ECAM PHILOSOPHY

DETECTION
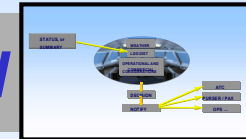
ECAM ACTIONS

ECAM PROCEDURE

SYSTEM DISPLAY *(if required)*

STATUS

SITUATION ASSESSMENT / DECISION

PF	PNF

1. DETECTION

First pilot who notices:

MASTER CAUTION/MASTER WARNING……………RESET

ANNOUNCE………………………....…..”TITLE OF FAILURE”

FLIES THE AIRCRAFT

NAVIGATES

CONSIDER AUTOMATION USE : A/THR, AP

➢ **If failure at takeoff:**

NO ACTION until 400ft AGL *, with safe flight path established.*

PF	PNF

2. ECAM PROCEDURE

PF	PNF
ORDER……………………………"ECAM ACTIONS"	ECAM …………….………..CONFIRM (using SD and overhead panel)
ECAM ACTIONS COMPLETE……….CHECK CONFIRM………… CLEAR "name of SYS"?	ECAM ACTIONS………………PERFORM REQUEST………CLEAR "name of SYS"? ECAM…………………………...CLEAR

→ **This is to be repeated for each failure displayed on the ECAM.**

LAND ASAP

Example :

*Task sharing:
As soon as he announced "ECAM ACTIONS", the PF is in charge of communications, until all the ECAM actions have been completed.

Both pilots should confirm irreversible/guarded actions

A330   A340

3. SYSTEM DISPLAY Analysis

If a SYSTEM page is displayed on the lower ECAM screen:

SYSTEM PAGE DISPLAYED……….ANALYSE

REQUEST…………...CLEAR "name of SYS"?

CONFIRM………… CLEAR "name of SYS"?

SYSTEM DISPLAY………………..CLEAR

This is to be repeated until all the displayed system pages have been reviewed, and the STATUS page is displayed.

PF	PNF

4. STATUS

REQUEST…………………………………..STATUS?

CONFIRM………………..…….….READ STATUS ⓘ STATUS …………………………..…….READ

LIMITATIONS………………….…..…CHECK
PROC……………….…………….…CONSIDER
LANDING DIST&SPEED INCREMENT..CHECK
INOP SYS……………………..….CHECK

REQUEST…………………….CLEAR STATUS ?
CONFIRM……………………….CLEAR STATUS STATUS……………………………..…CLEAR
ANNOUNCE………ECAM ACTIONS COMPLETED

RETURN TO NORMAL TASK SHARING

Landing distance and approach speed computation:

•**For complex procedures** (dual hydraulic failure or electrical emergency configuration):   Use SUMMARY

