

RunwaySense



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01 Runway Excursions: The most common incident type

02 RunwaySense: What does it do for you?

03 RunwaySense: How does it work?

04 The keys to close the loop on runway safety

Runway Excursions: The most common incident type

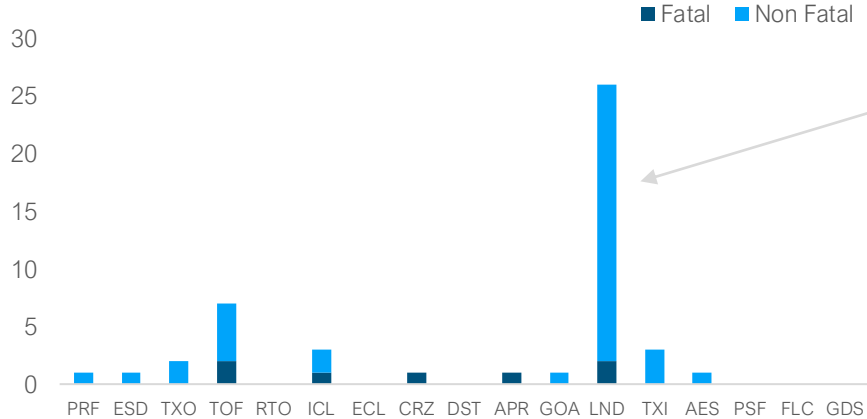
CHAPTER 01



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Runway Excursions: The most common incident type

Jet aircraft: Accidents per Phase of Flight (2018)



2018 runway excursions accounted for **38,4%** of jet aircraft accidents at landing

Average damage costs per accidents



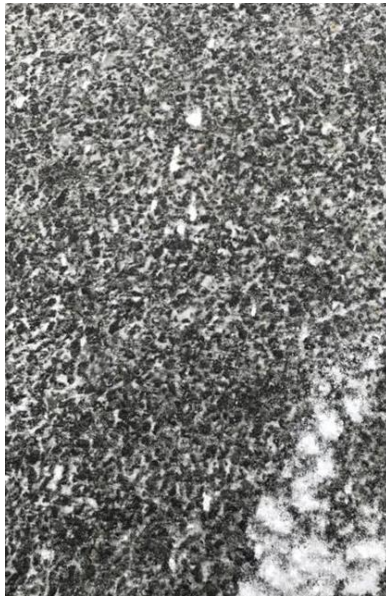
Direct costs
EUR 11.1M (USD 12.3M)



Indirect costs
EUR 2.6M (USD 2.9M)

RunwaySense

Our contribution to enhance runway safety



RunwaySense: What does it do for you?

