

By how much is pilot training impacting an airline's financial risk & value?

The Value for Safety VfS approach

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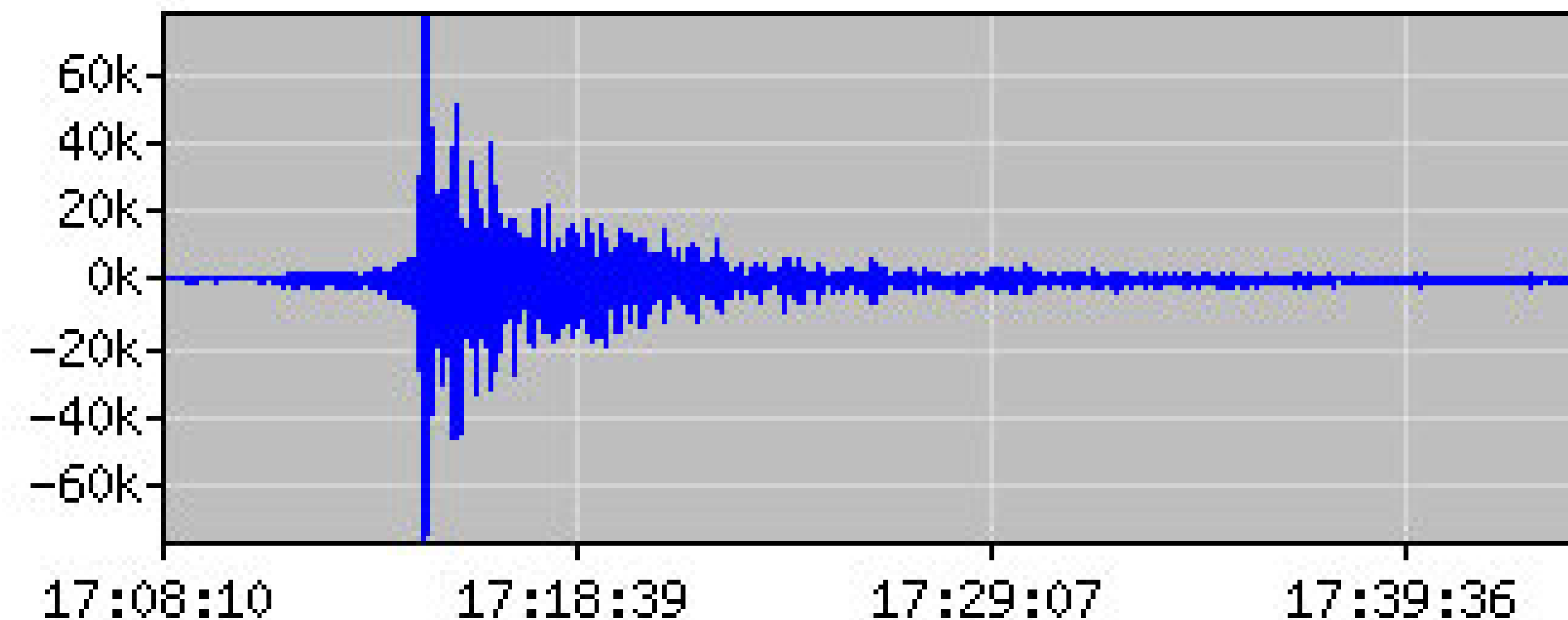
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The logo for Management & Excellence is displayed within a black rectangular frame. It features the words "MANAGEMENT" and "EXCELLENCE" in a serif font, separated by a vertical line. The letters "M" and "E" are positioned on either side of this line, with the ampersand "&" in the center. The entire logo is set against a dark blue background.

MANAGEMENT & EXCELLENCE

Monitoring airline risk levels □ earthquake prediction

- Monitoring the financial impact of pilot training on the safety level of an airline is like predicting the risk of an earthquake happening.



What are the financial impacts of pilot training?

