



Aircraft Deceleration Early Warning System

For Continuous Monitoring of Runway Conditions

ADEW is a cloud-based intelligent system that silently monitors aircraft landing data to alert operators of potentially slippery, or degrading runway conditions.

24/7/365 global runway monitoring of each and every landing to analyze aircraft braking (deceleration), stopping distances, steering control & artifacts / anomalies of interest.

ADEW combines data from ADS-B transmitters (required on nearly every aircraft) with weather and geo-spatial data with an analysis model that leverages data science and machine learning principles to flag anomalous landings and more importantly anomalous patterns in aircraft deceleration.

ADEW provides situational awareness into aircraft wheel braking availability in ALL conditions (dry, wet, snow, ice, rubber, sand, or other contaminants) to reduce veer-off risks by coninously monitoring aircraft directional compliance.



24/7 Monitoring of Aircraft Deceleration & Directional Control

- Braking and centerline compliance reports of every aircraft that lands.
- Customized threshold alerts allow airports to be proactive instead of reactive to changing runway conditions.
- Archives all landings to allow airports to run reports based on time of year, runway, aircraft type, etc.

Alerts

Alerts airport operators of landing anomalies and trend analysis to warn of changes that may suggest runway conditions are different than previously reported.

Alerts are stored in a manner that allows fast and easy mining where ADEW has identified poor deceleration or directional compliance on contaminated runways. This could mean rubber build up, snow/ice/other contaminants, loss of texture, or the development of runway surface irregularities.



Provides an alert via short message service (SMS) and/or e-mail message to individuals or groups.

≡ ADEW			L	OGOUT LANDINGS ADMIN				
		🜡 19 °C 🤧 Light breeze: 5.1 knots 🖉 S 🔅						
Date: 2021-08-31	Time: 12:20 AM	Runway: 32	ICAO: C00D51 Callsign: FLE483					
00 at	Effective have been a constrained of the second of the sec	500 4,500 4,500 5,5 Distance (fi)	00 5.500 6.500 e					

User-Friendly Dashboard

Generates a set of analysis graphs to better understand the landing characteristics. The dashboard view also clearly identifies any landings where an "alert" was issued.

ADEW										COCOT EXCHANCED	Chomes Asses
From Date 12/04/2022 Alerts Ground Spee SEARCH	ed •	023 🖬 🕅	lacdonald-Cartier	• Crow •	feet	Class Runneys ANY • All nummers	are selected.	××			
Landings										± EXPORT CSV	± EXPORT P
Dute	Time \diamond	Ranway	ICAO	CallSign	Class	Time On Rutway	Map	Data	Data (RAM)	Analysis	Alert Status
01/13/2023	02.43 AM	47	C017ED	J2A7760	Large (75,000 to 300;000 Re)	1064	0			8	0
01/12/2023	09:17 PM	07	C00807	JZA13	Small (15,500 to 75,000 lbs)	954	0			8	۵
01/12/2028	03.36 AM	47	COSNEC	TSC887	Large (75,000 to 300;000 RH)	826	æ			8	۵
01/10/2023	07.17 PM	07	COSSAE	ACA462	Large (75,000 to 300,000 lbs)	81	0			8	۵
01/10/2223	06.43 PM	07	C0192E	ACA460	Large (75,000 to 300;000 lbs)	726	0			8	0
01/10/2023	0637 PM	47	A40A28	AMI3772	Small (15,500 to 75,000 lbs)	806	0			8	0
01/10/2023	04.38 PM	47	COSIDCA	ACA342	Heavy (= 300,000 lbs)	821	0			8	۵
01/10/2023	03.49 PM	47	407968	SWG313	Large (75,000 to 300;000 RH)	854	æ			8	ø
01/09/2023	09:44 PM	25	COLDCF	J2A112	Large (75,000 to 300,000 lbs)	801	0			8	۵
01/09/2023	09/03 PM	25	C06359	P062271	Small (15,500 to 75,000 lbs)	944	0		-	8	۵
01/09/2023	08:00 PM	25	CO1DEA	ACA462	Large (75,000 to 300,000 Rs)	915	0			8	۵
01/09/2023	06:55 PM	32	407968	SWG449	Large (75,000 to 300,000 lbs)	1709	0			8	۵
01/09/2023	06.19 PM	25	C08335	WSW222	Large (75,000 to 300,000 lbs)	1009	cu -			8	۵
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Report Generation

Data is archived to provide an auditable record and the ability to generate reports to search based on such fields as: runway, aircraft type, date, alert status etc.

Smart Technology

- The ability to monitor changes in time on runway, which may impact spacing and scheduling during peak operations.
- Provide objective data that would support decisions to recommend or discontinue
 - minimal use of reverse thrust as part of a sustainability protocol.
- Insight to identify and address operating procedures that may unnecessarily prolong time on runway.
- Augment or provide digital records of aircraft landings for use by finance.

