

WEBVTT

1

00:00:03.065 --> 00:00:05.485

And, and in a small group like that, it takes courage

2

00:00:05.745 --> 00:00:07.965

to step up and say something.

3

00:00:08.105 --> 00:00:09.895

So have that in mind.

4

00:00:09.955 --> 00:00:13.095

We, we need to be courageous in our, in our, uh, endeavors.

5

00:00:13.095 --> 00:00:14.255

His flight test personnel.

6

00:00:14.715 --> 00:00:17.655

Um, our next speaker, I'm not gonna say much about him.

7

00:00:17.795 --> 00:00:20.735

You saw him, uh, on stage as our, uh,

8

00:00:21.055 --> 00:00:22.415

director in an emergency response.

9

00:00:23.075 --> 00:00:24.485

He's at works at Gulfstream.

10

00:00:24.705 --> 00:00:28.045

He, uh, volunteered to help with yesterday's, uh,

11

00:00:28.485 --> 00:00:31.805

ERP demonstration and, and role playing activity.

12

00:00:32.465 --> 00:00:35.045

Um, uh, I'm not gonna say much else,

13

00:00:35.225 --> 00:00:38.005

but the Oscar goes to Ben Luther.

14

00:00:46.365 --> 00:00:48.615

Good morning. I got a good start from Joseph this morning

15

00:00:48.865 --> 00:00:51.175

about, uh, well a little more than 10 years ago now.

16

00:00:51.215 --> 00:00:53.135

I was working inside Joseph's organization.

17

00:00:53.135 --> 00:00:55.685

What he doesn't know was that we were tasked

18

00:00:55.685 --> 00:00:57.125

to have a look at pump transient

19

00:00:57.325 --> 00:00:58.365

pressures from the receiver.

20

00:00:58.505 --> 00:01:02.045

So tucked into the, the receiver position we needed

21

00:01:02.045 --> 00:01:05.125

to record the transients being passed at flight level 4, 5 0

22

00:01:05.195 --> 00:01:07.085

mark, 0.81 G inverted.

23

00:01:07.185 --> 00:01:09.605

So this was gonna require a glorious bow roll.

24

00:01:11.375 --> 00:01:13.145

Yeah, Don was right. This is a tough crowd.

25

00:01:13.445 --> 00:01:17.505

So I'm gonna, uh, I'm gonna channel a bit of turbo

26

00:01:17.925 --> 00:01:19.065

and, 'cause I can't be funny.

27

00:01:19.135 --> 00:01:23.525

I'll be fast. Alright,

28

00:01:24.105 --> 00:01:27.125

uh, talking to you today about some of my private study,

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00:01:27.495 --> 00:01:29.605

which I need to thank Gulfstream for.

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00:01:29.865 --> 00:01:31.045

So you're not quite correct.

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00:01:31.105 --> 00:01:33.445

I'm not here as Gulfstream today. I'm here as Ben Luther.

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00:01:34.335 --> 00:01:39.325

But my thanks to Gulfstream for their support tolerating my,

33

00:01:39.345 --> 00:01:40.525

uh, academic endeavors.

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00:01:40.605 --> 00:01:42.245

'cause I don't really understand American baseball,

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00:01:42.865 --> 00:01:44.325

so I go to university instead.

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00:01:45.365 --> 00:01:46.585

Uh, one

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00:01:46.585 --> 00:01:48.985

of the areas I learned the most from was coming back from

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00:01:48.995 --> 00:01:51.875

Spain when I was the flight

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00:01:51.875 --> 00:01:53.595

to safety officer at a, at a military unit.

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00:01:53.735 --> 00:01:55.315

And the law of the land changed.

41

00:01:56.205 --> 00:01:59.945

It made an SMS compulsory for the entire nation,

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00:02:00.645 --> 00:02:02.745

and no waiver was given for the military.

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00:02:04.295 --> 00:02:06.955

So once they attached jail time to that,

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00:02:06.955 --> 00:02:07.995

that really got our attention.

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00:02:08.695 --> 00:02:13.635

Uh, my commanding officer tasked me immediately

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00:02:13.735 --> 00:02:14.915

to fix this right now.

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00:02:15.175 --> 00:02:19.945

And that sent me off to university, uh, to study about SMS.

48

00:02:19.945 --> 00:02:21.105

And from there, I brought it over here

49

00:02:21.245 --> 00:02:24.065

and had the opportunity to study various places.

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00:02:24.365 --> 00:02:25.705

And that's what I wanna bring to you today.

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00:02:25.815 --> 00:02:29.955

Basically dispatches from academia, trying to have a look at

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00:02:29.955 --> 00:02:31.795

what we can do better and where we can apply that

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00:02:32.595 --> 00:02:34.995

ultimately, because I'm lazy and I wanna make my job easier.

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00:02:36.205 --> 00:02:38.225

So I thought I could possibly share some of that with you.

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00:02:41.085 --> 00:02:42.725

SMS is currently the tour de jour

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00:02:42.825 --> 00:02:43.845

to steal the French phrase.

57

00:02:44.075 --> 00:02:47.015

It's a, it's the tool that we have,

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00:02:47.675 --> 00:02:48.815

but it doesn't of itself.

59

00:02:48.845 --> 00:02:50.215

Make your, make us safer.

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00:02:50.875 --> 00:02:53.395

You can buy an SMS manual, you can put it on the shelf

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00:02:53.395 --> 00:02:55.035

and it will do exactly nothing for you.

62

00:02:55.705 --> 00:02:57.075

It's nothing more than a checklist.

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00:02:58.095 --> 00:03:00.575

It's a collection of practices

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00:03:00.575 --> 00:03:03.415

that we know over time have made organizations safer.

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00:03:03.595 --> 00:03:06.175

But you do actually have to do them. That's the hard bit.

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00:03:06.175 --> 00:03:07.575

You've gotta get in and actually do them.

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00:03:07.725 --> 00:03:09.295

It's like, it's really inconvenient.

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00:03:09.315 --> 00:03:10.935

You can't just buy the manual.

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00:03:13.345 --> 00:03:17.205

And of course, the idea that from the, the academics, uh,

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00:03:17.505 --> 00:03:19.285

you, you get what you measure.

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00:03:20.495 --> 00:03:22.395

That's a basic management principle that applies.

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00:03:22.535 --> 00:03:26.035

So there's nothing magic about this tool du jo of SMS.

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00:03:26.455 --> 00:03:28.875

You simply measure what you're doing

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00:03:29.495 --> 00:03:30.875

and you, if you like what you get,

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00:03:30.895 --> 00:03:32.715

you get a positive result, repeat it.

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00:03:33.175 --> 00:03:35.235

If you don't, don't repeat it.

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00:03:35.375 --> 00:03:36.755

Change, do something different.

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00:03:36.855 --> 00:03:40.305

So trouble with, uh,

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00:03:40.505 --> 00:03:42.705

SMS was applying it to flight test.

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00:03:42.705 --> 00:03:44.785

It very quickly became a division by zero problem.

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00:03:45.995 --> 00:03:47.335

So we're talking about safety

82

00:03:47.395 --> 00:03:49.095

and taking these management principles

83

00:03:49.885 --> 00:03:51.025

and applying them to safety.

84

00:03:51.125 --> 00:03:53.345

It was like, well, I had zero accidents last year

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00:03:53.345 --> 00:03:55.745

and I had zero accidents this year, so therefore I'm safe.

86

00:03:57.265 --> 00:03:59.275

Yeah, division by zero was a really tough problem.

