

1  
00:00:03,299 --> 00:00:06,419  
[Music]

2  
00:00:09,250 --> 00:00:16,039  
you know as I was getting ready and

3  
00:00:11,859 --> 00:00:18,739  
preparing for this talk I was sitting in

4  
00:00:16,039 --> 00:00:20,118  
school and this is one of my associates

5  
00:00:18,739 --> 00:00:23,059  
came up to me and asked me what I was

6  
00:00:20,118 --> 00:00:24,890  
doing and I said well I'm preparing a

7  
00:00:23,059 --> 00:00:26,929  
talk he says what's it about

8  
00:00:24,890 --> 00:00:28,550  
nice it's gonna be on premonitions and

9  
00:00:26,929 --> 00:00:30,269  
he says I don't believe that stuff and I

10  
00:00:28,550 --> 00:00:36,850  
said I know you'd say that

11  
00:00:30,269 --> 00:00:36,850  
[Laughter]

12  
00:00:38,590 --> 00:00:45,230  
okay well that's that was just a joke so

13  
00:00:42,109 --> 00:00:48,289  
here here's a real question that was

14  
00:00:45,229 --> 00:00:49,879  
proposed by a student I have a couple

15  
00:00:48,289 --> 00:00:54,789  
classes and I am was stuck my neck out

16  
00:00:49,880 --> 00:00:59,359  
in the last week of the semester I have

17  
00:00:54,789 --> 00:01:01,969  
what I call psychic phenomena and we

18  
00:00:59,359 --> 00:01:04,989  
talk about mostly the things which are

19  
00:01:01,969 --> 00:01:09,709  
have really good science behind him and

20  
00:01:04,989 --> 00:01:13,188  
I had this one student kind of a crusty

21  
00:01:09,709 --> 00:01:17,868  
old construction guy probably a framer

22  
00:01:13,188 --> 00:01:20,599  
or something like that and he raises his

23  
00:01:17,868 --> 00:01:24,618  
hand and this is what he said what's the

24  
00:01:20,599 --> 00:01:28,399  
point and he said why are we learning

25  
00:01:24,618 --> 00:01:32,388  
about this stuff and so I think we've

26  
00:01:28,399 --> 00:01:34,879  
all heard people express that and so

27  
00:01:32,388 --> 00:01:37,009  
what I hope to do today is to probably

28  
00:01:34,879 --> 00:01:40,608  
provide some answer to that and I had a

29

00:01:37,009 --> 00:01:43,700  
good answer for him but we'll we'll move

30  
00:01:40,608 --> 00:01:45,349  
on oh I talked about reliability and

31  
00:01:43,700 --> 00:01:47,899  
reliability engineering so we just need

32  
00:01:45,349 --> 00:01:51,259  
to make a definition reliability is just

33  
00:01:47,899 --> 00:01:54,228  
the attribute the system has to continue

34  
00:01:51,259 --> 00:01:55,329  
to give you the functions for which it

35  
00:01:54,228 --> 00:01:58,099  
was designed

36  
00:01:55,328 --> 00:01:59,958  
that's pretty simple right if we buy a

37  
00:01:58,099 --> 00:02:00,880  
car we want it to continue to go down

38  
00:01:59,959 --> 00:02:05,409  
the road

39  
00:02:00,879 --> 00:02:05,408  
now what about reliability engineering

40  
00:02:05,649 --> 00:02:13,520  
see how do I use this thing like that

41  
00:02:08,300 --> 00:02:16,930  
there we go it's got a nasty definition

42  
00:02:13,520 --> 00:02:19,819  
called coordinated holistic proactive

43  
00:02:16,930 --> 00:02:22,939

approach to improving asset availability

44

00:02:19,818 --> 00:02:25,909

now the assets that we have

45

00:02:22,939 --> 00:02:28,520

the people we work with the physical

46

00:02:25,909 --> 00:02:31,099

plants and things that we have and the

47

00:02:28,520 --> 00:02:33,370

knowledge that we have and we all want

48

00:02:31,099 --> 00:02:37,159

those to be able to improve the

49

00:02:33,370 --> 00:02:39,110

availability of those actions and to

50

00:02:37,159 --> 00:02:42,439

protect the humans that interact with

51

00:02:39,110 --> 00:02:44,510

them now part of the reliability

52

00:02:42,439 --> 00:02:47,240

engineering is a sub concept called

53

00:02:44,509 --> 00:02:50,299

situational awareness and situational

54

00:02:47,240 --> 00:02:51,680

awareness is very important we all need

55

00:02:50,300 --> 00:02:54,200

to keep track of what's going on around

56

00:02:51,680 --> 00:02:55,700

us especially if we're driving you know

57

00:02:54,199 --> 00:02:57,349

you don't want to have people running

58  
00:02:55,699 --> 00:03:00,079  
into you or you running into someone

59  
00:02:57,349 --> 00:03:03,799  
