

WEBVTT

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00:00:00.505 --> 00:00:00.805

All right.

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00:00:00.865 --> 00:00:03.045

So with all that said, uh,

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00:00:03.425 --> 00:00:07.575

our next event here will be the tutorial.

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00:00:08.035 --> 00:00:11.135

Uh, leading us on the tutorial is no stranger

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00:00:11.275 --> 00:00:13.015

to this organization, Tom Huff,

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00:00:13.315 --> 00:00:14.615

who is a retired Navy captain

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00:00:14.675 --> 00:00:16.615

and is currently the Aviation Safety Officer

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00:00:16.675 --> 00:00:19.215

for Gulfstream Aerospace there in Savannah, Georgia.

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00:00:19.635 --> 00:00:22.295

And it would be hard to imagine that you haven't heard of,

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00:00:22.735 --> 00:00:24.975

listened to or crossed paths with Tom before.

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00:00:25.475 --> 00:00:27.615

He has recently chaired both the flight test safety

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00:00:27.675 --> 00:00:29.415

and the NBAA safety committees.

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00:00:29.755 --> 00:00:30.775

He is now the chair

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00:00:30.775 --> 00:00:31.695  
of the Flight Test Safety

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00:00:31.695 --> 00:00:33.495  
Foundation Business Advisory Committee.

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00:00:33.845 --> 00:00:35.975  
He's a member of the Society of Flight Test Engineers

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00:00:35.975 --> 00:00:37.015  
and Associate Fellow

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00:00:37.075 --> 00:00:39.095  
and the Society of Experimental Test Pilots.

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00:00:39.515 --> 00:00:43.055  
Uh, he is extremely familiar with SMS in flight tests,

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00:00:43.055 --> 00:00:44.815  
flight operations and engineering.

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00:00:44.875 --> 00:00:47.215  
And he is going to lead us today in the tutorial

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00:00:47.275 --> 00:00:48.415  
on safety promotion.

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00:00:48.715 --> 00:00:50.615  
So, Huffer, over to you and your team.

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00:00:52.525 --> 00:00:55.015  
Well, thanks Turbo. And it's great to be

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00:00:55.015 --> 00:00:57.015  
amongst flight testers again, even though it's,

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00:00:57.415 --> 00:00:58.455  
uh, a virtual event.

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00:00:58.995 --> 00:01:02.295

And I, uh, commend the, the Society

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00:01:02.395 --> 00:01:03.615

and the Flight Test Safety Committee

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00:01:03.635 --> 00:01:06.695

for supporting another flight test safety workshop, uh,

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00:01:06.805 --> 00:01:11.055

through an online platform, uh, to maintain that persistence

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00:01:11.055 --> 00:01:15.615

and safety of say we're, uh, still having, uh, incidents

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00:01:15.615 --> 00:01:17.375

and accidents and near misses out there.

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00:01:17.435 --> 00:01:19.655

So it's, it's important to, uh, continue

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00:01:19.655 --> 00:01:20.655

to have this dialogue.

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00:01:20.915 --> 00:01:23.095

And I think we've got a great, uh, tutorial for you today.

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00:01:23.095 --> 00:01:26.695

As Turbo mentioned, we're kind of, uh, working our way

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00:01:26.695 --> 00:01:28.135

through the SMS components.

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00:01:28.715 --> 00:01:30.415

Uh, today is safety promotion,

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00:01:30.475 --> 00:01:32.015

but it's important to note that

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00:01:32.635 --> 00:01:35.015

the four components works are designed

41  
00:01:35.095 --> 00:01:36.375  
to work seamlessly together.

42  
00:01:36.725 --> 00:01:37.855  
It's a closed loop system.

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00:01:38.115 --> 00:01:41.375  
So, uh, you, you'll hear us from time to time,

44  
00:01:41.695 --> 00:01:43.255  
probably reference other components

45  
00:01:43.435 --> 00:01:45.615  
or sub components of the safety management system.

46  
00:01:45.955 --> 00:01:48.975  
And really our intent, uh, through this series, if you will,

47  
00:01:49.475 --> 00:01:51.735  
is to kind of distill these things down.

48  
00:01:51.935 --> 00:01:53.935  
'cause we know that this is relatively new

49  
00:01:53.935 --> 00:01:55.255  
to flight test organizations.

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00:01:56.115 --> 00:01:59.215  
Um, it, it's frankly new to a lot of, uh,

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00:01:59.215 --> 00:02:01.015  
manufacturing organizations as well.

52  
00:02:01.675 --> 00:02:02.975  
And, uh, we will address some

53  
00:02:02.975 --> 00:02:04.055  
of these things as we go forward.

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00:02:04.055 --> 00:02:06.215

But we really wanna try to simplify this for you.

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00:02:06.715 --> 00:02:08.695

Um, if you don't have a safety management system

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00:02:08.695 --> 00:02:10.255

where you might be able to find some resources

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00:02:10.255 --> 00:02:13.015

to get started, and if you have one, maybe some pearls

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00:02:13.015 --> 00:02:15.935

of wisdom here that, uh, could help you enhance your

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00:02:16.455 --> 00:02:17.615

existing safety management system.

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00:02:18.745 --> 00:02:20.085

So I always like to throw up some,

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00:02:20.085 --> 00:02:21.805

some objectives at the very beginning,

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00:02:22.145 --> 00:02:24.525

and this is what we hope that you're able to walk away with.

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00:02:25.065 --> 00:02:27.125

Um, the, the component

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00:02:27.145 --> 00:02:29.685

for safety promotion is probably the easiest in terms

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00:02:29.685 --> 00:02:30.925

of the sub-components.

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00:02:31.105 --> 00:02:33.965

It really is centered around, uh, communications

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00:02:34.025 --> 00:02:36.725

and training, and we'll take a deeper dive into that.

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00:02:36.865 --> 00:02:39.925

Uh, specifically, um, also wanna touch on some

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00:02:39.925 --> 00:02:43.205

of the industry standards so that when you, uh,

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00:02:43.205 --> 00:02:44.685

mature your safety management system

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00:02:44.865 --> 00:02:48.605

and you start to, uh, have interest in, in, uh,

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00:02:48.645 --> 00:02:51.965

auditing your system, you'll know what the standards are

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00:02:51.965 --> 00:02:55.165

that you're going to be held to, uh, within those reviews.

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00:02:56.585 --> 00:02:59.085

Um, we're gonna talk specifically about why training is

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00:02:59.125 --> 00:03:02.205

so vital to the safety management system, um,

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00:03:02.475 --> 00:03:04.685

both in developing it and sustaining it.

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00:03:05.065 --> 00:03:08.125

Uh, and these are pretty well explicitly stated in a lot

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00:03:08.125 --> 00:03:10.365

of the literature, uh, that, that, uh,

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00:03:10.545 --> 00:03:12.085

we have available on the, uh, flight

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00:03:12.085 --> 00:03:13.405

to safety.org website as well.

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00:03:14.265 --> 00:03:19.245

Um, communication is obviously very important, uh,

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00:03:19.345 --> 00:03:21.445

and is a reflection of the culture

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00:03:22.035 --> 00:03:23.405

that you have in your organization.

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00:03:23.465 --> 00:03:26.805

And we're gonna try to connect those dots for you today, um,

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00:03:27.585 --> 00:03:30.325

and really drive home the importance of this culture piece.

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00:03:31.465 --> 00:03:34.245

And then, uh, we'll touch on some, some metrics, uh,

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00:03:34.245 --> 00:03:38.245

because many of us safety practitioners, uh, do believe

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00:03:38.245 --> 00:03:40.885

that you can measure these things and should measure them.

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00:03:41.295 --> 00:03:44.365

There are certain things within the standards that, uh,

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00:03:44.465 --> 00:03:46.205

are expected to be measured

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00:03:46.665 --> 00:03:48.645

and record keeping, uh, to take place.

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00:03:48.705 --> 00:03:50.445

So we we're gonna take a look at all of those things.

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00:03:50.905 --> 00:03:53.805

Um, and hopefully you walk away with a better understanding

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00:03:54.625 --> 00:03:57.205

of, uh, the safety promotion component, specifically

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00:03:57.205 --> 00:03:58.485  
of the safety management system.

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00:03:59.505 --> 00:04:02.405  
And we've got two, uh, individuals that, uh, are,

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00:04:02.465 --> 00:04:04.445  
are really the pros from Dover in the,

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00:04:04.865 --> 00:04:06.845  
in this area, uh, to help today.

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00:04:06.905 --> 00:04:09.085  
And, and I'm gonna introduce both of them.

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00:04:09.085 --> 00:04:11.245  
And then we're gonna get into some prepared remarks from,

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00:04:11.755 --> 00:04:14.205  
from Hue, and I'll introduce him first.

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00:04:14.625 --> 00:04:17.325  
Uh, he has his own company as a test pilot consultant,

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00:04:18.265 --> 00:04:19.805  
and he's, uh, FAA test pilot

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00:04:19.805 --> 00:04:21.285  
designated engineering representative.

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00:04:21.345 --> 00:04:23.045  
And for those that that don't know

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00:04:23.045 --> 00:04:24.245  
that, that's kind of a big deal.

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00:04:24.705 --> 00:04:28.045  
Um, uh, that's kind of the voice of God in, in our business,

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00:04:28.305 --> 00:04:30.445



uh, especially from the regulatory standpoint.

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00:04:31.075 --> 00:04:33.365

He's, he's kind of a dual retiree, if you will,

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00:04:33.435 --> 00:04:36.885

both from the FAA back in 2008 as a test pilot.

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00:04:37.065 --> 00:04:38.885

And the US Air Force is a colonel in

112

00:04:39.045 --> 00:04:41.125

1993, also as a test pilot.

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00:04:41.265 --> 00:04:44.445

But, um, he's, he's a fighter pilot,

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00:04:44.515 --> 00:04:46.365

flew f fifteens, so principally in Germany.

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00:04:46.945 --> 00:04:49.005

So he's got that operational experience as well.

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00:04:49.035 --> 00:04:52.085

Graduated Class 81 Alpha from, uh,

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00:04:52.145 --> 00:04:53.725

US Air Force Test Pilot School,

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00:04:53.905 --> 00:04:57.165

and further, uh, later on in his career, instructed there.

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00:04:57.865 --> 00:05:00.045

Um, so he's well versed, obviously,

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00:05:00.045 --> 00:05:01.325

in the, in the flight test arena.

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00:05:01.465 --> 00:05:04.685

He also led the entire flight test center safety program

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00:05:04.735 --> 00:05:06.205  
there at Edwards Air Force Base,

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00:05:06.865 --> 00:05:10.445  
and was also the lead flight safety officer for the FA, uh,

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00:05:10.685 --> 00:05:11.725  
aircraft Certification office.

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00:05:11.785 --> 00:05:13.445  
And he was one of the founding fathers

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00:05:13.785 --> 00:05:17.125  
of the FA order 40 40 26, which a lot

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00:05:17.125 --> 00:05:19.445  
of us use in our certification programs.

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00:05:19.475 --> 00:05:22.085  
It's just much easier way to, uh, uh,

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00:05:22.115 --> 00:05:25.365  
establish your cooperative safety agreements with the FAA

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00:05:25.585 --> 00:05:27.205  
and your certification programs.

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00:05:27.265 --> 00:05:29.125  
So that's a very important document.

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00:05:29.425 --> 00:05:33.955  
And, um, uh, it is still, uh, very valuable even today.

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00:05:34.335 --> 00:05:36.595  
And I believe it's in, in revision actually.

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00:05:37.215 --> 00:05:38.755  
Um, he's been a two time winner

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00:05:38.775 --> 00:05:41.555

of the Tony Lavere Flight Test Safety Award back in 2000

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00:05:41.615 --> 00:05:44.155

and 2008, and he's also a fellow in the Society

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00:05:44.155 --> 00:05:45.355

of Experimental Test Pilots.

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00:05:46.095 --> 00:05:47.915

Um, with that, I wanted to ask Rod,

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00:05:47.935 --> 00:05:50.315

if you just give us 30 seconds, um, and,

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00:05:50.335 --> 00:05:52.355

and tell us just a little bit about his current work

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00:05:52.415 --> 00:05:55.115

and his company Flight Test and Safety Consultants.

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00:05:55.335 --> 00:05:57.565

Before I introduce, uh, Sonny Bates, our other,

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00:05:57.985 --> 00:05:59.005

uh, panelists today.

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00:05:59.495 --> 00:06:00.965

Thank you, Tom, for the introduction.

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00:06:01.105 --> 00:06:02.765

Yes, I, uh, I'm a DER

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00:06:02.985 --> 00:06:06.725

and a designated engineering representative, so a delegate

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00:06:06.725 --> 00:06:07.885

of the FAAI.

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00:06:08.245 --> 00:06:09.685

A lot of you know what that is.

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00:06:09.785 --> 00:06:12.365

Uh, so I, I keep, uh, I'm stay current in,

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00:06:12.465 --> 00:06:14.005

uh, in flight testing.

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00:06:14.505 --> 00:06:16.685

Uh, and I work with a lot of companies.

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00:06:16.805 --> 00:06:20.205

I also do, uh, auditing, uh, not for certification,

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00:06:20.265 --> 00:06:23.445

but for, uh, just, uh, telling companies how well their,

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00:06:23.575 --> 00:06:25.565

their SMS program is doing.

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00:06:25.665 --> 00:06:27.525

And, uh, and I do a gap analysis

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00:06:27.525 --> 00:06:28.925

to tell 'em how to get there from here.

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00:06:29.585 --> 00:06:31.565

So that's basically what I do. Thank you very much.

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00:06:32.885 --> 00:06:34.545

Thanks, rad. I appreciate that.

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00:06:35.165 --> 00:06:37.145

Uh, next we have, uh, Sonny Bates.

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00:06:37.525 --> 00:06:39.985

Uh, Sonny is the CEO of Wyvern,

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00:06:40.565 --> 00:06:43.145

and, uh, he's also US Air Force Veteran.

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00:06:43.805 --> 00:06:46.665

Served many roles. He's a big wing pilot, uh,

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00:06:46.805 --> 00:06:48.785

was an aircraft commander in the C five Galaxy,

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00:06:48.785 --> 00:06:50.185

which is a beast of an airplane.

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00:06:50.655 --> 00:06:54.705

Went on to be the, uh, C 17 safety, uh, program manager

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00:06:55.045 --> 00:06:56.905

and director of Freight Freight operations.

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00:06:57.415 --> 00:07:00.585

He's, he served in just about every role in, uh, uh,

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00:07:00.985 --> 00:07:02.945

business aviation, chief pilot safety manager,

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00:07:03.005 --> 00:07:04.825

and captain on all kind types

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00:07:04.825 --> 00:07:06.825

of type model series, uh, jet aircraft.

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00:07:07.445 --> 00:07:08.585

Um, he developed

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00:07:08.585 --> 00:07:09.865

and implemented, uh, uh,

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00:07:10.175 --> 00:07:12.465

CAEs Falcon seven X pilot training program,

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00:07:12.835 --> 00:07:14.945

which was a big effort, obviously, as you can imagine.

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00:07:15.565 --> 00:07:19.465

And he's got a lot of experience, um, with the IS BO,

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00:07:19.465 --> 00:07:20.665  
which is the international standard

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00:07:20.685 --> 00:07:22.265  
for business aircraft operations.

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00:07:22.335 --> 00:07:24.265  
It's their program director in

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00:07:24.265 --> 00:07:25.865  
establishing those, those standards.

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00:07:26.365 --> 00:07:29.785  
Um, and the, the is BO program has been wildly successful in

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00:07:29.785 --> 00:07:31.145  
the business aviation segment.

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00:07:32.055 --> 00:07:36.185  
He's currently working on his PhD, uh, so I guess we'll have

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00:07:36.185 --> 00:07:37.545  
to call him doctor at some point,

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00:07:38.045 --> 00:07:39.745  
but he's working, uh, on this

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00:07:39.765 --> 00:07:43.065  
and his dissertation research on emotional intelligence

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00:07:43.405 --> 00:07:46.585  
and safety culture, which if you, uh, follow, uh,

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00:07:46.675 --> 00:07:49.225  
these discussions on LinkedIn, it's,

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00:07:49.385 --> 00:07:50.865  
it's pretty interesting, um,

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00:07:51.885 --> 00:07:55.905

and making this, uh, come to the forefront in terms

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00:07:56.085 --> 00:07:58.425

of psychological safety and various other things,

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00:07:58.445 --> 00:08:00.705

and talking about the human domain

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00:08:01.205 --> 00:08:03.745

and making that connection to safety and safety performance.

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00:08:03.925 --> 00:08:06.425

So, with that, uh, sunny, thank you so much for

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00:08:07.105 --> 00:08:08.265

participating in today's event.

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00:08:08.325 --> 00:08:10.705

Uh, we know that we we're taking you a little bit out

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00:08:10.705 --> 00:08:14.145

of your comfort zone into the flight test safety, uh,

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00:08:14.165 --> 00:08:16.585

domain, but I think you just bring a wealth of experience

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00:08:16.605 --> 00:08:19.425

and, and specifically safety management system,

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00:08:19.525 --> 00:08:22.585

safety culture, uh, auditing and standards.

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00:08:23.005 --> 00:08:25.585

And with that can, and you just give us a, you know,

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00:08:25.585 --> 00:08:29.145

a quick, uh, recap of, uh, of y Vern

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00:08:29.165 --> 00:08:30.185

and, and your work there.

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00:08:30.985 --> 00:08:33.125

Thanks, Tom. I appreciate the introduction.

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00:08:33.385 --> 00:08:36.365

Um, yeah, at y Vern, you know, we're, we're, uh,

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00:08:36.825 --> 00:08:39.165

our mission is to elevate safety and security worldwide.

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00:08:39.165 --> 00:08:41.965

So every day we get up, uh, and we just go out there

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00:08:41.965 --> 00:08:45.725

and business aviation, air charter industry mainly, uh, and,

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00:08:45.865 --> 00:08:47.245

and, and work with companies

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00:08:47.305 --> 00:08:49.925

to make sure they have an effective SMS Um,

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00:08:50.105 --> 00:08:52.165

safety promotion's a huge part of that.

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00:08:52.225 --> 00:08:54.165

You can have the mechanism in place,

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00:08:54.305 --> 00:08:55.885

you can have training in place,

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00:08:55.985 --> 00:08:57.085

but without the right culture,

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00:08:57.465 --> 00:08:58.925

you're really, you're not gonna go anywhere.

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00:08:59.625 --> 00:09:02.325

So we, we love delving into the human factors,

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00:09:02.465 --> 00:09:05.045



the organizational factors, and, uh, and that's what Rod

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00:09:05.045 --> 00:09:06.405

and I, and, and, and Huffer here,

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00:09:06.405 --> 00:09:08.165

we're gonna talk quite a bit about the upcoming 30

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00:09:08.165 --> 00:09:09.445

minutes for, for hour or so.

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00:09:10.765 --> 00:09:12.175

Fantastic. Thanks, sunny.

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00:09:12.235 --> 00:09:16.255

And again, thanks for, uh, for, uh, being courageous enough

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00:09:16.275 --> 00:09:17.895

to, uh, jump into this with us.

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00:09:18.035 --> 00:09:21.095

And, uh, again, y your experience and,

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00:09:21.155 --> 00:09:22.535

and I, I've enjoyed our,

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00:09:22.675 --> 00:09:24.295

our working relationship through the years.

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00:09:24.395 --> 00:09:25.535

And, and that's, uh,

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00:09:25.775 --> 00:09:27.415

specifically why I wanted you to join us today.

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00:09:27.875 --> 00:09:30.055

So with that, uh, Rod's got some, uh,

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00:09:30.255 --> 00:09:32.335

a couple PowerPoint charts that'll kind of step

230  
00:09:32.335 --> 00:09:35.695  
through more the academic side of, of Component four,

231  
00:09:35.695 --> 00:09:37.295  
safety promotion of the SMS.

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00:09:37.635 --> 00:09:39.295  
So I think we'll just turn it over to him

233  
00:09:39.475 --> 00:09:41.135  
and, uh, let him walk through those slides

234  
00:09:41.195 --> 00:09:43.415  
for a few minutes, and then we'll get into,

235  
00:09:43.675 --> 00:09:44.695  
uh, the q and a session.

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00:09:44.795 --> 00:09:48.355  
We really encourage you to, uh, fire off in

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00:09:48.355 --> 00:09:51.995  
that chat window, any questions or comments that you have,

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00:09:51.995 --> 00:09:54.635  
because this is, this is a working session,

239  
00:09:55.215 --> 00:09:56.515  
and we really want to hear from you.

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00:09:56.515 --> 00:09:58.475  
And of course, if we would've done this in person,

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00:09:58.575 --> 00:10:00.555  
we really want to engage with, with the audience.

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00:10:00.615 --> 00:10:03.635  
So I encourage you not, not to be reluctant in, um,

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00:10:03.735 --> 00:10:05.915

in submitting your question or, or, or comment to us.

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00:10:06.535 --> 00:10:07.955

Uh, with that, over to you, Rob.

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00:10:09.025 --> 00:10:12.715

Okay. Thank you. And, uh, like, uh, Tom just said, um,

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00:10:14.425 --> 00:10:16.195

what I'm trying to do here with these slides,

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00:10:16.195 --> 00:10:20.435

there's only nine slides, uh, is just set the stage, kind

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00:10:20.435 --> 00:10:23.235

of, uh, just start, uh, from, from, uh, from the beginning

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00:10:23.335 --> 00:10:24.515

to generate thoughts.

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00:10:25.135 --> 00:10:27.755

And, uh, really what we wanna do in this, uh,

251

00:10:28.115 --> 00:10:30.835

tutorial session is, uh, generated enough thoughts that, uh,

252

00:10:30.835 --> 00:10:32.515

there'll be discussions in the panel

253

00:10:32.515 --> 00:10:33.555

during the panel session.

254

00:10:34.255 --> 00:10:36.515

And, uh, so there's nine, nine slides.

255

00:10:36.545 --> 00:10:37.955

It's not gonna take a whole lot.

256

00:10:38.255 --> 00:10:41.875

Uh, but, but just, uh, just to, just to start from, from a,

257  
00:10:41.995 --> 00:10:45.755  
a common base, um, I, I put some slides here together just

258  
00:10:45.755 --> 00:10:48.355  
to, to define what, what safety promotion is.

259  
00:10:48.355 --> 00:10:51.635  
And if you look at the slide, okay, there's four pillars,

260  
00:10:52.255 --> 00:10:54.595  
and, uh, of course, they're mutually supportive.

261  
00:10:54.775 --> 00:10:58.075  
You can't have SMS without, with one of them missing.

262  
00:10:58.695 --> 00:11:01.555  
Uh, but, and safety promotion is right on the right side.

263  
00:11:01.555 --> 00:11:03.515  
And you, you would think that's right at the end.

264  
00:11:03.535 --> 00:11:08.425  
So it's at least important, not so safety promotion is,

265  
00:11:08.485 --> 00:11:12.065  
as you see later, uh, is, is, is as important,

266  
00:11:12.165 --> 00:11:14.665  
if not more important than the other three.

267  
00:11:15.245 --> 00:11:16.945  
And, uh, and that's what I'm trying

268  
00:11:16.945 --> 00:11:19.185  
to relay here on this pro, uh, on this slide.

269  
00:11:19.215 --> 00:11:23.095  
Next slide, please. So,

270  
00:11:23.755 --> 00:11:26.135

so if you look at the definition of promotion, there's,

271

00:11:26.255 --> 00:11:27.255

there's two definitions.

272

00:11:27.275 --> 00:11:31.015

Uh, one it is, is, is the, the, the classical old term

273

00:11:31.565 --> 00:11:33.575

from the, from, from the French.

274

00:11:33.795 --> 00:11:36.615

That's just, uh, just to promote somebody to,

275

00:11:36.635 --> 00:11:37.935

to give 'em a higher rank.

276

00:11:38.045 --> 00:11:39.055

Well, that's not what we're doing.

277

00:11:39.055 --> 00:11:41.455

We're doing the Western Webster definition

278

00:11:41.455 --> 00:11:42.695

of safety promotion.

279

00:11:42.715 --> 00:11:45.415

We just, marketing essentially is what it says.

280

00:11:46.275 --> 00:11:47.775

And that's what we're trying to do, is just

281

00:11:47.995 --> 00:11:50.535

to market safety throughout the organization.

282

00:11:51.125 --> 00:11:56.105

Next slide. So,

283

00:11:56.815 --> 00:11:58.265

like Huffer said, uh,

284

00:11:58.365 --> 00:12:00.625  
the components are just basic training,

285

00:12:00.625 --> 00:12:01.905  
education and communication.

286

00:12:01.905 --> 00:12:03.185  
That's, that's basically it.

287

00:12:03.185 --> 00:12:07.185  
However, there is a challenge for all of us to try to see

288

00:12:07.245 --> 00:12:08.305  
how we do that.