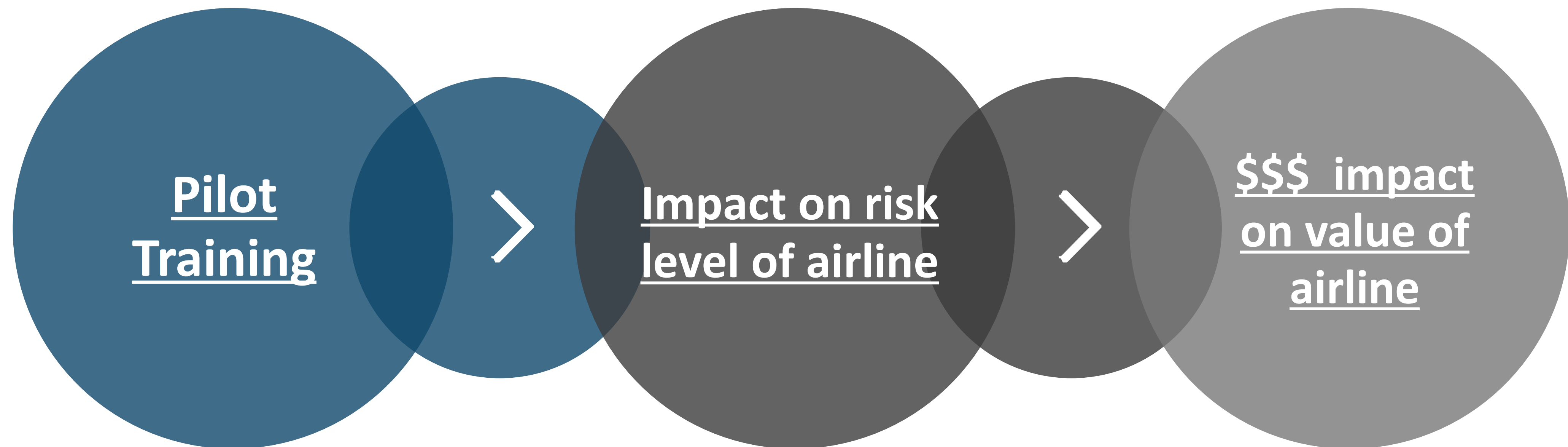


EASA pilot training risk impact model RAPT

- Risk “index” without financial impact
- Judges the quality and thoroughness of pilot training, not really its impact of airline risk levels
- RAPT training quality indicators very useful for M&E Value for Safety method



