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Initiating coverage

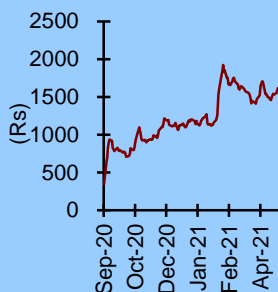
Technology

Target price: Rs1,710

Shareholding pattern

	Sep '20	Dec '20	Mar '21
Promoters	66.3	65.8	65.4
Institutional investors	23.8	23.9	21.7
MFs and other	8.4	4.5	2.0
FIs and Banks	0.0	0.0	0.0
Insurance Cos.	0.0	0.0	0.0
FII	15.3	19.4	19.7
Others	9.9	10.3	12.9

Price chart



Research Analysts:

Hardik Sangani

hardik.sangani@icicisecurities.com
+91 22 6637 7504

Sudheer Guntupalli

Sudheer.guntupalli@icicisecurities.com
+91 22 6637 7573

INDIA

Route Mobile

ADD

Scale begets scale

Rs1,619

As communication channels of enterprises evolve from disparate A2P-based messaging system to CPaaS-based communication (TAM to grow ~30% in medium term), we believe Route Mobile ('RML') is favourably placed to benefit from industry tailwinds. Key strengths of RML include: 1) Network pipe developed with MNOs (240 direct relationships), 2) firewall-based offering (aids in strengthening MNOs-based relationship), 3) robust client economics with companies such as Facebook and Google providing strong client referenceability, and 4) leadership positioning in regions where Route operates. We believe growth in revenue should manifest into operating leverage as GM/EBITDA improves and we estimate revenue, EBITDA and EPS to grow at FY21-F23E CAGR of 22.1%, 26.2% and 27.9%, respectively. Key risk include stagnation in top-5 client spend and failure to augment non-SMS business. We initiate coverage on the stock with an ADD rating and a target price of Rs1,710.

For glossary of key terms, please refer Pg3

- **Network pipe developed with MNOs, a key strength.** The company offers a wide variety of solutions based on its broad portfolio of APIs. Route Mobile has also strongly developed the underlying SMS/voice network that allows it to provide unique capabilities in service delivery and has been instrumental in establishing the company as a strategic partner to its customers. To support these high-volume use-cases, it has spent more than a decade expanding and improving its MNO network and has direct tie-up/partnered with 240/800 MNOs. Further, to strengthen these relationships, the company provides MNO-based firewall solution which aids in better rates and payment terms for the company.
- **Route participates in fast and growing markets.** Route Mobile is a A2P/CPaaS based company with a TAM of ~US\$7bn, in 2020 which is expected to grow at ~30% till 2025 (Source: Juniper). Further, we believe, the addressable market is much larger as vendors and customers continuously innovate with technology, creating new use-cases and applications that become new markets in themselves (For e.g. CCaaS and UCaaS have a TAM of ~US\$50bn).
- **Strong client referenceability and robust client addition:** Route Mobile client list includes technology giants (Google, Facebook & Samsung) and leading Indian banks. This provides strong client referenceability and aids in top-tier client addition in our view. Client addition/mining has been healthy with customers providing US\$1m/US\$5mn increasing from 11/0 in FY18 to 30/11 in FY21E.

Market Cap	Rs93bn/US\$1.3bn
Reuters/Bloomberg	ROUT.BO/ROUTE IN
Shares Outstanding (mn)	57.7
52-week Range (Rs)	1922/350
Free Float (%)	34.6
FII (%)	19.7
Daily Volume (US\$'000)	12,745
Absolute Return 3m (%)	41.0
Absolute Return 12m (%)	NA
Sensex Return 3m (%)	6.3
Sensex Return 12m (%)	56.5

Year to Mar	FY20	FY21E	FY22E	FY23E
Revenue (Rs mn)	9,563	14,209	17,401	21,170
Rec. Net Income (Rs mn)	693	1,373	1,859	2,246
EPS (Rs)	13.8	25.6	32.6	39.4
% Chg YoY	23.6	84.8	27.6	20.8
P/E (x)	115.7	62.6	49.1	40.6
P/B (x)	29.7	13.8	11.3	8.8
EV/E (x)	87.0	51.0	39.5	32.0
Dividend yield (%)	0	0	0	0
RoCE (%)	24.1	48.2	63.4	79.2
RoE (%)	28.8	30.7	25.9	24.4

Please refer to important disclosures at the end of this report

- ▶ **Development of non-SMS based revenue to be key:** Currently, Route is predominantly SMS-based A2P service player. To mitigate disruption from newer/next gen channel of communication in near term, we believe, Route Mobile will need to invest in white spaces such as video API and contact centre-based solution in addition to augmenting OTT/RCS based revenue streams. The company has already done key hiring and alluded to acquiring companies in the above mentioned areas. We believe development of these revenue channels will be the key monitorable, which will also help sustain the leadership of Route Mobile in markets which it operates in medium-long term.
- ▶ **Expect strong near-term execution to continue; initiate at ADD.** We expect revenue to grow at 22.1% over FY21-23E with EBITDA growing by 26.2% as we expect operating leverage to aid margin accretion by 80bps over similar term. Competitive intensity has increased in the recent past as global companies such as Twilio and Sinch have ramped up their investment intensity in markets where Route operates. We initiate coverage on the stock with **ADD** rating implying a P/E of ~40x FY23E EPS.

Key risks

From a structural standpoint, we would be watchful on the following key risks:

- An accelerated shift to newer channels of communication (which will put pressure on SMS-based messaging volumes)
- Any potential stagnation in top-5 client spends which contribute ~50% of revenues
- Route Mobile's pricing vis-à-vis competition can come under pressure, as larger global players (Twilio, Sinch) consolidate their business operations. It may also be noted that Route also works with global aggregators in terminating traffic in certain geos, and therefore, any adverse consolidation by these global aggregators may negatively affect the revenue profile.

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Glossary

Term	Description
A2P	Application–To–Person
API	Application Program Interface
CPaaS	Communications Platform as a Service
CCaaS	Contact Center as a Service
MNO	Mobile Network Operator
OTT	Over–The–Top
RCS	Rich Communication Services
UCaaS	Unified communications as a service
TAM	Total addressable market

Investment rationale

Network pipe built with MNO a key strength

RML's back-end is directly integrated with over 240 MNOs and provides access to over 800 MNOs across the globe. A2P messaging is fairly commoditised and greater volumes help in negotiating better pricing with MNOs. This enables RML to leverage their SMS and voice channels for digital communication with broader geographic reach and getting better pricing compared to end-use global enterprises and smaller regional players.

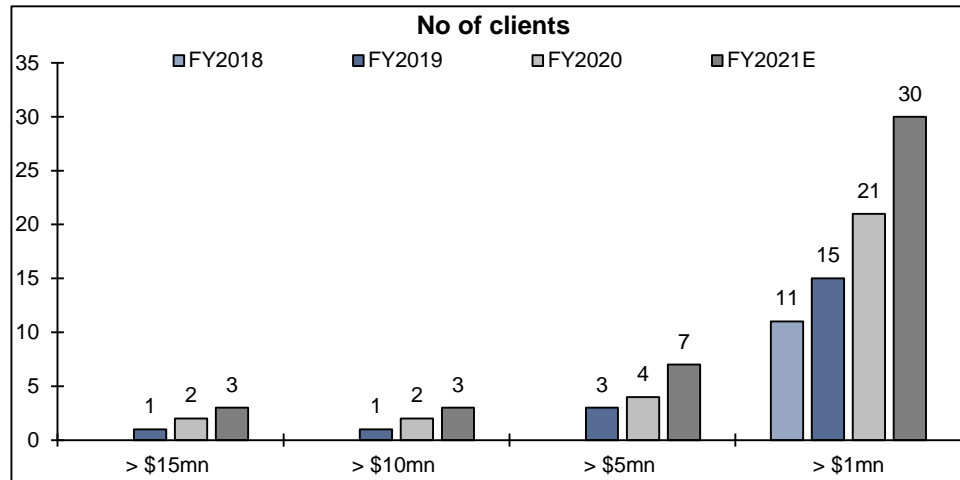
RML also offers firewall solutions to telecoms (~10% of revenue in FY20), helping them monetise grey route traffic. In a recent engagement with VI, RML helped address meaningful revenue leakage and scrubbed messages which did not adhere to respective messaging/telco regulations. These solutions help RML in getting deeper into the MNO network and in negotiating better rates and payment terms. RML currently provides firewall solutions to 8 clients with 3 telco engagements under consideration.

Usage based pricing aiding in robust client addition/mining

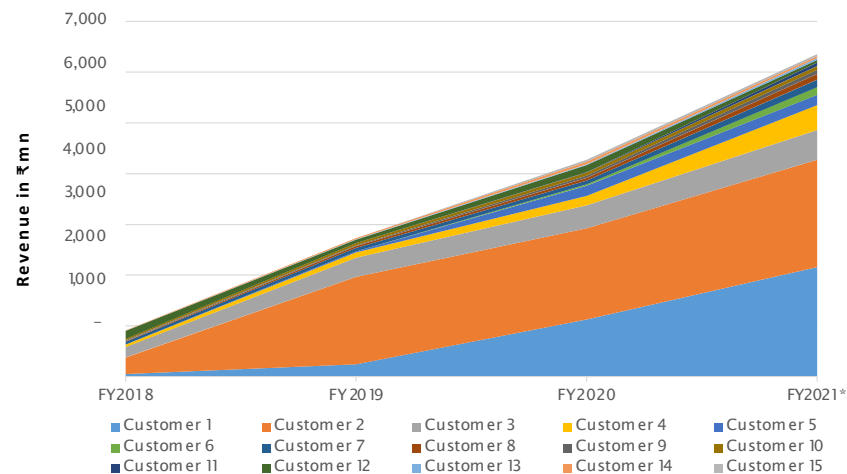
Route's usage-based model means solutions are priced on a per unit basis (i.e. per minute of voice/video conversation, per SMS message, per authentication, etc.). The company's usage based means that although minimum commitments are set, customer overages are actually encouraged, with pricing discounts applied upon attainment of key thresholds rather than retroactive penalties being levied as seen in other models. The end result is a more symbiotic customer relationship in which Route's shares in a customer's success. This model also lends itself to consistently robust expansion rates, i.e. >120% in past 2-3 years.

Route, in the past 3-4 years, has successfully added and mined marquee clients such as Facebook, Google and several top banks in India. This helped the company grow its revenue at a CAGR of ~33% over FY17-21E and has been consistently adding one >US\$5mn client p.a. over the past 3 years. The quality of revenue has also increased as enterprise and global aggregators now comprise ~70-75% of revenue (sticky and scalable) in H1FY21 (v/s ~30% in FY17).

In the near term, Covid-19 accelerated adoption of digital communication with RML benefiting from having zero churn in Top-50 customers and net revenue retention (NRR) of 140% from the existing customers. As lockdowns ease and economies reopen, we expect the NRR to be ~115% as clients recalibrate their communication spends.