289

00:12:08.645 --> 00:12:10.985  
And, uh, and this is what I want to focus on,

290

00:12:11.485 --> 00:12:15.625  
and, uh, during the panel discussion is, uh, I want to hear,

291

00:12:16.085 --> 00:12:20.465  
uh, examples, uh, of industry, uh, standards,

292

00:12:20.845 --> 00:12:23.705  
how you do it in your organization, if you have something to

293

00:12:23.975 --> 00:12:26.545  
that is worth, uh, sharing with the rest of us.

294

00:12:27.125 --> 00:12:29.705  
Uh, so this is what we wanna focus in here.

295

00:12:29.815 --> 00:12:34.675  
Next slide, please. So this is basically

296

00:12:34.905 --> 00:12:36.155  
what the components are.

297

00:12:36.495 --> 00:12:39.155

And, and I'm not gonna read it every, every bullet there,

298

00:12:39.175 --> 00:12:43.445

but, uh, this, this is what basically, uh,

299

00:12:43.705 --> 00:12:46.525

you should be doing in, uh, training and, and education

300

00:12:46.545 --> 00:12:47.765

and, uh, and communication.

301

00:12:49.105 --> 00:12:49.595

Next slide.

302

00:12:54.045 --> 00:12:58.185

So, okay, so what is the ultimate purpose of promotion?

303

00:12:58.375 --> 00:13:02.765

Well, it is, um, it is, like I said,

304

00:13:03.125 --> 00:13:05.765

probably the most important part of the P pillars.

305

00:13:06.265 --> 00:13:07.485

Uh, next slide.

306

00:13:07.905 --> 00:13:12.665

It is obviously to, to promote a,

307

00:13:12.865 --> 00:13:15.545

a positive safety culture develop if you don't have it

308

00:13:15.805 --> 00:13:17.305

or maintain it if you have it.

309

00:13:18.495 --> 00:13:23.155

So, uh, that is, that is not as easy as, as

310

00:13:23.695 --> 00:13:26.835

you would think, because you can have an organization that

311  
00:13:27.415 --> 00:13:29.155  
you stand up an organization and,

312  
00:13:29.215 --> 00:13:32.035  
and you don't have a safe safety culture just yet.

313  
00:13:32.695 --> 00:13:36.155  
And it is extremely difficult to develop

314  
00:13:36.875 --> 00:13:37.995  
a good safety culture.

315  
00:13:38.305 --> 00:13:42.185  
It's not easy, and it takes time. Next slide.

316  
00:13:45.125 --> 00:13:48.465  
So what is the definition of safety culture?

317  
00:13:48.495 --> 00:13:51.425  
Well, the, you have a culture in an organization, culture,

318  
00:13:51.645 --> 00:13:55.185  
you know, this values, beliefs, legends, whatever is,

319  
00:13:55.185 --> 00:13:57.225  
that's the culture, but the safety culture.

320  
00:13:57.725 --> 00:14:01.025  
And I've highlighted some, some key, uh, words,

321  
00:14:01.215 --> 00:14:05.465  
phrases there to, to just target what is a safety culture,

322  
00:14:05.795 --> 00:14:08.485  
commitment to safety, accountability,

323  
00:14:08.615 --> 00:14:13.015  
individual responsibility for safety, trust,

324  
00:14:13.355 --> 00:14:17.665



and use, and rely the system, not just a paper manual

325

00:14:17.775 --> 00:14:19.305  
that you have files somewhere

326

00:14:19.805 --> 00:14:21.505  
and that you refer to once in a while

327

00:14:21.565 --> 00:14:24.315  
or maybe never good communication

328

00:14:24.335 --> 00:14:25.755  
and continue to learn and develop.

329

00:14:26.055 --> 00:14:28.475  
But the, uh, I, I like to,

330

00:14:28.505 --> 00:14:32.725  
besides those, those terms, I like to, to put it in terms

331

00:14:32.725 --> 00:14:36.525  
of a buy-in from the organization members.

332

00:14:37.475 --> 00:14:40.045  
They have to have a buy-in on the safety, have

333

00:14:40.045 --> 00:14:41.925  
to believe in it and use it.

334

00:14:42.425 --> 00:14:45.605  
That's basically what you have in, uh, safety culture.

335

00:14:45.955 --> 00:14:49.795  
Next slide. So the

336

00:14:49.955 --> 00:14:54.205  
FAAI, I took this from the FAAA definition of, uh, SMS

337

00:14:55.135 --> 00:14:57.475  
and, uh, the FAA puts it in,

338  
00:14:57.535 --> 00:14:59.595  
in probably the best way I can think of.

339  
00:15:00.405 --> 00:15:02.745  
Safety promotion is not just a pillar,

340  
00:15:03.045 --> 00:15:05.385  
but it's a blanket, it's a blanket.

341  
00:15:05.405 --> 00:15:08.825  
Covers the whole, the whole, all the three components.

342  
00:15:09.485 --> 00:15:12.105  
And this is the way I like to think of safety promotion.

343  
00:15:12.175 --> 00:15:13.825  
It's always there. It's alive,

344  
00:15:14.165 --> 00:15:15.505  
and you have to keep it alive.

345  
00:15:16.165 --> 00:15:20.265  
And, uh, and, uh, it, it just covers, uh, uh, blankets,

346  
00:15:20.265 --> 00:15:22.265  
the entire thing to develop a safety culture.

347  
00:15:22.405 --> 00:15:23.665  
And that's what we're talking about here.

348  
00:15:23.725 --> 00:15:25.585  
And this is the end of my presentation.

349  
00:15:25.645 --> 00:15:29.305  
So, so from this point on, I'd like to just, uh, generate,

350  
00:15:29.685 --> 00:15:31.345  
uh, a discussion and, and, uh,

351  
00:15:31.345 --> 00:15:34.865

and involve, uh, everybody in, uh, in, uh,

352

00:15:34.865 --> 00:15:38.345

joining us in discussing the, the promotion pillar.

353

00:15:39.635 --> 00:15:41.375

Rod, if, uh, if I could jump

354

00:15:41.375 --> 00:15:42.535

in there on, uh, on one thing.

355

00:15:42.555 --> 00:15:44.935

Go ahead. You, you had, uh, um, you know, one

356

00:15:44.935 --> 00:15:47.815

of the slides there just previous on these different things

357

00:15:47.815 --> 00:15:49.095

that safety culture means.

358

00:15:49.875 --> 00:15:53.255

And, um, you know, so when we go around, we audit, uh,

359

00:15:53.255 --> 00:15:56.695

organizations in various parts of the world, literally

360

00:15:56.695 --> 00:15:57.895

around the world, uh, large

361

00:15:57.895 --> 00:16:01.375

and small organizations, we're looking for one word,

362

00:16:01.795 --> 00:16:02.895

uh, it's called trust.

363

00:16:03.275 --> 00:16:07.055

So an organization has better safety culture,

364

00:16:07.435 --> 00:16:10.815

has an inherent, um, level of trust, uh,

365  
00:16:10.905 --> 00:16:14.135  
among the colleagues working together in colleague

366  
00:16:14.135 --> 00:16:17.295  
to management, management to colleague, you know, um, it's,

367  
00:16:17.445 --> 00:16:18.855  
it's trust is growing.

368  
00:16:19.275 --> 00:16:21.655  
Um, it, and not to oversimplify,

369  
00:16:22.235 --> 00:16:24.895  
but it is one of the most important words

370  
00:16:25.395 --> 00:16:26.695  
to connect to safety culture.

371  
00:16:26.855 --> 00:16:28.015  
I just wanna throw that out there.

372  
00:16:28.285 --> 00:16:30.575  
Yeah, that's great. And I have one more slide here.

373  
00:16:30.875 --> 00:16:34.495  
So when, when we do audits, uh, when, especially when I,

374  
00:16:34.495 --> 00:16:37.335  
when I go around and do audits, I use the is b example,

375  
00:16:37.435 --> 00:16:41.295  
and I added, I add, uh, flight to safety, uh, items

376  
00:16:41.555 --> 00:16:43.935  
to my audit check protocol, if you will.

377  
00:16:44.275 --> 00:16:45.935  
And I also use gain the,

378  
00:16:45.955 --> 00:16:48.895

the general aviation Information Network safety manual.

379

00:16:49.515 --> 00:16:51.935

Uh, and this is, this is when I get

380

00:16:51.935 --> 00:16:55.475

to the safety promotion part, this is what I use, okay,

381

00:16:55.735 --> 00:16:59.155

for evaluating how well you're doing on your SMS.

382

00:16:59.655 --> 00:17:02.475

And, um, and I'm not gonna read it every bullet in there,

383

00:17:02.495 --> 00:17:04.635

but you have to have, uh, education, training,

384

00:17:05.885 --> 00:17:09.125

communication, and, uh, and, and I added some gain.

385

00:17:09.125 --> 00:17:11.165

Allison, I'll read a couple here.

386

00:17:11.265 --> 00:17:12.645

Uh, do you have a newsletter?

387

00:17:13.825 --> 00:17:15.285

Uh, do you have, uh,

388

00:17:15.285 --> 00:17:17.165

does the company distribute safety reports

389

00:17:17.785 --> 00:17:20.845

or newsletters from other sources other than your company?

390

00:17:21.915 --> 00:17:26.775

Um, is there, uh, company-wise safety meetings,

391

00:17:27.595 --> 00:17:29.935

uh, do you have, uh, do you attend?

392

00:17:30.005 --> 00:17:32.575

Does the, uh, director of Safety, at least

393

00:17:33.335 --> 00:17:34.815

somebody in the company attends the Flight

394

00:17:34.815 --> 00:17:39.655

to Safety Workshops, flight Safety Foundation, uh, forums,

395

00:17:39.835 --> 00:17:44.535

uh, all other, uh, alphabet soup kind of industries,

396

00:17:45.035 --> 00:17:49.375

uh, uh, um, conferences, uh, do they attend, not

397

00:17:49.375 --> 00:17:52.735

to bring in their, uh, new ideas to the organization?

398

00:17:52.765 --> 00:17:54.255

This is, so this is what I use.

399

00:17:56.495 --> 00:18:00.675

Um, rod, uh, I just wanted to mention to our, uh, audience

400

00:18:00.675 --> 00:18:02.635

that the Global Aviation Information Network

401

00:18:03.515 --> 00:18:05.765

publication will be available on flight

402

00:18:05.765 --> 00:18:06.965

test safety.org website.

403

00:18:08.595 --> 00:18:10.335

Um, uh,

404

00:18:10.335 --> 00:18:12.055

after this event, I think we've got

405

00:18:12.055 --> 00:18:13.175

an older version on there.

406

00:18:13.515 --> 00:18:14.935

Um, I didn't get a chance to check,

407

00:18:14.935 --> 00:18:16.575

but we'll make sure we've got the latest version.

408

00:18:17.125 --> 00:18:18.335

It's a good read, actually.

409

00:18:18.875 --> 00:18:23.015

Um, and if I could also wanted to, uh, make mention of the,

410

00:18:23.835 --> 00:18:27.175

uh, IKO doc 98 59,

411

00:18:27.805 --> 00:18:29.215

there's a fourth edition.

412

00:18:29.725 --> 00:18:33.055

It's 2018. It's, it's the Safety Management Manual.

413

00:18:33.115 --> 00:18:36.455

And if I could, I hate to, to just directly read to folks,

414

00:18:36.515 --> 00:18:38.055

but I think it's important.

415

00:18:38.055 --> 00:18:39.855

And at Foot stomps this important concept

416

00:18:40.035 --> 00:18:42.695

as we scratch a little deeper on some of these, uh,

417

00:18:43.015 --> 00:18:45.655

communication, training, and education elements.

418

00:18:46.515 --> 00:18:50.135

Um, but specifically under Component four, safety promotion,

419  
00:18:51.065 --> 00:18:54.325  
it states encourages a positive safety culture

420  
00:18:54.385 --> 00:18:57.365  
and helps achieve the service provider safety objectives

421  
00:18:57.365 --> 00:18:59.805  
through the combination of technical competence

422  
00:19:00.355 --> 00:19:02.645  
that is continually enhanced through training

423  
00:19:02.645 --> 00:19:05.615  
and education, effective communication

424  
00:19:06.155 --> 00:19:07.575  
and information sharing.

425  
00:19:07.755 --> 00:19:11.135  
Now, these are critical elements that we want

426  
00:19:11.135 --> 00:19:12.495  
to really foot stomp today.

427  
00:19:13.035 --> 00:19:15.415  
Senior management provides the leadership

428  
00:19:15.415 --> 00:19:18.775  
to promote the safety culture throughout an organization.

429  
00:19:20.045 --> 00:19:22.265  
So we already have a question on, you know,

430  
00:19:22.265 --> 00:19:24.585  
what organizational resources are best

431  
00:19:24.605 --> 00:19:26.185  
to support safety promotion?

432  
00:19:26.485 --> 00:19:30.745



And there's one of them. SMS has to be supported top down,

433

00:19:31.455 --> 00:19:33.265  
otherwise, it's just not gonna work

434

00:19:33.285 --> 00:19:34.465  
and not gonna provide you the

435

00:19:34.465 --> 00:19:35.945  
safety benefits that you really want.

436

00:19:36.605 --> 00:19:41.065  
Um, additionally, this paragraph goes on to say that if that

437

00:19:41.165 --> 00:19:44.745  
to facilitate effective two-way communication throughout all

438

00:19:44.745 --> 00:19:47.065  
levels of the organization, you have

439

00:19:47.065 --> 00:19:49.585  
to get the clear strategic direction from the top

440

00:19:49.585 --> 00:19:50.585  
of the organization

441

00:19:51.365 --> 00:19:55.465  
and enable bottom up communication that encourages open

442

00:19:55.465 --> 00:19:57.705  
and constructive feedback from all personnel.

443

00:19:59.205 --> 00:20:02.305  
So to me, uh, you know, this,

444

00:20:02.375 --> 00:20:04.265  
this reporting culture element

445

00:20:04.485 --> 00:20:07.945  
of your overarching safety culture is so crucial

446

00:20:08.015 --> 00:20:11.675

because the, the frontline workers are the ones

447

00:20:11.675 --> 00:20:14.435

that have probably the most intelligence about what's going

448

00:20:14.455 --> 00:20:16.315

on from a safety perspective.

449

00:20:17.135 --> 00:20:19.755

And if they are not comfortable reporting,

450

00:20:19.895 --> 00:20:22.515

and I think Sonny would probably call this part

451

00:20:22.515 --> 00:20:26.075

of psychological safety, people need to feel, um,

452

00:20:26.105 --> 00:20:29.755

comfortable reporting as well as feel obligated to report,

453

00:20:30.415 --> 00:20:33.635

um, and, and not be feeling like there's going

454

00:20:33.635 --> 00:20:34.955

to be a reprisal or some sort

455

00:20:34.955 --> 00:20:36.475

of backlash if they raise their hand

456

00:20:36.475 --> 00:20:37.875

and say, I think we need to stop

457

00:20:39.365 --> 00:20:41.835

until we have more information, and then we can continue.

458

00:20:41.935 --> 00:20:44.395

Now, that does take courage in a lot of cases.

459

00:20:45.545 --> 00:20:47.525

One of the examples I like to give is,

460

00:20:47.525 --> 00:20:49.405

during the F 35 program at PAX River,

461

00:20:49.655 --> 00:20:51.805

there was a young engineer, I think he was, he was,

462

00:20:51.865 --> 00:20:53.405

and Turbo could probably correct me on this,

463

00:20:53.425 --> 00:20:56.125

but he was charged with monitoring center gravity

464

00:20:56.465 --> 00:20:59.765

during our very early, um, uh, build down

465

00:20:59.785 --> 00:21:02.525

to vertical landing in the F 35 bs.

466

00:21:03.145 --> 00:21:04.925

And there was a problem with one

467

00:21:04.925 --> 00:21:08.325

of the fuel quantity indications, which was not going

468

00:21:08.325 --> 00:21:10.605

to allow us to, to manage, uh, center gravity

469

00:21:10.865 --> 00:21:12.925

or monitor center gravity as critical parameter.

470

00:21:13.465 --> 00:21:16.005

And so he called a stop and it was the right call.

471

00:21:16.585 --> 00:21:18.805

But can you imagine as a young flight test engineer

472

00:21:18.805 --> 00:21:20.765

monitoring critical parameter in the TM room,

473  
00:21:20.985 --> 00:21:23.365  
having the courage to raise your hand, that's the kind of

474  
00:21:23.825 --> 00:21:25.605  
of positive culture we wanna try

475  
00:21:25.605 --> 00:21:27.165  
to cultivate within organizations.

476  
00:21:27.505 --> 00:21:29.565  
And those are the kind of examples that you can cite

477  
00:21:29.565 --> 00:21:31.165  
to an auditor is evidence

478  
00:21:31.165 --> 00:21:33.205  
that you have a positive culture in your organization.

479  
00:21:33.785 --> 00:21:36.005  
So I just wanted to, to read that and,

480  
00:21:36.005 --> 00:21:38.725  
and use that as kind of a, an additional launch pad to

481  
00:21:39.525 --> 00:21:41.845  
stimulate this conversation and how we develop these types

482  
00:21:41.905 --> 00:21:44.285  
of cultures within an organization.

483  
00:21:44.705 --> 00:21:48.925  
Um, because I think a lot of us, uh, have experience

484  
00:21:48.955 --> 00:21:50.605  
with facing some headwinds

485  
00:21:51.225 --> 00:21:53.285  
and trying to convince our senior leaders

486  
00:21:54.465 --> 00:21:56.085

of the importance of these different things.

487

00:21:56.385 --> 00:22:01.365

Um, because in terms of, uh, uh, near miss reporting,

488

00:22:01.365 --> 00:22:05.445

for instance, a lot of times we see that, uh, there,

489

00:22:05.515 --> 00:22:10.325

there's an inclination to not air dirty laundry.

490

00:22:11.135 --> 00:22:13.035

We had the event, we did the investigation,

491

00:22:13.095 --> 00:22:15.555

we may have implemented some mitigations corrective actions.

492

00:22:15.945 --> 00:22:17.155

Okay, let's put it to bed. We don't

493

00:22:17.155 --> 00:22:18.275

wanna talk about it anymore.

494

00:22:19.535 --> 00:22:21.825

Well, you just learn, lost all of

495

00:22:21.825 --> 00:22:23.465

that opportunity for learning.

496

00:22:24.965 --> 00:22:27.945

One of our viewers also chimed in on the chat window to say

497

00:22:28.135 --> 00:22:30.785

that they changed the, the moniker of lessons learned

498

00:22:30.965 --> 00:22:33.515

to lessons taught, because, uh,

499

00:22:33.575 --> 00:22:34.995

we we're not sure if we've actually

500

00:22:34.995 --> 00:22:36.475  
learned the lessons or not.

501

00:22:37.135 --> 00:22:39.755  
But again, this is exactly what the founding fathers

502

00:22:39.755 --> 00:22:41.155  
of the Safety Management manual

503

00:22:41.615 --> 00:22:44.835  
and SMS were trying to get at here was that you're,

504

00:22:44.975 --> 00:22:46.555  
you're really supposed to be

505

00:22:47.135 --> 00:22:50.555  
freely talking about your mistakes, uh, what you discovered

506

00:22:50.555 --> 00:22:51.995  
through the course of an investigation.

507

00:22:52.575 --> 00:22:54.795  
Um, and what were the corrective actions

508

00:22:54.855 --> 00:22:58.265  
and how are we going to improve, uh, Sonny, do you have any,

509

00:22:58.445 --> 00:22:59.745  
any further thoughts on all that?

510

00:23:00.835 --> 00:23:03.805  
Yeah, thanks, er, um, you know, you, you start off there

511

00:23:03.985 --> 00:23:06.765  
by talking about Doc 98 59 from IKO.

512

00:23:06.945 --> 00:23:09.245  
And, um, you know, I think every, um,

513

00:23:09.305 --> 00:23:11.125

safety risk management expert should

514

00:23:11.125 --> 00:23:12.245

have a few books on their desk.

515

00:23:12.705 --> 00:23:14.645

And all of them, I think, are essentially free

516

00:23:14.785 --> 00:23:16.485

of charge, uh, in one way or another.

517

00:23:16.485 --> 00:23:18.565

That doc 98 59 is the book.

518

00:23:19.025 --> 00:23:20.605

Uh, as we travel around the world

519

00:23:20.625 --> 00:23:23.325

and we talk to folks in Brazil, any anywhere in Europe,

520

00:23:23.725 --> 00:23:25.485

anywhere in Asia, United States, north America,

521

00:23:25.485 --> 00:23:28.325

south America, we, we use Doc 98 59 as

522

00:23:28.325 --> 00:23:30.045

that at an anchoring document.

523

00:23:30.465 --> 00:23:33.245

But from that document, many things flow we have as bayo,

524

00:23:33.245 --> 00:23:35.325

and we use, we keep that on the desk as well.

525

00:23:35.785 --> 00:23:38.485

The, the primary documents we're using lately at Weyburn are

526

00:23:38.485 --> 00:23:40.405

the safety Management International

527

00:23:40.645 --> 00:23:41.885  
collaboration Group documents.

528

00:23:42.305 --> 00:23:44.725  
The reason why we gravitated towards those, uh,

529

00:23:44.795 --> 00:23:46.005  
they get really in depth

530

00:23:46.105 --> 00:23:50.765  
and granular into what an, an auditor, uh, an evaluator, uh,

531

00:23:50.765 --> 00:23:54.165  
should be looking for, uh, in each of these elements in,

532

00:23:54.165 --> 00:23:56.205  
in a very recommendation approach way,

533

00:23:56.305 --> 00:23:58.165  
not like a thou shout way

534

00:23:58.385 --> 00:24:00.885  
or, you know, it's, um, it, it's, it's, it's more, I,

535

00:24:00.925 --> 00:24:03.525  
I think it focused on human factors.

536

00:24:04.305 --> 00:24:05.765  
And so, um, and,

537

00:24:05.765 --> 00:24:09.165  
and these are accepted by the FAA Canada, all of Europe

538

00:24:09.305 --> 00:24:10.365  
and South and North America.

539

00:24:10.865 --> 00:24:12.045  
So, uh, even in Asia.

540

00:24:12.105 --> 00:24:14.805



So these, these, these documents are vetted, uh,

541

00:24:14.805 --> 00:24:16.485  
internationally, and they get

542

00:24:16.485 --> 00:24:17.725  
updated about every two to three years.

543

00:24:17.785 --> 00:24:21.045  
So S-M-I-C-G, if you wanna a, a group of documents,

544

00:24:21.045 --> 00:24:23.165  
you can go to the YR website down at the bottom

545

00:24:23.165 --> 00:24:25.205  
of the resource center, download all this stuff

546

00:24:25.205 --> 00:24:26.325  
for free, not a problem.

547

00:24:26.985 --> 00:24:29.125  
Um, that, that's the one thought hover.

548

00:24:29.185 --> 00:24:30.685  
The, the other thing that I,

549

00:24:30.685 --> 00:24:32.045  
that I was wondering about when you're,

550

00:24:32.045 --> 00:24:35.465  
when you're going over these things, is, um, you know, the,

551

00:24:35.485 --> 00:24:36.985  
the, the, we, we,

552

00:24:37.175 --> 00:24:39.905  
when you said lessons learned versus lessons taught,

553

00:24:39.905 --> 00:24:41.465  
that really resonated with me.

554

00:24:42.145 --> 00:24:44.385

I think if all of us could get into the mode of thinking,

555

00:24:44.585 --> 00:24:46.885

I want to help others, and,

556

00:24:46.945 --> 00:24:48.885

and you know, you know what it's like, I don't how many

557

00:24:48.885 --> 00:24:50.045

of your instructor pilots

558

00:24:50.045 --> 00:24:51.405

or instructors of some form,

559

00:24:51.705 --> 00:24:54.685

you don't really learn something until you teach it, right?

560

00:24:54.785 --> 00:24:57.125

You, you, when you learn it as a student

561

00:24:57.225 --> 00:24:59.365

and you think you know it, but then when you're assigned

562

00:24:59.365 --> 00:25:01.365

to be an instructor, you really gotta know that topic.

563

00:25:01.985 --> 00:25:05.485

So, challenge yourself to teach others about safety

564

00:25:05.785 --> 00:25:07.045

and safety risk management.

565

00:25:07.045 --> 00:25:08.525

And when you do, you're gonna learn a lot more.

566

00:25:09.905 --> 00:25:12.045

Uh, there, I'd, uh, like to address the, one

567

00:25:12.045 --> 00:25:15.935

of the questions here, uh, from Pedro, um, um, that,

568

00:25:15.935 --> 00:25:17.415

that's a, that's a very good question.

569

00:25:17.675 --> 00:25:19.975

Um, uh, just follow the rules.

570

00:25:21.145 --> 00:25:23.905

I mean, uh, you can publish A-A-S-M-S manual,

571

00:25:24.005 --> 00:25:26.185

but, uh, if you don't have a safe safety culture,

572

00:25:26.285 --> 00:25:27.505

that's, that's all it is.

573

00:25:27.575 --> 00:25:29.665

It's just a safety manual system, a shelf.

574

00:25:30.205 --> 00:25:31.665

And, uh, nobody uses it.