else and so situational awareness is

60  
00:03:00,080 --> 00:03:06,280  
knowing what's going on around you now

61  
00:03:03,800 --> 00:03:09,050  
if you have poor situational awareness

62  
00:03:06,280 --> 00:03:13,039  
your consciousness doesn't have a good

63  
00:03:09,050 --> 00:03:15,710  
grip on on what's going on and the

64  
00:03:13,039 --> 00:03:18,889  
project of the prospects for that is

65  
00:03:15,710 --> 00:03:22,670  
that the safety and the integrity and of

66  
00:03:18,889 --> 00:03:26,529  
the human the physical and the knowledge

67  
00:03:22,669 --> 00:03:29,059  
systems you have it's doubtful okay

68  
00:03:26,530 --> 00:03:31,340  
so what a premonitions got to do with

69  
00:03:29,060 --> 00:03:34,430  
any of this let's kind of shift gears

70  
00:03:31,340 --> 00:03:38,030  
now and talk about something a little

71  
00:03:34,430 --> 00:03:41,330  
bit related we get information and this

72  
00:03:38,030 --> 00:03:45,340  
is kind of the realm of thye we get

73  
00:03:41,330 --> 00:03:47,510  
information from the past comes to us

74  
00:03:45,340 --> 00:03:50,569  
near-death experiences past life

75  
00:03:47,509 --> 00:03:52,429  
recollections things through mediums and

76  
00:03:50,569 --> 00:03:54,560  
and things like that

77  
00:03:52,430 --> 00:03:56,719  
we also get information from the remote

78  
00:03:54,560 --> 00:03:59,120  
present and we've talked in here there

79  
00:03:56,719 --> 00:04:00,979  
in this meeting about remote viewing and

80  
00:03:59,120 --> 00:04:03,709  
messages from others without hardware

81  
00:04:00,979 --> 00:04:05,299  
things like that and then we get

82  
00:04:03,709 --> 00:04:08,539  
information from the future and that's

83  
00:04:05,300 --> 00:04:10,610  
premonitions or precognition so we have

84  
00:04:08,539 --> 00:04:14,000  
all of these kinds of information that

85  
00:04:10,610 --> 00:04:16,069  
come to us now they're all transfers of

86

00:04:14,000 --> 00:04:19,220  
information these are all in the SCI

87  
00:04:16,069 --> 00:04:23,149  
realm and they help us to be more

88  
00:04:19,220 --> 00:04:24,880  
situationally aware know better about

89  
00:04:23,149 --> 00:04:27,379  
what's going on around us so that we can

90  
00:04:24,879 --> 00:04:29,689  
be aware of all the facts that are

91  
00:04:27,379 --> 00:04:31,699  
relevant to the safety of the people we

92  
00:04:29,689 --> 00:04:33,889  
deal with the physical plant we have and

93  
00:04:31,699 --> 00:04:35,599  
the knowledge that we contain and this

94  
00:04:33,889 --> 00:04:37,819  
is especially true with regard to

95  
00:04:35,600 --> 00:04:40,950  
premonitions

96  
00:04:37,819 --> 00:04:43,230  
now here's probably something somebody's

97  
00:04:40,949 --> 00:04:44,639  
gonna wonder about I'm saying that

98  
00:04:43,230 --> 00:04:48,140  
premonitions and other well-established

99  
00:04:44,639 --> 00:04:51,839  
sigh things where we have good tech

100  
00:04:48,139 --> 00:04:54,750

science behind it has become a knowledge

101

00:04:51,839 --> 00:04:57,989

base and is therefore technology now

102

00:04:54,750 --> 00:05:00,209

technology really some people think the

103

00:04:57,990 --> 00:05:02,759

only thing technology means is computers

104

00:05:00,209 --> 00:05:04,560

I get this at school a lot you know

105

00:05:02,759 --> 00:05:06,990

because I'm in technology management

106

00:05:04,560 --> 00:05:09,930

program when we we deal with all kinds

107

00:05:06,990 --> 00:05:12,210

of things not just computers and I don't

108

00:05:09,930 --> 00:05:17,040

deal with the computers and then

109

00:05:12,209 --> 00:05:20,509

criticized for that sometimes so things

110

00:05:17,040 --> 00:05:24,270

like premonitions now were Dean Radin

111

00:05:20,509 --> 00:05:26,670

experiments have p-values that are in

112

00:05:24,269 --> 00:05:28,859

the astronomically known numbers yeah

113

00:05:26,670 --> 00:05:33,810

that's that's technology and that stuff

114

00:05:28,860 --> 00:05:39,449

that we can use technology is what we

115  
00:05:33,810 --> 00:05:42,269  
have for the benefit of humanity ok now

116  
00:05:39,449 --> 00:05:44,759  
