

AN ENGINEER'S DREAM: THE STORY OF MELOTTE



BY MARCEL VAN MARREWIJK

The first full day at the WAIC started with two plenary addresses of businessmen presenting new business models and new approaches to organizing business. Not completely new, but at least different from common approaches focusing on control, resource exploitation and shareholder orientation.

Old globalized manufacturing models generate production waste, use enormous amounts of resources for transporting people and parts, cover mindboggling figures in terms of mileage and at the end of the lifecycle the discarded product is left as waste. Curiously, these business models have been designed according the principles of cost efficiency.

‘What about mother earth?’, Mario Fleurinck, a successful Belgium engineer/entrepreneur, exclaimed. Exploitative models ultimately end up destroying resources, a far cry from sustainable development and offering future generations a better place to live. Current models of growth disrupt our environment. New technologies should make industry more efficient and manufactured products should match our needs.

Back in 1996, Mario Fleurinck joined Boeing in Seattle as a trainee. Engineers in the R&D lab showed him something that he describes as ‘a big fish-tank-like glass box in which

flashy light streams and sparkles could be seen. Out of the sparkles an engine component, layer by layer, slowly ‘grew’. Mario couldn’t believe his eyes but was immediately grasped by the potential of this new technology. ‘I immediately called my father, told him: this is the future and advised him to sell his stocks of manufacturing companies!’

This technology, indeed, is now disrupting manufacturing practices, substituting analogue processes with digital ones. 3D-printing has left the laboratories, offering various businesses new ways of producing unique items at a scale of mass production!

Mario co-owns Melotte (CEO Melotte and founder and owner of InnoCrowd and Methomanica), the company applies ‘direct digital manufacturing’ to the production of dental prostheses. Each mouth is unique and with the aging of society, demand is skyrocketing. Moreover, for every eight retiring dental experts only one is just leaving dental school, entering the market of dental experts. Current business models have shifted production capacity to China, but growing incomes and the increasing local markets for dental care

is quickly absorbing this production capacity and causing prices to go up. A serious need for transformational change exists.


The direct digital manufacturing technique used at Melotte allows 850 prostheses to be produced every day, and 40,000 prostheses a year. The dentist makes a digital scan of the patient's mouth, jaw and teeth and overnight a prosthesis is made with a perfect fit. The local markets can be serviced, while energy used in production is brought down by 80%; no waste and only a fraction of the transport is needed compared to globalized business methods. At the end of its useful life the prosthesis can be returned and the material can be fully used again for constructing new prostheses, without a loss in quality. This is one of the most convincing cradle-to-cradle cases ever recorded!

Melotte's approach is also a powerful example of a so-called Blue Ocean strategy. Instead of 'me too' approaches copying the strategies of competitors, Melotte explored the potential of new technologies, which enabled them to cut back on pollution and multiplying efficiency by a factor of 8. That is an 800% improvement over traditional technologies!

'This is not only good for society and the environment, it also makes good business sense.' In his own authentic way, he lives Cooperrider's motto: doing well by doing good. With a 20% growth per quarter, Melotte generates significant local added value. For the future of our economy it is essential that we sustain our production levels by applying business models using renewable resources and servicing local communities.

In terms of the 4 D cycle, Mario has gone from the 'discover', 'dream' and 'design' phase to 'destiny': working very hard to make his dream come alive. Tuning his business model, spreading the word and sharing his energy and knowledge with people all over the world. This concept is easily scalable and the methods are transparent and accessible for others to use it elsewhere. No strings attached, the Inno-Crowd community of direct digital manufacturers will continue to learn from each other, improving their skills and techniques, enabling more inefficient businesses to benefit from sustainable development.

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Also based on a blog posted by Saskia Tjepkema 
Videostream presentation Mario Melotte 

THE DESTINY OF DIGITAL MANUFACTURING



Mario Fleurinck