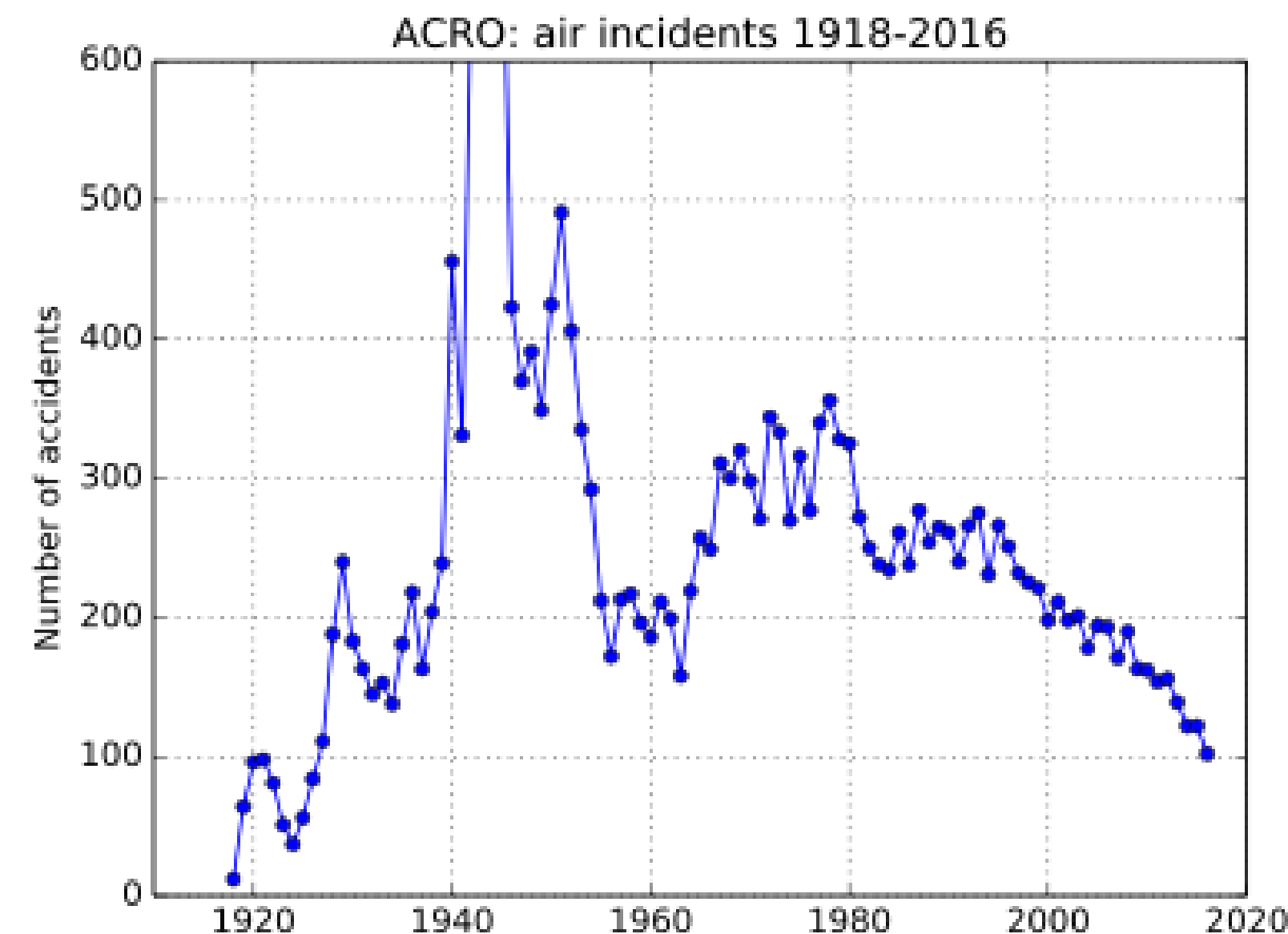
Pilot training can save an airline's life & many human lives



Safety incidents are rare...



Total safety incidents since 1918 is 11,164 (B3A). Yet air travel is safe: 1980-2001, incidents were 1.22/million departures



...yet their financial impacts grave

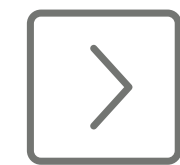
Table 7.5 - Simulation Results from 5000 iterations

Variables	Accident Count	Aircraft Count	Passger Count	Injured Count	Death Count	Hull Cost (MM)	Passger Cost (MM)	Total Cost (MM)
Best Case	0	0	0	0	0	0	0	0
Wrst Case	13	14	1,790	1,015	1,012	1,131	1,376	2,507
Expected	3.59	3.69	375	197	179	233	286	519
Std Dev	1.91	1.99	230	154	144	139	182	315
5%	1	1	58	0	0	50	42	95
10%	1	1	109	18	8	60	76	149
15%	2	2	144	43	30	95	105	204
20%	2	2	176	65	51	115	128	248
25%	2	2	204	81	70	120	150	283
30%	2	3	231	97	86	145	172	322
35%	3	3	259	114	103	170	194	363
40%	3	3	287	131	121	180	214	398
45%	3	3	317	148	135	195	236	434
50%	3	4	347	167	150	216	258	474
55%	4	4	377	184	168	230	282	518
60%	4	4	407	209	190	252	305	559
65%	4	4	440	230	212	270	333	604
70%	4	5	474	254	233	290	364	652
75%	5	5	509	281	258	315	396	714
80%	5	5	554	314	287	345	430	772
85%	6	6	614	355	325	375	473	845
90%	6	6	681	407	371	415	531	932
95%	7	7	792	488	447	485	627	1,089

For example...



