



WHITE PAPER

How GST Really Works in ERPNext: E-Invoicing, E-Way Bills & the India Compliance App

The non-obvious truth: core ERPNext doesn't do Indian GST on its own — a separate, free app does. Here's how the whole thing fits together.

For finance & compliance leaders · 9 min read

EXECUTIVE SUMMARY

There's a widely repeated half-truth in the Indian ERP market: "ERPNext handles GST out of the box." It doesn't — not by itself. Core ERPNext is a country-agnostic ERP; Indian GST, e-Invoicing and e-Way Bills are added by a separate, open-source Frappe app called India Compliance (built by Resilient Tech). That distinction is not pedantry — it shapes how you scope an implementation, who you hold responsible for compliance, and what can go wrong at filing time. This paper explains, plainly, what the India Compliance app actually is, why GST is deliberately decoupled from core ERPNext, and how it delivers GSTIN validation, GST tax setup, e-Invoice (IRN and signed QR) generation to the IRP, e-Way Bill generation, and GSTR-1 / GSTR-3B / GSTR-2B reconciliation — all inside the same Sales Invoice and Purchase Invoice your team already uses. The aim is to give finance and compliance leaders an accurate mental model, so you buy, scope and run ERPNext GST with your eyes open.

The myth: "ERPNext does GST out of the box"

Ask around before an ERPNext project and you'll hear it stated as fact: ERPNext is GST-ready the moment you install it. It's an understandable belief — ERPNext is enormously popular with Indian SMBs precisely because it fits Indian business — but as a technical statement it's wrong, and the gap matters.

Core ERPNext (the app at github.com/frappe/erpnext) is built to run a business anywhere in the world. It knows about invoices, taxes, accounts and stock in a country-agnostic way. What it does not contain, by itself, is India's statutory GST machinery: real-time GSTIN validation against government systems, e-Invoice (IRN and signed QR) generation to the Invoice Registration Portal, e-Way Bill generation, and the GSTR return and reconciliation tooling. Those are delivered by a separate application. If you scope a project believing GST "just works," you can end up with an ERP that runs your operations beautifully and quietly fails your compliance — the most expensive kind of surprise.

- Core ERPNext is a country-agnostic ERP — invoices, accounts, stock and generic taxes.
- India's GST specifics — GSTIN validation, e-Invoice, e-Way Bill, GSTR returns — are NOT in core ERPNext.
- They're added by a separate, free app: India Compliance, by Resilient Tech.
- Scope the project around that split, or compliance becomes an afterthought discovered at filing time.

The India Compliance app: what it is, and why GST is decoupled

India Compliance is an open-source Frappe app that layers Indian regulatory compliance — GST above all — on top of ERPNext. It's maintained by Resilient Tech, it's free and open source (source at github.com/resilient-tech/india-compliance), and once installed it extends the documents you already use: Sales Invoice, Purchase Invoice, Delivery Note, Customer and Supplier all gain GST fields, validations and actions. To the end user it doesn't feel like a bolt-on; it feels like GST is simply part of ERPNext. Under the hood, though, it's a distinct app with its own release cycle.

Why decouple it at all? Because it's good engineering. Frappe (the framework ERPNext is built on) is deliberately country-agnostic, and localisations for different tax regimes live in their own apps so that country-specific law can evolve on its own schedule without forcing changes into the core product. Indian GST is a fast-moving target — rules, portals and formats change — and keeping it in a dedicated, independently versioned app means those changes ship quickly to the businesses that need them, without destabilising ERPNext for everyone else. The practical upshot for a buyer: an ERPNext GST implementation is really two things installed and configured to work together — the ERP, and the compliance app.

- A separate, open-source Frappe app that extends ERPNext for Indian compliance — maintained by Resilient Tech.
- Installs on top of ERPNext and adds GST fields, validations and actions to Sales/Purchase Invoice, parties and more.
- Decoupled by design: country-specific tax law lives in its own app with its own release cycle.
- For accelerated e-Invoice / e-Way Bill / GST-returns API features it uses a GST API service (an India Compliance Account), which carries some cost — the core app is still free.

The two apps that make ERPNext GST-compliant

1

Core ERPNext

the country-agnostic ERP: invoices, accounts, stock, generic taxes and the business workflow.

2

India Compliance app (separate, free, open-source)

adds Indian GST: GSTIN validation, GST tax setup and HSN codes.

