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BEYOND SMART SUSTAINABLE MANUFACTURING - BSSM
ONLINE TRAINING
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03. WHAT ARE THE SUSTAINABILITY ISSUES ?

SECTION - SMART SUSTAINABLE MANUFACTURING

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Sustainable Manufacturing

Sustainable manufacturing uses a more holistic approach that considers all life-cycle stages, from pre-manufacturing, manufacturing and use through post-use. These stages are spread across the entire supply chain with different partners managing activities at each of these stages. Thus, many players in the manufacturing process must adopt sustainable principles to ensure that higher production standards are met. To overcome this challenge, sustainable manufacturing involves these key drivers:

- Development of frameworks to manage the new generation of sustainable supply chains
- Identification of effective metrics to measure economic, environmental, and societal impacts at each life-cycle stage in the supply chain
- Concurrent optimization of product and supply chain designs

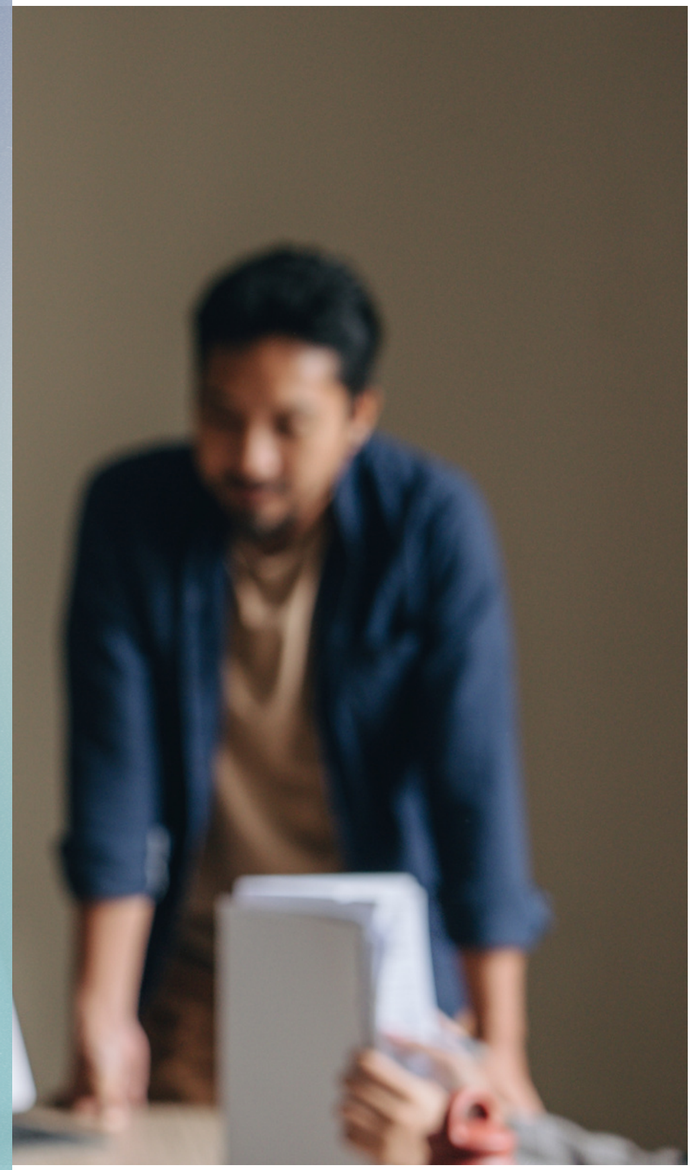
> Sustainable manufacturing is defined as the creation of manufactured products that use processes that minimize negative environmental impacts, conserve energy and natural resources, are safe for employees, communities, and consumers and are economically sound.



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BENEFITS OF SUSTAINABLE MANUFACTURING

Many large, multinational companies are cognizant of impending overseas environmental regulations and growing consumer demand for a new generation of environmentally friendly products, and they are beginning to formulate their response. Some have embraced the notion that sustainable manufacturing techniques are a competitive weapon.



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The benefits of these strategies include:

- Elimination of costly or wasteful materials
- Reduction in energy consumption and CO2 emissions
- Innovation in renewable or non-toxic materials
- Cleaner production and industrial outputs
- Optimization of supply chains and production structures
- Creation of additional product value
- Compliance with international standards



BEYOND SMART CITIES provides firms with broad analytical tools and datasets to develop sustainable manufacturing strategies. These methods employ life-cycle assessment, supply chain optimization, material and process analysis, and greenhouse gas emissions to balance energy, water, waste, and costs.

BEYOND SMART CITIES professionally helps product designers, suppliers, and manufacturers through the establishment and implementation of individual and corporate sustainable policies to maximize returns for all stakeholders.

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How can BEYOND SMART CITIES help?

BEYOND SMART CITIES will help firms record sustainable actions to fulfill Global Reporting Initiative criteria and profit from carbon trading markets and worldwide recognition. BEYOND SMART CITIES uses business analysis and sustainable expertise to reduce a manufacturer's environmental footprint, energy and raw material costs, risk, carbon or other emissions taxes, public image, and customer acceptance.

Sustainable development makes sound commercial sense

- Companies in South Africa are increasingly embracing sustainable development, integrating its principles into their organisations.
- In this transformation, the manufacturing sector has been active with initiatives ranging from small businesses founded on recycled materials to large-scale commitment to generic principles among some large companies.
- Such commitments include integrating sustainability into governance structures and becoming signatories to United Nations Global Compact in support of universal environmental and social principles.
- In many ways, the challenges of implementing sustainable development are similar to the early days of risk management.
- There is an up-front cost of new systems for measuring social and environmental impact but invariably it becomes possible to identify opportunities for improvements that have financial benefit.
- Thus, for example, measuring energy consumption creates the opportunity to set targets to lower energy usage and consequently save costs.
- Similarly, from a social perspective, implementing HIV/Aids programmes that include free treatment and antiretrovirals for employees will not only extend and increase the quality of infected employees' lives but also increase the period sufferers are able to remain effective in the workforce.

> The concepts of sustainable development slowly entered the public domain in reports and international meetings in the 1970s and 1980s. The subject entered the mainstream of the global political agenda after the Rio Earth Summit in 1992. However, while government and NGO groups actively took up the debate, business was absent. But the role business could play could not be ignored and a decade after the Rio Earth Summit, over 700 leaders of the world's corporations made the trek to the foot of Africa, for the Johannesburg Earth Summit, actively taking up the case of sustainability.



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INCREASING BUSINESS' SOCIAL ENGAGEMENT

- Another trend worth noting is the way in which leading companies are moving beyond 'chequebook' corporate social investment to the formation of strategic partnerships with selected non-governmental organizations (NGOs).
- This kind of approach is fundamentally more sustainable, as it brings corporate skills as well as money to address societal challenges.
- In Barloworld's CSI program, employees throughout our global operations are encouraged to become involved in a practical manner in their own communities



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