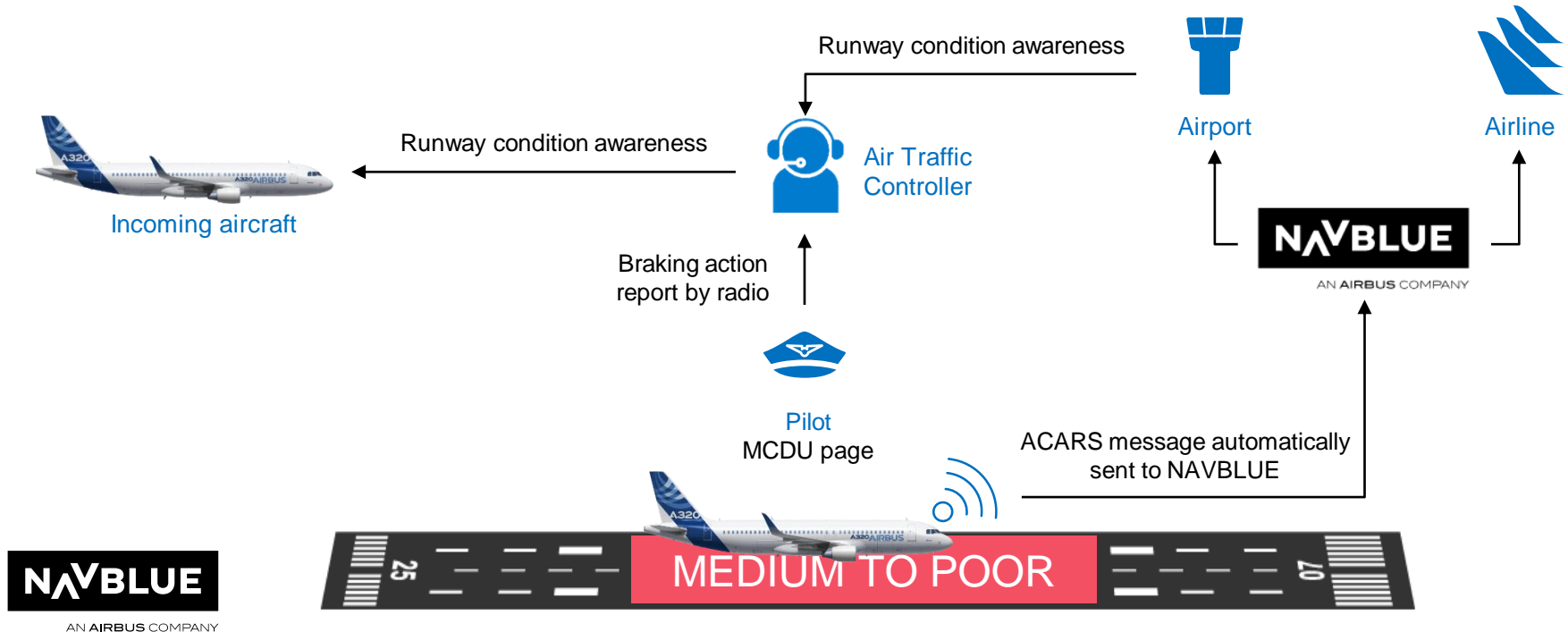
CHAPTER 02



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RunwaySense

Our contribution to enhance runway safety



Improve runway conditions awareness together ... but how?



On-board software
Braking Action Computation
Function "BACF+"



Collaborative
Data sharing
RunwaySense Service

How Braking Action Computation Function (BACF+) works

Use the data measured by the aircraft during its deceleration roll to identify the braking action level...

Actual braking performance



Braking Phase

Reference Aircraft Performance Model



How Braking Action Computation Function (BACF+) works

...and, the runway state becomes available to the pilot on a dedicated MCDU page

Feedback to the Pilot

Situational awareness about how slippery the runway was and where

Aid for PIREP

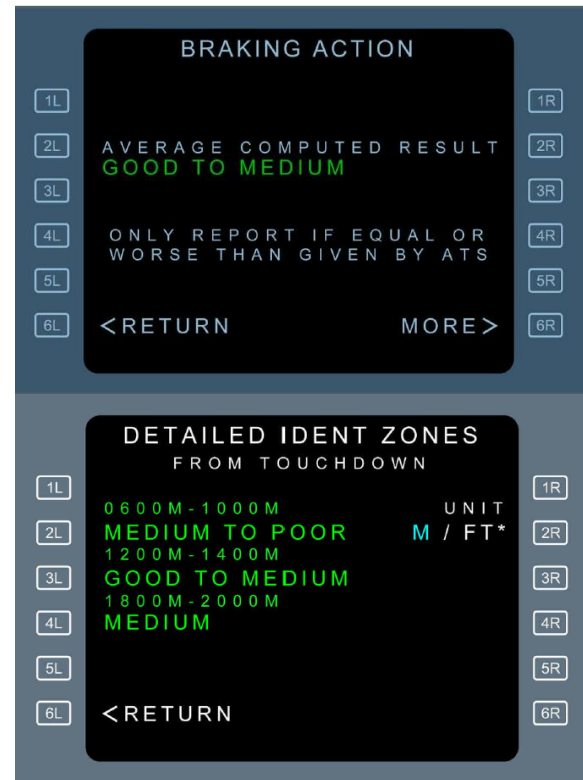
Objective feedback for Pilot Braking Action Report