Chart 1: Healthy addition in client across various buckets

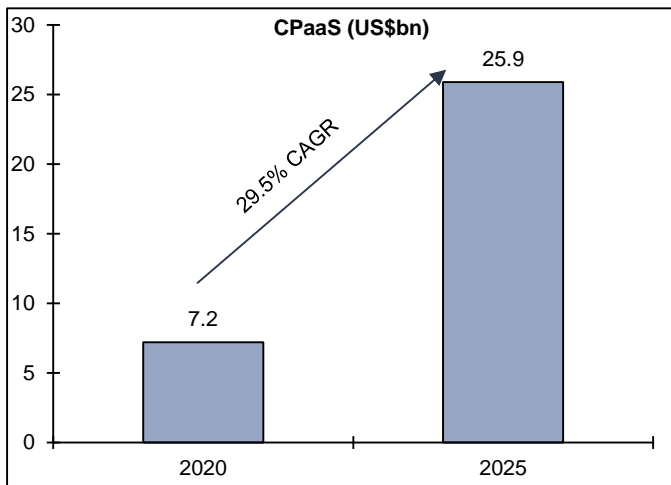
Source: I-Sec research, Company

Chart 2: Robust growth in top-15 customers in past 3 years

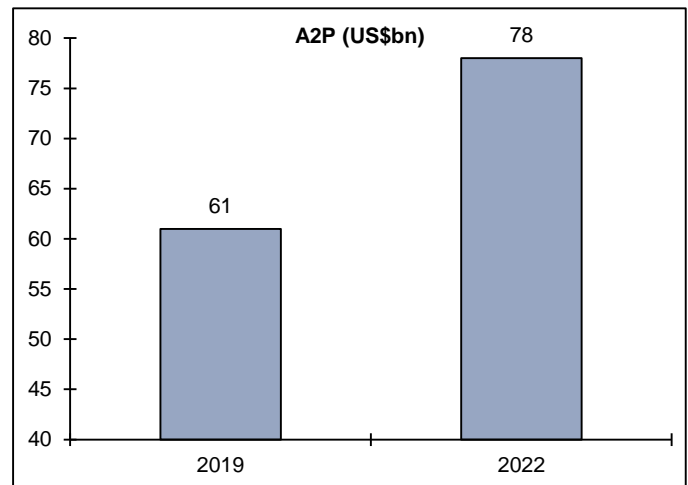
Source: I-Sec research, Company

Industry tailwinds to drive continued growth momentum

As per Juniper, Global CPaaS industry is estimated to be US\$7bn in 2020, dominated by several regional players and expected to be at US\$26bn in 2025. This implies an expected growth of ~30% p.a in the near term. RML, being a Tier-1 A2P messaging player is well positioned as it leverages its A2P capabilities within its unified CPaaS platform.


Chart 3: CPaaS industry to grow at 30%

Source: Juniper research, CPaaS-2020-2025-Deep-Dive-Data-and-Forecasting, Kaleyra, I-Sec research

Chart 4: A2P growth to get augmented as use-cases increase

Source: Kaleyra, Statista estimates, Credence Research (2020), I-Sec research

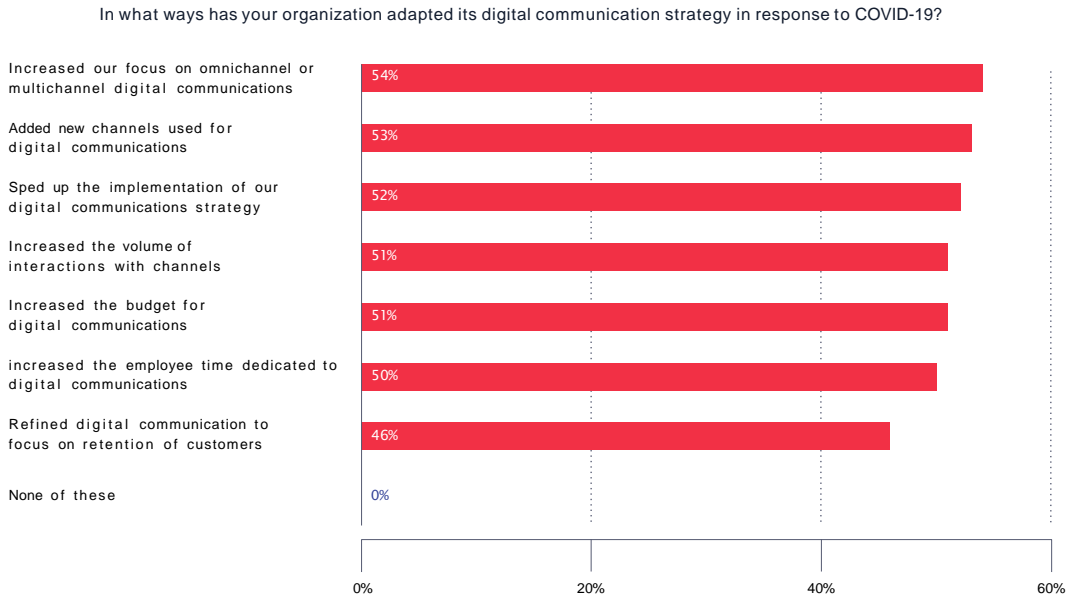
Chart 5: RML being an industry leader should be able to harness tailwinds

Product and Position		Disruptors & Emulators	Leading Challengers	Established Leaders
	Extensive Breadth, Depth		CM.com Kaleyra Plivo	Route Mobile Infobip Sinch iMImobile
	Mid-market or Segment focused		Comviva OpenMarket Soprano Design	Syniverse
	Niche	GSM Worldwide mGage Mitto	Interop Technologies Twilio	
		Aspiring	Developing	Expansive
Capability and Capacity				

Source: Juniper research, Company

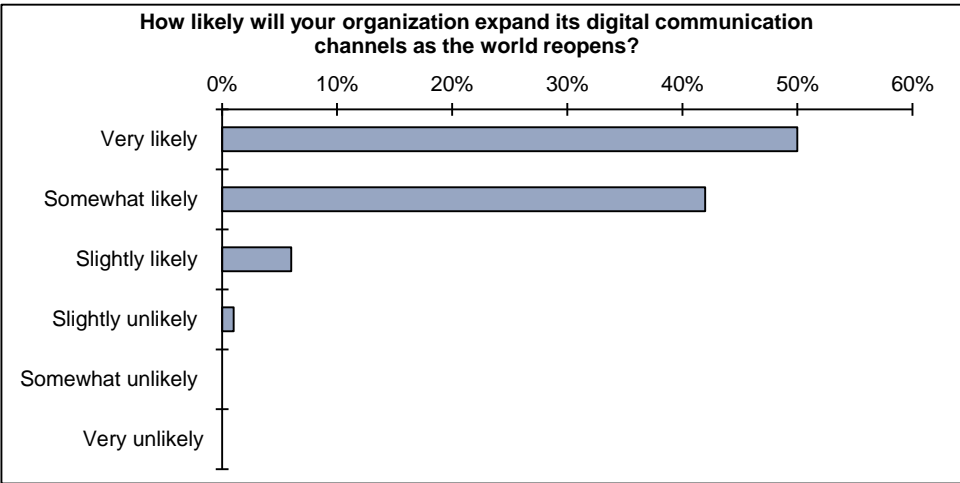
Further, CPaaS offerings are receiving increased traction in the ongoing coronavirus pandemic. As per a recent survey by Twilio, Covid-19 accelerated companies' digital communication strategy by an average 6 years. Further, 97% of enterprise decision makers believe the pandemic sped up their company's digital transformation journey.

Chart 6: Covid-19 has accelerated investments in digital communication

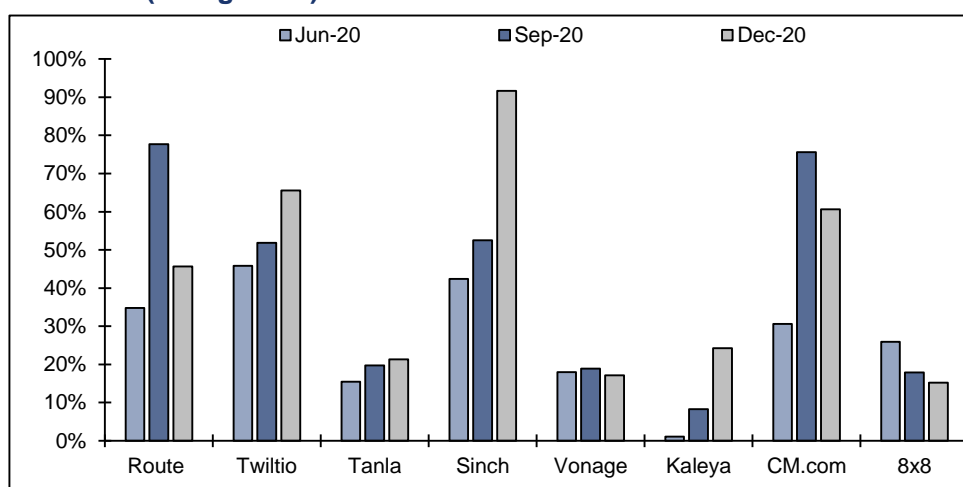


Source: Twilio, I-Sec research

Chart 7: Enterprises will expand communication channels even after world reopens



Source: Twilio, I-Sec research

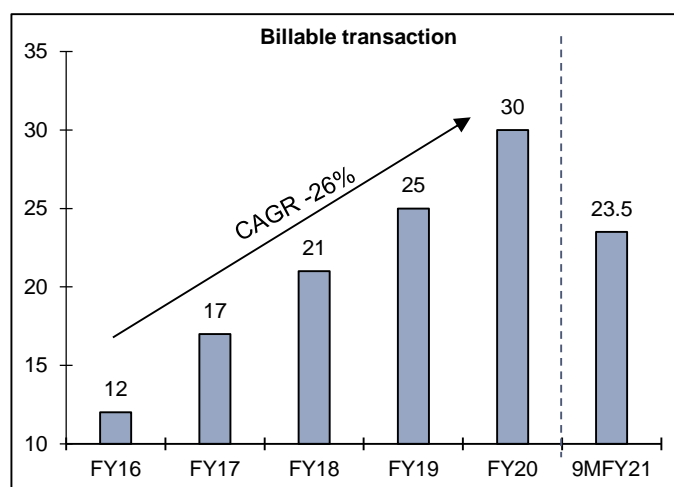
Chart 8: Last 9M, CPaaS companies have been able to demonstrate revenue resilience (YoY growth)

Source: I-Sec research, Company

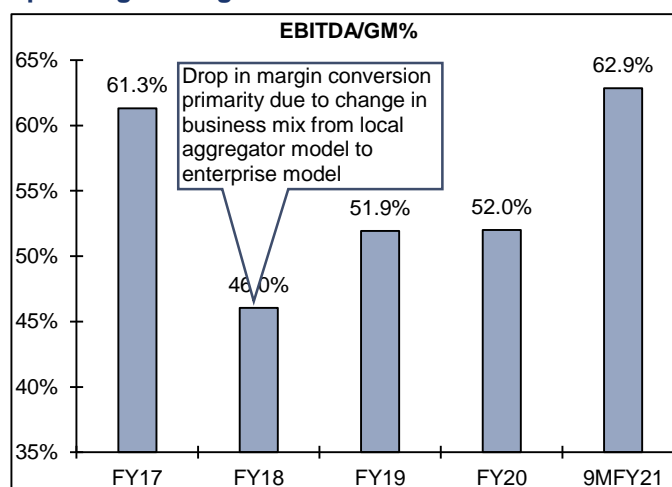
By 2023, 90% of global enterprises will leverage API-enabled CPaaS offerings as a strategic IT skillset to enhance their digital competitiveness, up from 20% in 2020. (Source: Gartner). We believe as use-cases of digital communication increase, Route Mobile, being a key player with presence in emerging geographies like the Indian subcontinent, MEA and APAC, will benefit from these trends.

Operating leverage will aid in EBITDA margin expansion

As the market consolidates and regional players get acquired by global players, A2P SMS-based pricing will be under-pressure as acquirees can better negotiate with the MNOs. This will put pressure on gross margins in near term (scope of expansion becomes difficult). However, we believe, RML's EBITDA margin profile will improve as volume growth does not require proportionate increase in operating expenses. In other words, operating leverage in the business should play out in the near term. Further, this can also be seen by fixed assets turnover improving from 4.1x in FY18 to 8.1x in FY21E and EBITDA/GM improving from 46% in FY18 to 63% in 9MFY21.

Chart 9: Robust growth in billable transaction...

