



Mobile Sync

Exchange project data with the Android companion app — over USB, over Wi-Fi or through the phone's own hotspot — and put every incoming row through the same checking gate as a file import.

- Group: Mobile
- One CSV error worksheet per table
- 3 transfer channels
- .geomatepkg package

on Device

Phone

(proof)

on this PC, then paste the phone's link (or type its address) below and connect.



Import from Android
Merge data returned from
the companion app



Setup Guide
How to connect
Android to desktop

Discovered Packages

Found .geomatepkg files on this machine:

Executive summary

Mobile Sync exchanges the project's data with the companion Android application — over USB, over Wi-Fi or over the phone's hotspot — and puts every incoming row through the same control gate as a file import.

01 What it replaces

Re-keying the field notebook in the evening, and the USB stick circulating with nobody knowing which version it carries.

02 How it works

You pick the tables, build the .geomatepkg package and transfer it over whichever channel is available. On return every row is checked before integration, and what fails goes into a per-table error file.

03 Who it is for

The field team with no network, and the database owner who has to integrate what they bring back without degrading the database's quality.

3

transfer modes

.geomatepkg

project package format

1

control gate on the way in

CSV

error file per table

Contents

01 What the module is for

Move data between office and field, off the network.

02 Three transfer channels

Direct USB, shared Wi-Fi, hotspot hosted by the phone.

03 The .geomatepkg package

A self-contained file holding tables, reference lists and photos.

04 Table selection

All, none, or the drillhole tables only.

05 The checking gate

Four checking passes before anything is written.

06 Codes created on the phone

Refused by default, to stop the typo becoming official.

07 The error worksheet

Every refused row, whole, with the diagnosis in appended columns.

08 Business value

Field data is never silently lost.



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SECTION I

The module

The problem addressed, the capabilities delivered, the processing chain and the module's place in the platform.

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- 01 Context
 - 02 Key capabilities
 - 03 Processing chain
 - 04 Place in the platform
-

Context

On an exploration site there is neither mobile network nor corporate Wi-Fi. Field data still has to come up, and the reference lists have to go down.

The module offers three channels that assume no infrastructure, and puts every incoming row through the same checks as a file import — before it is written.

The phone can host the network

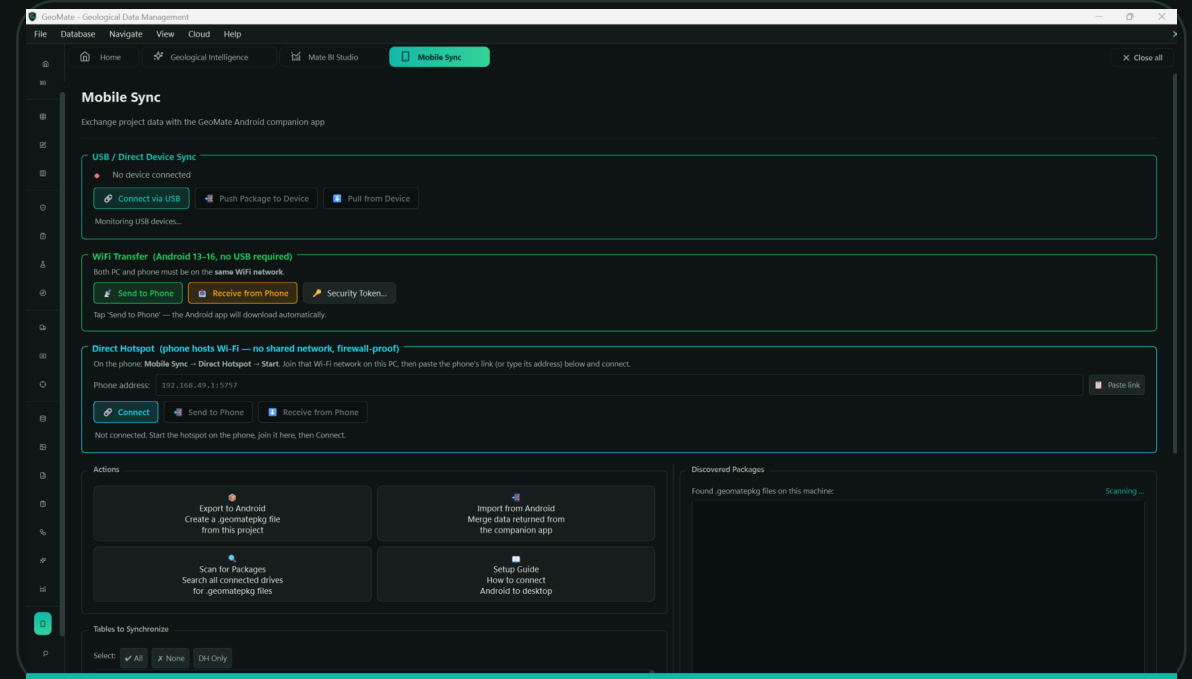
In direct hotspot mode the phone creates its own Wi-Fi; the desktop joins it and connects to its address. No shared network, no firewall to cross.