QRH
1.00

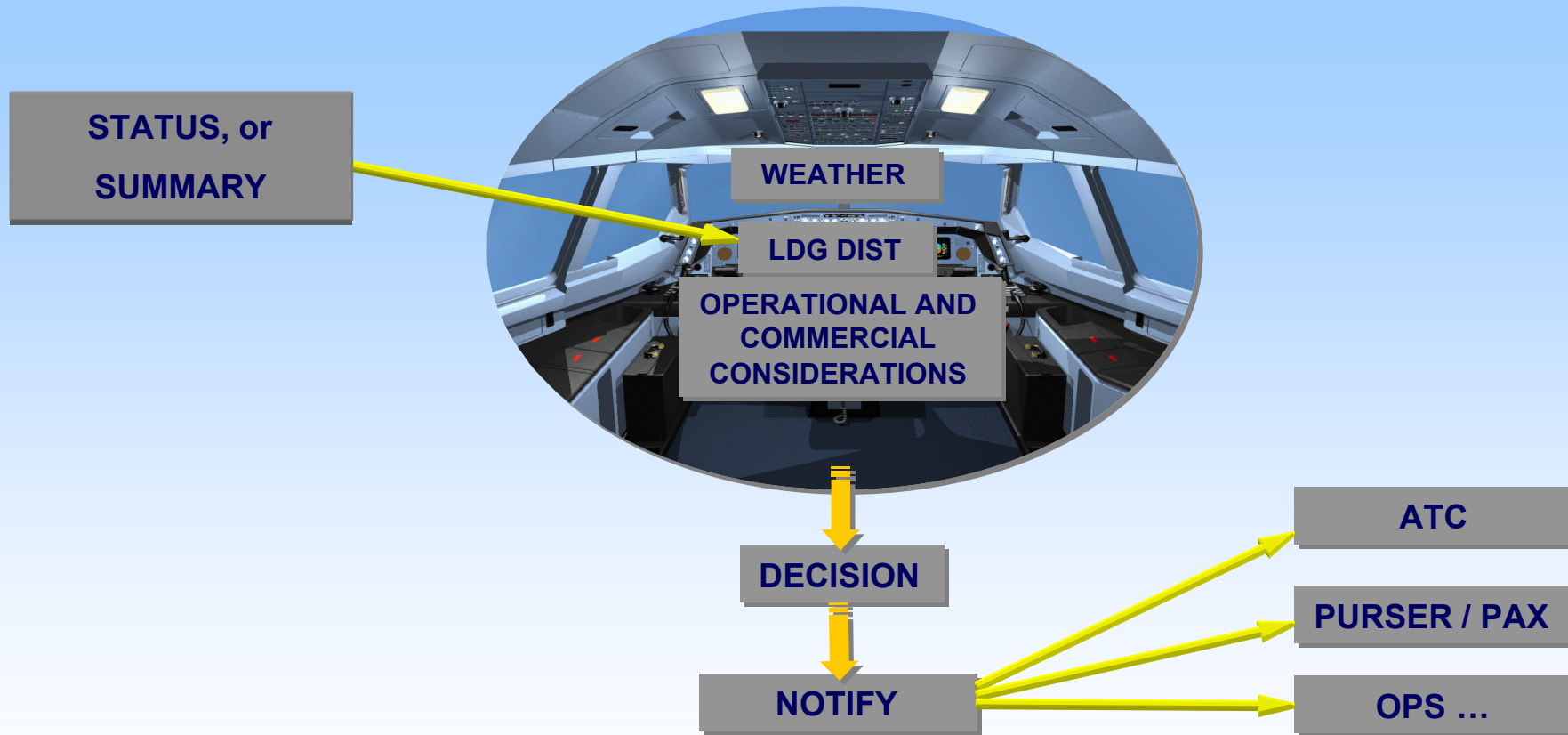•**For other cases:** ⓘ

Review FCOM procedure:

3 02 – ABN-EMER

Applying ECAM procedure ensures flight safety.
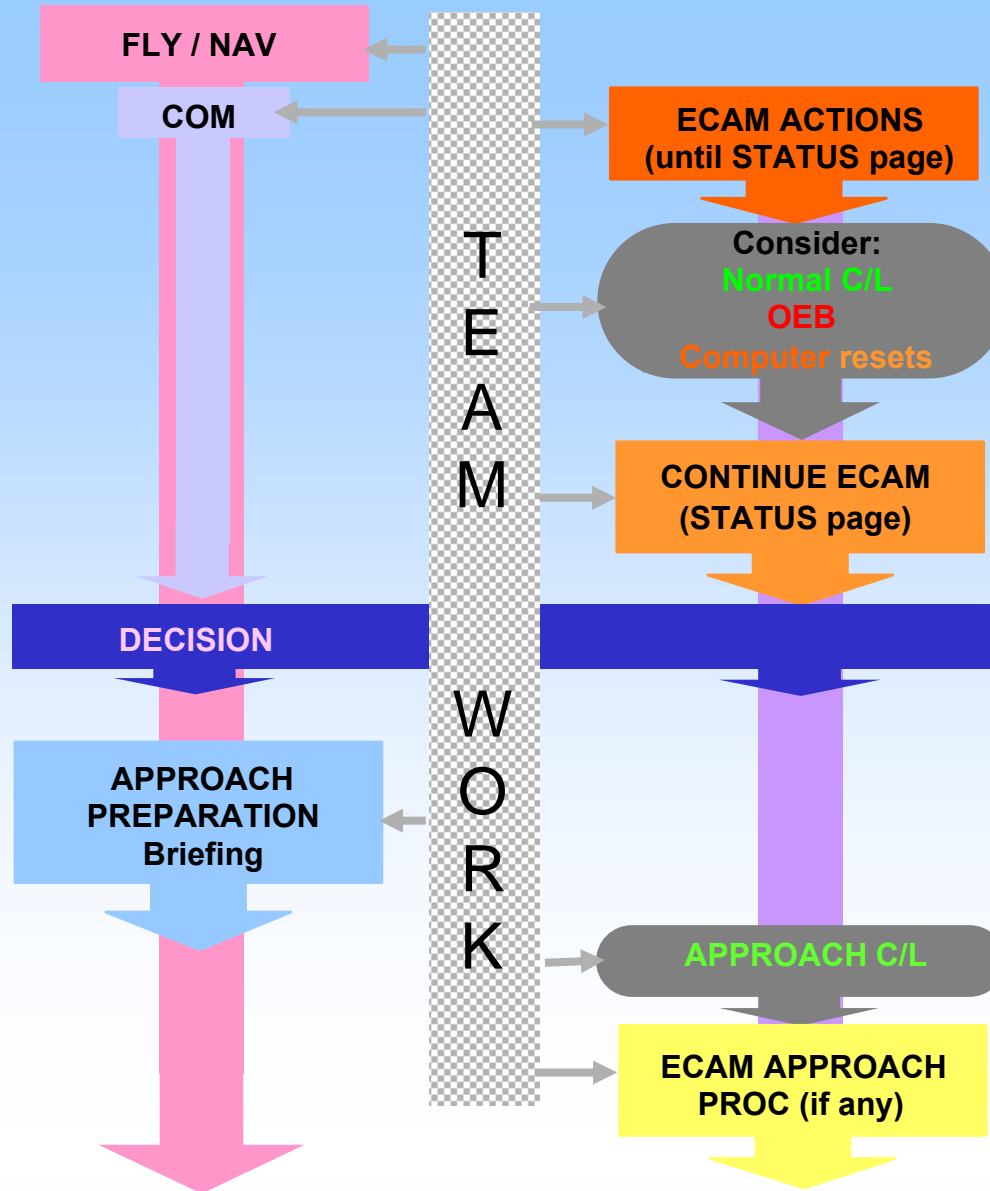**However, referring to FCOM 3.02,** *if time permits*, **may provide useful additional information.**

STATUS, or

SUMMARY

WEATHER

LDG DIST

OPERATIONAL AND
COMMERCIAL
CONSIDERATIONS

DECISION

NOTIFY

ATC

PURSER / PAX

OPS …

PF   **PNF**

6. SYNTHESIS

| FLY / NAV |

| COM |

| ECAM ACTIONS (until STATUS page) |

Consider:
Normal C/L
OEB
Computer resets

CONTINUE ECAM (STATUS page)

T E A M   W O R K

DECISION

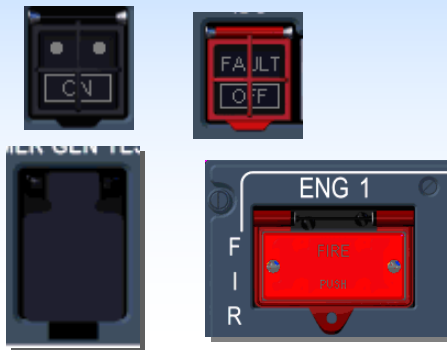| APPROACH PREPARATION Briefing |

APPROACH C/L

ECAM APPROACH PROC (if any)