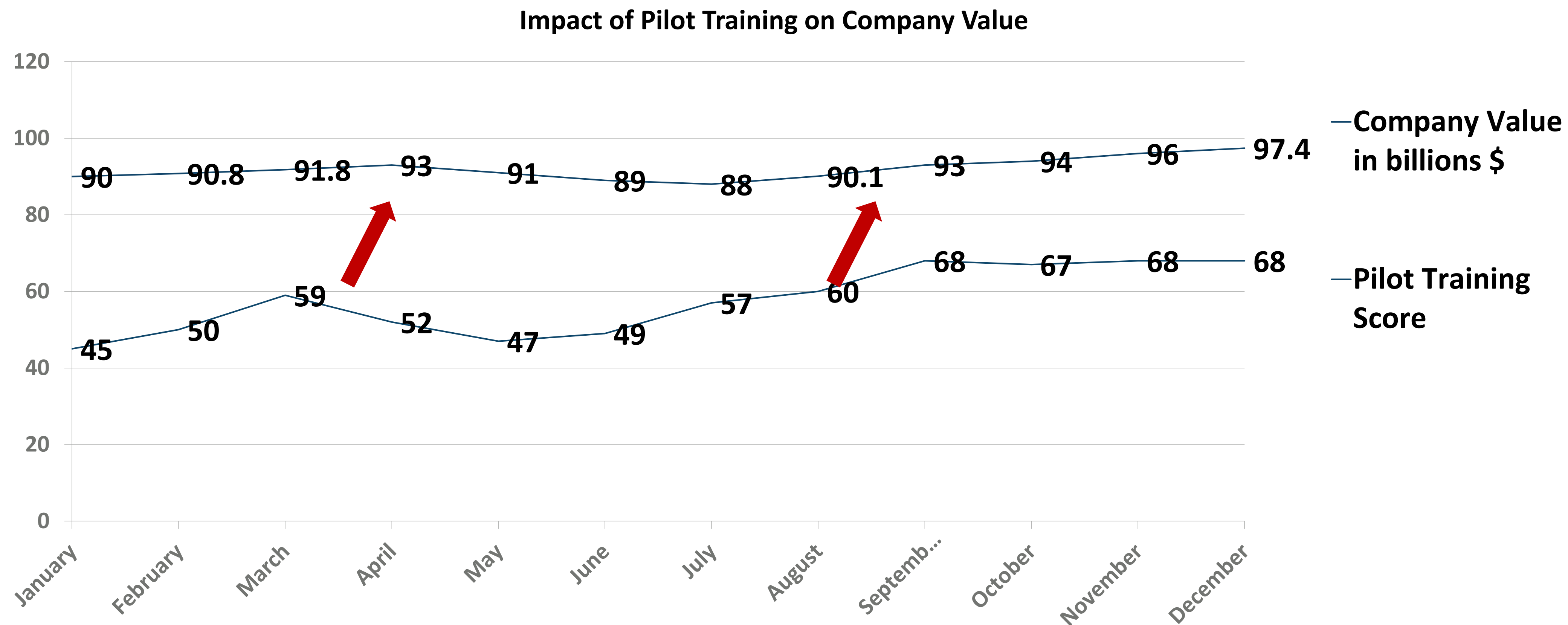
TransAsia paid \$1.2 billion to victims as a result of two safety incidents and went bankrupt in 2016.



