



Reacfin **Masterclass** (IA|BE CPD eligible)

Asset and Liability Management for Insurers

Fully online

About the **training**

For an insurance company, **ensuring the proper coordination between assets and liabilities** in order to achieve targeted financial objectives is of paramount interest. A strategy used to reach such objectives is “asset and liability management” (ALM in short). ALM can therefore be viewed as any ongoing process that defines, implements and monitors financial strategies to manage assets and liabilities together.

In recent years, the modelling tools used in ALM strategies have become increasingly sophisticated and the technical aspects of current insurance regulation have increased. As a result, some ALM aspects have become more and more difficult to understand and master.

Participant profile: This ALM training starts with a **first module** that is primarily an **introduction to main concepts of ALM** and is therefore particularly suited for participants coming from different departments (for instance, people dealing with own risk solvency assessment techniques or enterprise risk management) and wanting to develop a broader view on what ALM is and how it works. It is also well suited for newcomers or people wanting to refresh their mind on these concepts. Note that the training is not limited to people working in ALM or treasury departments but is also adapted to other departments.

The **second module** is more advanced and intended for those wishing to gain more in-depth expertise on the topics. It includes some mathematical technicity, but nothing that goes further than a solid high school level.

The participants can follow a single module or both.

The full training program is worth 20 Continuous Professional Development (CPD) points at the Institute of Actuaries in Belgium (IA|BE).



The **aim of this training** is to

- Define what ALM is and describe the typical missions of an ALM department in an insurance company
- Present the financial risks on which ALM classically focus as well as the requirements of the Solvency II regulation for insurance companies
- Describe the essential quantitative ALM tools and methods used by insurance companies to evaluate and mitigate the risks
- Illustrate the different concepts through numerical examples and case studies to make it practical and not just theoretical

Practical **content**



E-learning capsules

2 capsules to build the foundations



- 2 e-learning capsules as prerequisites or presentation of concepts with more examples
- To be followed by the participants **whenever they want**, best before the webinars



Webinars

6 webinars (3 basics + 3 advanced) to consolidate and expand practical knowledge



- **Material** (slides and Excel files with illustrations and exercises) provided before the webinar
- Presentation of the **main ALM concepts** in a **didactic way**
- Several webinars contain **practical examples and exercises in Excel**
- Opportunity to **ask questions** through specific Q&A sessions
- Focus on ALM **case studies** allowing to **put learning into practice**
- Webinars will be recorded so that you can watch them later if you were not available or want to review the material. Recording available for 2 months after the training

About the agenda

Prerequisites

- **E-learning capsules – length: 2h**
Introduction to financial products ; The main principles of asset and liability management

Module 1 – Introduction to the main ALM concepts: overview, regulation, quantitative tools and standard hedging strategies (Total duration: 9h)

Webinar #1

length: 3h15 (including breaks)

Part #1 : An overview of ALM

- What is ALM?
- Missions of an ALM department and risks studied by ALM
- Regulation and ALM (Solvency II for insurance companies)

Part #2 : Optimal investment portfolio

- Modern portfolio theory and efficient frontier (Markowitz)
- Illustrations

Webinar #2

length: 3h15 (including breaks)

Part #1 : Quantitative tools for ALM

- Matching between assets and liabilities
- Notion of yield curve
- Risk indicators and sensitivity: duration and convexity

Part #2 : Quantitative tools for ALM : extensions

- Duration and convexity: extensions and illustrations
- Concrete examples from the industry

Webinar #3

length: 3h15 (including breaks)

Part #1 : Standard hedging strategies

- Immunization
- Introduction to derivative products
- Hedging and overlays

Part #2 : Case study

- Presentation of a full case study to solve
- Step-by-step solution

Module 2 – Advanced financial tools for ALM: stochastic modelling, dependence modelling, options modelling and advanced hedging techniques (Total duration: 9h)

Webinar #4

length: 3h15 (including breaks)

Part #1 : Stochastic modelling (Part 1)

- Introduction to stochastic modelling
- Interest rates modelling

Part #2 : Stochastic modelling (Part 2)

- Continuous time models for equity indices
- Introduction to discrete time models for equity indices

Webinar #5

length: 3h15 (including breaks)

Part #1 : Dependence modelling (part 1)

- Linear and nonlinear dependence
- Notion of correlation

Part #2 : Dependence modelling (part 2)

- Introduction to copulas

Webinar #6

length: 3h15 (including breaks)

Part #1 : Options modelling and advanced hedging techniques

- Some advanced derivative products and hedging strategies in ALM
- Modelling and valuation of options

Part #2 : Case studies

- Presentation and discussions of case studies

About the **Reacfin Academy**

Reacfin Academy is the business line of Reacfin dedicated to continuous professional education and training in Finance, Risk Management, Portfolio Management, Actuarial Science and Data Science.



www.reacfinacademy.com

About the **speakers**



Pierre Devolder

Chairman of Reacfin, professor at the University of Louvain (UCL)
Expert in Pension, Life Insurance, ALM and Stochastic Finance. Ex-Board Member at Axa Belgium with 35+ years of experience in insurance.



Valentin Dendoncker

Senior consultant in Reacfin's Risk Management & Finance Center of Excellence and PhD in Mathematics
Expert in Finance (stochastic modelling, pricing, ALM).



Natacha Brouhns

Manager of Reacfin Academy

PhD in Actuarial Science and IA|BE qualified actuary.



Adrien Lebègue

Director at Reacfin, Head of Reacfin's Risk & Finance Center of Excellence

PhD in Actuarial Science and IA|BE qualified actuary.



Gilles Tondeur

Partner at Reacfin

Expert in ALM and quantitative finance.