



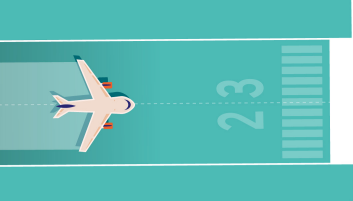
EMAS EME

**USE THE FULL POTENTIAL
OF THE RUNWAY**



François Bouteiller

Président-directeur général de Plane & Simple Ltd,
représentant en France de la société EMAS EME



PRÉVENIR LES SORTIES DE PISTE

Jeudi 7 décembre 2023



Agenda



EMASEME: The company – background, experience and operations

EMAS function & application

ICAO / FAA Regulations

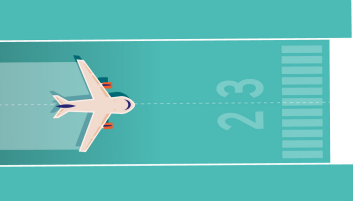
EMAS how does it work?

Our solutions EMASMAX & greenEMAS

Overrun experiences

EMAS project timeline





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EMASEME – who we are!

Representation in France by:



Joel Castanheira
COO – Head of
Operations



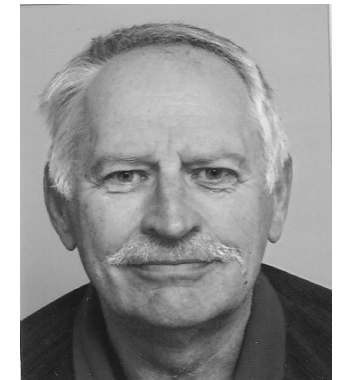
**Samira Soltani
Nielsen**
Sales Manager



Martin Olsson
CEO

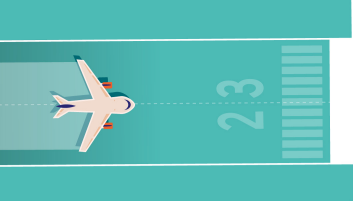


François Bouteiller
President & CEO



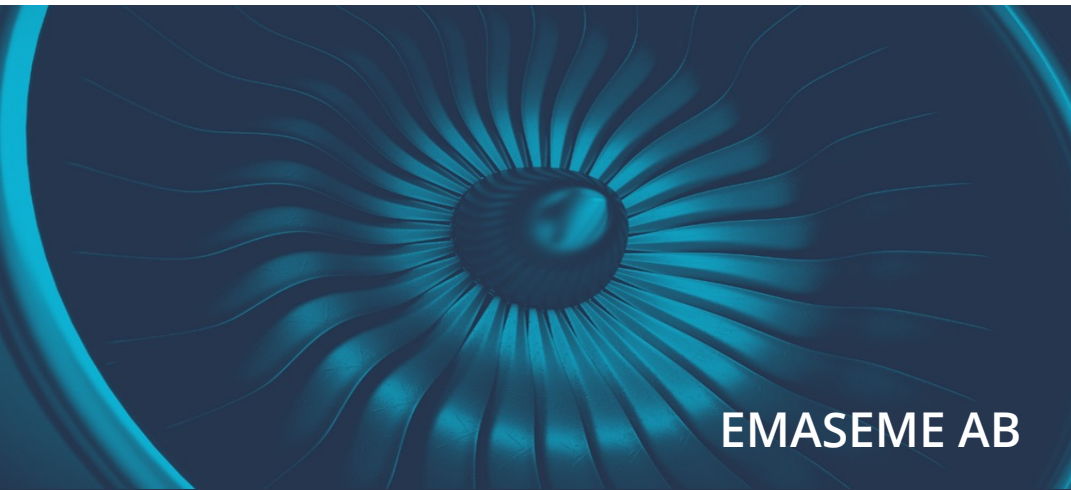
Philippe Platek
Senior advisor





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EMASEME AB

- Privately held company founded in 2021
- Headquarter in Gothenburg - Sweden
- Owned by Runway Safe and Kibag 50/50
- Presence - in Europe and Middle East
- Exclusive distributor of EMAS arresting systems and services in EME.
- EMASMAX installations in Norway, Spain and Saudi Arabia
- greenEMAS installation in Germany, UK and Switzerland

