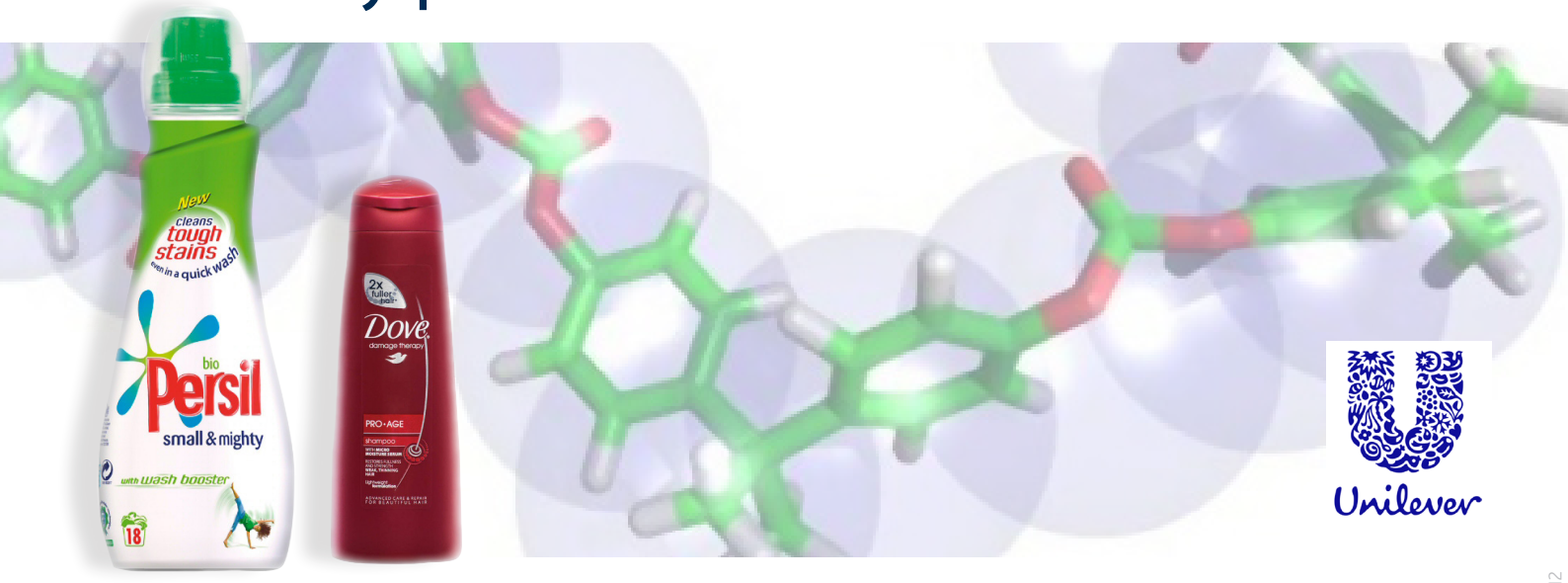
# Accelerating the product discovery process at Unilever

Hartree Centre
Science & Technology Facilities Council




Unilever

VSN2

**Unilever is taking advantage of the STFC Hartree Centre's expertise in high performance computing (HPC) to model how key ingredients of typical home and personal care products combine to structure everyday liquids.**

## Challenge

Inventing, making and selling home and personal care products is more complex and time consuming than often imagined. The level of complexity of Unilever's product portfolio has been compared to that of designing a Boeing 747. Just one example is the challenge of formulating a fabric conditioner. This product tends to be unstable, especially when it is shipped to very cold or very hot countries. Traditional stability tests on the laboratory bench tend to be boring and very time consuming, typically taking 8 to 12 weeks. However, the comparable test on a supercomputer takes only about 45 minutes.

## Solution

Unilever now has a base at the Hartree Centre at STFC Daresbury Laboratory. The partnership with the Hartree Centre gives Unilever R&D a competitive edge by harnessing the power of supercomputers to accelerate the product discovery process.

For example, a computer formulation tool will help scientists at the bench pre-screen a number of possible ingredients, so that they can focus on fewer and better experiments when designing a new product. The HPC capabilities at the Hartree Centre are coupled with a specialist 3D visualisation suite, which Unilever product developers can use to explore the data and see correlations that are otherwise elusive to the eye.

## Benefits

For a fast moving consumer goods company, speed is all that matters, especially when it needs to put hundreds of new products on the market every year. Today, "to out-compute is to out-compete". Speed is what gives a company like Unilever the competitive advantage.

*"The Unilever R&D strategy commits us to a digitally enabled future of eScience and big data. Our partnership with the STFC Hartree Centre will give our R&D community a powerful competitive edge. When we have the HPC computing capabilities of the Hartree Centre fully integrated with our global strategic science partnerships, we'll be able to tackle even bigger scientific challenges and unlock breakthrough innovations faster."*

**– Jim Crilly, Senior Vice President, Strategic Science Group, Unilever**

## Work with us

We collaborate with industrial clients and research partners on projects that create insights and value using high performance computing, big data analytics, simulation and modelling.

By combining our world-class facilities with access to our specialists and computational scientists, we can enable your organisation to produce better outcomes, products and services more quickly and cost-effectively than through conventional R&D workflows.

With our partners we are developing the next generation of supercomputing architectures and software, combining existing best practice with innovation to deliver faster, cooler and more sustainable solutions capable of meeting the challenges of data intensive computing.

### For more information:

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