



# MINT TMS Unleashed: APIs, Automation, and the Art of the Possible

2025-11-18 / Antti Toivanen



# Who is this guy?

Antti Toivanen / Finnair

 Airbus A330/A350 FO

 MINT Admin / Developer





# Finnair

Flag carrier of Finland

Established in 1923

- 30x A320
- 8x A330
- 18x A350



**1000** pilots and

**2600** cabin crew



# Unleashing MINT TMS

MINT TMS goes **beyond training management**

— it connects processes through powerful,  
intuitive interfaces.



# Example 1: Sim Maintenance Bookings

*“Sim tech needs to create maintenance slots for all devices for next year.”*

Request series creation for each simulator device, making sure all devices and slots are booked

Are there any other options?





# Example 1: Sim Maintenance Bookings



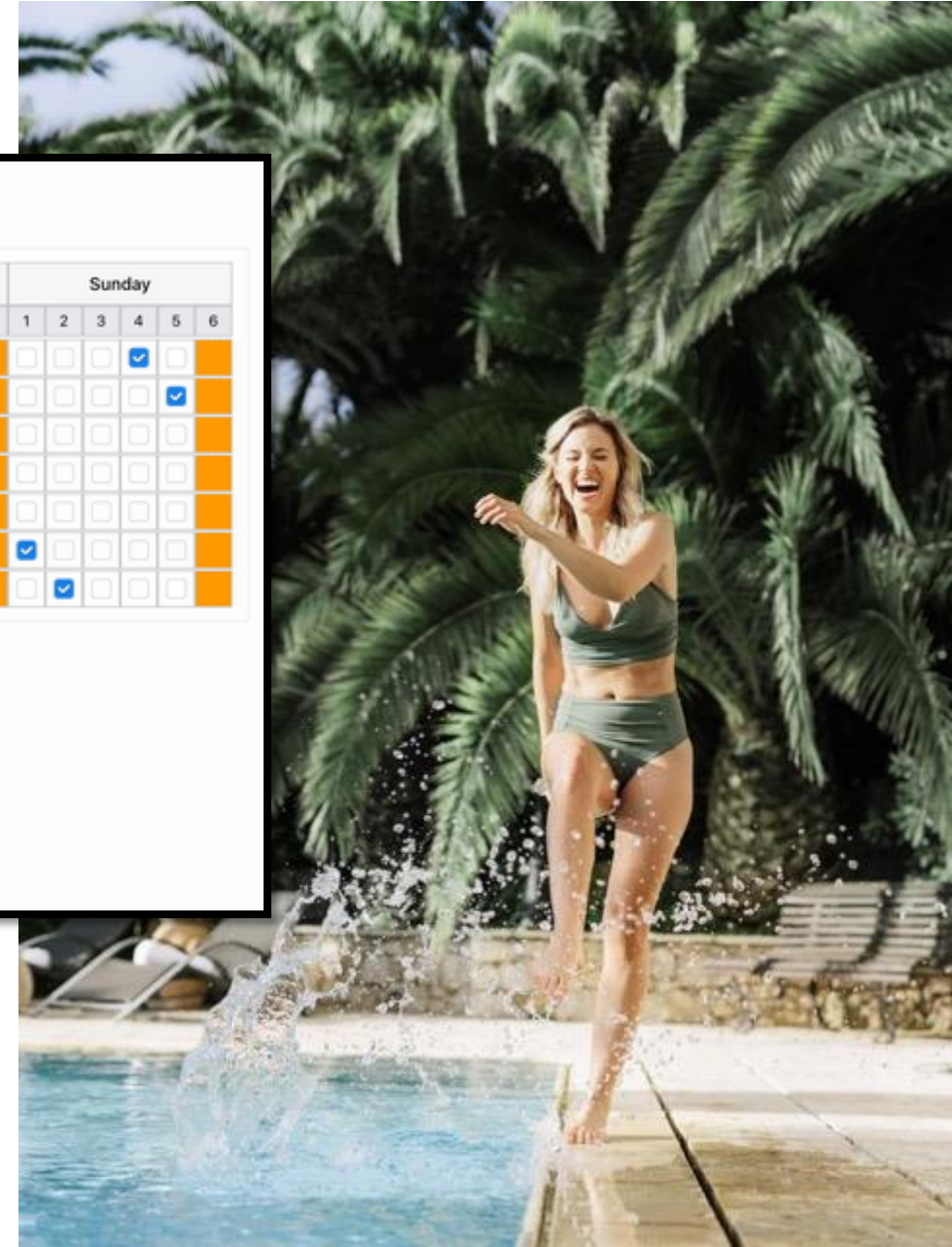
**Simulator Maintenance Schedule**

|        | Monday |   |   |   |   |   | Tuesday |   |   |   |   |   | Wednesday |   |   |   |   |   | Thursday |   |   |   |   |   | Friday |   |   |   |   |   | Saturday |   |   |   |   |   | Sunday |   |   |   |   |   |  |  |  |  |  |  |
|--------|--------|---|---|---|---|---|---------|---|---|---|---|---|-----------|---|---|---|---|---|----------|---|---|---|---|---|--------|---|---|---|---|---|----------|---|---|---|---|---|--------|---|---|---|---|---|--|--|--|--|--|--|
|        | 1      | 2 | 3 | 4 | 5 | 6 | 1       | 2 | 3 | 4 | 5 | 6 | 1         | 2 | 3 | 4 | 5 | 6 | 1        | 2 | 3 | 4 | 5 | 6 | 1      | 2 | 3 | 4 | 5 | 6 | 1        | 2 | 3 | 4 | 5 | 6 | 1      | 2 | 3 | 4 | 5 | 6 |  |  |  |  |  |  |
| A320#1 | ✓      |   |   |   |   |   |         |   |   |   | ✓ |   |           |   |   | ✓ |   |   |          |   |   |   | ✓ |   |        |   |   |   |   |   |          |   |   |   |   |   |        |   | ✓ |   |   |   |  |  |  |  |  |  |
| A320#2 |        | ✓ |   |   |   |   |         |   |   |   |   |   |           |   |   |   |   |   |          |   |   |   |   |   |        | ✓ |   |   |   |   |          |   |   |   |   |   |        |   |   |   |   | ✓ |  |  |  |  |  |  |