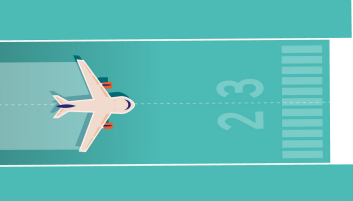


130+ EMASMAX® installations worldwide



EMASEME HQ, Gothenburg, Sweden

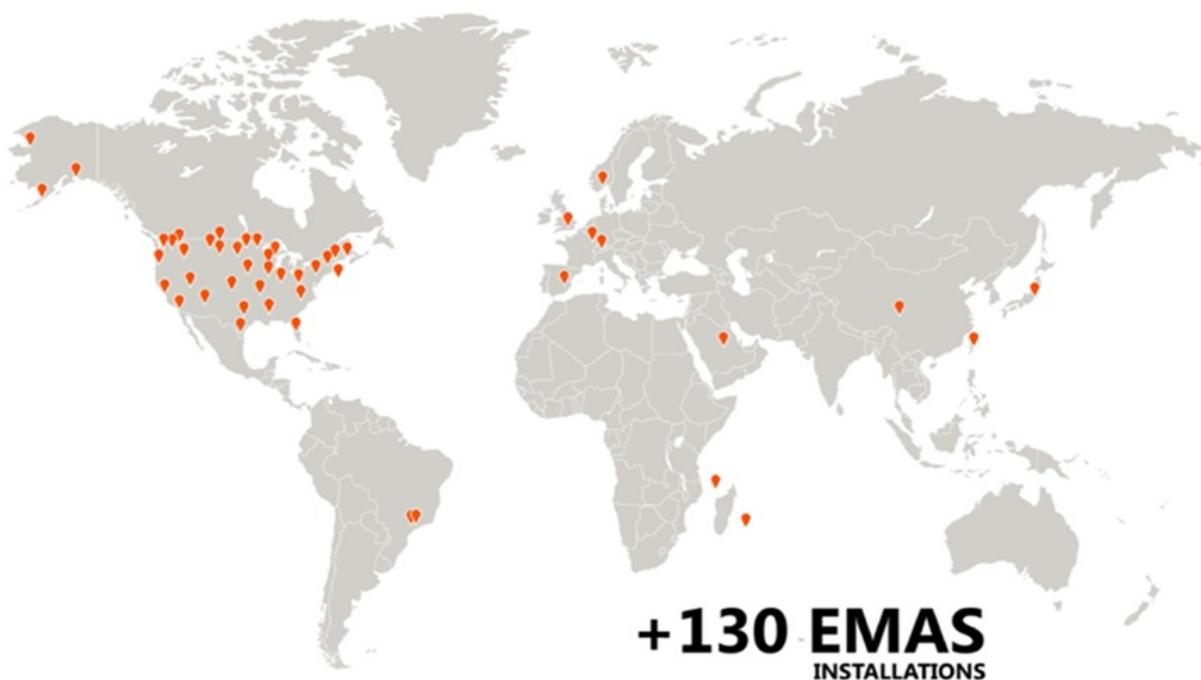




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EMAS Installations worldwide



EMASMAX installed base

- 116 beds at 67 U.S. Airports
- 8 beds at 5 Airports outside USA; China, Spain, Taiwan, Norway, UK and Saudi Arabia

greenEMAS installed base

- 14 beds at 8 airports in UK, France, Germany, Switzerland, Japan, USA and Brazil

