Session VII: Process Intensification

Chemistry - Engineering convergence

Dr Nandkumar Chodankar
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Dr Nandkumar Chodankar acquired his Bachelor's, Master's and Ph.D. in Chemical Technology from UDCT (now ICT), Bombay. He began his career as the first employee in setting up Sekhsaria Chemicals, to develop and manufacture APIs and was eventually promoted to CEO and MD. With regulatory approvals from US FDA, EU, MHRA, EDQM, PMDA the company filed over 40 DMFs and 6 Dossiers and was eventually acquired by Watson Pharmaceuticals (now TEVA) where Dr Chodankar was appointed as President (API – India, China, Taiwan). After a brief stint at Shasun Pharmaceuticals as Chief Mentor and Executive Director, he assumed the responsibilities of Group CEO of Pharma Business at Excel Industries Ltd.

Most recently, Mr.Chodankar along with his wife Dr Laxmi Chodankar promoted and founded ASolution Pharmaceuticals, a new modern CGMP facility focused on providing novel, cost efficient, and regulatory focused CGMP development and manufacturing services for the supply of APIs and specialty molecules from early development to commercial manufacturing. The facility is based on the latest ISPE and ICH Guidelines and is WHO GMP approved. ASolution have filed DMFs in more than 46 countries including the US.

Over the years, Dr Chodankar has filed numerous process technology patents for APIs, and submitted several DMFs, Dossiers and ANDAs. He has been involved in designing and installing six new, green field pharmaceutical facilities. He was Director on Global Board and Volunteer with 'Drug Information Association' for over fifteen years and has participated as a speaker at several national and international conferences

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Abstract

This presentation will highlight the convergence between chemistry and engineering made possible by a team of chemical engineers/technologists and chemists with the aim to optimize the chemistry and engineering related aspects of the process so as to design an efficient commercial plant. The discussion will include:

- ✓ Process intensification through unit operations and equipment selection
- ✓ Identification and optimization of critical parameters
- ✓ Integration of multiple unit processes into a single unit operation (in-situ) with in-line process controls
- ✓ Use of released exothermic reaction energy for solvent distillation in a single unit operation
- ✓ Control of impurity profile and polymorphic form during drug substance manufacture

The presentation will show how all the above can transform optimised conventional chemical processes into economical, efficient, safe and commercial ones.