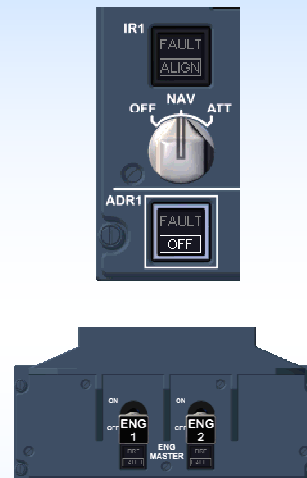## IRREVERSIBLE / GUARDED ACTIONS CONFIRMATION ℹ️

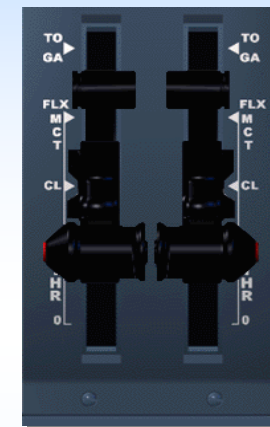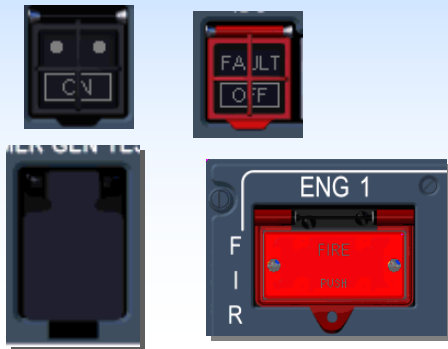## Confirmation from both pilots is required, when the action concerns:

Any guarded switch

Master switch or ADIRS control

Thrust lever is a PF action given that it may influence flight path

How to proceed for confirmation ?

PF	PNF
	Hand on related control:
	REQUEST……………..…......CONFIRM ?
ACTION………………………...…..CHECK	
ANSWER……………….…………CONFIRM	ACTION………………….…………..PERFORM

How to proceed for confirmation ?

PF	PNF
Hand on related control:	
REQUEST……………….……...CONFIRM ?	
	ACTION……………………….…..CHECK
ACTION…………………….………PERFORM	ANSWER……………….…………CONFIRM

Confirmation from both pilots is required, when the action concerns:

Any guarded switch

Master switch or ADIRS control

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How to proceed for confirmation ?

PF

ACTION……………………..…..CHECK

ANSWER……………..………CONFIRM

PNF

Hand on related control:

REQUEST………………..……...CONFIRM ?

ACTION………………….…………..PERFORM

How to proceed for confirmation ?

PF

Hand on related control:

REQUEST…………………..……...CONFIRM ?

ACTION……………….………..PERFORM

PNF

ACTION……………………..…..CHECK

ANSWER……………..………CONFIRM

PF	PNF

2. ECAM PROCEDURE

ECAM ……………….………..CONFIRM (using SD and overhead panel)

ORDER……………………………..”ECAM ACTIONS”

ECAM ACTIONS………………..PERFORM

REQUEST………CLEAR “name of <u>SYS</u>”?

ECAM ACTIONS COMPLETE………..CHECK

CONFIRM .... CLEAR   ECAM .... CLEAR

Depending on the failure, LAND ASAP , or LAND ASAP , may be displayed, in

the right column of the ECAM procedure.

RED LAND ASAP   : Land at the next suitable airport.

AMBER LAND ASAP   : Assess the seriousness of the situation and consider the

selection of a suitable airport.

LANDING DISTANCE COMPUTATION ℹ️

QRH
2.00

APPR SPD-LDG DIST CORRECTIONS FOR FAILURES

Determine the landing distance coefficient.

LDG CONF/APPR SPD/LDG DIST FOLLOWING FAILURES

A340	FAILURE	FLAP LEVER POSITION FOR LDG	△ V$_{REF}$ APPR SPD INCREMENT	MULTIPLY LDG DIST CONF FULL BY
SYS	FAILURE A	NORM (1)	-	1.1
	FAILURE A	3	10	1.2

QRH
4.00

LANDING DISTANCE WITHOUT AUTOBRAKE – CONF FULL

Determine the landing distance in CONF FULL without failure

Apply the coefficient determined above to this distance.

