4: UGent (lead), SURF, UGroningen, UBarcelona, UBergen, HPCNow!

Sponsored AWS credits



- Ask in #aws-resources Slack channel to get access!
- ~\$6,630 “spent” in Mar'24 on Stratum-1 servers, monitoring, sources.easybuild.io, debugging (build) issues, **Slurm clusters (build bot)**
- **Increase in consumed credits due to extensive activity with build-and-deploy bot**
- Frequent sync meetings with Brendan/Angel/Matt/Francesco (AWS)

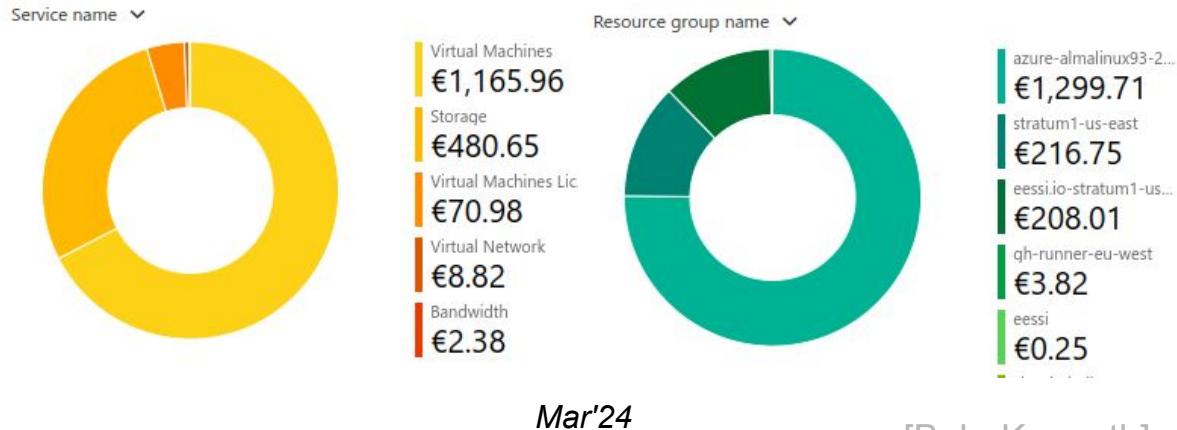
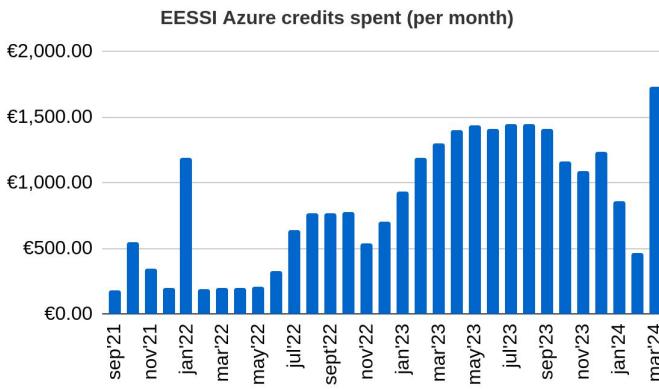


[Bob, Kenneth]

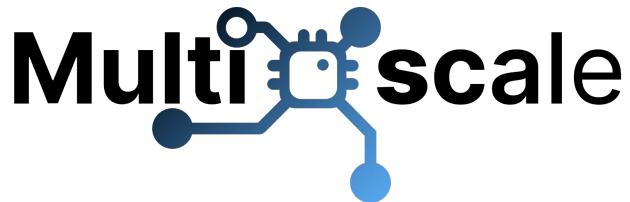
Sponsored Azure credits



- Ask in #azure-resources Slack channel to get access!
- In Mar'24: ~€1,729 worth of credits spent
- Used for: Stratum-1 mirror servers, GitHub Runners, Slurm cluster for bot
- **Slurm cluster with Magic Castle currently being configured, will be operational ASAP**



[Bob, Kenneth]



www.multixscale.eu

github.com/multixscale



EuroHPC
Joint Undertaking



- MultiXscale deliverables (2023): multixscale.eu/deliverables
- **Activities at EuroHPC Summit Week** (18-21 March 2024, Antwerp - Belgium)

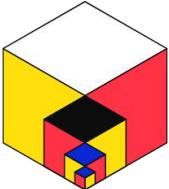
- Part of EuroHPC Demo Lab for Vega
- MultiXscale had a poster, and was involved in multiple panel discussions

- **MultiXscale General Assembly meeting**

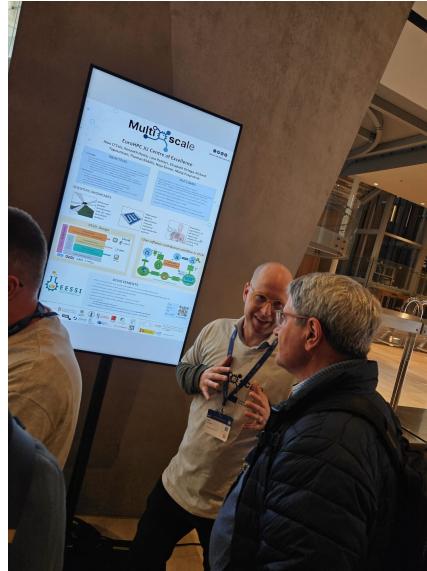
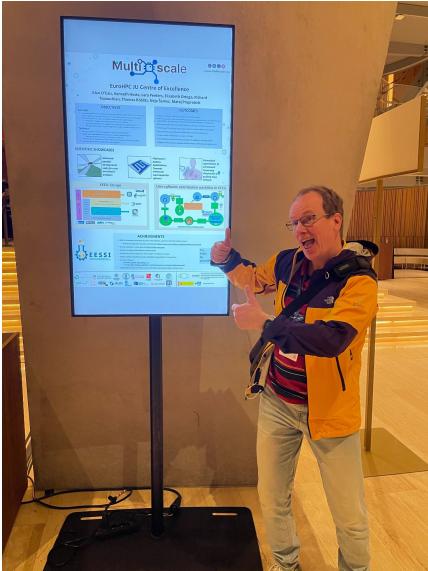
(21-22 March 2024, Antwerp - Belgium)



