

Increased Profits through the Introduction of Theory of Constraints for Welding and Fabrication

eCourse
NOW AVAILABLE



With the advent of greater demand for online training, HERA, IIW India, SAIW and the CWB Group are cooperating and collaborating to transfer the knowledge and experience of world experts into as many countries on a global basis.

The four organizations will arrange for eCourses to be presented by such world experts to meet the challenges of different time zones, the need to assist individuals and industries to optimize their training times as well as improve their national welding capabilities.

You can make enquiries and bookings with each organization offering the course most suitable for your needs. Links for registration are given later in this brochure.

Contacts at each organization for more detailed discussion on all future eCourses to be organized are:

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Principles and Methods for Maximising Revenue Flow in Welding and Fabrication through the application of the principles of the Theory of Constraints (TOC) — an Introduction.

PRESENTER:

ARRIE VAN NIEKERK

For many decades, the world of manufacturing and fabrication followed the principles of “scientific management” as developed in the late 1800s and early 1900s. Modern day business requires a much more holistic or integrated approach to be successful. Our markets and organisations are much more complex, and as a result, the way to manage it must be different. Industry 4.0 and Lean 4.0 entice a new approach with a lucrative potential—how can it be achieved?

In the late 1980s, Dr Eli Goldratt brought a new management approach that incorporates the systems’ approach in an elegant and easy-to-implement way. He published it in a business novel called “The Goal” and it introduced an approach to business that often produces astonishing results. This approach is called the Theory of Constraints (TOC), and it covers operations, projects, logistics and good management decision making. The key focus is on

improving the FLOW of revenue, rather than the driving of efficiencies and costs.

This eCourse will introduce the conceptual framework contained in this new approach and then demonstrate how it can be applied in manufacturing and fabrication. The concepts of **TOC FLOW Management** will be explained and students will be guided on how to apply it for themselves. Ultimately the objective is to guide the company towards a journey of continuous improvement.

An operational case study from the South African UMP company will be used to illustrate this. Visibility and good decision making can be improved through the Operational Flow Model and associated insights, configuration and behaviours. This aligns with **Industry 4.0**, which is providing new capabilities, but we need a new operating approach. In the final instance, it is all about making more money—increasing profits through TOC.



Arrie van Niekerk obtained his B Eng (Metal) from the University of Pretoria in 1978 and B Eng Hons in 1985. He completed the Management Development Program at the University of Pretoria in 1987. He was a part-time lecturer in Welding Technology at the Technikon Pretoria and University of Pretoria until 1989 and is currently lecturer of MSc in Mineral Resource Management at the University of the Free State. He is a member of the South African Institute of Mining and Metallurgy, he served as council member on the South African Institute of Non-Destructive Testing and served in various positions at the South African Institute of Welding. During this period, he was awarded the Harvey Shacklock gold medal for the development and certification of steel for the Mossgas Offshore production platform. Arrie is a specialist Facilitator of the TOC (Theory of Constraints) in

Mining and was the project leader for the implementation of TOC in more than 90 mines and 20 manufacturing companies since 1994. Over the past 20 years, he developed a derivative of Theory of Constraints (TOC) called **TOC Production Flow** and this approach is producing remarkable improvements in many companies all over the world. **TOC Production Flow has started using Wi-Fi-linked measuring devices and advanced discreet event simulation called MineTwin for some mining operations, placing this application in the forefront of Industry 4.0.** This eCourse aims to demonstrate how this can be done in **Fabrication and Manufacturing**.

Who Should Attend?

Owners of manufacturing and fabrication companies; factory or workshop supervisors and first line supervisors especially of welding activities; planners, estimators and raw material purchasing personnel; welding, manufacturing and fabrication engineers; quality assurance and control personnel.

The eCourse is relevant for all professionals in steel construction, bridge design, power generation, naval and shipbuilding, pipeline, automotive, aerospace and other industries that apply welding and fabrication.

eCourse Programme

This live eCourse will include 2 x 4 hour sessions and some Q&A (8 hours). The eCourse will be hosted via Zoom, with login details supplied upon registration.

Day 1 Session 1: A review of Existing Methods to improve operational performance and why some of them do not work.