Checking precedes the write

Intervals, identity key, ordinal families, cell content and references: every row is confronted with the database before the merge writes anything.

Nothing refused is lost

Every rejected row is written whole into one CSV per table, with the reason in appended columns. You correct the cells in place and re-import through External Data.



A code that no reference list contains is refused, not created. The merge used to add it automatically — after which the typo was an official value and every later check accepted it.

Key capabilities



01

Direct USB

Detection of the connected device, then push of the package to the device or pull from it.



02

Wi-Fi transfer

Desktop and phone on the same network: sending triggers an automatic download by the Android app, with a security token.



03

Direct hotspot

The phone hosts its own Wi-Fi: no shared network, no firewall to cross. The desktop joins the network and connects to the displayed address.



04

.geomatepkg package

A self-contained file holding the selected tables, reference lists and photos. A scan finds the packages present on every drive.



05

Checking gate

Four passes — intervals, identity key, ordinal families, content and references — applied before any write.



06

Per-table error worksheet

Every refused row saved whole as CSV, with error type, blocked status, the column and value concerned, and the message.

Processing chain

From workstation to field, and field to workstation — with a check on the way in.

A Outbound

Package assembly

- Selection of the tables to take
- Form layouts carried along
- Reference code lists included
- Timestamped, named .geomatepkg package
- Transfer over USB, Wi-Fi or the phone's hotspot

B Field

Offline capture on Android

- Capture on the same forms as in the office
- Closed value lists applied offline
- No connection needed during the day
- Return package assembled at the end of capture
- Transfer over whichever channel the site offers

C Return & check

Control gate on entry

- Every incoming row goes through the same checks as an import
- Unknown codes flagged rather than accepted
- Gaps and overlaps detected before integration
- Per-table error file, with the added columns
- Offline correction, then reimport of the remainder only

THE CONTROL GATE

Data coming back from the field has no more rights than an imported file: it goes through the same checks. That is what stops a mobile campaign silently degrading a database kept clean for months.

The error file is one CSV per table, enriched with the columns explaining the rejection: it is corrected offline and reimported as it stands.

Place in the platform

FED BY

04 Layout Builder

Supplies the embedded forms: capture is identical in the office and in the field.

02 Table Designer

Defines the tables taken along and the constraints that will apply on return.

— Database reference lists

Travel with the package, so the closed lists work offline.



Mobile Sync

The bridge between the field and the database:
it extends the platform to where there is neither
network nor workstation.

FEEDS

03 Data Entry

Receives the accepted rows, as though they had been captured in the office.

05 Data Validation

Runs the full geological check over what has just been integrated.

01 Dashboard

The day's metreage appears as soon as the return package is integrated.