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00:04:00.365 --> 00:04:02.945

And what I wanna do today is give you some takeaways,

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00:04:02.945 --> 00:04:06.275

some ideas, perhaps some roadmaps on the very specific part

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00:04:06.335 --> 00:04:08.555

of assurance and how that was measured.

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00:04:09.055 --> 00:04:11.835

And some of the points I've come to recently on ways

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00:04:11.835 --> 00:04:12.955

that we could possibly be doing that.

92

00:04:17.405 --> 00:04:21.545

So it's, uh, it's not magic. There are four pillars to it.

93

00:04:21.965 --> 00:04:24.345

It is slide four. Yep.

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00:04:25.315 --> 00:04:28.935

We're, uh, the flight chase safety committee certainly

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00:04:28.935 --> 00:04:32.495

helped us with the provision of a, an audit checklist.

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00:04:33.115 --> 00:04:34.335

And the checklist is valuable

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00:04:34.335 --> 00:04:36.495

because it prevents acts of omission.

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00:04:36.835 --> 00:04:40.365

So now we're talking about a deliberate effort on our part

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00:04:40.365 --> 00:04:43.005

to consider what's being presented in the SMS checklist.

100

00:04:43.305 --> 00:04:44.685

And it's quite a right to decide.

101

00:04:44.685 --> 00:04:46.525

That's not appropriate for my organization.

102

00:04:46.945 --> 00:04:49.525

We are too small. We're not in that environment.

103

00:04:50.895 --> 00:04:53.395

And then within that, uh, audit checklist,

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00:04:53.415 --> 00:04:54.595

we had the four pillars.

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00:04:55.315 --> 00:04:56.275

Although keep in mind that the four

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00:04:56.395 --> 00:04:57.515

pillars is not universal.

107

00:04:58.015 --> 00:05:00.795

It is universal within aviation now because of IKO,

108

00:05:01.095 --> 00:05:02.115

but it didn't used to be.

109

00:05:02.115 --> 00:05:03.515

And it hasn't always been that way.

110

00:05:04.255 --> 00:05:05.835

And I find it useful to remember that.

111

00:05:05.865 --> 00:05:08.875

Yeah, this is a model. This is SMS is a model,

112

00:05:08.875 --> 00:05:11.715

and if we know more about where it came from, we can see

113

00:05:11.715 --> 00:05:13.915

what they're trying to achieve and work out ways

114

00:05:14.015 --> 00:05:16.595

to achieve assurance within a flight test.

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00:05:17.325 --> 00:05:18.745

Uh, a flight test construct.

116

00:05:20.325 --> 00:05:22.905

The SMS works by excluding areas.

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00:05:24.185 --> 00:05:26.245

So the SMS challenges you to define

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00:05:27.075 --> 00:05:28.325

your operating environment

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00:05:28.505 --> 00:05:31.085

and then by extension, that automatically excludes areas

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00:05:31.085 --> 00:05:32.165

where you will not operate.

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00:05:32.785 --> 00:05:35.985

So for Southwest Airlines, that's the 7 3 7,

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00:05:36.205 --> 00:05:37.225
that's their configuration.

123

00:05:37.685 --> 00:05:39.185
No further discussion. We entered into,

124

00:05:39.695 --> 00:05:41.545
they train their pilots, their maintainers.

125

00:05:41.745 --> 00:05:42.785
Everyone's on the 7, 3 7.

126

00:05:42.815 --> 00:05:45.945
They don't need to consider the hazards of operating

127

00:05:46.485 --> 00:05:49.345
hot air balloons or gliders or anything else.

128

00:05:51.145 --> 00:05:53.045
That's the, the magic of the SMS.

129

00:05:53.665 --> 00:05:55.365
It defines what it is you're gonna do

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00:05:55.585 --> 00:05:57.365
and allows you to optimize on that

131

00:05:57.665 --> 00:06:00.485
and then allows you to measure deviations from that point.

132

00:06:01.025 --> 00:06:03.245
And that then becomes the discussion for today's,

133

00:06:03.545 --> 00:06:05.645
or the theme of the entire, uh, conference,

134

00:06:05.895 --> 00:06:08.045
which is have a look at the assurance component.

135

00:06:10.595 --> 00:06:12.375

So we get to this point pretty easily in this audience.

136

00:06:12.765 --> 00:06:14.415

Okay? We, we want SMS

137

00:06:14.915 --> 00:06:16.495

and uh, I included the reference

138

00:06:16.495 --> 00:06:18.935

to the audit protocol up here so that you'll have it,

139

00:06:19.465 --> 00:06:20.525

uh, for use later.

140

00:06:22.465 --> 00:06:23.805

So now that we are, uh, we wanting,

141

00:06:23.985 --> 00:06:26.525

we want an SMS, what does that mean?

142

00:06:26.955 --> 00:06:29.965

What does that mean for us? I went looking at part 1 21

143

00:06:30.765 --> 00:06:31.765

'cause I'm essentially lazy and

144

00:06:31.765 --> 00:06:32.805

I wanna be able to grab from there.

145

00:06:33.385 --> 00:06:34.855

That's when I realized, Hmm.

146

00:06:34.855 --> 00:06:36.655

That's the, the idea of statistical

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00:06:36.655 --> 00:06:37.895

significance that was mentioned earlier.

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00:06:38.395 --> 00:06:42.195

We fly test, we fly half a dozen times a week.

149

00:06:42.895 --> 00:06:44.875

We are just not gonna get the sample sizes.

150

00:06:44.975 --> 00:06:46.595

We also don't have the number of pilots.

151

00:06:46.595 --> 00:06:48.195

So we have the issue of confidentiality

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00:06:48.195 --> 00:06:51.195

that was discussed earlier when you've only got half a dozen

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00:06:51.215 --> 00:06:53.955

pilots and four of them didn't fly this week.

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00:06:54.745 --> 00:06:56.555

It's, uh, it's pretty easy to work out

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00:06:56.555 --> 00:06:57.595

where this stuff's coming from.

156

00:07:00.005 --> 00:07:01.865

So I'm back to pondering what to do.

157

00:07:01.925 --> 00:07:04.505

How do I make an SMS for a flight test organization?

158

00:07:06.825 --> 00:07:08.445

So I'm focusing on the assurance element,

159

00:07:08.905 --> 00:07:12.525

and this is from the fa a's, uh, fa a's website.

160

00:07:13.105 --> 00:07:15.275

And that's when I'm looking at it

161

00:07:15.425 --> 00:07:17.275

with the continued effectiveness.

162

00:07:17.695 --> 00:07:20.515

So defined as evaluating the continued effectiveness

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00:07:20.615 --> 00:07:23.885

of implemented risk control strategies, going, Hmm,

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00:07:23.885 --> 00:07:25.005

where have I seen this before?

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00:07:26.725 --> 00:07:28.285

I had the privilege of, of studying it

166

00:07:28.465 --> 00:07:30.925

and realizing it through some of the business schools

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00:07:30.925 --> 00:07:33.515

that this is KPIs outside

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00:07:33.515 --> 00:07:35.155

of flight test, outside of aviation.

169

00:07:35.155 --> 00:07:39.425

This is KPIs. And so what are they doing?

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00:07:40.285 --> 00:07:41.825

So with some eye rolling,

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00:07:41.825 --> 00:07:44.505

because KPIs definitely have a bad reputation

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00:07:44.505 --> 00:07:46.715

that has been well deserved.

173

00:07:47.425 --> 00:07:48.915

They've been used to bully the workforce.