this got this stuff that I'm talking

117  
00:05:42,269 --> 00:05:48,569  
about Gus started several years ago back

118  
00:05:44,759 --> 00:05:53,099  
in the mid 80s there was a professor of

119  
00:05:48,569 --> 00:05:57,959  
psychology at University of Texas and

120  
00:05:53,100 --> 00:06:00,200  
there a NASA contract he was given the

121  
00:05:57,959 --> 00:06:00,199  
the

122  
00:06:00,829 --> 00:06:09,469  
research project to study what factors

123  
00:06:04,949 --> 00:06:14,659  
are common to incidents in systems and

124  
00:06:09,470 --> 00:06:18,300  
his aim really was to learn to predict

125  
00:06:14,660 --> 00:06:22,800  
when accidents were imminent that was

126  
00:06:18,300 --> 00:06:24,660  
that was the NASA project now him Rick

127  
00:06:22,800 --> 00:06:26,850  
and his associates discovered by things

128  
00:06:24,660 --> 00:06:29,760  
that enhance situational awareness we're

129  
00:06:26,850 --> 00:06:31,980  
not going to go over these but these are

130  
00:06:29,759 --> 00:06:35,509  
the things that people do that will

131  
00:06:31,980 --> 00:06:38,129  
enhance their situational awareness

132  
00:06:35,509 --> 00:06:39,990  
spatial orientation is when our kids our

133  
00:06:38,129 --> 00:06:42,540  
students have a hard time with that just

134  
00:06:39,990 --> 00:06:47,579  
means where you are in space and time

135  
00:06:42,540 --> 00:06:50,110  
with your surroundings okay so but more

136  
00:06:47,579 --> 00:06:52,930  
importantly what they did discover

137  
00:06:50,110 --> 00:06:55,538  
we're 11 clues that situational

138  
00:06:52,930 --> 00:06:58,449  
awareness had been lost

139  
00:06:55,538 --> 00:06:59,560  
they studied several thousand I don't

140  
00:06:58,449 --> 00:07:02,710  
know exactly what they studied

141  
00:06:59,560 --> 00:07:05,288  
incidentally I've tried to find his

142  
00:07:02,709 --> 00:07:07,750  
research and I can't find it I actually

143

00:07:05,288 --> 00:07:09,459  
had a funk had a conversation with him I

144  
00:07:07,750 --> 00:07:13,180  
went and visited him when we were

145  
00:07:09,459 --> 00:07:16,029  
working with this and I don't know where

146  
00:07:13,180 --> 00:07:19,870  
it is and what I got I was working with

147  
00:07:16,029 --> 00:07:22,478  
flight safety international and failure

148  
00:07:19,870 --> 00:07:25,990  
announced associate Stu to use this

149  
00:07:22,478 --> 00:07:28,930  
technology in in industrial locations

150  
00:07:25,990 --> 00:07:31,418  
but these are the 11 clues that tells

151  
00:07:28,930 --> 00:07:34,598  
you you're out of it you don't know what

152  
00:07:31,418 --> 00:07:37,448  
you're doing and we won't go over all of

153  
00:07:34,598 --> 00:07:39,908  
them just maybe like departure from a

154  
00:07:37,449 --> 00:07:41,590  
standard operating procedures now an

155  
00:07:39,908 --> 00:07:43,658  
operating procedure that you have you

156  
00:07:41,589 --> 00:07:45,788  
alright procedures at one time another

157  
00:07:43,658 --> 00:07:48,000

in your life and when you're doing

158

00:07:45,788 --> 00:07:50,348

something at a safety critical industry

159

00:07:48,000 --> 00:07:51,968

you want the best thinking of the best

160

00:07:50,348 --> 00:07:55,000

minds on that subject to make the

161

00:07:51,968 --> 00:07:58,288

procedure right ok but when you depart

162

00:07:55,000 --> 00:08:02,168

from it you move into a realm that is

163

00:07:58,288 --> 00:08:05,860

outside where the best thinking of the

164

00:08:02,168 --> 00:08:08,680

best minds have considered ok and so

165

00:08:05,860 --> 00:08:11,740

then you have lost situational awareness

166

00:08:08,680 --> 00:08:14,379

because you don't know where you are

167

00:08:11,740 --> 00:08:15,908

no one flying the plane nobody in

168

00:08:14,379 --> 00:08:18,370

control and it might amaze you and

169

00:08:15,908 --> 00:08:21,009

invest real situations I have seen that

170

00:08:18,370 --> 00:08:23,740

happen on numerous occasions there's

171

00:08:21,009 --> 00:08:25,658

nobody monitoring or in control of

172  
00:08:23,740 --> 00:08:27,848  
anything and that's pretty pretty scary

173  
