V2023
International Conference & Exhibition
INTERNATIONAL CONGRESS CENTER DRESDEN
SEPTEMBER 18 – 21, 2023
© mediaserver.dresden

Thin Films and Surface Treatment for
Energy · Biomedical Application · Optics · Tools & Components

2023 VACUUM PLASMA SURFACE COATING
EFDS

Workshop »Digital Data creates value – recognising and exploiting opportunities«

How digitalization changes our coating systems and the way we use them

Dr. Edmund Schüngel

Evatec AG, Trübbach (CH)

edmund.schuengel@evatecnet.com

The coating solutions from Evatec are based on various technologies, such as magnetron sputtering, evaporation, or atomic layer deposition. The broad range of applications – from optical coatings for augmented reality over high-frequency filter for telecommunication to power devices – means a great diversity in the different processes. What do all these solutions have in common? They rely on modern data handling to reach peak performance.

This talk highlights a few showcases of real-time data-based functions integrated into smart subsystems. Here, the focus on subsystems is important, as any process tool generates a huge amount of data nowadays, that need interpretation in a timely manner. Hence, advanced analytics and learning algorithms are applied. Modern process power generators with data collection capabilities, for instance, are integrated into the architecture of the whole process system, to generate information from data in the most efficient way. Then, the gathered information is used for smart control of the plasma-based processes. Another example are trained models that allow for the estimation of uncertainties in in-situ measurements. As a result, the processes are monitored very closely, preventing failures in the process itself or in the process control.