



PUBLIC INTELLIGENCE REPORT

Priimal Loss Index: Global Edition 2026

Annual estimates of revenue loss rates and financial exposure across the five sectors where Priimal operates.

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Executive summary

Organisations across five sectors lose an estimated combined total exceeding USD 300 billion annually to revenue losses that sit undetected in data they already hold. Electricity distribution utilities alone lose approximately USD 96 billion per year to non-technical losses; water authorities, insurers, telecoms operators, and benefits administrators account for a further USD 200 billion or more by conservative cross-sector estimate. These losses are not primarily caused by a shortage of data. They are caused by the failure to connect billing records, meter read histories, claims files, subscriber logs, and beneficiary registers, and to score them simultaneously against the patterns that identify where revenue is not reaching the balance sheet.

Priimal publishes this index annually to provide the most specific, sourced estimate of sector loss rates available in the public domain, drawing on national regulator publications, industry association surveys, and development bank assessments rather than on vendor-commissioned market research.

The index

Sector	Global annual loss estimate	Typical loss rate	Primary loss typologies	Source
Electricity NTL	USD ~96 billion/yr	10 to 28% (developing markets); 5 to 8% (developed markets)	Meter tampering, service line tapping, billing manipulation	Northeast Group LLC, cited in World Bank ESMAP assessments
Water NRW (apparent losses)	USD ~39 billion/yr (apparent losses); total NRW estimated USD 141 billion/yr	15 to 40% of system input volume (total NRW); apparent losses typically 30 to 50% of that	Unauthorised connections, meter inaccuracy, billing data errors	World Bank WSS Sector Board; Kingdom, Liemberger & Marin (2006); Liemberger & Wyatt apparent loss estimate
Insurance claims fraud	USD 80 to 100 billion/yr (P&C lines)	5 to 10% of claims paid (European benchmarks); ~10% of loss costs (US)	Staged accidents, inflated repair claims, provider collusion	Insurance Information Institute; FBI insurance fraud estimate; Accenture P&C survey (EUR 8 to 12 billion/yr Europe)
Telecoms revenue leakage	USD 38.95 billion (2023); USD 41.82 billion (2025)	~2.5% of global telecom revenues	IRSF, SIM box bypass, subscription fraud, grey routing	CFCA Global Fraud Loss Survey 2023; CFCA 2025 data cited by TNS
Employee benefits leakage	Estimated at 5% of organisational revenue; USD 3.1 billion in ACFE studied cases	5% of organisational revenue lost to occupational fraud; benefits a significant sub-category	Ghost beneficiaries, eligibility fraud, payroll diversion, vendor kickbacks	ACFE Occupational Fraud 2024: A Report to the Nations

Sources: Northeast Group LLC / World Bank ESMAP (electricity); Kingdom, Liemberger & Marin World Bank Working Paper (2006) and Liemberger & Wyatt (water); Insurance Information Institute, FBI, Accenture P&C Survey (insurance); CFCA Global Fraud Loss Survey 2023 and 2025 (telecoms); ACFE Occupational Fraud 2024: A Report to the Nations (benefits). See Sources Consulted section.

Sector narratives

Electricity NTL

Global non-technical losses cost electricity distribution utilities approximately USD 96 billion annually, a figure derived from research cited by the World Bank and Northeast Group LLC. The dominant loss typologies are meter tampering (physical or magnetic interference with the meter register to slow or halt consumption recording), service line tapping (direct connections to the feeder between transformer and meter, invisible to any metering system), and systematic billing manipulation by staff or contractors.

For a mid-sized distribution utility serving 500,000 meters at a 20% NTL rate and a tariff of USD 0.09 per kWh, the annual financial loss approaches USD 27 million on a modest consumption baseline. What makes this loss particularly resistant to conventional detection is its invisibility to any system that examines billing records or meter read histories in isolation: the patterns that identify tampered meters and unauthorised connections only become visible when those datasets are cross-referenced simultaneously at the account level.

Water NRW

The World Bank estimates total non-revenue water at USD 141 billion per year globally, with apparent losses (the commercially recoverable component) estimated at roughly USD 39 billion annually by Liemberger and Wyatt, a figure that understates the true scale given rising water tariffs since the underlying studies were conducted. Apparent losses comprise meter inaccuracy (aged or degraded meters systematically under-recording consumption), unauthorised connections and illegal tapping, and billing data errors including accounts that remain consuming after disconnection.

Reducing losses in developing countries by half could generate an estimated USD 2.9 billion in additional annual utility revenue and extend service to an additional 90 million people, according to the World Bank Water Supply and Sanitation Sector Board. For a mid-sized water authority serving 300,000 connections with a 35% total NRW rate, the apparent loss component alone represents several million EUR in unrecovered billing revenue each year. Conventional detection through district metered area monitoring identifies the zones where apparent losses concentrate but cannot attribute them to specific accounts without account-level analytics.

Insurance claims fraud

The US Insurance Information Institute estimates total insurance fraud losses in the United States at approximately USD 30 billion annually across property and casualty lines, with the FBI placing the broader figure at over USD 40 billion when health insurance fraud is included. For European P&C insurers, Accenture estimates annual fraudulent claims losses in the range of EUR 8 to 12 billion, with around 39% of claims executives surveyed believing that 5 to 10% of claims paid were fraudulent but undetected.

