

PROJECT MANAGEMENT | COURSE BROCHURE

Project Risk Quantification and Monte Carlo Analysis

5 days | Classroom training | English

SMART HORIZON

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Course content

Why attend

Single-point estimates rarely reflect the real uncertainty in projects. This course teaches quantitative risk analysis: building risk-informed estimates, three-point estimating, Monte Carlo simulation of cost and schedule, interpreting confidence levels and contingency, and communicating results to decision makers.

Decision makers need to know not just a date and a number, but how confident to be in them. You will learn the techniques to provide that answer.

Professional Problems This Course Is Designed to Solve

- Difficulty translating subject knowledge into practical workplace decisions.
- Inconsistent approaches to the activities covered in the course outline.
- Lack of a structured plan for applying and reviewing new skills.

Course methodology

Spreadsheet simulation exercises, risk workshop practice, case studies and results presentation practice.

Course objectives

By the end of this course, participants will be able to:
- Explain the limits of deterministic estimates
- Run effective risk identification and assessment workshops
- Use three-point estimates and probability distributions
- Perform Monte Carlo simulation of cost and schedule
- Set contingency at chosen confidence levels
- Communicate quantitative risk results clearly

Target audience

This course is suitable for:
- Project managers and planners
- Risk managers
- Cost engineers and estimators
- Project control professionals
- Investment decision makers



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Target competencies

Participants will develop competencies in:
- Risk quantification
- Simulation modelling
- Contingency setting
- Statistical interpretation
- Risk communication

Course outline

Day 1: Risk and Uncertainty

09:00–10:08	Qualitative versus quantitative analysis
10:08–11:00	Uncertainty and discrete risks
11:00–11:30	**Coffee break**
11:30–11:45	Uncertainty and discrete risks (continued)
11:45–12:53	Bias in estimates
12:53–14:00	Exercise

Day 2: Estimating Ranges

09:00–10:08	Three-point estimating
10:08–11:00	Probability distributions
11:00–11:30	**Coffee break**
11:30–11:45	Probability distributions (continued)
11:45–12:53	Correlation
12:53–14:00	Workshop: risk inputs

Day 3: Monte Carlo Simulation

09:00–10:08	How simulation works
10:08–11:00	Cost risk models
11:00–11:30	**Coffee break**



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11:30–11:45	Cost risk models (continued)
11:45–12:53	Spreadsheet exercise
12:53–14:00	Interpreting S-curves

Day 4: Schedule Risk

09:00–10:08	Schedule risk analysis
10:08–11:00	Merge bias
11:00–11:30	**Coffee break**
11:30–11:45	Merge bias (continued)
11:45–12:53	Critical path sensitivity
12:53–14:00	Case study

Day 5: Using the Results

09:00–10:08	Contingency and confidence levels
10:08–11:00	Reporting to decision makers
11:00–11:30	**Coffee break**
11:30–11:45	Reporting to decision makers (continued)
11:45–12:53	Risk response planning
12:53–14:00	Action plan

The timings provided are estimates and may vary depending on the number of participants and the discussions taking place during the sessions. They are indicative only and do not constitute a binding commitment.



Course content

Dates, venues and fees

Current published course plans. Fees are per participant in EUR, excluding unconfirmed taxes.

Venue	Start date	End date	Fee (EUR)
Vienna Confirmed dates	9 Nov 2026	13 Nov 2026	**€2,940.–**
Online Confirmed dates	9 Nov 2026	13 Nov 2026	**€1,250.–**
Frankfurt Confirmed dates	30 Nov 2026	4 Dec 2026	**€2,650.–**
Online Confirmed dates	30 Nov 2026	4 Dec 2026	**€1,250.–**
Cape Town Confirmed dates	14 Dec 2026	18 Dec 2026	**€1,890.–**
Online Confirmed dates	14 Dec 2026	18 Dec 2026	**€1,250.–**
Barcelona Confirmed dates	18 Jan 2027	22 Jan 2027	**€2,840.–**
Online Confirmed dates	18 Jan 2027	22 Jan 2027	**€1,250.–**
Rome Confirmed dates	8 Feb 2027	12 Feb 2027	**€2,450.–**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	8 Feb 2027	12 Feb 2027	**€1,250.–**
London Confirmed dates	1 Mar 2027	5 Mar 2027	**€2,450.–**
Online Confirmed dates	1 Mar 2027	5 Mar 2027	**€1,250.–**
Cape Town Confirmed dates	22 Mar 2027	26 Mar 2027	**€1,890.–**
Online Confirmed dates	22 Mar 2027	26 Mar 2027	**€1,250.–**
Rome Confirmed dates	5 Apr 2027	9 Apr 2027	**€2,450.–**
Online Confirmed dates	5 Apr 2027	9 Apr 2027	**€1,250.–**
Dubai Confirmed dates	26 Apr 2027	30 Apr 2027	**€3,150.–**
Online Confirmed dates	26 Apr 2027	30 Apr 2027	**€1,250.–**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Cape Town Confirmed dates	17 May 2027	21 May 2027	**€1,890.–**
Online Confirmed dates	17 May 2027	21 May 2027	**€1,250.–**
Dubai Confirmed dates	7 Jun 2027	11 Jun 2027	**€3,150.–**
Online Confirmed dates	7 Jun 2027	11 Jun 2027	**€1,250.–**
London Confirmed dates	28 Jun 2027	2 Jul 2027	**€2,450.–**
Online Confirmed dates	28 Jun 2027	2 Jul 2027	**€1,250.–**
Kuala Lumpur Confirmed dates	12 Jul 2027	16 Jul 2027	**€1,450.–**
Online Confirmed dates	12 Jul 2027	16 Jul 2027	**€1,250.–**
Amsterdam Confirmed dates	2 Aug 2027	6 Aug 2027	**€2,540.–**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	2 Aug 2027	6 Aug 2027	**€1,250.-**
Istanbul Confirmed dates	23 Aug 2027	27 Aug 2027	**€2,650.-**
Online Confirmed dates	23 Aug 2027	27 Aug 2027	**€1,250.-**
Barcelona Confirmed dates	13 Sept 2027	17 Sept 2027	**€2,840.-**
Online Confirmed dates	13 Sept 2027	17 Sept 2027	**€1,250.-**
Paris Confirmed dates	4 Oct 2027	8 Oct 2027	**€2,860.-**
Online Confirmed dates	4 Oct 2027	8 Oct 2027	**€1,250.-**
Rome Confirmed dates	18 Oct 2027	22 Oct 2027	**€2,450.-**
Online Confirmed dates	18 Oct 2027	22 Oct 2027	**€1,250.-**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Vienna Confirmed dates	8 Nov 2027	12 Nov 2027	**€2,940.-**
Online Confirmed dates	8 Nov 2027	12 Nov 2027	**€1,250.-**
Dubai Confirmed dates	29 Nov 2027	3 Dec 2027	**€3,150.-**
Online Confirmed dates	29 Nov 2027	3 Dec 2027	**€1,250.-**

Plan your next step

Dates, availability, exact venue, taxes, inclusions and payment terms require written confirmation. This brochure is not a quotation, registration, booking confirmation or visa invitation. Participants receive a Smart Horizon certificate of attendance; programmes are not externally accredited and do not award a professional qualification or designation. Confirm arrangements before booking travel.

For group or in-house training, contact our learning team to discuss your objectives and delivery arrangements.

Contact Smart Horizon

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