

The Keys to the Successful Implementation of Industrial Biotech at Full Scale

Justin van Rooyen

Vice President, Business Development, Lallemand Biofuels and Distilled Spirits, USA

E-mail: jvanrooyen@lallemand.com

Abstract

The large-scale implementation of biotechnology in the industrial sector offers many opportunities for improved profitability and reduced capital costs. Furthermore, biotechnology can enable the commercialization of technologies essential for the production of renewable resources including biochemicals, bioplastics and biofuels.

Despite the clear potential of biotech in manufacturing, the actual commercial realization of these technologies in the Industrial Biotech sector has proven tenuous. From 2005 to 2010 a growing interest in renewable sources of energy and alternatives to fossil fuel derived products drove tens of billions of investment dollars into startup companies that were promising to bring many of these technologies to market. By 2016, when viable products remained elusive, nearly all of these startups were forced to sell or liquidate for a small fraction of their total invested capital. This trend was also seen in established companies, many of which have either exited the sector or are faltering today with the commercialization of advanced biotechnology for the production of 2nd generation fuels. All of these institutions, big and small, discovered that their selected technical goals were too ambitious with commercialization costs' multiples higher than anticipated and implementation timelines longer than estimated. A closer look at many of these cases reveals that the fault was not one of the product, but rather a failure to understand the complexities of commercializing new technologies at a large-scale.

In this presentation we will take a closer look at the successful implementation of new technologies in other industries and compare them to what has been achieved to date in Industrial Biotechnology. By studying the successful implementation of new technologies in other industries – such as aerospace, electronics and car manufacturing – we propose an incremental approach to technology deployment. This approach enables ongoing profitability by allowing the industry and deploying organization to learn and adapt during the commercialization process.

Biography

In 2014 Lallemand acquired the yeast technology assets and staff of Mascoma Corporation where Justin served as Vice President of Corporate Development. He joined Mascoma in 2007 in a corporate development role and in 2010 was given responsibility for leading corporate strategy and the new business development. His current responsibilities include the sales and commercialization activities for LBDS bioengineered products. Under Justin's leadership various teams in Mascoma identified new products and markets that currently form the basis for LBDS's bioengineered yeast commercial activities and form the pipeline for future products. During his tenure at Mascoma Corporation he participated either directly in the processes that have raised in excess of \$80MM in equity capital and over \$100MM in government grants. Prior to Mascoma corporation Justin served as an associate at Flagship Ventures and preceding that spend several years working as an engineer for ExxonMobil in the downstream sector. Justin holds both bachelors and masters degrees in chemical engineering, from the Universities of Pretoria (South Africa) and Twente (the Netherlands) respectively, holds an MBA from Harvard Business School and holds CAIA and CFA charters.