| A330   |        |   |   |   |   |   |         | ✓ |   |   |   |   |           |   |   |   |   |   |          |   |   |   |   |   |        | ✓ |   |   |   |   |          |   |   |   |   |   |        |   |   |   |   |   |  |  |  |  |  |  |
| A350#1 |        |   |   |   |   |   |         |   | ✓ |   |   |   |           |   |   |   |   |   |          |   |   |   |   |   |        |   |   |   |   | ✓ |          |   |   |   |   |   |        |   |   |   |   |   |  |  |  |  |  |  |
| A350#2 |        |   |   |   |   |   |         |   |   |   |   |   |           | ✓ |   |   |   |   |          |   |   |   |   |   |        |   |   |   |   |   | ✓        |   |   |   |   |   |        |   |   |   |   |   |  |  |  |  |  |  |
| E170   |        |   |   | ✓ |   |   |         |   |   |   |   |   |           |   | ✓ |   |   |   |          |   |   |   |   |   |        |   | ✓ |   |   |   |          |   |   |   |   |   |        |   |   |   | ✓ |   |  |  |  |  |  |  |
| ATR    |        |   |   |   | ✓ |   |         |   |   |   | ✓ |   |           |   |   |   |   |   |          | ✓ |   |   |   |   |        |   |   | ✓ |   |   |          |   |   |   |   |   |        |   |   | ✓ |   |   |  |  |  |  |  |  |

Start Date: January 1, 2026      End Date: December 31, 2026

[Insert selected Maintenance Slots to MINT](#)

Web application for selecting required slots and pushing them as assignments in MINT TMS



# Example 2: Simulator Calendar View

*"Personnel at training facility don't have live view to simulator schedules"*

- What about Web Portal / TMS Web ?
- Report ?
- What about external customers, who don't have access to MINT?





# Example 2: Simulator Calendar View





# Example 3: EBT Training Planning

## EBT Recurrent Training:

*“1000 pilots need to be assigned to two EBT modules every year”*

## Parameters:

- Aircraft type (32S, 330, 350)
- Seat (CAPT / FO)
- EBT Module (H1 / H2)