Source: I-Sec research, Company

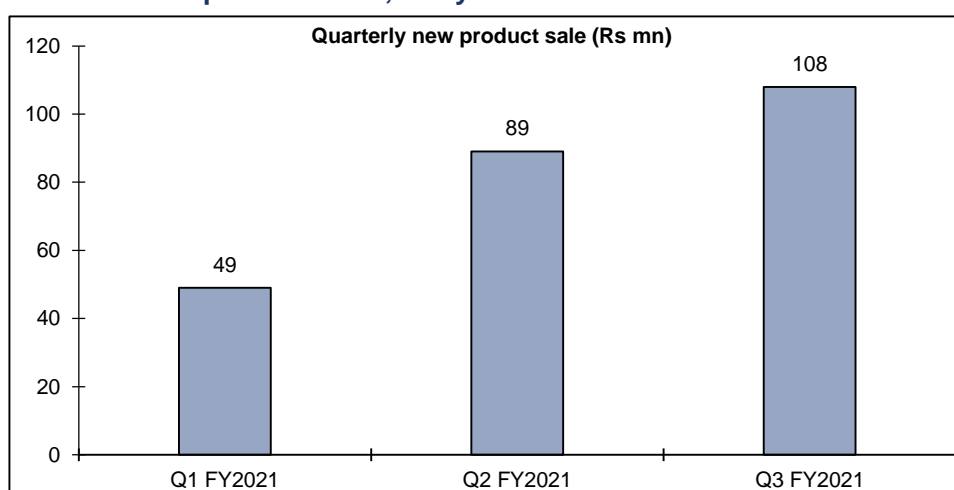
Chart 10: ...aiding in margin conversion due to operating leverage

Source: I-Sec research, Company

Development of non-SMS based revenue to be key

As industry matures and use cases across various communication channels (e.g. RCS, OTT, chatbots, video API and virtual contact centre) evolve, RML will need to invest in these segments to augment these revenue streams. For e.g. as per a recent study by Juniper Research, RCS business messaging traffic will reach 415bn messages by 2025 which will be ~10% of global A2P SMS traffic. To develop/scale non-SMS based revenue stream, the company has already done key hiring over the past 2 years and has also appointed a CBO to oversee new product development. Further, the company has also highlighted its intent to acquire in white spaces such as video API and virtual contact centre that can effectively increase its TAM in UCaaS and CCaaS spaces, respectively. Scaling of non-SMS based business will be a key monitorable as end-clients increasingly adopt non-SMS based channel to reach with their customers.

Chart 11: New product sales, a key indicator of newer revenue streams



Source: I-Sec research, Company

Table 1: Acquisitions in past five years

Year	Name of Co	Rationale	Consideration
Sep'16	Cellent Technologies and Start Corp	Geo based - expansion in Middle East and UAE	Cellent - Rs113mn Start Corp - Rs 20mn
Apr'17	Call2Connect	Call centre and Business Process Automation capabilities	Rs 57mn
Oct'17	365 Squared	Firewall solutioning targeted towards MNOs	Eur 10mn + Earn-outs
Sep'20	Telecom Operator related business from TeleDNA	Augmentation of MNO based offering	Rs 120mn

Source: I-Sec research, Company

Financials

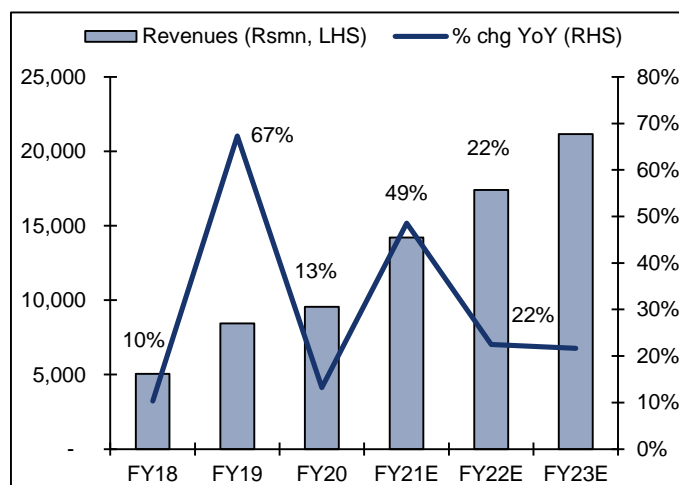
We estimate a revenue CAGR of 22.1% p.a. over FY22-23E. We expect the company to maintain net revenue retention rate from the existing customers of >115% with pricing to be stable and RML's firewall offering to get deployed with more MNO's (2 p.a. in near term).

We estimate Q4FY21E revenue to decline by 2-3% QoQ as Q3 is a seasonally strong quarter with margins improving by 100-125bps as Route passes on DLT-based tariff hikes to its customers.

Route Mobile, typically for A2P-based contracts, enters into pass-through contracts with end customers, which typically entails a change in the pricing by MNOs to be adjusted in their final price to their clients protecting (insulating margins from tariff changes). We estimate gross margin to be capped at 19.5% over FY22-FY23 while operating leverage to improve EBIT margin to 80bps to 12.8% in FY23 due to scale benefits.

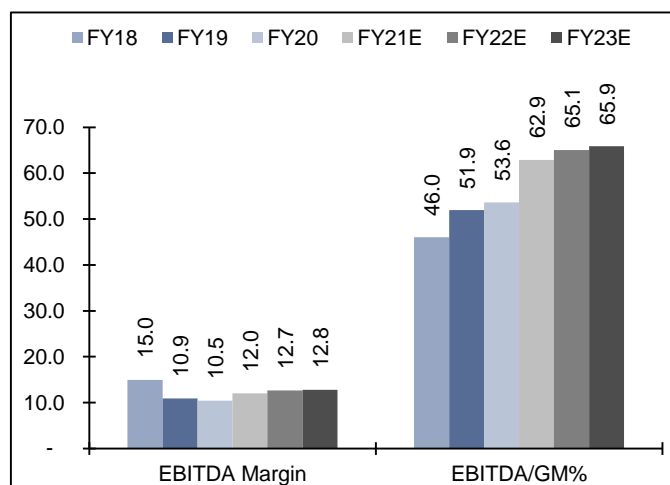
Over the past couple of years, OCF / EBITDA of Route Mobile has improved from 42% (in FY18) to 95%/128% (in FY20/9MFY21). This was primarily driven by – (1) improving working capital profile by negotiating better terms and deployment of firewall solutions with MNOs and (2) improved collections due to the on boarding of marquee customers where DSO are typically at 30-45 days. In steady state, we expect DSO to remain in the range of 75-80 days with a healthy cash conversion (OCF / EBITDA at ~85%).

Chart 12: Revenue growth of ~22% in FY22/23E

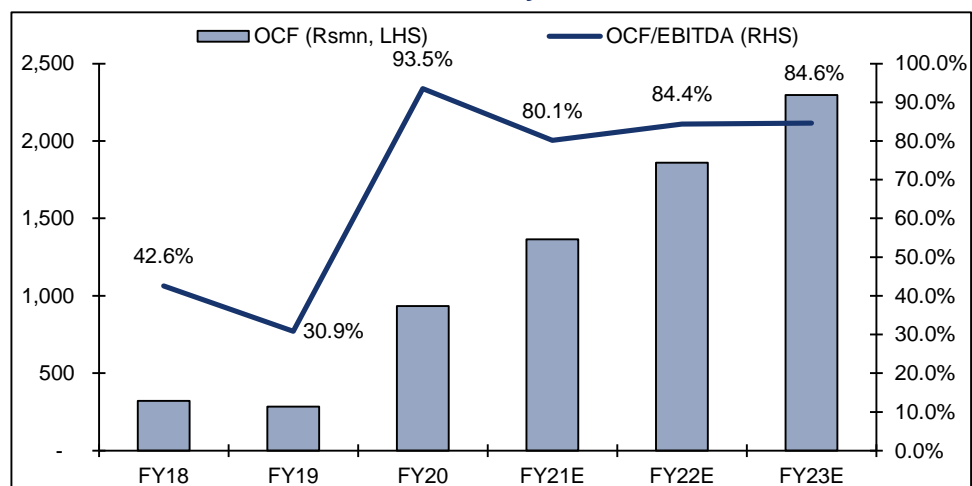


Source: I-Sec research, Company

Chart 13: Operating leverage to aid margin conversion



Source: I-Sec research, Company

Chart 14: OCF Conversion to be healthy at ~85%

Source: I-Sec research, Company

Valuation and view

Route Mobile has a leadership position in fast growing emerging markets like India and the Middle East. At the same time, the company is investing in building out its presence in developed markets like US, Europe by adding more product functionalities within its CPaaS offering. Route Mobile products help its clients with unified communication needs and have strong reference ability for its products as its services players like Google, Facebook and leading banks in India

We initiate our coverage on the stock with an ADD rating given Route's positioning in fast growing end-markets, which is reflected in its revenue and PAT CAGR of 22.1% and 27.9%, respectively, over FY21E-23E. We are factoring lower-than-expected growth in overall CPaaS industry (~30%) over similar period, as we believe SMS-based A2P messaging segment will have lower growth than overall CPaaS industry.

We believe high reliance on SMS-based A2P messaging should cap the multiple in near-term relative to leaders like Twilio (company primarily in UCaaS and CCaaS space which enjoy higher revenue growth and margin in nature). Our target price of Rs1,710 discounts FY23E EPS by 40x.

Table 2: Relative valuation

	US\$m		EV/Sales		EV/Gross Profit		EV/EBITDA	
	Mcaps	EV	CY21	CY22	CY21	CY22	CY21	CY22
Twilio Inc - A	68,617	66,184	27.1	20.7	48.8	36.7	410	235
Sinch Ab	12,381	12,144	7.1	5.1	25.5	16.2	63	37
Bandwidth Inc-Class A	3,454	3,646	7.8	6.6	15.9	13.2	175	102
Agora Inc-Adr	6,879	6,244	34.4	23.4	56.7	37.7	n.a.	459
Link Mobility Group Holding	1,381	1,525	3.0	2.5	12.0	10.1	28	23
Cm.Com	1,014	960	3.8	2.9	14.5	10.5	n.a.	131
Vonage Holdings Corp	3,554	4,060	3.1	2.8	5.7	5.2	21	20
Kaleyra Inc	449	461	2.2	1.6	10.2	6.8	30	16
Tanla Solutions Ltd	1,637	1,611	4.2	3.6	16.9	14.3	22	18
Route Mobile Ltd*	1,218	1,210	5.2	4.3	26.6	21.9	41	33

Growth And Margins in LCY	Rev Growth		Gross Margin		EBITDA Margin		Net Margin	
	CY21	CY22	CY21	CY22	CY21	CY22	CY21	CY22
Twilio Inc - A	46%	31%	56%	56%	7%	9%	-1%	2%
Sinch Ab	87%	38%	28%	31%	11%	14%	7%	9%
Bandwidth Inc-Class A	42%	18%	49%	50%	4%	6%	1%	3%
Agora Inc-Adr	39%	47%	61%	62%	0%	5%	-3%	2%
Link Mobility Group Holding	19%	18%	25%	25%	11%	11%	4%	5%
Cm.Com	56%	32%	26%	27%	-1%	2%	-5%	-2%
Vonage Holdings Corp	10%	18%	54%	53%	15%	14%	4%	4%
Kaleyra Inc	35%	5%	21%	24%	7%	10%	1%	6%
Tanla Solutions Ltd	22%	18%	25%	25%	19%	19%	14%	15%
Route Mobile Ltd*	22%	22%	20%	20%	13%	13%	11%	11%

*Based on I-Sec estimates

CY21 for Route Mobile and Tanla refers to FY22 respectively

Source: Bloomberg estimates, I-Sec research

We value the stock using DCF analysis with cashflow projected over FY22-37E and a terminal growth rate assumption of 5% beyond that. We factor in WACC of 12%.

Table 3: Key assumptions

(Rs mn, year ending Mar 31)

	FY22-27	FY27-32	FY32-37	FY22-37
Revenue	20%	18%	14%	17%
EBIT	22%	19%	15%	19%
EBIT margin	11.3%	11.9%	12.6%	12.3%
NOPAT	23%	19%	15%	19%
Capex as % of sales	2%	2%	2%	2%
FCFF	23%	21%	15%	20%
WACC	12.0%			
Terminal growth rate	5%			

Source: Company data, I-Sec research

Table 4: Sensitivity of our TP to revenue growth and margin estimates

		Revenue CAGR (FY22-37E)		
		16.9%	17.4%	17.9%
Avg EBIT margin (FY22-37E)	11.8%	1,560	1,640	1,730
	12.3%	1,620	1,710	1,790
	12.8%	1,680	1,770	1,860

Source: Company data, I-Sec research

Key risks

From a structural standpoint, we would be watchful on the following key risks:

- An accelerated shift to newer channels of communication (which will put pressure on SMS-based messaging volumes)
- Any potential stagnation in top-5 client spends which contribute ~50% of revenues
- In the past 3-4 years, multiple CPaaS / A2P messaging providers tried to consolidate their positioning in key markets where Route operates by acquiring local companies. Key examples include -
 - Twilio – a global CPaaS leader acquired ValueFirst (processed 42bn transactions).
 - Tanla Platform acquired Karix, a leading player in the Indian subcontinent, for Rs3.4bn.
 - Sinch AB acquired ACL (processed 47bn transactions) for Rs5.3bn.