575

00:25:31.665 --> 00:25:36.065

Uh, and, and by the way, there are, there are, uh, methods

576

00:25:36.245 --> 00:25:37.745

of measuring safety culture.

577

00:25:37.985 --> 00:25:39.625

I didn't mention one, but, uh, gain,

578

00:25:39.765 --> 00:25:43.625

the gain document has a method of measuring safety culture,

579

00:25:43.685 --> 00:25:45.065

and I have actually used it.

580

00:25:45.685 --> 00:25:47.705

And there's another one that, uh, that I'm sure

581  
00:25:47.705 --> 00:25:51.385  
that Sony has, um, has a, can cite also

582  
00:25:51.405 --> 00:25:52.425  
for measuring safety culture.

583  
00:25:52.425 --> 00:25:56.025  
And I believe the FAA, uh, aircraft Certification Service,

584  
00:25:56.245 --> 00:25:59.625  
uh, probably, I, I heard him say that they use another one.

585  
00:25:59.665 --> 00:26:00.825  
I don't, I don't know which one it

586  
00:26:00.825 --> 00:26:02.305  
is, but there are methods.

587  
00:26:02.485 --> 00:26:05.025  
But there, there, i I mean, there's a,

588  
00:26:05.025 --> 00:26:08.545  
there's a perfect example that I, that i, I run into, uh,

589  
00:26:08.545 --> 00:26:10.065  
where I went into an organization,

590  
00:26:10.065 --> 00:26:13.025  
they had a big certificate of SMS, they're certified.

591  
00:26:13.965 --> 00:26:16.585  
And when we came to the, to the briefing, I was one

592  
00:26:16.585 --> 00:26:20.665  
of the test pilot involved, uh, came to the briefing.

593  
00:26:20.685 --> 00:26:22.225  
Uh, they said, well, okay, well, yeah,

594  
00:26:22.225 --> 00:26:23.905

it looks like the weather's good, and, um,

595

00:26:24.325 --> 00:26:25.945

and, uh, conditions are right.

596

00:26:26.045 --> 00:26:28.275

Uh, let's go fly. And, uh,

597

00:26:28.275 --> 00:26:29.995

and I said, well, where's, where's your safety?

598

00:26:30.465 --> 00:26:32.235

Where's your safety briefing guide?

599

00:26:33.375 --> 00:26:35.995

And, uh, you know, this is a, uh, medium risk test.

600

00:26:36.435 --> 00:26:39.675

I mean, we, we really should be using.

601

00:26:39.775 --> 00:26:42.555

And, and, and the response was, well, I guess,

602

00:26:42.715 --> 00:26:44.165

I guess I, I guess we'll brief it.

603

00:26:44.825 --> 00:26:47.965

That's a lack of safety, safety culture in our, in our, in

604

00:26:47.965 --> 00:26:49.485

that organization big time.

605

00:26:51.235 --> 00:26:54.245

Um, but this is, this is what it was.

606

00:26:54.245 --> 00:26:57.045

They had a certificate, it's bail certified them.

607

00:26:57.855 --> 00:27:00.835

Um, and, uh, and, and they behaved this way.

608  
00:27:01.175 --> 00:27:04.595  
So, so you have to have a really a buy-in and,

609  
00:27:05.215 --> 00:27:08.475  
and it, it, it really is the, the function

610  
00:27:08.495 --> 00:27:12.975  
of the flight safety officer, um, to,

611  
00:27:13.435 --> 00:27:17.135  
to promote, uh, uh, this safety culture

612  
00:27:18.155 --> 00:27:22.495  
and, uh, and to be involved in every facet of the operation

613  
00:27:22.495 --> 00:27:25.935  
of the organization to see whether, whether

614  
00:27:26.465 --> 00:27:29.695  
there is a safety culture or not, and, and,

615  
00:27:29.715 --> 00:27:30.935  
and find out why.

616  
00:27:31.635 --> 00:27:34.775  
And, uh, and that's why the safety audits occur, uh,

617  
00:27:34.835 --> 00:27:37.615  
to internal and external to see if there,

618  
00:27:37.715 --> 00:27:39.895  
if there is a good safety culture or not.

619  
00:27:41.705 --> 00:27:42.935  
Turbo, if I could just throw in there,

620  
00:27:42.995 --> 00:27:44.335  
I'm gonna say something kind of bold

621  
00:27:44.335 --> 00:27:47.815

and probably challenging as on borderline stupid, but,

622

00:27:48.395 --> 00:27:51.215

but I think one of the most dangerous things you can have on

623

00:27:51.215 --> 00:27:52.575

your wall is some kind of certificate

624

00:27:52.575 --> 00:27:54.895

that says you have a validated SMS,

625

00:27:55.245 --> 00:27:58.695

because I have gone, like you said, into many organizations,

626

00:27:59.075 --> 00:28:02.055

we have validated many organizations through as Bay o, Vern,

627

00:28:02.295 --> 00:28:04.295

whatever, and when they get that certificate on the wall,

628

00:28:04.295 --> 00:28:05.815

they kick back and go, see, we did it.

629

00:28:06.355 --> 00:28:08.535

And, and I don't care what level

630

00:28:08.535 --> 00:28:10.095

of SMS you've been validated at,

631

00:28:10.165 --> 00:28:12.655

it's a daily professionalism challenge.

632

00:28:13.435 --> 00:28:15.535

Any moment one of your colleagues,

633

00:28:15.635 --> 00:28:18.615

or you might be faced with a, a, a leadership moment

634

00:28:18.615 --> 00:28:19.895

where you have to make a decision,

635  
00:28:20.355 --> 00:28:22.895  
and you, you, you know what the right thing to do is, but,

636  
00:28:22.955 --> 00:28:25.415  
but it's tempting to take the easy thing, the,

637  
00:28:25.415 --> 00:28:26.975  
the the less complicated thing.

638  
00:28:27.065 --> 00:28:29.615  
Let's just get this done. Who else needs to know? Anyway?

639  
00:28:30.075 --> 00:28:33.335  
So e every day your, your, your professionalism and,

640  
00:28:33.395 --> 00:28:36.775  
and your culture is, is challenge, uh, potentially.

641  
00:28:37.235 --> 00:28:40.455  
And, and it's, it's never over. It's never ending. It.

642  
00:28:40.485 --> 00:28:42.655  
It's, it's our job to be ever vigilant.

643  
00:28:44.595 --> 00:28:47.655  
Um, sunny and Rod, if I could, uh, maybe

644  
00:28:48.205 --> 00:28:50.695  
take a little bit deeper dive into the training

645  
00:28:50.695 --> 00:28:51.815  
and education piece.

646  
00:28:52.275 --> 00:28:56.995  
Um, going back to the safety management manual, uh,

647  
00:28:57.615 --> 00:29:01.545  
it specifically states that you're required

648  
00:29:01.765 --> 00:29:05.045



to provide a training program, uh, so

649

00:29:05.045 --> 00:29:06.285

that your personnel are trained

650

00:29:06.285 --> 00:29:08.285

and competent to perform their SMS duties.

651

00:29:08.385 --> 00:29:10.805

Now we're talking probably about the safety manager

652

00:29:10.805 --> 00:29:11.845

within the organization.

653

00:29:12.915 --> 00:29:15.485

What thoughts do you have, sunny, from,

654

00:29:15.635 --> 00:29:20.405

from your experience in other segments of industry on what,

655

00:29:20.635 --> 00:29:24.045

what, how would you build a safety practitioner

656

00:29:24.105 --> 00:29:25.125

for your organization?

657

00:29:25.625 --> 00:29:27.285

And Rod, I'll ask you the same question,

658

00:29:27.305 --> 00:29:29.845

but in the context of a flight test organization, and,

659

00:29:29.865 --> 00:29:32.365

and let's, let's go there for a few minutes

660

00:29:32.425 --> 00:29:34.525

and just talk about this training education piece

661

00:29:34.825 --> 00:29:38.205

and how we, we answer the mail as it relates

662

00:29:38.265 --> 00:29:40.565  
to aligning to these standards.

663

00:29:42.195 --> 00:29:44.135  
Yep. Yeah. One, one of the things that comes

664

00:29:44.135 --> 00:29:46.095  
to mind is you gotta recruit the right person.

665

00:29:46.595 --> 00:29:49.095  
You know, your, your, um, your safety officer needs

666

00:29:49.095 --> 00:29:53.015  
to be a real champion, uh, needs to have, uh, uh, superior

667

00:29:53.775 --> 00:29:55.735  
communication skills and persuasion skills.

668

00:29:56.315 --> 00:29:57.975  
You know, it's one thing to communicate

669

00:29:58.315 --> 00:29:59.895  
and you can communicate something,

670

00:30:00.365 --> 00:30:02.495  
another person understands it, but they're offended,

671

00:30:02.635 --> 00:30:04.815  
but they understood your message.

672

00:30:05.595 --> 00:30:08.495  
Um, so this individual needs to have a good, uh,

673

00:30:08.495 --> 00:30:11.735  
emotional intelligence capability on reading other people.

674

00:30:12.195 --> 00:30:14.615  
And, and, like, uh, uh, turbo said earlier,

675

00:30:14.725 --> 00:30:17.895

what we're doing here is trying to market the value of,

676

00:30:18.115 --> 00:30:19.495  
of safety risk management.

677

00:30:20.115 --> 00:30:22.535  
And, and it's, it's difficult when you deal with a,

678

00:30:22.575 --> 00:30:25.135  
a very highly trained group of professionals

679

00:30:25.205 --> 00:30:27.175  
that really know how to do their job well.

680

00:30:27.205 --> 00:30:29.335  
It's like, why do I need to know how

681

00:30:29.335 --> 00:30:31.135  
to do something different to be safe?

682

00:30:32.035 --> 00:30:34.735  
But the the idea here is empowerment.

683

00:30:34.915 --> 00:30:36.335  
You know, you can comply

684

00:30:36.355 --> 00:30:38.655  
and just follow the rules that doesn't make you safe.

685

00:30:39.205 --> 00:30:41.455  
What what makes us safe is ever evolving.

686

00:30:41.995 --> 00:30:43.495  
The technology's ever evolving,

687

00:30:43.675 --> 00:30:44.975  
our environment's ever evolving,

688

00:30:45.075 --> 00:30:47.775  
and we, the human element need to evolve too.

689

00:30:48.195 --> 00:30:50.495

And safety risk management allows you to be empowered

690

00:30:50.495 --> 00:30:52.095

and say, this is the right thing to do.

691

00:30:52.115 --> 00:30:54.895

Now, what I'm seeing is not safe.

692

00:30:54.925 --> 00:30:56.855

It's, it's, it's a risky situation.

693

00:30:56.855 --> 00:30:57.975

We need to talk about it.

694

00:30:58.595 --> 00:31:01.695

So, um, just following rules, I is not the answer anymore.

695

00:31:01.995 --> 00:31:04.055

It being empowered and,

696

00:31:04.075 --> 00:31:06.415

and to, so get back to your question, Huffer,

697

00:31:06.955 --> 00:31:09.615

the safety officer, the safety champion needs to have

698

00:31:09.615 --> 00:31:13.695

that human set of skills to, to persuade others to,

699

00:31:13.715 --> 00:31:18.255

to be empowered to, to know that they have the ability to be

700

00:31:18.895 --> 00:31:20.615

progressive, uh, to be flexible

701

00:31:20.635 --> 00:31:23.135

and adaptive in ever changing environments.

702

00:31:23.555 --> 00:31:26.295

And so that takes really, uh, a strong set

703

00:31:26.295 --> 00:31:29.495

of instructional capability, communication and,

704

00:31:29.495 --> 00:31:31.095

and, uh, human interaction capability.

705

00:31:31.155 --> 00:31:32.975

That's the, that's the first part.

706

00:31:33.185 --> 00:31:34.975

After that, then they need to be, make sure they,

707

00:31:34.975 --> 00:31:36.575

they have the technical capability.

708

00:31:36.805 --> 00:31:38.335

They understand, you know,

709

00:31:38.335 --> 00:31:39.895

the safety risk management process,

710

00:31:40.435 --> 00:31:42.055

the safety promotion elements,

711

00:31:42.275 --> 00:31:43.775

and the safety assurance elements.

712

00:31:44.935 --> 00:31:46.415

I, I would like to add to that.

713

00:31:46.615 --> 00:31:50.215

I would like to, I'd like to add to that, uh, um, you know,

714

00:31:50.335 --> 00:31:53.645

I, uh, I usually give a briefing of what it takes

715

00:31:53.645 --> 00:31:55.605

to be a safety officer in an organization.

716

00:31:55.625 --> 00:31:58.365

One of the things that, uh, that I highlight is that

717

00:31:58.595 --> 00:31:59.925

that person has to be credible.

718

00:32:00.795 --> 00:32:03.975

Uh, it used to be back in the old days, uh,

719

00:32:04.035 --> 00:32:06.335

in the Air Force, uh, you got to a squadron and,

720

00:32:06.675 --> 00:32:09.295

and there were two basic assignments that new guy got.

721

00:32:09.635 --> 00:32:12.815

One was a snack o snack, snack bar officer,

722

00:32:13.315 --> 00:32:16.515

and the other one was a safety officer, uh, brand new guy.

723

00:32:16.515 --> 00:32:18.755

That's the first, uh, do additional duties

724

00:32:18.755 --> 00:32:19.795

that were given to them.

725

00:32:19.865 --> 00:32:22.395

Well, that's definitely not, not right.

726

00:32:22.455 --> 00:32:24.915

And the safety officer has to be a credible person.

727

00:32:25.575 --> 00:32:28.035

So that means that, that, that person has to be,

728

00:32:28.785 --> 00:32:31.635

know the fly, the, the most, the, the, the highest,

729

00:32:32.175 --> 00:32:33.555

the most sophisticated airplane,

730

00:32:33.615 --> 00:32:35.715

and has to be, uh, it's, it's my opinion,

731

00:32:35.935 --> 00:32:37.115

uh, that's personal opinion.

732

00:32:37.415 --> 00:32:38.595

It has to be a credible person.

733

00:32:39.745 --> 00:32:43.485

It can't be somebody that, that, uh, that just walks in

734

00:32:43.505 --> 00:32:45.885

and, uh, and they're assigned an additional duty safety

735

00:32:45.885 --> 00:32:48.325

officer and has to report directly to the CEO,

736

00:32:48.695 --> 00:32:50.645

which is extremely important.

737

00:32:50.745 --> 00:32:53.485

And that, and that one way communication

738

00:32:53.485 --> 00:32:55.485

to the CEO is, is very important.

739

00:32:56.265 --> 00:33:00.045

Um, there, there's, uh, as far as training is concerned, um,

740

00:33:00.625 --> 00:33:04.085

yes, I have, you know, uh, the, the, uh,

741

00:33:04.225 --> 00:33:06.845

if you see the audit in my, in my slide there, you training

742

00:33:06.865 --> 00:33:08.645

and education, they're, they're put together.

743  
00:33:09.155 --> 00:33:11.805  
Well, what is the difference between training and education?

744  
00:33:11.875 --> 00:33:13.965  
Well, they're kind of the same thing,

745  
00:33:13.985 --> 00:33:15.165  
but what kind of things do you train?

746  
00:33:16.795 --> 00:33:20.015  
Uh, well, how about job task? Well, yes.

747  
00:33:20.555 --> 00:33:22.615  
Uh, that's, that's important.

748  
00:33:23.115 --> 00:33:25.695  
You know, you, you, for example, in the case of an airplane,

749  
00:33:25.695 --> 00:33:27.975  
you have to, you have to be rated in the airplane, you have

750  
00:33:27.975 --> 00:33:29.295  
to get to take recurrent courses.

751  
00:33:29.635 --> 00:33:31.255  
That's the job task. But what other,

752  
00:33:31.525 --> 00:33:33.935  
what are the specific safety trainings?

753  
00:33:34.075 --> 00:33:37.455  
Uh, one of the things that I found that, uh,

754  
00:33:37.885 --> 00:33:41.255  
that we missed in one organization I'm working with is, uh,

755  
00:33:41.355 --> 00:33:44.655  
is, uh, the significant significant safety event

756  
00:33:44.835 --> 00:33:45.975



report form.

757

00:33:47.135 --> 00:33:49.235

Um, we had the form

758

00:33:49.535 --> 00:33:51.755

and we, we, we presented it in the,

759

00:33:51.755 --> 00:33:53.875

in our SMS briefing to the organization.

760

00:33:54.695 --> 00:33:59.485

But when we had one small incident, um, the, the people

761

00:33:59.515 --> 00:34:02.365

that, uh, actually put, filled out the form, uh,

762

00:34:02.845 --> 00:34:04.765

couldn't find it and, uh,

763

00:34:04.825 --> 00:34:06.365

and didn't know how to fill it out.

764

00:34:07.145 --> 00:34:10.285

And, uh, so that's part of the training you need to do.

765

00:34:10.945 --> 00:34:13.565

If you're gonna have a a a A and,

766

00:34:13.585 --> 00:34:17.605

and an, uh, incident report form of whatever kind, you need

767

00:34:17.605 --> 00:34:18.765

to train them on how to use it.

768

00:34:19.615 --> 00:34:22.595

And, uh, one of the things that we, uh, that we had in

769

00:34:22.595 --> 00:34:26.635

that form is, the first part is actually what the FAA uses

770  
00:34:27.055 --> 00:34:30.915  
or, uh, I, I think we still use the SS e form, uh, is

771  
00:34:30.915 --> 00:34:32.235  
that first part.

772  
00:34:32.295 --> 00:34:33.875  
You fill it out, this is what happened.

773  
00:34:34.605 --> 00:34:36.145  
Uh, that's all, that's all you do,

774  
00:34:36.145 --> 00:34:38.665  
because you, you haven't investigated the incident yet,

775  
00:34:39.085 --> 00:34:41.065  
but then, then you do part two,

776  
00:34:41.085 --> 00:34:42.705  
and where you investigate the incident

777  
00:34:42.765 --> 00:34:45.225  
and you fill out the form and, and, uh, it's final.

778  
00:34:45.565 --> 00:34:49.145  
Uh, but the person who who suffered the incident is the one

779  
00:34:49.145 --> 00:34:52.065  
that is assigned to fill it out, not the safety officer,

780  
00:34:52.065 --> 00:34:55.225  
because that is the person that knows best what happened.

781  
00:34:55.985 --> 00:34:58.365  
And, uh, and so they gotta be trained on how to do it.

782  
00:34:58.625 --> 00:34:59.765  
Uh, that's one example.

783  
00:35:01.115 --> 00:35:03.045

Yeah, I, no, Go ahead, son.

784

00:35:03.395 --> 00:35:05.365

Well, I was just gonna say too, um, one

785

00:35:05.365 --> 00:35:08.405

of the things we teach in our courses is, um, you know, like

786

00:35:08.975 --> 00:35:11.445

Turbo is saying, you need to educate what they need to know,

787

00:35:11.465 --> 00:35:12.725

but then you need to train them.

788

00:35:12.905 --> 00:35:16.245

So that, what skill sets we train every day is in our

789

00:35:16.245 --> 00:35:18.485

courses are, um, to, to run through

790

00:35:18.485 --> 00:35:19.765

that safety risk management process.

791

00:35:20.035 --> 00:35:21.965

It's, it's very complex process, actually.

792

00:35:21.965 --> 00:35:24.045

You go to this point, yes or no, then this point, yes or no.

793

00:35:24.585 --> 00:35:27.805

And so what we do is establish, I think everybody, it's, uh,

794

00:35:28.155 --> 00:35:32.005

part of a, a team that has SMS should go through, uh,

795

00:35:32.185 --> 00:35:34.005

at least practicing as a committee member.

796

00:35:34.545 --> 00:35:36.325

And, and you take a, a hazard report

797  
00:35:36.745 --> 00:35:39.085  
and you process that in, in real time.

798  
00:35:39.545 --> 00:35:41.205  
But then, then you, when you stop

799  
00:35:41.205 --> 00:35:42.565  
and say, okay, we reached this point,

800  
00:35:42.655 --> 00:35:44.445  
we've analyzed the situation,

801  
00:35:44.705 --> 00:35:46.325  
now we're gonna look at our options

802  
00:35:46.325 --> 00:35:47.645  
for taking appropriate action.

803  
00:35:47.875 --> 00:35:49.925  
What are these options? How much do they cost?

804  
00:35:50.145 --> 00:35:51.565  
How long will they take to implement?

805  
00:35:51.785 --> 00:35:54.565  
What's the risk versus benefit at option A, B, and C?

806  
00:35:54.865 --> 00:35:57.205  
And so as a committee, you, you look at the options,

807  
00:35:57.265 --> 00:35:59.005  
you practice implementing an option,

808  
00:35:59.005 --> 00:36:00.085  
then you practice going back

809  
00:36:00.085 --> 00:36:02.405  
and checking that that implementation was effective.

810  
00:36:02.635 --> 00:36:05.805

That whole process takes at least a couple hours when you

811

00:36:05.805 --> 00:36:08.285

even fast forward it as a, a fictitious committee.

812

00:36:08.985 --> 00:36:10.565

And during our training program, we do that

813

00:36:10.565 --> 00:36:11.725

through four times, right?

814

00:36:12.225 --> 00:36:14.405

And after they do it four times, then they get it,

815

00:36:14.405 --> 00:36:15.685

the lights bulb's coming on.

816

00:36:15.985 --> 00:36:17.805

But even when I talk to people six months

817

00:36:17.805 --> 00:36:18.965

after they had the training, I'm like,

818

00:36:18.965 --> 00:36:20.765

you remember our skills training.

819

00:36:21.105 --> 00:36:23.805

You remember the process, it still fades like any other

820

00:36:23.965 --> 00:36:25.045

training if you don't use it.

821

00:36:25.665 --> 00:36:28.125

So I, I would encourage, you know, part

822

00:36:28.125 --> 00:36:30.605

of this technical training to practice being a committee

823

00:36:30.605 --> 00:36:33.645

member and working through that whole safety risk management

824

00:36:33.645 --> 00:36:35.805

process a number of times until you get it.

825

00:36:36.315 --> 00:36:39.085

There's an interesting question from Martin, uh, Asher.

826

00:36:39.705 --> 00:36:43.685

Um, how do you, how do you, uh, spark interest in, uh,

827

00:36:43.925 --> 00:36:46.365

SMS when it's not mandatory for flight test organizations

828

00:36:46.825 --> 00:36:48.365

by reg, by regulation?

829

00:36:48.995 --> 00:36:52.045

Well, I think we are, most companies, uh,

830

00:36:52.395 --> 00:36:56.085

have developed an SMSA flight test organizations have

831

00:36:56.085 --> 00:36:58.645

developed SMS programs, uh,

832

00:36:58.825 --> 00:37:03.165

and by their own, uh, without having been, uh, regulated.

833

00:37:03.705 --> 00:37:07.685

And I think it's coming though, um, that, uh,

834

00:37:08.275 --> 00:37:10.005

OEMs have their own SMS program

835

00:37:10.105 --> 00:37:12.365

and they developed on their own, out of their own interest

836

00:37:12.385 --> 00:37:14.725

of, of, uh, of doing things safely.

837

00:37:15.505 --> 00:37:16.645

And, and, uh, so,

838

00:37:16.905 --> 00:37:21.185

but it is up to the, the organization, CEO,

839

00:37:21.605 --> 00:37:25.225

in management to, to establish that SMS without having

840

00:37:25.965 --> 00:37:29.985

to be told by the FAA or, or anybody else to do it.

841

00:37:30.785 --> 00:37:33.505

I mean, it's, it's for their end best interest.

842

00:37:33.505 --> 00:37:37.145

And if you understand, uh, that safety is not, not just, uh,

843

00:37:37.145 --> 00:37:39.425

gives you a benefit of not just a commercial benefit,

844

00:37:39.605 --> 00:37:43.785

but a bit of, you know, safety benefit, uh, uh, then, then,

845

00:37:43.845 --> 00:37:48.425

uh, then that, that CEO understands that, uh, the importance

846

00:37:48.425 --> 00:37:50.705

of safety is just as important as making money.

847

00:37:52.665 --> 00:37:53.955

Yeah, great comment, rod.

848

00:37:53.975 --> 00:37:56.875

And, um, you know, sadly, we learned the hard way

849

00:37:57.145 --> 00:38:00.915

with our G six accident back in 20 11, 10 years ago, um,

850

00:38:01.125 --> 00:38:03.275

where we did not have a safety management system in place.

851

00:38:03.415 --> 00:38:06.355

And it look at any accident these days,

852

00:38:06.375 --> 00:38:11.355

and the NTSB is quite clear that lack of A-S-S-M-S

853

00:38:11.455 --> 00:38:14.475

or a sub optimum performing SMS

854

00:38:15.095 --> 00:38:17.915

is probably gonna get called out as being part of the a, uh,

855

00:38:18.095 --> 00:38:19.555

uh, accident causation chain.

856

00:38:20.335 --> 00:38:24.355

So, um, those are, um, lessons

857

00:38:24.665 --> 00:38:25.915

that, that need to be heated.

