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Telecom Forensic Services
Protecting margins and brand
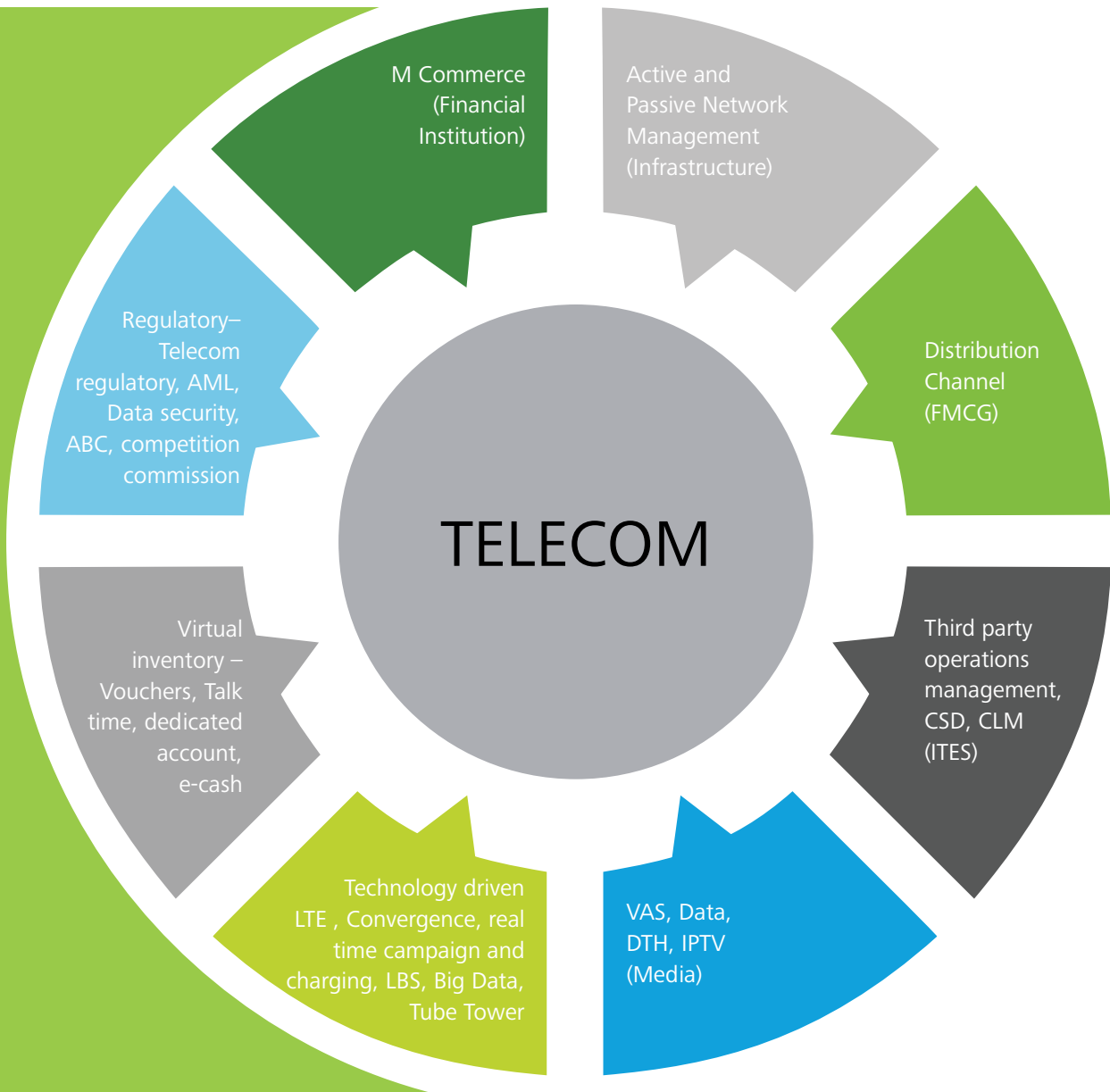
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Introduction

The telecom industry is a unique amalgamation of multiple industries such as IT enabled services, technology, infrastructure, financial institutions and media. Consequently, the telecom industry also tends to inherit the intrinsic fraud risks associated with each of these amalgamating industries, hence, making it an operationally complex industry.