Availability

A319ceo | A320ceo/neo | A321ceo/neo
Retrofit – Standard Service Bulletin (FOC)
Linefit – SCN (FOC)

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BACF+ is Reliable

Winter season feedback

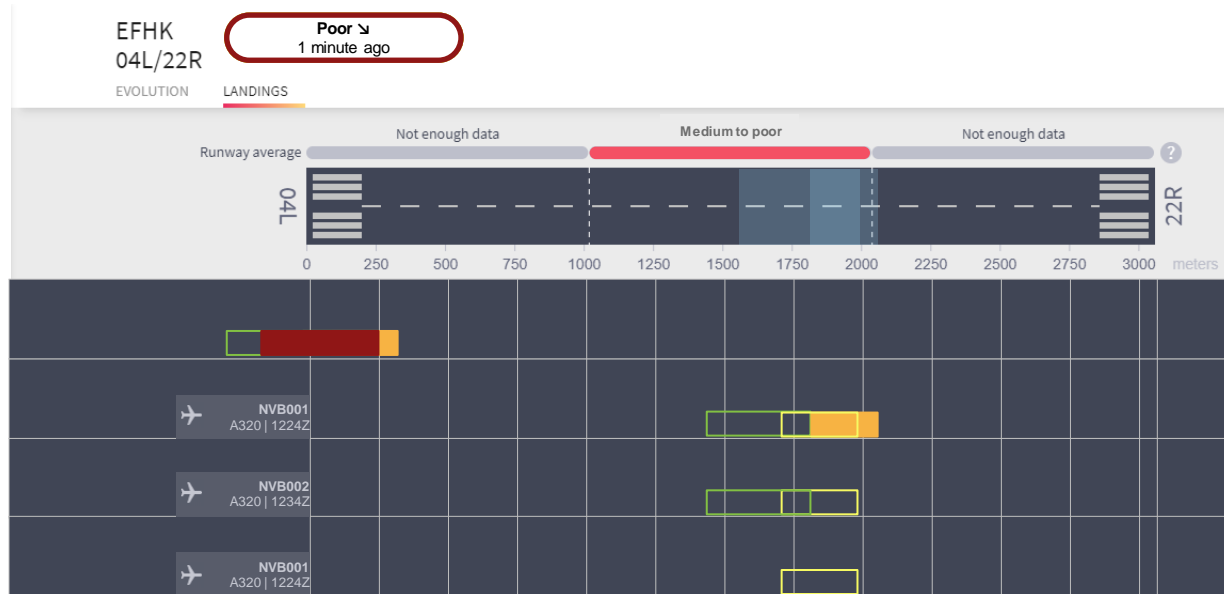


Pilot feedback: 88% of the pilots reported that BACF+ is helpful in determining the braking action for PIREP. They confirmed the need to well understand the data as the aircraft identify a portion of the runway. The airport must be responsible to provide a consolidated data (even if a portion is POOR, between 2 exits for example, the aircraft may be able to land)

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Collaborative Web-Platform



Real-time information with 24 hr historical data available

What are the benefits? Why share data?

Optimise
Enhance safety



- Pilot awareness of slippery conditions
- Objective feedback for Pilot Braking Action Report
- Awareness of slippery conditions, risk management within route network



- Compliant with the **new Global Reporting Format mandatory on Nov 2020**
- Real-time information about runway condition trends
- No impact on airport traffic
- Optimize runway closures and cleaning based on slippery conditions
- Optimize use of de-icing chemicals for slippery areas of runway



- Awareness of current runway braking action
- Collaboration with airport on slippery conditions and runway closures

RunwaySense: How does it work?

