



Novadrome

The whole airport in one system.

Airport management software built on a working airfield

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CML8

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Not a mockup. A working airport.

Almost everything described here runs every day at CML8, a private airfield near Montréal; the rest is marked as in trial or pending. Members fuel on their own, open the gate from their phone, and get their invoice before the airplane is back in the hangar.

1 system from the membership form to the pump meter	74 read-only accounting checks, run on demand against the live database
0.6 L gap between the pump’s mechanical dial and billing, over 495 fills and 7,514 L	EN + FR every member-facing page, invoice and email, in both languages

CML8, where we test it every day.

A 3,000 ft runway 13/31, a pilot lounge, a self-serve pump, hangars. Every feature first solved a real problem here: a night-time fill with nobody in the office, a lost gate remote, a bank transfer that arrived without a name.

- Developed since July 2026, in production every day
- More than 1,000 improvements shipped across the platform
- Backed by about 1,600 automated tests

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Membership

Visitor, hangar tenant, tie-down, aeroclub member who rents aircraft: each type of member has its own rules, from billing to access on the field.

- Member types that fit your field: visitor, hangar tenant, tie-down, aeroclub member, or any other profile
- Billing per type: annual or monthly rates, prepaid with a discount, recurring hangar, tie-down or dues charges
- Access per type: gate, padlocks, fuel pump and allowed hours
- Guided online signup, price shown up front, documents required per type; you approve
- Driver's license barcode check right in the reviewer's browser (built for Québec licenses, on the barcode standard US states use)
- Aircraft record pre-filled from the Canadian registry (FAA registry to come), with FAA type specs built in

Member types		CML8
Type	Billing	Access
Visitor	Per visit	Fuel
Tie-down	Monthly	Gate Fuel
Hangar tenant	Monthly	Gate Padlock H-3 Fuel
Aeroclub member	Annual dues	Gate Fuel



Agreements and e-signature

Every signature is sealed, timestamped by an authority, and anchored in the Bitcoin blockchain.

- Versioned agreements: draft, publish, change history
- SHA-256 fingerprint of the exact text signed, in each language
- RFC 3161 timestamp within seconds, then an OpenTimestamps anchor
- PDF receipt a third party can verify without access to your servers
- Signature records that cannot be altered, not even by an administrator; any tampering would show
- Publish a new version and members are asked to sign again

Signature receipt		Contemporaneous
Member agreement, version 3		
Signed Aug 12, 2026, 2:07 PM		
SHA-256 fingerprint		
9f2c 71ab 0e4d 58c3 a1f0 6b92 d7e5 3c08 44af 1e6b 90d2 7c51 e8a3 2f4b 6d19 c0a7		
RFC 3161 timestamp	4 seconds after signing	
Bitcoin anchor	Block 912,408	



Billing and payments

The invoice goes out automatically minutes after the fill. Payments reconcile themselves.

- Numbered bilingual invoices, several legal entities, taxes computed on each invoice
- Prepaid balance: Interac e-Transfers (Canada) recognized and credited automatically, with risk limits
- Courtesy float: members can fuel while their transfer is still on its way
- Recurring charges: hangar, club dues, lockers, on any schedule
- Accountant's bundle per period: every PDF as sent, plus the tax workbook
- Built for Canada (GST/QST, Interac, pre-authorized debit files not yet live with a bank); US sales tax and ACH to be developed for your deployment

Invoice F-2026-0412

CML8

100LL fuel, 42.6 L \$97.35

Tax 5% \$4.87

Tax 9.975% \$9.71

Total \$111.93

Paid from your prepaid balance

Remaining balance \$388.20



Self-serve fuel

The pilot starts the pump from their phone. Every litre is counted, billed and traced back to the delivery truck.

