

In the Hansgrohe spray laboratory

Spaghetti jet and triple helix – a workshop report



The spray research team 2011 (from left): Markus Wöhrle, David Baumann, Klaus Butzke, Franz Schorn, Ulrich Kinle, Sven Kleinwächter.

Two young men are standing in a workshop in the Black Forest, with water bubbling in a large circular cylinder. They are working meticulously on a presentation for the upcoming [Water Symposium](#) which takes place next door in the Aquademie. The top of the glass cylinder is capped off with a piece of tautly stretched cling film. "*This simulates the skin*", explains Markus Wöhrle, head of the Hansgrohe spray laboratory in Schiltach.

"If you keep your hand on the film, you can feel how the water jets would strike your skin when showering." The spray circulates over the palm, massaging it. *"The water should not come up too softly. If it is, soap or shower gel doesn't get washed away properly. But it shouldn't be too hard either, because most people find that unpleasant."* A simple test set-up – yet one of the most illustrative means of demonstrating how the spray researchers at Hansgrohe work:

Taps are turned on. Water jets are observed, diverted, looped, redirected, shaped, atomised, and dispersed. Work is done by hand here, and optimised or discarded. Here it's all about the perfect spray, how it looks, water flow, and spray geometry.

Spray research involves basic research

Why all of this effort? For instance because showers and mixers that are not technically sophisticated calcify and break down during the early stages. If sprays spatter rather than flowing nicely, then this also makes cleaning more difficult – not to mention the fact that it spoils the whole showering experience. All this is annoying and costly, and a waste of resources particularly.

Incidentally, the water that strikes the film in the cylinder from a Raindance Rain shower is

In the Hansgrohe spray laboratory

not just water. The [AirPower](#) technology sees to that: it infuses the water with air, which then forms beads as it rolls out of the shower head in soft, full-bodied droplets. [AirPower](#) is the result of meticulous innovation work by the spray researchers, and one could say that it's a stroke of sanitary genius that has improved the quality of showering. Therefore it is a lucrative field of business.

If we venture further into Hansgrohe's "inner sanctum", over here we can see someone dissecting tiny little components under the microscope, and over there we see someone preparing detailed sketches and transferring columns of figures. A third person is doing some delicate drilling. "*To implement a design template*", he explains.

Here there's an expert for every area

Slips of paper, screws and sample parts, nondescript to the layperson, can all be found lying about the Hansgrohe research centre. Sketches and sectional drawings are stuck to flipchart boards, milling and turning is being done on workbenches. A "shower head doctor" carries out a minimally invasive operation using a fine instrument. The background noise consists of concentrated whirring, hammering and drilling, and of course: swooshing. Men are listening to raindrops and waterfalls, recreating rippling brooks, exploring water shapes and design options. Sounds like a great job!

The spray laboratory is part of Hansgrohe's development division, where around 100 employees work on innovative technologies and new products. The researchers and engineers, on the other hand, are set up in small teams. Each group of researchers works with product developers, and is closely linked with innovation management and the patent department. Because the technologies for creating special jet types can be patented. The water jets themselves, however, cannot. These belong to everyone.

Shaping water sounds like handcraft work – and it is

The spray research team is able to carry out research completely independently. They do this using methods specifically developed at Hansgrohe, which enable them to make objective comparisons. Thanks to these specific procedures, meticulous innovation work and expertise, as well as a love and passion for water, some unique jet types and innovations have been created:

EcoSmart, Rainfall, RainFlow, Rain AIR, Whirl AIR, Balance AIR, Mix or CaresseAIR. The effect of surge and whole-body sprays, and spaghetti, laminar or vario jets is tested here in the spray laboratory. Thanks to the Hansgrohe and Axor brand products, water now flows in all these different forms – and is really making a world of difference.

The cult shower [Raindance](#), with its three jet types, was also developed here at the "Aue"

In the Hansgrohe spray laboratory

plant, and it really doesn't look like there will be an end to the creativity here any time soon. Markus Wöhrle, at any rate, is convinced that his work is practically inexhaustible. Water, he says, continues to be a huge mystery to science and research. Even with regard to the sustainable treatment of this precious resource, there is still much to be done – this means lots more work for the spray researchers as well.