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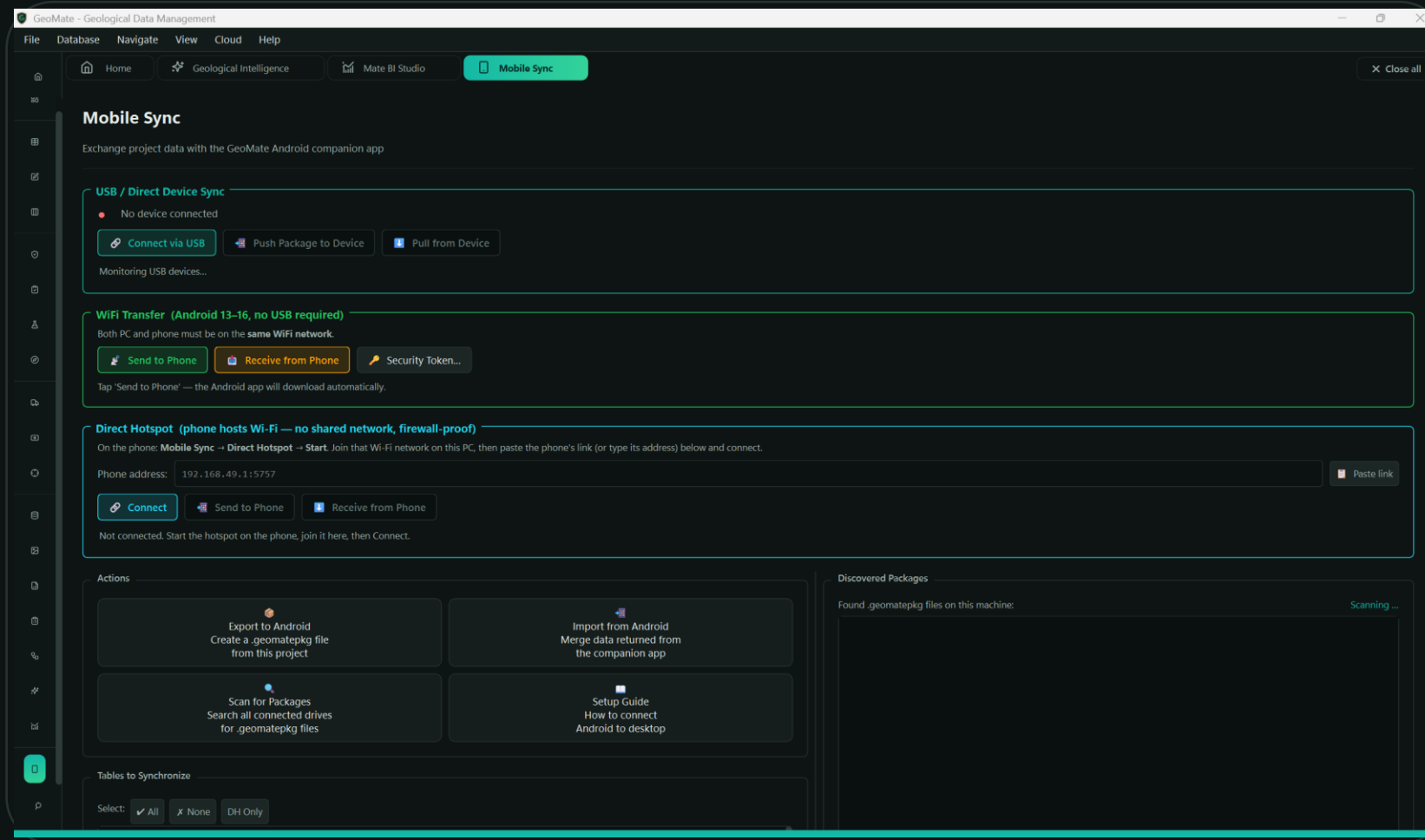
SECTION II

In practice

The real interface, the operating workflow, the reference settings, good practice and the questions that come up.

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- 01 The interface
 - 02 Operating workflow
 - 03 In depth
 - 04 Good practice
 - 05 Frequently asked
-

The interface



1 Direct USB

Device monitoring, push the package to the device, pull from the device.

2 Wi-Fi transfer

Android 13 to 16, no cable: send to phone, receive from phone, security token.

3 Direct hotspot

The phone hosts the Wi-Fi; the desktop joins the network and connects to the displayed address.

4 Actions

Export to Android, import from Android, scan for packages, setup guide.

5 Tables to synchronise

All, none, or the drillhole tables only — the selection travels with the package.

Actual GeoMate 2026 v2026.3.1.5 screen capture — Midnight theme.

Operating workflow

Six steps, from office to field and back.

1

Choose the tables

All, none, or the drillhole tables only — plus the reference lists.

2

Create the package

Export to Android produces a self-contained .geomatepkg file.

3

Transfer

USB, shared Wi-Fi, or a hotspot hosted by the phone.

4

Log in the field

The Android app records locally, with no network, using the same reference lists.

5

Pull back and check

The returning package goes through the four checking passes before any write.

6

Correct and re-import

Refused rows sit in one CSV per table: correct the cells and re-import through External Data.

What is checked before anything is written

PASS

WHAT IT CATCHES

Intervals

Invalid, negative or zero-length, duplicated and overlapping intervals — checked against the package and against what is already stored for the same holes. Gaps are reported, never refused.

Identity key

A key value left empty, or the same key sent twice in one package.

Ordinal families

Rank 2 filled while rank 1 is empty (Alt1Type / Alt2Type, Litho1 / Litho2), an attribute without its code, a code recorded twice, percentages over 100.

Content and references

Required column empty, value incompatible with its type, text too long, physically impossible number, invisible characters, code absent from its reference list, hole with no collar, interval past the bottom of its hole, date before the hole was started.

A hole logged on the phone whose collar travels in the same package is not an orphan: the check counts the collars the package brings.

The error worksheet, one per table

Every refused row is saved whole — all its columns, exactly as the phone sent them. The diagnosis is appended after the data columns, never substituted for it.

APPENDED COLUMN	CONTENT
<code>_error_type</code>	Which rule fired
<code>_blocked</code>	Yes when the row was kept out, No when it is only reported
<code>_error_column</code>	The column concerned
<code>_error_value</code>	The value concerned
<code>_error_message</code>	What is wrong, in words

The files land beside the package, named `<package>_<Table>_import_errors_<timestamp>.csv`. Correct the cells in place and re-import the file through External Data: field data cannot be re-collected.