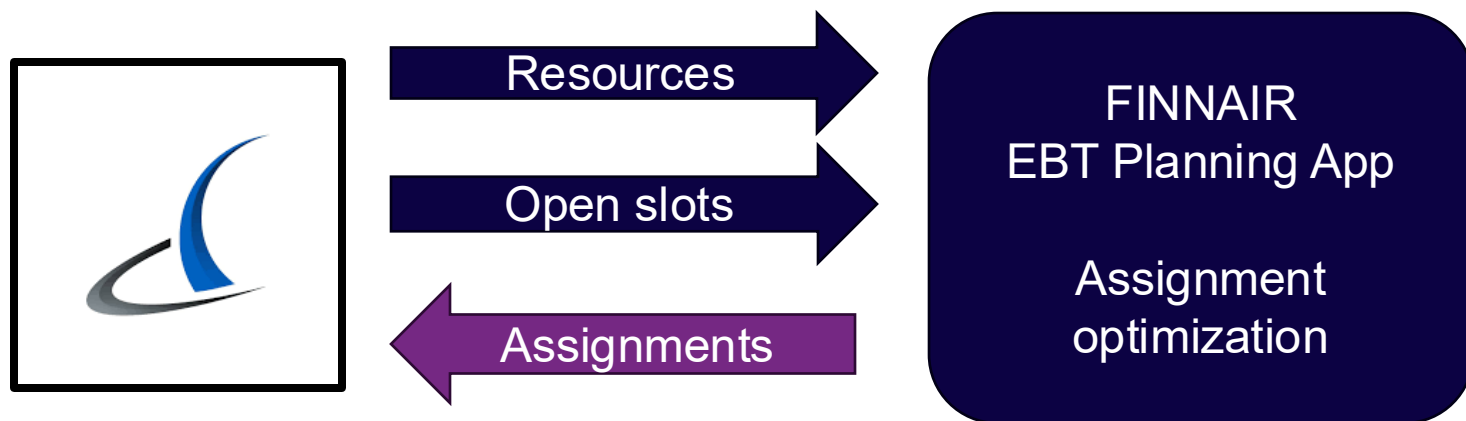
|          |          |              |          |               |     |              | Monday 02.March.2026 |       |       |       |       |       | Tuesday 03.March.2026 |       |       |       |
|----------|----------|--------------|----------|---------------|-----|--------------|----------------------|-------|-------|-------|-------|-------|-----------------------|-------|-------|-------|
|          |          |              |          |               |     |              | 18:00                | 21:00 | 00:00 | 03:00 | 06:00 | 09:00 | 12:00                 | 15:00 | 18:00 | 21:00 |
| 1        | _TST M.. | Mauri        | AY99...  | Mixed 32S/330 | No  | antti.toi... | HEL                  |       |       |       |       |       |                       |       |       |       |
| 2        | _TST K.. | Kalle        | AY99...  | Mixed 32S/330 | No  |              | HEL                  |       |       |       |       |       |                       |       |       |       |
| 3        | _TST V.. | Vilperi      | AY99...  |               |     |              | HEL                  |       |       |       |       |       |                       |       |       |       |
| 4        | _TST P.. | Pasi         | AYpas... |               |     | antti@...    | HEL                  |       |       |       |       |       |                       |       |       |       |
| 5        | _TST Q.. | FORTESTING Q |          |               |     |              | HEL                  |       |       |       |       |       |                       |       |       |       |
| 6        | _TST M.. | Esko         | AYmo...  | Mixed 32S/330 | Yes | antti.toi... | HEL                  |       |       |       |       |       |                       |       |       |       |
| 7        | _TST R.. | Gerhard      | AYrih... | Mixed 32S/330 |     | antti@...    | HEL                  |       |       |       |       |       |                       |       |       |       |
| 8        | _TST K.. | Eero-Gerhard | AYkak... |               |     |              | HEL                  |       |       |       |       |       |                       |       |       |       |
| 9        | _TST S.. | Harri Höylä  | AYsol... | Dedicated     | No  |              | HEL                  |       |       |       |       |       |                       |       |       |       |
| Rows: 22 |          |              |          |               |     |              |                      |       |       |       |       |       |                       |       |       |       |