00:08:25,658 --> 00:08:30,038  
when you got 200 million dollar piece of

174  
00:08:27,848 --> 00:08:32,948  
junk sitting out there and and it's at

175  
00:08:30,038 --> 00:08:35,319  
1,200 degrees and and you got oil in it

176  
00:08:32,948 --> 00:08:40,179  
and you've got oxygen in it and nobody's

177  
00:08:35,320 --> 00:08:43,510  
in control ambiguities and big unities

178  
00:08:40,179 --> 00:08:44,979  
are things that don't make sense you you

179  
00:08:43,509 --> 00:08:47,679  
have instruments that give you this

180  
00:08:44,980 --> 00:08:50,019  
information and this information and

181  
00:08:47,679 --> 00:08:53,620  
they don't they don't mess they don't

182  
00:08:50,019 --> 00:08:56,560  
mesh those those that means you don't

183  
00:08:53,620 --> 00:09:01,560  
know what's going on and now down here

184  
00:08:56,559 --> 00:09:03,789  
the one that they found number 11 an

185  
00:09:01,559 --> 00:09:06,639  
apprehensive or gut feel

186  
00:09:03,789 --> 00:09:09,370  
that something is wrong now that's a

187  
00:09:06,639 --> 00:09:13,389  
pure premonition that gut feeling that

188  
00:09:09,370 --> 00:09:15,370  
something is wrong so let's move on a

189  
00:09:13,389 --> 00:09:20,350  
little bit here this is what they

190  
00:09:15,370 --> 00:09:23,620  
discovered if if you're in some sort of

191  
00:09:20,350 --> 00:09:25,300  
a operating procedure and and you

192  
00:09:23,620 --> 00:09:29,919  
discover that four or five of these

193  
00:09:25,299 --> 00:09:32,229  
clues are present the statistics on

194  
00:09:29,919 --> 00:09:33,969  
there's a research study by Helmerich so

195  
00:09:32,230 --> 00:09:36,370  
that an incident was imminent and that

196  
00:09:33,970 --> 00:09:39,940  
what you should do is put things into

197  
00:09:36,370 --> 00:09:42,700  
idle go to the safe position and find

198  
00:09:39,940 --> 00:09:45,130  
out what's wrong the one that I thought

199  
00:09:42,700 --> 00:09:47,020  
was really interesting was every time

200

00:09:45,129 --> 00:09:55,870  
they found somebody had this premonition

201  
00:09:47,019 --> 00:09:58,509  
that something bad was going on 100% of

202  
00:09:55,870 --> 00:10:03,159  
the time there was an incident now when

203  
00:09:58,509 --> 00:10:07,269  
an incident can be doesn't have to hurt

204  
00:10:03,159 --> 00:10:11,949  
people but it can there's a potential

205  
00:10:07,269 --> 00:10:13,480  
for hurting people and but a lot of the

206  
00:10:11,950 --> 00:10:16,210  
times when you have an incident you

207  
00:10:13,480 --> 00:10:18,129  
don't hurt somebody but you can lose

208  
00:10:16,210 --> 00:10:20,769  
hundreds and hundreds of thousands of

209  
00:10:18,129 --> 00:10:25,480  
dollars in just a flash of eyelash

210  
00:10:20,769 --> 00:10:30,759  
sometimes so you know we have all kinds

211  
00:10:25,480 --> 00:10:32,200  
of incidents that can happen now one of

212  
00:10:30,759 --> 00:10:35,159  
the things that I have noticed is that

213  
00:10:32,200 --> 00:10:38,860  
there there's an exponential factor in

214  
00:10:35,159 --> 00:10:46,719

premonitions now I've got 29 grandkids

215

00:10:38,860 --> 00:10:48,850

as of today and that means I have small

216

00:10:46,720 --> 00:10:52,210

children in my dinner table every once

217

00:10:48,850 --> 00:10:54,850

in a while and if I see a glass of milk

218

00:10:52,210 --> 00:10:56,889

go from out front of the plate where I

219

00:10:54,850 --> 00:11:00,540

put it over here to the edge of the

220

00:10:56,889 --> 00:11:02,919

table I can see it going on the floor

221

00:11:00,539 --> 00:11:04,779

now I've had that happen a lot of times

222

00:11:02,919 --> 00:11:08,110

see now the first time that happened not

223

00:11:04,779 --> 00:11:12,129

likely no well that may not be to safer

224

00:11:08,110 --> 00:11:13,870

place but but what this does is help us

225

00:11:12,129 --> 00:11:17,620

to recognize things and take appropriate

226

00:11:13,870 --> 00:11:23,649

actions and so as we go through the

227

00:11:17,620 --> 00:11:28,509

things here we have the opportunity of

228

00:11:23,649 --> 00:11:34,419

seeing things that are not normal now

229  