An emergency landing by a Southwest 737 in April , 2018, with one dead passenger cost the airline \$100 million (CNN 2018)



VALUE FOR SAFETY VfS approach

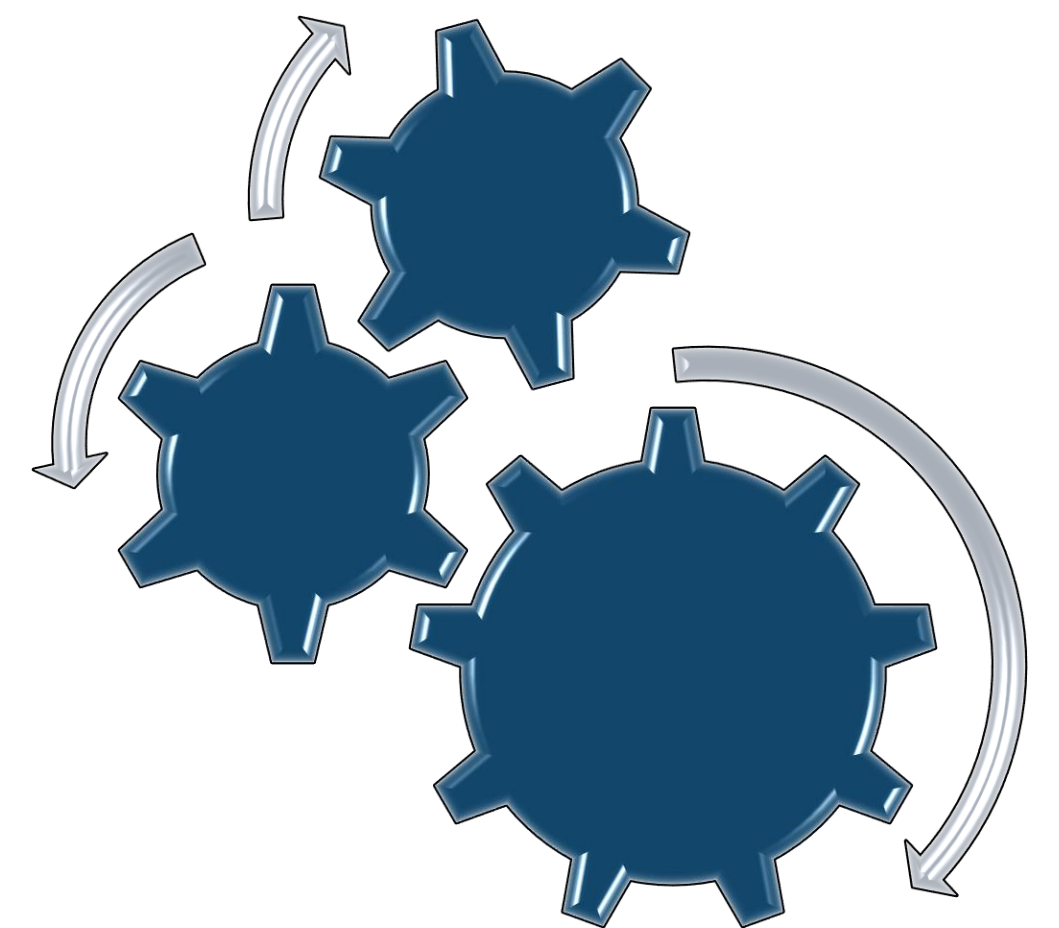


Accidents are always the results of causal chains



Causal Chain Thinking: A key skill we look at

- Develop CAUSAL CHAIN THINKING skills – same skill as used in playing chess; anticipating chains of causes & effects.