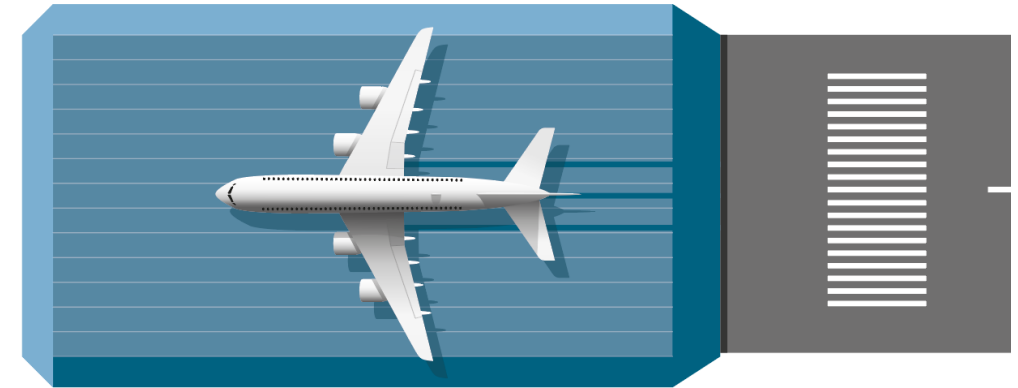




EMAS – what does it do?



An EMAS is an arrestor bed built of energy-absorbing material designed to crush under the weight of the aircraft, quickly decelerating it and bringing it to a safe stop.



- Controlled deacceleration of aircraft in the case of an overrun – **a safe stop**
- Reduce personal injuries and damage on plane and surrounding areas in case of an overrun – **fast removal of aircraft**
- Optimize land use reducing declared distances and hence improving performance – **increase airport revenue, higher takeoff weight, new aircraft types etc.**





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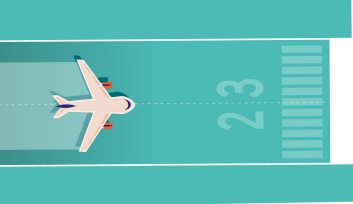
LES SYMPOSIUMS



When is an EMAS - Engineered Material Arresting System needed?

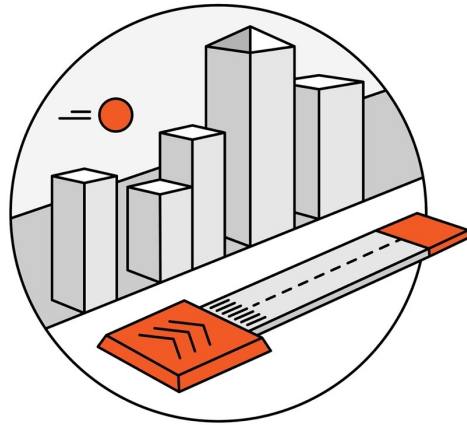
- When there is not enough RESA (Runway End Safety Area) available (non-compliant)
- EMAS also increase safety in situations with:
 - tabletop runway
 - water
 - roads
 - buildings
 - or other dangers close to runway



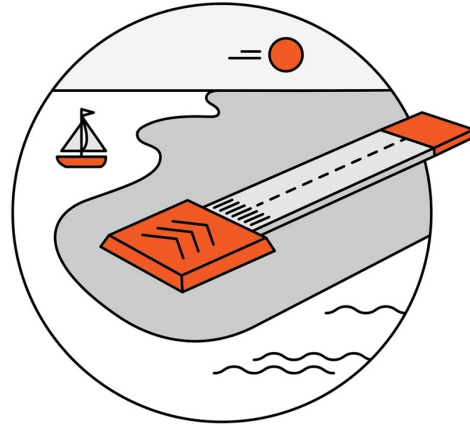


PRÉVENIR LES SORTIES DE PISTE

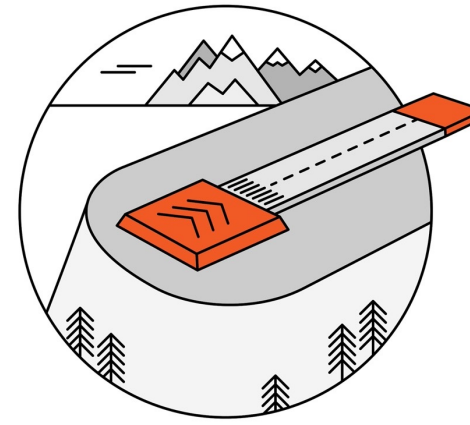
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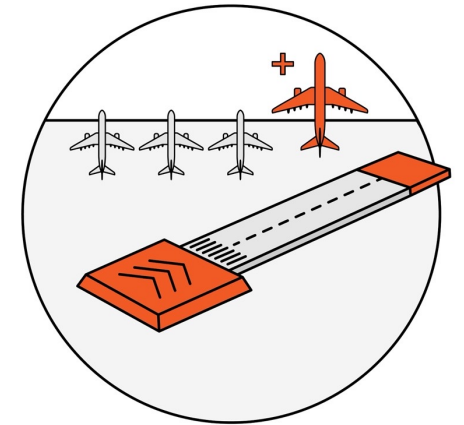
Lack of Space



