ChatGPT

Comparative LOC Analysis of Open-Source ERP Systems

Below we compare ten popular open-source ERP systems in terms of total lines of code (LOC) and their breakdown by major programming languages. All figures include both backend and frontend code, encompassing core repositories and standard modules/plugins (if maintained separately). Sources (such as OpenHub analyses, `cloc` outputs, etc.) are cited for each project.

1. Odoo (formerly OpenERP)

- **Total LOC:** ~2.4 million lines (approx. 1.94 million source code lines) [1] [2] .
- **Language Breakdown:** ~45% JavaScript (~880k LOC), ~37% Python (~658k LOC), ~17% XML (~381k LOC), with minor portions of CSS/HTML and others [3] [4] .
- **Sources/Notes:** OpenHub analysis of the Odoo GitHub repository (community edition) [1] . This includes the core platform and all official add-on modules in the open-source edition.

2. ERPNext (with Frappe Framework)

- **Total LOC:** ~1.92 million lines of code (combined ERPNext app + Frappe framework) [5] .
- **Language Breakdown:** ~53% Python, ~19% JavaScript, ~14% XML, ~14% other (CSS, HTML, etc.) [5] [6] .
- **Sources/Notes:** OpenHub data (which aggregates the Frappe framework and ERPNext module code) [5] . The estimate includes the backend (Python/Frappe) and frontend (JS) code across core and standard modules.

3. Dolibarr ERP/CRM

- **Total LOC:** ~179k total lines (approx. 158k code lines) [7] [8] .
- **Language Breakdown:** ~51% HTML (~86k LOC), ~26% CSS (~41k LOC), ~13% PHP (~17k LOC), ~9% JavaScript (~12.6k LOC), plus a tiny fraction of XML/SQL/etc. [9] [10] .
- **Sources/Notes:** OpenHub analysis of Dolibarr's repositories [9] . Dolibarr's UI is template-heavy (hence the large HTML/CSS counts). Figures include core and all standard modules (Dolibarr modules are part of the main repo).

4. Apache OFBiz

- **Total LOC:** ~717k total lines (approx. 554k source lines) in the "trunk" codebase [11] [12] .
- **Language Breakdown:** ~56% Java (~286k LOC), ~30% XML (~206k LOC), ~10% Groovy (~49k LOC), plus ~6% combined JavaScript & CSS (~37k + 24k) and negligible others [13] [14] .
- **Sources/Notes:** OpenHub analysis of Apache OFBiz (trunk) [13] [14] . This includes the core framework and all built-in modules in the official repository.

5. iDempiere

- **Total LOC:** ~4.0 million total lines (≈2.21 million code lines) [15] [16].
- **Language Breakdown:** Dominated by SQL (~56% of code, ≈**1.16 million** LOC) and Java (~39%, ≈**0.87 million** LOC). Also ~2% XML and ~2% JavaScript, with tiny amounts of HTML, shell scripts, etc. [17] [18].
- **Sources/Notes:** OpenHub analysis of iDempiere (successor to ADempiere) [17]. The very large SQL LOC reflects iDempiere's extensive database dictionary and seed data scripts. All core modules (OSGi plugins) are included in this count.

6. ADempiere

- **Total LOC:** ~15.5 million total lines (≈12.53 million code lines) [19] [20].
- **Language Breakdown:** Very large XML component (~59% of code, ≈**9.16 million** LOC of XML), with ~23% Java (~1.90 million LOC) and ~16% SQL (~1.25 million LOC). Remainder (~2%) includes small amounts of JavaScript, Scala, HTML, etc. [21] [22].
- **Sources/Notes:** OpenHub analysis [21] [23]. ADempiere's codebase is huge, largely due to XML application dictionary configurations. This covers the core project and all official modules (ADempiere is a single, monolithic repository).

7. Openbravo ERP

- **Total LOC:** On the order of ~7 million source lines (Openbravo was reported at ~7.2M SLOC circa 2015) [24]. Recent OpenHub data is incomplete, but Openbravo is one of the largest ERP codebases.
- **Language Breakdown:** Primarily Java (OpenHub notes it is "mostly written in Java" [25]), with substantial XML (for config/data) and some JavaScript. (Precise breakdown not available from current OpenHub due to incomplete analysis.)
- **Sources/Notes:** Academic analysis (2015) identified Openbravo as the largest among popular open-source ERPs, with ~7.19M LOC and ~129 contributors [24] [26]. The codebase includes the core platform and all standard modules; technology stack is Java-based with a web UI.

