



**FREQUENTIS**

FOR A SAFER WORLD

**FLY AI Forum 2025**

From Machine Learning to Generative AI



## Transforming NOTAMs to Digital NOTAMs

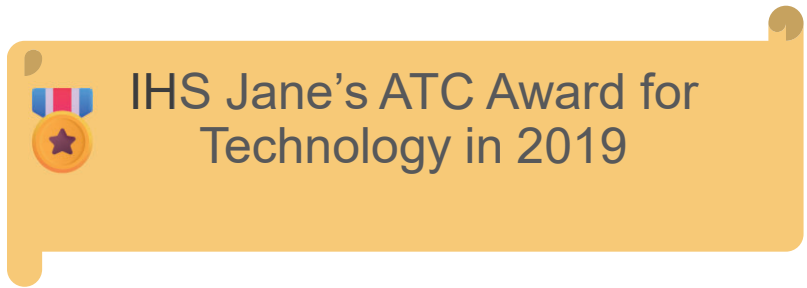
Catalin Roman

# Intro

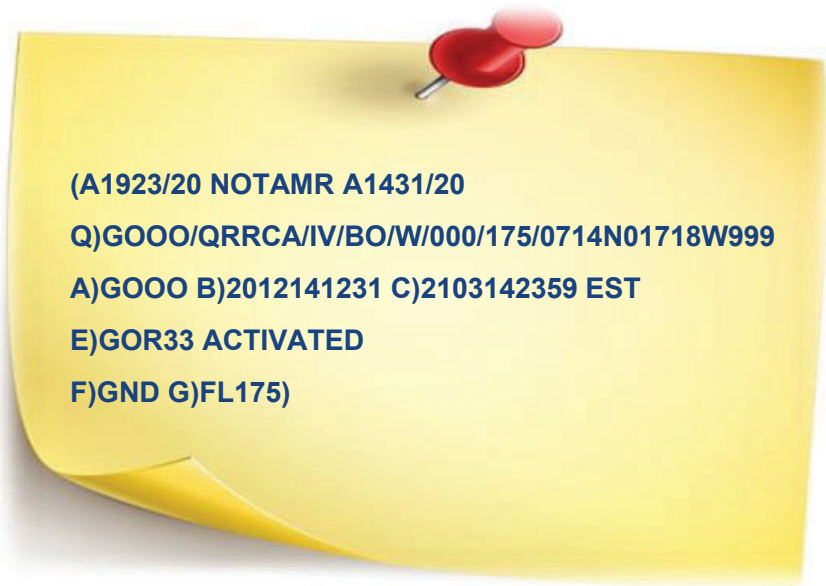
AIXM 4.5, 5.1, SBVR, Temporality  
NOTAM & DigitalNOTAM  
Backward Mapping GML WFS



Lead Software Architect at FREQUENTIS



# Context



Flight  
Plan



Digital Static Data – AIXM 5.1.1

# ICAO NOTAM

(G0006/18 NOTAMN

Q) UUYU/QRCA/IV/BO/W/000/256/6355N05601E022

A) UUYU

B) 1801080600

C) 1801131200

D) DAILY 0600-1200

E) **AIRSPACE CLSD AS FLW:**

**1. WI 1KM EITHER SIDE OF LINE JOINING POINTS:**

**633400N0561400E-634600N0560800E-635800N0555200E-640600N0555600E-641200N0554600E-641500N0554800E.**

**200M AGL-300M AGL.**

**2. WI CIRCLE RADIUS 0.5KM CENTRE 633400N0561400E**

**SFC-300M AGL.**

**3. WI CIRCLE RADIUS 0.5KM CENTRE 641500N0554800E**

**SFC-300M AGL.**

F) SFC

G) 300M AGL)

# Named Entities Recognition

**AIRSPACE** FEATURE **CLSD** ACTION AS FLW :

1 . WI **1KM** RADIUS EITHER SIDE OF LINE JOINING POINTS : **633400N0561400E** COORDINATES -  
**634600N0560800E** COORDINATES - **635800N0555200E** COORDINATES - **640600N0555600E** COORDINATES -  
**641200N0554600E** COORDINATES - **641500N0554800E** COORDINATES .  
**200M** LIMITS **AGL** LIMITS REF - **300M** LIMITS **AGL** LIMITS REF .

2 . WI CIRCLE RADIUS **0.5KM** RADIUS CENTRE **633400N0561400E** COORDINATES  
**SFC** LIMITS - **300M** LIMITS **AGL** LIMITS REF .