Environmental Concerns



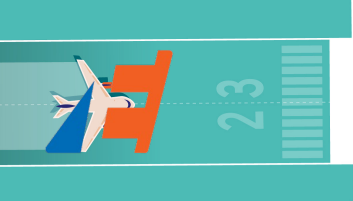
High Risk Runways



Increased Capacity

When does EMAS make a difference





ICAO
Regulations

ICAO	Recommended		Required	
Standard RESA	RESA 240 m	Runway Strip 60 m	RESA 90 m	Runway Strip 60 m
With EMAS	Runway Strip 150 m		Runway Strip 95 m	

Regulations are in place to reduce the consequences of an overrun.

- There are regulations on recommended and required RESA based on general overrun statistics
- According to FAA research 90% of all overruns are at 70 knots exit speed or less
- EMAS can where approved achieve the same or better safety with less footprint
- Several national Civil Aviation Authorities adapt EMAS; e.g. FAA, MLIT, FOCA, DGAC, ANAC, ANEA, CAA



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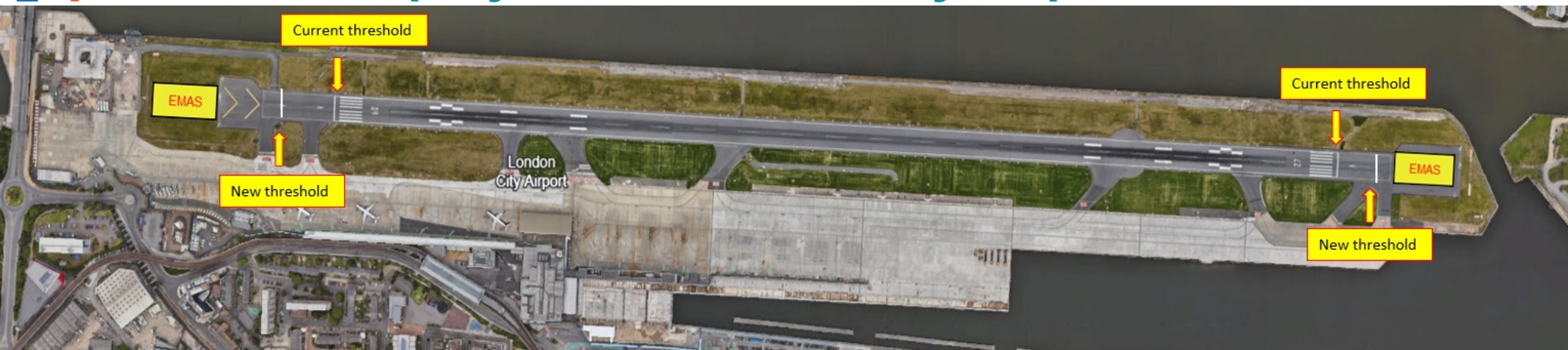
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LES SYMPOSIUMS

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EMAS project at London City Airport - LCY



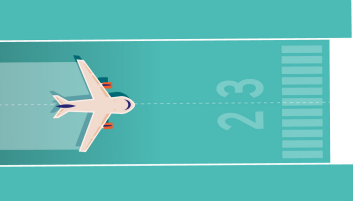
Project prerequisites

- RW09 & RW27 RESA 240+60
- 2 EMAS 70knot systems installed 2023
- EMAS 70knot system = RESA 240+60m
- E195-E2 will now be able to operate LCY

Declared distances

		Before	EMAS installed	Difference
RW 09	TODA	1319m	1457m	+138m
	LDA	1319m	1494m	+175m
RW27	TODA	1385m	1415m	+30m
	LDA	1319m	1508m	+189m





Regulatory Compliance

Accepted by the FAA (Federal Aviation Authority) and several national aviation authorities such as the French DGAC, Japanese MLIT and Italian ENAC among others.