858

00:38:26.655 --> 00:38:30.755

And, um, unfortunately there are still some organizations

859

00:38:30.755 --> 00:38:32.235

that I think that don't quite get it

860

00:38:32.735 --> 00:38:34.755

and are not having high performing

861

00:38:34.755 --> 00:38:35.880

safety, safety management systems.

862

00:38:35.880 --> 00:38:38.765

And that's, of course, why we're here today to try to, uh,

863

00:38:38.955 --> 00:38:41.845

dissect some of the things that might, uh, enable you to get

864

00:38:42.435 --> 00:38:44.885



into the senior leadership teams of your organization and,

865

00:38:45.185 --> 00:38:48.005

and convince them that, uh, yeah,

866

00:38:48.245 --> 00:38:51.325

although safety is not considered a profit center,

867

00:38:52.225 --> 00:38:55.005

it can certainly avoid a lot of liability costs.

868

00:38:56.055 --> 00:38:58.475

So for very little, uh, money

869

00:38:58.735 --> 00:39:00.595

and just a modest amount of effort

870

00:39:01.135 --> 00:39:02.755

can really make some tremendous

871

00:39:02.755 --> 00:39:04.275

enhancements within your organization.

872

00:39:04.715 --> 00:39:06.235

A bit off topic, but a great question.

873

00:39:06.495 --> 00:39:08.475

And I, I know there's some people out there that are

874

00:39:09.115 --> 00:39:10.715

probably still having some frustrations

875

00:39:10.815 --> 00:39:14.235

and in getting their safety management system launched

876

00:39:14.415 --> 00:39:18.835

or, uh, their improvement initiatives maybe are not getting

877

00:39:18.835 --> 00:39:19.915

the traction that they want.

878  
00:39:20.095 --> 00:39:24.145  
But, um, absolutely, if, if I could bring it,

879  
00:39:24.205 --> 00:39:25.785  
if I could bring it back to the, the training

880  
00:39:25.785 --> 00:39:28.185  
and education just really quickly here, um,

881  
00:39:28.205 --> 00:39:31.785  
and then maybe we could just, uh, anchor on the pure q

882  
00:39:31.785 --> 00:39:33.705  
and a for a few minutes and, uh,

883  
00:39:33.825 --> 00:39:35.265  
'cause we're getting a lot of questions in, and,

884  
00:39:35.265 --> 00:39:37.785  
and I encourage people to do that, so I don't want to, uh,

885  
00:39:38.045 --> 00:39:41.905  
ignore the questions, um, on anything related to safety

886  
00:39:41.905 --> 00:39:43.865  
and safety management systems in our flight test

887  
00:39:43.865 --> 00:39:47.865  
organizations, uh, the, the safety management, uh, manual

888  
00:39:47.925 --> 00:39:52.185  
and other literature, uh, does state on,

889  
00:39:52.805 --> 00:39:55.665  
uh, a scaled approach to your training and education.

890  
00:39:56.245 --> 00:39:57.945  
So the obligation not only

891  
00:39:58.005 --> 00:40:00.905

to provide your safety practitioner, your safety managers,

892

00:40:01.685 --> 00:40:05.465

uh, your safety, uh, accountable executive,

893

00:40:06.045 --> 00:40:08.665

the specific training they need to execute their roles

894

00:40:08.665 --> 00:40:10.705

and responsibilities within the organizations,

895

00:40:11.365 --> 00:40:14.065

you really have an obligation to teach everybody

896

00:40:14.775 --> 00:40:18.305

what their role is in the safety system spec.

897

00:40:18.405 --> 00:40:19.945

And we've, if we've mentioned it already,

898

00:40:20.325 --> 00:40:22.745

how you do the reporting system, the, uh, safety,

899

00:40:23.005 --> 00:40:24.385

the significant safety event

900

00:40:24.405 --> 00:40:26.065

or whatever reporting tool that you use,

901

00:40:26.645 --> 00:40:28.145

how does the risk register work?

902

00:40:28.605 --> 00:40:30.465

Why is it important to report into that?

903

00:40:30.965 --> 00:40:33.465

Um, what is your expectation in getting the feedback?

904

00:40:34.495 --> 00:40:35.995

Um, how is that then communicated

905  
00:40:35.995 --> 00:40:37.155  
throughout your organization?

906  
00:40:37.495 --> 00:40:38.595  
And again, I go back

907  
00:40:38.595 --> 00:40:40.275  
to the safety management sys, uh, manual.

908  
00:40:40.345 --> 00:40:41.555  
It's a great read actually,

909  
00:40:41.905 --> 00:40:43.755  
because it spells it out for you.

910  
00:40:43.855 --> 00:40:47.355  
So there's a template right here on the specific things

911  
00:40:47.385 --> 00:40:50.275  
that are necessary to have a good system, um,

912  
00:40:50.755 --> 00:40:52.355  
specifically on the training piece,

913  
00:40:52.775 --> 00:40:54.555  
organizational safety policies

914  
00:40:54.555 --> 00:40:57.115  
and safety objectives, organizational roles

915  
00:40:57.135 --> 00:41:00.275  
and responsibilities related to safety, basic safety,

916  
00:41:00.305 --> 00:41:04.115  
risk management, uh, principles, safety reporting systems,

917  
00:41:04.215 --> 00:41:06.635  
as we've mentioned, the organization's,

918  
00:41:06.795 --> 00:41:08.755

SMS processes and procedures.

919

00:41:09.255 --> 00:41:10.995

So you're supposed to educate people

920

00:41:11.135 --> 00:41:12.235

on what all these things are.

921

00:41:12.335 --> 00:41:16.435

And then lastly, human factors, which to me, I liked that I,

922

00:41:16.575 --> 00:41:18.155

I'm the who, the authors of

923

00:41:18.155 --> 00:41:20.395

that document really did a terrific job,

924

00:41:20.455 --> 00:41:23.275

and I think Sonny would agree, um, you know,

925

00:41:23.275 --> 00:41:24.995

this is the book that you want to have on your desk

926

00:41:24.995 --> 00:41:26.675

because it spells it out quite clearly

927

00:41:27.375 --> 00:41:28.755

and why these things are important.

928

00:41:29.135 --> 00:41:32.235

Uh, if we don't consider the human domain,

929

00:41:33.195 --> 00:41:35.685

then I think you're really overlooking the,

930

00:41:35.705 --> 00:41:37.045

the linchpin in all of this.

931

00:41:37.465 --> 00:41:41.005

You've got to make the connection to your, uh, your people

932  
00:41:41.705 --> 00:41:43.925  
and convince them that this is important,

933  
00:41:44.115 --> 00:41:46.645  
that there is value in doing it.

934  
00:41:47.145 --> 00:41:51.845  
Um, and there, uh, potentially is some reward in doing it.

935  
00:41:51.985 --> 00:41:55.445  
And I know some organizations have actually done some sort

936  
00:41:55.445 --> 00:41:59.125  
of in, uh, incentives to try to encourage people

937  
00:41:59.225 --> 00:42:00.525  
to report more freely

938  
00:42:00.785 --> 00:42:04.805  
and, uh, get that culture engine really, uh, chugging along.

939  
00:42:05.145 --> 00:42:09.445  
Um, Sonny, do you have any, any last comments about, uh, uh,

940  
00:42:09.505 --> 00:42:10.925  
the training and education piece?

941  
00:42:12.095 --> 00:42:13.455  
I think yeah, the, the training

942  
00:42:13.455 --> 00:42:15.855  
and education piece, you, you, you, you nailed it, right on

943  
00:42:15.855 --> 00:42:18.535  
that last comment, especially on human factors training.

944  
00:42:18.955 --> 00:42:20.975  
You know, it's a weak area out there that, you know,

945  
00:42:20.975 --> 00:42:23.015

we assume that people understand human factors,

946

00:42:23.155 --> 00:42:24.415

and so we just say human factors

947

00:42:24.435 --> 00:42:26.855

and we list maybe the dirty dozen and then go and move on.

948

00:42:27.465 --> 00:42:30.775

Human factors is a deep topic, you know, anything

949

00:42:30.775 --> 00:42:33.015

that affects our performance is human factors.

950

00:42:33.515 --> 00:42:35.055

You know, when you think about when you look at your

951

00:42:35.255 --> 00:42:37.455

aircraft before you walk on board, uh, if

952

00:42:37.455 --> 00:42:40.055

that generator's not behaving properly, we take it off

953

00:42:40.055 --> 00:42:41.455

because it's outta tolerance,

954

00:42:41.475 --> 00:42:44.615

but the human, we're a component on the aircraft,

955

00:42:44.715 --> 00:42:46.255

but if we're outta tolerance that day,

956

00:42:46.255 --> 00:42:47.575

does somebody take us offline?

957

00:42:47.955 --> 00:42:49.975

How do we know we're off tolerance a little bit?

958

00:42:49.975 --> 00:42:51.175

What is the tolerance, right?

959

00:42:51.715 --> 00:42:52.855

So there, there's a lot of things

960

00:42:52.855 --> 00:42:54.415

that go into our human performance,

961

00:42:54.435 --> 00:42:57.655

and I think that part of SMS training has

962

00:42:57.655 --> 00:43:00.935

to be a deep dive into what affects our performance.

963

00:43:01.075 --> 00:43:02.415

And if you know these things, then

964

00:43:02.415 --> 00:43:03.455

that answers the other question,

965

00:43:03.475 --> 00:43:05.015

why should we do SMS anyway?

966

00:43:05.285 --> 00:43:07.415

Well, if you wanna be a top performer every day,

967

00:43:07.685 --> 00:43:09.615

then you need to be an expert on human factors.

968

00:43:09.675 --> 00:43:11.015

If you're an expert on human factors,

969

00:43:11.045 --> 00:43:14.015

then you'll know when you're not on your optimum a game,

970

00:43:14.075 --> 00:43:16.775

and then you can report that through the SMS to say, my,

971

00:43:16.875 --> 00:43:18.055

my game is not here today

972

00:43:18.055 --> 00:43:22.335



because, uh, fatigue, pressure, stress, uh,

973

00:43:22.435 --> 00:43:23.935

too many turns in one day,

974

00:43:24.235 --> 00:43:26.095

too much expectation for management.

975

00:43:26.105 --> 00:43:27.415

These are the kind of things we need

976

00:43:27.415 --> 00:43:29.295

to see going into the SMS so

977

00:43:29.295 --> 00:43:32.655

that we understand why the human factor is not on the A game

978

00:43:32.745 --> 00:43:34.535

every day, every moment of the day.

979

00:43:34.955 --> 00:43:37.095

And, and that would be a good reason why to do it,

980

00:43:37.095 --> 00:43:38.735

because it'll, it'll improve your life.

981

00:43:39.115 --> 00:43:40.215

You know, if you don't like your job

982

00:43:40.215 --> 00:43:42.095

because it's too stressful, too much pressure,

983

00:43:42.115 --> 00:43:44.575

too much fatigue, too much expectation for management,

984

00:43:44.875 --> 00:43:46.175

use your SMS to make it better,

985

00:43:46.355 --> 00:43:48.295

that's affecting your performance, right?

986

00:43:48.675 --> 00:43:51.095

So there, there's different ways to, to go about this.

987

00:43:52.015 --> 00:43:55.135

I, I'd like to add one thing, one point of discussion, uh,

988

00:43:55.275 --> 00:43:56.535

is safety promotion.

989

00:43:56.765 --> 00:44:00.255

When you are dealing with the matrixed organizations, uh,

990

00:44:00.395 --> 00:44:03.495

or vendors for, for an OEM that has, uh,

991

00:44:03.645 --> 00:44:06.175

that participated in, uh, in flight test, uh,

992

00:44:07.295 --> 00:44:12.235

how do you promote, uh, the SMS with those organizations?

993

00:44:12.935 --> 00:44:14.555

Uh, for example, you know,

994

00:44:14.575 --> 00:44:16.995

I'm involved in organ in an organization that is, uh,

995

00:44:16.995 --> 00:44:19.875

matrixed and, uh, many of the companies

996

00:44:20.075 --> 00:44:23.395

that are involved in, in, in our, uh, program, uh,

997

00:44:23.395 --> 00:44:26.395

have their own SMS or, you know, their, their test pilots

998

00:44:26.395 --> 00:44:28.475

and flight test engineers from their organization,

999

00:44:28.735 --> 00:44:30.635

and there's two or three of them involved.

1000

00:44:30.825 --> 00:44:32.565

Then there's a ma, the MRO

1001

00:44:32.835 --> 00:44:35.005

that is involved also in modifying

1002

00:44:35.005 --> 00:44:38.285

and maintaining our airplane, um, or our fleet.

1003

00:44:39.145 --> 00:44:42.585

Uh, how do you then promote, uh,

1004

00:44:43.095 --> 00:44:45.345

through those organizations what that is a challenge

1005

00:44:45.615 --> 00:44:48.745

because they have their own SMS, now you're trying to impose

1006

00:44:49.395 --> 00:44:51.825

yours, or let's not call it imposed,

1007

00:44:51.845 --> 00:44:55.865

but that try trying to, to promote, uh, yours versus theirs.

1008

00:44:56.645 --> 00:45:00.785

Um, it, it takes a little bit of finesse, uh, in manage

1009

00:45:01.535 --> 00:45:03.665

that, uh, by the, by the safety officer

1010

00:45:03.685 --> 00:45:06.145

or the management of the company to do,

1011

00:45:06.165 --> 00:45:10.265

to get those people in into your SMS for example.

1012

00:45:10.285 --> 00:45:11.985

You walk in, in an organization

1013

00:45:12.845 --> 00:45:16.305

and, uh, for example, in an MRO, uh,

1014

00:45:16.315 --> 00:45:18.385

where they're modifying the airplane, and,

1015

00:45:18.405 --> 00:45:21.505

and it's not our company that's doing it, we contracted

1016

00:45:21.505 --> 00:45:22.745

that out to do that.

1017

00:45:23.205 --> 00:45:25.145

So you, so you walk in and say,

1018

00:45:25.245 --> 00:45:28.675

and say, here's an our SMS manual, um,

1019

00:45:29.055 --> 00:45:30.635

and they say, well, here's ours.

1020

00:45:31.935 --> 00:45:35.195

Uh, so which one do you use? Uh, which one is better?

1021

00:45:35.375 --> 00:45:36.715

Uh, it's a challenge

1022

00:45:37.015 --> 00:45:38.435

and it's, it's, uh, I think

1023

00:45:38.435 --> 00:45:40.595

that we could just probably spend some time,

1024

00:45:40.895 --> 00:45:44.195

if there's any ideas out there, um, certainly can, uh,

1025

00:45:44.195 --> 00:45:46.515

contribute to the discussion that, uh, they're welcomed.

1026

00:45:47.015 --> 00:45:48.015

But it's a challenge,

1027

00:45:49.245 --> 00:45:50.245

Most definitely.

1028

00:45:50.435 --> 00:45:52.975

And, and Sonny, I, I so very look forward to your,

1029

00:45:53.285 --> 00:45:55.735

your research work on emotional intelligence.

1030

00:45:56.315 --> 00:45:58.815

Uh, I know several folks in the industry are, are,

1031

00:45:59.115 --> 00:46:03.175

are really looking hard at that with biases, um,

1032

00:46:03.675 --> 00:46:04.895

and diversity inclusion

1033

00:46:05.515 --> 00:46:08.095

and so many other things that, that roll into this.

1034

00:46:08.875 --> 00:46:11.085

Um, I like to, you know, try

1035

00:46:11.085 --> 00:46:12.285

to keep things simple for folks.

1036

00:46:12.385 --> 00:46:15.885

And, and to me that psychological safety just makes such

1037

00:46:15.885 --> 00:46:19.725

good sense to try to, um, uh, pursue that so

1038

00:46:19.725 --> 00:46:23.165

that people feel number one, safe and doing their jobs.

1039

00:46:23.665 --> 00:46:27.605

And number two, um, feel like they really are part

1040

00:46:27.605 --> 00:46:29.125  
of a larger safety system.

1041

00:46:29.945 --> 00:46:32.605  
And explain to them how that works.

1042

00:46:33.145 --> 00:46:36.885  
You know, interestingly, um, we're pursuing a voluntary, uh,

1043

00:46:36.985 --> 00:46:41.005  
an accepted program with the FAA on a voluntary, uh, uh,

1044

00:46:41.005 --> 00:46:42.245  
safety management system.

1045

00:46:42.545 --> 00:46:45.325  
And this gets to, uh, one of our questions in the, in the q

1046

00:46:45.325 --> 00:46:47.725  
and a, so, we'll, I'll, I'll just, uh,

1047

00:46:48.275 --> 00:46:49.525  
play this out a little bit here.

1048

00:46:49.945 --> 00:46:53.645  
Um, the, uh,

1049

00:46:55.105 --> 00:46:58.645  
method in which we, you approach trying to, uh, uh,

1050

00:46:58.645 --> 00:47:01.435  
establish this culture, um,

1051

00:47:01.695 --> 00:47:04.035  
in my view can be measured.

1052

00:47:04.495 --> 00:47:05.995  
And that was the specific question.

1053

00:47:05.995 --> 00:47:09.195

And how, how do you get this, um, this trust

1054

00:47:09.415 --> 00:47:11.595

and this willingness, uh, and,

1055

00:47:11.655 --> 00:47:13.395

and further, how do you, how do you measure it?

1056

00:47:13.395 --> 00:47:16.195

Well, survey now, that's arguably part

1057

00:47:16.195 --> 00:47:17.875

of the safety assurance component.

1058

00:47:18.895 --> 00:47:23.285

Um, but to me, I like to see

1059

00:47:24.055 --> 00:47:28.885

these, um, uh, surveys being conducted ahead

1060

00:47:28.885 --> 00:47:30.285

of, of the auditing process.

1061

00:47:30.995 --> 00:47:32.245

That way the, the auditor

1062

00:47:32.385 --> 00:47:35.845

and the safety manager have some actionable intelligence

1063

00:47:36.425 --> 00:47:39.045

to look at as part of that review.

1064

00:47:39.745 --> 00:47:41.805

Um, you, you may not like what you hear,

1065

00:47:41.865 --> 00:47:45.245

but it gives you something to go on in terms of

1066

00:47:45.245 --> 00:47:47.925

how people feel about the system.

1067  
00:47:48.625 --> 00:47:51.845  
And, um, when, when you do those surveys

1068  
00:47:51.945 --> 00:47:54.405  
and you treat them the right way, um,

1069  
00:47:55.025 --> 00:47:56.125  
and have this information

1070  
00:47:56.125 --> 00:47:58.285  
and provide them the feedback, obviously it's supposed

1071  
00:47:58.285 --> 00:47:59.565  
to be anonymous and you wanna make

1072  
00:47:59.565 --> 00:48:00.685  
sure that it stays that way.

1073  
00:48:01.305 --> 00:48:03.005  
Um, it can be very, very powerful.

1074  
00:48:04.015 --> 00:48:07.635  
Uh, rod, any, any question, any, uh, thoughts on, on that?

1075  
00:48:07.755 --> 00:48:09.635  
I know that I jumped over to safety assurance a little bit

1076  
00:48:09.635 --> 00:48:11.995  
here, but that was, uh, Martin's question about, um,

1077  
00:48:12.575 --> 00:48:14.235  
you know, sparking the interest and,

1078  
00:48:14.735 --> 00:48:16.835  
and, uh, somebody else asked about, uh,

1079  
00:48:16.835 --> 00:48:18.515  
measuring trust and this willingness.

1080  
00:48:20.225 --> 00:48:24.835



Well, you know, uh, trust, uh, is cannot be assumed.

1081

00:48:24.895 --> 00:48:25.995

You have to develop it.

1082

00:48:26.095 --> 00:48:28.515

And so the credibility factor is,

1083

00:48:28.535 --> 00:48:30.075

is the one that that counts there.

1084

00:48:30.895 --> 00:48:31.955

So if you, if you,

1085

00:48:31.975 --> 00:48:34.795

if you wanna develop trust in an organization, you have to,

1086

00:48:34.795 --> 00:48:36.155

uh, you have to be credible

1087

00:48:36.535 --> 00:48:40.075

and you have to be, uh, able to, uh, to promote it.

1088

00:48:40.335 --> 00:48:43.355

And, uh, you know, I can't say anymore more than that,

1089

00:48:43.495 --> 00:48:45.115

but trust is not easy to get.

1090

00:48:46.225 --> 00:48:49.765

You can't just, uh, just slap on a label on, on something

1091

00:48:49.765 --> 00:48:50.765

and expect it to work.

1092

00:48:51.895 --> 00:48:54.835

Um, it, it requires, uh, like you say, survey,

1093

00:48:55.335 --> 00:48:56.995

uh, uh, audits.

1094

00:48:57.395 --> 00:48:59.715

I mean, there's internal audits and, and external audits.

1095

00:48:59.715 --> 00:49:03.635

Uh, you know what, what I do is, um, I do a third,

1096

00:49:03.825 --> 00:49:07.715

what I called a third party audit with, where I come in

1097

00:49:07.715 --> 00:49:10.475

as a complete stranger as my organization

1098

00:49:10.575 --> 00:49:11.675

and just tell the truth.

1099

00:49:12.785 --> 00:49:15.205

And I went in into an organization

1100

00:49:15.345 --> 00:49:18.085

and, uh, we majored safety culture and, uh,

1101

00:49:18.105 --> 00:49:20.005

and it didn't come out the best.

1102

00:49:20.945 --> 00:49:24.085

And the CEO was very surprised, which is,

1103

00:49:24.085 --> 00:49:25.645

which is just meets the purpose

1104

00:49:25.745 --> 00:49:27.365

of the audit and tell 'em the truth.

1105

00:49:27.875 --> 00:49:30.895

Yeah. Uh, so

1106

00:49:32.715 --> 00:49:33.715

Absolutely. Um,

1107

00:49:33.715 --> 00:49:35.235

and then just one final comment.

1108

00:49:35.395 --> 00:49:37.195

I, I mentioned this voluntary SMS

1109

00:49:37.575 --> 00:49:42.395

and gaining FAA acceptance, I use those words carefully, um,

1110

00:49:43.675 --> 00:49:47.655

be because it, um, the, the NAS 99 27 standard,

1111

00:49:48.105 --> 00:49:50.695

which is also available on the flight test safety.org

1112

00:49:50.805 --> 00:49:54.975

website underneath the SMS tab, under resources, um,

1113

00:49:56.225 --> 00:49:59.525

that's the current standard in use with the FAA for those

1114

00:50:00.725 --> 00:50:02.605

and manufacturing organizations that want

1115

00:50:02.605 --> 00:50:07.245

to pursue an fa accepted program, uh, that is aligned

1116

00:50:07.245 --> 00:50:10.125

to part five and IKO annex 19.

1117

00:50:10.705 --> 00:50:13.805

So you, you basically get all of that rolled into one.

1118

00:50:14.385 --> 00:50:15.925

Um, um,

1119

00:50:16.065 --> 00:50:18.165

and there's only a couple of companies that have,

1120

00:50:19.155 --> 00:50:20.405

have this already done.

1121  
00:50:21.065 --> 00:50:25.285  
Um, and those company safety officers are more than willing

1122  
00:50:25.345 --> 00:50:27.885  
to, uh, to discuss this if,

1123  
00:50:27.905 --> 00:50:30.045  
if your company has an interest in pursuing this.

1124  
00:50:30.745 --> 00:50:33.845  
But it, it puts a little skin in the game, in my view, to,

1125  
00:50:33.945 --> 00:50:35.165  
uh, to pursue this.

1126  
00:50:35.505 --> 00:50:38.245  
Now, whether it it's mandated in the future,

1127  
00:50:38.845 --> 00:50:43.725  
I think it will be, I think, um, uh, the Boeing 7 37 max is,

1128  
00:50:43.725 --> 00:50:48.005  
is providing the, um, the catalyst to

1129  
00:50:48.825 --> 00:50:51.205  
get some proposed rulemaking, um,

1130  
00:50:51.345 --> 00:50:53.525  
on the books in very near future.

1131  
00:50:53.785 --> 00:50:56.285  
Um, but what I've heard so far is it looks like, uh,

1132  
00:50:56.285 --> 00:51:00.125  
maybe part 1 35 and 1 45 will be first up in the queue for

1133  
00:51:00.645 --> 00:51:01.845  
mandatory SMS programs.

1134  
00:51:03.095 --> 00:51:06.875

Uh, sunny. Any any differing thoughts on, on those comments?

1135

00:51:07.155 --> 00:51:09.275

I know I, I'm off of script a little bit here,

1136

00:51:09.275 --> 00:51:10.315

but I just wanna make sure

1137

00:51:10.315 --> 00:51:12.035

that we're answering these questions

1138

00:51:12.035 --> 00:51:13.515

for folks while we have the opportunity.

1139

00:51:14.345 --> 00:51:17.035

Yeah, just an important thing about measuring safety

1140

00:51:17.035 --> 00:51:19.435

culture, it's, uh, surveying as part

1141

00:51:19.435 --> 00:51:21.155

of the measuring process and,

1142

00:51:21.215 --> 00:51:24.995

and safety culture is still a, a, a relatively new term.

