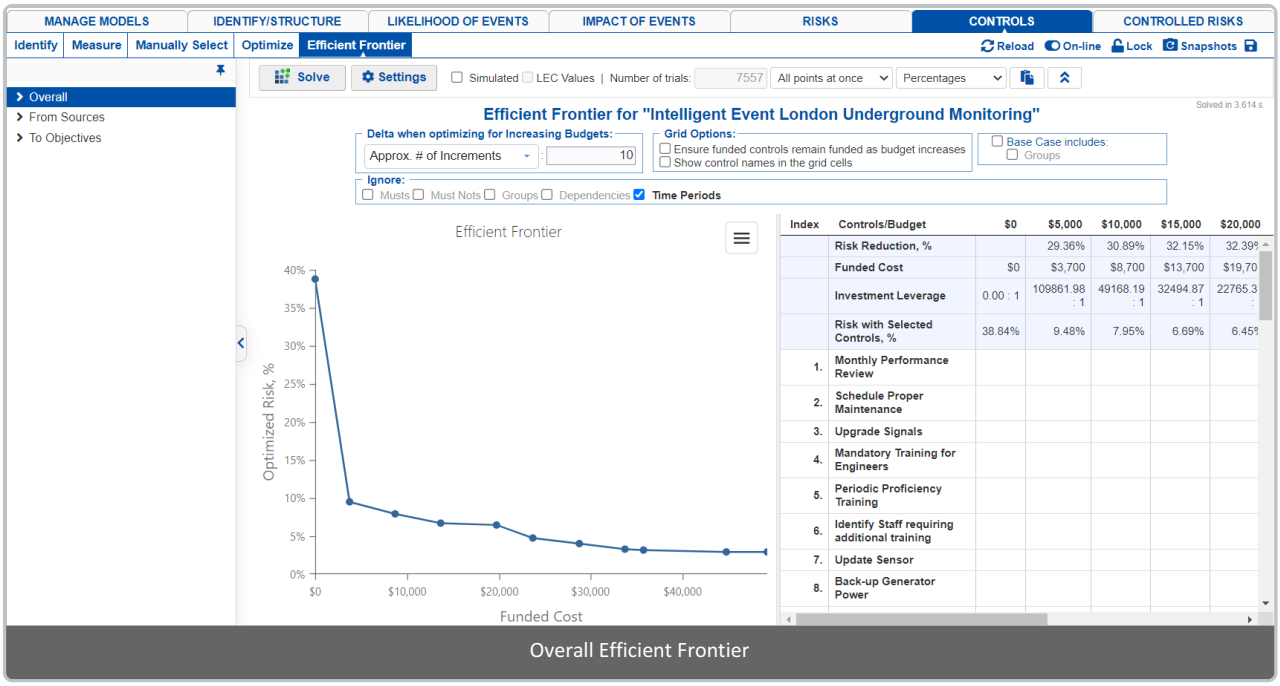
Overall Efficient Frontier

The Efficient Frontier results make it easy to compare several scenarios and see the effects of lower or higher budgets.

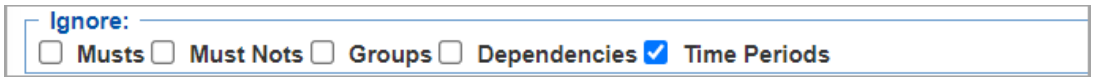
Click  to display results:



Overall Efficient Frontier

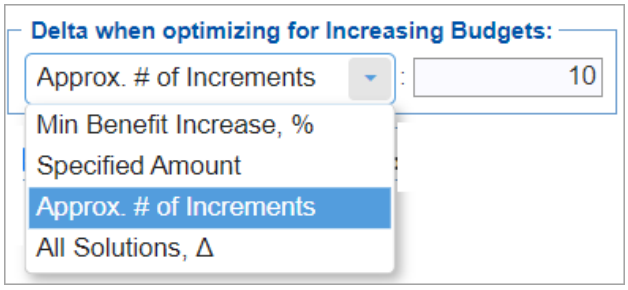
The Overall Efficient Frontier page displays a curve(s) at the left and a grid at the right.

You can ignore constraints:



Constraints that are defined have a **bold** font.