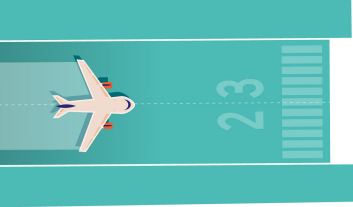
FAA Advisory Circular 150-5220-22B

EMASEME complies fully with international aviation authority guidelines of ICAO and EASA. Every installation is subject to a national approval. We guide you through the process based on our expertise and experience.



EASA CS-ADR-DSN-C- 236



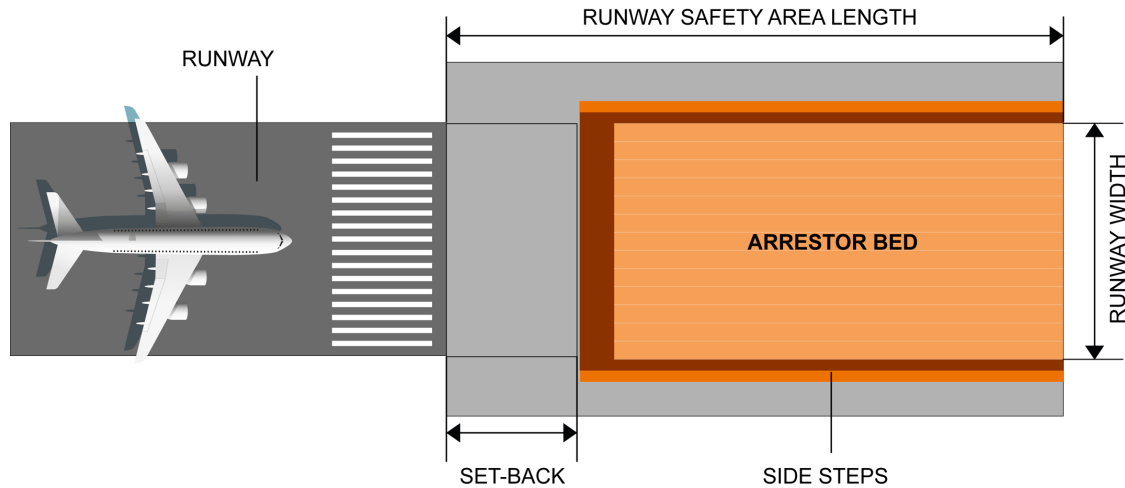


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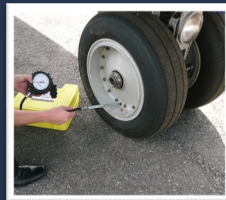
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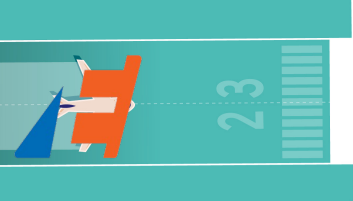
Design Objectives

- 70 knots exit speed where space permits
- Design for Aircraft Mix
- Maximize deceleration within landing gear limitations
- Produce material strength & density within very narrow limits
- Utilize validated computer model with demonstrated accuracy
- Vary material properties and bed configuration to customize arrestor design for each runway