1143

00:51:25.175 --> 00:51:26.435

It only came to be

1144

00:51:26.435 --> 00:51:27.795

after the Chernobyl accident,

1145

00:51:27.795 --> 00:51:29.915

people start talking about safety culture in the nuclear

1146

00:51:30.235 --> 00:51:31.755

industry, uh, uh, and,

1147

00:51:31.815 --> 00:51:35.155

and still, uh, you know, just, uh, this time later,

1148  
00:51:35.185 --> 00:51:38.355  
just a few decades later at most of, we're, we're trying

1149  
00:51:38.355 --> 00:51:39.955  
to understand how to measure it, but,

1150  
00:51:39.975 --> 00:51:42.075  
but the, the contemporary knowledge is

1151  
00:51:42.535 --> 00:51:43.635  
to measure safety culture.

1152  
00:51:43.735 --> 00:51:46.475  
You do have to send surveys out, you do have

1153  
00:51:46.475 --> 00:51:47.635  
to interview the people.

1154  
00:51:48.055 --> 00:51:49.675  
You do have to ensure there's a structure.

1155  
00:51:49.775 --> 00:51:51.835  
And that structure we're talking about is SMS,

1156  
00:51:51.985 --> 00:51:54.795  
that SMS structure, that organizational structure

1157  
00:51:54.795 --> 00:51:59.275  
that allows an organization to behave, um, uh, safely.

1158  
00:51:59.935 --> 00:52:01.555  
And, and then that last word I just used,

1159  
00:52:01.575 --> 00:52:02.635  
behave, behavioral.

1160  
00:52:03.735 --> 00:52:06.915  
The, the assessor needs to watch what's going on.

1161  
00:52:07.415 --> 00:52:10.195

And, and a and a good assessor and an experienced assessor,

1162

00:52:10.195 --> 00:52:11.475

and I'm sure Turbo has done this,

1163

00:52:11.495 --> 00:52:13.195

and all the auditors on here have done this.

1164

00:52:13.455 --> 00:52:15.275

You know, you, you go audit organization

1165

00:52:15.275 --> 00:52:17.275

or assess them, they'll say, well, here, I want you

1166

00:52:17.275 --> 00:52:18.475

to follow these two pilots.

1167

00:52:18.595 --> 00:52:20.235

Here's a couple of maintenance professionals.

1168

00:52:20.235 --> 00:52:21.515

Here's a scheduler dispatcher.

1169

00:52:21.515 --> 00:52:24.335

They're giving you the best, so you're gonna watch them.

1170

00:52:24.925 --> 00:52:26.255

Okay, fine. But then you say,

1171

00:52:26.335 --> 00:52:27.375

I wanna watch other people too.

1172

00:52:27.675 --> 00:52:28.575

And you, and you're gonna watch

1173

00:52:28.575 --> 00:52:29.615

them when they're not really knowing.

1174

00:52:29.615 --> 00:52:30.615

They're being watched sometimes,

1175  
00:52:30.875 --> 00:52:33.055  
and you're gonna see the real behavior and,

1176  
00:52:33.055 --> 00:52:35.015  
and that actual behavior is what you're looking for

1177  
00:52:35.315 --> 00:52:38.695  
to see if the culture is really ingrained or,

1178  
00:52:38.715 --> 00:52:40.215  
or if it's still just window dressing.

1179  
00:52:40.505 --> 00:52:43.135  
Right? You know, Sonny, you mentioned something there, uh,

1180  
00:52:43.165 --> 00:52:45.495  
that, that, that I wanna highlight that you mentioned.

1181  
00:52:45.495 --> 00:52:49.375  
Maintenance. Uh, you know, we, we may be guilty of, uh,

1182  
00:52:49.695 --> 00:52:52.695  
focusing on a flight test test pilots, engineers, managers,

1183  
00:52:53.155 --> 00:52:55.695  
and, uh, not bringing in the maintenance folks,

1184  
00:52:55.715 --> 00:52:58.935  
but the maintenance folks are just as much a part

1185  
00:52:58.935 --> 00:53:01.535  
of the SMS system and if not more so

1186  
00:53:01.535 --> 00:53:03.575  
because they gave you the airplane that you're gonna fly

1187  
00:53:03.675 --> 00:53:05.415  
or whatever vehicle you're testing.

1188  
00:53:06.115 --> 00:53:08.775



Um, and so they have to be just as part,

1189

00:53:08.835 --> 00:53:11.815

and I think that maybe we're not bringing them in

1190

00:53:11.955 --> 00:53:14.175

enough, the maintenance folks,

1191

00:53:14.915 --> 00:53:15.975

Uh, you're absolutely right.

1192

00:53:16.075 --> 00:53:17.775

We, we've seen that as a, a trend

1193

00:53:17.795 --> 00:53:20.095

for a long time in the business aviation industry.

1194

00:53:20.595 --> 00:53:22.535

And, um, as a result, um,

1195

00:53:23.435 --> 00:53:24.735

and as a response, a lot

1196

00:53:24.735 --> 00:53:26.725

of maintenance professionals have not only stepped up

1197

00:53:26.725 --> 00:53:29.445

but become leaders, uh, of the SMS and,

1198

00:53:29.465 --> 00:53:30.605

and safety promotion.

1199

00:53:31.105 --> 00:53:33.405

Um, you know, so they, they, they have a lot

1200

00:53:33.405 --> 00:53:36.125

of their already skills that they've been using for,

1201

00:53:36.145 --> 00:53:38.525

for decades, like the, the, the cast system,

1202  
00:53:38.615 --> 00:53:41.845  
which is a lot like SMS, it's just a, a different way

1203  
00:53:41.845 --> 00:53:43.765  
of looking at way to track and,

1204  
00:53:43.765 --> 00:53:46.485  
and, uh, manage, um, uh, maintenance issues.

1205  
00:53:47.065 --> 00:53:48.765  
But, um, yeah, the, the, the whole idea

1206  
00:53:48.765 --> 00:53:52.165  
of measuring safety culture, it is, is a complex effort,

1207  
00:53:52.785 --> 00:53:54.605  
but it, it makes sense when you look at it.

1208  
00:53:54.635 --> 00:53:56.845  
It's, it's multidimensional multi lenses.

1209  
00:53:57.385 --> 00:53:59.565  
You, you want to see how an organization's doing,

1210  
00:53:59.625 --> 00:54:02.605  
and then when you get that snapshot, it's a climate

1211  
00:54:03.155 --> 00:54:05.165  
that you get that snapshot's called a climate.

1212  
00:54:05.595 --> 00:54:06.645  
Your culture is like

1213  
00:54:06.645 --> 00:54:09.365  
what Turbo was talking about is your overarching like,

1214  
00:54:09.365 --> 00:54:11.125  
personality of the organization,

1215  
00:54:11.825 --> 00:54:14.925

but how that that organization is behaving at the moment is

1216

00:54:14.925 --> 00:54:16.565  
the safety climate, which,

1217

00:54:16.565 --> 00:54:18.885  
which feeds into the overall safety

1218

00:54:18.885 --> 00:54:21.045  
culture, if that makes sense.

1219

00:54:22.035 --> 00:54:24.645  
Yeah. Sonny, thanks for, for bringing up the,

1220

00:54:24.705 --> 00:54:26.845  
the distinction between climate and culture.

1221

00:54:27.505 --> 00:54:29.445  
And again, that's why, uh, consistent

1222

00:54:29.945 --> 00:54:31.925  
and repetitive surveying

1223

00:54:31.925 --> 00:54:33.605  
and auditing, I think really plays in,

1224

00:54:33.605 --> 00:54:34.725  
because now you can trend.

1225

00:54:35.305 --> 00:54:36.485  
And the problem is, is,

1226

00:54:36.625 --> 00:54:38.565  
and we all face these, these issues

1227

00:54:38.655 --> 00:54:41.365  
where we have organizational changes, uh,

1228

00:54:41.365 --> 00:54:43.845  
perhaps we don't do change management planning as,

1229  
00:54:43.865 --> 00:54:47.205  
as robustly as we should, and this becomes very disruptive.

1230  
00:54:47.785 --> 00:54:49.405  
So how do you snap chalk lines?

1231  
00:54:49.705 --> 00:54:52.885  
Um, I know in my previous life, in the Navy Marine Corps

1232  
00:54:52.945 --> 00:54:55.485  
and Turbo could chime in as well as Rod.

1233  
00:54:56.145 --> 00:54:58.405  
Um, you know, we have very high turnover

1234  
00:54:59.065 --> 00:55:00.365  
in senior leadership position,

1235  
00:55:01.185 --> 00:55:05.125  
and we see problems when, uh, you know,

1236  
00:55:05.145 --> 00:55:07.285  
the incoming leader throws the helm over.

1237  
00:55:07.985 --> 00:55:09.605  
And, and if this happens too many times,

1238  
00:55:09.795 --> 00:55:11.565  
then obviously it really throws the

1239  
00:55:11.565 --> 00:55:12.805  
organization in a disarray.

1240  
00:55:13.025 --> 00:55:16.125  
So it's, it's helpful to really get everybody on the same

1241  
00:55:16.125 --> 00:55:18.805  
sheet of music, uh, establish those strategic goals

1242  
00:55:19.315 --> 00:55:22.405

that are, that you, that you have in cons, uh, in consensus

1243

00:55:23.145 --> 00:55:26.005

so that you can maintain good continuity and,

1244

00:55:26.065 --> 00:55:28.565

and really see the market improvements that you're after.

1245

00:55:29.385 --> 00:55:31.165

Um, Maria asked about the book,

1246

00:55:31.165 --> 00:55:34.845

and I'm not sure we've cited a book except for, uh,

1247

00:55:35.105 --> 00:55:39.165

the safety management manual, the IKO, um, 98 59.

1248

00:55:39.625 --> 00:55:42.245

Now this is the 2018, uh, edition four,

1249

00:55:42.585 --> 00:55:46.685

and this is available free and on both we Vern's website

1250

00:55:47.185 --> 00:55:49.205

and the flight test safety.org website

1251

00:55:49.205 --> 00:55:50.365

under the resources tab.

1252

00:55:51.025 --> 00:55:53.685

So, you know, I've been trying to populate,

1253

00:55:54.105 --> 00:55:57.405

as I'm sure Sonny has, uh, that repository so

1254

00:55:57.405 --> 00:55:59.605

that you have all these reference documents at your

1255

00:55:59.605 --> 00:56:04.005

fingertips, um, in PDF format, so that, uh, you can,

1256

00:56:04.005 --> 00:56:06.125

you can share those freely as you wish.

1257

00:56:06.975 --> 00:56:09.195

All right, so let me mark those questions as done.

1258

00:56:10.165 --> 00:56:15.115

Um, uh, Jeff asked about, uh,

1259

00:56:15.525 --> 00:56:17.515

stamp and STPA, which is great,

1260

00:56:17.515 --> 00:56:19.475

and I, uh, thanks Jeff for, for the question.

1261

00:56:19.715 --> 00:56:21.875

'cause you know that I'm a real fan of, uh,

1262

00:56:21.875 --> 00:56:25.245

systems theoretic process, process analysis, um, and, and,

1263

00:56:25.505 --> 00:56:29.405

and trying to advance our hazard identification tools.

1264

00:56:30.145 --> 00:56:33.005

And, um, I'm, uh, sunny for your benefit.

1265

00:56:33.515 --> 00:56:36.165

Last year for our virtual workshop flight test safety

1266

00:56:36.405 --> 00:56:38.245

workshop, we just did purely systems

1267

00:56:38.275 --> 00:56:39.885

theoretic process analysis.

1268

00:56:39.945 --> 00:56:41.085

Now, this is Dr.

1269

00:56:41.165 --> 00:56:45.525

Nancy Levison and Dr. John Thomas from MIT, uh, that have,

1270

00:56:45.525 --> 00:56:47.045

have really carried the torch on this.

1271

00:56:47.105 --> 00:56:49.485

It was Nancy's, uh, brainchild.

1272

00:56:49.785 --> 00:56:54.085

But, um, I think it's, it's really an outstanding, um,

1273

00:56:54.395 --> 00:56:56.525

methodology for hazard identification

1274

00:56:56.745 --> 00:56:59.725

and looking at things from a systems perspective in the

1275

00:56:59.845 --> 00:57:00.925

interactions with humans.

1276

00:57:01.745 --> 00:57:05.685

Um, it it goes beyond our legacy 1950,

1277

00:57:06.005 --> 00:57:10.045

1960s vintage hazard identification tools, uh, you know,

1278

00:57:10.045 --> 00:57:12.125

the famis and the, the fishbone

1279

00:57:12.225 --> 00:57:13.645

and all these other, other tools

1280

00:57:13.645 --> 00:57:17.285

that are still commonly used and still have value, uh,

1281

00:57:17.285 --> 00:57:19.805

because most folks are familiar with them.

1282

00:57:20.385 --> 00:57:22.285

Um, and of course, change is always hard,

1283  
00:57:22.385 --> 00:57:26.005  
but I would encourage people to take a closer look at that.

1284  
00:57:26.505 --> 00:57:29.085  
Um, will it be included in SMS documentation?

1285  
00:57:29.505 --> 00:57:31.085  
The way I look at it is

1286  
00:57:31.885 --> 00:57:35.005  
I blend it in safety promotion activity and the training

1287  
00:57:35.005 --> 00:57:36.085  
and education piece.

1288  
00:57:36.665 --> 00:57:41.565  
So when we do lunch and learns, um, I, I try to, um,

1289  
00:57:42.015 --> 00:57:46.165  
offer differing and maybe arguably

1290  
00:57:46.685 --> 00:57:48.725  
a more advanced safety science type of

1291  
00:57:49.325 --> 00:57:51.005  
subjects into these sessions

1292  
00:57:51.005 --> 00:57:55.205  
where we can just have a nice informal, uh, lesson on

1293  
00:57:55.435 --> 00:57:59.445  
what does STPA and stamp and what c what can they do for us?

1294  
00:58:00.025 --> 00:58:01.965  
And that's how I think you build the coalition

1295  
00:58:01.965 --> 00:58:04.965  
of the willing and build this interest in the system.

1296  
00:58:05.385 --> 00:58:08.845



And when you couch it that way, people go, oh, you know,

1297

00:58:08.865 --> 00:58:09.925

I'm starting to get the idea

1298

00:58:09.925 --> 00:58:11.405

behind the safety management system

1299

00:58:11.985 --> 00:58:15.405

and safety promotion specifically, I'm on board.

1300

00:58:15.945 --> 00:58:16.965

Um, and,

1301

00:58:16.965 --> 00:58:19.365

and to me, especially in engineering organizations,

1302

00:58:19.525 --> 00:58:22.085

I think this can be very powerful tool, um,

1303

00:58:22.265 --> 00:58:23.325

as well as flight test.

1304

00:58:23.345 --> 00:58:25.205

And I know that there's been some pockets

1305

00:58:25.555 --> 00:58:27.125

that have been looking at this quite closely.

1306

00:58:27.265 --> 00:58:28.965

And it's not just in aviation,

1307

00:58:29.025 --> 00:58:30.405

but also in the medical community.

1308

00:58:30.405 --> 00:58:33.885

Automotive all kind, um, uh, power generation

1309

00:58:34.515 --> 00:58:36.885

have been using STPA quite effectively.

1310  
00:58:37.545 --> 00:58:39.925  
Uh, so they find that they, they are able

1311  
00:58:39.925 --> 00:58:42.565  
to identify more hazards than the legacy system.

1312  
00:58:42.705 --> 00:58:44.605  
So Jeff, thanks for that question

1313  
00:58:44.745 --> 00:58:47.285  
and, um, I'm glad you're on board with, uh,

1314  
00:58:47.825 --> 00:58:49.045  
on this STPA journey,

1315  
00:58:49.045 --> 00:58:50.885  
and I'm hoping to see that we can get, uh,

1316  
00:58:50.885 --> 00:58:52.365  
better traction on it going forward.

1317  
00:58:54.535 --> 00:58:56.915  
Um, I think we're down to the, one

1318  
00:58:56.915 --> 00:58:58.035  
of the last questions here.

1319  
00:58:58.935 --> 00:59:01.115  
Uh, where would be a good start point?

1320  
00:59:01.115 --> 00:59:04.635  
This is, uh, coachee a good start point in

1321  
00:59:04.635 --> 00:59:05.755  
developing safety culture.

1322  
00:59:06.535 --> 00:59:10.495  
Um, be, I guess the, their organization experience is

1323  
00:59:10.495 --> 00:59:12.655

that it's an engineer oriented startup.

1324

00:59:12.925 --> 00:59:14.735

Okay. Well, you know, I I,

1325

00:59:15.575 --> 00:59:18.575

although I'm not involved in, let's say urban air mobility,

1326

00:59:19.235 --> 00:59:21.055

but I sense that there's really a rush

1327

00:59:21.145 --> 00:59:22.565

to market for these vehicles.

1328

00:59:23.505 --> 00:59:27.045

And, uh, there's already been some, uh, mishaps

1329

00:59:27.355 --> 00:59:29.285

with these vehicles now, thankfully,

1330

00:59:29.445 --> 00:59:32.925

I think there's only one recently that involved an injury.

1331

00:59:33.705 --> 00:59:35.565

Um, I don't think we have any fatalities,

1332

00:59:36.065 --> 00:59:38.605

but obviously many of us are guarded

1333

00:59:38.605 --> 00:59:40.325

because a, a lot

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00:59:40.325 --> 00:59:42.165

of these companies are bringing in

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00:59:42.515 --> 00:59:43.885

experienced flight testers.

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00:59:43.885 --> 00:59:47.315

And so now flight testers are not only trying

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00:59:47.315 --> 00:59:49.195  
to probably infuse the discipline

1338

00:59:49.495 --> 00:59:53.555  
and precise execution of test, um, in, in ways

1339

00:59:53.555 --> 00:59:54.955  
that flight testers are very good at,

1340

00:59:55.495 --> 00:59:58.115  
but also on, uh, they're also part of this culture

1341

00:59:58.785 --> 01:00:00.435  
development as well.

1342

01:00:00.575 --> 01:00:04.355  
And, and, um, with that, I, uh, I'll throw that over

1343

01:00:04.415 --> 01:00:05.955  
to maybe Sunny first

1344

01:00:06.295 --> 01:00:09.555  
and get your, your thoughts on, uh,

1345

01:00:09.915 --> 01:00:11.795  
starting from scratch on culture,

1346

01:00:12.055 --> 01:00:14.755  
how you might approach your company leadership on having

1347

01:00:14.755 --> 01:00:18.075  
that, that fierce discussion on what it takes

1348

01:00:18.135 --> 01:00:21.555  
to establish a good safety culture in the company, um,

1349

01:00:21.735 --> 01:00:25.075  
and the expectations, um, that, that come

1350

01:00:25.075 --> 01:00:27.155

with the development of, of the safety system.

1351

01:00:29.355 --> 01:00:32.645

It's a great question. Um, I, I think, um, you know,

1352

01:00:32.645 --> 01:00:34.445

you have to have structure, right?

1353

01:00:34.505 --> 01:00:36.685

So one of the elements of safety culture is you have

1354

01:00:36.685 --> 01:00:40.045

to have structure, you know, without the structure of, uh,

1355

01:00:40.065 --> 01:00:42.405

an SMS making sure the mechanisms are there,

1356

01:00:42.425 --> 01:00:43.525

and not just the SMS,

1357

01:00:43.525 --> 01:00:44.885

but your organizational structure

1358

01:00:44.885 --> 01:00:46.445

that includes the resources

1359

01:00:46.985 --> 01:00:50.005

and the clarity of, of structure to allow you to,

1360

01:00:50.145 --> 01:00:51.405

to move forward smartly.

1361

01:00:52.025 --> 01:00:53.165

You have to have structure.

1362

01:00:53.585 --> 01:00:55.405

But, so that's one thing you have to have.

1363

01:00:55.405 --> 01:00:56.405

If you don't have it, you have to

1364

01:00:56.405 --> 01:00:57.485  
start working on it immediately.

1365

01:00:58.025 --> 01:01:02.005  
Uh, but you also have to have that desire, that desire to,

1366

01:01:02.025 --> 01:01:03.885  
to, to say, I, I want to be the best.

1367

01:01:04.665 --> 01:01:06.325  
And then when you say, well, what does that mean?

1368

01:01:06.505 --> 01:01:09.365  
You know, well, what to be the best as a professional,

1369

01:01:09.595 --> 01:01:10.605  
what does that mean?

1370

01:01:11.035 --> 01:01:14.005  
What professionalism includes a strong domain of safety?

1371

01:01:14.745 --> 01:01:17.405  
You know, so you have to have that desire.

1372

01:01:17.825 --> 01:01:20.325  
So when you look at, excuse me, any kind

1373

01:01:20.325 --> 01:01:23.365  
of change management process, you heard the acronym add car,

1374

01:01:24.175 --> 01:01:26.875  
um, you know, you have to make an awareness that we need

1375

01:01:26.875 --> 01:01:27.955  
to change, right?

1376

01:01:28.455 --> 01:01:31.995  
So, so once that awareness is we, we need to change, uh,

1377

01:01:31.995 --> 01:01:33.155

and that's what we're talking about here,

1378

01:01:33.295 --> 01:01:34.715

we wanna take this first step of

1379

01:01:34.715 --> 01:01:35.915

what the first step should it be.

1380

01:01:36.375 --> 01:01:38.235

The next step in acar is desire.

1381

01:01:38.735 --> 01:01:41.155

Uh, you have to have the desire to take that next step.

1382

01:01:41.655 --> 01:01:44.555

So my, my, the quick answer to it is build the structure.

1383

01:01:45.095 --> 01:01:46.875

The tools are right there, the blueprint,

1384

01:01:47.055 --> 01:01:50.835

Tom has been talking about it, doc 98, 58 9 from iko.

1385

01:01:50.895 --> 01:01:53.395

That's, that's the blueprint for building an SMS.

1386

01:01:53.655 --> 01:01:57.155

But you have to have that desire to be a top professional

1387

01:01:57.465 --> 01:01:59.995

with a strong dimension of safety as a core value.

1388

01:02:00.065 --> 01:02:01.115

It's not your only value,

1389

01:02:01.495 --> 01:02:04.315

but we're balancing safety with, with, uh, productivity,

1390

01:02:04.695 --> 01:02:07.115

or we're balancing safety with, uh, the mission.

1391  
01:02:07.735 --> 01:02:09.755  
Um, but it has to be a core value.

1392  
01:02:10.215 --> 01:02:13.635  
So then we have to just talk about it enough to, to show

1393  
01:02:13.815 --> 01:02:15.035  
and prove to ourselves

1394  
01:02:15.335 --> 01:02:18.235  
and to our organization, our stakeholders, that it is

1395  
01:02:18.755 --> 01:02:21.165  
a desired value to protect and cherish.

1396  
01:02:21.625 --> 01:02:23.925  
So with those two things, that's your first step, if that's

1397  
01:02:23.925 --> 01:02:25.805  
to, to answer that question in, in

1398  
01:02:25.825 --> 01:02:27.165  
as brief ways, I think I can.

1399  
01:02:27.895 --> 01:02:29.955  
Hey, Sonny, before I go to, uh, rod

1400  
01:02:30.545 --> 01:02:34.275  
with a specific question related, um, on the 40 40 26,

1401  
01:02:35.195 --> 01:02:38.055  
should the safety manager get the ear

1402  
01:02:38.555 --> 01:02:42.415  
of the company president, CEO, and further during an audit?

1403  
01:02:42.415 --> 01:02:44.175  
Should the auditor interview this,

1404  
01:02:44.195 --> 01:02:45.495



the company president interview?

1405

01:02:46.825 --> 01:02:48.345

Absolutely. On both of those questions.

1406

01:02:48.725 --> 01:02:52.585

Um, it's, it's still something that's evolving in business

1407

01:02:52.585 --> 01:02:54.185

and the air charter, uh, industry,

1408

01:02:54.445 --> 01:02:56.385

but it's becoming more and more common.

1409

01:02:57.085 --> 01:02:59.145

Um, and now what, what's,

1410

01:02:59.445 --> 01:03:02.145

what's a little bit still murky is

1411

01:03:02.285 --> 01:03:03.705

who is the accountable executive?

1412

01:03:03.725 --> 01:03:05.625

Do you really think I'm gonna get to talk to the

1413

01:03:06.145 --> 01:03:07.345

CEO of Gulfstream.

1414

01:03:07.365 --> 01:03:08.785

Do you really think I'm gonna get to talk

1415

01:03:08.785 --> 01:03:09.945

to the CEO of FedEx?

1416

01:03:10.575 --> 01:03:13.465

Typically not. But you're gonna talk to an executive

1417

01:03:13.465 --> 01:03:15.985

that has that decision making power to say,

1418

01:03:16.405 --> 01:03:17.745

you can have the money you need

1419

01:03:17.745 --> 01:03:19.145

to get done what you need to get done.

1420

01:03:19.455 --> 01:03:22.865

That person's ultimately, uh, that has the authority

1421

01:03:23.325 --> 01:03:26.145

and the accountability, what goes on in

1422

01:03:26.145 --> 01:03:28.305

that specific flying organization.