As the telecom ecosystem expands to meet the demands of market expansion and technological advancements, new business models are emerging, making it indispensable for telecom operators to have dynamic controls to manage ever evolving fraud risks.

According to the CFCA Global Fraud Loss Survey 2013, telecom companies lost around USD 46 Billion (roughly 2 percent of global telecom revenues) to fraud, an increase of 15 percent over the previous year. The report highlighted roaming frauds, provisioning frauds, mobile money frauds, disputes, bad debts, and regulatory compliance as the key fraud concerns for companies.

The telecom sector landscape and characteristics

TELECOM

M Commerce (Financial Institution)

Active and Passive Network Management (Infrastructure)

Distribution Channel (FMCG)

Third party operations management, CSD, CLM (ITES)

VAS, Data, DTH, IPTV (Media)

Technology driven LTE , Convergence, real time campaign and charging, LBS, Big Data, Tube Tower

Virtual inventory – Vouchers, Talk time, dedicated account, e-cash

Regulatory– Telecom regulatory, AML, Data security, ABC, competition commission
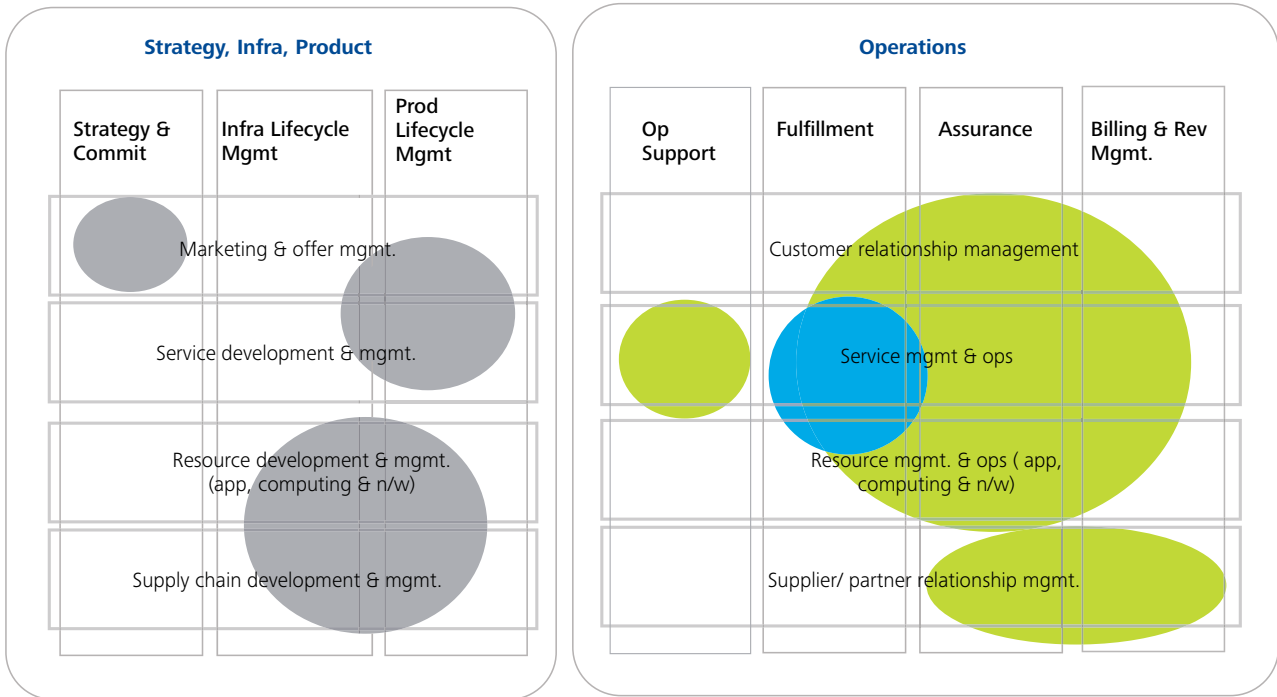
Telecom Fraud Overview

The nature of fraud and points of compromise vary depending on the evolution stage of the telecom operations.

Telecom company's focus and resultant fraud scenarios at each stage of evolution are mentioned below:

Greenfield

Business focus

Key business focus is on infrastructure and resources.