Route Mobile's pricing vis-à-vis competition can come under pressure, as larger global players (Twilio, Sinch) consolidate their business operations. It may also be noted that Route also works with global aggregators in terminating traffic in certain geos, and therefore, any adverse consolidation by these global aggregators may negatively affect the revenue profile.

Financial summary

Table 5: Profit and loss statement

(Rs mn, year ending Mar 31)

	FY19	FY20	FY21E	FY22E	FY23E
Revenue from operations	8,447	9,563	14,209	17,401	21,170
Operating Expenses	7,524	8,564	12,505	15,197	18,456
EBITDA	923	999	1,704	2,204	2,714
% margins	10.9%	10.5%	12.0%	12.7%	12.8%
Depreciation & Amortisation	219	227	258	295	360
EBIT	704	773	1,447	1,909	2,354
% margins	8.3%	8.1%	10.2%	11.0%	11.1%
Other Income (net)	(54)	70	225	367	399
Recurring PBT	650	843	1,672	2,276	2,753
Less: Taxes	105	150	309	432	523
Recurring Net Income	545	693	1,362	1,843	2,230
Less: Minority Interest	(14)	(1)	(11)	(16)	(16)
Add: Extraordinaries Inc/(Exp)	-	-	-	-	-
Reported Net Income	559	693	1,373	1,859	2,246

Source: Company data, I-Sec research

Table 6: Balance sheet

(Rs mn, year ending Mar 31)

	FY19	FY20	FY21E	FY22E	FY23E
LIABILITIES					
Shareholders' funds	2,118	2,704	6,251	8,094	10,324
Minority Interest	(19)	(22)	(32)	(48)	(64)
Borrowings	889	411	411	411	411
Other non-current liabilities	16	84	112	119	128
Current liabilities	2,054	3,089	4,438	5,355	6,449
Total Liabilities	5,058	6,265	11,179	13,930	17,248
ASSETS					
Fixed Assets	1,866	1,766	1,722	1,774	1,838
Other non-current assets	374	458	458	458	458
Total non-current assets	2,241	2,225	2,180	2,233	2,296
Current Assets	2,817	4,041	8,999	11,698	14,951
Total Assets	5,058	6,265	11,179	13,930	17,248

Source: Company data, I-Sec research

Table 7: Cashflow statement*(Rs mn, year ending Mar 31)*

	FY19	FY20	FY21E	FY22E	FY23E
Operating Cash flow before W Cap changes	881	873	1,395	1,772	2,191
Working Capital Inflow / (Outflow)	(597)	61	(29)	89	106
Capex	(105)	(73)	(213)	(348)	(423)
Free Cash flow	179	862	1,152	1,512	1,874
Cash Flow from other Invst Act (Ex Capex)	55	75	253	387	423
Proceeds from Issue of Share Capital			2,400	-	-
Inc/(Dec) in Borrowings	(46)	(29)	(27)	(20)	(24)
Others	(179)	(595)	(226)	(16)	(16)
Increase/(Decrease) in Cash	9	313	3,551	1,863	2,257

Source: Company data, I-Sec research

Table 8: Key ratios*(Year ending Mar 31)*

	FY19	FY20	FY21E	FY22E	FY23E
Per Share Data (Rs)					
Earnings per share (Diluted Reported)	11.2	13.8	25.6	32.6	39.4
Earnings per share (Basic Reported)	11.2	13.8	25.6	32.6	39.4
Cash earnings per share	15.6	18.4	30.3	37.8	45.7
Dividend per share	-	-	-	-	-
Book Value per share	42	54	116	142	181
Growth Ratios (%)					
Operating Income (Sales)	67.3	13.2	48.6	22.5	21.7
EBITDA	22.0	8.3	70.5	29.3	23.1
Recurring Net Income	16.9	23.9	98.0	35.4	20.8
Diluted Recurring EPS	16.9	23.6	84.8	27.6	20.8
Diluted Recurring CEPS	22.2	17.9	65.3	24.5	21.0
Valuation Ratios (x)					
P/E	143.0	115.7	62.6	49.1	40.6
P/CEPS	102.8	87.2	52.7	42.4	35.0
P/BV	37.8	29.7	13.8	11.3	8.8
EV / EBITDA	94.3	87.0	51.0	39.5	32.0
EV / Sales	10.3	9.1	6.1	5.0	4.1
EV / FCF	485.5	101.0	75.5	57.5	46.4
Operating Ratio					
Operating Expense/Sales (%)	89.1	89.5	88.0	87.3	87.2
Other Income / PBT (%)	11.9	14.1	15.1	17.0	15.4
Effective Tax Rate (%)	16.1	17.8	18.5	19.0	19.0
Fixed Asset Turnover (x) on average	4.4	5.3	8.1	10.0	11.7
Receivables (days) on average	62.5	77.7	77.7	75.0	73.0
Payables (days) on average	25.8	69.2	69.2	69.2	69.2
D/E Ratio (x)	0.5	0.2	0.1	0.1	0.0
Return/Profitability Ratio (%)					
Recurring Net Income Margins	6.6	7.3	9.7	10.7	10.6
RoCE (Based on Avg)	21.9	24.1	48.2	63.4	79.2
RoNW (Based on Avg)	30.0	28.8	30.7	25.9	24.4
Dividend Payout Ratio	0.0	0.0	0.0	0.0	0.0
Dividend Yield	0.0	0.0	0.0	0.0	0.0
EBITDA Margin	10.9	10.5	12.0	12.7	12.8

Source: Company data, I-Sec research

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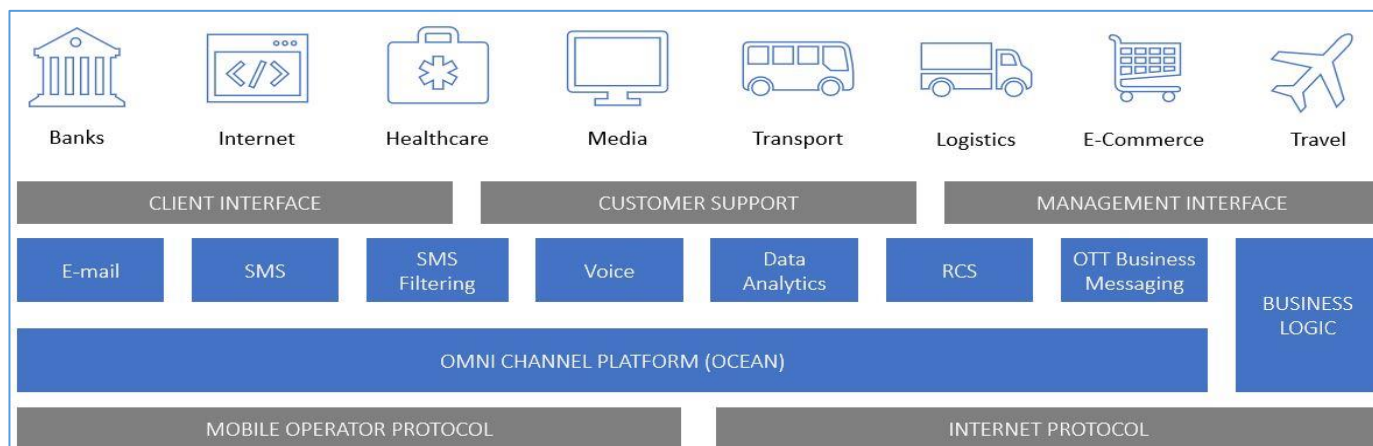
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Annexure I: Products and Solutions

RML provides a range of products and solutions across diverse sectors, including but not limited to the sectors mentioned below:

Chart 15: Services across different sectors



Source: Company data

Enterprise

Enterprises are increasingly adopting CPaaS because it removes the need for enterprises to own hardware, and delivers simpler, quicker and more cost-effective access to the digital communication functionality that businesses need to build applications with better user experiences and customer engagement. Communication APIs add value to these enterprises for everyday interactions.

RML offers enterprise clients a cloud communications platform that can be deployed and integrated with existing business applications and systems. RML's dedicated technical and support teams are available 24X7 to facilitate integration and deployment of any of its products and services. To ensure compatibility with a client's existing infrastructure without the need for additional resources at the customer's end, RML has developed several plug-and-play APIs with the ability to customize as per requirements.

RML provides the following services:

- **CPaaS** is a cloud-based platform that enables developers to add real-time communications features to their own applications without needing to build backend infrastructure and interfaces.
- **Enterprise Messaging:** As per RML, their A2P messaging platform has been completely developed in-house allowing clients to connect through a choice of interfaces (HTTP, SMPP or web panel) and send messages globally. With the ability to send customized, personalized, and scheduled messages, RML's messaging platform and customized messaging solutions can be deployed to communicate with internal and external stakeholders and help businesses enhance customer engagement through real time communication across segmented audiences. Typical use cases for this product include transactional alerts, account related notifications, booking confirmations, one-time passwords, reminders for bill payments, event alerts, operational notifications, and promotional alerts.

- **2Way Messaging:** The 2Way Messaging service enables enterprises to keep end-users engaged through message exchanges in a seamless, cost-effective manner without the need for any additional applications, software, or investment and is highly customizable to tailor the optimal approach for each individual organization.

Typical use cases for 2Way Messaging service include surveys, account inquiries, process inquiries, call back requests, subscription services and specific and personalized information requests.

- **OTT Business Messaging:** Customers use an OTT messaging platform to deliver text, images, buttons, links, directly to users. Messages are language independent being up to 1,000 characters in length. Messages use push notifications with the organization's logo incorporated in the sender ID. Business messaging finds use in retail banking, mortgage industry, stock markets, e-commerce, retail, hospitality, travel, and healthcare.
- **Rich Communication Services ('RCS')** is a communication protocol between telecom operators, OEMs and messaging partners for A2P rich messaging. RCS enables enterprises to create more conversational and engaging solutions for consumers. RCS facilitates enterprises in creating enterprise business accounts, which deliver the messages to the end-users. RCS uses GSM bandwidth that enables assured delivery of messages and better reach. Typical use cases for RCS include travel and tourism, wherein an airline can utilize RCS messaging by sending tickets and boarding passes without any data connectivity, and healthcare, wherein patients can manage appointments through interactive appointment calendars
- **Enterprise Email Sender:** RML's enterprise email sender service helps enhance customer communication with content rich and intuitive emails. The service equips clients with campaign management tools such as A/B testing, drag & drop editor, campaign preview across interfaces, segmentation, campaign reports, and instant inbox delivery.
- **URL Shortening:** URL shortening enables clients to automatically generate a shortened uniform resource locator ('URL') for every single number and provides data on click rates, geographical information, type of browser used and operating system. Since each URL is unique for each number, URL shortening enables personalization based on click through rates, device information and location.
- **Interactive voice response ('IVR')** is a system that captures customer inputs over the phone and generates the required response. IVR can be both incoming and outbound. IVR handles incoming calls, but when combined with an outbound dialer, it can call out and take customer responses for campaigns and surveys. With inbound IVR, customers can call an IVR number for queries, offers or to participate in contests. The IVR facility is most prevalent for telephone banking – determining account balance, payments, transfers, and other requests, order management – placement and confirmation of orders, online subscriptions, ticket bookings, arrival / departure information and customer care / support services.
- The **Click2Call** service is a tool that simplifies instant calling with cloud-based back-end support. Clients can introduce RML's widget on their website allowing them to trigger a call between an agent and the customer once the customer provides his/her number.