LANDING DISTANCE WITHOUT AUTOBRAKE

The actual landing distance is the distance to come to a complete stop from a point 50 feet above the landing surface. No margin is included in this distance.

CONFIGURATION FULL

R |

ACTUAL LANDING DISTANCE (METERS)							
WEIGHT (1000 KG)	130	150	170	190	210	230	250
DRY	870	890	1000	1150	1310	1490	1660
WET	1140	1150	1280	1420	1570	1740	1890

(1) If NORM is indicated for landing configuration, and if CONF 3 is used, apply an additional 1.1 coefficient to the landing distance.
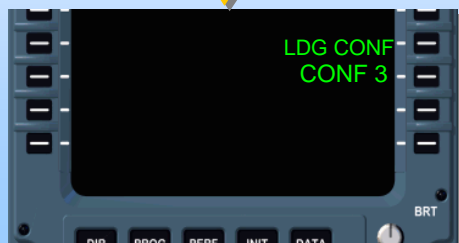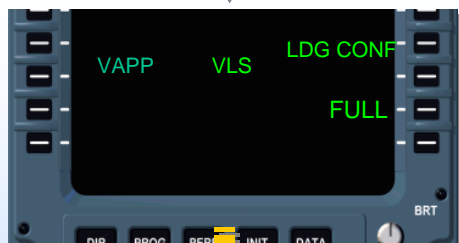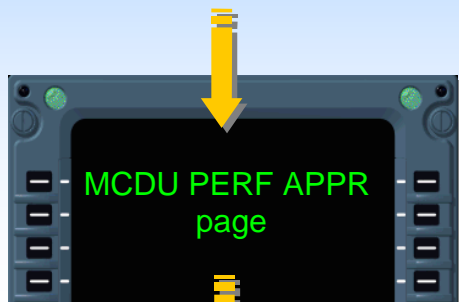
VAPP = VREF + ΔVREF + WIND CORRECTION (if applicable)

When applicable, **ΔVREF** is given on the QRH.

In this case:

MCDU PERF APPR page

WIND CORRECTION	
ΔVREF ≥ 20KT	ΔVREF < 20KT
NO WIND CORRECTION	1/3 HEADWIND (Δ VREF + WIND CORR LIMITED TO 20KT)

VAPP   VLS   LDG CONF
FULL

➢ **Select CONF FULL**
➢ **Read VREF = VLS CONF FULL**
➢ **Add ΔVREF to VREF**
➢ **Add wind correction, if applicable**
➢ **Enter VAPP manually**

Wind correction only applies when **ΔVREF** is lower than 20 kts.

LDG CONF
CONF 3

If LDG in CONF 3 :

➢ **Select CONF 3**

Note: This computation must be done according to the appropriate weight at destination, so, with F-PLN properly updated.