1423

01:03:28.765 --> 01:03:31.665

So oftentimes on a big organization like Bank of America,

1424

01:03:31.945 --> 01:03:34.145

I don't get to talk to the Bank of America CEO,

1425

01:03:34.365 --> 01:03:37.145

but I do get to talk to the Bank of America executive that

1426

01:03:37.145 --> 01:03:38.625

that flight department reports to,

1427

01:03:38.625 --> 01:03:40.985

that has the money in hand and say, you can buy a new jet.

1428

01:03:42.485 --> 01:03:43.825

So that, that, that's that.

1429

01:03:43.845 --> 01:03:46.265

And that safety manager should have direct access.

1430

01:03:46.605 --> 01:03:48.145

And we look at it like a monthly meeting,

1431

01:03:48.335 --> 01:03:50.705

like a 30 minute hot wash, is what we call it.

1432

01:03:51.125 --> 01:03:52.825

Hey, let's get together once a month.

1433

01:03:53.075 --> 01:03:54.945

Let's talk about what's going on in the safety world.

1434

01:03:54.975 --> 01:03:57.905

That executive says, I get it. I understand. Boom.

1435

01:03:58.085 --> 01:04:00.705

And then they move on, or they have a deeper discussion.

1436

01:04:00.705 --> 01:04:02.185

That's what we used to do in the sa uh,

1437

01:04:02.265 --> 01:04:04.065

C 17 safety program management.

1438

01:04:04.305 --> 01:04:06.145

I reported to a colonel who reported to a general,

1439

01:04:06.215 --> 01:04:08.185

once a month, I met with the general one-on-one

1440

01:04:08.185 --> 01:04:11.305

for 30 minutes, and we got to do that, you know,

1441

01:04:11.305 --> 01:04:14.425

like come together with, with regard to embracing safety.

1442

01:04:14.725 --> 01:04:16.665

And sometimes the general would say, you need

1443

01:04:16.665 --> 01:04:17.665

to do more than what you're doing.

1444

01:04:18.125 --> 01:04:19.785

And and I'll say, yeah, but, you know,

1445

01:04:19.785 --> 01:04:21.705

and he goes, I know Colonel so-and-so said this,

1446

01:04:21.725 --> 01:04:23.465

but we're gonna spend some more money and make this happen.

1447

01:04:23.465 --> 01:04:24.865

Let's do it. Right,

1448

01:04:25.175 --> 01:04:29.065

because that general officer was held accountable for, for

1449

01:04:29.225 --> 01:04:32.065

what might happen if we didn't take the right next steps.

1450

01:04:34.045 --> 01:04:36.325

Excellent, Sonny, thank you for that. Like to, yeah.

1451

01:04:36.425 --> 01:04:39.005

And Rod, um, go ahead. I, I also, yeah,

1452

01:04:39.005 --> 01:04:40.925

I'd like to, I, I'd like to see if I can, uh,

1453

01:04:41.025 --> 01:04:43.125

attack 3, 3, 3 of the questions.

1454

01:04:43.185 --> 01:04:46.325

One of them being, uh, uh, standing up an organization.

1455

01:04:46.425 --> 01:04:49.005

How do you start, how do you begin with safety promotion?

1456

01:04:49.595 --> 01:04:52.805

Well, like Keith says on his question,

1457

01:04:52.925 --> 01:04:55.605

a safety promotion is, uh, top down and,

1458

01:04:55.825 --> 01:04:58.205

and, uh, yo, so you start, you start up a,

1459

01:04:58.285 --> 01:05:01.045

a new organization, a new flight test organization,

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01:05:01.185 --> 01:05:05.805

new company, uh, and, uh, if, if the c if the safety officer

1461

01:05:05.865 --> 01:05:10.245

and the CEO don't, don't have a top down, um,

1462

01:05:11.365 --> 01:05:14.585

uh, uh, policy or, or, uh,

1463

01:05:14.965 --> 01:05:19.195

or idea, then, uh, the you're dead in the water to, to begin

1464

01:05:19.195 --> 01:05:20.835

with, uh, because you can,

1465

01:05:20.935 --> 01:05:22.955

it cannot be bottoms up, you know?

1466

01:05:23.175 --> 01:05:25.035

So, so the CEO, and,

1467

01:05:25.055 --> 01:05:28.155

and this is definitely one of the things I do in an audit.

1468

01:05:28.215 --> 01:05:30.195

The first thing, one of the first things I do, I,

1469

01:05:30.315 --> 01:05:31.395

I interview the CEO

1470

01:05:31.395 --> 01:05:34.925

because I wanna get the feel from just talking

1471

01:05:35.025 --> 01:05:38.645

to him about whether he has a safety culture or not.

1472

01:05:39.545 --> 01:05:41.485

And, and if that person, he

1473

01:05:41.485 --> 01:05:45.765

or she does not, then, uh, you know, that's, that's, uh,

1474

01:05:46.265 --> 01:05:48.085

that's a dead end right there because,

1475

01:05:48.585 --> 01:05:51.965

and I tell him at the debriefing, uh, I point blank,

1476

01:05:51.965 --> 01:05:56.285

tell him, uh, um, you, you can't go anywhere

1477

01:05:56.425 --> 01:06:00.805

unless you understand this and feel this,

1478

01:06:00.915 --> 01:06:03.605

because you cannot, cannot expect anybody below you

1479

01:06:03.625 --> 01:06:04.725

to, to, to feel it.

1480

01:06:04.725 --> 01:06:07.285

If you don't, if you don't give the, uh, the, the message,

1481

01:06:08.865 --> 01:06:13.645

uh, by just talking, uh, so, so, so you can hire,

1482

01:06:14.345 --> 01:06:16.445

uh, experienced, uh, flight test pilots,

1483

01:06:16.445 --> 01:06:19.165

flight test engineers, and you, they usually come,

1484

01:06:19.225 --> 01:06:20.725

if they're experienced and they've been

1485

01:06:20.725 --> 01:06:22.845

around the flight test, they, they usually come with a,

1486

01:06:22.845 --> 01:06:23.925

with a good safety culture.

1487

01:06:24.385 --> 01:06:28.125

Um, so it's, it should be not too hard to, to maintain.

1488

01:06:28.125 --> 01:06:30.925

And this is where the promotion pillar comes in, into,

1489

01:06:30.925 --> 01:06:32.765

because now you have to

1490

01:06:33.505 --> 01:06:36.085

really focus on a promotion part at the beginning

1491

01:06:36.785 --> 01:06:39.445

to make people understand that this is not just a manual

1492

01:06:39.445 --> 01:06:41.845

that you're gonna hang on a, on a file, and that's it.

1493

01:06:41.845 --> 01:06:43.685

And you're gonna get a certificate, and that's it.

1494

01:06:44.105 --> 01:06:46.125

You have to build it from the, from the ground up,

1495

01:06:46.145 --> 01:06:47.245

but driven from the top.

1496

01:06:48.045 --> 01:06:51.065

Uh, so, so to begin an organization

1497

01:06:51.285 --> 01:06:54.385

and to develop safety culture on our organization,

1498

01:06:55.045 --> 01:06:57.985

it actually, it's a good thing that you are, that you are,

1499

01:06:58.095 --> 01:07:01.025

that you're beginning a, a, a new organization

1500

01:07:01.025 --> 01:07:04.105

because you can, you have the advantage of developing

1501

01:07:04.105 --> 01:07:05.625

that safety culture from the start.

1502

01:07:06.365 --> 01:07:08.505

And this is why it's so important to have

1503

01:07:08.745 --> 01:07:12.625

that safety officer who is, who works directly for the CEO

1504

01:07:13.045 --> 01:07:14.345

to, to develop

1505

01:07:14.445 --> 01:07:17.625

and tell the CEO what they need to do in that organization

1506

01:07:17.805 --> 01:07:19.585

to, to maintain and, and develop

1507

01:07:19.645 --> 01:07:20.865

and maintain a safety culture.

1508

01:07:21.405 --> 01:07:24.825

And to answer, answer Keith's, uh, question, okay, so

1509

01:07:24.825 --> 01:07:25.985

that's a top down program.

1510

01:07:26.085 --> 01:07:29.585

And what it, it's, so, is it, so you do safety promotion,

1511

01:07:29.645 --> 01:07:31.585

is it at the expense of the other pillars?

1512

01:07:32.245 --> 01:07:35.905



Not really. Because if you do safety promotion correctly,

1513

01:07:35.925 --> 01:07:37.945

and remember that one slide that I show you

1514

01:07:37.945 --> 01:07:41.065

with safety promotion is a blanket, it's not just a pillar

1515

01:07:41.065 --> 01:07:42.545

that you're just gonna do independently.

1516

01:07:43.005 --> 01:07:44.945

Uh, safety promotion is a blanket

1517

01:07:45.015 --> 01:07:46.665

that covers all the other pillars.

1518

01:07:47.685 --> 01:07:50.945

So what you do is, uh, is, uh, training and education.

1519

01:07:51.845 --> 01:07:54.425

It is, it's the part of promotion that you do

1520

01:07:54.445 --> 01:07:56.225

to cover the other, the other pillars.

1521

01:07:56.725 --> 01:07:58.785

And, uh, so your safety, your training

1522

01:07:58.785 --> 01:08:01.865

and education should cover the entire SMS program.

1523

01:08:02.925 --> 01:08:06.625

So, so I think I could, I, I probably addressed the, uh, two

1524

01:08:06.625 --> 01:08:08.185

or three of the questions there.

1525

01:08:09.655 --> 01:08:14.015

Absolutely. Um, so I, that gets really back to one

1526

01:08:14.015 --> 01:08:16.725

of my original comments on this is a challenge

1527

01:08:16.785 --> 01:08:18.045

for some safety managers.

1528

01:08:18.205 --> 01:08:21.485

I think that they don't have the ear of senior executive.

1529

01:08:22.185 --> 01:08:24.645

And the, again, going back to the literature,

1530

01:08:25.315 --> 01:08:27.645

it's quite specific on what the roles

1531

01:08:27.645 --> 01:08:29.365

and responsibilities are for the accountable

1532

01:08:29.365 --> 01:08:30.765

executive in your organization.

1533

01:08:31.385 --> 01:08:34.565

Now, um, the standard, uh,

1534

01:08:34.685 --> 01:08:39.645

NAS 99 27 specifically gives you an opportunity to delegate

1535

01:08:40.035 --> 01:08:41.045

that responsibility,

1536

01:08:41.065 --> 01:08:43.285

but I think you should consider that carefully.

1537

01:08:43.945 --> 01:08:45.005

Um, I,

1538

01:08:45.165 --> 01:08:48.525

I really do feel like this needs to be at the highest levels.

1539

01:08:48.825 --> 01:08:50.205

Top down has been mentioned over

1540

01:08:50.205 --> 01:08:53.485

and over again today, uh, to have the best effect.

1541

01:08:53.705 --> 01:08:56.885

And if, if, gosh, if you can get that once a month,

1542

01:08:56.985 --> 01:09:00.085

30 minutes with the big boss, fabulous.

1543

01:09:00.275 --> 01:09:01.405

That that's fantastic.

1544

01:09:02.265 --> 01:09:04.605

And I think it was also mentioned, you know, in terms

1545

01:09:04.625 --> 01:09:07.925

of the, the, the characterization of the, the person

1546

01:09:07.925 --> 01:09:11.725

that you want in the role, they need to want the job,

1547

01:09:12.305 --> 01:09:14.645

but perhaps not necessarily need the

1548

01:09:14.645 --> 01:09:16.005

job, if that makes sense.

1549

01:09:16.075 --> 01:09:19.605

They have to have the, the courageousness to be what I like

1550

01:09:19.605 --> 01:09:22.485

to call the reality department in your organization

1551

01:09:22.945 --> 01:09:25.405

and be able to tell the boss what's really going on.

1552

01:09:26.065 --> 01:09:28.325

Um, now of course, you can do that diplomatically,

1553  
01:09:28.665 --> 01:09:31.005  
and you don't wanna catch yourself flatfooted

1554  
01:09:31.005 --> 01:09:34.445  
and going, um, with a recoil that says, well,

1555  
01:09:34.585 --> 01:09:35.725  
how come you didn't fix that?

1556  
01:09:36.395 --> 01:09:39.125  
Well, one guy, one safety manager,

1557  
01:09:39.295 --> 01:09:41.445  
can't fix all the woes in an organization

1558  
01:09:41.465 --> 01:09:45.085  
and certainly can't fix the culture if it's not,

1559  
01:09:45.305 --> 01:09:46.725  
if it's not where it needs to be.

1560  
01:09:46.945 --> 01:09:50.765  
So the conversations, that's why I use the word fierce, uh,

1561  
01:09:50.765 --> 01:09:53.085  
in describing, uh, conversations sometimes

1562  
01:09:53.085 --> 01:09:55.125  
because it could get a little contentious,

1563  
01:09:55.225 --> 01:09:59.245  
but hopefully you have a receptive boss that, um,

1564  
01:09:59.545 --> 01:10:01.045  
ha has good safety sense,

1565  
01:10:01.345 --> 01:10:03.125  
and you can cite several accidents.

1566  
01:10:03.665 --> 01:10:08.285

Um, uh, Richard asked, uh, you know, how do you respond

1567

01:10:08.285 --> 01:10:09.325  
to an executive who asked

1568

01:10:09.325 --> 01:10:11.645  
how an SMS would've prevented an actual accident

1569

01:10:12.025 --> 01:10:13.645  
and asked for a specific example?

1570

01:10:14.515 --> 01:10:19.465  
Well, you know, I I I, I try to address this on,

1571

01:10:19.525 --> 01:10:20.745  
on many different levels to,

1572

01:10:20.775 --> 01:10:24.105  
because, uh, what you hear from a lot

1573

01:10:24.105 --> 01:10:27.345  
of these prominent accidents from the NTSB is, well, see,

1574

01:10:27.345 --> 01:10:29.865  
they didn't have an SMS, therefore they were unsafe.

1575

01:10:31.285 --> 01:10:33.415  
Well, I think we can all agree that just

1576

01:10:33.415 --> 01:10:35.775  
because you have an SMS doesn't mean you're safe.

1577

01:10:37.015 --> 01:10:38.475  
We want an effective

1578

01:10:38.655 --> 01:10:40.355  
and robust safety management system,

1579

01:10:40.845 --> 01:10:42.755  
which will enable better safety.

1580  
01:10:43.695 --> 01:10:47.885  
Um, and I know this is a tough conversation to have

1581  
01:10:47.885 --> 01:10:51.315  
because it's hard to prove a negative, right?

1582  
01:10:51.375 --> 01:10:55.075  
But we know that if you don't do these things, bad things,

1583  
01:10:55.815 --> 01:10:58.515  
um, are more probable in happening.

1584  
01:10:59.135 --> 01:11:03.855  
So, um, um, rod, any other thoughts on, on how to,

1585  
01:11:04.235 --> 01:11:06.855  
to, you know, convince an executive that you, you know,

1586  
01:11:06.855 --> 01:11:08.855  
an SMS is really what we need,

1587  
01:11:08.855 --> 01:11:10.695  
but it's not necessarily secret sauce.

1588  
01:11:10.995 --> 01:11:12.495  
It, it takes some skin in the game.

1589  
01:11:13.995 --> 01:11:16.485  
Well, you know, uh, it, it's, that's a hard thing,

1590  
01:11:16.505 --> 01:11:19.085  
and that's why you need to have a real good safety officer,

1591  
01:11:19.085 --> 01:11:21.805  
because it's, it's it for an nonbeliever, A CEO

1592  
01:11:21.805 --> 01:11:24.005  
that comes in and says, and says, well, you know,

1593  
01:11:24.095 --> 01:11:25.245

we've never had an accident.

1594

01:11:26.865 --> 01:11:28.235

That, I mean, that is,

1595

01:11:28.465 --> 01:11:31.315

that is the worst comment that I've ever heard.

1596

01:11:31.475 --> 01:11:34.875

And Peter Don, uh, Peter, uh, made a mention in his, uh,

1597

01:11:35.075 --> 01:11:38.915

questions here, uh, uh, you know, zero accidents, just, just

1598

01:11:38.915 --> 01:11:41.475

to say we've never had an accident doesn't mean you have a

1599

01:11:41.545 --> 01:11:43.955

safe program or, uh, a safe program.

1600

01:11:44.135 --> 01:11:48.115

Uh, so, you know, I really, uh, I really don't like to hear

1601

01:11:48.115 --> 01:11:49.435

that we've never had an accident,

1602

01:11:49.435 --> 01:11:51.155

therefore, we don't need a, this, this,

1603

01:11:51.255 --> 01:11:52.355

we don't need a safety program.

1604

01:11:53.135 --> 01:11:55.235

Um, but you need to convince 'em

1605

01:11:55.235 --> 01:11:59.315

that then an accident like the G six 50, for example, uh,

1606

01:11:59.495 --> 01:12:04.405

or others, um, cost money, not only cost money costs lives

1607

01:12:04.725 --> 01:12:05.725

'cause reputation.

1608

01:12:06.205 --> 01:12:10.045

I mean, you can lose the entire company on one accident if,

1609

01:12:10.185 --> 01:12:12.005

if that you need to convince him.

1610

01:12:12.005 --> 01:12:15.405

That's why, uh, it takes a good safety officer to try

1611

01:12:15.405 --> 01:12:16.525

to convince a nonbeliever.

1612

01:12:16.905 --> 01:12:20.685

And it has to be that, that nonbeliever, the CEO has

1613

01:12:20.685 --> 01:12:23.005

to be convinced so he can relay it down downstream.

1614

01:12:23.665 --> 01:12:27.325

Uh, and if, if he can't do that, well, you got a lot of work

1615

01:12:27.325 --> 01:12:30.125

to do, uh, to, to, to go forth,

1616

01:12:30.875 --> 01:12:32.285

because then, then you'll,

1617

01:12:32.285 --> 01:12:34.685

then you'll have a paperwork manual that sits on the shelf.

1618

01:12:35.355 --> 01:12:37.085

Yeah. Amen. Rod, go ahead, sunny.

1619

01:12:37.635 --> 01:12:40.445

Well, I, I like the question, does the SMS can,

1620

01:12:40.445 --> 01:12:41.765



the SMS prevent an accident?

1621

01:12:41.785 --> 01:12:42.885

And, and we actually kind

1622

01:12:42.885 --> 01:12:45.285

of make this phone in our workshops at Weyburn.

1623

01:12:45.545 --> 01:12:48.125

We start off each day with a, with an accident report,

1624

01:12:48.425 --> 01:12:50.245

and we say, you know, you know what everybody does?

1625

01:12:50.245 --> 01:12:51.485

They look at these accident reports

1626

01:12:51.485 --> 01:12:52.885

and go, oh, that can't happen here.

1627

01:12:53.665 --> 01:12:55.965

Not at our place. That that won't happen here.

1628

01:12:56.155 --> 01:12:57.885

Well, how do you know, right?

1629

01:12:58.625 --> 01:12:59.765

How do you know it can't happen there?

1630

01:12:59.785 --> 01:13:02.325

So what you do to answer that question is you get into

1631

01:13:02.325 --> 01:13:04.205

that finding section of the accident report,

1632

01:13:04.205 --> 01:13:05.925

and you go mining for hazards.

1633

01:13:06.195 --> 01:13:09.485

Each one of those statements has a hazard embedded into it,

1634  
01:13:09.485 --> 01:13:13.565  
whether it's pressure, stress, fatigue, complacency, uh, uh,

1635  
01:13:13.595 --> 01:13:15.005  
deviation from SOP,

1636  
01:13:15.185 --> 01:13:17.965  
and you go mining for that hazard, you extract that hazard

1637  
01:13:18.025 --> 01:13:19.485  
and you stick it into that entry point

1638  
01:13:19.485 --> 01:13:21.005  
of the safety risk management process,

1639  
01:13:21.505 --> 01:13:22.925  
and then you work it, right?

1640  
01:13:23.585 --> 01:13:25.885  
And so, if your SMS is really robust,

1641  
01:13:25.945 --> 01:13:27.725  
if your accountable executive says,

1642  
01:13:27.905 --> 01:13:29.125  
can it really prevent an accident?

1643  
01:13:29.185 --> 01:13:30.285  
Say, not only can it,

1644  
01:13:30.285 --> 01:13:32.165  
but look at this, this accident report,

1645  
01:13:32.375 --> 01:13:34.125  
we've extracted all the hazards out of it.

1646  
01:13:34.125 --> 01:13:36.325  
We put it in our SMS, and we've mitigated all those.

1647  
01:13:36.505 --> 01:13:38.125

We took an aggregate score of 23

1648

01:13:38.125 --> 01:13:39.485  
and we mitigated it down to 15.

1649

01:13:39.945 --> 01:13:41.845  
That's theore safety performance.

1650

01:13:41.985 --> 01:13:44.625  
But guess what best knowledge we got right now,

1651

01:13:45.015 --> 01:13:47.865  
that accident, that particular accident can be prevented

1652

01:13:47.865 --> 01:13:50.545  
and is being prevented here at this organization.

1653

01:13:50.935 --> 01:13:52.185  
It's not just table talk.

1654

01:13:52.255 --> 01:13:53.865  
It's not just guessing over a beer.

1655

01:13:54.365 --> 01:13:56.025  
We actually did something fundamental.

1656

01:13:56.205 --> 01:13:58.825  
We extract the hazards and work them in our SMS.

1657

01:13:59.005 --> 01:14:01.185  
We have addressed that accident report.

1658

01:14:01.455 --> 01:14:02.585  
Imagine if you did that

1659

01:14:02.585 --> 01:14:04.665  
with the accident reports over the past 20 years.

1660

01:14:04.665 --> 01:14:05.865  
There's not a lot of 'em, folks.

1661  
01:14:06.985 --> 01:14:09.525  
You just take them and you extract 'em and work 'em.

1662  
01:14:09.865 --> 01:14:12.125  
It takes work, but it's actually fun work.

1663  
01:14:12.185 --> 01:14:14.325  
It actually gets you thinking about human factors

1664  
01:14:14.425 --> 01:14:15.605  
and organizational factors.

1665  
01:14:15.745 --> 01:14:17.965  
So that's a long-winded answer to say, yes,

1666  
01:14:18.025 --> 01:14:19.885  
it can prevent accidents, and here's how.

1667  
01:14:21.235 --> 01:14:22.485  
Yeah, thank you for that, sunny.

1668  
01:14:22.585 --> 01:14:26.165  
And, you know, I, I'm, I'm not here to, to, uh, um,

1669  
01:14:26.675 --> 01:14:28.165  
blow horn for Gulf Stream,

1670  
01:14:28.185 --> 01:14:31.565  
but I mean, we, it was one of the NTSB recommendations

1671  
01:14:31.565 --> 01:14:33.525  
that we share the lessons from our accident.

1672  
01:14:33.825 --> 01:14:37.965  
And, um, I, I applaud the company for allowing me and,

1673  
01:14:37.985 --> 01:14:40.405  
and others, uh, within the organization to

1674  
01:14:41.035 --> 01:14:42.165

talk about our accident

1675

01:14:42.165 --> 01:14:43.205  
and the lessons learned so

1676

01:14:43.205 --> 01:14:44.725  
that others wouldn't make the same mistake.

1677

01:14:45.305 --> 01:14:47.525  
Um, we did not have a safety management system,

1678

01:14:47.525 --> 01:14:51.405  
and the NTSB was pretty strong in their opinion about the

1679

01:14:51.405 --> 01:14:55.365  
lack of an SMS being part of the issues that, that,

1680

01:14:55.705 --> 01:14:59.365  
you know, were part of the accident causality chain.

1681

01:14:59.865 --> 01:15:02.685  
Um, similarly, we had, uh, uh,

1682

01:15:02.685 --> 01:15:04.485  
several external reviews as well.

1683

01:15:05.345 --> 01:15:08.165  
And, uh, the, the same conclusion from some

1684

01:15:08.165 --> 01:15:09.365  
of the more prominent, uh,

1685

01:15:09.625 --> 01:15:12.045  
flight testers out there in the industry took a very close

1686

01:15:12.045 --> 01:15:14.965  
look at our, our, uh, flight testing efforts as well

1687

01:15:14.965 --> 01:15:16.325  
as our program, um,

1688  
01:15:16.385 --> 01:15:18.285  
and gave us some very, very constructive feedback.

1689  
01:15:18.385 --> 01:15:20.565  
So again, it, it can be tough.

1690  
01:15:20.595 --> 01:15:23.125  
It's, it could be, um, a tough thing to hear,

1691  
01:15:24.105 --> 01:15:26.845  
but, um, you ignore these things,

1692  
01:15:27.545 --> 01:15:29.285  
you're really exposing yourselves

1693  
01:15:29.385 --> 01:15:31.165  
to a potential catastrophe.

1694  
01:15:31.165 --> 01:15:34.525  
And that's really the cautionary tale, I think, in, um,

1695  
01:15:34.545 --> 01:15:37.605  
making and trying to convince others why this is important.

1696  
01:15:38.105 --> 01:15:39.885  
And it's really not a big cost driver.

1697  
01:15:40.575 --> 01:15:43.645  
We're here to avoid significant cost liability.

