



The South African Institution of Mechanical Engineering

How Technology Evolution Enables Breakthrough Engineering Designs

CPD Validation Number: **SAIMechE-1009-12/19**

This workshop will earn delegates 2 credits in Category 1

This workshop is suitable for SAIMechE Groups 2, 3a & 3b

Course developer and presenter:

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SAIMechE Group Classification

0 = Non-technical,
e.g., HR, Finance

1 = Candidate
(including GCC) with <
5 years' experience

2 = Professional
(including GCC) with <
15 years' experience

3a = Professional and
Appointment with > 15
years' experience with
specialist interest

3b = Senior
Management with >
15 years' experience

OVERVIEW OF WORKSHOP

How Technology Evolution enables Inventive Engineering Designs is a 2-day workshop on world leading discoveries on technology evolution, which enables inventive solutions in a systematic and predictable manner.

Please note that this workshop stands conceptually in its own right, but refers to the SAIMechE course 60 (TRIZ and Inventive Problem-Solving Workshop) as one of its cornerstone tools.

CONTENT OF WORKSHOP

The **8 Evolution Patterns** that tells the engineer **what** is happening to current systems, and then how to estimate the remaining evolution space for exploitation.

The **35 Technology Evolution Trends** enable engineers to anticipate **how** the current technologies are impacting a system, and what the next emerging technologies are that could improve the system.

TOPICS

- **The Eight Evolution Patterns**
 - The Driving Evolution Forces.
 - Engineering and Man-Made Systems.
- **The 35 Technology Evolution Trends**
 - The link between the 8 Evolution Patterns and the 35 Technology Evolution Trends.
 - How to identify beneficial technology shifts.
 - How to select the most viable next technology shift using many patented examples.
 - How to assess innovation risk levels, opportunities, and viabilities.

WORKSHOP BENEFITS

- The discovery that technology evolution is not random, and is highly predictable, is emerging as one of the most powerful engineering breakthroughs for rejuvenating ineffective systems.
- Knowledge of the Patterns of Evolution and Evolution Trend Lines can avoid costly and often irreparable strategic mistakes.
- Enables viable solutions to aging systems by capitalizing on evolution-driven technology opportunities.
- Understanding evolutionary trend predictions enables development of the next-generation systems.

Who Should Attend

Engineers, architects, technologists, entrepreneurs, designers, inventors, innovators, researchers, and product developers.

Delegates' Comments