Training under duress

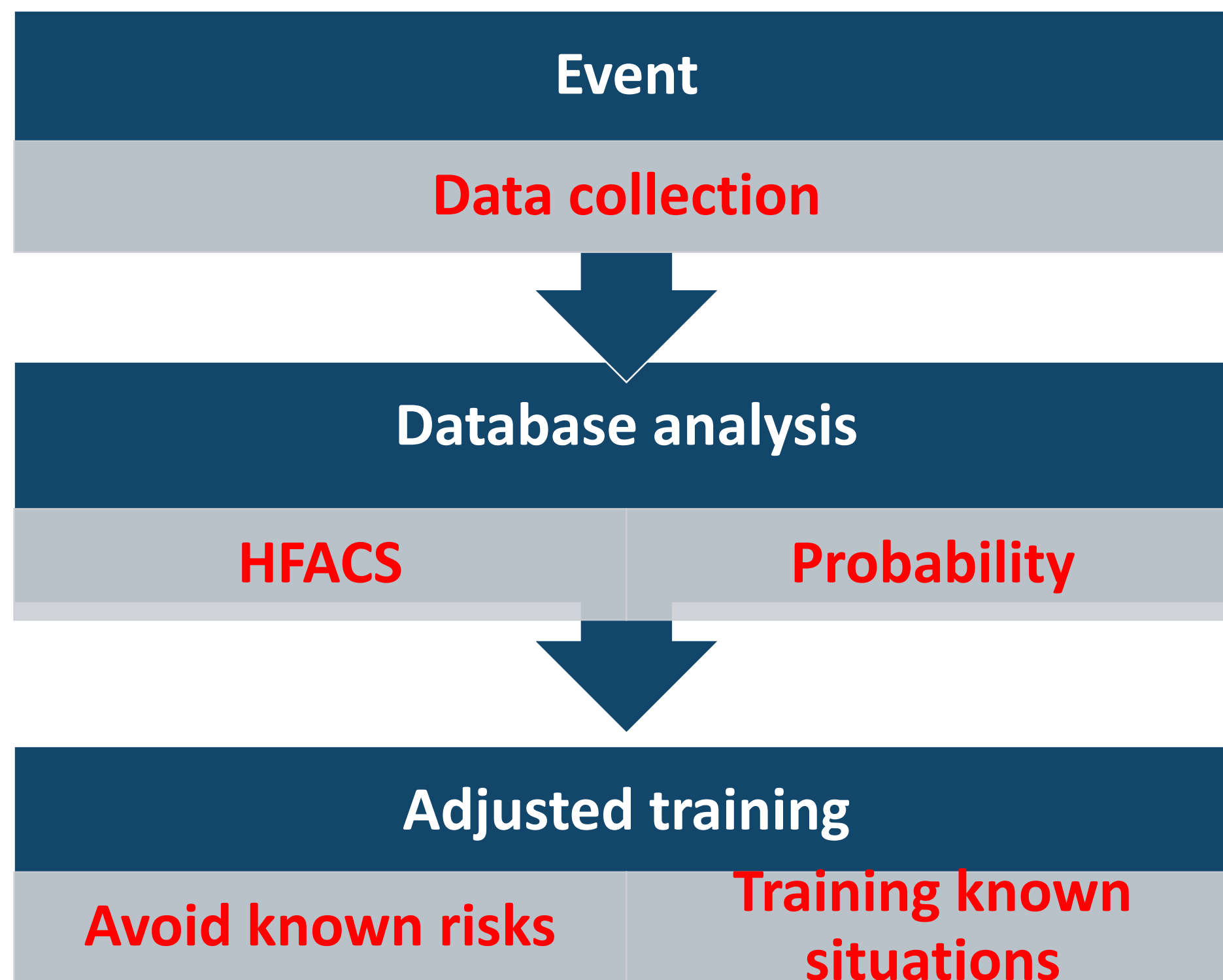
- Train Causal Chain Thinking under more realistic conditions e.g. sleep Deprivation, cognitive overload, duress, fatigue, human skills, technical knowledge)