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00:07:49.705 --> 00:07:52.195

KPIs can be put up as a charade of productivity.

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00:07:52.945 --> 00:07:55.925

They really do suffer from a low correlation problem.

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00:07:56.885 --> 00:08:00.025

So businesses will just pick some random KPIs

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00:08:00.985 --> 00:08:03.165

and they don't work because there's no correlation between

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00:08:03.165 --> 00:08:04.645

what they're measuring and

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00:08:04.645 --> 00:08:06.125

what they really wanted in the first place.

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00:08:06.395 --> 00:08:08.765

Just the auditor told 'em they had to have four KPIs.

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00:08:09.395 --> 00:08:11.765

Okay, I track four things that are not relevant,

182

00:08:12.745 --> 00:08:14.555

but that brings up the issue of overhead.

183

00:08:14.855 --> 00:08:16.395

You know, these things are not free.

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00:08:17.055 --> 00:08:18.475

We need to, it costs time

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00:08:18.475 --> 00:08:19.955

and resources to implement one of these.

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00:08:20.015 --> 00:08:20.915

So you need to make sure

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00:08:20.915 --> 00:08:22.035

you're getting a return on investment.

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00:08:22.965 --> 00:08:25.425

And ultimately KPIs can drive negative behaviors.

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00:08:25.885 --> 00:08:27.385

And that's why you're rolling your eyes going.

190

00:08:27.385 --> 00:08:29.745

Yeah, KPIs, we don't really want those.

191

00:08:32.515 --> 00:08:34.655

The, uh, the easy option, of course is just to go

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00:08:34.655 --> 00:08:36.175

with a list of, of hazards,

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00:08:36.555 --> 00:08:39.055

but a list of hazards is not leading indicators.

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00:08:39.805 --> 00:08:41.505

And leading indicators is what we want.

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00:08:41.505 --> 00:08:43.305

That's the attribute of the KPI that we want.

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00:08:44.575 --> 00:08:46.715

It would also be easy to go with, uh,

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00:08:46.955 --> 00:08:48.155

a functional hazard analysis.

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00:08:48.895 --> 00:08:50.235

But, uh, in this audience I'll argue

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00:08:50.235 --> 00:08:52.195

that a functional hazard analysis is not safety.

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00:08:53.735 --> 00:08:55.685

Yes, it's part of a system safety,

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00:08:56.305 --> 00:08:57.645

but it's very technically nature

202

00:08:57.645 --> 00:08:58.805

and looks at the reliability.

203
00:08:59.075 --> 00:09:00.365
It's backward looking. What we are

204
00:09:00.365 --> 00:09:01.805
after is a forward-looking scenario.

205
00:09:03.365 --> 00:09:05.935
Long leading to say KPIs selected from lists

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00:09:05.935 --> 00:09:07.295
of occupational hazards won't work.

207
00:09:07.295 --> 00:09:10.585
They're too noisy. KPIs from traditional system

208
00:09:10.585 --> 00:09:11.665
safety analysis won't work.

209
00:09:11.985 --> 00:09:13.305
'cause they're focused on reliability

210
00:09:14.495 --> 00:09:15.955
and then quantitative measures.

211
00:09:16.105 --> 00:09:18.635
Well, they're not gonna work either as evidence.

212
00:09:18.715 --> 00:09:20.395
I give you the fact that casinos exist.

213
00:09:20.935 --> 00:09:23.155
Humans are not really good at probability.

214
00:09:23.255 --> 00:09:24.715
We fundamentally don't get it.

215
00:09:24.895 --> 00:09:25.915
And there are an awful lot

216
00:09:25.915 --> 00:09:28.315

of papers on why 2D matrices are terrible.

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00:09:28.955 --> 00:09:32.645

However, to, to quote Churchill, it's the best we've got.

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00:09:33.035 --> 00:09:33.885

He's telling us that

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00:09:33.885 --> 00:09:35.605

democracy's terrible, but it's the best.

220

00:09:35.605 --> 00:09:37.605

We've got 2D matrix. Same.

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00:09:41.735 --> 00:09:44.835

So hanging out with my, uh, nerdy friends at universities.

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00:09:46.055 --> 00:09:49.015

I find that, uh, it was Kaplan in the Hate in the Harvard

223

00:09:49.335 --> 00:09:51.135

Business Review in 1992 that opened his paper.

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00:09:51.895 --> 00:09:54.975

I Unusual for an academic with a, a simple statement,

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00:09:55.005 --> 00:09:56.375

what you measure is what you get.

226

00:09:57.115 --> 00:09:58.455

And we've spoken about that a few times.

227

00:09:58.715 --> 00:09:59.935

Um, today and yesterday.

228

00:10:01.915 --> 00:10:03.255

The best of the science outta these

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00:10:03.255 --> 00:10:04.815

guys from their business schools.

230

00:10:05.565 --> 00:10:07.415

They tell us to look for a passman

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00:10:07.555 --> 00:10:09.655

of KPIs not to look that one up.

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00:10:09.845 --> 00:10:13.215

Passman meaning very few in number, but effective.

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00:10:14.835 --> 00:10:17.685

They also talk about having a KPIs aligned with strategy,

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00:10:18.505 --> 00:10:21.365

having a be wary of the retrospective bias.

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00:10:21.825 --> 00:10:23.605

We want these things to be leading indicators.

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00:10:24.265 --> 00:10:25.565

But of course, if you are got a,

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00:10:25.565 --> 00:10:28.525

if you have a backward facing, uh, collection

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00:10:28.525 --> 00:10:31.365

of your dataset, you are naturally retrospective.

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00:10:31.385 --> 00:10:32.725

So you're gonna have to pull this forward.

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00:10:34.425 --> 00:10:35.765

You have to look at, uh, ideally

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00:10:35.765 --> 00:10:36.885

you'd be able to automate it.

242

00:10:37.555 --> 00:10:39.615

And you're also looking for something that's effective,

243

00:10:40.545 --> 00:10:42.965

the effective with an A meaning to have impact.

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00:10:44.095 --> 00:10:45.515

Now, these are all nice words, but

245

00:10:45.515 --> 00:10:46.715

because I'm a flight to safety

246

00:10:46.715 --> 00:10:47.955

officer said I'm fundamentally lazy.

247

00:10:48.395 --> 00:10:49.675

I translated that to be minimal.

248

00:10:50.355 --> 00:10:52.165

I want not very many of these

249

00:10:52.725 --> 00:10:53.765

'cause I don't wanna do the work.

250

00:10:54.855 --> 00:10:56.255

I agree that they need to be effective.

251

00:10:56.615 --> 00:10:59.175

I want no noise and I need them to be traceable.

252

00:10:59.375 --> 00:11:00.855

I need to be able to stand in front of my boss

253

00:11:00.875 --> 00:11:02.255

and explain this.

254

00:11:02.415 --> 00:11:04.615

KPI relates to this outcome

255

00:11:05.355 --> 00:11:07.015

and that's why you should continue to pay me.

256

00:11:08.005 --> 00:11:10.225

Uh, and I want 'em to be unbiased.

257

00:11:10.965 --> 00:11:15.375

This one relates to the absence of a prior hypothesis bias.

258

00:11:15.995 --> 00:11:18.495

And I really want to avoid the limited alternatives bias,

259

00:11:19.095 --> 00:11:21.605

which are the two cognitive deficiencies

260

00:11:21.605 --> 00:11:22.765

that people have when they're

261

00:11:22.765 --> 00:11:24.205

focused on what happened in the past.