If the ECAM shows a ΔVLS : ℹ️
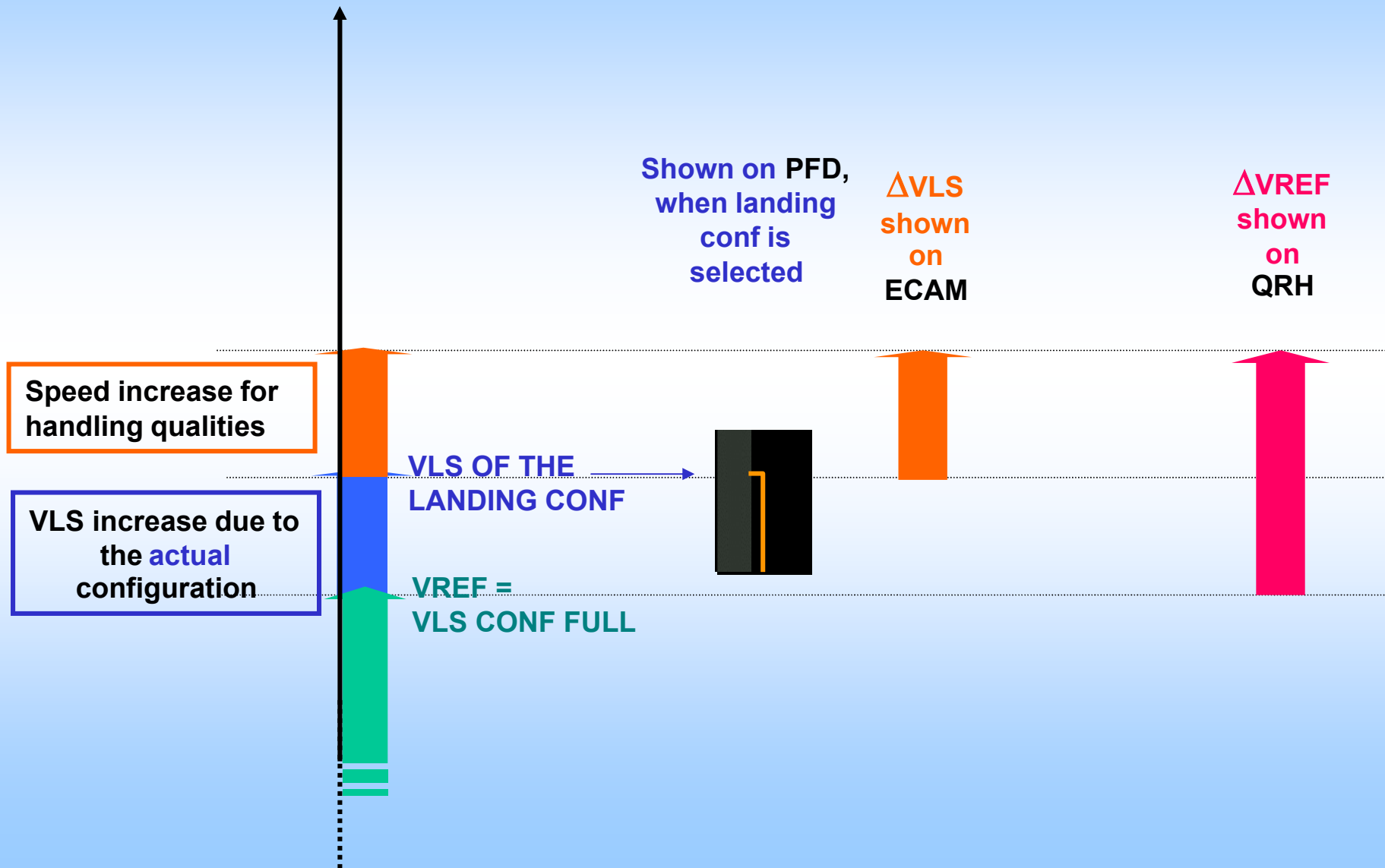
The ECAM shows a ΔVLS, while the QRH shows a ΔVREF .

Shown on **PFD,**
when landing
conf is
selected

ΔVLS
shown
on
ECAM

ΔVREF
shown
on
QRH

Speed increase for
handling qualities

VLS OF THE
LANDING CONF

VLS increase due to
the actual
configuration

VREF =
VLS CONF FULL

REQUEST……………………………….........STATUS?

CONFIRM…………………..…………READ STATUS ℹ️ STATUS …………………………………....……..READ

The PNF should not start reading the STATUS before confirmation from the PF.

**For any priority reason Status analysis can be postponed by PF
e.g. C/L, ATC communication…**

In some cases, some other checks or actions may have to be performed, before reading the STATUS:

➢ **In case of failure at takeoff, the NORMAL TAKEOFF C/L has to be performed**

➢ **OEB (if applicable) is to be applied at that time (Refer to QRH 6.00),**

➢ **Computer resets may be considered (Refer to QRH 2.00)**