

Crew Resource Management in a Safety-critical Workplace

What Lessons From Aviation?





CATHAY PACIFIC



How much longer....

Oops..

Idiot

I wonder if she's married

I'm soooo tired

Where did I put that?





Looking good at the moment but...

Ah.complication

I see he's about to..

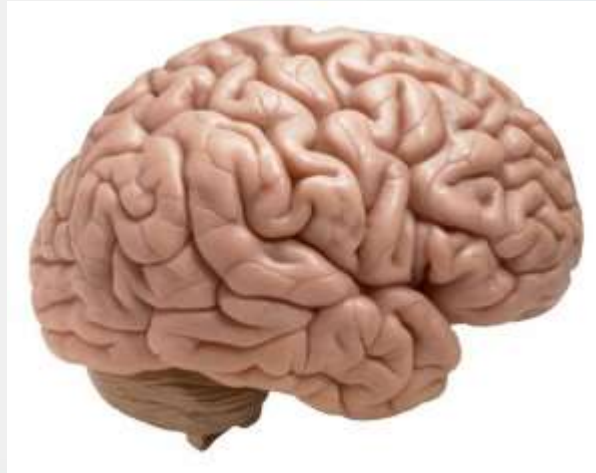
I've already alerted..

Better get this ready

We will need more of..



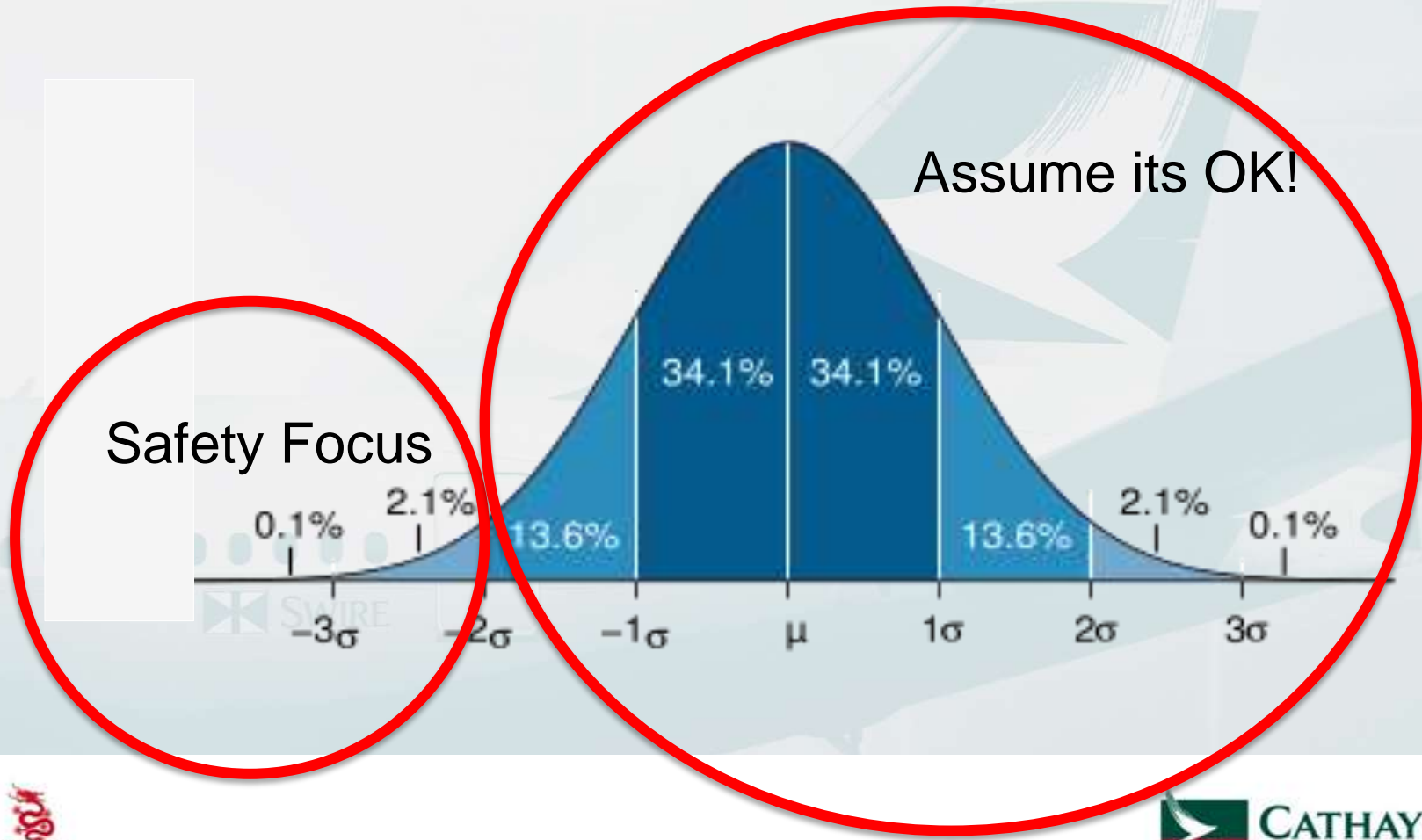
CRM is about getting everyone thinking as one



CRM Course content looks at how to reach that goal



Where is aviation going?