- **Missed Call:** The missed call service is an engagement tool that enables inbound inputs from customers through a simple, free of charge phone call. The tool can be deployed to capture responses or queries and send automated messages or arrange calls to customers.
- **Outbound Dialer:** The outbound dialer facility allows enterprises to make automatic calls to pre-defined customer lists and play one-time passwords, promotional messages, or reminders as per their requirements. The message to be broadcasted is created and uploaded as an audio file along with a list of numbers. RML's system automatically dials the list of numbers and plays the recorded audio. The system updates the status of calls in the database. The system also redials un-responded calls at scheduled times and within a defined time-frame. Outbound dialer allows enterprises to view reports on the voice panel and also provides a status regarding total calls, successful calls, failed calls and no-response calls.
- **Mobile Operator:** RML offers SMS filtering, analytics, and monetization solutions through 365squared. RML's solutions allow MNOs to control and monetize A2P messages terminating on their network
- **Route Hub:** The route hub solution enables flow of messages between MNOs and mobile virtual network operators with different protocols and technologies and does not require any bi-lateral agreements. The solution not only resolves interoperability issues by providing a single path, but also reduces the cost of connecting to independent messaging hubs available.
- **Instant Virtual Number:** RML's Instant Virtual Number ('IVN') solution is a virtual number that is configured on the top of an existing primary mobile number. Through IVN calls can be made and received using an identifiable virtual number, eliminating the need of having an additional SIM card.

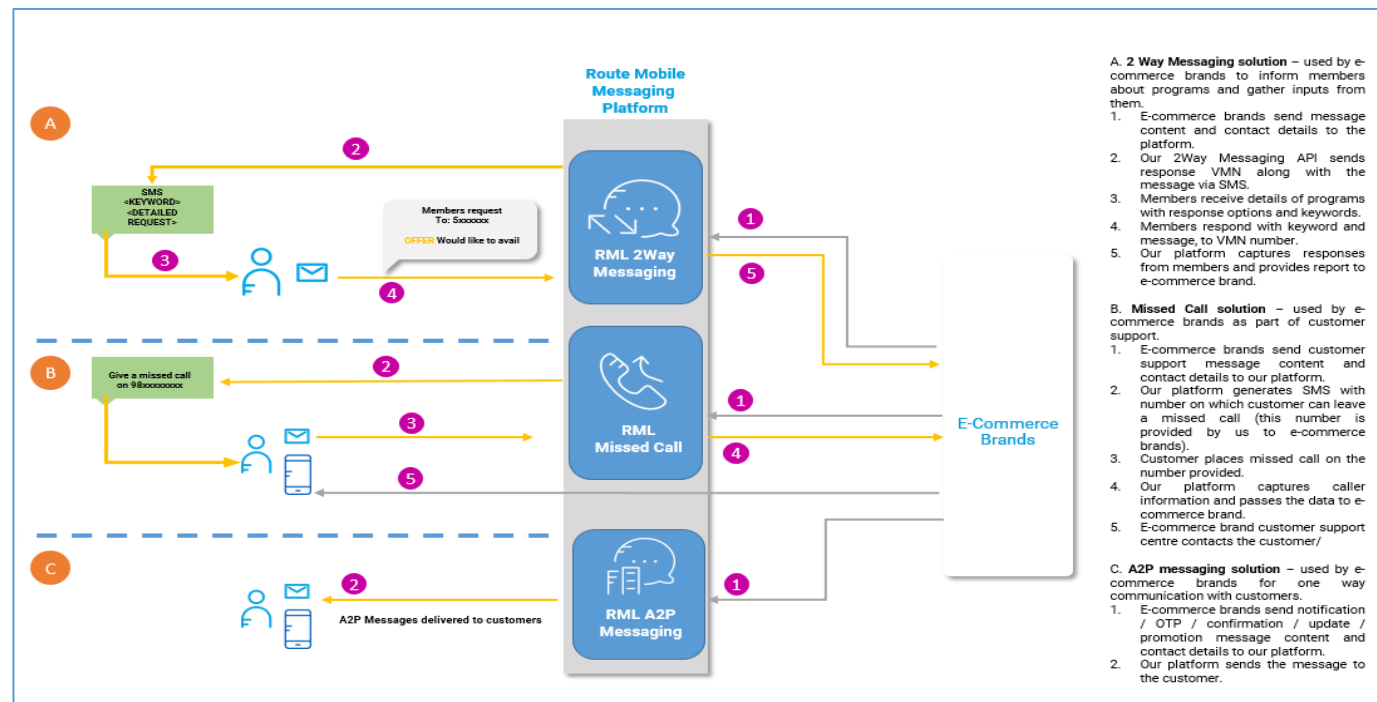
Business Process Outsourcing (BPO): RML offers BPO services through its subsidiary, Call2Connect. RML provides customer service and engagement solutions and back-office support. RML offers both business-to-business and business-to-consumer outsourcing services for a variety of industries. RML provides the entire spectrum of BPO services across all centers, including call center services that include voice and non-voice processes, collection management services and campaign management activities. RML operates through its facilities in Bengaluru, Noida, Mumbai, Varanasi and Patna. RML services clients across various sectors including telecom, banking, financial services, insurance, healthcare, media and entertainment, automobile, travel and leisure and e-commerce. RML services include the following:

- **BPO:** RML offers the BPO functions to clients such as back office support and operations, e-commerce support services and quality resource center management.
- **Call Centers:** These services primarily include voice and non-voice based services. RML offers communications platform to clients to receive calls / emails / chat and offer other support. Further, call centers offer inbound call support, technical support, customer service support, outbound support, out-bound dialer services and chat and email support services.
- **Campaign Management:** RML manages marketing and promotional activities for clients. RML also runs know-your-customer campaigns and serve as voice channel partners for clients.

Industry Focused Solutions

- RML's **omni-channel platform** enables digital communication across voice as well as SMS channels and provides detailed reports that enable e-commerce brands to drive member specific initiatives.

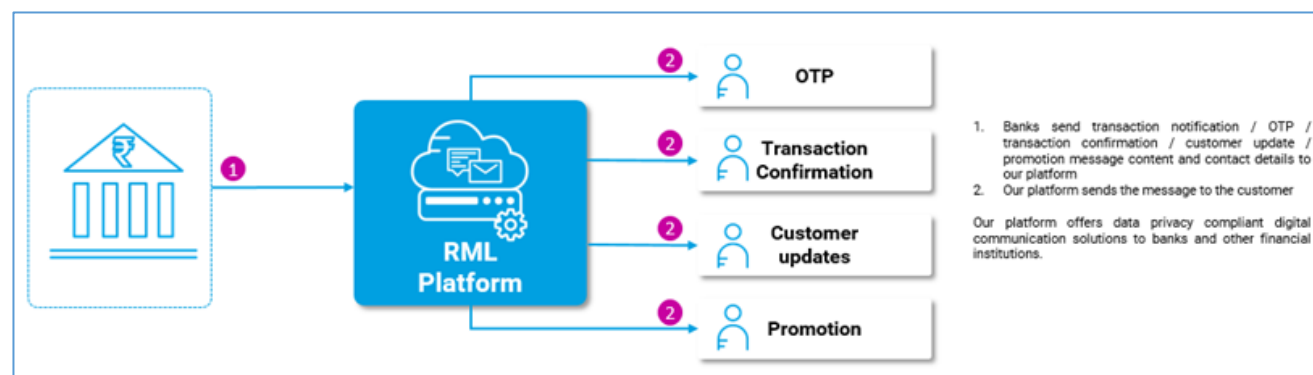
Chart 16: Omni-channel solution for e-commerce brands



Source: Company data

- Digital communication solutions for banking / healthcare / retail sectors:** RML's platform offers quality of service through low latency and high delivery ratio. Further they also offer GDPR compliant services and ensure data security and information integrity.

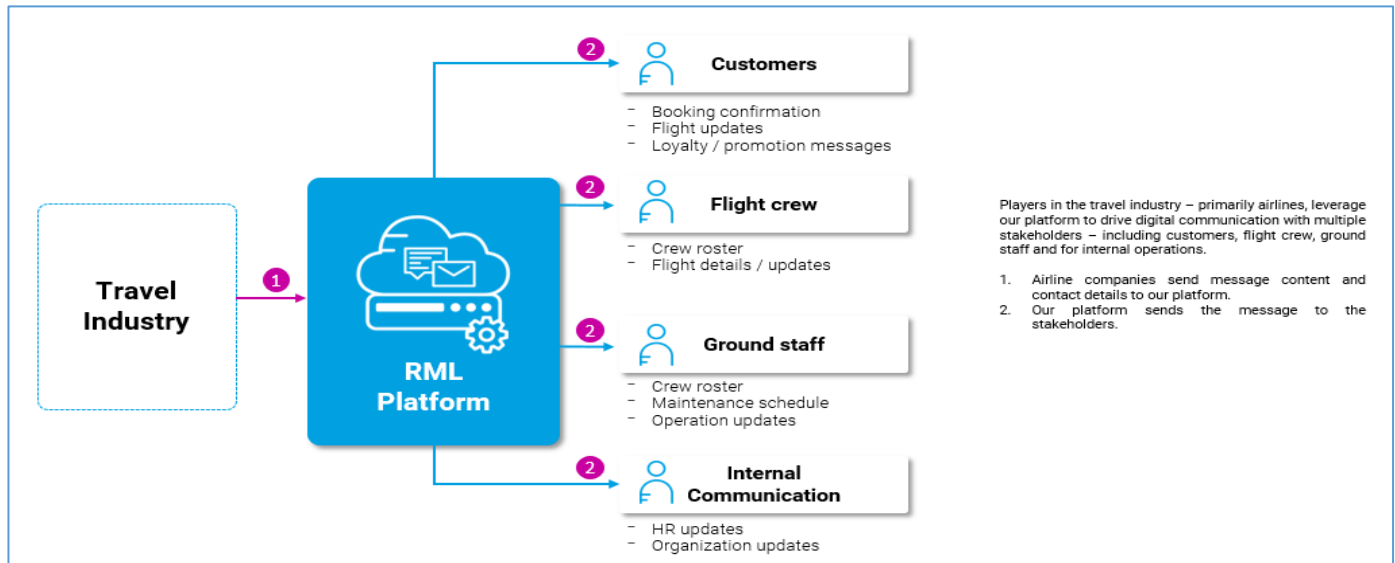
Chart 17: Digital communication solutions for banking / healthcare / retail sectors



Source: Company data

- Digital communication solutions for travel industry:** RML offers digital communication solutions to players in the travel industry, particularly to airlines. RML's clients in the travel industry leverage the Company's platform and global reach to run their digital communication programs with various stakeholders including employees, their customers and third parties

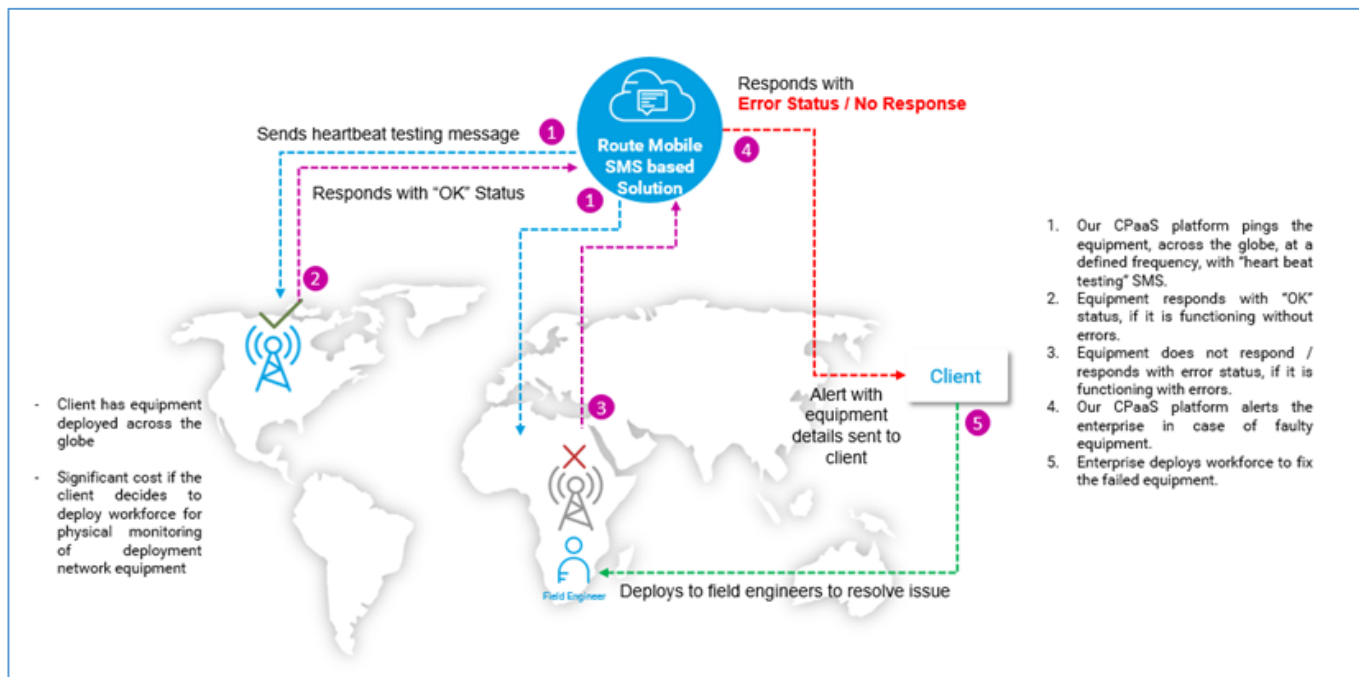
Chart 18: Digital communication solutions for travel industry



