



DEMOCRATIZATION OF THE PRODUCT DEVELOPMENT PROCESS?

10 YEARS AFTER ITS INVENTION:
WHAT IS THE FUTURE OF FREEFORM?

Nearly 120 participants from all over the world keen to find out about the future of FreeForm technology came to the 12th MAFO – The Conference in Milan, one day before the start of the MIDO. Eleven speakers from Germany, USA, Switzerland, Liechtenstein, and as far away as Australia shared their knowledge on the subject with the audience. As in previous years, Prof. Dr. Peter Baumbach chaired the conference and guided the participants through the day with charm and expertise.



By Meike Ruppel

On an organizational note: the venue had the right temperature and everyone received the conference documents. The schedule of the day was divided into the topics FreeForm, Coating, Production Technology and Management.

BASED ON THE HISTORY OF FREEFORM

Keynote Speaker Mark Mackenzie (SWV GmbH) opened the proceedings with his good-humored presentation: "The way forward for FreeForm – based on its history", which proved to be the most inspiring and exciting presentation of the day. That this was not the first time Mark Mackenzie had given a keynote speech was evident from the outset, speaking clearly and using gestures and facial expressions to the full.

He started from the premise that not everyone at the Conference would remember what the situation was like in 2000, thus he gave the audience a summary of the history of FreeForm and its key facts. He started in the late 1970s with computer-controlled spot polishing of large glass surfaces in astrophysics and went on to 1986/7, when Gunter Schneider started using computer-controlled processes in precision optics. 1993 was another significant year, when Carl Zeiss suggested that Schneider Optical Machines should consider developing equipment for machining ophthalmic lenses with complex surface geometries to prescription. By the early 1990s, Rodenstock and Essilor had developed computer-controlled cutting and polishing equipment for manufacturing lens molds. The Keynote Speaker also recalled the early 1990s: This was the time when ophthalmic lenses made from non-mineral materials were

enjoying a period of strong growth. Furthermore the equipment industry also realized that all you needed to generate complex progressive lens designs was 'just a file'. In 1990, progressive lenses represented just 12% of all lenses sold in Germany; by 2000 this had increased to 19% (Source: FOCUS Magazine). 1996 saw the launch of 'multigressives' and in 1997 Seiko Epson developed a FreeForm production line capable of producing progressive lenses.

Three years later, in January 2000, Schneider delivered their first soft-tool polishing machine. In the same month Rodenstock held a press conference to launch their new generation of lenses. And on the same day Carl Zeiss issued a press release announcing the launch of their new individualized progressive lens (Source: FOCUS Magazine archive).

The use of digital surfacing allowed the optical industry to shorten product development times



Mark Mackenzie

when creating a new design. Time-to-market was reduced and the theory was that there would be increased innovation in the industry and ophthalmic-prescription lens designs were launched. From this time onwards the term 'FreeForm surface' became common use in the equipment industry. Mark Mackenzie mentioned a discussion with Karen Roberts prior to the conference in which she had referred to the 'democratization of the product development process'.

This is only a brief overview of the history of FreeForm. While preparing his talk Mark Mackenzie had done a lot of detailed research which he referred to in his speech – not only into the historical aspects but also concerning the state-of-the-art of FreeForm today. He listed eight suppliers of CNC and polishing lines currently on the market as well as discussing other areas of application of FreeForm technology.

This excerpt is just part of the conference review written by Meike Rüppel. Other speakers at the conference and their topics are listed below:

WHAT'S NEW IN OPHTHALMIC OPTICS

CHAIRMAN: PROF. DR. PETER BAUMBACH

09:15 a.m. Mark Mackenzie

SWV GmbH, DE The way forward of FreeForm, based on its history

10:00 a.m. Gunter Schneider

Schneider GmbH & Co. KG, DE Individual FreeForm lenses – from the first idea to the fully integrated surfacing solution

10:30 a.m. Karen Roberts

Carl Zeiss Vision International, AUS FreeForm: See the difference

11:30 a.m. Marc Y. Savoie

Satisloh GmbH, DE Mainstream FreeForm is now reality – what's coming next?

12:00 a.m. Pascal Senentz

NGL Cleaning Technology SA, CH Heavy metals decontamination in ophthalmic processes

12:30 a.m. Curt Brey

Coburn Technologies, USA Exposing the dangers of alloy blocking – Benefits of non-alloy blocking materials

1:00 p.m. Edward de Rojas

Quest Optical Inc., USA Spin or not to spin, that is the question

3:00 p.m. Hanspeter Eigenmann

Gfeller Consulting & Partner AG, CH Recruiting and managing qualified and experienced staff in small industries

3:30 p.m. Dr. Jeremy Marchant

SDC Technologies Inc., USA Index matched coatings for MR substrates – the way to superior lens cosmetics

4:30 p.m. Markus Fuhr

Leybold Optics GmbH, DE Coating technologies for a modern lens-production

5:00 p.m. Dr. Markus Stolze

Umicore Thin Film Products AG, LI Material developments for ophthalmic coatings