3

E-Invoicing

generates the IRN and signed QR to the IRP from an applicable Sales Invoice.

4

E-Way Bills

generated from Sales Invoice / Delivery Note, with full lifecycle (update, extend, cancel).

5

GST returns

prepares GSTR-1, supports GSTR-3B, and reconciles GSTR-2B / GSTR-2A for correct ITC.

6

GST API service

an India Compliance Account for the accelerated e-Invoice / e-Way Bill / returns features (carries some cost).

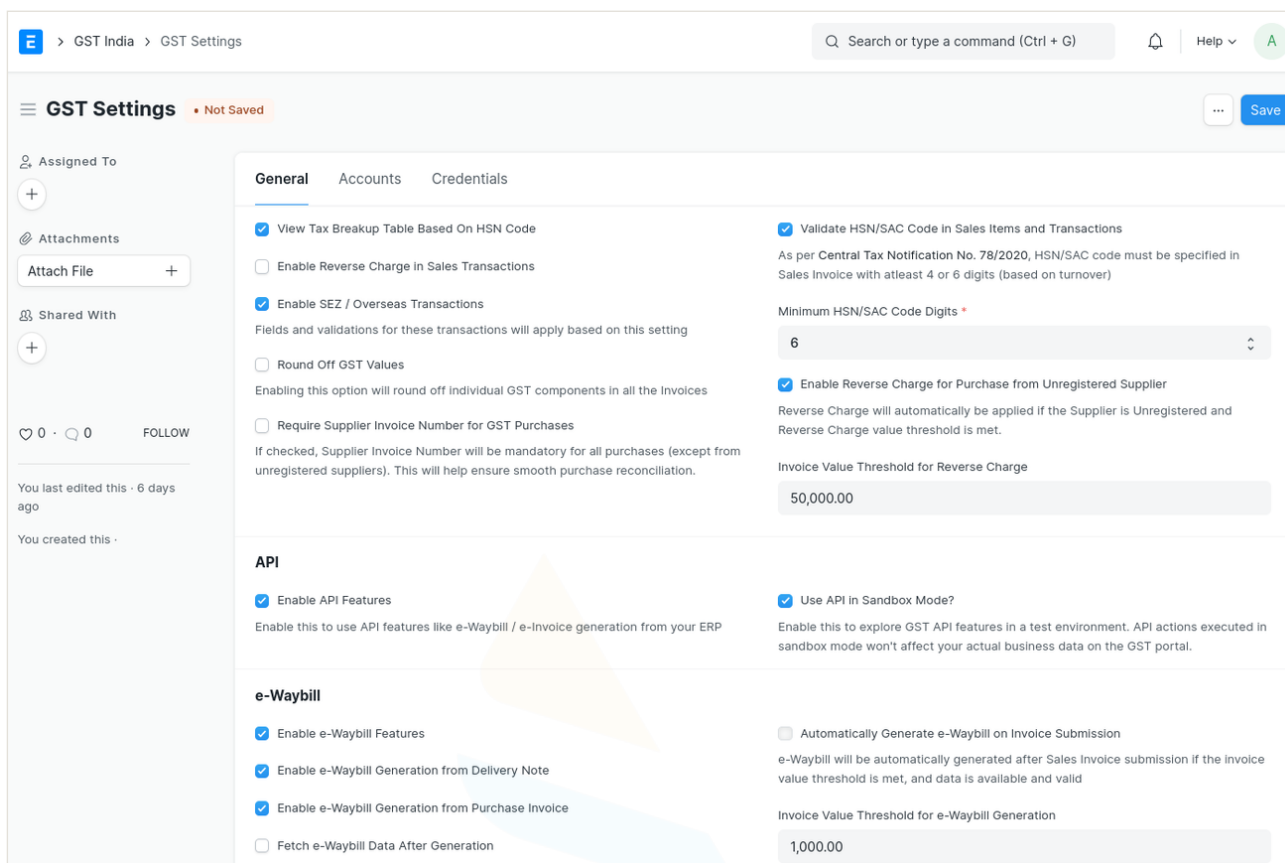
GST setup and GSTIN validation

Before a single compliant invoice can be raised, the GST foundation has to be laid — and this is where India Compliance does a lot of quiet work. On install it sets up the scaffolding most Indian companies need: default GST accounts (CGST, SGST/UTGST, IGST and cess), sales, purchase and item tax templates, and a large library of HSN/SAC codes so items can carry the classification the law requires.