262

00:11:25.485 --> 00:11:28.885

I don't want this to be sensitive to the last problem I had.

263

00:11:29.165 --> 00:11:30.685

I want this to try and indicate to me

264

00:11:30.685 --> 00:11:32.525

where the next problem is coming from.

265

00:11:33.715 --> 00:11:36.495

So to borrow from the financial world past performance is,

266

00:11:36.495 --> 00:11:39.095

uh, not indicative of future returns on your investment.

267

00:11:40.745 --> 00:11:42.165

No, but it's a really good start.

268

00:11:42.985 --> 00:11:44.755

Like if we're not, we didn't start off well,

269

00:11:44.845 --> 00:11:46.115

we're probably not gonna end well.

270

00:11:47.455 --> 00:11:49.595

And ultimately the scientists at these business schools

271

00:11:49.765 --> 00:11:51.315

found that the magic number was three.

272

00:11:53.335 --> 00:11:55.525

Three is the number of KPIs they recommend.

273

00:11:56.365 --> 00:11:57.505

If you have more than that, they

274

00:11:57.505 --> 00:11:58.745

suggest you splitting your attention.

275

00:11:59.415 --> 00:12:01.825

What they do recommend is that you move your focus around.

276

00:12:02.085 --> 00:12:05.185

So pick three until you get those right, and then move them.

277

00:12:05.315 --> 00:12:07.265

Don't continue to report them in years four, five,

278

00:12:07.265 --> 00:12:08.585

and six when they're no longer effective.

279

00:12:09.125 --> 00:12:11.865

Get the change you want and then move on.

280

00:12:16.935 --> 00:12:20.275

All right. So we've listed off a great number of things

281

00:12:20.275 --> 00:12:22.355

that we want from our, from our KPIs.

282

00:12:22.535 --> 00:12:24.995

We want it to be unbiased. We want it to be forward focused.

283

00:12:25.135 --> 00:12:27.555

We want it to be easy. We want it to be automated.

284
00:12:28.205 --> 00:12:30.315
Where can we find such a magical creature?

285
00:12:31.785 --> 00:12:33.245
Now, I don't for a moment propose

286
00:12:33.365 --> 00:12:35.325
that I am an expert in stamp.

287
00:12:35.465 --> 00:12:38.045
I'm here because I'm happy that I discovered this last week.

288
00:12:39.345 --> 00:12:42.045
Uh, there are, I'm aware that the Yusef have embraced stamp

289
00:12:42.265 --> 00:12:43.525
and there's a number of kernels in the

290
00:12:43.685 --> 00:12:45.485
audience looking at you, sir.

291
00:12:45.545 --> 00:12:46.805
And there's a couple of others out there

292
00:12:47.985 --> 00:12:51.855
who are all over this, and I'm aware.

293
00:12:51.855 --> 00:12:53.495
So where there's a couple of mistakes being made on

294
00:12:53.495 --> 00:12:54.775
what stamp actually is

295
00:12:55.885 --> 00:12:58.705
to quote Levinson, she defy.

296
00:12:58.725 --> 00:13:01.385
And the magic from her work was the recognition that

297
00:13:01.985 --> 00:13:04.545

a safety breach is a breakdown in control.

298

00:13:06.225 --> 00:13:08.725

So there's a, a quote that I have omitted from my notes,

299

00:13:08.945 --> 00:13:10.125

so I'm not gonna be able to achieve it,

300

00:13:10.125 --> 00:13:12.165

but it was, uh, page 76 on that book.

301

00:13:13.645 --> 00:13:15.295

It's the breakdown of control.

302

00:13:16.555 --> 00:13:19.095

So this is the magic that I bring to you.

303

00:13:19.155 --> 00:13:21.885

The, the motivation for me to come up

304

00:13:21.885 --> 00:13:24.285

and tell you about, Hey, look, what I found was

305

00:13:25.155 --> 00:13:28.215

the combination of KPI and stamp.

306

00:13:28.455 --> 00:13:30.735

A stamp tells me where to put the KPI.

307

00:13:32.175 --> 00:13:36.395

It identifies points of control, meaning that it

308

00:13:37.115 --> 00:13:40.365

maps out an organization maps out an organization including

309

00:13:40.505 --> 00:13:41.885

its people and its processes.

310

00:13:42.265 --> 00:13:44.965

So it's not looking at the technical functions.

311
00:13:45.275 --> 00:13:46.485
This is not a diagram.

312
00:13:46.945 --> 00:13:49.165
You don't sit down and draw all the physical

313
00:13:49.165 --> 00:13:50.445
components of your machine.

314
00:13:51.305 --> 00:13:53.685
You include the people, you include the processes,

315
00:13:54.305 --> 00:13:56.205
and the nodes are the points of control.

316
00:14:08.085 --> 00:14:10.845
Ultimately, you end up trying to do an STPA on yourself.

317
00:14:11.345 --> 00:14:14.845
So STPA is the, is an application of stamp.

318
00:14:14.945 --> 00:14:17.745
That's the, the recognition

319
00:14:17.745 --> 00:14:20.465
that an organization is a collection of constraints.

320
00:14:20.725 --> 00:14:23.825
And once you've, uh, analyzed that, you're able

321
00:14:23.825 --> 00:14:26.505
to apply the STPA effectively on yourself.

322
00:14:27.875 --> 00:14:30.865
You'd go about this by defining your system boundary.

323
00:14:31.695 --> 00:14:33.225
This is where it's tough. This is

324
00:14:33.225 --> 00:14:35.915

where you're gonna spend most of your time drawing out

325

00:14:35.915 --> 00:14:37.075

your system boundary.

326

00:14:37.945 --> 00:14:39.315

It's gonna take a long time.

327

00:14:39.935 --> 00:14:41.915

And the difficult bit is it's not even

328

00:14:41.915 --> 00:14:42.955

gonna be achieved in a week.

329

00:14:43.025 --> 00:14:44.635

This is gonna take many iterations.

330

00:14:46.435 --> 00:14:49.095

Invest the effort upfront, draw it out,

331

00:14:49.895 --> 00:14:51.055

identify your points of control.

332

00:14:51.935 --> 00:14:55.715

Second step becomes to the application of the STPA,

333

00:14:56.205 --> 00:14:58.915

being very wary of functional reliability.

334

00:14:59.765 --> 00:15:00.925

I come from an engineering background

335

00:15:00.925 --> 00:15:04.115

and the temptation to drop back into that is never ending.

336

00:15:04.575 --> 00:15:05.635

You're gonna have to, you're gonna make

337

00:15:05.635 --> 00:15:10.155

that mistake 3, 4, 5, 6 times and come back, go, ah, wrong.

338
00:15:10.785 --> 00:15:13.235
This is a constraint problem, not a reliability problem.

339
00:15:14.245 --> 00:15:15.815
Finally, step three, very easy.

340
00:15:16.125 --> 00:15:17.855
This is where you have a correct diagram

341
00:15:17.995 --> 00:15:19.095
of your organization.

342
00:15:19.835 --> 00:15:21.815
You have applied the analysis,

343
00:15:21.815 --> 00:15:23.535
and then you just need to pick your top three.

344
00:15:26.135 --> 00:15:29.095
So what's this gonna look like? It's gonna have

345
00:15:29.095 --> 00:15:30.135
a lot of feedback loops.

346
00:15:30.565 --> 00:15:33.495
It's gonna need a diagram. You're gonna map it out.

347
00:15:33.915 --> 00:15:36.655
Now the, the diagram here is purely academic in nature.

