



NESSI project

EESSI Community Meeting @ Amsterdam

16 Sept 2022

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Norwegian Environment for Scientific Software Installations

- Project funded through Sigma2 / NRIS
- Sigma2: national provider for e-infrastructure in Norway (HPC, storage)
- NRIS: Norwegian Research Infrastructure Services - collaboration between Sigma2, NTNU (Trondheim), UiB (Bergen), UiO (Oslo) and UiT (Tromsø)
- Similar goals to EESSI, launched in Sep 2020 with some history



Map: NordNordWest, Licence: Creative Commons by-sa-3.0 de

NESSI: history bits

- Long history in running CernVM-FS for Nordic Data Grid Facility Tier-1
 - experience on physical and virtualized setups
- Exploratory project on extending HPC with Cloud resources (2019)
 - "to investigate the feasibility to **connect cloud resources with our infrastructure in a seamless way to the end user.**"
- Proposal for national infrastructure for Artificial Intelligence (2019/2020)
 - "**users should be able to nearly seamlessly migrate & scale (up and down) their workloads** (personal laptop <-> group/department server <-> organization infrastructure <-> national infrastructure <-> international infrastructure)"

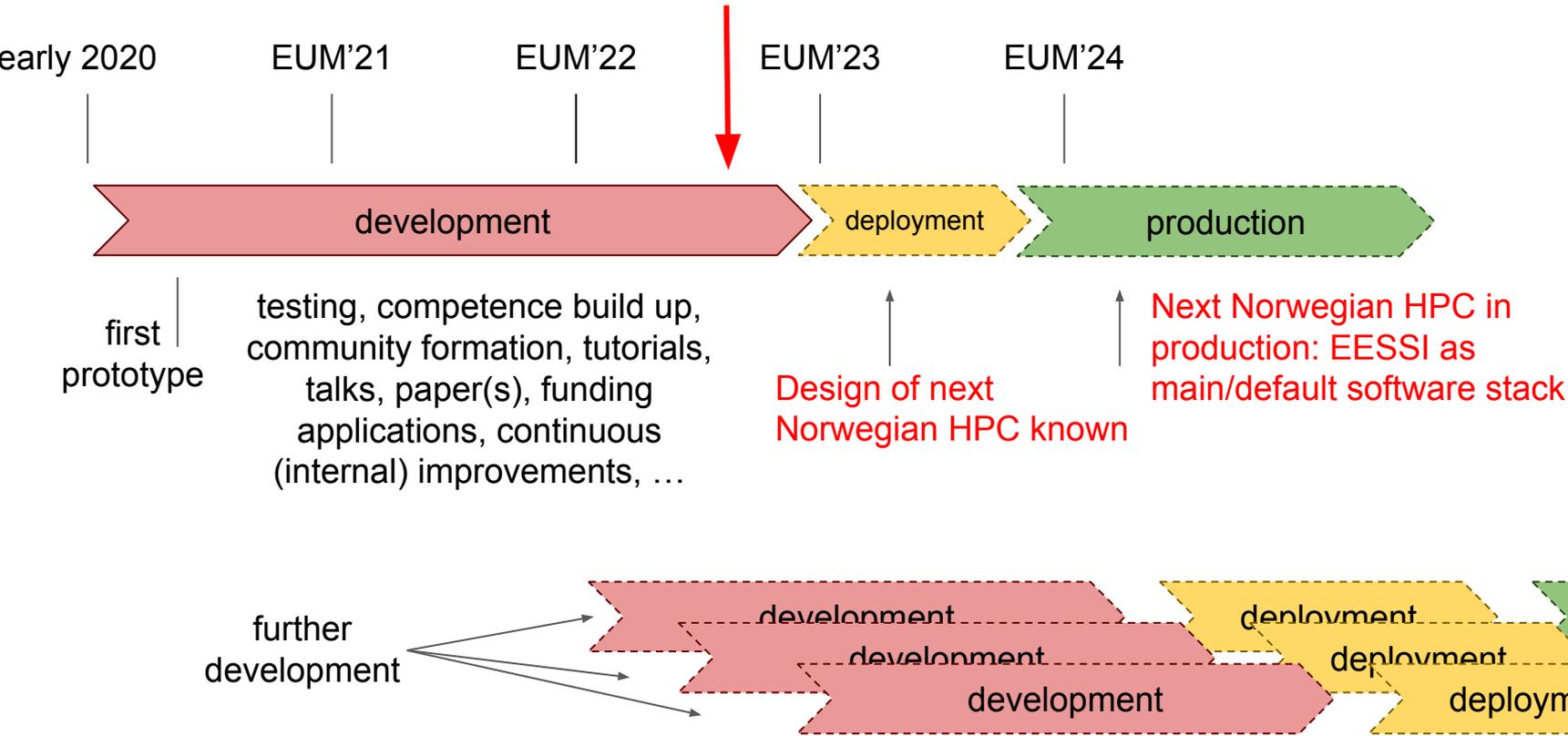
NESSI Pilot Phase: investigate CernVM-FS, EasyBuild

