aractech

Global Learning for Operational Leaders

DATA MANAGEMENT AND BUSINESS INTELLIGENCE | DMBI-016

Data Science for Operational Excellence

Contact

+31 85 7444446
info@aractech.com
https://aractech.com

Address

Waarderweg 50, 2031PB Haarlem - Netherlands.

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Course content

Why Attend

Operational excellence depends on efficient processes, reliable decisions, continuous improvement, and the ability to respond quickly to change. Data science enables organizations to uncover inefficiencies, predict outcomes, optimize resources, and improve performance using evidence rather than assumptions. This course provides participants with practical tools to apply data science concepts, analytics techniques, and digital technologies to achieve stronger operational results.

Course Methodology

• This course uses an interactive and practical approach through presentations, case studies, analytics workshops, group discussions, dashboards exercises, process improvement activities, and real business examples.

Course Objectives

• Understand the relationship between data science and operational excellence

• Use data for smarter operational decision-making

• Improve data quality, governance, and reporting practices

• Apply analytics to optimize processes and workflows

• Use forecasting for planning capacity and resources

• Integrate Lean improvement with data-driven methods

Target Audience

• Operations Managers

• Process Improvement Professionals

• Business Analysts

• Supply Chain Managers

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Course outline

Detailed course outline

Day-by-day outline for Data Science for Operational Excellence.

Day 1 - Foundations of Data Science and Operational Excellence

• Growth of data in modern organizations

• Principles of operational excellence

• Why data-driven decisions outperform intuition alone

• Sources of operational data: internal and external

• Descriptive, predictive, and prescriptive analytics overview

• Successes and failures of analytics in operations

Day 2 - Tools, Techniques, and Data Management

• Data collection, storage, and governance essentials

• Improving data accuracy, consistency, and timeliness

• Data visualization for operational clarity

• Introduction to analytics platforms and tools

• Dashboards for real-time operational monitoring

• Statistical methods for process control and improvement

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Day 3 - Applying Data Science to Process Optimisation

• Using data to identify bottlenecks and waste

• Combining Lean Six Sigma with analytics

• Predictive analytics for demand and resource planning

• Machine learning concepts for workflow optimisation

• KPIs for operational excellence

• Practical exercise: analyse an operations dataset

Day 4 - Driving Continuous Improvement with Analytics

• Embedding analytical thinking across departments

• Advanced analytics for risk management and resilience

• Automation and AI opportunities in operations

• Presenting insights to decision-makers effectively

• Overcoming resistance to data adoption

• Building sustainable improvement systems

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Day 5 - Strategic Integration and Future Readiness

• Integrating data science into long-term operations strategy

• Aligning analytics with goals and performance targets

• Advanced forecasting for capacity, risk, and resources

• Scaling successful initiatives across business functions

• Governance for sustainable data-driven operations

• Continuous improvement through analytics maturity

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Seminar dates

Available seminar dates

Live dates and pricing for Data Science for Operational Excellence generated from the course details page.

Date	Location	Format	Fee