348
00:15:36.765 --> 00:15:38.055
I've put little labels on it

349
00:15:38.055 --> 00:15:39.255
to make it look something like a,

350
00:15:39.295 --> 00:15:40.415
a flight test organization.

351
00:15:41.195 --> 00:15:43.415

But it's not meant to be any particular organization.

352

00:15:44.485 --> 00:15:46.255

Anytime you don't have an action loop

353

00:15:46.255 --> 00:15:48.455

and a feedback loop, I suggest you've made a mistake.

354

00:15:49.955 --> 00:15:52.575

Unless you, uh, you genuinely don't have a feedback loop,

355

00:15:52.575 --> 00:15:54.535

in which case go back and have a look at your organization

356

00:15:54.595 --> 00:15:56.415

and decide whether you really want that or not.

357

00:15:58.435 --> 00:16:00.725

Your diagram is gonna have all these

358

00:16:00.785 --> 00:16:02.005

double loops everywhere.

359

00:16:03.085 --> 00:16:05.185

And then once you have that correct,

360

00:16:06.045 --> 00:16:07.265

you can continue to step two.

361

00:16:08.285 --> 00:16:11.775

Step two examines each of those action and feedback loops

362

00:16:12.515 --> 00:16:14.455

and applies a simple couple of tests.

363

00:16:14.635 --> 00:16:17.655

You then run through a simulation for each of them and asks.

364

00:16:17.915 --> 00:16:22.355

And you ask what happens if that control is present absent

365

00:16:23.105 --> 00:16:25.005
too early, too late?

366

00:16:25.665 --> 00:16:28.965
And for that, that can also be out of order if it's,

367

00:16:28.965 --> 00:16:30.885
if the control is stopped too soon

368

00:16:31.465 --> 00:16:33.245
or if the control is applied too long.

369

00:16:34.965 --> 00:16:36.065
Now for the example here,

370

00:16:36.205 --> 00:16:37.585
and I don't intend for you to read this,

371

00:16:37.585 --> 00:16:39.705
but I included it so that you can see it in the notes.

372

00:16:41.465 --> 00:16:42.805
The example I used here was a,

373

00:16:42.945 --> 00:16:44.805
was a test plan review a just a,

374

00:16:44.885 --> 00:16:47.005
a basic function within any flight test organization,

375

00:16:47.365 --> 00:16:48.765
a peer review on a test plan.

376

00:16:49.345 --> 00:16:50.885
And I ran through each of them.

377

00:16:51.035 --> 00:16:53.325
What happens if the the review is conducted,

378

00:16:53.545 --> 00:16:56.445

not conducted is too late is,

379

00:16:56.445 --> 00:16:58.245

and then the others effectively become measures

380

00:16:58.245 --> 00:16:59.565

of quality of the review.

381

00:17:00.525 --> 00:17:02.625

And that's where you can start consolidating your effort

382

00:17:03.295 --> 00:17:04.755

of the six possible outcomes.

383

00:17:04.985 --> 00:17:08.415

Four come down to be a quality issue.

384

00:17:09.455 --> 00:17:10.915

And that's when I was able to say, well,

385

00:17:10.985 --> 00:17:12.475

this is consolidating my effort,

386

00:17:12.755 --> 00:17:14.035

reducing the amount of input I need.

387

00:17:15.055 --> 00:17:17.755

We then have three remaining hazards once

388

00:17:17.755 --> 00:17:18.915

we've run through our simulation.

389

00:17:20.415 --> 00:17:22.625

Note. The reference here was, uh, again,

390

00:17:22.695 --> 00:17:24.265

professor Levinson at MIT.

391

00:17:24.965 --> 00:17:26.465

She was denied that recognized

392
00:17:26.475 --> 00:17:29.305
after a number of years of her stamp program

393
00:17:29.415 --> 00:17:31.985
that actually this is also pointing to KPIs.

394
00:17:33.125 --> 00:17:34.985
Uh, the effort was funded by bp.

395
00:17:35.165 --> 00:17:37.385
So kudos to the oil industry there.

396
00:17:38.325 --> 00:17:39.865
But I also take that as a bit of a warning.

397
00:17:40.805 --> 00:17:43.065
I'm proud of my association with flight test.

398
00:17:43.345 --> 00:17:45.505
I like to wear the orange jumpsuit as much

399
00:17:45.505 --> 00:17:46.825
as anybody else and parade around.

400
00:17:46.825 --> 00:17:51.005
And I'm flight test. We are no longer the best at this.

401
00:17:51.625 --> 00:17:53.805
We haven't been for about 30 or 40 years.

402
00:17:55.055 --> 00:17:57.625
When I was able to attend one of the conferences

403
00:17:57.725 --> 00:18:00.825
for this material, the leading industry is the automotive,

404
00:18:01.005 --> 00:18:02.265
uh, autonomous vehicles.

405
00:18:02.925 --> 00:18:04.435

These are the guys who are really pushing this.

406

00:18:04.615 --> 00:18:07.575

So if we are resting on our laurels, eh,

407

00:18:07.935 --> 00:18:11.185

I suspect we possibly are somewhat, we can,

408

00:18:11.245 --> 00:18:12.665

we can drag in some new material.

409

00:18:15.585 --> 00:18:18.955

Final step. You've been through each of your control loops.

410

00:18:19.095 --> 00:18:21.675

You've analyzed them, some of them of no interest, some

411

00:18:21.675 --> 00:18:22.715

of them are of high interest.

412

00:18:23.105 --> 00:18:24.635

Ideally, the number that have high interest

413

00:18:24.635 --> 00:18:25.875

will correlate with the number three.

414

00:18:28.945 --> 00:18:30.555

Okay? It's not gonna, not always gonna happen.

415

00:18:30.555 --> 00:18:31.715

And three's not hard and fast.

416

00:18:31.775 --> 00:18:33.715

It was just put out there as a best practice.

417

00:18:34.055 --> 00:18:37.075

The lesson being don't swamp yourself with 26 of them.

418

00:18:37.135 --> 00:18:41.615

26 is wrong. One is you can probably do better than that.

419
00:18:42.245 --> 00:18:46.865
They settle on three. All right,

420
00:18:47.005 --> 00:18:48.585
so you've done done all that work.

421
00:18:48.685 --> 00:18:49.785
You've drawn your diagram,

422
00:18:50.525 --> 00:18:53.305
you've decided which KPIs you like, your boss agrees

423
00:18:53.305 --> 00:18:55.385
with you, and the data starts coming in

424
00:18:56.315 --> 00:18:57.695
and you find the answer was four.

425
00:18:59.875 --> 00:19:02.955
It's like, hmm, is that good? Is that bad?

426
00:19:04.455 --> 00:19:05.915
The work hasn't finished. Unfortunately,

427
00:19:05.915 --> 00:19:07.235
we're gonna need to baseline something.

428
00:19:07.765 --> 00:19:12.705
We're gonna need a baseline to put against ourselves as part

429
00:19:12.705 --> 00:19:13.865
of liking flight test.

430
00:19:14.025 --> 00:19:15.345
I like the unique nature of it,

431
00:19:15.765 --> 00:19:17.785
and I like being out there, trying new things.

432
00:19:18.525 --> 00:19:22.725

And accordingly, there is no baseline. That's the hard part.

433

00:19:23.025 --> 00:19:24.445

Now, if someone else's slip trips

434

00:19:24.445 --> 00:19:26.885

and foot, well start with my own slips, trips and falls.