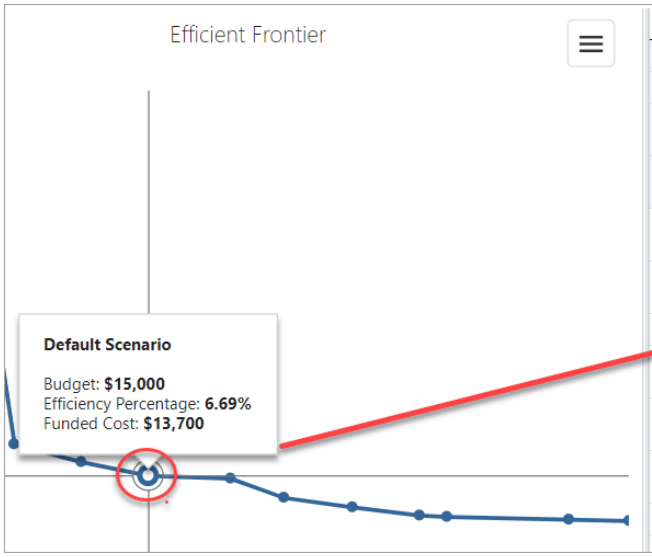
You can select the **Solver Modes** when optimizing:



Mode	What is does	Main Parameter	Solving Direction	Recommended Setting

Mode	What is does	Main Parameter	Solving Direction	Recommended Setting
Minimum Benefit Increase	Automatically adds points only where the risk result changes enough to matter.	Minimum benefit increase (%)	Decreasing only	Start with 5%. This is usually the best mode for a concise, readable frontier. It avoids spending time on tiny improvements that are unlikely to change a decision.
Specified Amount	Moves through the budget range by a fixed amount, such as $5,000 per point.	Increment amount	Decreasing or Increasing	Use an amount that yields roughly 12–25 points over the full range. Larger ranges need larger increments.
Approximate No. of Increments	Splits the selected budget range into evenly spaced budget levels.	Number of increments	Decreasing or Increasing	Start with 12 increments. This gives a useful overview without asking the solver to calculate dozens of near-identical points.
All solutions	Starts at the highest budget and repeatedly lower the budget after finding the **optimal** solution.	Decrement amount	Decreasing only	Use a decrement based on the budget range—about one twentieth of the range is a good starting point. This finds meaningful changes without trying every tiny budget change.

Hovering over a plot in the Chart will show a tooltip with its details and will highlight the corresponding column in the Grid.