00:11:28,509 --> 00:11:36,700  
what they can do for us then is help us

230  
00:11:34,419 --> 00:11:39,519  
be trained to recognize the premonitions

231  
00:11:36,700 --> 00:11:49,330  
because when you see those things we

232  
00:11:39,519 --> 00:11:51,189  
train people to well they're gone we one

233  
00:11:49,330 --> 00:11:52,810  
of the things we do to train them as we

234  
00:11:51,190 --> 00:11:56,730  
go through a training procedure which

235  
00:11:52,809 --> 00:11:59,559  
trains them to recognize those clues and

236  
00:11:56,730 --> 00:12:02,710  
they aren't necessarily premonitions in

237  
00:11:59,559 --> 00:12:06,099  
and of themselves but they are things

238  
00:12:02,710 --> 00:12:08,290  
that will help you recognize a

239  
00:12:06,100 --> 00:12:11,830  
premonition and because you've had the

240  
00:12:08,289 --> 00:12:13,360  
training then it motivates you to do

241  
00:12:11,830 --> 00:12:16,270  
something about it okay

242  
00:12:13,360 --> 00:12:19,509  
and that's that's the value of this now

243  
00:12:16,269 --> 00:12:21,639  
the FAA has required on for a long many

244  
00:12:19,509 --> 00:12:25,000  
years now that this kind of training be

245  
00:12:21,639 --> 00:12:26,799  
given to commercial airline crews and

246  
00:12:25,000 --> 00:12:30,940  
then it includes the stewardesses also

247  
00:12:26,799 --> 00:12:33,129  
and so you have these and and we often

248  
00:12:30,940 --> 00:12:36,339  
get religious and spiritual leaders who

249  
00:12:33,129 --> 00:12:40,689  
are encouraging this to pay attention to

250  
00:12:36,339 --> 00:12:42,940  
this kind of information so we consider

251  
00:12:40,690 --> 00:12:45,820  
and we've trained a lot of people now we

252  
00:12:42,940 --> 00:12:50,650  
spent we had a refinery in southern

253  
00:12:45,820 --> 00:12:52,959  
Kansas in which we had 420 people

254  
00:12:50,649 --> 00:12:55,778  
everybody in the plant was given this

255  
00:12:52,958 --> 00:12:58,689  
training and a few months later on one

256  
00:12:55,778 --> 00:13:00,250  
of one of the units there was a it

257

00:12:58,690 --> 00:13:01,570  
wasn't working very good and there was

258  
00:13:00,250 --> 00:13:03,759  
below this and that and they were

259  
00:13:01,570 --> 00:13:05,740  
struggling and turning the knobs and

260  
00:13:03,759 --> 00:13:09,730  
noting that happening right and one of

261  
00:13:05,740 --> 00:13:12,850  
the guys said look there's there's five

262  
00:13:09,730 --> 00:13:14,620  
of those clues the foreman says hit the

263  
00:13:12,850 --> 00:13:18,009  
panic button and that's an emergency

264  
00:13:14,620 --> 00:13:20,080  
shutdown they did that they resolved the

265  
00:13:18,009 --> 00:13:22,809  
issues very quickly when an hour two

266  
00:13:20,080 --> 00:13:26,400  
came back up and only lost a minimal

267  
00:13:22,809 --> 00:13:28,689  
amount of money now in another area

268  
00:13:26,399 --> 00:13:30,939  
same kind of thing different unit

269  
00:13:28,690 --> 00:13:32,650  
different kind of personality

270  
00:13:30,940 --> 00:13:34,810  
somebody call attention to that some of

271  
00:13:32,649 --> 00:13:36,279

these clues to the company said hi he

272

00:13:34,809 --> 00:13:38,979

says we're not going we work through

273

00:13:36,279 --> 00:13:40,720

this we've done this before you just

274

00:13:38,980 --> 00:13:43,330

it's just getting after and get listen

275

00:13:40,720 --> 00:13:45,790

fixed within a few hours

276

00:13:43,330 --> 00:13:48,490

everything coked up on every pipe and

277

00:13:45,789 --> 00:13:50,589

every vessel was full solid carbon and

278

00:13:48,490 --> 00:13:53,759

they were down for a month cleaning it

279

00:13:50,590 --> 00:13:56,590

out nobody got hurt lots of money lost

280

00:13:53,759 --> 00:13:57,939

and the instructions of the workers

281

00:13:56,590 --> 00:14:00,129

whenever you see four or five of these

282

00:13:57,940 --> 00:14:03,070

things to losing the situational

283

00:14:00,129 --> 00:14:05,529

awareness move to a safe position if the

284

00:14:03,070 --> 00:14:10,290

Premonition factors present do it right

285

00:14:05,529 --> 00:14:15,250

