

Supercomputers need to be updated every 5–6 years and while at the time of planning the Development programme for data management and computing infrastructure (DL2021) there was a need to update the infrastructure that CSC offers, there was also a need to broaden the user group that could benefit of the services.

The programme opened the services for free use by the governmental research institutes for their research, and also for educational use done in higher education and research institutes. The programme aimed also to enable collaboration with the private sector and also with international partners. There is an increasing amount of data in almost all research fields, not only in natural sciences that have traditionally been the users of the supercomputers. There is also a need to securely manage sensitive data. Furthermore, we need to be able to fully utilise the capabilities that artificial intelligence methods can provide.

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All of the changes to the user groups and needs of CSC's services described above set a demand for competence building to ensure effective use of the services. There has been several different means for the competence building, starting from introductory events at campuses and a number of trainings to teach relevant skills, to a more collaborative ways of learning together with the customers. The latter has been accomplished by offering on-site support and also by piloting the different needs for use together with the governmental research institutes. There has been effort put into updating the manuals and services to be more user-friendly also for new users.

The efforts in increasing the competences in the usage of services has paid off if measured by the changes in the user groups. The number of users from the governmental research institutes is today five times as much as it was prior to opening the services for them. Natural sciences are still by far the biggest user group but there has been growth in all main research fields. Collaboration within the CSC projects has increased during the past few years and the programme has also played an important role in piloting the computing capacity offering to the companies in collaboration with Business Finland.

By enabling more wider use of the services it is possible to enable wider impact on society as well. The infrastructure has been in place only for a 1–2 years but it has already enabled research that aims to solve big societal challenges. Few topical examples include contributing to the Intergovernmental Panel on Climate Change's Sixth Assessment report and rapid reaction to enable COVID-19 pandemic research.

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Based on the surveys conducted for the users of CSC's data management and computing services both in 2020 and 2021, the users find the services important and are also fairly happy with the functionalities. New user groups also seem to have found the services. However, as the research, education and innovation sector goes forward and develops constantly, development on how to serve existing and new users and the different user needs has to be an on-going effort as well.