Performance – 70 Knot



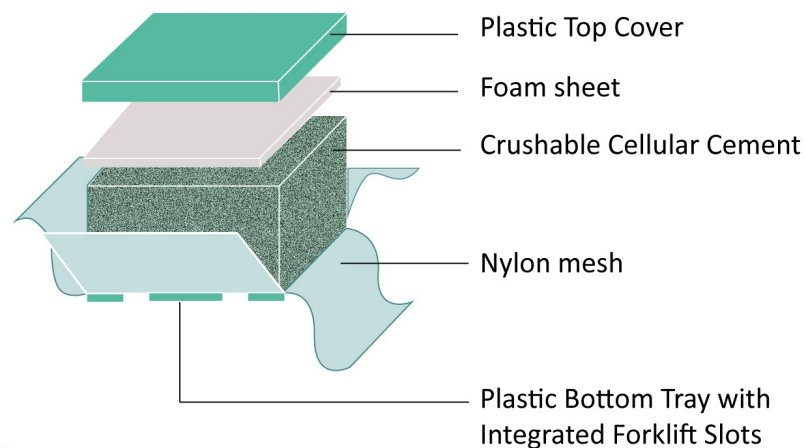


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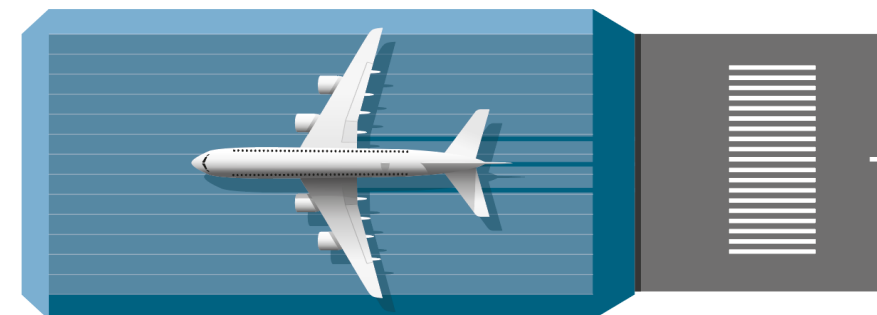
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Two systems, same purpose!

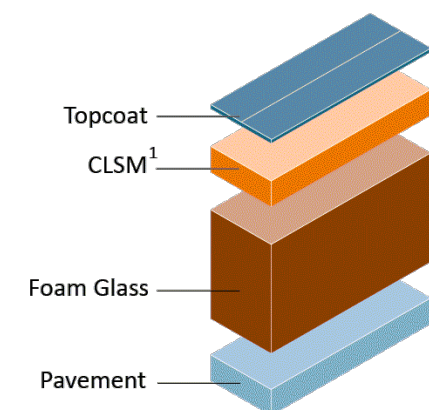
EMASMAX® – premanufactured system



Cellular Cement



greenEMAS – on site installation



¹ Controlled Low Strength Material



Foam Glass





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LES SYMPOSIUMS



Overrun experiences



OVERRUN EXPERIENCES WITH EMAS TECHNOLOGY
100% successful arrestments



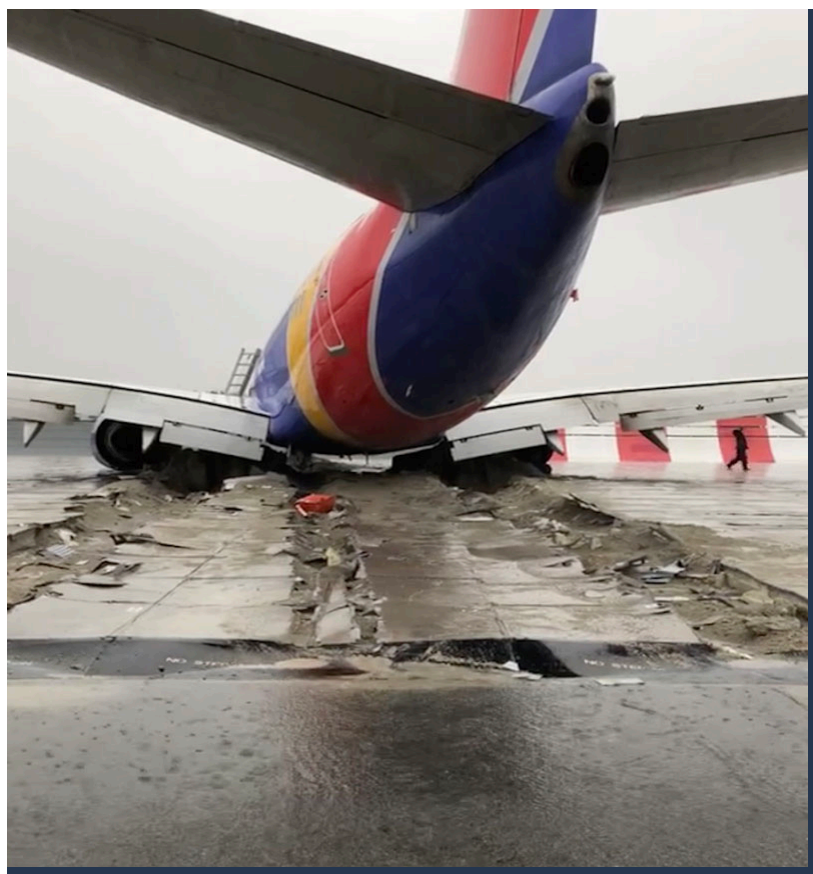
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Overrun experiences