| Title    |                | Scheduled Start    | Location | Created By     |  |  |  |  |  |  |  |  |  |  |  |  |
|----------|----------------|--------------------|----------|----------------|--|--|--|--|--|--|--|--|--|--|--|--|
|          |                | > 01.02.2026 00:00 |          |                |  |  |  |  |  |  |  |  |  |  |  |  |
| 1        | A330 EBT - ... | 02.03.2026 06:00   | HEL      | Antti Toivanen |  |  |  |  |  |  |  |  |  |  |  |  |
| 2        | A330 EBT - ... | 04.03.2026 06:00   | HEL      | Antti Toivanen |  |  |  |  |  |  |  |  |  |  |  |  |
| 3        | A330 EBT - ... | 06.03.2026 06:00   | HEL      | Antti Toivanen |  |  |  |  |  |  |  |  |  |  |  |  |
| 4        | A330 EBT - ... | 09.03.2026 06:00   | HEL      | Antti Toivanen |  |  |  |  |  |  |  |  |  |  |  |  |
| 5        | A330 EBT - ... | 10.03.2026 06:00   | HEL      | Antti Toivanen |  |  |  |  |  |  |  |  |  |  |  |  |
| 6        | A330 EBT - ... | 12.03.2026 06:00   | HEL      | Antti Toivanen |  |  |  |  |  |  |  |  |  |  |  |  |
| 7        | A330 EBT - ... | 03.03.2026 06:00   | HEL      | Antti Toivanen |  |  |  |  |  |  |  |  |  |  |  |  |
| 8        | A330 EBT - ... | 16.03.2026 06:00   | HEL      | Antti Toivanen |  |  |  |  |  |  |  |  |  |  |  |  |
| 9        | A330 EBT - ... | 18.03.2026 06:00   | HEL      | Antti Toivanen |  |  |  |  |  |  |  |  |  |  |  |  |
| 10       | A330 EBT - ... | 20.03.2026 06:00   | HEL      | Antti Toivanen |  |  |  |  |  |  |  |  |  |  |  |  |
| 11       | A330 EBT - ... | 23.03.2026 06:00   | HEL      | Antti Toivanen |  |  |  |  |  |  |  |  |  |  |  |  |
| Rows: 16 |                |                    |          |                |  |  |  |  |  |  |  |  |  |  |  |  |

# Example 3: EBT Training Planning

We can get all parameters and data from MINT:

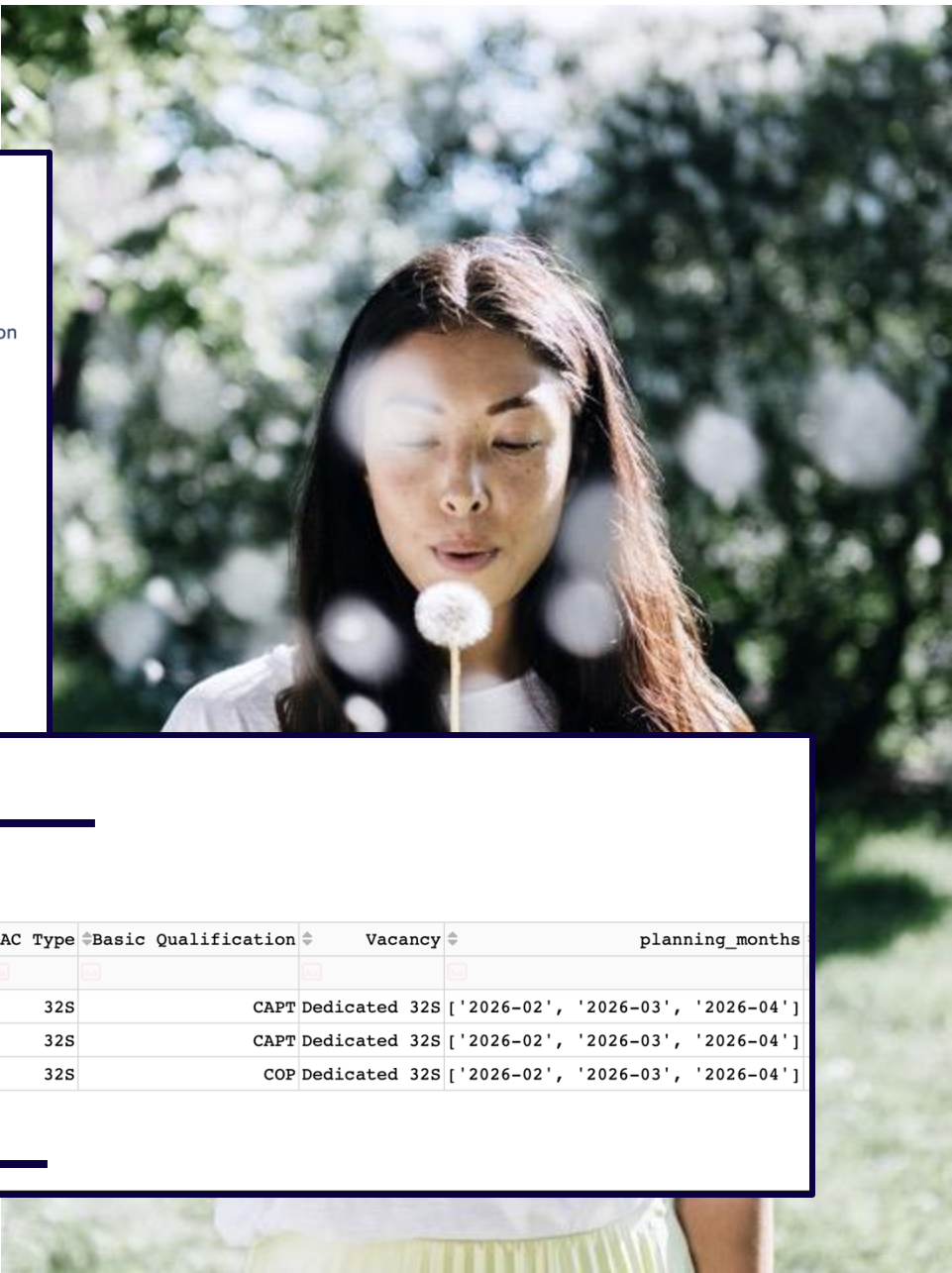
- Resources to be planned (ac type, seat, module)
- Available seats (ac type, seat, module)