1698  
01:15:43.665 --> 01:15:47.365  
And if you look at even Exxon Valdez, the Challenger events,

1699  
01:15:47.845 --> 01:15:51.605  
I mean, these were really significant events in those

1700  
01:15:51.795 --> 01:15:55.805  
organizations, um, which I'm, I'm quite sure

1701  
01:15:55.805 --> 01:15:57.725

that they would've probably preferred to avoid.

1702

01:15:58.545 --> 01:16:00.405

Um, so we'll just leave it at that.

1703

01:16:00.825 --> 01:16:04.585

Uh, um, uh, was glad to hear

1704

01:16:04.585 --> 01:16:05.945

that we mentioned diversity inclusion,

1705

01:16:06.245 --> 01:16:09.225

and I would guess I would tell her just, uh, stay tuned, uh,

1706

01:16:09.225 --> 01:16:11.065

because the likes of Sunny Bates and,

1707

01:16:11.085 --> 01:16:15.385

and, uh, others are really, uh, diving into this.

1708

01:16:15.685 --> 01:16:18.225

And, um, obviously a little off topic for today.

1709

01:16:18.225 --> 01:16:21.105

But I just wanted to say that, uh, you know, Sonny is,

1710

01:16:21.245 --> 01:16:23.705

is obviously working on his PhD in this area, and,

1711

01:16:23.725 --> 01:16:25.145

and there's some really interesting stuff.

1712

01:16:25.525 --> 01:16:28.465

And I would say maybe let's connect, uh, Sonny with Carla.

1713

01:16:28.845 --> 01:16:30.185

Um, and we're happy to do that.

1714

01:16:30.245 --> 01:16:33.145

So again, this is part of, of sharing our, our,

1715

01:16:33.285 --> 01:16:34.625  
our wealth and, and knowledge.

1716

01:16:35.125 --> 01:16:38.735  
And, uh, it's a very, very interesting discussion.

1717

01:16:39.355 --> 01:16:41.455  
And to me, and Sonny can chime in here,

1718

01:16:41.455 --> 01:16:44.775  
but it goes back to the psychological safety that, um,

1719

01:16:45.275 --> 01:16:48.495  
and I, I agree there's a good connection that you can make,

1720

01:16:48.645 --> 01:16:51.175  
because I know that it, it can ruffle feathers

1721

01:16:51.175 --> 01:16:52.375  
to talk about diversity inclusion.

1722

01:16:52.405 --> 01:16:53.575  
It's uncomfortable for people,

1723

01:16:54.235 --> 01:16:57.775  
but if somebody that's a minority doesn't feel comfortable

1724

01:16:58.565 --> 01:17:01.735  
reporting because of their minority status,

1725

01:17:01.885 --> 01:17:03.895  
then obviously your safety system isn't being

1726

01:17:03.895 --> 01:17:05.175  
as effective as it can be.

1727

01:17:06.195 --> 01:17:08.415  
Um, senny any, any quick comments on that

1728

01:17:08.415 --> 01:17:11.525



before we, we move on to a different question?

1729

01:17:12.285 --> 01:17:13.725

J Just only that, you know, uh,

1730

01:17:13.925 --> 01:17:17.205

a a a healthy understanding of, of the application

1731

01:17:17.385 --> 01:17:19.245

and the principles of diversity, equity,

1732

01:17:19.245 --> 01:17:22.445

and inclusion, uh, in any organization can really boost the

1733

01:17:22.445 --> 01:17:23.645

culture of the organization.

1734

01:17:23.745 --> 01:17:26.685

It it's a topic that, that needs to be had,

1735

01:17:27.225 --> 01:17:28.525

uh, it's a healthy topic.

1736

01:17:28.825 --> 01:17:29.845

And, um, yeah,

1737

01:17:29.985 --> 01:17:32.325

and anybody that wants to dig into that more,

1738

01:17:32.325 --> 01:17:33.525

please feel free to reach out.

1739

01:17:35.025 --> 01:17:38.445

Um, so for now, um, I'll take a pause on,

1740

01:17:38.545 --> 01:17:40.325

on going directly to the q and a.

1741

01:17:40.585 --> 01:17:43.205

And I wanna shift to communication, if I could,

1742

01:17:43.225 --> 01:17:44.245  
for our last 20 minutes,

1743

01:17:44.555 --> 01:17:46.605  
because to me, this is so very important.

1744

01:17:46.605 --> 01:17:48.685  
And I know we, we, we anchored a bit on the training

1745

01:17:48.685 --> 01:17:52.405  
and education piece, but I, I wanted to, I know we,

1746

01:17:52.575 --> 01:17:55.365  
we've been talking about communication in, in some ways,

1747

01:17:55.425 --> 01:17:58.925  
but I wanna talk more about the formal communication, um,

1748

01:17:59.025 --> 01:18:01.965  
as it pertains to component four sub component,

1749

01:18:02.665 --> 01:18:06.365  
and get your thoughts on, you know, what is, what does good

1750

01:18:07.245 --> 01:18:09.485  
communication look like as part of your,

1751

01:18:09.515 --> 01:18:10.885  
your safety promotion efforts?

1752

01:18:10.905 --> 01:18:13.285  
And Sunny, I wanted to, you know, start with you and,

1753

01:18:13.285 --> 01:18:15.365  
and your vast, uh, auditing experience

1754

01:18:15.365 --> 01:18:16.525  
and working with different clients.

1755

01:18:17.185 --> 01:18:19.205

You know, what, what are some of the things that, you know,

1756

01:18:19.205 --> 01:18:21.485

came across to you as well that was kind of novel?

1757

01:18:21.745 --> 01:18:23.685

You know, that's a really good way to,

1758

01:18:24.385 --> 01:18:26.405

to do communication within the organization.

1759

01:18:26.475 --> 01:18:28.765

Very effective. It, it was far reaching,

1760

01:18:28.765 --> 01:18:31.245

cast a very wide net, um, and,

1761

01:18:31.385 --> 01:18:34.245

and further actually had the benefit that you were after.

1762

01:18:34.265 --> 01:18:35.605

And that is changing behaviors.

1763

01:18:36.505 --> 01:18:39.285

Yep. There, there's, um, you know, a couple way,

1764

01:18:39.785 --> 01:18:41.885

two things I think of is formal and informal.

1765

01:18:41.985 --> 01:18:43.805

So you wanna have formal communications

1766

01:18:44.065 --> 01:18:46.125

and effective informal communication.

1767

01:18:46.145 --> 01:18:48.805

So for formal communications, typically what we're looking

1768

01:18:48.805 --> 01:18:50.325

for, and this will probably resonate with most

1769  
01:18:50.325 --> 01:18:53.445  
of the audience here, that information you need to know

1770  
01:18:53.445 --> 01:18:55.285  
before you go step to do your mission, you know,

1771  
01:18:55.285 --> 01:18:56.485  
and in the Air Force, we had our,

1772  
01:18:56.585 --> 01:18:59.085  
our flight crew information file that we had to sign off.

1773  
01:18:59.085 --> 01:19:01.885  
It was a category A, if you didn't have those sign off,

1774  
01:19:01.885 --> 01:19:03.045  
you're not stepping to go fly.

1775  
01:19:03.385 --> 01:19:05.445  
If it was category B, yeah, you need to sign

1776  
01:19:05.445 --> 01:19:07.165  
that in the next 30 days, 'cause it's important,

1777  
01:19:07.225 --> 01:19:09.005  
but not so important for this next flight.

1778  
01:19:09.705 --> 01:19:12.125  
Um, so you need to have that formal way to close loop

1779  
01:19:12.125 --> 01:19:14.125  
to know that somebody received the

1780  
01:19:14.125 --> 01:19:15.805  
information and they signed it off.

1781  
01:19:16.065 --> 01:19:19.445  
Uh, most of your, your typical contemporary SMS software

1782  
01:19:19.445 --> 01:19:21.725

packages has that kind of validation.

1783

01:19:21.745 --> 01:19:24.085

So the safety officer or any manager can look

1784

01:19:24.185 --> 01:19:28.285

and say, okay, I see that, uh, 99% of not 99,

1785

01:19:28.285 --> 01:19:30.165

let's say 75% of the people have read

1786

01:19:30.185 --> 01:19:31.245

and signed this message,

1787

01:19:31.825 --> 01:19:33.885

and I need to reach out to that other 25%.

1788

01:19:34.505 --> 01:19:37.765

But even better, the, the, just

1789

01:19:37.765 --> 01:19:39.325

because somebody read something doesn't

1790

01:19:39.325 --> 01:19:40.445

mean they understood it.

1791

01:19:40.865 --> 01:19:42.725

So the more, even more contemporary

1792

01:19:42.725 --> 01:19:45.805

and progressive, uh, organizations are sending messages out

1793

01:19:45.825 --> 01:19:48.885

in an education format, so they get a message

1794

01:19:48.945 --> 01:19:50.045

and then they get a little quiz,

1795

01:19:50.305 --> 01:19:51.405

and they're so easy to build

1796

01:19:51.405 --> 01:19:53.165

with Google forms and all this kind of stuff.

1797

01:19:53.185 --> 01:19:56.005

Or even, like I said, some of the software packages, like,

1798

01:19:56.025 --> 01:19:57.725

uh, like the companies have to include,

1799

01:19:58.345 --> 01:19:59.485

you can take a quiz at the end

1800

01:19:59.485 --> 01:20:01.165

to make sure they understood the salient points.

1801

01:20:01.185 --> 01:20:02.725

So that's, that's the formal path.

1802

01:20:03.185 --> 01:20:04.405

Uh, any, anything like that.

1803

01:20:04.405 --> 01:20:06.405

And what, what goes into the formal communication?

1804

01:20:06.415 --> 01:20:09.085

We're expecting airworthiness directive service bulletins,

1805

01:20:09.645 --> 01:20:12.365

accident reports, uh, incident reports that are meaningful.

1806

01:20:12.785 --> 01:20:15.685

Any kind of industry information is coming from the outside

1807

01:20:16.025 --> 01:20:17.325

as well as from the inside.

1808

01:20:17.745 --> 01:20:20.125

So again, two dimensions, formal, informal,

1809

01:20:20.125 --> 01:20:22.645

when we're talking formal, we want to have some kind of way

1810

01:20:22.645 --> 01:20:25.325

to have a closed loop, make sure you understood the message

1811

01:20:25.745 --> 01:20:28.645

and what kind of information inside and outside information.

1812

01:20:29.145 --> 01:20:32.485

Um, so what, what are we capturing internally as hazards?

1813

01:20:32.485 --> 01:20:35.005

What is the industry capturing as external hazards?

1814

01:20:35.345 --> 01:20:38.005

You know, uh, you talk about the, the, the max program.

1815

01:20:38.145 --> 01:20:39.565

You know, like what, what's the lesson learned

1816

01:20:39.565 --> 01:20:41.285

for the whole industry of the 7, 3, 7 max?

1817

01:20:41.285 --> 01:20:42.805

You know, can we capture that?

1818

01:20:42.985 --> 01:20:44.285

Can we get in into our system?

1819

01:20:44.285 --> 01:20:46.925

Because hey, guess what, it, it could happen here.

1820

01:20:47.425 --> 01:20:51.525

Uh, and then the informal I is more of a, you know, how we,

1821

01:20:51.525 --> 01:20:53.085

how we doing things on a day-to-day basis.

1822

01:20:53.345 --> 01:20:54.845

And this gets into a cultural thing,

1823

01:20:54.845 --> 01:20:56.845

but it could be more like your, your committee meetings.

1824

01:20:57.025 --> 01:20:58.605

How are the committee meetings being run now, even though

1825

01:20:58.605 --> 01:21:00.125

that's formal, what goes on

1826

01:21:00.125 --> 01:21:02.445

during a committee is more ad hoc.

1827

01:21:02.445 --> 01:21:04.925

The, the discussion goes here, the discussion goes there,

1828

01:21:05.145 --> 01:21:06.685

but you wanna have healthy discussion.

1829

01:21:07.145 --> 01:21:09.885

So even though it's a formal setting, the, the, the,

1830

01:21:10.065 --> 01:21:11.565

the communication can be informal

1831

01:21:11.665 --> 01:21:13.485

and often should be a little bit informal.

1832

01:21:13.545 --> 01:21:15.285

So you can open up and be relaxed, have

1833

01:21:15.285 --> 01:21:16.405

that psychological safety.

1834

01:21:16.945 --> 01:21:19.605

So there's all kinds of informal communications you can

1835

01:21:19.605 --> 01:21:21.605

develop that's gonna really reflect your style

1836

01:21:21.905 --> 01:21:24.245



and your culture there and your organization.

1837

01:21:25.525 --> 01:21:28.965

I would add, uh, I would add to that, uh, you, you know,

1838

01:21:29.115 --> 01:21:31.205

there's, there's several kinds of communication.

1839

01:21:31.205 --> 01:21:34.805

You, you can have safety briefings, uh, newsletters, uh,

1840

01:21:34.805 --> 01:21:35.805

emails, et cetera.

1841

01:21:35.905 --> 01:21:37.965

Uh, and that's, that's, that's pretty standard.

1842

01:21:37.985 --> 01:21:40.285

But, uh, let me give you an example of,

1843

01:21:41.025 --> 01:21:44.565

of the com the importance of communications on, uh, on, on,

1844

01:21:44.585 --> 01:21:48.565

on particular programs where you have, um, uh,

1845

01:21:48.725 --> 01:21:49.925

inactive periods.

1846

01:21:50.305 --> 01:21:53.045

You know, and a perfect example is the one I'm

1847

01:21:53.185 --> 01:21:54.205

I'm involved with right now.

1848

01:21:54.305 --> 01:21:56.965

We have a freighter conversion where you do, uh,

1849

01:21:58.805 --> 01:22:01.145

baseline testing at the beginning, uh,

1850  
01:22:01.445 --> 01:22:04.905  
and then you, you, you stand down while the airplane is

1851  
01:22:04.905 --> 01:22:07.345  
being, uh, modified for almost a year,

1852  
01:22:08.275 --> 01:22:09.735  
and then you start up again.

1853  
01:22:10.115 --> 01:22:13.015  
So, so what do you do in the meantime?

1854  
01:22:13.125 --> 01:22:16.615  
Will the airplane is being modified with the organization?

1855  
01:22:16.615 --> 01:22:19.895  
What do, how do you keep the safety culture and,

1856  
01:22:20.035 --> 01:22:23.695  
and the communication channels, uh, open during that period?

1857  
01:22:23.915 --> 01:22:25.375  
Is it important? Yes, it is.

1858  
01:22:25.675 --> 01:22:27.615  
You don't just take the SMS

1859  
01:22:27.615 --> 01:22:29.375  
and hang it up on the wall while

1860  
01:22:29.375 --> 01:22:30.655  
the airplane's being modified.

1861  
01:22:30.995 --> 01:22:33.375  
You need to promote it. And, uh,

1862  
01:22:33.475 --> 01:22:36.775  
and so we, we need to publish those newsletters.

1863  
01:22:36.795 --> 01:22:39.055

And, and so right now, uh, our safe,

1864

01:22:39.075 --> 01:22:40.615

our safety officer is doing that.

1865

01:22:40.995 --> 01:22:44.935

So, and, and if you look at the last, if you, the,

1866

01:22:45.075 --> 01:22:47.055

the slide, the last bullet on the slide,

1867

01:22:47.055 --> 01:22:48.095

there are the protocols.

1868

01:22:49.505 --> 01:22:53.515

This is where the value of the safety officer attending, uh,

1869

01:22:53.545 --> 01:22:57.475

different safety forums can bring in to the organization.

1870

01:22:57.775 --> 01:23:01.275

And while the airplane is, is standing down in your,

1871

01:23:01.335 --> 01:23:04.275

in your idle, actually, they're writing the reports and,

1872

01:23:04.275 --> 01:23:07.125

and, and, and the reports from the baseline flight

1873

01:23:07.385 --> 01:23:09.885

and preparing the flight test plans for the next phase.

1874

01:23:10.225 --> 01:23:12.965

So there is activity, but there's all paperwork activity.

1875

01:23:13.705 --> 01:23:15.125

But you need to keep the focus,

1876

01:23:15.125 --> 01:23:16.565

especially when you're writing the

1877

01:23:16.565 --> 01:23:17.725  
test plans for the next phase.

1878

01:23:18.205 --> 01:23:20.725  
'cause that's built into the safety's built into those

1879

01:23:20.725 --> 01:23:23.245  
flight test plans with the test hazard analysis and,

1880

01:23:23.545 --> 01:23:25.365  
and risk assessments on those test plans.

1881

01:23:26.345 --> 01:23:29.205  
So you, you need to bring that in to, to, uh,

1882

01:23:29.205 --> 01:23:32.285  
just refresh lessons learned from other programs, uh, uh,

1883

01:23:33.205 --> 01:23:35.445  
anything that comes up with those industry forums that,

1884

01:23:35.475 --> 01:23:36.965  
that the flight safety officer

1885

01:23:36.985 --> 01:23:39.645  
or some managers may want to attend and should.

1886

01:23:40.105 --> 01:23:42.645  
So, so, and you have, so you should,

1887

01:23:42.705 --> 01:23:45.765  
you should have those newsletters coming, uh, regularly

1888

01:23:45.825 --> 01:23:47.125  
during, uh, during the program.

1889

01:23:47.865 --> 01:23:49.725  
And, and then, then briefings.

1890

01:23:50.105 --> 01:23:52.525

You know, you don't wanna burden every, everybody

1891

01:23:52.525 --> 01:23:55.285

with briefings, but, uh, occasionally, uh,

1892

01:23:55.285 --> 01:23:57.365

during the stand down period, uh, you need

1893

01:23:57.365 --> 01:23:59.365

to have briefings, uh, oral briefings.

1894

01:23:59.705 --> 01:24:02.245

But the newsletters are extremely important

1895

01:24:02.305 --> 01:24:03.805

for this particular case where you,

1896

01:24:03.805 --> 01:24:05.205

where you are in between.

1897

01:24:06.105 --> 01:24:08.725

And that's, that's important to keep the safety promotion.

1898

01:24:10.105 --> 01:24:13.715

Yeah. Great comments. Um, rod, I know one of the things

1899

01:24:13.715 --> 01:24:15.035

that I, I think it's safe

1900

01:24:15.035 --> 01:24:16.435

to say we probably ported over from

1901

01:24:17.155 --> 01:24:19.715

military organizations are safety stand downs.

1902

01:24:20.055 --> 01:24:23.555

And I wanted to get your thoughts on not just the reactive

1903

01:24:23.605 --> 01:24:26.675

stand downs that we do after we have a series of mishaps,

1904

01:24:27.295 --> 01:24:29.555

but proactive safety stand downs, and,

1905

01:24:29.695 --> 01:24:34.115

and do you see that as, um, uh, a positive

1906

01:24:34.255 --> 01:24:35.795

for an organization and,

1907

01:24:35.795 --> 01:24:39.555

and how they deliver safety, uh, content and information?

1908

01:24:40.235 --> 01:24:42.635

Absolutely. No, Bombardier has a perfect example

1909

01:24:42.695 --> 01:24:45.755

of safety standouts where the, you know, corporate, uh, uh,

1910

01:24:45.915 --> 01:24:49.715

NBA and corporate, uh, uh, uh, organizations, uh,

1911

01:24:49.815 --> 01:24:52.355

attend at the FAA themselves, uh,

1912

01:24:52.355 --> 01:24:54.515

develop the safety stand down, uh, once a year.

1913

01:24:54.995 --> 01:24:57.395

I think it's once a year, which is a great idea.

1914

01:24:57.455 --> 01:25:00.155

And, and it's not caused by any incidents or accidents.

1915

01:25:00.155 --> 01:25:01.315

It's just a, just a,

1916

01:25:01.635 --> 01:25:04.435

a regularly scheduled safety stand downs

1917

01:25:04.535 --> 01:25:06.195

and that they're very important.

1918

01:25:06.255 --> 01:25:09.435

And that's a great way to, to do the safety promotion part.

1919

01:25:11.445 --> 01:25:13.645

Excellent. Sunny, um, um, same question to you.

1920

01:25:13.925 --> 01:25:16.085

'cause I mean, you came from military background.

1921

01:25:16.665 --> 01:25:20.645

Um, do you see, um, a drumbeat of,

1922

01:25:20.705 --> 01:25:21.925

of safety stand downs

1923

01:25:21.925 --> 01:25:24.365

or safety meetings that include the entirety

1924

01:25:24.385 --> 01:25:27.245

of the organization as a positive in a,

1925

01:25:27.585 --> 01:25:29.325

in a more classic flight department sense?

1926

01:25:31.865 --> 01:25:34.085

Um, I, we see a mix.

1927

01:25:34.445 --> 01:25:37.405

I, I, I think, um, it definitely, you know,

1928

01:25:37.495 --> 01:25:39.325

sends a strong message that, you know,

1929

01:25:39.325 --> 01:25:41.325

safety is important from top leadership

1930

01:25:41.325 --> 01:25:42.365

when you have a stand down.

1931

01:25:42.465 --> 01:25:44.965

So I, I, I support that, no doubt about it.

1932

01:25:45.865 --> 01:25:47.185

A lot of organizations we deal

1933

01:25:47.185 --> 01:25:48.905

with also are smaller organizations.

1934

01:25:48.905 --> 01:25:50.705

They have a lot of downtime, so they,

1935

01:25:50.855 --> 01:25:54.025

they just seize the moment, you know, like all our airplane,

1936

01:25:54.025 --> 01:25:56.025

like, maybe they're a one airplane operation,

1937

01:25:56.025 --> 01:25:58.945

so their airplanes and maintenance, they have a safety day

1938

01:25:59.005 --> 01:26:02.345

during that time, um, or maybe have seven aircraft,

1939

01:26:02.365 --> 01:26:04.205

but they still find time in their,

1940

01:26:04.205 --> 01:26:07.325

in their flexible schedule to, to, to schedule a safety day.

1941

01:26:07.865 --> 01:26:10.925

Um, but, um, yeah, I, I think that different kinds

1942

01:26:10.925 --> 01:26:13.205

of communication should consider strongly having

1943

01:26:13.285 --> 01:26:14.365

a safety stand down day.

1944

01:26:14.365 --> 01:26:16.085



If that's a question fully supported.

1945

01:26:16.405 --> 01:26:19.125

I don't know the degree to which organizations, uh, utilize

1946

01:26:19.125 --> 01:26:21.725

that, um, you know, around the globe.

1947

01:26:22.125 --> 01:26:25.125

I, I think it's, uh, the lesser, you know, I think your,

1948

01:26:25.235 --> 01:26:27.885

your, your bigger organizations with the strong safety

1949

01:26:28.505 --> 01:26:30.365

desire, um, will do this.

1950

01:26:30.905 --> 01:26:32.605

Um, and, and it's a, it's a good thing.

1951

01:26:33.185 --> 01:26:36.645

Um, as, as Turbo mentioned, the newsletters are important,

1952

01:26:36.985 --> 01:26:40.085

you know, uh, speech is from top management are important.

1953

01:26:40.425 --> 01:26:43.245

All kinds of communication from the different, different,

1954

01:26:43.345 --> 01:26:46.605

um, you know, influencers are, are extremely important.

1955

01:26:47.965 --> 01:26:50.855

Yeah, good point. And one of the things we did

1956

01:26:50.855 --> 01:26:52.455

as a flight test safety committee is we,

1957

01:26:52.475 --> 01:26:56.575

we started a flight test safety fact newsletter, um, that,

1958

01:26:56.575 --> 01:27:01.295

that we push out and, um, uh, turbo as the,

1959

01:27:01.475 --> 01:27:03.455

the current chairman for the flight test safety committee

1960

01:27:03.725 --> 01:27:06.495

follows that up, uh, shortly thereafter with a podcast

1961

01:27:07.295 --> 01:27:10.295

pointing back to the, the newsletter, which, you know,

1962

01:27:10.295 --> 01:27:12.535

we've been encouraging people to distribute freely

1963

01:27:13.035 --> 01:27:15.565

that has some, some safety messaging in there and,

1964

01:27:15.625 --> 01:27:17.125

and, uh, various topics.

1965

01:27:17.395 --> 01:27:20.125

Some can get quite, um, controversial,

1966

01:27:20.305 --> 01:27:23.445

but, you know, just important frank conversation that

1967

01:27:23.475 --> 01:27:25.605

that could stimulate further conversation

1968

01:27:25.605 --> 01:27:26.725

within the organization.

1969

01:27:26.865 --> 01:27:28.365

So that's something that we've done.

1970

01:27:29.125 --> 01:27:30.285

Somebody asked in the q

1971

01:27:30.285 --> 01:27:32.925

and a about, um, supporting membership

1972

01:27:32.985 --> 01:27:34.405

and professional societies.

1973

01:27:35.395 --> 01:27:38.325

Most definitely, in my view, um,

1974

01:27:39.405 --> 01:27:41.725

participating in the flight test safety workshop today,

1975

01:27:42.215 --> 01:27:44.205

check safety promotion.

