

Looking to the future with pioneering spirit and strength in innovation

In 1986, the coating technology company jumped out of the starting blocks: CemeCon was born and has since enriched the market with many innovations in coating design and systems engineering for more than 25 years.

The company's history began in 1986 at the Aachen Technology Center – with a vision and the required technical expertise in manufacturing coatings for cutting tools. However, there was still considerable development

and persuasive effort required before the concept of wear resistance would become an industry standard. After all, many people were still unaware of such coatings.

Nothing succeeds like success

The success story began in 1988 with the prototyping of the CC800® coating unit and initial production of TiAlN. In the same year, the company successfully shipped the first series-produced coating unit. "The EMO 1989 in Hanover provided the opportunity to present the coating material TiAlN to a broad audience for the first time." This marked a



Company founder
Dr.-Ing. Toni Leyendecker

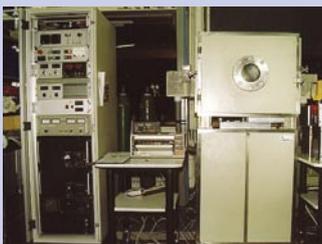
major breakthrough for the relatively young coating technology and for our company in particular", recalls company founder Toni Leyendecker, who launched CemeCon at that time.

In response to the enormous demand for performance-boosting coating solutions, the company opened its first Coating Center in the Aachener Talbotstraße in 1990. "We were able to provide a growing number of tool manufacturers and grinders the possibility to quickly and affordably have their drills, mills, and cutting inserts modified with a substantial performance enhancement", adds Toni Leyendecker. By 1992, CemeCon had already successfully presented the first crystalline diamond coatings synthesized using the CVD method, which paved the way for machining sophisticated materials like fiber-reinforced plastics.

New coatings and overseas expenses

CemeCon continues its steady growth in the field of PVD technology. The ba-

CemeCon: The changing faces of systems engineering



The success story began in 1986: We have come a long way to the HiPIMS system.





The EMO has always been one of the most important trade fairs for CemeCon.

sis for this growth was the introduction of the innovative coating TINALOX® in 1993. SUPERTIN, ALOX®, ALU-SPEED® and CCplusC® solutions followed in 1996 in response to growing and diverse user requirements. Demand increased so rapidly that the technology transfer department focused exclusively on the construction of CC800® coating units and the Coating Center was relocated for reasons of space and logistic connections, to its present location in Würselen, which remains the company's headquarters today.

In 1998, the company also established CemeCon Inc. and the Application Development Center in the USA, specifically in Horseheads, New York. A joint venture "Baoding Tianwei CemeCon Coating Technology Co., Ltd." brought CemeCon to China in 2003 where two coating center operations were founded in Suzhou and Beijing.



CemeCon achieved another milestone on the way to higher performance coating in the year 2000 with a patent for smooth, nanocrystalline diamond coatings from the CCDia® production line. "The multilayer coatings represent the pinnacle of our diamond coating development work. They are ideal for graphite and CFRP processing and are also equipped for applications in sandwich and honeycomb materials", adds Oliver Lemmer, member of the CemeCon AG board. Today, CemeCon operates the world's largest diamond coating center in Würselen.

Further optimization of sputtering technology

The introduction of the supernitrides SN in 2002 marked another performance breakthrough in the PVD sector. "Their flawless surfaces considerably reduce friction and abrasive wear. We achieved this using an optimized sputtering process that eliminates the formation of 'droplets'", explains Toni Leyendecker. The next generation of supernitrides SN² was introduced in 2005. Oliver Lemmer: "With the next generation of the supernitrides of the SN² class, we are producing virtually stress-free, high-performance coatings without sacrificing hardness or toughness. This was made possible by the dramatic improvements in nanocomposite coating structure."

The acquisition of the HiPIMS patents in 2008 allowed CemeCon to access this innovative technology, which will characterize future advances in the PVD field. "HPN 1, our first mass produced HiPIMS product was only the



From the Talbotstraße (above) towards Würselen (below).



From TINALOX® to HPN 1.

beginning. We are already working on a broad range of new coating materials, which offer users a greater performance potential and new approaches to modern machining", explains Toni Leyendecker optimistically. ■