Main features and capabilities

- **Simeo™ Expert enables you to:**
  - Build a risk based business plan, taking ageing into account
  - Visualize the (positive) impact of actions on risks and measure benefit/cost ratio
  - Make sensitivity analysis on main financial hypothesis (market prices, WACC,...)
  - Calculate the value created by each investment/maintenance scenario

- **Simeo™ Expert offers you:**
  - A *risk and action builder* (editor), to parameter risks, ageing and the effect of mitigation actions
  - A *scenario builder*, to elaborate several options of action planning
  - A flexible *value function*, in which you define the performance indicators you want to optimize
An example for each module is provided:
- RAM online - Module 3 example
- RAM online - Module 4 example

To access the project list:

When you log into SIMEO™, select your own project (or the module example)
Exercice : RAM online - Module 3 & 4

▶ Assets of a railway :
  – Curved rails
  – Straight rails
  – Ballast

▶ Possible maintenance actions :
  – Grinding
  – Tamping
  – Track renewal

▶ When is the best moment to perform the maintenance and what type of maintenance ?
Creation of the list of assets:

Each component corresponds to a length of track.
Creation of the list of actions:

For each length of track, 3 possible actions:
- grinding
- tamping
- renewal

Note: The cost/unavailability of each action will depend on the length of the track
For each asset: definition of associated risk

- **Ageing curve without maintenance**
- **Updated ageing curve with maintenance**
- **Risk level in 2021 without maintenance**
- **Updated Risk level in 2021 after maintenance action**
Synthesis of all the risks and viewing of global risk matrix:
SIMEO - RAM online - Module 3 & 4 example

▶ Creation of 4 maintenance scenarios:

- Code: default
  - Name: default - no maintenance
  - Description: 

- Code: 5a65bca21eaba
  - Name: Preventive maintenance only - random
  - Description: 

- Code: 5a65bca23d9d6
  - Name: Renewal and maintenance - risk based
  - Description: 

- Code: 5a65bca20b12a
  - Name: Renewal only - random
  - Description: 

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**List of scenarios**

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
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Comparison of the 4 scenarios:

- The risk based scenario including preventive and renewal actions is more expensive than the preventive maintenance only scenario.
- However, the risk-based scenario is the most effective in mitigating risk with a negligible cumulated cost of risk.
Comparison of the 4 scenarios:

The comparison of the total cumulated cost (direct cost of actions + risk cost) shows that the risk-based maintenance scenario is the cheapest thanks to a good mitigation of risks (slide 10).

The days of unavailability are also minimised thanks to the risk-based scenario.
Request for training

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Thank you!