now quick now here's one last example

286

00:14:10,289 --> 00:14:16,990

okay Flying Tiger Airlines bad

287

00:14:15,250 --> 00:14:21,009

communications failure to act on

288

00:14:16,990 --> 00:14:23,470

premonitions flying tiger Airlines came

289

00:14:21,009 --> 00:14:26,710

from the Flying Tigers of World War two

290

00:14:23,470 --> 00:14:29,529

Fame and they had a an air air freight

291

00:14:26,710 --> 00:14:33,220

company and they were they were

292

00:14:29,529 --> 00:14:37,230

traveling from Borneo to Kuala Lumpur in

293

00:14:33,220 --> 00:14:42,040

Malaysia and it was a dark night it was

294

00:14:37,230 --> 00:14:44,980

it couldn't really see much there was no

295

00:14:42,039 --> 00:14:47,889

moon and as they got on approach here to

296

00:14:44,980 --> 00:14:50,470

Kuala Lumpur the air traffic controlling

297

00:14:47,889 --> 00:14:54,759

look couldn't in Kuala Lumpur called in

298

00:14:50,470 --> 00:14:58,029

and said you need to fly around and come

299

00:14:54,759 --> 00:15:00,309

in from the other direction because the

300  
00:14:58,029 --> 00:15:02,259  
instrument landing system is not in

301  
00:15:00,309 --> 00:15:04,929  
service from the direction you're coming

302  
00:15:02,259 --> 00:15:07,689  
in same kind of comment I'll come on how

303  
00:15:04,929 --> 00:15:09,399  
we you know he was kind of a cowboy yeah

304  
00:15:07,690 --> 00:15:11,110  
we can do this we've done manual

305  
00:15:09,399 --> 00:15:12,850  
landings before we don't need to we

306  
00:15:11,110 --> 00:15:15,639  
don't need to do that besides that'll

307  
00:15:12,850 --> 00:15:17,980  
take us another hour to get around there

308  
00:15:15,639 --> 00:15:21,189  
and come back and he says we're not

309  
00:15:17,980 --> 00:15:26,050  
going to do it well three times during

310  
00:15:21,190 --> 00:15:29,110  
this approach thing the person the

311  
00:15:26,049 --> 00:15:31,329  
second officer said oh come on Captain

312  
00:15:29,110 --> 00:15:33,039  
let's just fly around I really don't

313  
00:15:31,330 --> 00:15:36,759  
feel good about this he did that three

314

00:15:33,039 --> 00:15:39,569  
times and he was rebuffed each time and

315  
00:15:36,759 --> 00:15:39,569  
so

316  
00:15:40,320 --> 00:15:46,170  
the air traffic controller cleared them

317  
00:15:42,958 --> 00:15:49,528  
to go to she said you are cleared to fly

318  
00:15:46,169 --> 00:15:56,069  
to two four zero zero and they were

319  
00:15:49,528 --> 00:15:58,350  
arguing about which which frequency they

320  
00:15:56,070 --> 00:16:01,290  
should be on that was a distraction and

321  
00:15:58,350 --> 00:16:05,730  
what the crew heard was you are cleared

322  
00:16:01,289 --> 00:16:09,149  
to four zero zero so at that point in

323  
00:16:05,730 --> 00:16:11,850  
time right here they reset the glide

324  
00:16:09,149 --> 00:16:15,089  
slope on the automatic pilot to go to

325  
00:16:11,850 --> 00:16:17,399  
400 feet instead of 2400 they began to

326  
00:16:15,089 --> 00:16:19,139  
still began to continue because of the

327  
00:16:17,399 --> 00:16:21,240  
distraction they did not recognize any

328  
00:16:19,139 --> 00:16:22,709

of these because this wasn't part of the

329

00:16:21,240 --> 00:16:25,110

training at the time and they flew into

330

00:16:22,708 --> 00:16:26,698

a mountain and of course they're killed

331

00:16:25,110 --> 00:16:31,459

and those were the ones that they were

332

00:16:26,698 --> 00:16:36,000

not doing so I'm firmly convinced that

333

00:16:31,458 --> 00:16:38,879

this training works it worked in in all

334

00:16:36,000 --> 00:16:40,919

sorts of critical safety critical

335

00:16:38,879 --> 00:16:43,379

industries and we've trained people in

336

00:16:40,919 --> 00:16:45,929

it and it's got a premonition part of it

337

00:16:43,379 --> 00:16:47,639

and I think it the it helps is

338

00:16:45,929 --> 00:16:50,969

premonition area with the other clues

339

00:16:47,639 --> 00:16:55,318

because it helps you recognize what's

340

00:16:50,970 --> 00:16:57,980

going on and and act and be motivated to

341

00:16:55,318 --> 00:17:02,639

act ok

342

00:16:57,980 --> 00:17:05,409

[Applause]