- Several fuels and several pumps, each with its own price, tank and alerts
- The pump controller has the final say on safety, even with no network or a failed server
- Per-fill cap in volume and in dollars, based on the member's balance
- Every litre metered; fills stay on the controller if the network drops, then are re-sent
- Loss detection: fuel flowing with no authorized fill, unbilled litres, repeated short deliveries
- Cost and margin per truckload, projected run-out date, text alerts on tank level
- Maintenance log: inspections, even by a contractor through a simple link, water checks, dips and deliveries, with photos

Pump 1 – fill in progress

37.4 **\$85.46**

litres

amount



81 L/min

Cap for this fill : 210 L



End fill



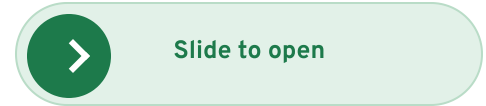
Gates, remotes and padlocks

Who opened it, when, and with what. One access rule for the app, the remotes and the padlocks.

- Open from the phone with a slide gesture, so pockets and raindrops can't open the gate
- The STOP button is never blocked, by any rule
- Access per member, group or membership type, with weekly hours and temporary passes
- Access requests from the app: the admin gets a text and approves with one tap
- Existing gate remotes tied to a member; alert when a remote reported lost is used
- Smart padlocks (in trial): codes, cards and fingerprints managed remotely; a text if a padlock is left open or forced

Main gate

CML8



7:42	Opened	remote of J. Miller
7:40	Refused	outside allowed hours
6:58	Opened	app, A. Tremblay



Radio and pilot-controlled lighting

The field frequency is monitored, recorded and transcribed. Mic clicks turn on the runway lights.

- Radio receiver monitoring up to five frequencies at once, including 121.5 and the CTAF
- Text alert on 121.5 with the recording: a call heard, or a long transmission like an emergency beacon (ELT)
- Notifications of calls on the CTAF, or any frequency you choose, with the audio recording attached
- Every transmission recorded, kept and transcribed, with signal strength
- Pilot-controlled lighting: mic clicks turn the runway lights on for a set time
- Radio check for members: transmit, then hear what the field received

123.2 MHz

Receiver online, 14 s ago

2:22 CML8 traffic, -74 dBm
Cessna 512MA,
final runway
three-one


2:19 **Pilot-controlled lighting: 5 clicks** -81 dBm


2:12 Piper 23LN -69 dBm
departing north


Automatic transcript



Cameras and observation

Every camera on your desktop and phone, and your old cameras put back to work.

- Camera app for desktop and phone: every camera at full quality, wherever you are
- Talk and listen live through the camera speakers, from your phone
- People and vehicles marked on the timeline, with the video clip
- Camera access by role and by hours; a privacy pause that switches itself back on
- Incidents set aside: never erased by automatic cleanup
- Sky panorama every 20 minutes, hourly runway clip, 48 hours to scroll back through
- Existing analog cameras brought into the recorder; a text when the lounge door is left open

Horizon sweep

6 min ago



Weather and the pilot lounge screen

The lounge screen shows radar, METARs, live ADS-B traffic and the frequency.

- Pilot lounge screen: radar, nearby METARs and TAF, sunrise and sunset; it recovers on its own if it freezes
- ADS-B traffic map received on site
- Field frequency played through the lounge speakers
- Hourly weather archive for the site, kept permanently
- Low-cost local weather station, clearly labelled as advisory (install pending)

Pilot lounge

CML8

```
METAR CYHU 241900Z 31012G18KT  
15SM FEW045 BKN120 17/06 A3002  
METAR CYUL 241900Z 30010KT  
15SM SCT050 18/05 A3001
```

Wind

310°
12 kt

Density
altitude

1,150
ft

Active
runway

31



Public address

Type an announcement; it plays in the lounge and on the camera speakers.

- Typed announcements read aloud in English or French, a recorded message, or a live hold-to-talk mic
- Play everywhere, on one speaker or on a group, with a chime
- Per-device “played” confirmation, not just “sent”
- An announcement not played within two minutes expires instead of playing late; any past one can be replayed

Announcement

English voice

“The fuel truck arrives in ten minutes. Please keep the apron clear.”

Pilot lounge	Played
Hangar camera	Played
Runway camera	Played
Parking camera	Waiting



Parking log

Who is in the lot and since when, with no gate arm or kiosk.