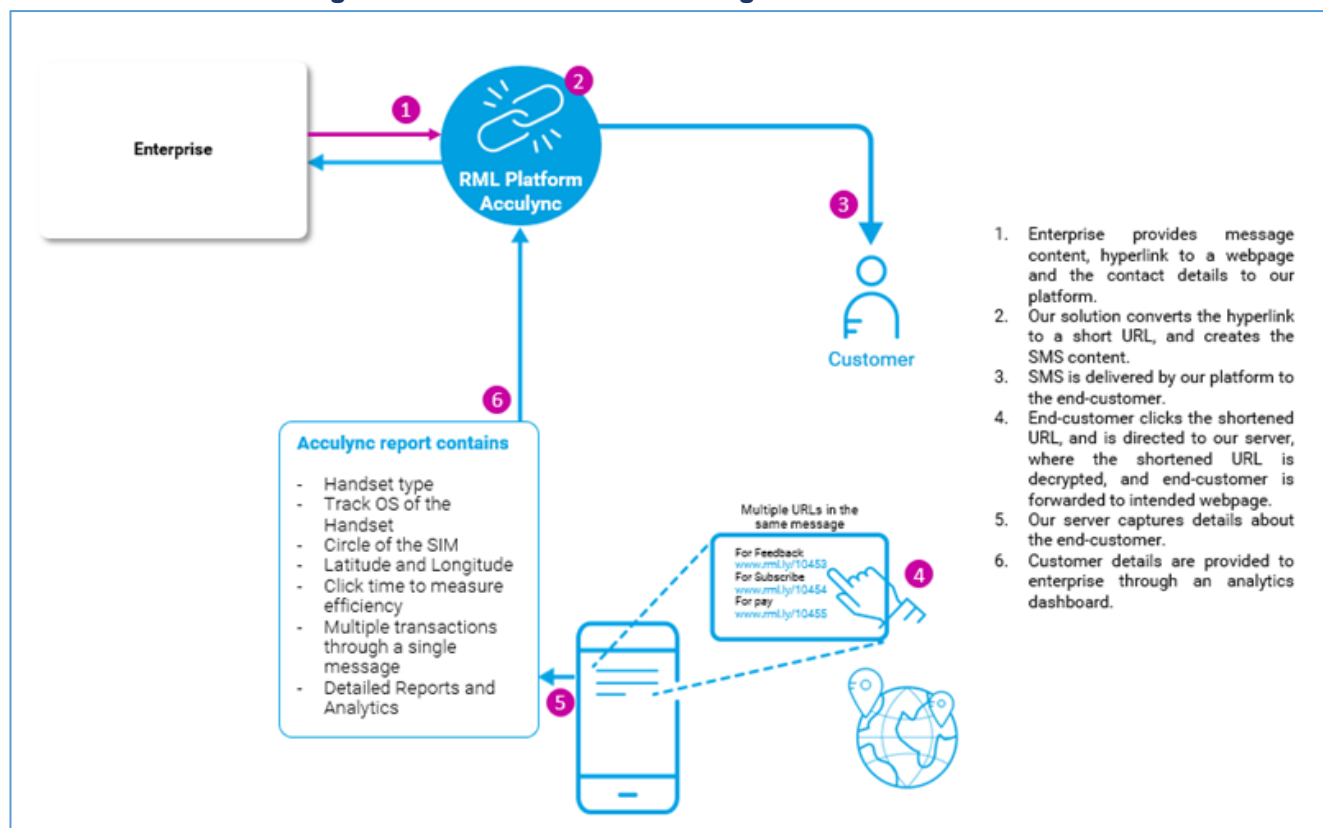
Source: Company data

- **Internet of Things enabling communication solutions:** With the use of the Company's platform, the client has been able to reduce requirement for on-the-ground personnel for equipment monitoring and is able to undertake real-time monitoring of equipment globally with centralized reporting. As per Company, this results in faster reaction to potential equipment failure, thereby minimizing equipment downtime.

Chart 19: Internet of Things enabling communication solutions



Source: Company data

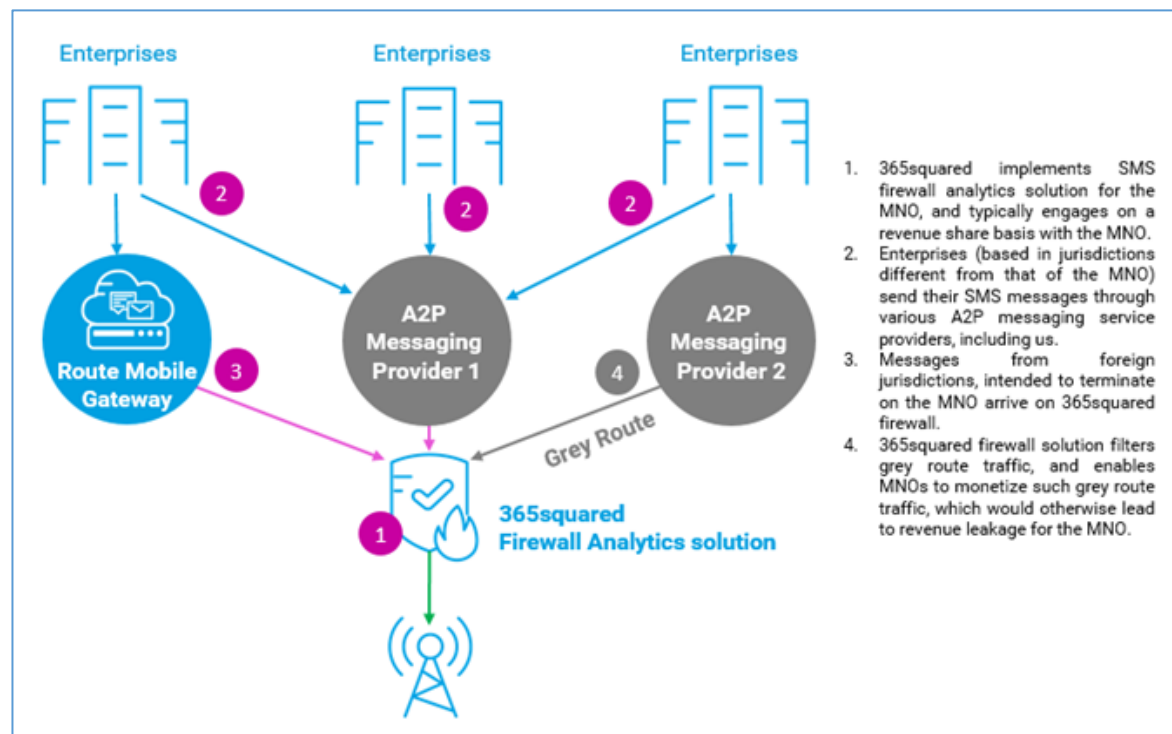
Chart 20: URL shortening solution for retail and banking and financial services sectors

Source: Company data

SMS firewall solution for telecom operators

RML's firewall solution helps identify and block international traffic arriving on an operators' network through grey routes. With the implementation of the solution, MNOs have been able to generate revenues that they were earlier unable to realize on account of their inability to identify A2P traffic arriving through grey routes.

Chart 21: SMS firewall solution for telecom operators



Source: Company data

Annexure II: Industry overview

Cloud communication

Cloud communication is an entirely new way to build, deploy, and scale enterprise communications systems. It includes, but is not limited to Voice over Internet Protocol or VoIP, Communication as a Service or CaaS and Unified Communications or UC. It offers enterprises cost-effective communications solutions that combine voice, messaging and data communication services over networks of telecom operators or MNOs. The need for in-house software and hardware resources is replaced with internet-based servers and sites. With growing internet penetration, business models are evolving and cloud communication services are being used by enterprises for streamlining back-end operations as well as for engaging with customers, employees and other stakeholders.

Cloud communication involves the following sender – recipient relationships:

- Application-to-Person or A2P – An automated message sent by a software application to a device controlled by a human being. For instance, a message containing an OTP for an online payment. Given the infrastructure needed for this type of application, it will more likely be acting on behalf of an enterprise, while the recipient could be a potential or existing customer, business client or employee;
- Person-to-Application or P2A – A message sent by a device controlled by a human to a software application. For instance, a missed call for voting in support of a television reality show contestant;
- Machine-to-Machine or M2M – A message sent by a device controlled by a software application to another software application. For instance, a vehicle manufacturer's measurements of a car's health can offer advice as regards pre-emptive maintenance before more serious events occur that might incur increased repair costs. This allows the vehicle manufacturer to maintain a good relationship with the consumer and improve brand loyalty. M2M is the critical connectivity enabler for Internet of Things or IoT.

A2P Messaging

As per Juniper Reports ("Mobile Messaging Markets – SMS, MMS, IM, Email, RCS/RCS-e, Social 2012 – 2017" dated September, 2012, "A2P Messaging: Opportunities, Competition & Forecasts 2017 – 2022" dated November, 2017, "The Internet of Things: Consumer, Industrial & Public Services 2016 – 2021" dated December, 2016 - collectively, the "Juniper Reports"), there are expected to be 7.72 billion mobile subscribers globally at the end of 2017 that are projected to grow at a CAGR of 2.5% to 8.74 billion by 2022.

Table 9: Mobile subscribers by geography*(in million, except percentages)*

Region	2017	2018	2019	2020	2021	2022	CAGR
North America ¹	426.8	431.8	436.5	440.8	445.1	449.2	1.0%
Latin America ²	705.3	720.2	734.3	747.4	762.3	773.4	1.9%
Western Europe ³	542.5	547.8	552.8	557.4	562.1	566.7	0.9%
Central and Eastern Europe ⁴	549.6	552.8	555.7	558.2	560.2	561.5	0.4%
Far East and China ⁵	1,628.5	1,652.9	1,663.9	1,675.1	1,686.4	1,697.9	0.8%
Indian Subcontinent ⁶	1,569.2	1,624.6	1,675.4	1,729.5	1,797.2	1,860.0	3.5%
Rest of Asia Pacific ⁷	843.4	871.1	897.9	923.3	949.6	976.8	3.0%
Africa and Middle East ⁸	1,450.2	1,533.8	1,615.0	1,694.2	1,773.1	1,854.9	5.0%
Global	7,715.6	7,935.0	8,131.5	8,326.0	8,536.0	8,740.6	2.5%

1. North America – Canada and USA.

2. Latin America – Argentina, Aruba, Bahamas, Barbados, Belize, Bolivia, Brazil and Cayman Islands, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, French Guiana, Grenada, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Mexico, Netherlands Antilles, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Surinam, Trinidad and Tobago, Turks and Caicos Islands, Uruguay, Venezuela, Virgin Islands.