Good practice

The precautions of a mobile capture campaign.

✓ Take the reference lists

Without them the closed lists do not work offline and capture reverts to free text.

✓ Check the channel before leaving

USB, Wi-Fi or hotspot: on site, the available channel is not always the one planned for.

✓ Bring the package back every day

A daily return package limits the loss if something happens, and spreads the correction work.

✓ Read the error file

What is rejected is not lost, but it is not integrated either. The per-table file says exactly why.

✓ Do not bypass the control gate

Accepting an unknown code "just for today" creates the variant that will have to be reconciled by hand in six months.

✓ Validate after integration

The gate checks the row; Validation checks the geological consistency of the whole. Both are needed.

Frequently asked

The questions of the field, and of coming back from it.

Q Is a network needed in the field?

No. Capture is entirely offline; the network is only involved in transferring the package, and a USB cable is enough.

Q What happens if a row is rejected?

It goes into its table's error file, with the columns explaining the rejection. Correct the file and reimport it.

Q Is the form the same as in the office?

Yes: the layout travels in the package. That is what guarantees the captured data is of the same nature on both sides.

Q Can several phones be synchronised?

Each device brings back its own package; the packages are integrated one after another, each going through the control gate.

Q Is a new code accepted?

It is flagged, not silently accepted. If it is legitimate, add it to the reference list, then reimport.

Q Does the package hold the whole database?

No: you pick the tables. Taking only what is needed lightens the transfer and reduces the error surface on return.



GeoMate 2026

SECTION III

The data

What the module produces on a real dataset, and the vocabulary needed to read those results.

01 Anonymised data

02 Key concepts

Anonymised data

What a synchronisation package carries on a project the size of KOUKOUDAN.

3

TRANSFER CHANNELS

USB, shared Wi-Fi, phone hotspot

4

CHECKING PASSES

applied before any write to the database

198 335

INTERVALS CONFRONTED

the package is checked against what is already stored

5

DIAGNOSTIC COLUMNS

_error_type · _blocked · _error_column ·
_error_value · _error_message

A hole logged on the phone is confronted with the 198,335 intervals already stored before a single row is written. What is refused leaves in one CSV per table, with the whole row kept: field data cannot be re-collected, so it is never silently lost.

Source: KOUKOUDAN project database (Senegal) — figures computed from the real data exported from GeoMate.

Key concepts

The vocabulary of mobile capture.

.geomatepkg package

The container carrying tables, layouts and reference lists between the workstation and the field device.

Direct hotspot

The phone's tethering, used as a local network between device and workstation, with no infrastructure.

Remainder

What is left to integrate after a first pass: only the corrected rows go back, never the whole package.

Control gate

The mandatory checkpoint for incoming rows: the same checks as a file import, with no exception.

Error file

The per-table CSV of refused rows, enriched with the columns explaining the refusal. It is corrected and reimported.

Offline

The normal mode of operation in the field: no connection needed between the package leaving and coming back.



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SECTION IV

Value & specifications

What the module changes for the project, and its technical integration profile.

01 Business value

02 Technical profile

Business value

No infrastructure required

Direct hotspot mode works where there is no corporate network, no mobile coverage and no system administrator.

3 channels

The check is the same on both sides

A defect has the same name and the same wording whether it comes from the phone or from an imported file.

Unified rules

The typo never becomes official

A code absent from the reference lists is refused, not created — the historic source of reference-list pollution.

Refused by default

Refused data stays recoverable

One CSV per table keeps the whole row and its diagnosis: you correct and re-import, you do not go back to site.

Zero loss

Photos follow their intervals

Field photographs are transferred and linked to their hole and depth, then viewable in the Core Image Manager.

Auto linking

Technical profile

Transfer

USB

Device detection, push and pull

Wi-Fi

Android 13 to 16, same network, security token

Hotspot

The phone hosts the network, no firewall to cross

Package

.geomatepkg — tables, reference lists and photos

Checking

Passes

Intervals · identity key · ordinal families · content and references

Timing

Before the write, against the package and the database

New codes

Refused, unless explicitly allowed

Gaps

Reported, never refused

Traceability

Error worksheet

One CSV per table, the whole row kept

Appended columns

Type, blocked, column, value, message

Naming

<package>_<Table>_import_errors_<timestamp>.csv

Recovery

Correct in place and re-import through External Data



One platform, from field to report

The “Mobile Sync” module is one of the 19 modules of GeoMate 2026 — a single, fully offline platform covering the whole chain: database design, data entry, validation, QA/QC, dispatch, analysis and reporting.