Potential for adding more  
optimization parameters!



# Example 3: EBT Training Planning



## Training Planning Tools

Fetch fresh data from MINT TMS

[Download data](#)

Data downloaded from MINT

Filter data

You will have to select aircraft type, training program, and desired planning month

Aircraft

32S

Training program

H1

Planning month

2026-02

Position

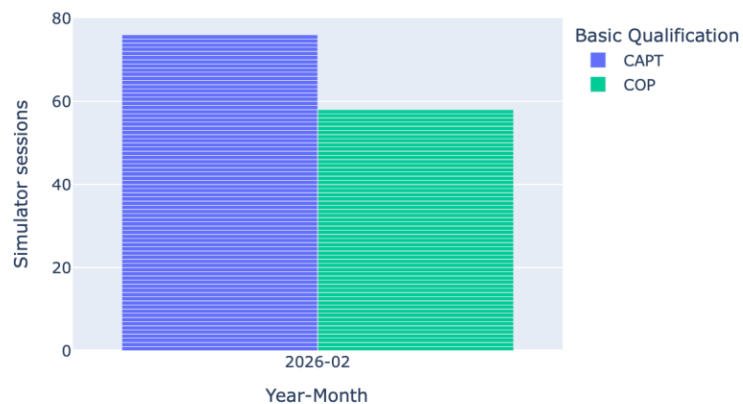
☒ Hide already planned
 ☒ Hide if commented

Show only these resources

Hide these resources

Listing 134 simulator sessions for 67 unique resources.

| ID     | Name | RI Name     | AC Type | Planning Start | Planning End | Comment | Be |
|--------|------|-------------|---------|----------------|--------------|---------|----|
| filter |      |             |         |                |              |         |    |
| x      |      | EBT H1 EVAL | 32S     | 2026-02-01     | 2026-04-30   |         |    |
| x      |      | EBT H1 SBT  | 32S     | 2026-02-01     | 2026-04-30   |         |    |
| x      |      | EBT H1 EVAL | 32S     | 2026-02-01     | 2026-04-30   |         |    |



Month selection

2026-02

[Find slots for selected month](#)

Slots found

Search open slots

| ID     | Name           | RI Name | AC Type | Basic Qualification | Vacancy | planning_months                   |
|--------|----------------|---------|---------|---------------------|---------|-----------------------------------|
| filter | filter data... |         |         |                     |         |                                   |
|        |                | EBT H1  | 32S     | CAPT Dedicated      | 32S     | ['2026-02', '2026-03', '2026-04'] |
|        |                | EBT H1  | 32S     | CAPT Dedicated      | 32S     | ['2026-02', '2026-03', '2026-04'] |
|        |                | EBT H1  | 32S     | COP Dedicated       | 32S     | ['2026-02', '2026-03', '2026-04'] |

Send assignments to MINT

[Create assignments](#)



# ¿Questions?

*Finland consumes more coffee per capita than any other country in the world - averaging 12kg per person annually (that's about 4 cups per day)!*





**Thank You.**  
Have a wonderful day.

