

CROSSING THE VALLEY OF DEATH: THE FUNDAMENTAL SCALE-UP PROBLEM

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Taking early stage research and development work and turning it into a viable commercial product is so difficult that this stage in the development process has been termed the valley of death. This is when the vast majority of new technologies, processes and companies fail, and it is the stage in the process that CPI's Process Technology Team specialise in.

Through helping multiple customers across a range of industries with process development, scale-up and commercialisation, we have gained a unique insight into the problem of navigating the valley of death. We understand why failure is so ubiquitous at this stage of the development process, and the best approaches and strategies to use to mitigate the potential risks.

In this presentation we will distil some of the key lessons we have learned by explaining why new technology developments are most likely to fail in the valley of death, and examine one of the main causes of failure: process scale-up.

While scaling up a chemical process in the formulation industry seems like a unique problem, it is actually just a symptom of a much more ubiquitous and fundamental problem that exists throughout nature and across all industries, including: chemical, business and even software. Through examples and case studies we will explain what the fundamental scale-up problem is, why it exists and how it applies to the formulation industry.