343  
00:17:02,639 --> 00:17:14,259  
yes thank you John very interesting

344  
00:17:05,409 --> 00:17:16,959  
okay I'm wondering hi yeah very

345  
00:17:14,259 --> 00:17:20,349  
fascinating talk my brother works for

346  
00:17:16,959 --> 00:17:22,839  
the Navy he's at Bremerton Jim yard he

347  
00:17:20,349 --> 00:17:25,088  
was involved in refueling submarines and

348  
00:17:22,838 --> 00:17:27,808  
we've talked on many occasions about

349  
00:17:25,088 --> 00:17:30,250  
their safety procedures and he recently

350  
00:17:27,808 --> 00:17:32,019  
turned me to a book I can't remember the

351  
00:17:30,250 --> 00:17:35,769  
author sorry but it's called root cause

352  
00:17:32,019 --> 00:17:37,148  
analysis okay so I was wondering looking

353  
00:17:35,769 --> 00:17:39,278  
at that it seemed quite limited to me

354  
00:17:37,148 --> 00:17:41,319  
and I wanted to know if if you had seen

355  
00:17:39,278 --> 00:17:43,480  
that practice and how how you would

356  
00:17:41,319 --> 00:17:46,178  
think of it well that's a subject that

357  
00:17:43,480 --> 00:17:48,819  
we teach in and with relation to this

358  
00:17:46,179 --> 00:17:52,048  
here also root cause failure analysis

359  
00:17:48,819 --> 00:17:54,579  
that's two things is it's a technique of

360  
00:17:52,048 --> 00:17:56,769  
building an error chain where you start

361  
00:17:54,579 --> 00:17:59,319  
where the sharp end of the error chain

362  
00:17:56,769 --> 00:18:00,970  
is that's where it hurts okay and you

363  
00:17:59,319 --> 00:18:02,319  
say what caused that and then what

364  
00:18:00,970 --> 00:18:03,788  
caused that and then what caused that

365  
00:18:02,319 --> 00:18:06,538  
and then what caused that and so you

366  
00:18:03,788 --> 00:18:10,658  
develop an error chain that you can

367  
00:18:06,538 --> 00:18:12,970  
analyze and then take actions to solve a

368  
00:18:10,659 --> 00:18:14,679  
lot of problems and so that's one thing

369  
00:18:12,970 --> 00:18:16,089  
and then there is also a computer

370  
00:18:14,679 --> 00:18:17,350  
program you can buy that will walk you

371

00:18:16,089 --> 00:18:19,389  
through it called root cause failure

372  
00:18:17,349 --> 00:18:26,439  
analysis very very very valuable

373  
00:18:19,390 --> 00:18:28,149  
technique yeah yeah no it doesn't but

374  
00:18:26,440 --> 00:18:31,778  
one of the things I've done in my

375  
00:18:28,148 --> 00:18:34,000  
classes I I take that that lemon clues

376  
00:18:31,778 --> 00:18:37,390  
sheet and we use that an incident

377  
00:18:34,000 --> 00:18:41,169  
investigation to see if there was human

378  
00:18:37,390 --> 00:18:44,020  
error because they had missed one or two

379  
00:18:41,169 --> 00:18:47,190  
or more or five of those clues to losing

380  
00:18:44,019 --> 00:18:49,450  
awareness so in that respect yeah we do

381  
00:18:47,190 --> 00:18:51,429  
yeah oh right here

382  
00:18:49,450 --> 00:18:53,590  
thanks John um my work for a company

383  
00:18:51,429 --> 00:18:54,820  
that talks about safety but doesn't

384  
00:18:53,589 --> 00:18:58,089  
really do anything about safety

385  
00:18:54,819 --> 00:19:00,939

is there anything typical yeah yeah and

386

00:18:58,089 --> 00:19:04,389

we've had accidents there but I just got

387

00:19:00,940 --> 00:19:11,340

brushed under the rug any commercial

388

00:19:04,390 --> 00:19:11,340

training programs call me about everyone

389

00:19:11,599 --> 00:19:15,439

well I think there are yeah I think

390

00:19:13,579 --> 00:19:18,349

there are some there are people who

391

00:19:15,440 --> 00:19:20,120

because the FAA requires it's called

392

00:19:18,349 --> 00:19:22,399

crew resource management is the

393

00:19:20,119 --> 00:19:24,379

technical term for the entire training

394

00:19:22,400 --> 00:19:28,690