- A PTZ camera sweeps the parking lot every 30 minutes
- License plate reading with day-by-day history
- Photos visible to administrators only, never public

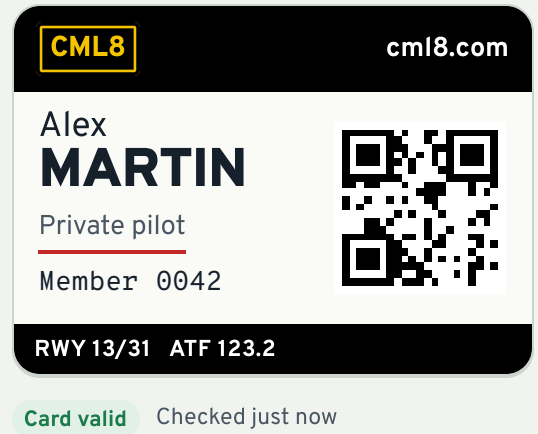
Parking lot		3
Plate	Arrived	Parked
7KBL 227	7:12	6 h 40
4ZPR 991	9:44	4 h 08
8MGX 330	11:30	2 h 22



Member ID cards

A real plastic card, with a QR code that tells anyone whether it is still valid.

- Photo ID cards, designed and printed on site
- QR code to a public check page: valid, expired, reported lost or stolen
- A reprint is a new card, because the old one may still be in a wallet
- Members see their own card in the app



Pilots and visitors

Visitors request permission online; members file a flight itinerary.

- Online prior permission (PPR) request with a signed waiver for each visit
- Flight watch: reminder before ETA, alert to a contact person when overdue
- Airport briefing published in dated editions, with PDF
- Drive times to the field from 13 zones, compared with nearby airports
- Public fuel price and availability board

PPR requests		Waiver signed
N731XY	Sat 10:30	Approved
C-FKL0	Sat 1:00 PM	In review
N512MA	Sun 9:15	Approved



The office

The dashboard shows what is waiting on a decision, and each tile opens exactly those records.

- Shared mailbox inside the admin, sorted, with threaded replies
- Morning spreadsheet for the office: transactions, taxes, open invoices, balances owed and credits
- Map of aircraft owners in your region, to find your next tenants
- Field projects and tasks, with owners, due dates and priorities
- Read-only accounting audit: 74 checks, each with the money at stake
- Installable phone app, with an offline page

To do			CML8
3 identities to verify	2 PPR requests	1 meter reading	
5 unanswered emails	0 overdue invoices	1 inspection due	

Hardware we select and wire ourselves.

Software is only as good as what it controls. Each device below runs at CML8, is in trial there, or is awaiting installation. We reuse your existing equipment whenever we can.

Pump controller Unit mounted at the pump, wired to the flow meter	Arms the pump, counts every litre, keeps fills in memory	In service
Radio receiver Antenna and receiver installed on the field	Monitors, records, drives pilot-controlled lighting	In service
Video recorder Digital and analog cameras, continuous recording	Panoramas, runway, parking, lounge door	In service
Lounge screen The TV in the pilot lounge	Weather, traffic, live frequency, announcements	In service
ID card studio Designed and printed in the office	Photo member ID with a verifiable QR code, handed over on site	In trial
Gate controller Unit wired to the gate operator	Open, close and stop on a signed command	In service
Remote receiver Receiver mounted near the gate	Ties your current gate remotes to members	In service
Padlock bridge Link between the system and the smart padlocks	Opens padlocks with no vendor cloud; their own codes and fingerprints still work if the site is down	In trial
Weather station Wind, temperature and pressure sensors	Wind, altimeter setting, density altitude	Install pending

The field texts you before anyone calls.

An emergency on 121.5, a tank running low, a device that stops answering: the alert goes out by text to the right person. You react sooner, and everything is back in service sooner.

Emergency on 121.5

A text with the recording for a call on the emergency frequency, or a long transmission like an emergency beacon, day or night.

The field frequency

A notification for calls on the CTAF or any frequency you choose, with the audio recording attached.

Fuel

Tank level, days of supply left, projected run-out date: you order before you run out.

Failures

A pump, gate, camera, radio receiver or server that stops answering: the team is alerted, then told when it is back.



CML8 alerts

Messages

121.5 MHz: 48 s transmission at 2:22 PM, transcript unreadable.

▶  Recording, 0:48

2:22 PM

123.2 MHz: call from N512MA on final runway 31.

▶  Recording, 0:06

2:23 PM

100LL tank: 4,890 L, about 9 days of supply. Empty around October 3.