3 . WI CIRCLE RADIUS **0.5KM** RADIUS CENTRE **641500N0554800E** COORDINATES  
**SFC** LIMITS - **300M** LIMITS **AGL** LIMITS REF



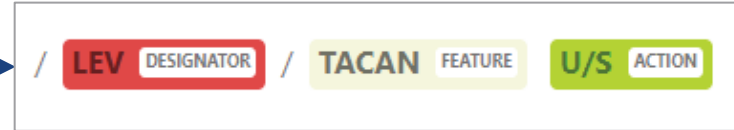
# Named Entities Disambiguation

NOTAM

(A00003/19 NOTAMN  
Q) KZHU/QNNAS/IV/BO/E/000/999/2911N9006W005  
A) KMSY B) 1901031522 C) 2001032000 EST  
E) /LEV/ TACAN U/S)

(1) NER

Extracted information



(2) NED



Identified aeronautical feature

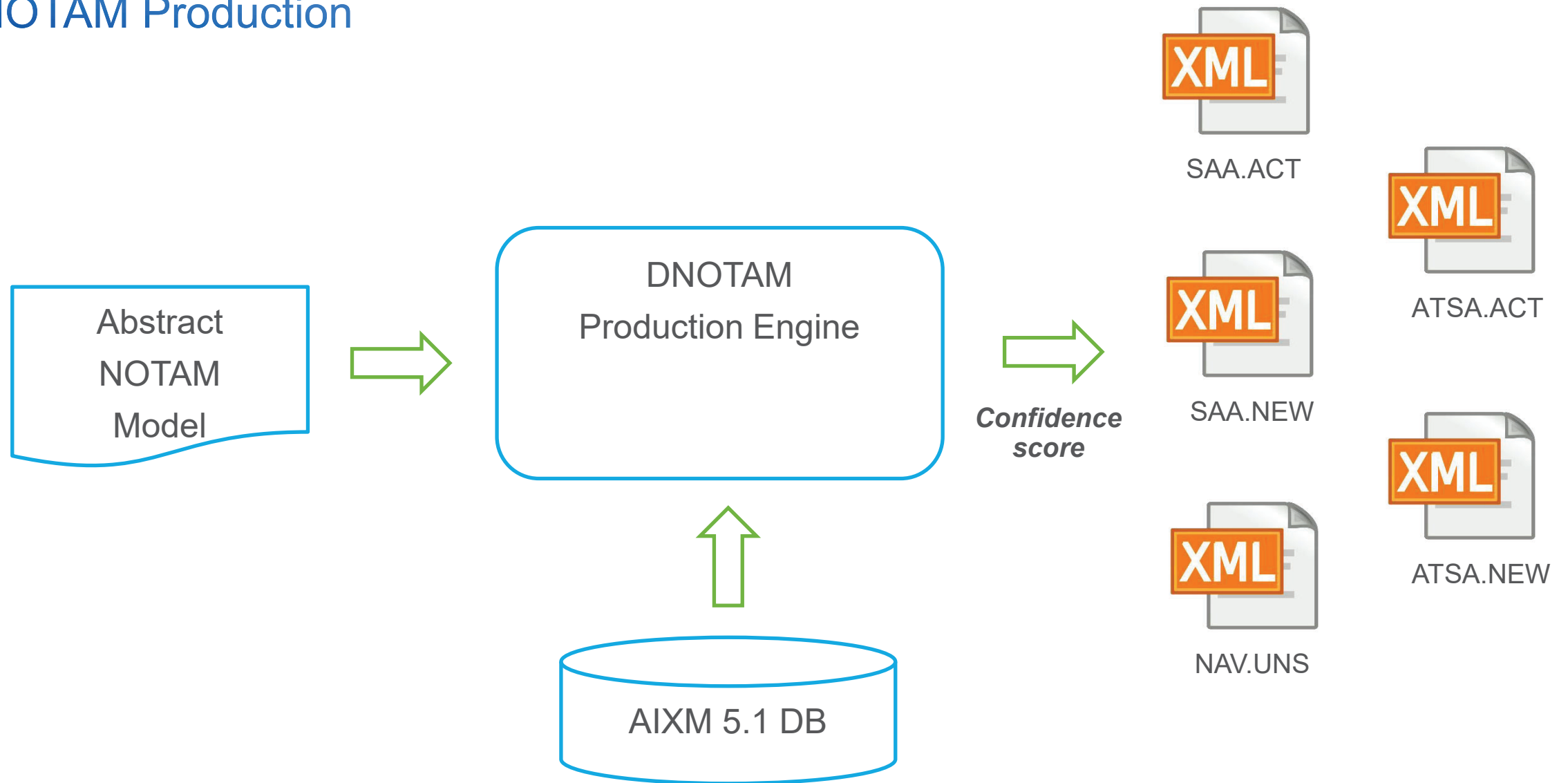
(3) DNOTAM production

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(PARTIAL EXTRACT FROM PRODUCED DNOTAM MESSAGE)