The dominant typologies are staged accidents (organised networks of participants filing coordinated motor claims), inflated repair and medical billing (systematic over-billing by workshops, physiotherapists, and legal representatives), and provider collusion (supply chain participants creating fraudulent billing records). For a regional motor and health insurer with EUR 200 million in annual non-life gross written premium, a 7% fraud rate on a 65% loss ratio implies an annual fraud exposure of approximately EUR 9 million. The detection problem is structural: conventional SIU triage selects cases by referral and billing exception flags, neither of which identifies organised fraud rings whose individual claim values stay deliberately below alert thresholds.

Telecoms revenue leakage

The CFCA Global Fraud Loss Survey reported USD 38.95 billion in global telecoms fraud losses in 2023, rising to USD 41.82 billion by 2025, representing approximately 2.5% of global telecoms revenues. The dominant loss typologies are international revenue share fraud (IRSF, where artificially inflated traffic to premium-rate numbers extracts revenue sharing payments from the operator), SIM box bypass (banks of SIM cards terminating international calls as local calls to avoid interconnect rates), subscription fraud (stolen or synthetic identities used to acquire services with no intention to pay), and grey routing (traffic delivered through off-contract wholesale routes).

For an MVNO with 2 million active subscribers and an average monthly ARPU of EUR 8.50, a 2.5% leakage rate implies annual revenue loss of approximately EUR 5.1 million. The detection gap is most severe for MVNOs and smaller carriers, who carry the same fraud exposure as larger operators but without the dedicated fraud management infrastructure that Tier 1 carriers have built over two decades.

Employee benefits leakage

The ACFE's Occupational Fraud 2024: A Report to the Nations, drawing on 1,921 cases across 138 countries, estimates that a typical organisation loses 5% of revenue annually to occupational fraud, with total losses from the cases studied exceeding USD 3.1 billion. Payroll and benefits fraud is among the most persistent sub-categories: ghost beneficiaries (payments continuing after a beneficiary's death, departure, or change in eligibility), eligibility fraud (dependants retained on employer health plans after qualifying events), systematic payroll diversion, and vendor kickbacks within benefits administration.

For an employer or government agency administering benefits to 10,000 enrolled beneficiaries at an average annual cost of EUR 3,000 per person, a 7% leakage rate implies EUR 2.1 million in annual unrecovered expenditure. The leakage is difficult to detect conventionally because beneficiary records, payroll systems, and payment records are held in separate systems and are rarely cross-referenced at the individual level.

Methodology note

The Priimal Loss Index is built from publicly available data sources: national energy and water regulators, insurance industry associations, telecoms fraud control bodies, government audit publications, and organisations' own annual reports and solvency filings. Where a single authoritative global figure does not exist, Priimal derives an estimate using a documented methodology and states the basis and the source clearly alongside each figure.

The global apparent NRW figure is drawn from a specific World Bank working paper rather than a general claim about water losses; the distinction between apparent and total NRW is maintained throughout because only apparent losses are addressable by analytics. Figures are revised annually as new source data is published. The full methodology underpinning these estimates is described in the Priimal white paper "The Cost of Inaction: A Framework for Quantifying Revenue Loss Before Platform Investment", available at priimal.com.

ACCESS DEEPER INTELLIGENCE: The Priimal Loss Index is updated annually. To access sector intelligence reports, country-level market potential reports, and the Vantage Market Potential Calculator, visit priimal.com/intelligence.

Sources consulted

This section is for internal reference and quality control. It does not appear in the published version of this document.

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4. Liemberger and Wyatt, apparent NRW global financial value estimate of USD 39 billion, cited in S&P Global Ratings "Lost Water: Challenges and Opportunities" (2021).
5. CFCA, "Global Fraud Loss Survey 2023", Communications Fraud Control Association (November 2023). USD 38.95 billion telecom fraud; 2.5% of global revenues; 12% increase from 2021.
6. TNS / CFCA, "The Telecom Fraud Landscape in 2026", citing CFCA 2025 survey data. USD 41.82 billion global telecom fraud losses (2025).
7. ACFE, "Occupational Fraud 2024: A Report to the Nations", Association of Certified Fraud Examiners (2024). 5% of revenue lost to occupational fraud; USD 3.1 billion in studied cases; 138 countries, 1,921 cases.
8. Insurance Information Institute / FBI insurance fraud estimate. USD 40+ billion US insurance fraud; USD 30 billion P&C-specific.
9. Accenture P&C Insurance Survey, European P&C fraud estimate EUR 8 to 12 billion; 39% of executives reporting 5 to 10% of claims paid were fraudulent but undetected.

10. ABI, "Insurance Fraud Statistics 2024". £ 1.16 billion detected fraud in UK general insurance in 2024.
11. RGA, "2024 Global Claims Fraud Survey". 74% of insurers reporting fraud cases steady or increasing.

Editorial note

This section is for internal reference and quality control. It does not appear in the published version of this document.

The water NRW apparent loss figure of USD 39 billion is derived from Liemberger and Wyatt as cited by S&P Global Ratings and the World Bank, but the original study is now nearly two decades old and predates substantial tariff increases in emerging markets; S&P Global Ratings' alternative calculation using current tariff benchmarks would put the figure at USD 187 billion, making USD 39 billion a conservative floor. The 2027 update should prioritise finding a more recent IWA or World Bank primary estimate applying current tariff levels.

The insurance fraud global figure is a composite: no single industry body publishes a comprehensive global P&C fraud loss in a single cited annual report the way CFCA does for telecoms. The 2027 update should seek an Insurance Europe global market report or an IAIS publication providing a cross-market figure with methodology.

The ACFE occupational fraud figure extrapolates from sampled cases to a global total using the 5% of revenue rule of thumb; the benefits-specific leakage figure within that is not separately quantified in the public domain and should be flagged as an estimate derived from the overall occupational fraud category.