Government liasoning, strategic partnering, sourcing, deployment and talent acquisition, product portfolio development are the key activities undertaken during this phase.

Fraud scenarios

Corresponding fraud risks include vendor favoritism, funds misappropriation, recruitment fraud, competitive information leak. Gaps in product/ application design or contracting can also lead to fraud at growth stage.

Growth

Business focus

Key business focus is on increasing market share (subscriber acquisition) through GTM, service and plan innovation, channel partner management and aggressive campaigns. Infrastructure too scales up in line with subscriber growth.

Fraud scenarios

Corresponding fraud risks include vendor payments fraud, MIS/KPI misrepresentation, technical frauds in areas such as provisioning, billing, routing, free services, phishing, AWC, roaming frauds, pseudo value generation, wallet transfers and KYC related fraud.

Maturity

Business focus

Key focus on sustaining business and improving bottom line. Focus therefore extends to customer life cycle management, product lifecycle management, process excellence and cost reduction, and internal controls including controls on third party operations

Fraud scenarios

Corresponding fraud risks include external intrusions such as cyber attacks, information and data theft, and configuration manipulation. There is also limited technical fraud perpetrated through multi stakeholder collusion.

Based on our telecom forensic experience, we have mapped fraud propensity to the eTOM[1] framework.

Fraud susceptibility at each stage of telecom business operations (eTOM)
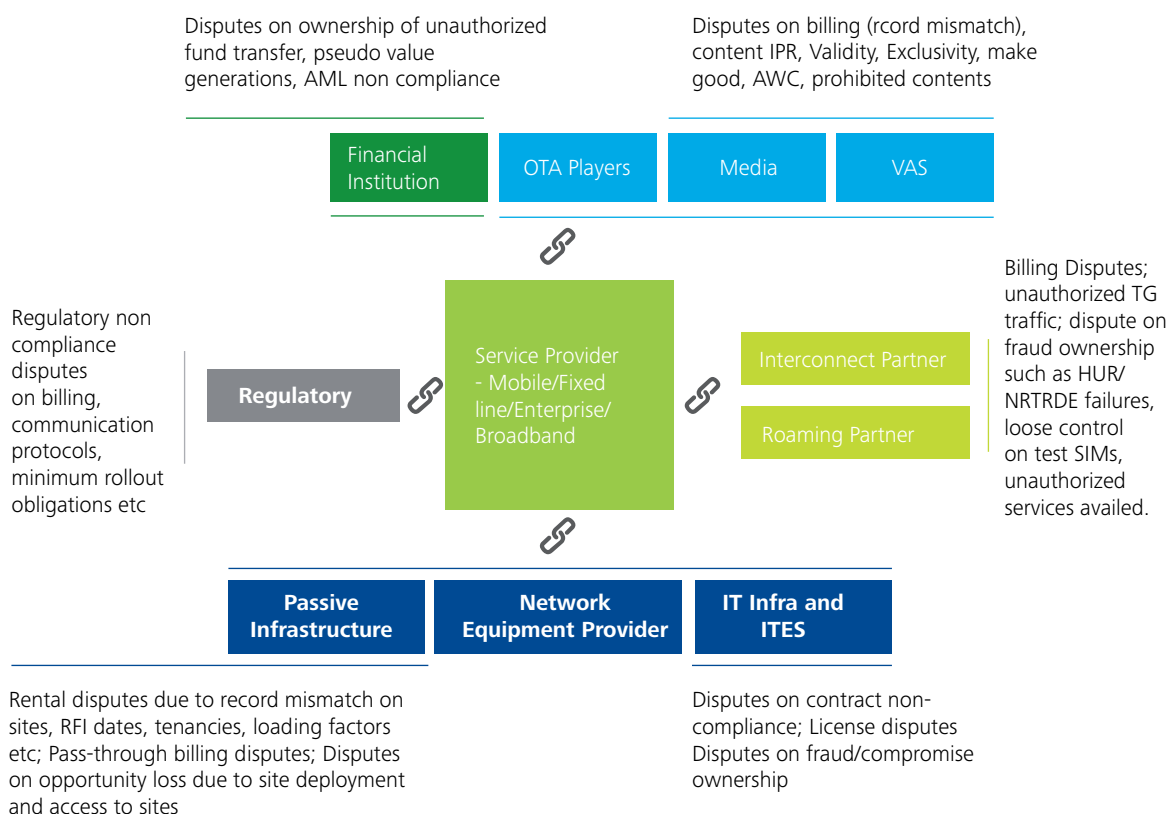

Strategy, Infra, Product		
Strategy & Commit	**Infra Lifecycle Mgmt**	**Prod Lifecycle Mgmt**
Marketing & offer mgmt.		
Service development & mgmt.		
Resource development & mgmt. (app, computing & n/w)		
Supply chain development & mgmt.		