You set your company's GSTIN and state, tag your items with HSN codes, and assign the right tax templates — and from then on the system applies the correct GST treatment based on place of supply (GST being a destination-based tax, intra-state vs inter-state changes whether CGST+SGST or IGST applies).

The part that saves the most pain day-to-day is GSTIN validation. India Compliance can verify a GSTIN's validity and status in real time against government systems, and can auto-fill a party's legal name, address and registration details from their GSTIN — so a new customer or supplier is set up correctly rather than with a typo that surfaces months later on a rejected return. A configurable GST Settings screen (shown below) centralises the behaviour: HSN-based tax breakups, reverse charge, SEZ/overseas handling, whether a supplier invoice number is mandatory, and the switches that turn on the e-Way Bill and e-Invoice API features. This is the layer that makes every downstream document — invoice, e-Invoice, e-Way Bill, return — start from correct data.

- Pre-built GST accounts, sales/purchase/item tax templates and a large HSN/SAC code library on install.
- Correct GST treatment by place of supply — CGST+SGST intra-state, IGST inter-state (destination-based tax).
- Real-time GSTIN validation and auto-fill of party name/address/details from the GSTIN — fewer master-data errors.
- A central GST Settings screen for reverse charge, SEZ/overseas, HSN validation and the e-Way Bill / e-Invoice API switches.



The GST Settings screen the India Compliance app adds to ERPNext — HSN validation, reverse charge, SEZ handling and the switches that turn on e-Way Bill and e-Invoice API features.

E-Invoicing: IRN and the signed QR code

For businesses above the e-Invoicing turnover threshold, a B2B tax invoice isn't legally complete until it has been reported to the Invoice Registration Portal (IRP) and stamped with an Invoice Reference Number (IRN) and a government-signed QR code. India Compliance builds this into the Sales Invoice itself. When you submit an applicable invoice, it can generate the e-Invoice automatically — sending the invoice data to the IRP, receiving the IRN back and writing it onto the invoice, and producing the signed QR code that then prints on your invoice layout. Supplies that don't qualify — to unregistered persons, or non-GST supplies — are correctly skipped, and you can set a start date so generation only kicks in from the day the requirement applies to you.

Because it's driven from the same invoice your billing team already raises, e-Invoicing stops being a separate portal-and-Excel chore and becomes a by-product of invoicing. If a mistake is made, an e-Invoice can be cancelled within the window the law allows, with a reason recorded. The important mental model: the IRN and QR are obtained by the India Compliance app talking to the government portal on ERPNext's behalf — not a feature of core ERPNext, and not something your team keys in by hand.

- On submitting an applicable Sales Invoice, the app generates the e-Invoice, retrieves the IRN and produces the signed QR.
- The IRN is written back onto the invoice and the QR prints on the invoice — no separate portal upload.

- Non-applicable supplies (unregistered / non-GST) are skipped; an applicability start date can be pre-set.
- E-Invoices can be cancelled within the permitted window, with a reason logged for audit.

E-Way Bills, from the same transaction

When goods move above the value threshold, they need an e-Way Bill — and India Compliance generates it from the documents already recording the movement: the Sales Invoice or the Delivery Note (and it can be produced from a Purchase Invoice too). Enable the feature in GST Settings and it can generate the e-Way Bill automatically on submission, or on demand from the document's menu. You add the transporter and vehicle details, and if distance is left at zero the portal estimates it between the pin codes. The result is a proper e-Way Bill with its number and QR (illustrated below), pulled straight from your invoice data rather than re-typed into the NIC portal.

Crucially, it manages the whole lifecycle, not just creation. You can update transporter or vehicle information mid-journey, extend validity within the permitted window before/after expiry, and cancel with a reason when a consignment falls through — all from inside ERPNext, with a log kept for each action. For businesses shipping all day, the value is throughput: bulk generation and one consistent record of every e-Way Bill, instead of a parallel workflow on a government website.