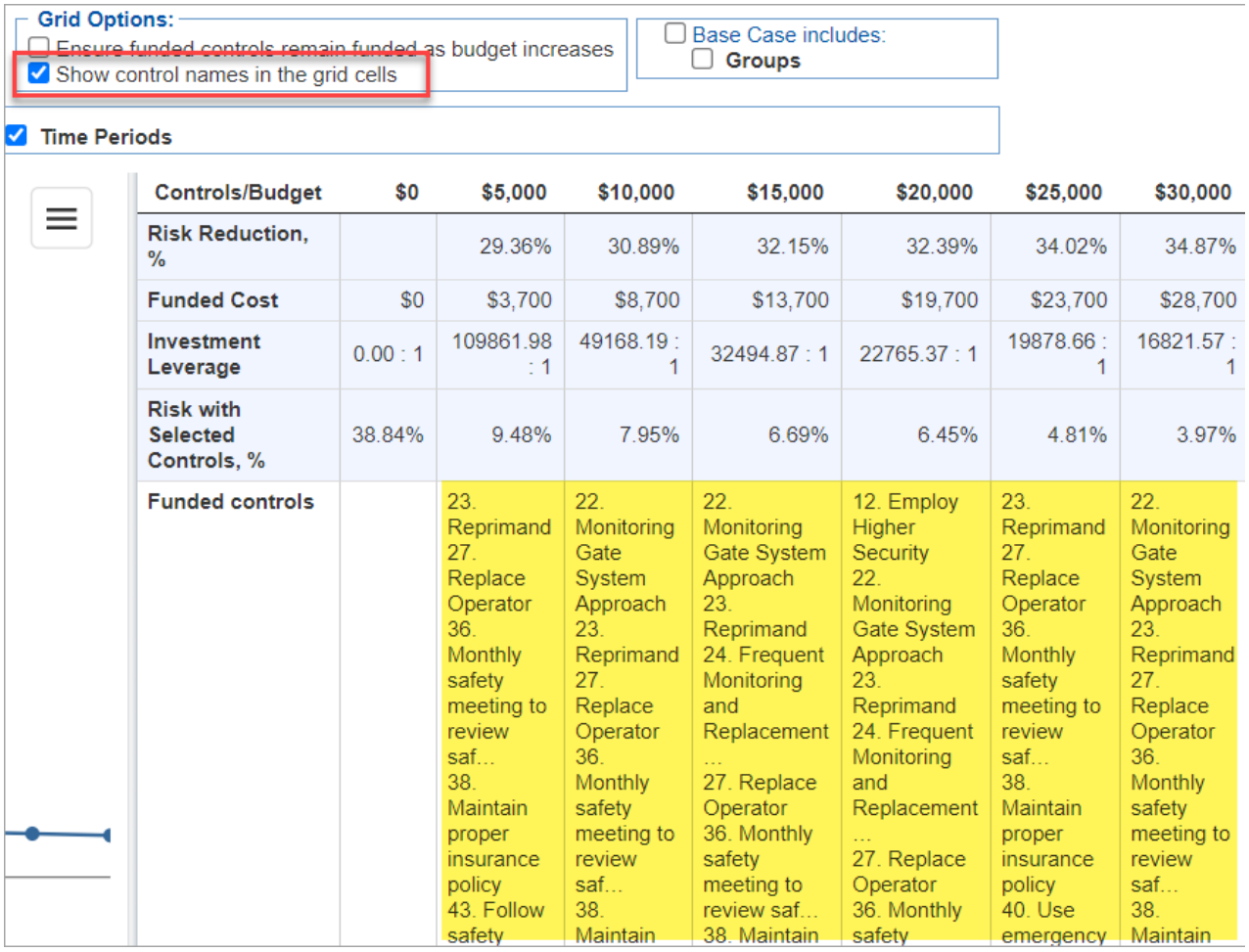


Index	Controls/Budget	$0	$5,000	$10,000	$15,000
	Risk Reduction, %		29.36%	30.89%	32.15%
	Funded Cost	$0	$3,700	$8,700	$13,700
	Investment Leverage	0.00 : 1	109861.98 : 1	49168.19 : 1	32494.87 : 1
	Risk with Selected Controls, %	38.84%	9.48%	7.95%	6.69%
1.	Monthly Performance Review				
2.	Schedule Proper Maintenance				
3.	Upgrade Signals				
4.	Mandatory Training for Engineers				
5.	Periodic Proficiency Training				
6.	Identify Staff requiring additional training				
7.	Update Sensor				
	Back-up Generator				

You can see the controls that are funded on the grid. There will be FUNDED on the cell intersecting the control (row) given the budget (column).

Index	Controls/Budget	$0	$5,000	$10,000	$15,000	$20,000	$25,000	$30,000
	Risk Reduction, %		29.36%	30.89%	32.15%	32.39%	34.02%	34.87%
	Funded Cost	$0	$3,700	$8,700	$13,700	$19,700	$23,700	$28,700
	Investment Leverage	0.00 : 1	109861.98 : 1	49168.19 : 1	32494.87 : 1	22765.37 : 1	19878.66 : 1	16821.57 : 1
	Risk with Selected Controls, %	38.84%	9.48%	7.95%	6.69%	6.45%	4.81%	3.97%
1.	Monthly Performance Review							
2.	Schedule Proper Maintenance							
3.	Upgrade Signals							
4.	Mandatory Training for Engineers							
5.	Periodic Proficiency Training							
6.	Identify Staff requiring additional training							
7.	Update Sensor							
8.	Back-up Generator Power							
	Periodic							

Alternatively, you can turn on the show control names option to list the funded controls in the cell.



Controls/Budget	$0	$5,000	$10,000	$15,000	$20,000	$25,000	$30,000
Risk Reduction, %		29.36%	30.89%	32.15%	32.39%	34.02%	34.87%
Funded Cost	$0	$3,700	$8,700	$13,700	$19,700	$23,700	$28,700
Investment Leverage	0.00 : 1	109861.98 : 1	49168.19 : 1	32494.87 : 1	22765.37 : 1	19878.66 : 1	16821.57 : 1
Risk with Selected Controls, %	38.84%	9.48%	7.95%	6.69%	6.45%	4.81%	3.97%
Funded controls		23. Reprimand 27. Replace Operator 36. Monthly safety meeting to review saf... 38. Maintain proper insurance policy 43. Follow safety	22. Monitoring Gate System Approach 23. Reprimand 27. Replace Operator 36. Monthly safety meeting to review saf... 38. Maintain	22. Monitoring Gate System Approach 23. Reprimand 24. Frequent Monitoring and Replacement ... 27. Replace Operator 36. Monthly safety meeting to review saf... 38. Maintain	12. Employ Higher Security 22. Monitoring Gate System Approach 23. Reprimand 24. Frequent Monitoring and Replacement ... 27. Replace Operator 36. Monthly safety	23. Reprimand 27. Replace Operator 36. Monthly safety meeting to review saf... 38. Maintain proper insurance policy 40. Use emergency	22. Monitoring Gate System Approach 23. Reprimand 27. Replace Operator 36. Monthly safety meeting to review saf... 38. Maintain