Operations			
Op Support	**Fulfillment**	**Assurance**	**Billing & Rev Mgmt.**
Customer relationship management			
Service mgmt & ops			
Resource mgmt. & ops (app, computing & n/w)			
Supplier/ partner relationship mgmt.			

[1]eTOM stands for enhanced Telecom Operations Model which is a business operations standard for telecom management. This framework is adopted by leading global telecom companies and consulting firms to design and deploy end to end telecom processes.

Overview of Telecom sector disputes

Besides fraud, the sector is also facing several disputes, resulting from ambiguity in contracts, billing and reconciliation issues, and application design and implementation issues that arise due to the fast pace of growth in the sector. Further, the sector is governed by changing regulatory requirements aimed at ensuring customer satisfaction and fair business practices. Complying with regulatory requirements can therefore put additional pressure on telecom companies. The diagram below highlights some of the common issues of dispute in the sector.

Illustrative disputes in the telecom sector

Disputes on ownership of unauthorized fund transfer, pseudo value generations, AML non compliance

Disputes on billing (rcord mismatch), content IPR, Validity, Exclusivity, make good, AWC, prohibited contents

Financial Institution	OTA Players	Media	VAS

Regulatory non compliance disputes on billing, communication protocols, minimum rollout obligations etc

Regulatory	Service Provider - Mobile/Fixed line/Enterprise/Broadband	Interconnect Partner
		Roaming Partner

Billing Disputes; unauthorized TG traffic; dispute on fraud ownership such as HUR/NRTRDE failures, loose control on test SIMs, unauthorized services availed.

Passive Infrastructure	Network Equipment Provider	IT Infra and ITES

Rental disputes due to record mismatch on sites, RFI dates, tenancies, loading factors etc; Pass-through billing disputes; Disputes on opportunity loss due to site deployment and access to sites

Disputes on contract non-compliance; License disputes Disputes on fraud/compromise ownership

Deloitte India's telecom forensic solutions

Deloitte's India Forensic team has diverse and end-to-end robust service portfolios that can assist telecom companies in mitigating the risk of fraud, misconduct and non-compliance through examining, analyzing, assessing and investigating fraud risks, resulting in margins and brand protection across the telecom ecosystem.

Our key services are listed below. All services can be provided in an outsourced, co-sourced or on-demand model, depending on client requirements.

1. Telecom Fraud Incidence Response and Management (tFIRM)

Whether it is fraud, conflict of interest, corruption, misconduct or violation of the code of conduct, ineffective management of such situations can permanently damage reputation and impact the bottom line. We have a comprehensive incidence management framework that will enable the organization to manage fraud loss.

- **Incidence Investigations:** We assess case facts and agree on the investigative procedures with the client team based on the nature of incidence, impact and management requirement. The following areas are covered under investigations:
  - *Immediate Response (evidence preservation) –* Based on our extensive investigation experience across telecom business operations, we have formulated a checklist and guidelines on evidence preservation depending on the nature of incidence reported.
  - *Establish Modus Operandi –* We have a rich database of fraud scenarios or hypothesis across the telecom business operations and pre-defined data analytics rules that are constantly updated. We customize our approach depending on discoveries made during the course of investigation. Our learnings from past are leveraged to establish

accurate modus operandi and are constantly updated in order to be relevant to the changing fraud dynamics.
  - *Establish Perpetrator –* Apart from our strong Forensic Technology and Market Intelligence capabilities, we leverage our telecom domain knowledge and make innovative use of data points existing in the eco system, to corroborate the findings to identify suspects and gather evidence that can be used to take disciplinary action or legal action against the suspect. Some of the most common analyses undertaken by us include Call Pattern Analysis, IMEI and IMSI Analysis, Location Analysis, Talk-time/ m-cash movement analysis, IP address analysis, VPN Analysis, Firewall Analysis.

