

## Shaping the Future of Digital Quality Systems

An exclusive interview with Philipp Osterwalder, Co-Founder of 1Lims

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Michelle Müller, Marketing Assistant at NEMIS Technologies:

*Hi Philipp! It's nice to be talking to you. Could you share with our readers the vision and mission behind 1Lims, the startup you co-founded in 2018? Furthermore, I am of course curious to hear about your personal drive behind this venture?*

The vision and mission behind 1Lims are to offer a "salvation" for connecting the complex ecosystem encountered in a laboratory or quality assurance. 1Lims provides the connection of employees, machines, and software so that all parameters and measured values that concern quality assurance can be recorded and analyzed in a central place combined and integrated with other providers [third-party software]. We want to offer a platform that not only manages analytics data but also evaluates the utilization of teams, devices and key performance indicators on the highest level of quality management.

Coming from the Phyto-pharma field, I did an apprenticeship at Bioforce by Alfred Vogel and then trained to become a biomedical analyst. A few years later, I changed my focus and decided to study environmental engineering at the ZHAW. I worked in different laboratories during my studies, primarily in the food sector. Through this experience, I repeatedly noted how rudimentarily, and simplistically quality parameters were recorded. On the one hand, this both astonished and irritated me equally. We eat food every day, yet the food industry is not analyzing quality metrics as precisely as, for example, the Phyto-pharma area or the sector of food supplements. These continued observations left me with several questions, so I began my research. Only half a year later, I already had the first prototype of a lims [laboratory information management system].

*Many food producers use pen and paper while taking their environmental samples. So, what potential does a digitized quality management system hold?*

Two out of three manufacturing companies still work with manual data entry and media breaks. It always makes sense to automate routine tasks that you do daily, weekly, or monthly. 1Lims offers risk-based decisions for specific analyses based on retrospective data; this can take a massive load off a company. For example, if you spend half a day walking around the factory with pen and paper, taking samples, then manually entering, and analyzing them - the risk of media disruption increases exponentially and with it potentially a higher risk for errors.

Ultimately, a digitized system also enables higher testing volume. Many companies in the food sector limit themselves to only the minimum number of samples. From my experience, this is due to the process itself, which involves a lot of effort to take samples [handling, drawing, processing, and evaluating samples]. This also leads to the fact that this data is only recorded in a very rudimentary way because it is associated with a lot of expense. And quality assurance is ultimately a cost center for any food company; it does not generate money but tries to limit the risk of food recalls. **To reduce these costs, I see a significant risk reduction through a useful testing volume combined with a digital and automated solution to manage the processes effectively and efficiently.**

*How does your tool help food producers to manage their risk better?*

We shared the first prototype of our lims with a network of lab technicians. We quickly realized that there is a need in manufacturing industries for software that can be fully integrated into the existing infrastructure that is configurable without to write one line of code. This is how the idea of 1Lims came about - to provide an inherently adaptable platform to different industries without programming knowledge. Our lims is easy to use, micro-service based, modular and intuitive, and provides a powerful tool to manage risks by connecting and improving the quality management system.

We have seen that, on average, 50% of daily working time is spent on administrative work, i.e., non-value-added time. Suppose you start here and say that you reduce the administrative effort to the routine activity, such as environmental monitoring. In that case, you can time the samples with a recurring order where the labels are already prepared and provided with a QR code, which you only print out. The software can then select the best sampling tour through the factory based on the data situation and thus can prevent certain checkpoints from being omitted or a systematic error occurring. This way, you can analyze more samples in less time, and simultaneously, you feed the software with more data, which can then make a better recommendation with a more accurate decision base.

*How do you convince your customers of the value-in-use of your product?*

We often encounter companies that have established processes that are still based on the same fundamentals that were never questioned for a long time. Digitalization does not simply mean mapping the same lengthy, erroneous, and complicated processes digitally - digitization, importantly, involves innovation, questioning things as they have always been done, and redefining processes.

Unnecessary steps in processes should first be eliminated, and only then should a streamlined process be digitized. In this way, on a graph with effectiveness and efficiency on each axis, the first focus should be on process optimization, i.e., the increase in effectiveness. Then we convert this into a digital product that

increases efficiency. This creates two levers that increase productivity enormously and thus also increases the total value added at the same time. If measurable parameters are then defined for the quality throughput, these can be used as indicators and the system can continuously optimize itself. This is how a digitization project can be successfully implemented in the long term.

***What are currently the most significant challenges that you want to overcome in 2022?***

The connectivity and integration of the software is a big topic where we want to build more interfaces. We have various partners in this area, such as service laboratories and equipment manufacturers in Switzerland. With more partners and intersections, we are building a competence center for quality management.

A significant challenge will also be to dismantle behavioral patterns that have become established in quality assurance over the last 20-30 years. Just saying, “look, we have a tool that makes it easier for you to work,” doesn’t work most of the time. Other future-oriented arguments are needed where we can show that data exists in a transparent and homogeneous data format, which is essential for the companies to make decisions based on these quality data and parameters. A prospective customer told me this morning: “When we touch our quality management, it is like open-heart surgery. Because quality is the linchpin of the whole company, and while working on digitalization, we have to keep the business running.”

Quality is the key for most businesses; well, it should be for all businesses [laughs]. This reflects the mission of 1Lims and my personal drive to offer transparency, especially in the food industry. We are trying to provide complete traceability with our system, first of all for the producer but also for the consumer. By increasing the consumer’s confidence in the product, consumers can be confident that the product they are buying has been monitored throughout the supply chain and that it meets the quality standards required by the law, which the company claims to comply with, which in this sense also means consumer protection. Out of my own motivation, I want to educate and demonstrate that there are industries where there is a great deal of in-depth analysis and that in the industries which produce goods that we use every day, there is a need to catch up and innovate.



Philipp Osterwalder is CEO and co-founder of 1Lims, lab scientist and ecotechnologist. He started his career with an apprenticeship at Bioforce and trained to become a biomedical analyst. He later decided to study environmental engineering and ZHAW and worked at various laboratories, primarily in the food sector.