CHAPTER 03



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Why is BACF+ free for Airbus Operators?

The Safety Benefit of this technology can only be realized with a mass adoption of the onboard software

The value is not in one message, it is from the combination of 100s of messages

Therefore Airbus & NAVBLUE decided to make the onboard software FOC, provided that airlines share the data with the RunwaySense platform

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How to get BACF+ on-board your aircraft?

- Request Airbus **Standard Service Bulletin** for the installation of BACF+

OR request to Airbus Customization BACF+ in linefit
- Sign RunwaySense **Service Agreement**
- Allow NAVBLUE to **use** the collected **data**
- Contact your Data service Provider to **route ACARS messages to NAVBLUE**
- **Place FOC Purchase Order (PO)** to NAVBLUE for **ATSU software upgrade**



More info



[NAVBLUE website](#)



[Airbus Safety First Magazine](#)



Your contact
<https://runwaysense.support.navblue.aero/support/home>

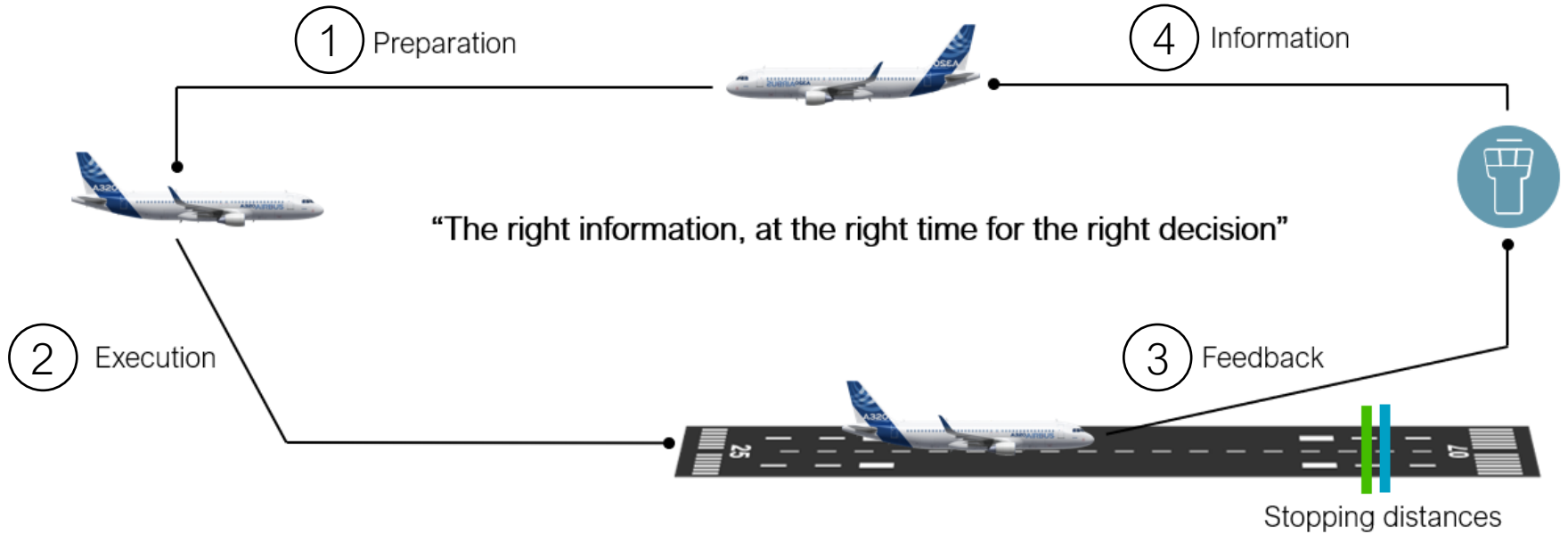
The key to closing the loop on runway safety

CHAPTER 04



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The key to closing the loop on runway safety



Thank you → Trial Access is available

Do you have any further questions?





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