- Generated from the Sales Invoice or Delivery Note (and Purchase Invoice) — automatically on submit or on demand.
- Captures transporter and vehicle details; the portal can estimate distance from pin codes if left at zero.
- Full lifecycle: update transporter/vehicle, extend validity within the window, and cancel with a reason.
- Bulk generation and a per-document log — one source of truth instead of a separate NIC-portal workflow.

e-Waybill



E-Way Bill Details

eWay Bill No: 1111 1111 1111	Generated Date: 10/01/2025 03:01:00 PM	Generated By: AA000 00000 00000
Mode: Road	Approx Distance: 47kms	Valid Upto: 11/01/2025 11:59:00 PM
Type: Outward - Supply	Document Details: Tax Invoice - SINV-24-00000 - 21/11/2024	Transaction type: Regular

Address Details

From GSTIN: AA000 00000 00000 John Doe Gujarat :: Dispatch From :: Test Indian Registered Company Test Address 2 Test City, Gujarat-390000	To GSTIN: AA000 00000 00000 Test Trader Name Gujarat :: Ship to :: Test To Address 1 Test To Address 2 Test City, Gujarat-390000
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Goods Details

HSN Code	Product Name & Desc.	Quantity	Taxable Amount Rs.	Tax Rate (C + S + I + Cess + Cess Non. Advol)
73079390	Test Product Description 1	25.0 NOS	14474.75	9.0 + 9.0 + 0 + 0.0 + 0.0
73079390	Test Product Description 2	20.0 NOS	16030.8	9.0 + 9.0 + 0 + 0.0 + 0.0
73079390	Test Product Description 3	1.0 NOS	2404.62	9.0 + 9.0 + 0 + 0.0 + 0.0
73041990	Test Product Description 4	0.75 MTR	6011.55	9.0 + 9.0 + 0 + 0.0 + 0.0
73079390	Test Product Description 5	1.0 NOS	2404.62	9.0 + 9.0 + 0 + 0.0 + 0.0
73041990	Test Product Description 6	0.75 MTR	6011.55	9.0 + 9.0 + 0 + 0.0 + 0.0

Tot. Taxable Amt.	CGST Amt.	SGST Amt.	IGST Amt.	CESS Amt.	CESS Non. Advol Amt.	Other Amt.	Total Inv. Amt.
47337.89	4260.41	4260.41	0.0	0.0	0.0	0.29	55859.0

Transportation Details

Transporter ID & Name: AA000 00000 00000 & Test Transporter Name	Transporter Doc. No & Date: None & None
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Vehicle Details

Mode	Vehicle / Trans Doc. No. & Dt.	From	Entered Date	Entered By	CEWB No. (If any)	Multi Veh. Info (If any)
Road	XY06AA1234	Test City	10/01/2025 03:01:00 PM	AA00000000000000	-	-



11111111111

An e-Way Bill generated from a Sales Invoice — number, QR code, goods, transporter and vehicle details, produced from the same transaction rather than re-keyed into the NIC portal.

GST returns and GSTR-2B reconciliation

Compliance doesn't end at the invoice — it ends at the return, and this is where India Compliance earns its place for the finance team. On the outward side it prepares GSTR-1 (your outward supplies) and supports the GSTR-3B summary workflow, mapping the transactions you've already booked in ERPNext into the return format so filing is a review-and-submit exercise rather than a rebuild in a spreadsheet.

The harder, higher-value problem is the inward side: making sure you only claim the input tax credit (ITC) you're actually entitled to. The app's purchase reconciliation tool downloads your GSTR-2B (and GSTR-2A) data from the portal and matches it, invoice by invoice, against the purchase invoices in ERPNext — flagging what matches, what's missing, and what your suppliers reported differently. That's the difference between confidently claiming full, correct ITC and either leaving credit on the table or claiming credit the portal will later dispute. Reconciliation can be run on demand or set to reconcile automatically. To pull returns data the app uses the GST Returns API (authenticated by OTP against your GST portal login), so the numbers come from the government's own records, not a manual export.

- Prepares GSTR-1 and supports the GSTR-3B workflow from the transactions already in ERPNext.
- Purchase reconciliation matches GSTR-2B / GSTR-2A against your ERPNext purchase invoices, line by line.
- Surfaces matches, mismatches and missing invoices — so you claim correct ITC, no more and no less.
- Run on demand or auto-reconcile; returns data is fetched via the GST Returns API (OTP-authenticated).

