

HPC centre EPCC says: "Better software, better science"

The University of Edinburgh houses the HPC centre EPCC. Neelofer Banglawala [wrote](#) about a programme which funds the development and improvement of scientific software, and also discussed about the results.

Many of the 10 most used application codes on ARCHER have been the focus of an eCSE project. Software with more modest user bases have improved user uptake and widened their impact through eCSE-funded work. Furthermore, performance improvements can lead to tens of thousands of pounds of savings in compute time.

Saving tens of thousands of pounds is certainly worth the investment. This also means more users can work on the same supercomputer, thus reducing waiting times.

Another improvement was seen in scalability. Making software scalable not only improves performance, but also makes it possible to improve the problem size it can work on.

For example, EPCC and the University of Hull moved VOX-FE, a Voxel-based Finite Element bone modelling suite, from a local desktop to ARCHER, dramatically improving its performance and functionality. VOX-FE can now analyse very large, high resolution models with accurate geometry. This, together with its new adaptive remodelling functionality, could make VOX-FE a novel way for paleobiologists to carry out in silico reconstruction experiments of partially recovered bone from dinosaurs and other fossils.

Making new science possible using the same software is also worth the investment.

Better software = higher work-efficiency

We're happy that the EPCC got the same conclusions as many of our customers, and publicly spoke about it. **Better software not only can improve science, but can improve most industries if not all.**

Why is this? Dependency on software is that high, it directly influences work-efficiency. Improved software therefore improves work-efficiency and makes happier employees. Happier and more efficient employees reduces employee-costs. You therefore wouldn't be surprised that **the return-on-investment is therefore often less than a year.**

Have software that lets employees stall their progress or limit the problems they can tackle? Get in [contact](#) and we'll discuss what can be done.