TWIMS

The Future Of Manufacturing

TWIMS EXECUTIVE DEVELOPMENT PROGRAMME

Is Your Organisation Ready For Technology Disruption?

TWIMS Campus | 30 August - 1 September 2022

Course overview:

The Future of Manufacturing course considers how manufacturing is presently being disrupted by emerging technologies; how the future of manufacturing could potentially be shaped by these technologies; and the likely implications of these changes for both the South African and the broader African manufacturing sector. The course is exploratory in design and applies a range of strategic tools to interrogate and engage with disruptive markets and social and technological forces that are re-framing the future of manufacturing globally.

In the first part of the course, we introduce participants to a set of innovation tools and then explore the rapid rise of the range of "Industry 4.0" disruptors that are presently challenging manufacturing business models. These include the Internet of Things (IoT) and industrial IoT, the use of "big data", machine learning and artificial intelligence (AI), additive manufacturing (3D printing), the use of new nano-technology-based materials and the rapidly emerging meta-verse, which is being driven by virtual reality advancements. We consider the consequences of these technology disruptions for markets and the value chains that supply them and explore how the range of technology disruptions are likely to frame how manufacturing is organised. Will manufacturing remain organised in the same way, or are new platform-based business models likely to emerge? Is the South African and broader African manufacturing sector closeted from these technology developments, or will changes occur in the same manner as being observed in developed economy markets?

The second part of the course begins with immersion experiences in TWIMS' Management Sandbox, which has a state-of-the-art "Industry 4.0" demonstration line encompassing Industrial IoT, Virtual and Augmented Reality, Big Data Analytics and machine learning, and 3D printing. On completion of the immersion, course participants are allocated to project teams to work on the application of their learnings. Using opportunities and challenges facing firms represented within the course, the teams prepare presentations to a "mock" board advocating for company resource deployment in response to a technology disruptor. Once teams have presented their findings, a consolidation session exploring the strategic consequences of the material covered for participating companies completes the course.

Learning outcomes:

Participants will secure a greater understanding of emerging manufacturing disruptions, and the use of strategy tools to respond to emerging technology opportunities and challenges.

Who should attend?

Senior manufacturing managers and executives, and public-sector executives with manufacturing portfolios. The course will be taught at a post-graduate level. Participants who successfully complete the course will earn a TWIMS Future Manufacturing certificate.

info@twimsafrica.com
+27 (0)31 767 5202
www.twimsafrica.com

Course Framework:

Day	Key Focus Points
1	**Strategising for disruption** • Understanding global drivers of change within manufacturing • Understanding disruption and its relationship to strategy • Identifying and applying strategic tools to engage with technology disruption • Understanding the influence of Industry 4.0 technologies on manufacturing
2	**From strategy to experience** • Understanding the integrated impact of technology disruption on manufacturing ecosystems • Understanding disruption opportunities and challenges for countries such as SA • Experiencing a selection of advanced manufacturing technologies
3	**Responding to disruption** • Considering disruption in a specific manufacturing context, and articulating strategic responses to opportunities and challenges • Creating a business plan to engage with technology disruption.

Course facilitator:

This course is facilitated by Prof. Justin Barnes, TWIMS' Manufacturing Ambassador. Justin has worked in the South African manufacturing sector since 1995. All his qualifications are from the University of Natal, including his BA Hons (Geography), MSocSci (Development Studies), and PhD (Development Studies – industrial specialisation). Justin has developed strategies for numerous major South African firms and has advised several national governments on their industrial and trade policies. Over the last seven years, he has been exploring the impact of digital technology disruptions on the formulation of firm-level and supply chain strategies in several manufacturing sectors and complex value chains. Justin has published extensively on the manufacturing sector, and his expertise has led him to work in over 30 countries.

Course cost:

The course costs R12,000 ex VAT per participant. This is fully inclusive of all refreshments, teas, and lunches over the course of the three days, as well as all stationery. The cost excludes accommodation.

Venue and accommodation:

The course is run at the TWIMS campus, 74 Everton Road, Kloof. Each day starts at 08:30 and concludes at 16:30. Accommodation is available on-site at an additional cost. Visit the TWIMS website (www.twimsafrica.com) for further details.

Applications:

Participation is limited to 25 executives. Application for participation can be made online at www.twimsafrica.com. Course enquiries can be directed to andrea.govender@twimsafrica.com.

Covid-19 mitigation steps:

TWIMS follows strict protocols to mitigate the threat of Covid-19. We require proof of Covid-19 vaccination to participate in the course; and use an 80-seater auditorium to ensure adequate social distancing is observed. In addition, everyone on campus is temperature checked on arrival, all venues are sanitised daily, food and beverages are prepared safely and the wearing of masks is strictly enforced while on campus.