3. Western Europe – Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, UK.

4. Central and Eastern Europe – Albania, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Moldova, Poland, Romania, Russia, Serbia/Montenegro, Slovakia, Slovenia, Turkey, Ukraine.

5. Far East and China – China, Hong Kong, Japan, Macao, South Korea, Taiwan.

6. Indian Sub Continent – Bangladesh, India, Nepal, Pakistan, Sri Lanka.

7. Rest of Asia Pacific – Australia, Brunei, Fiji, New Caledonia, New Zealand, Cambodia, Indonesia, Laos, Malaysia, Maldives, Mongolia, Myanmar, Philippines, Singapore, Thailand, Vietnam.

8. Africa and Middle East – Countries in the African continent and Turkey, Iraq, Saudi Arabia, Yemen, Syria, United Arab Emirates, Israel, Jordan, Palestine, Lebanon, Oman, Kuwait, Qatar, Bahrain, Iran

Source: Juniper Reports

A2P and P2A SMS are increasing as a proportion of SMS traffic, with enterprises finding that the ubiquity of SMS and the wide coverage of MNOs make it an ideal channel to communicate with their customers, employees and other stakeholders.

Globally, profitability of MNOs is declining due to increasing competition from mobile virtual network operators or MVNOs, emergence of OTT messaging services like WhatsApp, increasing communication over social media and low Average Revenue per User or ARPU in rural segments of emerging markets which are the overwhelming majority of new subscriber additions. Growth in OTT messaging services has threatened revenues of MNOs, with P2P SMS being a major casualty.

For instance, in the Netherlands, where WhatsApp rapidly gained traction, KPN experienced a 60% decline in P2P SMS usage levels between 2011 and 2013. KPN has subsequently not published messaging data. Similar declines have also been reported in South Korea following the widespread adoption of KakaoTalk, while OTT adoption in China since 2013 has seen SMS volumes decline. P2P SMS revenue for MNOs declined at a rate of 18.8% globally between 2013 and 2015. Average SMS sent per subscriber per month are projected to further decline at a CAGR of 4.7% globally, with North America witnessing a steeper decline of 9.0%.

Table 10: Projected decline in average SMS sent per subscribers per month*(in million, except percentages)*

Region	2017	2018	2019	2020	2021	2022	CAGR
North America	640.9	590.2	542.2	492.8	444.2	400.4	-9.0%
Latin America	85.5	82.5	79.7	77.1	74.4	71.8	-3.4%
Western Europe	66.2	64.8	63.0	60.9	58.6	56.4	-3.2%
Central and Eastern Europe	114.7	112.5	109.6	105.9	101.4	97.1	-3.3%
Far East and China	54.4	52.3	50.4	48.3	46.3	44.3	-4.0%
Indian Subcontinent	90.8	88.4	86.0	82.8	78.2	73.6	-4.1%
Rest of Asia Pacific	242.0	243.9	244.7	244.8	238.7	232.8	-0.8%
Africa and Middle East	116.3	115.8	111.3	104.4	96.4	89.0	-5.2%
Global	134.6	130.1	125.2	119.5	112.5	106.0	-4.7%

Source: Juniper Reports

For MNOs, SMS has historically been by far and away the most valuable data service. As consumers migrate to OTT messaging, the value to them of P2P SMS comes into question. Hence, there is an increasing attraction of being able to charge enterprises a premium for their A2P messaging.

As per the Juniper Reports, the size of the global A2P messaging market (including only directly connected A2P revenue) was US\$ 37.9 billion in 2017 and is projected to grow at a CAGR of 4.4%. Emerging markets like Latin America, Africa and Middle East are expected to grow faster.

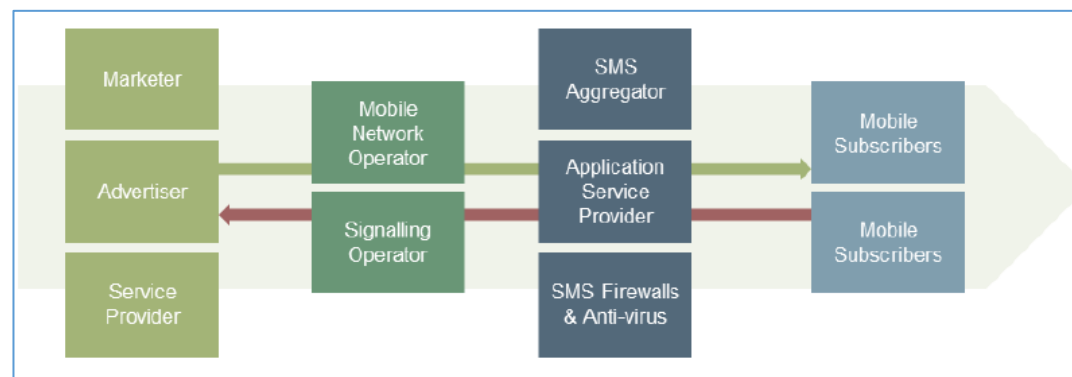
Table 11: Projected increase in the size of the A2P market

(in USD million, except percentages)

Region	2017	2018	2019	2020	2021	2022	CAGR
North America	14,484.0	15,688.8	16,981.0	17,741.5	17,952.4	18,074.2	4.5%
Latin America	2,800.2	3,279.9	3,732.1	4,157.1	4,527.9	4,912.7	11.9%
Western Europe	3,244.1	3,477.1	3,703.6	3,914.1	4,127.6	4,340.7	6.0%
Central and Eastern Europe	2,673.1	2,905.5	3,114.2	3,165.6	3,154.2	3,123.2	3.2%
Far East and China	8,246.0	8,363.0	8,411.5	8,323.0	8,209.8	8,095.5	-0.4%
Indian Subcontinent	1,924.3	2,107.3	2,237.5	2,322.2	2,345.8	2,359.7	4.2%
Rest of Asia Pacific	2,258.2	2,462.9	2,654.7	2,831.3	2,922.2	3,013.6	5.9%
Africa and Middle East	2,246.1	2,590.3	2,839.3	2,932.2	2,966.3	2,991.0	5.9%
Global	37,876.1	40,874.8	43,673.8	45,387.1	46,206.1	46,910.6	4.4%

Source: Juniper Reports

Chart 22: A2P messaging value chain



Source: Juniper Reports

SMS aggregators (pure play aggregators or cloud communication companies) operate the gateways that provide the connectivity to the networks of MNOs for enterprises seeking to use A2P messaging. Tier 1 aggregators, processing over one billion A2P messages per annum, typically rely primarily on direct connectivity to the MNO's SS7 network, using the Short Message Peer to Peer or SMPP protocol. However, below these Tier 1 players are numerous smaller players, often processing far smaller numbers (tens or hundreds of millions) of A2P messages per annum, in many cases wholly reliant on grey routes to deliver their messages.

SMS firewalls provide protection against malicious attacks, unsolicited SMS and fraud. Next-generation firewall providers are capable of identifying (and blocking) grey route traffic, thereby increasing the monetization of legitimate traffic. A number of firewall providers also allow operators to understand the profile of the messaging traffic by conducting analytics of the traffic flow.

Tier 1 players can fulfill multiple roles within the value chain. Several of the Tier 1 players within SMS aggregation are also amongst the market leaders for firewalls.

A2P Messaging Market – Key trends

- **Rise of grey route traffic:**
 - Grey route A2P traffic is essentially traffic which is sent in violation of the MNO's terms and conditions, circumventing the MNOs own systems and from which the MNOs cannot generate any revenues. This traffic is primarily P2P in origin; the grey route opportunity was essentially created when MNOs sought to make a distinction between A2P and P2P traffic to better monetize the former. In so doing, and by charging a premium for directly connected A2P traffic, they created the conditions for a number of SMS aggregators to deliver A2P traffic via noninterconnected routes.
 - Furthermore, routing traffic via networks in a third country also allows SMS aggregators to save money via arbitrage, as they take advantage of the different settlement rates of the countries concerned. This means that even in markets where there are AA19 agreements between the MNOs (which define the charges of terminating messages between their networks), the MNOs concerned will only generate minimal revenues per message.
 - On a global basis, grey route A2P messages cost just 25% of the price of directly connected A2P traffic. In 2015, MNOs lost US\$ 12.2 billion of potential revenue due to grey route traffic. This is driving demand for firewall (SMS filter) solutions amongst MNOs.

Table 12: Projected share of grey route SMS traffic

Region	2017	2018	2019	2020	2021	2022
North America	36.8%	33.1%	29.8%	26.8%	24.1%	21.7%
Latin America	42.4%	40.3%	38.3%	36.4%	34.6%	32.8%
Western Europe	17.0%	15.3%	13.7%	12.3%	11.1%	9.9%
Central and Eastern Europe	14.9%	14.2%	13.5%	12.9%	12.2%	11.6%
Far East and China	7.6%	7.1%	6.7%	6.3%	5.9%	5.5%
Indian Subcontinent	46.3%	44.4%	42.5%	40.5%	38.4%	36.3%
Rest of Asia Pacific	27.4%	26.1%	24.8%	23.5%	22.3%	21.2%
Africa and Middle East	40.4%	38.4%	36.5%	34.7%	32.9%	31.3%
Global	29.9%	28.0%	26.1%	24.4%	22.7%	21.2%

Source: Juniper Reports

- **Into the cloud**

Increasingly, Tier 1 SMS aggregators are offering cloud based business grade A2P messaging solutions. These players provide global delivery capabilities through mix of direct and indirect relationships with MNOs across the globe. Such cloud platforms can easily and quickly scale mobile communications while reducing latency and increasing delivery rates. They may also offer a proprietary adaptive routing platform, which routinely tracks millions of data points to immediately determine the fastest and most reliable route to deliver A2P messages.

- **Enterprises demanding faster, reliable A2P traffic**

As enterprises increasingly deploy A2P messaging for marketing, alerts and authentication purposes, they want to ensure that messages are delivered and delivered in a timely manner. Many such messages will be time-critical, and failure in this regard could potentially have a serious adverse effect on a brand's standing. For example, as banks increasingly seek to use mobile channels to engage with their customers, any failure to deliver promised alerts, or timely authorizations, would justifiably leave them open to claims for compensation, with higher-profile

cases also impacting their brand. It might also lead to a wider disenchantment with A2P messaging as a communication channel.

- **MNOs demanding minimum commitments and consolidating traffic at group level**

Current trend is for MNOs to demand a minimum volume commitment from SMS aggregators. Given the underlying financial and risk management requirements, only Tier 1 aggregators in a particular market can make these commitments. Other players either buy from or terminate through these Tier 1 aggregators

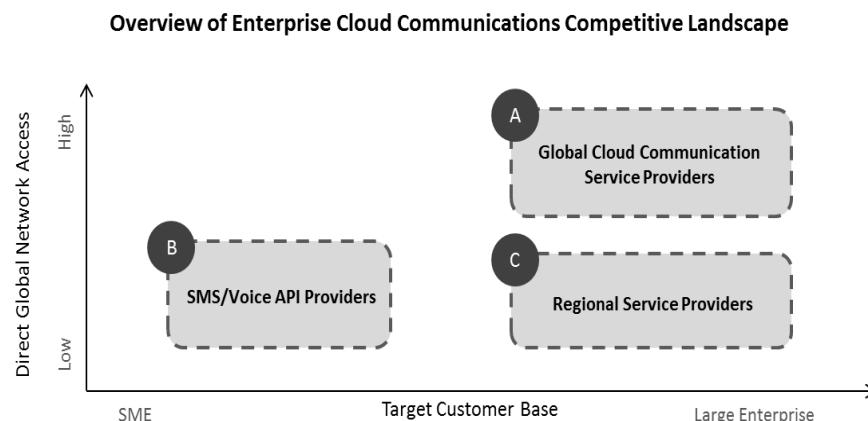
A further key trend is that network operator groups are increasingly seeking to consolidate their A2P services at the group level through the establishment of dedicated units. Where previously national operating companies would arrange the contracts with the SMS aggregators, the contracts are now being executed at their dedicated global units. The rationale being that it will enable the groups to strike harder bargains with the Tier 1 aggregators and to reduce the scale of grey route traffic. Through these units the MNOs can also provide SMS hubs with direct connections, with platforms typically offering features such as high performance routing and low latency delivery.