Getting it set up right

Because ERPNext GST is really two apps working together, the value comes from configuring them as a pair — and most GST pain in ERPNext traces back to setup that was rushed or left half-done. The India Compliance app has to be installed and its GST Settings configured to match how you actually trade: the right company GSTINs and states, HSN codes on your items, the correct tax templates, and — if you use them — the API features for e-Invoice, e-Way Bill and returns enabled with valid credentials. Get the masters right (GSTINs validated, HSN codes present, templates assigned) and everything downstream flows; get them wrong and the errors show up at the worst possible moment, on a rejected e-Invoice or an unreconciled return.

The honest framing to carry into any ERPNext project: describe core ERPNext as the ERP and India Compliance as the GST layer, insist both are scoped and tested together, and validate the full chain — raise an invoice, generate the e-Invoice and e-Way Bill, prepare GSTR-1, reconcile a GSTR-2B — before go-live, not after. As an official ERPNext partner working with Indian businesses, that's exactly the seam we set up and test end to end, so GST is a by-product of running the business rather than a monthly scramble.

- Install and configure India Compliance alongside ERPNext — company GSTINs, HSN codes, tax templates, API credentials.

- Validate the masters first: correct GSTINs, HSN codes present, right tax templates assigned.
- Test the whole chain before go-live — invoice -> e-Invoice -> e-Way Bill -> GSTR-1 -> GSTR-2B reconciliation.
- Treat core ERPNext as the ERP and India Compliance as the GST layer — scope, configure and test them together.

KEY TAKEAWAYS

- 1 Core ERPNext does not do Indian GST by itself — it's a country-agnostic ERP; GST is added by the separate, free, open-source India Compliance app (by Resilient Tech).
- 2 GST is decoupled by design so India's fast-changing rules ship in their own independently versioned app — practically, an ERPNext GST project is two apps configured to work together.
- 3 The app extends the documents you already use: real-time GSTIN validation, GST tax setup/HSN codes, and e-Invoice (IRN + signed QR), e-Way Bill and GSTR tooling inside Sales/Purchase Invoice.
- 4 E-Invoices and e-Way Bills are generated from the same transaction and managed end to end (create, update, extend, cancel) — no parallel portal-and-Excel workflow.
- 5 The highest-value piece is GSTR-2B/2A purchase reconciliation against your ERPNext invoices, so you claim correct input tax credit — configure and test the whole chain before go-live.

FAQ

Does core ERPNext handle Indian GST out of the box?

No. Core ERPNext is a country-agnostic ERP — it handles invoices, accounts, stock and generic taxes, but not India's statutory GST machinery. Indian GST, including GSTIN validation, e-Invoicing, e-Way Bills and GSTR returns, is added by a separate, free, open-source Frappe app called India Compliance (maintained by Resilient Tech). It installs on top of ERPNext and, once configured, makes GST feel like a native part of the system — but it is a distinct app you must install and set up.

What is the India Compliance app and is it free?

India Compliance is an open-source Frappe app (github.com/resilient-tech/india-compliance) that layers Indian GST compliance onto ERPNext — adding GST fields, validations and actions to Sales Invoice, Purchase Invoice, parties and more. The app itself is free and open source. Some accelerated features — automatic e-Invoice, e-Way Bill and GST-returns API calls — use a GST API service (an India Compliance Account) that carries some cost, but the core compliance functionality is free.

Can ERPNext generate e-Invoices (IRN and QR) and e-Way Bills?

Yes, through the India Compliance app. For applicable invoices it can generate the e-Invoice on submission — sending data to the Invoice Registration Portal, retrieving the IRN and producing the government-signed QR code that prints on the invoice. It also generates e-Way Bills from the Sales Invoice or Delivery Note (automatically or on demand), captures transporter and vehicle details, and manages the full lifecycle including validity extension and cancellation. All of it is driven from the transactions your team already raises in ERPNext.

How does ERPNext help with GSTR-1 and GSTR-2B reconciliation?

The India Compliance app prepares GSTR-1 (outward supplies) and supports the GSTR-3B workflow from the transactions already booked in ERPNext, so filing is review-and-submit rather than rebuilding in a spreadsheet. For purchases, its reconciliation tool downloads your GSTR-2B (and GSTR-2A) data from the GST portal via the OTP-authenticated Returns API and matches it invoice by invoice against your ERPNext purchase invoices — flagging matches, mismatches and missing invoices so you claim the correct input tax credit. It can run on demand or reconcile automatically.

Talk to a real ERPNext expert.

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