December 2018

- Boeing 737
- Burbank Airport
- Safely stopped – no injuries or damage to aircraft





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January 2016

A Falcon 20 overran
Chicago Executive Airport's
main runway, RW16

- There were no injuries to the Falcon 20 pilot and co-pilot and only minimal damage to the aircraft.
- What is more, after the aircraft was extracted from the EMASMAX bed, the runway was reopened for use that same afternoon.





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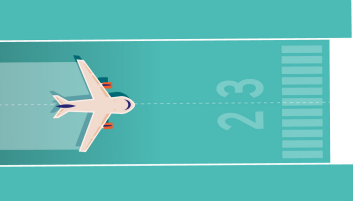
January 2005

JFK – John F. Kennedy
International Airport



- Aircraft B-747-200F overruns runway RW 4R into EMAS at 70+ knots
- Safely stopped – no injuries or damage to aircraft



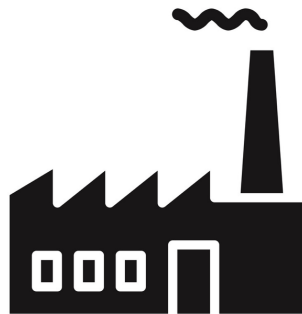


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EMAS project timeline



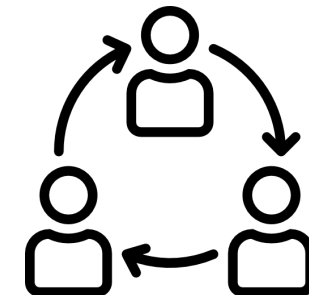
Design & Production



Shipping



Installation



- ~2 months for EMAS design and draft all execution drawings
- ~4-5 months lead-time for goods fabrication

- ~50 40ft containers for EMAS blocks
- 20 days transit time – Philadelphia to Europe

- EMASEME supervisors during installation
- EMASEME to train the workers to execute the EMAS installation with the correct quality



Thank you!

Visit www.emaseme.com for more information.

Contact
details:

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Senior Advisor

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**MINISTÈRE
CHARGÉ
DES TRANSPORTS**

*Liberté
Égalité
Fraternité*



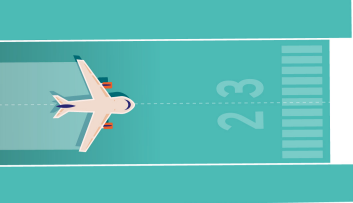
direction
générale
de l'Aviation
civile

D S A C



Objectif
Sécurité

LES SYMPOSIUMS



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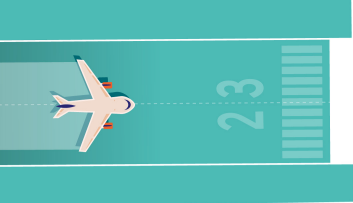
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RÉAGISSEZ VIA SLIDO

- Rendez-vous sur sli.do et entrez le code **#sympoDSAC**
- Posez vos questions et répondez aux sondages





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 LES SYMPOSIUMS

PAUSE