- **Kaizen (Continuous improvement) intervention to eliminate repeat incidences**– Based on identified modus operandi and learning from leading operators, we propose fraud mitigation recommendations on process, organization construct and IT. Our tools on case-fact management and self-assessment enables us to closely monitor the improvement in fraud mitigations

- **Consequence Management** - We provide our assistance on the following facets of consequence management.
  - *Communication protocol and procedures with impacted or prospective victims of fraud or misconduct –* We have pre-defined prototypes on communication to customers/clients on fraud awareness and transfer of ownership for various fraud or misconduct scenarios.
  - *Fraud deterrence through effective and prompt disciplinary action –* We can help prepare factual documentation with respect to the incident. We also can assist the client by appearing as expert witness wherever legal recourse is sought.

2. Telecom Fraud Risk Assessment and Mitigation (tFRAM) –

This solution can proactively identify fraud vulnerabilities across the business operations, prioritize high risk areas based on impact and prepare mitigation control roadmap. Our Telecom Fraud Maturity Assessment tool can perform quick diagnostics around strategic objectives, policies and processes, data availability, IT enablement and people to identify focus areas for detailed assessment. Our detailed assessment and recommendations run on three levers – hypothesis driven data analytics, process walkthrough and benchmarking against leading fraud controls repository built from fraud learning from various telecom forensic engagements.

3. Telecom Fraud Indicators (tFI) –

Our analytical and technical capabilities can identify the root causes of fraud incidents and mitigate future fraud risks to the organization. We can provide fraud monitoring across business lines, functions and geographies using pre-defined fraud detection business rules for each sub-sector such as Operators, Passive Infra, Value Added Services (VAS), M-commerce and across functions such as supply chain management, sales and IT/network marketing, customer service department (CSD), billing, and IT/network revenue assurance that are customized as per the organization's business operations and the source feed.

4. Advisory on Fraud Management System (FMS) design and deployment –

We can provide assistance in defining FMS business rules based on the assessment of current state of the organization, desired state, and foreseen fraud risks. We can also conduct FMS vendor evaluation and implementation advisory based on capability benchmarking and cost benefit assessment, FMS User Acceptance Testing, and provide managed services to perform FMS alert resolution and close looping.

5. Forensic User Acceptance Testing (UAT) –

We have observed that a substantial number of high value frauds are not a result of IT security breach, but can occur due to application or product design flaws that are overlooked during the UAT stages and taken advantage of post the commercial launch. In order to mitigate such fraud incidences, our team offers a forensic UAT and software development life cycle (SDLC) governance review solution.

We perform end to end review across SDLC of Product / Service/ IT Application, right from contract to approved functional design of the product/services/application. We can further review the UAT document to identify scenarios that could have resulted in a flaw and potential fraud if it was overlooked.

6. Telecom Revenue Fraud Management – (tRFM)

Most of telecom organizations have a dedicated revenue assurance team to identify and address anomalies resulting in revenue leakage. However, revenue assurance teams often tend to focus only on the operational aspects of the anomalies identified, and do not address the root cause of the issue.

Our tRFM solution can enhance the capability of telecom organizations to address root cause of the exceptions reported, including complex fraud scenarios that goes un-noticed for long periods of time. Some of the components of our tRFM solution include:

- Obtaining patterns from RA dashboards on fraud indicators

- Evidence preservation and case fact management

- Consequence management

- Seamless integration between internal audit, revenue assurance, fraud management functions to address root cause.

We have an updated check list of revenue assurance activities (> 250 activities), FMS alarms (> 150 alarms) and business rules on fraud indicators from revenue assurance and fraud management.

7. Telecom Dispute Advisory Services (tDAS)

A. Partner Dispute Advisory

A multi-vendor ecosystem can result in multiple instances of disputes around billing, quality of services, accountability towards fraud scenarios, customer dissatisfaction, regulatory noncompliance etc. Our professionals can assist telecom organizations through all stages of a business dispute - from case theory development, quantification of damages/ claims, up to expert witness testimony. Some key dispute areas covered by us include interconnect disputes, roaming disputes, VAS Disputes (Billing, Service Fulfillment, IP), Passive Infrastructure (Rental, Opex and Access) related disputes, Enterprise level disputes (SLA, Billing) and Supplier Disputes (SLA, Billing).