- started September 2020, run until about April 2021
- from the start, sought close collaboration with EESSI: testing, Stratum1, ...
- conclusion: suggestion to move forward (development 1 year, deployment 6 months, operations)
- also: proposal "Scientific Software Stacks as a Service (S4)" to NeIC open call (March 2021)
 - bringing EESSI to the Nordics/Baltics
 - pulling in experience/knowledge from key contributors to EESSI

NESSI Development: help make EESSI ready for production

- started May'21, originally planned to last one year, now expected end ~ Dec'22
- effort about 2 FTE (on paper), in reality about 1 FTE (so delays are expected)
- moved from a wide variety of tasks towards focusing of what EESSI lacks to get closer to production
 - currently focusing on the semi-automatic procedure to build and deploy software
- do not expect that development ends in December
- however by December'22 EESSI should be able to build larger stacks
- also: submitted renewed version of S4 proposal to NeIC's open call (March'22)

Motivation: change software provision on next HPC



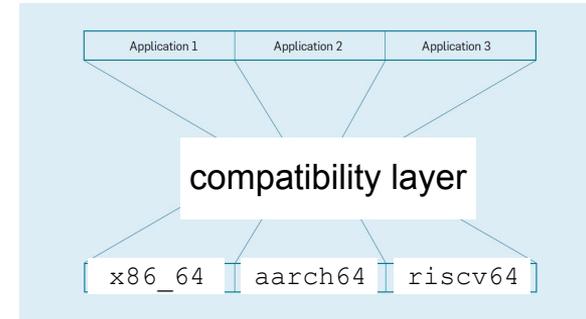
Future Ideas

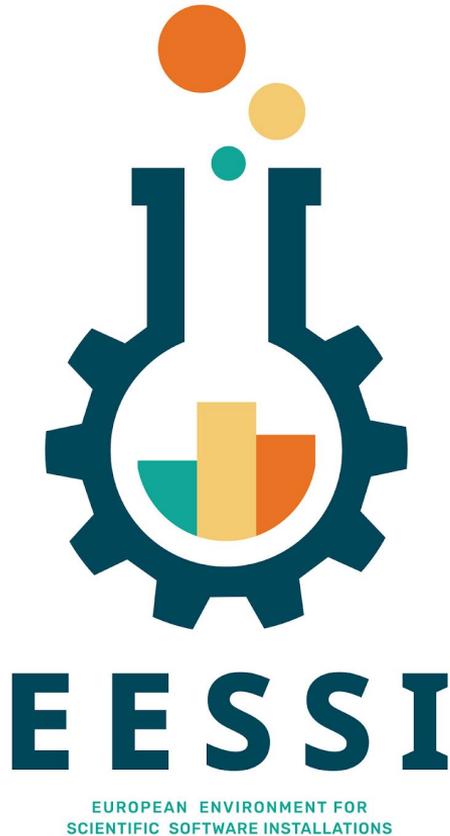
- Beyond bringing EESSI to users on national HPC in Norway
- Bringing EESSI to everyone in Norway (tap into possibly different funding schemes)
- Providing data science / research data management tools to everyone
- Augmenting applications with functionality via EESSI compatibility layer



Image by W.carter,
https://commons.wikimedia.org/wiki/File:Asking_the_crystal_orb.jpg

The Hourglass model





Paper (open access): <https://doi.org/10.1002/spe.3075>

Website: <https://www.eessi-hpc.org>

Join our mailing list & Slack channel

<https://www.eessi-hpc.org/join>

Documentation: <https://eessi.github.io/docs>

GitHub: <https://github.com/eessi>

Twitter: [@eessi_hpc](https://twitter.com/eessi_hpc)

youtube.com/channel/UCKLS5X7_oMWhUrAZuzSwBxQ

Monthly online meetings (first Thursday, 2pm CEST)