Deutsche Telekom, Telenor, Telefonica and Orange are some of the large global MNOs who have implemented group consolidation. Vodafone, having first established Vodafone Carrier Services in 2013, introduced the Vodafone Messaging Hub in May 2015. The hub now serves the SMS requirements of Vodafone's over 400 million customers worldwide. Additionally, it is being offered as a service to other MNOs and A2P aggregators looking to transit SMS on its network. These hubs are themselves becoming connected to each other. For example, in December 2015, Telefonica and Deutsche Telekom reached an agreement to directly connect their respective A2P messaging hubs.

Cloud communication companies also provide SMS hubs to simplify the interworking between MNOs enabling them to increase their international SMS coverage without entering into multiple bilateral arrangements. Robust SMS hubs prevent fraudsters and spammers from bypassing standard interconnections and delivering messages to mobile subscribers without any extensive controls.

Enterprise Cloud Communication

The enterprise cloud communications market is characterized by a high degree of fragmentation. Players can broadly be categorized into three groups: (i) Global Cloud Communications Service Providers; (ii) Regional Service Providers (including divisions of MNOs); and (iii) Cloud API Providers. These groups can in turn be segmented by their target customers (small and medium enterprises (SMEs) or large enterprises) and their ability to offer direct access to global mobile networks.

Chart 23: Overview of Enterprise Cloud Communication Competitive Landscape (1/2)

Source: Juniper Reports

Table 13: Overview of Enterprise Cloud Communication Competitive Landscape (2/2)

	A: Global Cloud Communication Service Providers	B: Cloud API Providers	C: Regional Service Providers
Mode of Operations	<ul style="list-style-type: none"> Have direct connect with telecom operators Services to SMEs and large enterprises Robust infrastructure 	<ul style="list-style-type: none"> Service SMEs through flexible offerings Offer user friendly, easy to integrate applications Relies on global communication service providers for communication solution 	<ul style="list-style-type: none"> Extremely localized players with minimal tie-ups with telecom operators Typically SMEs and select region specific telecom operators
Geographic Reach	<ul style="list-style-type: none"> Key telecom markets across the globe 	<ul style="list-style-type: none"> Localized operations 	<ul style="list-style-type: none"> Localized operations
Quality of Service	<ul style="list-style-type: none"> Wide and direct access and robust platform ensures high SLAs 	<ul style="list-style-type: none"> Focus more on platform than on relationship and high level of service to SMEs 	<ul style="list-style-type: none"> Relatively poor due to non-specialized operations and low reach
Key players	<ul style="list-style-type: none"> Route Mobile (India) Syniverse (USA) Mblox (USA) SAP Mobile (Germany) CLX (Sweden) 	<ul style="list-style-type: none"> Nexmo (USA) Plivo (USA) Tropo (USA) Twilio (USA) 	<ul style="list-style-type: none"> BulkSMS.com (SA) ConnectMedia (Kenya) Clickatell (SA) Dialogue group (UK) AT&T (USA)

Source: Juniper Reports

The market has proliferated in recent years, while in the case of Tier 1 and Tier 2 players there has been a degree of consolidation. Also, global enterprise IT majors are acquiring these companies to add A2P messaging to their mobile portfolios. Hence, Syniverse acquired VeriSign's messaging business (2009), MACH (2013) and Aicent (2014); SAP acquired Sybase in 2010; CLX acquired Voltari's messaging business in 2014 and mBlox in May 2016.

Emerging Areas – IoT and Big Data

Internet of Things or IoT is, at present a focus area for many enterprises. Efficiency gains, cost savings and new revenue models are the principal benefits accruing from IoT. High rate of IoT adoption and deployment in enterprises can be attributed to the value-add and business cases being very clear and measurable.

Table 14: Projected number of connected enterprise and public sector devices*(in million, except percentages)*

Region	2016	2017	2018	2019	2020	2021	CAGR
North America	2,542.3	3,266.6	4,304.1	5,901.3	8,421.2	11,344.6	34.9%
Latin America	591.5	716.3	860.3	1,027.3	1,225.2	1,444.1	19.5%
Western Europe	3,594.3	4,370.8	5,423.9	6,961.2	9,251.5	12,096.2	27.5%
Central and Eastern Europe	685.7	814.4	972.6	1,161.6	1,388.2	1,655.6	19.3%
Far East and China	1,089.9	1,337.8	1,674.4	2,163.4	2,734.1	3,264.2	24.5%
Indian Subcontinent	166.6	206.2	263.8	353.3	481.8	611.1	29.7%
Rest of Asia Pacific	95.3	121.5	154.0	198.2	261.6	333.1	28.4%
Africa and Middle East	95.7	113.2	135.9	169.6	218.9	277.3	23.7%
Global	8,861.3	10,946.8	13,789.1	17,935.9	23,982.4	31,026.1	28.5%

Source: Juniper Reports

It is widely acknowledged that the real value of connected IoT units will be derived through the conversion of data into actionable information. The reason for this is that the majority of connected units will be M2M modules, producing small amounts of data each, albeit at large scale i.e. Big Data. Consequently, where nearly the entirety of the Internet's history has involved the analysis of human-produced data, frequently composed of relatively large, organized chunks of data, the IoT landscape presents a scenario where sense must be made of large amounts of byte sized data packets that are not structured into any particular format. The rise of data produced over the Internet and indeed, an increased amount of data produced by machines has already created a scenario where traditional databases are, in many instances, not fit for purpose. The characteristics of Big Data can usually be thought of as 'big' in terms of volume, velocity and variety. In many instances, IoT data, due to its velocity, will be useful only for a short period of time. Therefore, applications leveraging data of this nature demand very short latency, with the typical route of sending data to the internet cloud for processing becoming unfeasible in many instance.

Annexure III: Board of Directors

Name	Designation	Experience	Comments
Sandipkumar Gupta	Chairman Non-Executive Director	Over 18 years of experience in the field of in audit and accounts and, business analysis and over 15 years of experience in SAP configuration and software system consulting	<ul style="list-style-type: none"> Mr. Sandipkumar Gupta holds a bachelor's degree in commerce from University of Mumbai and is also a qualified chartered accountant and a member of the Institute of Chartered Accountants of India. He is a SAP certified solution consultant – mySAP Financials – Managerial and Financial Accounting. Prior to joining the Company, he has worked with Covansys (India) Private Limited. He has worked with PricewaterhouseCoopers Private Limited.
Chandrakant Gupta	Non-executive Director		<ul style="list-style-type: none"> Mr. Chandrakant Gupta received the higher secondary school examination certificate from Board of High School and Intermediate Education, Uttar Pradesh. He has been a Director on the Board of RML since 2007
Rajdipkumar Gupta	Managing Director and Group Chief Executive Officer	Over 18 years of experience in the field of software designing and development	<ul style="list-style-type: none"> Mr. Rajdipkumar Gupta, holds a bachelor's degree in science (physics) from University of Mumbai and master's diploma in software engineering from Aptech Computer Education. He is also a certified HTML programmer, perl programmer and active server pages programmer from Brainbench. He has earlier worked with Approved Information Systems (I) Private Limited and GurukulOnline Learning Solutions Private Limited
Ramachandran Sivathanu	Independent Director		<ul style="list-style-type: none"> Mr. Ramachandran Sivathanu holds a bachelor's degree in science from University of Madras and holds a master's degree in business administration from Sikkim Manipal University. Prior to joining the Company, he has worked with Loop Telecom Private Limited, Loop Mobile (India) Limited, Meridian Mobile Private Limited, RPG Cellular Services Limited, Red Bottle Telecommunications Consultancy Private Limited, Clothesline Media Private Limited and Eureka Forbes Limited.
Nimesh Salot	Independent Director	Over 4 years of experience in the field of investment banking.	<ul style="list-style-type: none"> He holds a bachelor's degree in commerce from University of Mumbai. He is a qualified chartered accountant and a member of the Institute of Chartered Accountants of India. He has previously worked with Ladderup Corporate Advisory Private Limited, Mape Advisory Group Private Limited, Rabo Finance Limited, Ernst and Young, India, DSJ Communications Limited and Kayjay Financial Research Services Private Limited.
Arun Gupta	Independent Director	Over 28 years of experience in Investment Banking, Media, Gaming, Animation, Education, Internet & Technology companies	<ul style="list-style-type: none"> Mr. Arun Gupta is an independent consultant in the private equity, M&A and business development space. He has served in the past as Board member/investor/mentor/adviser to various companies Mr. Gupta is a post graduate in Commerce and Economics from Mumbai University & adjunct faculty at few leading Business schools.
Sudha Navandar	Independent Director		<ul style="list-style-type: none"> Ms. Sudha Navandar is a qualified chartered accountant registered with the Institute of Chartered Accountants of India and a Certified Public Accountant, USA She is currently a partner in M/s. Pravin R. Navandar & Co. Chartered Accountants. She is also an independent director on the board of Goa Glass Fibre Limited, Anand Rathi Financial Services Limited and Anand Rathi Wealth Services Limited.

Source: Company data, I-Sec research

Annexure IV: Key Managerial Personnel

Name	Designation	Experience	Comments
Tushar Agnihotri	Executive Vice President – India and APAC	Over 17 years of experience in telecom sector	<ul style="list-style-type: none"> Mr. Tushar Agnihotri holds a master's degree in business management from Bundelkhand University. Prior to joining the Company, he has worked with Tata Teleservices (Maharashtra) Limited, Reliance Infocom Limited and Arvind Mills Limited.
Suresh Jankar	Chief Financial Officer	Over 9 years of experience in finance sector	<ul style="list-style-type: none"> Mr. Suresh Jankar holds a bachelor's degree in commerce from University of Pune and is qualified chartered accountant from the Institute of Chartered Accounts of India. Prior to joining, he has worked with Capricorn Lifestyle Private Limited
Gautam Badalia	Chief Strategy Officer	Over 12 years of experience in investment banking, mergers and acquisitions and structured finance	<ul style="list-style-type: none"> Mr. Gautam Badalia holds a bachelor's degree in economics from Kolkata University and a master's degree in business administration (finance) from ICAI University Prior to joining the Company, he has worked with YES Securities (India) Limited.
Vikram Shanbhag	Executive Vice President - Americas		<ul style="list-style-type: none"> Mr. Shanbhag has worked with established companies such as AT&T Bell Labs, Covansys and Coriant, and start-ups such as Trilogy and FixStream, in achieving growth through product innovation, market expansion, operational excellence, and key acquisitions. He holds Bachelor's and Master's degrees in Engineering from the College of Engineering Pune and the University of Akron respectively, and M.B.A. from the Ohio State University.
Rathindra Das	Head Legal, Company Secretary and Compliance Officer	Over 8 years of experience in compliance and secretarial matters	<ul style="list-style-type: none"> Mr. Rathindra Das holds a bachelor's degree in commerce and a bachelor's degree in law from Assam University. He is a member of the Institute of Company Secretary of India. Prior to joining the Company, he has worked with Parimal Roads Infra Private Limited, Cipla Limited, NSEIT Limited, Metropolitan Stock Exchange of India Limited, Hinduja Energy (India) Limited, Peninsula Land Limited, Reliance Infrastructure Limited and Neterwala Consulting and Corporate Services Limited
Rahul Pandey	Chief Credit Officer	Over 15 years of experience in telecommunication sector	<ul style="list-style-type: none"> Mr. Ramachandran Sivathanu holds a bachelor's degree in science from Mumbai University Prior to joining the Company, he has worked with DuFlon Polymers Private Limited and Concept Jewellery (I) Private Limited.
Sharad Kumar	Executive Vice President – Middle East	Over 17 years of experience in telecommunication sector	<ul style="list-style-type: none"> Mr. Sharad Kumar holds a bachelor's degree in engineering (electronics and telecommunications) from University of Mumbai and a post graduate certificate in business management from XLRI, Jamshedpur. Prior to joining, he has worked with Bharti Airtel Limited, Reliance Communications Limited and United Nations.

Source: Company data, I-Sec Research

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