DNOTAM

# DNOTAM Production



# Published Special Activity Area – Activation [SAA.ACT]

**FREQUENTIS** NOTAM to DNOTAM

NOTAM

DNOTAM

GENERATE DNOTAM



# Ad-hoc Special Activity Area - Creation [SAA.NEW]

**FREQUENTIS** NOTAM to DNOTAM

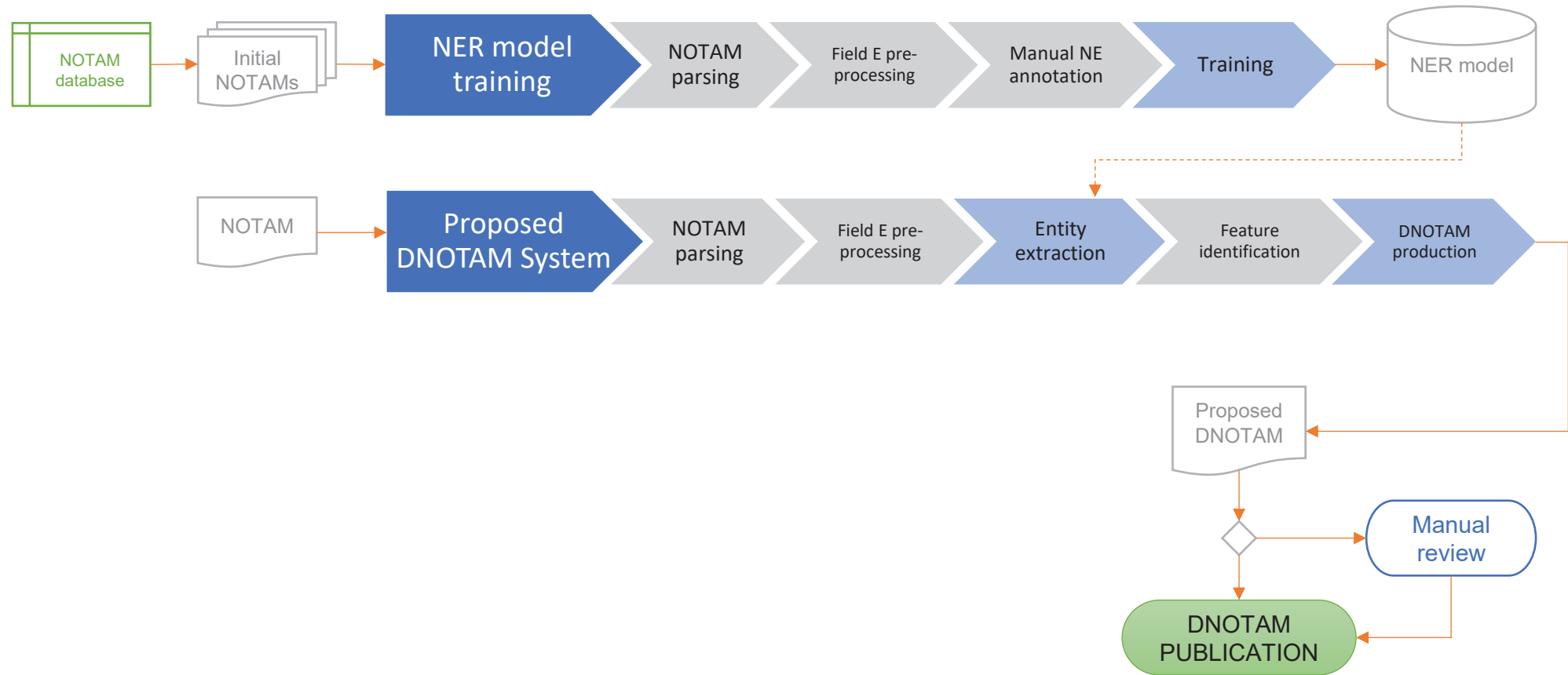
NOTAM

I

GENERATE DNOTAM

DNOTAM

# Overall process pipeline



# Takeaways



## Operational Efficiency:

save time and resources, by reducing reliance on manual interpretation by aviation professionals.



## Safety and Accuracy:

provide structured, standardized, and machine-readable information, minimizing misinterpretations that could impact flight operations.



## Scalability:

process large volumes of NOTAMs across different regions, addressing global aviation needs.





# FREQUENTIS

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