- Demonstrating the challenges with old mental frames in operations
- The effects of variation and interdependencies and the causes of unstable production
- Why “Balanced Capacity” can never work—optimising the wrong attributes in a company
- Working towards a solution: The TOC Optimised Flow approach

Day 1 Session 2: The alternative solution for Operations

- The five Focusing steps of TOC & the Drum-Buffer-Rope approach to operations
- Application to Projects or time-constrained environments—the bottleneck in projects
- Application to logistical and supply chain systems. Replenishment on actual consumption

Day 2 Session 1: Financial and Managerial decision making

- Revenue per bottleneck unit—the high-level decision-making approach
- How to simplify management decision making
- How to apply the TOC principles to Manufacturing
- How to **maximise profits in Fabrication**—the UMP case study

Day 2 Session 2: Configuring operations for maximised Flow

- Selecting or determining the primary bottleneck & configure the organisation around it
- Creating good visibility and making more and more good decisions
- Alignment with **Industry 4.0**. Digitisation, Twinning and Simulation
- Summary and closure

NOTE: For the eCourse coordinated through **HERA in New Zealand for Asia, Australasia and SAARC countries**, it will be presented as four days of two hour sessions in line with the above.

Earn PDHs and CEUs with our Professional Development eCourse

Upon completion of 4 eCourse modules, the attendees will receive an electronic Course Completion Certificate that might be used to claim PDHs or CEUs.

EVENTS FOR AMERICAS

Course Date (Two four-hour sessions)

Session 1: 21 June 2022
Session 2: 23 June 2022

Location / time zone / starting time

Toronto/Michigan (EST):	10:00 am – 2:15 pm
Calgary & Edmonton (MST):	8:00am – 12:15 pm
Regina (CST):	8:00am – 12:15 pm
West Coast Canada and USA (PST):	7:00 am – 11:15 am
Atlantic Canada and USA:	11:00 am – 3:15 pm
Sao Paulo: Brazil, Santiago: Chile (GMT):	11:00 am – 3:15 pm

CLICK HERE TO REGISTER

- **Registration link:**
<https://www.eventbrite.ca/e/increased-profits-through-the-introduction-of-theory-of-constraints-tickets-304742221187>

EVENTS FOR AFRICA, EUROPE, MIDDLE EAST AND SAARC COUNTRIES

Course Date (Two four-hour sessions)

Session 1: 16 August 2022
Session 2: 18 August 2022

Location / time zone / starting time

Johannesburg–CET:	9:00 am – 1:15 pm
Nigeria–London:	8:00 am – 12:15 pm
Istanbul:	10:00 am – 2:15 pm
India & Sri Lanka:	12:30 pm – 4:45 pm
Bangladesh:	1:00 pm – 5:15 pm
Saudi Arabia, Oman, Kuwait, Bahrain:	10:00 am – 2:15 pm
UAE– Dubai, Sharjah, Abu Dhabi:	11:00 am – 3:15 pm

CLICK HERE TO REGISTER

- **Registration link:**
www.registrationlinkneeded.com

EVENTS FOR ASIA, AUSTRALASIA AND SAARC COUNTRIES

Course Date (Four two-hour sessions)

Session 1: 22 August 2022
Session 2: 23 August 2022
Session 3: 24 August 2022
Session 4: 25 August 2022

Location / time zone / starting time

Auckland:	2:00 pm – 4:00 pm
Sydney:	12:00 pm – 2:00 pm
Perth:	10:00 am – 12:00 pm
Singapore:	10:00 am – 12:00 pm
Bangkok:	09:00 am – 11:00 am
Seoul:	11:00 am – 1:00 pm
Tokyo:	11:00 am – 1:00 pm
India & Sri Lanka:	07:30 am – 09:30 am
Bangladesh:	08:00 am – 10:00 am

CLICK HERE TO REGISTER

- **Registration link:**
www.registrationlinkneeded.com

eCourse Cost

The course registration fee per participant is \$500.00 payable in US dollars or the equivalent amount in the regional organizer's local currency.

Participants will receive a set of notes for each course part in pdf format.

NOTE: As a **special benefit** to CWB, SAIW, IIW-India and HERA Certified Companies as well as IIW MCS ISO 3834 certified companies in any country, a registration fee of US\$500.00 per company will allow such companies to have their management team attend in the same room for the eCourse. This is to enable the information and experience being transferred by Arrie van Niekerk to reach all the key people in your company who will be involved in applying it. One person from the company is sufficient to register and receive the set of eCourse notes and final certificate.

REGISTER TODAY

To register, follow the registration links for regions below:

- **Asia and Australasia:** www.registrationlinkneeded.com
- **Americas:** <https://www.eventbrite.ca/e/increased-profits-through-the-introduction-of-theory-of-constraints-tickets-304742221187>
- **Africa, Europe, SAARC and Middle East:** www.registrationlinkneeded.com

Cancellations

Please note: cancellations within seven (7) working days of the start of the events, 100% of the fees will be charged. Replacement delegates may be sent however in lieu of those cancelled. The organizers reserve the right to cancel the courses due to insufficient registrations or other reasons beyond their control, as well as altering the programme if they deem it necessary. The organizers have the right to refuse registrations.

Upon completion of 4 eCourse modules, the attendees will receive an electronic Course Completion Certificate that might be used to claim PDHs or CEUs.