We also provide proactive dispute prevention advisory solutions, under which we review and provide recommendations on contract constructs, KPI constructs, source data for billing or any other data points that may mitigate potential dispute on fraud, misconduct and noncompliance.

B. Regulatory Dispute Advisory services-

Regulators are increasingly prescribing strict guidelines based on evolving technologies and new avenues of business for telecom companies to adhere to. They are also engaging third party consultants to benchmark existing regulatory practices with international standards. Non-compliance with these guidelines may not only attract financial penalties but may also lead to many operational restrictions or cancelation licenses, in adverse situations.

Our telecom professionals can assist you through all the stages of a regulatory dispute, from case theory development, quantification of damage/claim, up to expert witness testimony. Some of the key areas of regulatory dispute advisory include billing and metering (including activation without consent), Know Your Customer guidelines, quality of services, customer communication protocols, customer data privacy (as per the Information Technology Act applicable in the jurisdiction), suspected money laundering activity, and violation of anti-bribery and corruption compliance programs (as per jurisdiction).

- We have a predefined scenario repository for all the areas of regulatory disputes. We also provide proactive dispute prevention advisory solution, under which we review and provide recommendations to operators on regulatory dispute mitigations, based on document review and data analytics.

8. Telecom Brand Protection Advisory (tBPA)

Telecom organizations have increasingly become conscious of their brand perception, in a bid to retain customers. However, with high dependence on third parties for delivering services and operating in highly segmented markets, it has been a constant challenge for telecom organizations to maintain a positive brand perception.

Our professionals can assist the organization to assess the current brand perception across stake holders such as customers and partners. Our tBPA solution has the following elements:

- **Internal Assessment:**
  Analysis on internal information such as QRC (Query, Resolution and Complaint) data base, billing, provisioning, and customer satisfaction score to arrive at brand impact indicators.

- **External Assessment:**
  – Mystery Shopping across the customer life cycle
  – 'Voice of Stakeholder' workshops to understand stakeholder concerns
  – Market/Business Intelligence across service operations including vendors
  – Sentiment analysis from social networking properties around customer dissatisfaction, fraud/misconduct and any other negative brand publicity.

- **Recommendation:**
  – We can propose inputs on process controls to mitigate stake holder dissatisfaction issues
  – We can assist with creating stake holder communication and awareness interventions.

The Deloitte Difference

Strong dedicated telecom forensic team in India	Deloitte India has a strong dedicated telecom forensic team with more than 100,000 man hours of telecom sector experience across sub sectors and geographies. This includes areas such as passive infrastructure, NEP, IT Enablement, service provider management, VAS, handsets/ form factors, mobile commerce. Our team is also experienced in conducting Big Data analysis and Cyber Forensic procedures including malware forensic.
Telecom sector specific tools and methodology	Deloitte India has institutionalized robust and scalable sub-sector specific tools and methodology for fraud management maturity assessment, fraud analytics and other forensic and dispute services. We have over 700 recommendations for continuous improvement of fraud risk management measures, and a rich database of fraud scenarios in the telecom sector.
Proven Global Delivery Model	Deloitte has a proven global delivery model, working seamlessly across time zones and cultures to deliver high quality work on time. Depending on engagement requirements, we adjust our timetables to meet client requirements. Our India team has experience working with clients in geographies such as South East Asia, Middle East, Africa and Europe.
Market leadership	Deloitte is ranked #1 globally among all consulting firms for Forensic and Dispute Advisory Services[2]. The Deloitte network of firms has served all global telecom companies in the Fortune 500 list.
Technology to enable forensic services	Deloitte operates one of the largest private electronic discovery labs in Asia (and in India), utilizing advanced technology to collect, process, host, and analyze digitally stored information (emails, user files , metadata, etc.) to support forensic investigations. We use the latest version of licensed data analytics tools in the market.

[2]Source: Kennedy Consulting Research & Advisory; Forensic and Dispute Advisory Financial Consulting 2014

Contact Us

For more information on how we can help telecom sector companies, including credentials and past experience, please contact the below mentioned people.

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