8. Tryton

- **Total LOC:** ~565k total lines (≈500k code lines) [27] [28].
- **Language Breakdown:** ~55% Python (~262k LOC), ~35% XML (~185k LOC), ~6% JavaScript (~31k LOC), ~4% XML Schema (~19k LOC), with trivial amounts of HTML, SQL, etc. [29] [30].
- **Sources/Notes:** OpenHub analysis of Tryton (including its server and official module packages) [29]. Tryton's core and modules are implemented in Python, with XML used for configuration (e.g. data models, views). The count encompasses the base platform and standard modules.

9. webERP

- **Total LOC:** ~4.2 million lines of code [31].
- **Language Breakdown:** Predominantly PHP (webERP is "mostly written in PHP" [31]). The majority of the 4.2M LOC are PHP source, with the remainder being HTML/JavaScript and localization files (each relatively small by comparison). *(Exact breakdown not fully available; PHP constitutes the bulk.)*

- **Sources/Notes:** OpenHub summary of webERP [31] . The high LOC count likely includes many language translation strings and all modules in the core repository. WebERP is a LAMP-stack web application with all functionality in one codebase.

10. metasfresh

- **Total LOC:** ~8.27 million total lines (≈4.71 million code lines) [32] [33] .
- **Language Breakdown:** ~51% Java (~2.38 million LOC) and ~38% SQL (~1.51 million LOC) are the dominant languages. ~5% XML (~388k LOC) and ~3% XML Schema (~244k LOC) are also present, plus small portions of JavaScript, XSL, etc. [34] [35] .
- **Sources/Notes:** OpenHub analysis of metasfresh (an actively maintained ADempiere fork) [36] [34] . The code spans backend (Java) and database (SQL scripts) as well as configuration files. The count covers the core project and official modules/plugins (metasfresh uses a multi-repo setup, which OpenHub aggregated).

References: The above statistics were primarily obtained from OpenHub (Black Duck Open Hub) analyses of each project's source code, complemented by academic reports and project documentation for verification [1] [5] [9] [17] [21] [31] [24] . Each figure includes core functionality and standard modules/plugins as noted.

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[1] [3] [4] The Odoo Open Source Project on Open Hub: Languages Page

https://openhub.net/p/odoo/analyses/latest/languages_summary

[2] The Odoo Open Source Project on Open Hub

https://openhub.net/p/odoo

[5] [6] The ERPNext Open Source Project on Open Hub

https://openhub.net/p/erpnext

[7] [8] [9] [10] The Dolibarr ERP & CRM Open Source Project on Open Hub: Languages Page

https://openhub.net/p/dolibarr/analyses/latest/languages_summary

[11] [12] [13] [14] The Apache OFBiz® trunk Open Source Project on Open Hub: Languages Page

https://openhub.net/p/Apache-OFBiz/analyses/latest/languages_summary

[15] [16] [17] [18] The iDempiere Open Source Project on Open Hub: Languages Page

https://openhub.net/p/iDempiere/analyses/latest/languages_summary

[19] [20] [21] [22] [23] The ADempiere Open Source Project on Open Hub: Languages Page

https://openhub.net/p/adempiere/analyses/latest/languages_summary

[24] [26] (PDF) Understanding Enterprise Open Source Software Evolution

https://www.researchgate.net/publication/283170937_Understanding_Enterprise_Open_Source_Software_Evolution

[25] Projects Similar to jPOS - Open Hub

https://openhub.net/p/jpos/similar

[27] [28] [29] [30] The Tryton Open Source Project on Open Hub: Languages Page

https://openhub.net/p/tryton/analyses/latest/languages_summary

[31] The webERP Open Source Project on Open Hub

https://openhub.net/p/weberp

[32] [33] [34] [35] The metasfresh Open Source Project on Open Hub: Languages Page

https://openhub.net/p/metasfresh/analyses/latest/languages_summary

[36] The metasfresh Open Source Project on Open Hub

https://openhub.net/p/metasfresh