

# Tracking Services

Sector Study



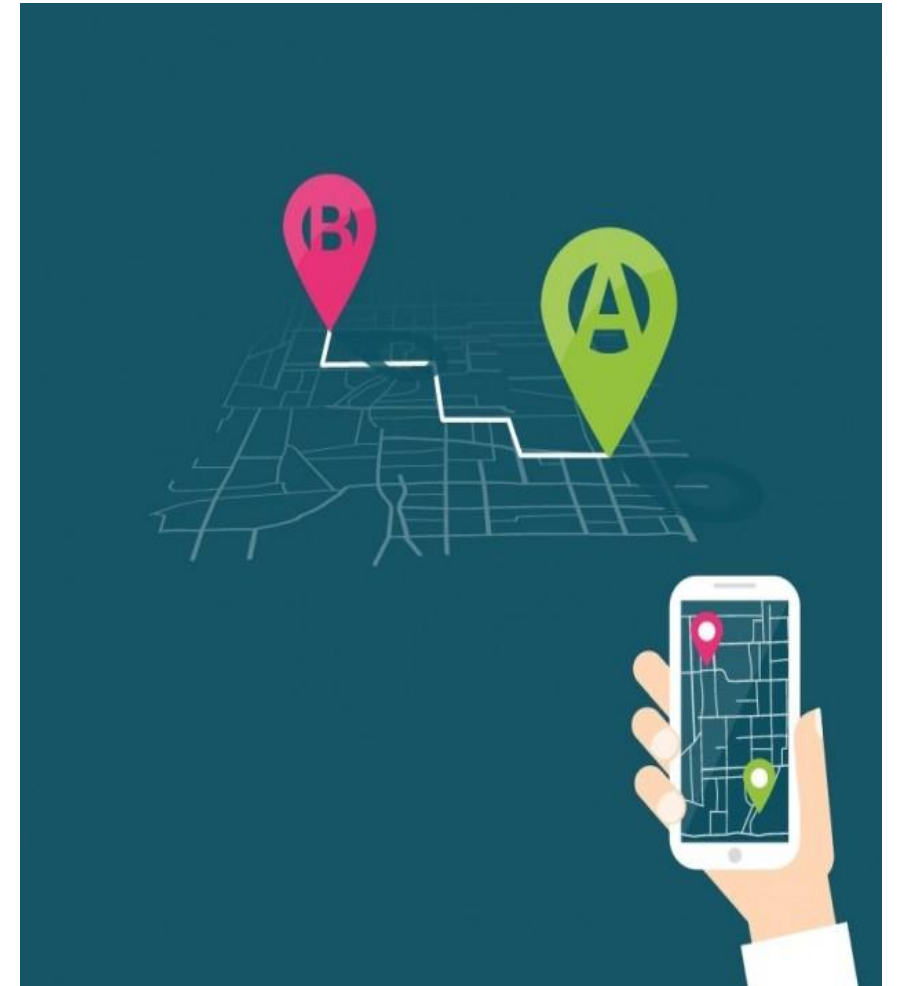
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## Introduction

- Tracking Services are used to monitor the data of objects on the go. Tracking is becoming an increasingly important tool for businesses that require real-time information pertaining to vehicle fleet, personnel or merchandize.
- With this variable information, organizations are able to improve efficiency and productivity. In addition, individual users have greater degree of convenience with navigational applications, for instance, tracking their packages and deliveries when using online services.
- Tracking services are based on convergence of several technologies that can be merged to create tracking systems. These technologies include:
  - Geographic Information Systems (GIS) – Used for large-scale location-tracking systems, geographic information systems can capture, store, analyse and report geographic information.
  - Global Positioning System (GPS) – radio navigation system that allows land, sea, and airborne users to determine their exact location, velocity, and time 24 hours a day, in all weather conditions, anywhere in the world.
  - Radio Frequency Identification (RFID) - Small, battery-less microchips that can be attached to consumer goods, cattle, vehicles and other objects to track their movements. RFID tags are passive and only transmit data if prompted by a reader.
  - Wireless Local Area Network (WLAN) - A wireless local-area network (WLAN) is a group of collocated computers or other devices that form a network based on radio transmissions rather than wired connections. A Wi-Fi network is a type of WLAN.