1976

01:27:44.665 --> 01:27:48.645

Um, you know, I think a lot of people make more

1977

01:27:48.645 --> 01:27:51.085

of safety management system than was really intended.

1978

01:27:51.355 --> 01:27:53.285

It's supposed to be scalable than tailored

1979

01:27:53.305 --> 01:27:56.005

to your organization, the complexity and size.

1980

01:27:56.665 --> 01:27:59.565

Um, you probably do a lot of these things already.

1981

01:28:00.055 --> 01:28:02.885

Maybe you just don't have it bundled in the typical

1982

01:28:03.245 --> 01:28:05.245

structure of an SMS and don't look through that lens.

1983

01:28:05.945 --> 01:28:07.605

But I would suggest that, you know,

1984

01:28:07.605 --> 01:28:08.885

these are exactly the type of things

1985

01:28:08.885 --> 01:28:11.285

that you should encourage your, your employees, your,

1986

01:28:11.635 --> 01:28:13.885

your personnel to participate in.

1987

01:28:14.765 --> 01:28:17.905

Uh, membership in professional societies to me gets to

1988

01:28:17.905 --> 01:28:19.505

that technical competence piece,

1989

01:28:19.555 --> 01:28:21.985

which is spelled out in the safety management manual

1990

01:28:22.565 --> 01:28:25.105

as being critically important under this sub-component

1991

01:28:25.565 --> 01:28:26.905

of the safety management system.

1992

01:28:28.445 --> 01:28:31.745

Um, a any other thoughts on that, Sonny?

1993

01:28:32.495 --> 01:28:34.575

I, I do just a, a couple quick thoughts.

1994

01:28:34.675 --> 01:28:39.135

Um, one is, um, if, if anybody thinks that the job of SMS

1995

01:28:39.135 --> 01:28:41.415

and safety performance is a safety officer's job,

1996

01:28:41.415 --> 01:28:44.215

and the safety committee's job, we're missing the point,

1997

01:28:44.215 --> 01:28:46.135

their, their, their job, the safety officer,

1998

01:28:46.135 --> 01:28:49.055

safety Manager Safety Committee are facilitators their

1999

01:28:49.055 --> 01:28:51.735

enablers, but the, the director of maintenance, the director

2000

01:28:51.735 --> 01:28:54.335

of operations, all the managers in the functional areas

2001

01:28:54.335 --> 01:28:56.455

of an organization, they are the ones

2002

01:28:56.455 --> 01:28:57.615

with the responsibility

2003

01:28:57.755 --> 01:29:00.735

to implement safety risk management principles,

2004

01:29:01.065 --> 01:29:03.805

safety assurance, safety promotion into

2005

01:29:03.805 --> 01:29:05.085

their functional area.

2006

01:29:05.745 --> 01:29:07.565

And, and you look to the safety officer in

2007

01:29:07.565 --> 01:29:09.765

that safety committee for guidance, for, for, for,

2008

01:29:09.865 --> 01:29:12.085

for a knowledge, for, for skill training

2009

01:29:12.505 --> 01:29:13.605

to allow you to do that.

2010

01:29:13.665 --> 01:29:15.925

So when we go audit an organization and,

2011

01:29:15.925 --> 01:29:17.885

and we go to a certain functional area,

2012

01:29:17.905 --> 01:29:20.045  
and they're doing terribly, they go, well, you know,

2013

01:29:20.045 --> 01:29:21.085  
they pointed the safety officer.

2014

01:29:21.085 --> 01:29:22.165  
It's like, no, no, just point

2015

01:29:22.165 --> 01:29:23.685  
that back at you, that that's you.

2016

01:29:23.835 --> 01:29:25.205  
This is your functional area.

2017

01:29:25.265 --> 01:29:26.725  
You're supposed to be doing this.

2018

01:29:27.545 --> 01:29:29.285  
That's your champion over there, that

2019

01:29:29.285 --> 01:29:30.445  
that's your facilitator.

2020

01:29:30.465 --> 01:29:32.565  
That's the person that's gonna help you be empowered.

2021

01:29:32.905 --> 01:29:34.485  
So that, that's one thought. The other thought is,

2022

01:29:34.485 --> 01:29:36.245  
when you look at safety management systems,

2023

01:29:36.635 --> 01:29:38.165  
it's really nothing new

2024

01:29:38.165 --> 01:29:41.085  
and cosmic, you could change the word safety to the

2025

01:29:41.765 --> 01:29:43.205

security, you could change it to quality,

2026

01:29:43.505 --> 01:29:44.845

you could change it to financial.

2027

01:29:45.105 --> 01:29:47.925

It, it's just a way to manage something professionally.

2028

01:29:48.185 --> 01:29:49.605

You have to have principle structure.

2029

01:29:49.905 --> 01:29:51.485

You have to do it, you have

2030

01:29:51.485 --> 01:29:52.685

to make sure you did it effectively.

2031

01:29:52.685 --> 01:29:54.365

That's assurance. And you have to promote it

2032

01:29:54.365 --> 01:29:55.805

to make sure you have the ability to do it.

2033

01:29:56.145 --> 01:29:57.445

You end up to empower yourself.

2034

01:29:57.705 --> 01:30:00.605

So no matter what it is, this structure is universal.

2035

01:30:00.605 --> 01:30:02.645

It's based on ISO 31,000.

2036

01:30:02.675 --> 01:30:04.125

It's, it's, it's, I think that's something

2037

01:30:04.125 --> 01:30:06.005

that's been out there for a long time around the world.

2038

01:30:06.385 --> 01:30:08.965

So it's not nobody is asking you to swallow a new pill.

2039

01:30:09.235 --> 01:30:10.845

They're just asking you to do something

2040

01:30:10.845 --> 01:30:14.765

with a professional structure to empower yourself to not,

2041

01:30:14.875 --> 01:30:16.085

it's not saying you're broken,

2042

01:30:16.545 --> 01:30:17.725

you, you're obviously not broken.

2043

01:30:17.725 --> 01:30:19.925

You're a very successful group of professionals.

2044

01:30:20.315 --> 01:30:21.885

It's actually here to make you better.

2045

01:30:22.225 --> 01:30:25.005

You, that Top Gun and Huffer, I know he, this is like,

2046

01:30:25.005 --> 01:30:26.405

oh yeah, you're speaking my language now.

2047

01:30:26.615 --> 01:30:29.245

We're gonna make you better using this structure,

2048

01:30:29.415 --> 01:30:31.925

using this culture, using this way.

2049

01:30:32.015 --> 01:30:33.925

We're gonna make you better at what you do

2050

01:30:34.035 --> 01:30:36.125

with human factors and organizational factors.

2051

01:30:36.125 --> 01:30:38.965

Understanding that's the focus for me anyway,

2052

01:30:39.135 --> 01:30:41.725



those two factors will help you perform at higher levels.

2053

01:30:42.305 --> 01:30:44.485

And that's the, uh, the basic challenge that,

2054

01:30:44.515 --> 01:30:47.485

that we have when we, when stand up a, uh, SMS manual

2055

01:30:47.485 --> 01:30:51.365

because, or system is that, uh, how do you compete, uh,

2056

01:30:51.365 --> 01:30:52.525

against QMS?

2057

01:30:52.745 --> 01:30:56.045

You know, we already have a QMS, you know, so how does,

2058

01:30:56.065 --> 01:30:57.885

how does SMS different than QMS?

2059

01:30:57.905 --> 01:31:00.245

Now we're, we're diverging from the promotion pillar,

2060

01:31:00.345 --> 01:31:01.445

but a little bit, but,

2061

01:31:01.465 --> 01:31:03.485

but it is an interesting, uh, question

2062

01:31:03.485 --> 01:31:05.805

because, uh, how, how do you do it?

2063

01:31:05.835 --> 01:31:09.125

Well, you know, like, uh, Sonny just said, um, we have,

2064

01:31:09.345 --> 01:31:11.125

we already know how to use those tools

2065

01:31:11.125 --> 01:31:13.005

because we have a QMS system

2066

01:31:13.025 --> 01:31:14.725  
or some other quality system that's,

2067

01:31:14.725 --> 01:31:16.205  
that's probably in place in the company.

2068

01:31:17.105 --> 01:31:20.885  
And, and what this SMS does is just takes those same

2069

01:31:20.885 --> 01:31:25.085  
principles of how to do a, a quality system and, and,

2070

01:31:25.225 --> 01:31:27.595  
and then turn 'em into safety and,

2071

01:31:27.655 --> 01:31:31.555  
and have the safety focus versus the quality focus in it,

2072

01:31:31.555 --> 01:31:33.835  
which kind of they go together.

2073

01:31:34.375 --> 01:31:35.475  
But, but, but they,

2074

01:31:35.535 --> 01:31:39.235  
but it should be easier to implement an SMS system when a

2075

01:31:39.235 --> 01:31:40.835  
company already has a QMS

2076

01:31:40.835 --> 01:31:43.075  
because the, the, the building blocks are already there.

2077

01:31:43.095 --> 01:31:47.195  
You just need to, to, to, to tailor it, to, to safety.

2078

01:31:48.045 --> 01:31:51.025  
And, and, and, uh, I like the example of when,

2079

01:31:51.095 --> 01:31:53.585

when you go audit and you talk to the chief of maintenance

2080

01:31:53.585 --> 01:31:56.105

or the, or the flight test manager and,

2081

01:31:56.125 --> 01:31:57.465

and, and ask him questions.

2082

01:31:57.465 --> 01:31:59.405

And he said, well, they point at the safety officer.

2083

01:31:59.505 --> 01:32:02.085

No, no, it's not that guy.

2084

01:32:02.225 --> 01:32:04.765

Or it's you, you are the one.

2085

01:32:05.505 --> 01:32:07.845

And and this is where you find, find

2086

01:32:07.845 --> 01:32:09.685

that there is no safety culture,

2087

01:32:09.685 --> 01:32:12.525

because until those people understand it is their system,

2088

01:32:12.905 --> 01:32:15.645

and they have a buy-in, just like, uh, in the definition

2089

01:32:15.645 --> 01:32:20.525

of safety culture, that, that, it's, it's, uh, um, Susan,

2090

01:32:20.625 --> 01:32:23.725

if we go, go back to the slide that says the definition

2091

01:32:23.725 --> 01:32:26.645

of safety culture, just wanna point out a couple of, uh,

2092

01:32:26.645 --> 01:32:28.965

things that I highlighted in that, in that slide.

2093

01:32:29.115 --> 01:32:33.915

Yeah, right there. Uh, they trust, use

2094

01:32:34.095 --> 01:32:39.015

and rely the, the system that everybody needs to do that.

2095

01:32:39.075 --> 01:32:40.815

You know, if you don't, if you haven't built that,

2096

01:32:41.125 --> 01:32:44.695

that they haven't had a buy-in of your SMS system,

2097

01:32:45.155 --> 01:32:47.575

and there is no safety culture until they do

2098

01:32:47.575 --> 01:32:49.095

that accountability

2099

01:32:49.675 --> 01:32:52.735

and individual responsibility for safety, that's a buy-in.

2100

01:32:54.115 --> 01:32:55.495

So, uh, that's important.

2101

01:32:57.465 --> 01:33:00.385

Excellent. Hey, just a couple, uh, questions here

2102

01:33:00.385 --> 01:33:04.705

that have come in, and then I'm gonna just go to you, rod

2103

01:33:04.725 --> 01:33:06.985

and, and sunny, just for a quick wrap up,

2104

01:33:06.985 --> 01:33:08.185

your your closing comments,

2105

01:33:08.185 --> 01:33:11.185

because we're down to our last, uh, four minutes here.

2106

01:33:11.745 --> 01:33:13.225

Somebody asked about aircraft rescue

2107

01:33:13.405 --> 01:33:15.825

and firefighting, uh, integrated into the SMS.

2108

01:33:16.205 --> 01:33:18.225

Yes. Um, uh,

2109

01:33:18.225 --> 01:33:20.825

number one should be baked into your emergency response

2110

01:33:21.025 --> 01:33:23.105

planning and component, one under safety policy,

2111

01:33:23.685 --> 01:33:26.465

but further, as part of your safety promotional effort,

2112

01:33:26.535 --> 01:33:28.505

most definitely go

2113

01:33:28.645 --> 01:33:31.225

and engage with the aircraft rescue and firefighting.

2114

01:33:31.295 --> 01:33:34.705

Guys, there's good information in the flight test safety.org

2115

01:33:34.705 --> 01:33:37.705

website that we posted up there on a checklist, uh,

2116

01:33:37.805 --> 01:33:42.625

for detachments and, uh, testing on site on how

2117

01:33:42.645 --> 01:33:46.345

to, um, bring your aircraft rescue firefighting guys into a

2118

01:33:46.345 --> 01:33:49.265

better state of readiness to assist you if, uh,

2119

01:33:49.265 --> 01:33:50.505

catastrophe strikes.

2120

01:33:50.885 --> 01:33:54.785

And then lastly, um, somebody mentioned, uh,

2121

01:33:54.785 --> 01:33:57.545

Peter mentioned about the, you know, the o-ring and,

2122

01:33:57.645 --> 01:33:59.785

and the, uh, uh, challenger accident

2123

01:34:00.165 --> 01:34:03.505

and how SMS could have, uh, reshaped, uh, thinking in terms

2124

01:34:03.525 --> 01:34:05.705

of, of whether to execute the launch on the day or not.

2125

01:34:06.135 --> 01:34:08.985

Well, just, uh, a cautionary note here,

2126

01:34:09.405 --> 01:34:11.985

and, uh, Sonny could probably chime in on this one.

2127

01:34:12.405 --> 01:34:16.865

Um, you know, the safety management system is by design not

2128

01:34:16.865 --> 01:34:17.865

to be prescriptive.

2129

01:34:17.895 --> 01:34:20.145

It's not going to tell you how to do things.

2130

01:34:20.205 --> 01:34:22.945

It just basically tells you what needs to be part of it.

2131

01:34:23.365 --> 01:34:25.705

Safety risk management is part and parcel.

2132

01:34:25.815 --> 01:34:28.185

It's got its own component, its own pillar.

2133

01:34:28.965 --> 01:34:32.345

So, um, hopefully you have a robust safety risk management

2134

01:34:32.345 --> 01:34:33.985  
process within your organization

2135

01:34:34.645 --> 01:34:37.145  
and a champion for safety that can take a look at all

2136

01:34:37.145 --> 01:34:39.345  
of the inputs in this case.

2137

01:34:39.685 --> 01:34:42.225  
Hey, boss, we've never launched on a day that cold,

2138

01:34:42.365 --> 01:34:43.465  
number one and number two,

2139

01:34:43.835 --> 01:34:46.665  
we've never qualified the o-rings to those temperatures.

2140

01:34:46.875 --> 01:34:50.545  
Let's take a pass. Um, you know, where, where is the person

2141

01:34:50.545 --> 01:34:51.865  
that is the reality department?

2142

01:34:51.865 --> 01:34:55.225  
Where is the person that is, uh, holding the emergency brake

2143

01:34:55.245 --> 01:34:57.285  
and pulling on it and is not afraid

2144

01:34:57.285 --> 01:34:59.365  
to when things just don't add up?

2145

01:34:59.425 --> 01:35:03.125  
Taking in all the inputs from, uh, the process

2146

01:35:03.235 --> 01:35:06.005  
that you've put in place to have those debates

2147  
01:35:06.065 --> 01:35:09.005  
before you make these critical risk decisions.

2148  
01:35:09.785 --> 01:35:10.845  
Um, so without, you know,

2149  
01:35:10.845 --> 01:35:13.045  
H hoffer hover, just one, one thing, uh,

2150  
01:35:13.075 --> 01:35:16.725  
it's just like the, I can't, I can't, uh, uh, ignore it.

2151  
01:35:16.745 --> 01:35:18.565  
But, uh, one of the things that came out

2152  
01:35:18.565 --> 01:35:20.605  
of those two challenger accidents is,

2153  
01:35:20.705 --> 01:35:22.525  
is normalization of deviance.

2154  
01:35:23.185 --> 01:35:26.045  
And, and those are my favorite, favorite term

2155  
01:35:26.045 --> 01:35:28.405  
that was coined by, by the investigator on the,

2156  
01:35:28.405 --> 01:35:30.885  
on the challengers normalization of deviance.

2157  
01:35:31.785 --> 01:35:34.005  
And, uh, that's what you gotta watch out for.

2158  
01:35:34.775 --> 01:35:37.545  
Yeah. So with that, we're down to the last two minutes.

2159  
01:35:37.925 --> 01:35:40.305  
Rod, I wanna thank you for participating.

2160  
01:35:40.345 --> 01:35:43.105



I want to give you 30 seconds for any, uh, wrap up,

2161

01:35:43.105 --> 01:35:44.465

and then I'm gonna do the same for Sunny.

2162

01:35:44.895 --> 01:35:46.425

Okay. So, uh, yeah, thank you.

2163

01:35:46.885 --> 01:35:50.985

Um, yeah, the bottom line is, uh, it's, uh, uh, uh,

2164

01:35:50.985 --> 01:35:55.805

promotion is, uh, is all about, uh, safety culture,

2165

01:35:56.185 --> 01:35:57.565

and that's what you wanna develop

2166

01:35:57.665 --> 01:35:59.445

and maintain safety culture.

2167

01:35:59.905 --> 01:36:03.805

It is not just a pillar, it's a blanket that has

2168

01:36:03.805 --> 01:36:05.525

to be always present and it go,

2169

01:36:05.525 --> 01:36:07.125

it cuts across the other three pillars,

2170

01:36:07.705 --> 01:36:10.365

but that doesn't take away from the other three pillars.

2171

01:36:10.385 --> 01:36:12.565

In fact, it enforces the other three pillars,

2172

01:36:12.905 --> 01:36:14.805

and that's what the safety culture should do.

2173

01:36:15.145 --> 01:36:17.565

Um, and that's, that's the best way I,

2174

01:36:17.685 --> 01:36:18.805

I can summarize everything.

2175

01:36:19.715 --> 01:36:21.765

Fantastic. Thank you, rod. Sunny, over to you.

2176

01:36:23.185 --> 01:36:26.885

Um, well, just a, a short ten second story.

2177

01:36:27.065 --> 01:36:28.525

So I'm flying along and

2178

01:36:28.525 --> 01:36:29.725

it's some kind of Gulfstream product.

2179

01:36:30.405 --> 01:36:31.885

I pull out the airplane flight manual

2180

01:36:31.885 --> 01:36:33.165

because that's what the Air Force taught me

2181

01:36:33.165 --> 01:36:35.445

to do if I just board on a crossing Atlantic.

2182

01:36:36.185 --> 01:36:38.365

And the, the chief pilot says, what are you doing?

2183

01:36:38.465 --> 01:36:41.125

Put that back. And I said, I'm just reviewing the document.

2184

01:36:41.825 --> 01:36:42.925

He goes, why would you do that?

2185

01:36:42.925 --> 01:36:44.485

And I said, because professionals do that.

2186

01:36:44.545 --> 01:36:46.815

He goes, no, put it back. And, uh,

2187

01:36:47.495 --> 01:36:48.975

I put it back, he's my boss.

2188

01:36:49.755 --> 01:36:51.215

And that was the culture there.

2189

01:36:52.165 --> 01:36:54.215

What I'm getting at is I wanted

2190

01:36:54.215 --> 01:36:55.975

to have the conversation about the airplane.

2191

01:36:56.055 --> 01:36:57.935

I love airplanes. I think we all love airplanes.

2192

01:36:58.215 --> 01:37:00.335

I wanted to talk about the airplane, how it was designed,

2193

01:37:00.595 --> 01:37:02.735

the, the, the, the buffet boundaries and stuff like that.

2194

01:37:02.735 --> 01:37:04.775

He didn't want any part of that. Was the culture there.

2195

01:37:05.595 --> 01:37:07.255

I'm asking you to do a paradigm shift.

2196

01:37:07.925 --> 01:37:11.215

Grab that binder called Safety Risk Management in your

2197

01:37:11.215 --> 01:37:12.575

organization and talk about it.

2198

01:37:12.645 --> 01:37:15.655

Talk about the process, talk about the promotion of it,

2199

01:37:15.765 --> 01:37:18.735

talk about the assurance of it, talk it.

2200

01:37:18.795 --> 01:37:21.255

And, and if I can give you a book, the doc 98 59,

2201  
01:37:21.255 --> 01:37:24.215  
the one Tom's been referencing, grab that book, pull it out,

2202  
01:37:24.515 --> 01:37:26.935  
and if somebody says, put that back, we don't talk about it.

2203  
01:37:26.935 --> 01:37:28.175  
That's, that's saying a lot.

2204  
01:37:28.355 --> 01:37:30.175  
That's saying a lot in your, your organization.

2205  
01:37:30.805 --> 01:37:32.375  
Have that book out there on the table.

2206  
01:37:32.485 --> 01:37:34.495  
Have that book something that you respect

2207  
01:37:34.555 --> 01:37:35.655  
and want to learn more about,

2208  
01:37:35.725 --> 01:37:37.335  
just like you do an airplane flight manual.

2209  
01:37:37.755 --> 01:37:39.855  
And that will be a good step in promotion for you.

2210  
01:37:41.275 --> 01:37:43.625  
Great words. Thank you Sonny, and thank you Rod.

2211  
01:37:44.005 --> 01:37:47.665  
Uh, I can't express my gratitude to both of you for, um,

2212  
01:37:48.185 --> 01:37:49.425  
participating in today's tutorial.

2213  
01:37:49.645 --> 01:37:51.305  
Uh, I think we covered a lot of ground.

2214  
01:37:51.825 --> 01:37:53.385

I mean, at, at, at first blush,

2215

01:37:53.385 --> 01:37:54.985  
it looks like safety promotion only has,

2216

01:37:55.080 --> 01:37:57.485  
has the two sub components, uh, training

2217

01:37:57.505 --> 01:37:58.565  
and, and communication.

2218

01:37:58.625 --> 01:38:01.045  
Ah, it's, it's an easy, no, it's not.

2219

01:38:01.545 --> 01:38:04.365  
Um, and as Rod likes to say, you know, promotion kind

2220

01:38:04.365 --> 01:38:05.725  
of encompasses all of it

2221

01:38:05.915 --> 01:38:07.805  
because it all centers back on culture.

2222

01:38:07.945 --> 01:38:09.485  
So I, I really appreciate, uh,

2223

01:38:09.545 --> 01:38:11.485  
you taking time outta your busy schedules today and,

2224

01:38:11.485 --> 01:38:12.725  
and joining me in this tutorial.

2225

01:38:13.345 --> 01:38:17.405  
Um, I did wanna throw a shout out to, um, to Susan and,

2226

01:38:17.405 --> 01:38:20.125  
and Turbo for their help in, in putting the program together

2227

01:38:20.145 --> 01:38:22.205  
and Bruce Remnick, uh,

2228

01:38:22.305 --> 01:38:24.645  
and of course, uh, the, the, uh,

2229

01:38:24.755 --> 01:38:26.845  
society headquarter staff out there in,

2230

01:38:26.845 --> 01:38:30.165  
in California at the, at the mothership for, uh,

2231

01:38:30.165 --> 01:38:32.485  
there's continued support in these workshops.

2232

01:38:32.765 --> 01:38:34.005  
I sincerely appreciate it.

2233

01:38:34.465 --> 01:38:37.765  
Um, lastly, I just offer a solemn salute to those that,

2234

01:38:38.315 --> 01:38:40.445  
that paid the ultimate sacrifice as we think

2235

01:38:40.445 --> 01:38:41.965  
of them this Memorial Day weekend.

2236

01:38:42.505 --> 01:38:44.805  
Uh, thank all of our, uh, attendees

2237

01:38:44.825 --> 01:38:46.765  
for caring about flight test safety,

2238

01:38:46.765 --> 01:38:49.125  
and joining us today, uh, on this tutorial,

2239

01:38:49.285 --> 01:38:50.845  
I know is a little long and,

2240

01:38:50.905 --> 01:38:53.165  
and, uh, we really, it's an important subject.

2241

01:38:53.265 --> 01:38:55.445

We wanted to cover it in this workshop.

2242

01:38:55.705 --> 01:38:56.765

Uh, I think everybody's looking

2243

01:38:56.765 --> 01:38:57.925

forward to getting back to in person.

2244

01:38:58.665 --> 01:39:01.005

Uh, and at this point, I think it's my, my duty

2245

01:39:01.025 --> 01:39:02.805

to send everybody to a 15 minute break,

2246

01:39:03.225 --> 01:39:05.205

but with encouragement to come back at, at,

2247

01:39:05.225 --> 01:39:06.325

uh, the top of the hour.

2248

01:39:07.025 --> 01:39:10.485

Um, the, the Great OZ is queuing up the 15 minute clock.

2249

01:39:10.545 --> 01:39:11.565

So we will, we'll look forward

2250

01:39:11.565 --> 01:39:14.045

to hearing the technical presentations here

2251

01:39:14.065 --> 01:39:15.285

in, uh, in 15 minutes.

2252

01:39:15.345 --> 01:39:16.765

So thanks again and again,

2253

01:39:16.765 --> 01:39:18.325

everybody have a great Memorial Day weekend.