9:10 AM

Pump 1: no response for 5 minutes.

3:41 AM

Pump 1: back in service.

3:58 AM

Each kind of alert has its own recipients, by text, by email, or both.

Designed assuming something will eventually break.

An airport handles fuel, money and personal information. Each layer is built to limit the damage if the layer next to it fails.

Encrypted at capture

ID documents, checks and bank details are sealed on arrival. The web server only holds the public key: even if it is compromised, it cannot read them back.

Signed messages

Every command to a pump or a gate is HMAC-SHA256 signed and numbered. A replayed or forged message is rejected and counted.

Least-privilege tokens

Each device has its own key, limited to one job. A stolen key compromises one device, not the airport.

The pump has the final say

The server asks, the controller decides. A cut network or a hijacked server cannot run the pump outside its limits.

Verifiable proof

Chained signatures, timestamped by an authority and anchored in Bitcoin. A third party can re-check everything without trusting us.

Everything is logged

Every action carries its author's name. Even when staff open a member's session to help, the log shows who was at the keyboard.

From site visit to first fill.

1

Site visit

An inventory of your pumps, gates, cameras and radios. Anything that can be reused is reused.

2

Your server

Your own instance, your domain name, your data. Nothing shared with other airports.

3

The hardware

Controllers and radio receiver installed, tested with you on site.

4

Your members

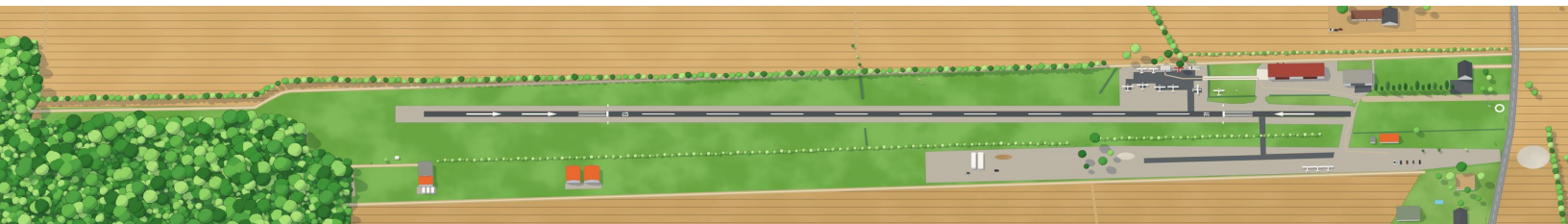
Your existing list imported; membership types and agreements set up for your field.

5

Go live

Staff training, first fill, first invoices. We watch the first weeks closely.

Taxes, payment methods and agreement templates will be adapted to your state during onboarding; agreements must be reviewed by your own counsel.



Beyond the software.

Optional services

Infrastructure register

Power, network, fiber, water, sewer: everything buried or wired, on a map, with maintenance tracking. Works on a phone in the field, with a printable binder for technicians.

Illustrated airport map

A faithful map in 2D and 3D, drawn from site surveys, for your website, the lounge and your brochures. The ones on this page are examples.

Wi-Fi and network

Wi-Fi for pilots and visitors, kept apart from your equipment; a segmented, documented network with secure remote access.

Existing cameras brought back

Your old analog cameras connected to a modern recorder, with continuous recording.

Coming soon

Engine-time logger for rental aircraft

A box that slips into the document bag counts engine time, flight time and landings, with no wiring to the aircraft. Bill aeroclub rentals exactly.

Card-controlled doors

Offices, hangars and storage on access cards: unlock on power loss and fire alarm, push-to-exit, and they keep working offline.

Runway light check

At night, a PTZ camera confirms the runway is actually lit, and a current sensor checks the lights are drawing power: a dead light is flagged before a pilot finds it.

Gate position

The system will know whether the gate is open, closed or moving, with a safety beam for obstructions.

In design or prototype: timing is confirmed when we scope your project.

For a demo

Let's talk about your airport.

Tell us what you already have – pump, gate, cameras – and what takes most of your time. We will show you the system running at CML8.

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Novadrome

Novadrome is designed and operated in Québec, Canada.