## Global | Overview

- The global vehicle tracking system market size is estimated to be valued at USD~21.7bln in CY22 from USD~13.7bln in CY21, presenting an increase of ~58%. The vehicle tracking system market is expected to grow to USD~33.14bln in CY23.
- North America will hold the greatest market share of ~33% in the global vehicle tracking system market in CY22.
- With a booming automotive industry, Asia Pacific vehicle tracking system market is expected to expand at a CAGR of ~13.4% through CY23, followed by Europe, which is expected to be the fastest-growing region in the future.
- The Russia-Ukraine war disrupted the chances of global economic recovery from the COVID-19 pandemic, at least in the short term. The war between these two countries has led to economic sanctions on multiple countries, a surge in commodity prices, and supply chain disruptions, affecting many markets across the globe.

### GLOBAL DEMAND DRIVERS

- Growing demand for semi-autonomous and autonomous
- Introduction of 5G technology in vehicle tracking systems.
- Rising demand for car rental and leasing services.
- Increased focus towards improving passenger safety.
- Adoption of intelligent transportation systems

### FEW GLOBAL PLAYERS

- Sierra Wireless Inc. (Canada)
- Atrack Technology Inc. (Taiwan)
- Tom Tom International Bv (Netherlands)
- Orbocomm Inc. (US)
- Shenzhen Concox Information Technology Co. Ltd. (US)
- Meitrack Group (China)
- Global Tracking Group, LLC (US)

## Market Segmentation

The global vehicle tracking system industry is classified based on type, technology, propulsion, application and vehicle type.

### By Type

- Passive tracking unit gathers data that needs to be downloaded from the tracker.
- Active tracking units collect the data and transmit in near-real-time via cellular or satellite networks to a computer or data center for evaluation.

### By Technology

- GPS/ Satellite

Global Positioning system, is a navigation technology reliant on a satellite system based in space.

- GPRS/ Cellular Networks

GPRS vehicle tracking system uses the data network to transmit information.

### By Propulsion

- Internal Combustion Engine Vehicle

ICEs run on gasoline which is burned internally to power the car.

- Electric Vehicles

EVs run on electricity.

### By Vehicle

- Passenger Car

Tracking systems used in consumer vehicles as a theft prevention, monitoring and retrieval device.

- Commercial Vehicle

Tracking system implemented by businesses with fleet operations in industries like transportation, construction, specialty services, delivery etc.

### By Application

- Software

Software are customized to provide insight into fleet activity and operational performance.

- Hardware

Small unit or device fitted to the vehicle which transmits data via satellite or cellular network.



## Applications of Tracking Services

Comprehensive real-time location tracking and analytics solutions put geographical and location data to good use by extracting valuable insights. These insights can be used in a variety of applications, few of which are stated as follows –

- **Driver Behaviour Analysis:** Driving behaviour scoring algorithms help customers ensure that the drivers follow their rules and maintain driving excellence.
- **Advance Fleet Management:** Utilizing evolutionary algorithms that incorporate actual delivery time and other real-time data for daily route calculation, increasing efficiency and reducing overall mileage and fuel costs.
- **Container/ Shipment Tracking:** Container tracking product tracks and monitors containers and provides critical supply chain visibility and security, transforming trip data into billing and insurance records.
- **Location-based Advertising:** Proximity marketing uses beacons and mobile infrastructure to locate customers and collect data about their movements. This data is used to analyse customer behaviour and patterns in order to enhance their shopping experience by providing them suggestions on what they might need.
- **Navigation & Route Planning:** With route planning and navigation services, customers can make their driving path more efficient and more optimal, using real time traffic information such as accidents and construction zones.
- **Usage-based Insurance:** Utilizes telematics devices installed in customer vehicles to allow the insurance company to monitor driving habits.
- **Predictive Maintenance:** Telematics devices collect an enormous amount of fuel system data and engine data such as engine revolutions per minute, engine oil level, transmission, mileage driven, tire pressure, and more. Based on all the engine data and the historical records of maintenance and repair, predictive analysis provides with precautionary breakdown and maintenance notifications, as well as the recommended solutions.