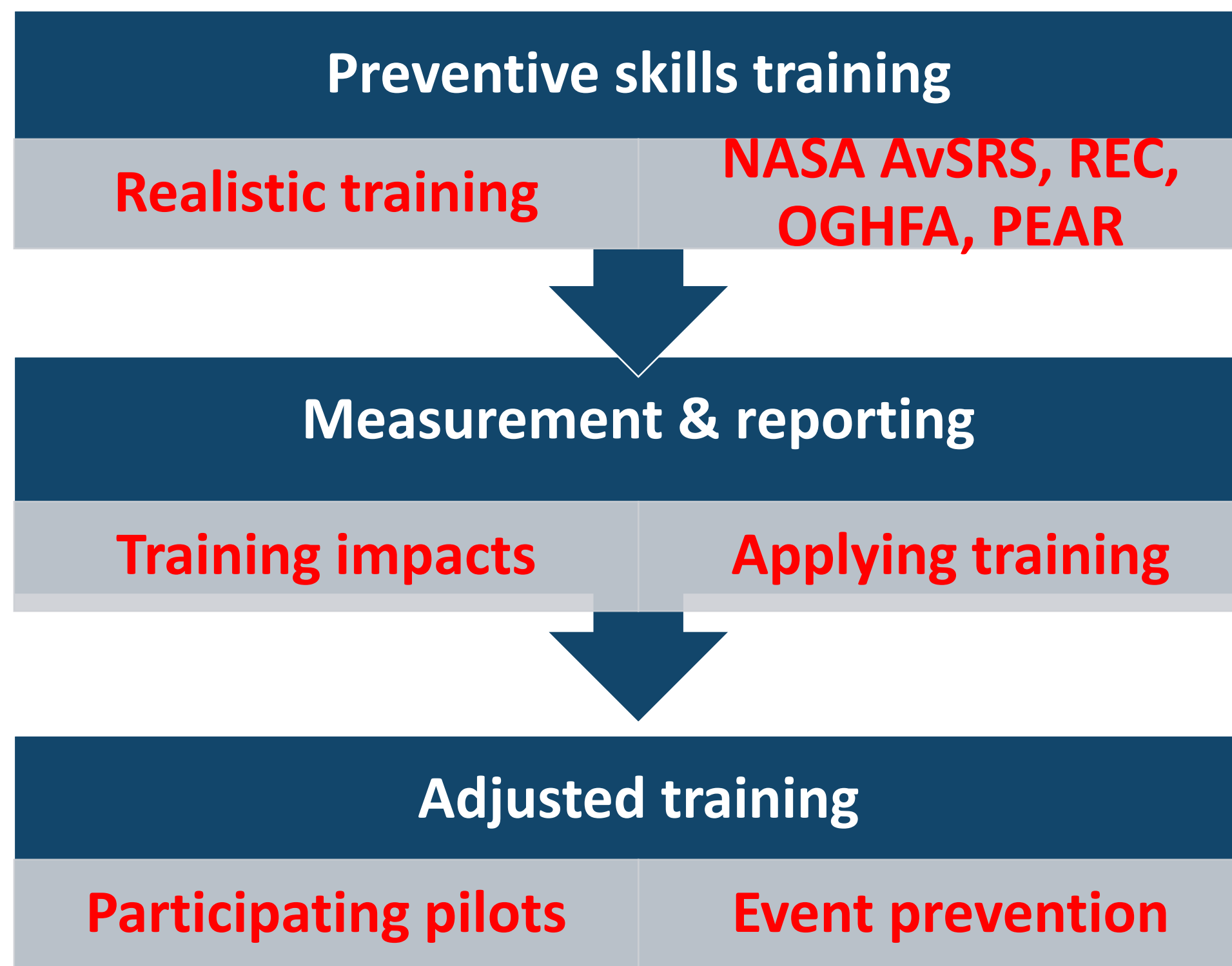
Current training approaches

Amost training approaches do not develop causal chain thinking

Causal training approach

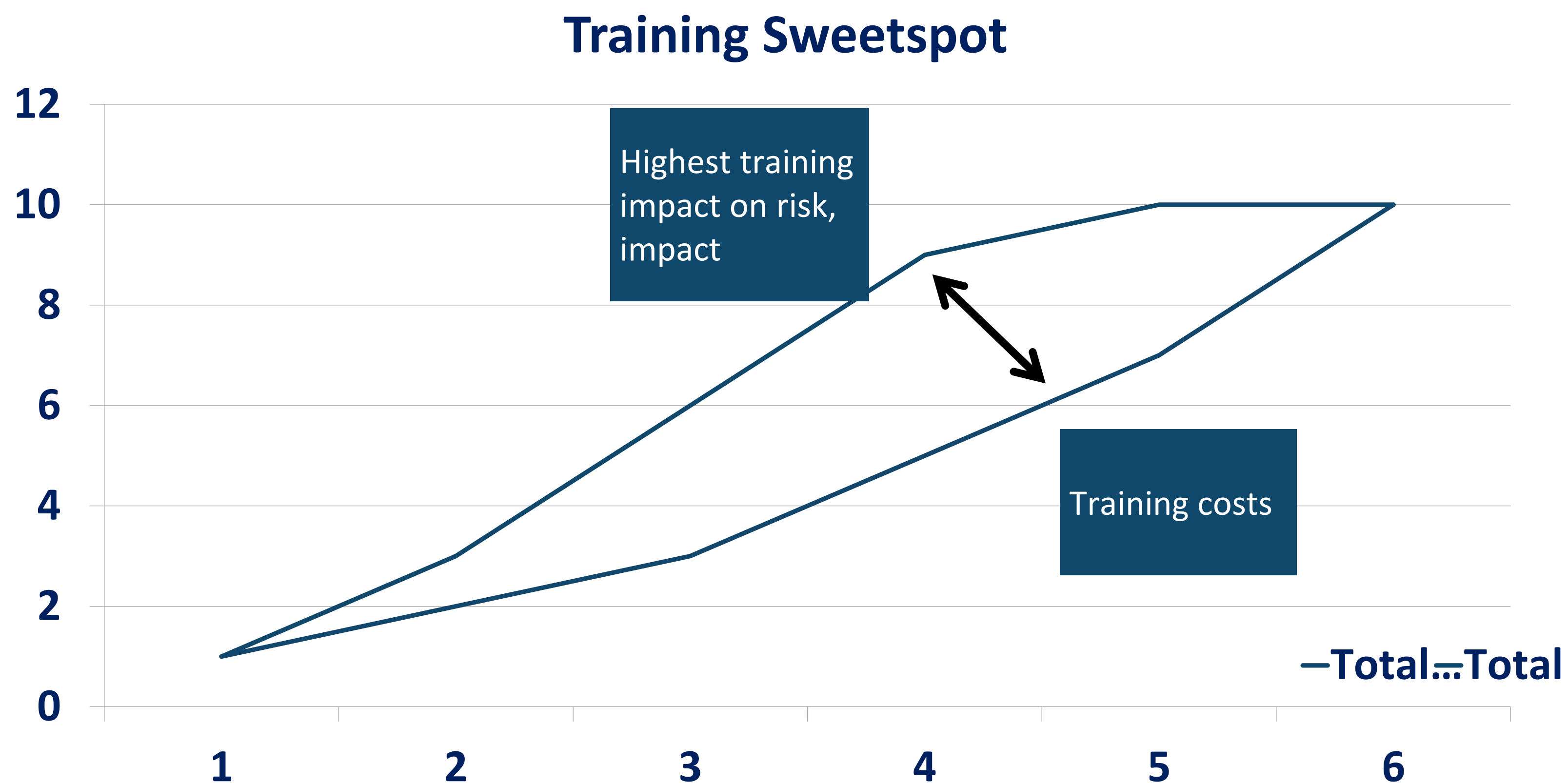


Preventive training approach



Achieving your “Training Sweetspot”?

The “Training Sweetspot” is where training costs are the lowest in relation to training’s impact on risk reduction



Thank You & Questions



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