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## **Advanced Integration (RESOLVE) Course**

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### **Target Audience:**

This course is targeted to those engineers that have (i) attended the **Standard IPM** course previously, and (ii) have consolidated their familiarity of **MBAL**, **PROSPER** and **GAP** through consistent use over time. This course will assume a base level of familiarity of the tools, and is intended promote the analytical features available in creating physics based field realisations in the **IPM** tools.

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### **Overall Objectives:**

- 1/ Developing dexterity in integrating production models together using **RESOLVE**
- 2/ Understanding and selecting appropriate solution strategies
- 3/ Using workflows to detect and mitigate flow related behaviour, and implement Field Rules

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### **Course Agenda**

#### **Part 1: Introduction**

**RESOLVE** Overview: Objectives, Functionality and structure

*Integrating Reservoir Numerical Simulation models to Surface Network Models and Economics for Field Development purposes (long-term forecast):*

- *Connecting Applications*
- *Transferring Data amongst application*
- *Scheduling Events (Event Driven Scheduling)*
- *Creating Field Development Scenarios*

*Applying Field Operation Rules in an Integrated Model (Advanced Event Driven Scheduling using Workflows)*

#### **Part 2: Global Optimisation**

Solving Global Optimisation problems (involving multiple applications)

Formulation Strategies for Reservoir – Wells – Surface Network – Process models: (Feedback Loops, Integrated Process Design, Routing Optimisation using **RESOLVE** (GIRO))

Optimisation formulation strategies (Finding the Solution) and Interpreting/Analysing Results

#### **Part 3: Advanced PVT Options**

Creating Consistent Fluid Description across all integrated applications using Proprietary PVT Lumping/Delumping methodologies.

Creation of Process Independent Models