EuroHPC Summit 2024

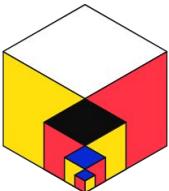


- 18-21 March 2024 in Antwerp (Belgium) - <https://www.eurohpcsummit.eu>
- **Great event to promote EESSI!** Busy week for MultiXscale project partners...
- Poster session:

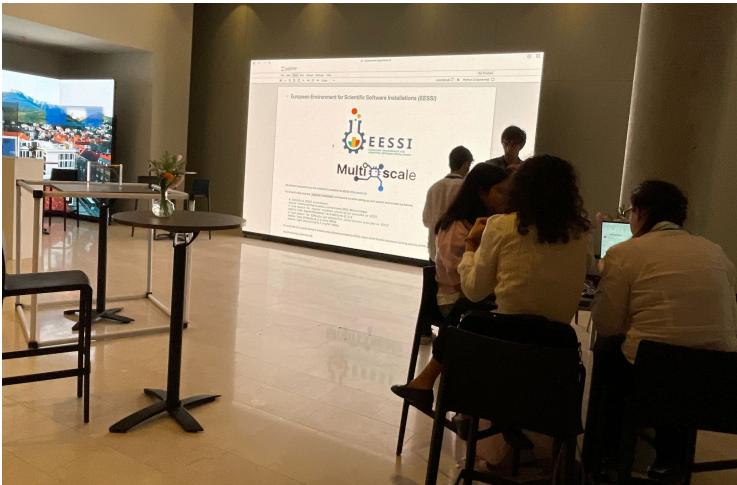


[Kenneth, Lara, Alan, Richard, Thomas, Elisabeth, ...]

EuroHPC Summit 2024

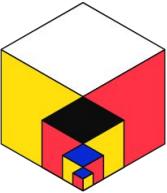


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- **Great event to promote EESSI!** Busy week for MultiXscale project partners...
- EESSI at EuroHPC Demo Lab for Vega supercomputer:



[Kenneth, Lara, Alan, Richard, Thomas, Elisabeth, ...]

EuroHPC Summit 2024

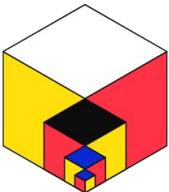


- 18-21 March 2024 in Antwerp (Belgium) - <https://www.eurohpcsummit.eu>
- **Great event to promote EESSI!** Busy week for MultiXscale project partners...
- “Centres of Excellence: Deploying Flagship Codes on EuroHPC Supercomputers”



[Kenneth, Lara, Alan, Richard, Thomas, Elisabeth, ...]

EuroHPC Summit 2024

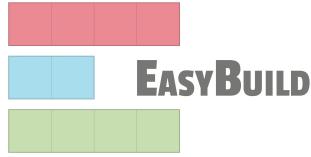


- 18-21 March 2024 in Antwerp (Belgium) - <https://www.eurohpcsummit.eu>
- **Great event to promote ESSI!** Busy week for MultiXscale project partners...
- “Elevate and Collaborate: European HPC NCCs and CoEs Workshop”



[Kenneth, Lara, Alan, Richard, Thomas, Elisabeth, ...]

EasyBuild User Meeting 2024



- Tue-Thu 23-25 April 2024 @ Umeå University (Sweden) - easybuild.io/eum24
- Yearly meeting, focus on EasyBuild & related projects
- **Registration for on-site + virtual attendance is still open! (until Wed 10 Apr'24)**
- **Full program now available:** <https://easybuild.io/eum24/#program>
- Thursday 25 April will be focused on EESSI:
 - Intro to EESSI + overview of current status
 - Contributing to EESSI
 - Hands-on sessions (user experience as sysadmin, user, contributor)
 - EESSI test suite, GPU support in EESSI, ...

EESSI @ ISC'24



- 12-16 May 2024 in Hamburg (Germany) - isc-hpc.com
- **Birds-of-a-Feather session “EESSI Community BoF” (Kenneth + Lara)**
- Submission for RISC-V workshop accepted ↴
 - “Preparing to Hit the Ground Running: Adding RISC-V support to EESSI” (Julián)
- Submission to Arm HPC User Group workshop accepted ↴
 - “Extending Arms reach by going EESSI” (Kenneth)
- Invited talk on MultiXscale + EESSI at POP workshop (Lara)
- Expected involvement in EuroHPC + Azure booth at ISC'24 exhibit (Kenneth, Lara, Elisabeth, ...)
- We may/should also organise some kind of social event...

[Kenneth, Alan, Lara, Elisabeth, Julián, ...]