Welcome to the Real World

Coping with pressure and demand

Adjusting

Trade-offs

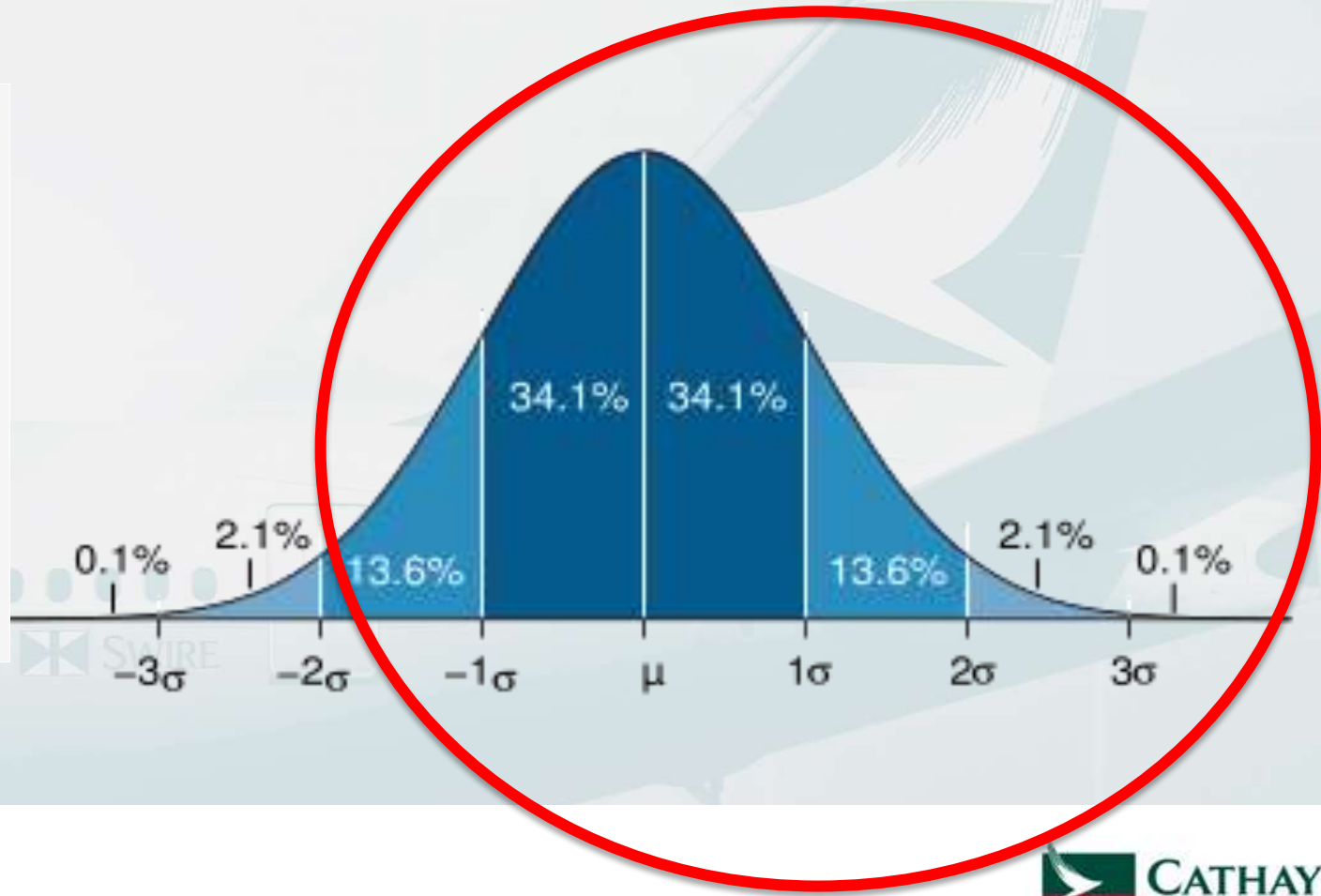


Error Types and Detection Rates

	Slip (39%)	Lapse (30%)	Mistake (31%)
Crew	59.2	55.4	73.2
Aircraft	0.9	5.2	2.8
ATC	16.5	2.3	2.5
Other	0.4	1.1	0
Not detected	22.7	35.8	21.3



Stop counting errors!



Implications for Training

Behaviour is adaptive .. So train to adapt
Establish robust context/constraint knowledge

Training needs to reflect subtle variations in task demand
as well as 'startle' effect



Where next?

Very safe systems probably cannot get much safer

Old thinking will not sustain safety levels

Need to consider organizational factors

Need to look at work in context



Thank you for your attention

Norman MacLeod

Human Factors Manager

