Advancing Semiconductors

# Inficon allows its clients to see the invisible (and increasingly: act on it)

An interview with Oliver Wyrsch, CEO at Inficon

Even when they involve many of the same essential production steps, today's products and systems have increased enormously in the sophistication of their production and operation. When conditions become harsher, and tolerances can be explained in single atoms, having the right sensor capabilities in place is of truly vital importance. Enter: Inficon, one of the world's leading providers of innovative instrumentation and sensor technologies, serving the world's most demanding clients. While they have made sensors for over 50 years, the company in its current constellation certainly does not just sell sophisticated measuring equipment, it delivers solutions and advises clients busy solving thousands of other complex problems. Neways has been a supplier to Inficon for nearly 30 years. We spoke to Oliver Wyrsch, CEO at Inficon, about the solutions Inficon offers and what determines the quality of good relationships in demanding high-tech industries.

**What are the primary applications of Inficon products – who are your typical customers?**
Inficon was founded more than 50 years ago, but we have existed in our current constellation since our IPO in the year 2000. Today we have three competence centers: pressure management in vacuum in Liechtenstein, leak detection (used in HVACs, Automotive, Semicon fabs – anywhere where single atoms count) in Germany, and sophisticated gas analysis in the United States. Nowadays, well-regulated vacuum conditions are needed for all high-tech industries. For us, about 50% of our clients are in the semiconductor industry, and the rest are in high tech industries such as new energies (batteries, EVs, solar, etc.), air conditioning, and research institutes such as CERN, NASA, Fermilab, ETH Zurich, and many others. In semiconductors we work both with the end users and the tool makers: you'll find us together with our industry-leading customers working on the latest generation EUV system as well as leading-edge logic chips of 2 nanometer nodes.

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**To what extent have you extended your business from hardware to additional services?**
We are a hardware firm only if you want to be overly binary about it. Although everyone seems to do "AI" these days, I can confidently say we have been doing machine learning for 25 years, and we have literally decades of data from our sensors. That data can of course be very valuable, especially in the high-tech, and highly sensitive processes our clients require to make their products and systems.

## We don’t ask “what are your products, give me the cheapest price”, but we say: “here’s what I want to do in 5 years, how can you help me?”

In the last two decades we continuously built out our software capabilities not only for sensors but also for complete tool monitoring using digital twins. For 5 years now we have also been able to do that for entire fabs. The software relies heavily on sophisticated data analytics and machine learning. You cannot look into a specific vacuum chamber and see what’s going on: but today we can make a digital twin of that chamber to review the process used within it, and perhaps adjust it using known correlations. So whereas originally we delivered mainly hardware and firmware, software and measurements, process and fab data analytics now take an increasing share of the value we offer our clients. We have an industry-leading fault detection and classification tool that will tell our customers what may have gone wrong in a chip-making process. We know a lot about our semiconductor customers’ fabs. Our new software solutions even help our customers schedule fabs: our application decides what the best path through the factory is.

Today we have a broad palette, full servicing proposition around measurement and understanding data. Forty percent of our sales team is an application engineer – they go out and solve a problem with the client day in and out.

**What are the fundamentals of your client relationships?**
We have always worked very closely with our customers, and the cooperation becomes closer as systems become more complicated and processes become more complex. Similar processes today require considerably more sensors than they did years ago. That’s because processes are harder to control: the chemistry is harsher, times are shorter, structures are smaller, and steps are more and more sophisticated.

When our clients build a new product or machine, they have to tackle a variety of problems – we can take at least one of them away. I think that demands a few things from us. First and foremostly it means our clients have to trust us: they require long-term dedication and investment in their problem. They need to see we’re devoting our problem-solving capabilities to it. On the other hand, they also need to see that we can keep pace with their technology agenda: quite often theirs is dictated by an 18-month cycle of Moore’s Law.

**What do you expect from suppliers such as Neways?**
It is much the same. We want to collaborate and solve problems. We don’t ask “what are your products, give me the cheapest price”, but we say: “here’s what I want to do in 5 years, how can you help me?”. I think that’s very important in these ecosystems, where our clients are so big. For our suppliers it helps to be of similar size so I know you’ll pick up the phone when we call.

**How do you address sustainability?**
We address sustainability the same way we address innovation; there is little central direction beyond a vision and objectives – local teams enthusiastically pick up the topic and have real results. In recent years we have funded solar power for our location in Finland, we have just approved a solar investment for our Cologne location with implementation this year, a heating transition in Liechtenstein and we switched entirely to green energy in all major manufacturing locations. Last year we reduced our scope 1 and scope 2 $CO_2$ emissions by 60%, we reduced it by 30% the year before that. ●

*Oliver Wyrsch has been CEO of Inficon since January 2023, previously leading the main competence center of Inficon in the United Sates from 2018. Before that he was President of Mettler-Toledo’s Chicago division, heading the Machine Vision Inspection business unit.*

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