program okay so I think there are yeah

395

00:19:24,380 --> 00:19:34,669

I'll google that thank you all

396

00:19:28,690 --> 00:19:37,210

situationally aware or unaware Thanks so

397

00:19:34,669 --> 00:19:39,350

it's very fascinating presentation

398

00:19:37,210 --> 00:19:41,509

looking at the camera I know I'm gonna

399

00:19:39,349 --> 00:19:43,158

be further than Todd once the DVDs get

400  
00:19:41,509 --> 00:19:45,200  
out but I was looking at the eleven

401  
00:19:43,159 --> 00:19:47,330  
point least and it looked to me like a

402  
00:19:45,200 --> 00:19:50,659  
perfect checklist for a systemic

403  
00:19:47,329 --> 00:19:52,189  
business failure and in the case I was

404  
00:19:50,659 --> 00:19:54,500  
thinking about was a big telecoms

405  
00:19:52,190 --> 00:19:55,909  
manufacturer from Finland so you may

406  
00:19:54,500 --> 00:19:57,919  
have heard about it and it's recent

407  
00:19:55,909 --> 00:20:01,760  
troubles so I'm thinking do you think

408  
00:19:57,919 --> 00:20:05,720  
this list has applicability beyond the

409  
00:20:01,759 --> 00:20:08,839  
technical logical reliability does yeah

410  
00:20:05,720 --> 00:20:11,990  
matter of fact you can use it in your

411  
00:20:08,839 --> 00:20:14,569  
family for instance if you get a phone

412  
00:20:11,990 --> 00:20:17,779  
call at 3:00 in the morning saying your

413  
00:20:14,569 --> 00:20:20,829  
sins in jail you need to come get him

414  
00:20:17,779 --> 00:20:24,678  
that's bad situational and parent and in

415  
00:20:20,829 --> 00:20:26,899  
the kind of your parenting and I nearly

416  
00:20:24,679 --> 00:20:28,220  
had a guy in my office who came home one

417  
00:20:26,900 --> 00:20:29,600  
day and the first of the month bills

418  
00:20:28,220 --> 00:20:31,519  
come in and all of a sudden here is

419  
00:20:29,599 --> 00:20:32,839  
credit card bills from about six

420  
00:20:31,519 --> 00:20:35,839  
different places he didn't know he had a

421  
00:20:32,839 --> 00:20:38,658  
credit card for and here was an \$18,000

422  
00:20:35,839 --> 00:20:40,399  
total charge all piled up his wife had

423  
00:20:38,659 --> 00:20:42,590  
gone out and spent that much money and

424  
00:20:40,400 --> 00:20:47,480  
they had nothing to show for it the

425  
00:20:42,589 --> 00:20:49,490  
thing that they thought was she must

426  
00:20:47,480 --> 00:20:51,380  
have bought a lot of stuff and there was

427  
00:20:49,490 --> 00:20:54,019  
receipts and things but she didn't have

428

00:20:51,380 --> 00:20:55,640  
him and she gave it away it was what it

429  
00:20:54,019 --> 00:20:57,319  
was happen to the show so there's all

430  
00:20:55,640 --> 00:21:01,159  
kinds financial situational awareness

431  
00:20:57,319 --> 00:21:03,950  
credit cards is a big one so the it's a

432  
00:21:01,159 --> 00:21:05,600  
really powerful powerful one additional

433  
00:21:03,950 --> 00:21:07,819  
continued question do you think it makes

434  
00:21:05,599 --> 00:21:11,629  
any sense to move the premonition from

435  
00:21:07,819 --> 00:21:14,029  
the 11th spot to the top well it's

436  
00:21:11,630 --> 00:21:16,340  
probably one of the better ones as

437  
00:21:14,029 --> 00:21:19,339  
you're teaching that you run into the

438  
00:21:16,339 --> 00:21:21,558  
problem do they believe that one down

439  
00:21:19,339 --> 00:21:23,269  
there ok but when you give them the rest

440  
00:21:21,558 --> 00:21:23,609  
of them and then people start coming up

441  
00:21:23,269 --> 00:21:26,339  
and

442  
00:21:23,609 --> 00:21:32,879

with examples then that makes lots of

443

00:21:26,339 --> 00:21:33,379

sense - yeah okay okay thank you John

444

00:21:32,880 --> 00:21:36,969

very much

445

00:21:33,380 --> 00:21:36,969

[Applause]

446

00:21:38,089 --> 00:21:40,149

you