435

00:19:26.955 --> 00:19:30.605

Data generally regarded as something approaching useless,

436

00:19:31.115 --> 00:19:33.445

importing someone else's slips, trips, and falls.

437

00:19:33.475 --> 00:19:35.845

Data is absolutely terrible.

438

00:19:36.845 --> 00:19:40.325

So what do we baseline against for this?

439

00:19:40.885 --> 00:19:42.565

I recommend baseline against yourself.

440

00:19:43.645 --> 00:19:45.225

Now, what you're gonna have to do here is sell

441

00:19:45.225 --> 00:19:48.445

to your boss a one year hiatus to allow you

442

00:19:48.445 --> 00:19:51.205

to collect enough data in order to establish a baseline

443

00:19:52.185 --> 00:19:54.595

because no one else's baseline is gonna work for you.

444

00:19:54.955 --> 00:19:56.595

I haven't been able to find a better option.

445

00:19:57.695 --> 00:19:59.475

In this case, you need

446
00:19:59.475 --> 00:20:02.235
to gather a statistically significant baseline,

447
00:20:02.575 --> 00:20:03.915
and that is gonna take some time

448
00:20:05.295 --> 00:20:06.875
if you don't want to use time.

449
00:20:06.875 --> 00:20:08.235
Alternatively, occurrences.

450
00:20:09.015 --> 00:20:11.815
Now, the example up here is actually one I've

451
00:20:11.975 --> 00:20:13.055
used in a previous lifetime.

452
00:20:13.635 --> 00:20:15.855
Uh, it doesn't, it's all the scales are removed.

453
00:20:15.855 --> 00:20:17.695
And it really doesn't matter other than to show that

454
00:20:18.235 --> 00:20:20.895
in this case, I was able to collect occurrences.

455
00:20:21.555 --> 00:20:24.255
And for me, at the end of it, it showed me that for the red,

456
00:20:24.875 --> 00:20:26.575
the red items, what I was tracking there,

457
00:20:27.235 --> 00:20:29.535
it was largely noise to a, uh,

458
00:20:29.685 --> 00:20:33.935
0.00003 was my gradient.

459
00:20:33.955 --> 00:20:36.815

So that's pretty stable from now on.

460

00:20:36.855 --> 00:20:38.615

I can pretty much tell that if I'm up

461

00:20:38.615 --> 00:20:42.235

or down on that, there's my baseline for the blue data.

462

00:20:42.465 --> 00:20:45.155

Yeah, I was asymptotic towards zero coming in there.

463

00:20:45.155 --> 00:20:46.515

But no, I could show the boss

464

00:20:46.595 --> 00:20:47.685

I was steadily, steadily improving.

465

00:20:48.265 --> 00:20:51.435

But, uh, we were approaching an ascent tote. So there we go.

466

00:20:51.435 --> 00:20:53.155

After a period of time, I could then start

467

00:20:53.155 --> 00:20:54.235

to baseline on myself.

468

00:20:57.365 --> 00:21:01.965

So takeaways from this, The data is part of the assurance.

469

00:21:02.265 --> 00:21:03.725

That's how you provide assurance.

470

00:21:04.305 --> 00:21:06.875

But of course, as we've all experienced, collecting data

471

00:21:06.895 --> 00:21:08.595

and flight test is very difficult.

472

00:21:09.055 --> 00:21:10.835

We have our division by zero problems.

473
00:21:11.175 --> 00:21:15.615
We have very small sample sets, very large consequences with

474
00:21:16.355 --> 00:21:18.175
mindbogglingly, low probabilities.

475
00:21:19.075 --> 00:21:21.015
All these things make SMS quite difficult

476
00:21:21.395 --> 00:21:23.535
and trying to report anything from part 1 21.

477
00:21:23.925 --> 00:21:27.105
Yeah, I agree with our last speaker. I've had that problem.

478
00:21:27.105 --> 00:21:30.145
That's what drove me down this path was the difficulty in

479
00:21:30.255 --> 00:21:32.625
getting something to work from the part 1 21.

480
00:21:34.295 --> 00:21:38.005
So my suggestion for things you could try for leading in,

481
00:21:38.065 --> 00:21:39.085
go for leading indicators.

482
00:21:39.555 --> 00:21:41.655
That's what we want. And in business context,

483
00:21:41.655 --> 00:21:42.975
they call them KPIs.

484
00:21:43.675 --> 00:21:45.245
Have a look at their best practices.

485
00:21:45.475 --> 00:21:46.965
They encourage us to go for three,

486
00:21:48.195 --> 00:21:50.575

target the KPIs using the stamp tool.

487

00:21:52.475 --> 00:21:53.735

And while you're in the stamp tool,

488

00:21:53.745 --> 00:21:55.615

don't be suckered into stamp

489

00:21:55.635 --> 00:21:57.935

or STPA being a replacement for the 2D matrix

490

00:21:58.915 --> 00:21:59.935

and a little add-on here.

491

00:22:00.005 --> 00:22:01.535

They're two very separate things.

492

00:22:01.845 --> 00:22:04.015

Took me six months to work that out. But there you go.

493

00:22:05.595 --> 00:22:07.935

Uh, and finally, back to the,

494

00:22:07.955 --> 00:22:09.535

the story baseline off yourself.

495

00:22:10.435 --> 00:22:12.535

You're not gonna be able to baseline on on anyone else

496

00:22:12.535 --> 00:22:14.415

because no one else's flight test organization

497

00:22:14.435 --> 00:22:15.615

is exactly like yours.

498

00:22:16.235 --> 00:22:18.935

But if you can sell your boss on a, on a period

499

00:22:18.935 --> 00:22:22.655

of time delay, you can then start base li base lining a

500
00:22:22.655 --> 00:22:25.255
statistically significant sample from yourself self.

501
00:22:28.085 --> 00:22:30.625
So whilst I was under Joseph's SMS,

502
00:22:30.805 --> 00:22:32.505
we were inverted at one G

503
00:22:33.165 --> 00:22:35.905
and through the top of the loop the pumps were reporting a

504
00:22:35.905 --> 00:22:38.225
nice steady 1200 gallons per minute from all four.

505
00:22:38.485 --> 00:22:40.065
And the Cooper Harper rating was

506
00:22:40.065 --> 00:22:41.145
four from the boom operator.

507
00:22:48.035 --> 00:22:49.015
All right, who's got a question?

508
00:22:55.655 --> 00:22:58.795
And Ben, thanks again as always. Great presentation.

509
00:22:59.295 --> 00:23:02.345
Um, you had a, a note, uh, in your,

510
00:23:02.725 --> 00:23:04.985
you said why SMS it's methodical

511
00:23:05.685 --> 00:23:08.225
and then you put no oversights.

512
00:23:09.245 --> 00:23:10.425
And I thought, well, there's the

513
00:23:10.425 --> 00:23:11.545

crux of the matter right there.

514

00:23:11.845 --> 00:23:16.775

And were you trying to infer that SMS is is is going

515

00:23:16.775 --> 00:23:18.815

to allow us to not have the oversights

516

00:23:18.815 --> 00:23:21.775

that we hear about every time we listen to one of, uh,

517

00:23:22.035 --> 00:23:23.135

Hal Lawless is, uh,

518

00:23:23.395 --> 00:23:25.935

red flag lesson learns like the B one a accident.

519

00:23:25.935 --> 00:23:27.975

What, what did you mean by no oversights?

520

00:23:30.085 --> 00:23:31.305

I'm not recalling the slide.

521

00:23:31.565 --> 00:23:34.865

I'm, uh, how far back do we need to go

522

00:23:40.975 --> 00:23:41.975

Right there?

523

00:23:42.145 --> 00:23:46.265

No oversights, uh, different definition,

524

00:23:46.265 --> 00:23:47.705

different use of the word there, sir.

525

00:23:48.365 --> 00:23:51.265

Uh, not that I'm against oversight, no, absolutely

526

00:23:51.285 --> 00:23:54.585

for oversight in terms of supervision, what I'm referring

527

00:23:54.585 --> 00:23:55.865
to here is acts of omission.

528

00:23:56.615 --> 00:23:58.475
So an oversight as in something,

529

00:23:58.515 --> 00:24:00.595
I forgot something I didn't, uh,

530

00:24:00.595 --> 00:24:03.475
something I stumbled over and didn't implement. But,

531

00:24:03.475 --> 00:24:05.475
But isn't that the crux of the matter?

532

00:24:05.925 --> 00:24:10.835
Black Swan tells us that, you know, Nasim tale spits at us

533

00:24:10.835 --> 00:24:13.515
because we're always gonna have the oversights and we can't.

534

00:24:14.255 --> 00:24:17.995
How, how is, how does SMS prevent that?

535

00:24:21.945 --> 00:24:23.625
I still, I'm still seeing two separate issues.

536

00:24:24.015 --> 00:24:26.745
There's the idea of oversight being supervision,

537

00:24:26.965 --> 00:24:29.665
coming from your flying management system,

538

00:24:29.665 --> 00:24:31.105
making sure in the military,

539

00:24:31.105 --> 00:24:33.905
Australian military we use authorizing officer, for example.

540

00:24:35.085 --> 00:24:37.185

And then for this side of it,

541

00:24:38.205 --> 00:24:41.935

it's an SMS is methodical in that as a management system,

542

00:24:41.955 --> 00:24:43.855

it provides you with a checklist.

543

00:24:44.555 --> 00:24:46.415

And the flight test safety committee published

544

00:24:46.605 --> 00:24:49.855

that audit checklist, which you can then go through line

545

00:24:49.855 --> 00:24:52.535

by line and make a conscious decision against each,

546

00:24:52.805 --> 00:24:56.055

against each line to say that I do want this,

547

00:24:56.295 --> 00:24:58.355

I don't want this, I'm gonna have

548

00:24:58.355 --> 00:25:00.075

to modify it in this particular manner.

549

00:25:00.735 --> 00:25:04.215

And the, the oversight term there is meant to refer

550

00:25:04.215 --> 00:25:07.215

to the use of the checklist to avoid acts of omission.

551

00:25:13.105 --> 00:25:17.595

Hey Ben. So

552

00:25:17.905 --> 00:25:21.385

it's a two part question regarding, uh, SBT A.

553

00:25:21.645 --> 00:25:25.345

Mm-hmm. Uh, first, how did you come across, uh,

554

00:25:25.355 --> 00:25:26.425

Nancy Levin's work?

555

00:25:26.645 --> 00:25:28.585

And then the second part of the question is

556

00:25:29.365 --> 00:25:32.345

how long did it take you to understand it, you know,

557

00:25:32.345 --> 00:25:35.745

your journey through STPA and, and wrap your mind around it?

558

00:25:37.605 --> 00:25:39.095

Where'd I first come across it?

559

00:25:40.415 --> 00:25:42.335

Probably it was here in the us

560

00:25:42.915 --> 00:25:47.615

so probably about 20 14, 20 15 timeframe.

561

00:25:50.675 --> 00:25:50.915

Discover it.

562

00:25:55.385 --> 00:25:57.635

It's not very sexy, but probably academic research

563

00:25:58.555 --> 00:25:59.655

whilst at FIT.

564

00:26:01.755 --> 00:26:04.135

Um, I then spent

565

00:26:04.705 --> 00:26:06.855

about two years stumbling through it.

566

00:26:07.685 --> 00:26:11.865

Uh, I still suffer from a lack of formal training in it.

567

00:26:12.185 --> 00:26:13.385

I can see that this is one

568

00:26:13.385 --> 00:26:15.065

that you're actually gonna need formal training for.

569

00:26:15.815 --> 00:26:17.555

Well, either that

570

00:26:17.555 --> 00:26:21.035

or I'm stupider than most it's, I'm, I'm struggling with it.

571

00:26:21.055 --> 00:26:24.035

And this is one that I know a lot of at the conferences,

572

00:26:24.105 --> 00:26:27.675

they stand up and they say, this is, we can do this quickly.

573

00:26:28.675 --> 00:26:29.955

I haven't got to that point yet.

574

00:26:30.495 --> 00:26:33.355

That's the one I, I still stick my head up and go. Yeah.

575

00:26:34.685 --> 00:26:37.225

And the academic definition of quick is not

576

00:26:37.495 --> 00:26:38.665

what I experience at work.

577

00:26:41.355 --> 00:26:42.825

These are poles apart.

578

00:26:43.465 --> 00:26:45.765

Uh, I, I really cannot see a path

579

00:26:45.825 --> 00:26:49.405

for STPA becoming a tactical tool in terms for the military

580

00:26:49.465 --> 00:26:52.605

or for where I'm now at Gulfstream, we are wanting

581

00:26:52.705 --> 00:26:53.805
to turn stuff around.

582

00:26:54.855 --> 00:26:57.155
And if you'd say you can turn it in a day, the question

583

00:26:57.685 --> 00:27:00.935
about half a day, um, whereas the academics talk,

584

00:27:00.935 --> 00:27:02.095
yeah, we did this in three months.

585

00:27:05.075 --> 00:27:06.815
I'm not even sure where this is worth following this,

586

00:27:06.815 --> 00:27:07.935
following up with a question here,

587

00:27:07.935 --> 00:27:09.615
we're on just different planets.

588

00:27:19.155 --> 00:27:21.855
You have the slide with the KPI and,

589

00:27:21.875 --> 00:27:24.295
and your, your data set drawn on the slide.

590

00:27:25.275 --> 00:27:30.055
Um, could you please maybe give me a sense of, you know,

591

00:27:30.155 --> 00:27:31.775
what's the actual, this one?

592

00:27:31.995 --> 00:27:34.455
Uh, no, if you keep going, there's like a, a chart

593

00:27:34.485 --> 00:27:35.855
that had a lot of dots on it,

594

00:27:37.215 --> 00:27:38.855

A chart that had little dots on it. Yeah,

595

00:27:38.855 --> 00:27:39.855

Keep, keep going. Yeah,

596

00:27:39.855 --> 00:27:41.055

that one. Yeah.

597

00:27:42.035 --> 00:27:45.495

So can you give me a sense of how does the,

598

00:27:46.115 --> 00:27:49.095

what's the data that actually makes it in there?

599

00:27:49.095 --> 00:27:50.775

Like, you have a KPI, so

600

00:27:51.355 --> 00:27:53.735

it was like something the unit failed to do

601

00:27:53.755 --> 00:27:55.575

or an action that wasn't done right.

602

00:27:55.575 --> 00:27:59.175

Does that then become a value of, of one on this chart?

603

00:27:59.355 --> 00:28:02.885

How does that transfer over to this, to this chart?

604

00:28:05.655 --> 00:28:07.735

I don't really want to use this chart other than

605

00:28:07.875 --> 00:28:09.135

for illustrative purposes.

606

00:28:09.285 --> 00:28:12.815

Okay. So the message I'm trying to convey is you need

607

00:28:12.815 --> 00:28:14.975

to decide for yourself what these KPI are going to be.

608
00:28:15.635 --> 00:28:18.135
So I suggest, my suggestion is that you start

609
00:28:18.135 --> 00:28:20.555
with the stamp diagram and pick the three

610
00:28:20.555 --> 00:28:21.795
areas that you want to focus on.

611
00:28:22.465 --> 00:28:25.595
Then there's gonna be some art in the science when you need

612
00:28:25.595 --> 00:28:27.955
to work out, what can we meaningfully track?

613
00:28:28.945 --> 00:28:31.805
So that's, you're gonna be converting

614
00:28:32.585 --> 00:28:35.155
from a real world problem into something

615
00:28:35.155 --> 00:28:38.075
that you can track essentially mathematically, something

616
00:28:38.075 --> 00:28:39.195
that you can put a number to.

617
00:28:40.025 --> 00:28:42.685
Uh, and then yes, the chart here then becomes just a

618
00:28:42.965 --> 00:28:44.165
tracking of those numbers.

619
00:28:44.975 --> 00:28:49.165
These numbers were just arbitrary digits a perform.

620
00:28:49.225 --> 00:28:53.845
My performance on this time was one, then two, then one,

621
00:28:54.115 --> 00:28:58.405

then three, then 1, 2, 1, 3, 1 out all the occurrences.

622

00:28:58.425 --> 00:29:00.165

Go track those over time.

623

00:29:00.225 --> 00:29:03.275

And you end up with, ah, in the last six months,

624

00:29:03.695 --> 00:29:07.955

my performance in this area has been 2.4.

625

00:29:08.385 --> 00:29:11.875

Therefore, going ahead I can see that, hey boss,

626

00:29:12.215 --> 00:29:14.035

we are now trending down on that

627

00:29:14.055 --> 00:29:15.315

or we're trending up on that.

628

00:29:16.035 --> 00:29:18.355

I see. So it was like a, a, a number indicative

629

00:29:18.355 --> 00:29:19.955

of maybe negative performance.

630

00:29:20.015 --> 00:29:22.795

So a lower number was a, a good thing. Uh,

631

00:29:23.995 --> 00:29:24.995

It, it depends.

632

00:29:25.035 --> 00:29:27.055

You could easily construct it the other way. Gotcha.

633

00:29:27.055 --> 00:29:28.735

And say, okay, we want to get more,

634

00:29:29.005 --> 00:29:30.055

more numbers, smaller numbers.

635
00:29:31.615 --> 00:29:33.055
I appreciate that. Thank you. Oops.

636
00:29:36.675 --> 00:29:38.375
And here's the simple one that Ben and I used.

637
00:29:38.375 --> 00:29:41.405
It was the number of times we kicked the test plans back for

638
00:29:41.965 --> 00:29:43.405
a poorly written section, uh,

639
00:29:43.465 --> 00:29:45.805
six risk assessment set, uh, section.

640
00:29:47.115 --> 00:29:48.265
We've measured it over time

641
00:29:48.485 --> 00:29:50.145
and the quality of the test plans improved.

642
00:29:50.685 --> 00:29:52.825
That's pretty rudimentary, but it worked.

643
00:29:54.045 --> 00:29:56.865
So I th I hope you guys like how I arranged the papers

644
00:29:57.365 --> 00:29:58.745
and I thank the presenters

645
00:29:58.805 --> 00:30:00.945
for coming into the slots that I had him arranged.

646
00:30:00.965 --> 00:30:04.225
You notice we had SMS in the morning from our,

647
00:30:04.285 --> 00:30:08.225
our two German presenters and we've got Ben on the KPIs and,

648
00:30:08.245 --> 00:30:09.545

and the metrics for him.

649

00:30:09.555 --> 00:30:13.025

We've got some more STPA type papers coming up later.

650

00:30:13.245 --> 00:30:15.025

If you don't like how I arranged it. Tough.

651

00:30:15.725 --> 00:30:18.105

Uh, Claude, can you bring up my slide?

652

00:30:18.645 --> 00:30:21.945

Um, before we go to break, I'd like to have the members

653

00:30:22.005 --> 00:30:24.585

of the flight test safety committee board stand up

654

00:30:25.095 --> 00:30:26.145

briefly real quick

655

00:30:26.245 --> 00:30:29.065

and including the emeritus board members, rod.

656

00:30:29.725 --> 00:30:33.225

So these people meet on a telecon once a month

657

00:30:33.245 --> 00:30:36.905

or more to work on things like this.

658

00:30:37.685 --> 00:30:40.945

Um, thank you gentlemen and ladies in the back.

659

00:30:41.285 --> 00:30:45.305

Um, we had a success earlier this year

660

00:30:45.595 --> 00:30:49.305

where we wrote, uh, we had an action from the NTSB

661

00:30:49.405 --> 00:30:51.945

as a result of an, an accident earlier, uh,

662

00:30:52.165 --> 00:30:55.905
to put a shout guidance on how to, uh,

663

00:30:56.565 --> 00:30:58.385
get instrumentation for safety

664

00:30:58.525 --> 00:31:02.345
and accident investigation, including, uh, things like, uh,

665

00:31:02.905 --> 00:31:05.145
cockpit voice recorders, video recorders and so forth.

666

00:31:05.485 --> 00:31:10.305
And we got this huge attaboy from, uh, um, chairman Alt

667

00:31:10.845 --> 00:31:12.585
and those of you that may remember,

668

00:31:12.685 --> 00:31:15.585
he participated in a flight test safety workshop when we

669

00:31:15.585 --> 00:31:16.945
were in Ottawa several years ago.

670

00:31:17.565 --> 00:31:19.545
So we've been working hard

671

00:31:19.565 --> 00:31:21.665
to move the needle on flight test safety,

672

00:31:22.245 --> 00:31:25.105
and I appreciate the years I've spent

673

00:31:25.105 --> 00:31:26.145
working with these people.

674

00:31:26.845 --> 00:31:29.385
Um, there is a small hazard

675

00:31:29.415 --> 00:31:33.905

with having this cockpit video stuff, um, and it's worth it.

676

00:31:34.285 --> 00:31:37.225

It, you know, it'll wind up helping change your career.

677

00:31:37.775 --> 00:31:40.785

Next slide, Claude, if you would.

678

00:31:40.875 --> 00:31:42.945

There, uh, before I became an FTE,

679

00:31:42.965 --> 00:31:45.345

I'm wearing my FTE jacket as a matter of pride.

680

00:31:45.765 --> 00:31:48.185

Uh, I've got some video of the job I had before that.

681

00:31:48.595 --> 00:31:51.945

After this event, the Myers-Briggs counselor recommended

682

00:31:51.945 --> 00:31:55.265

that I become an FTE and so I don't screw this up.

683

00:31:55.265 --> 00:31:56.265

Claude, roll the video.

684

00:32:10.575 --> 00:32:12.875

You thought I was always this easygoing, huh? Huh?

685

00:32:32.975 --> 00:32:35.275

And because I got, was used to working with trash,

686

00:32:35.335 --> 00:32:36.795

that's why I'm an FTE.

687

00:32:37.005 --> 00:32:41.275

Right? So as your FTE I'm also gonna call an audible.

688

00:32:41.275 --> 00:32:43.275

Please be back in your seats in 20 minutes.

689

00:32:43.775 --> 00:32:47.515

So that means, uh, five minutes after you can do it.

690

00:32:47.715 --> 00:32:50.315

I appreciate it. Thank you. Ladies and gentlemen. Enjoy.