## Local Industry | Demand Factors

- **Automobile Sales:** The tracking services industry derives a significant portion of its demand from the automobile industry as vehicle tracking is the most commonly used application of tracking technology. During FY22, Automobile performance, comprising cars, buses & trucks, improved by ~52% as against FY21 where there was negative growth due to COVID-19.
- **Online Applications:** There is an increasing trend of service delivery apps catered towards providing consumers with maximum convenience. COVID-19 outbreak has further augmented this trend as various restrictions made consumers reliant on apps for delivery of food, groceries and other items. Tracking services within these apps enable users to keep tabs on the status of their deliveries.
- **New Business Opportunities:** Connected cars, SAAS Products - Location Based Services Platform (Enterprise Location APIs) and DART (configurable location and monitoring management solution).
- **Cargo-Tracking:** The development and initiations in Inter-port movement, selected Transshipment cargo for FATA/ PATA & Aza-Khel dry ports resulting in approx. 25,000 containers annually, roll-out to other dry ports such as Sialkot dry port, Faisalabad dry port, Islamabad dry port.



## Local Industry | Overview

- The tracking services industry is a sub-segment of both the broader technology and logistics industries. The sector is mix of both product and service-based/ solution providers.
- Pakistan’s tracking services gross revenue recorded revenue at PKR~5,014mln in FY22 as compared to PKR~4,490mln in FY21 (~12% increase YoY). The increase can be attributed to improvement in automobile industry on account of post COVID-19 recovery.
- At QoQ level, gross revenue for 3MFY23 stood at PKR~1,266mln as against PKR~1,129mln in SPLY.
- Pakistan Telecommunication Authority (PTA) has suspended grant of CVAS License applications for Data and Voice (excluding Vehicle Tracking Services) in Pakistan. All CVAS (Internet/ Data (less VTS)) applicants for up-gradation of CVAS License to Nationwide and Renewal will now have to obtain Local Loop (LL) License.
- Only one firm providing tracking services is listed on the Pakistan Stock Exchange, while the rest are private firms.

Overview	FY21	FY22	3MFY23
<b>Gross Revenue* (PKR mln)</b>	4,490	5,014	1,266
<b>Revenue Growth</b>	17.5%	12%	13%
<b>Contribution to GDP</b>	0.01%	0.01%	0.01%
<b>Car Sales (units)</b>	151,182	234,180	39,700
<b>Truck Sales (units)</b>	3,695	5,802	1,109
<b>Bus Sales (units)</b>	652	696	210
<b>Structure</b>	Competitive		
<b>Regulator</b>	PTA		

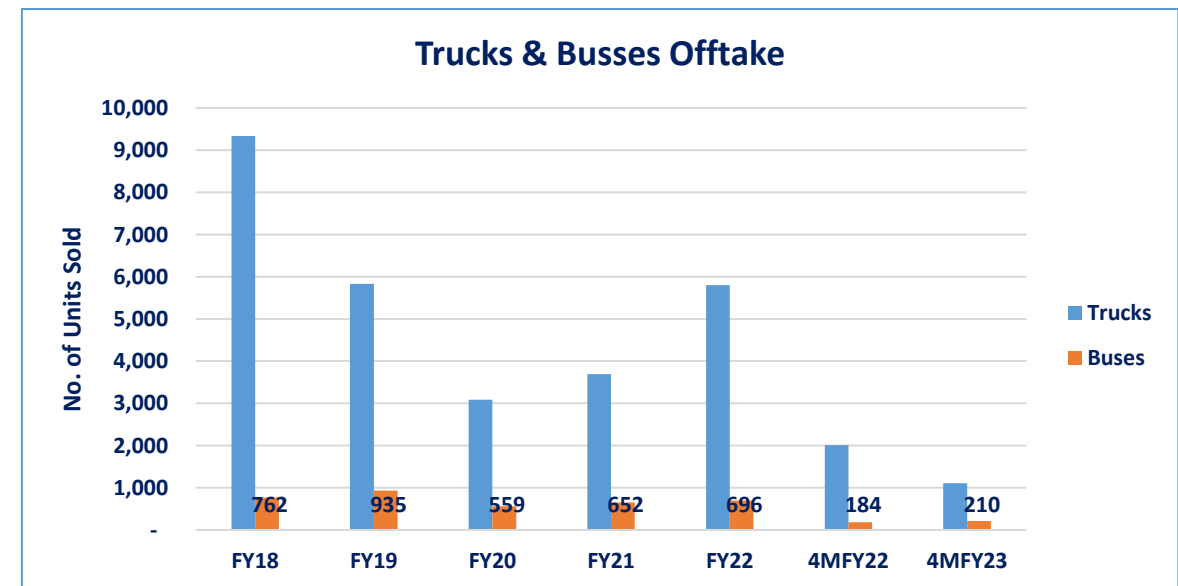
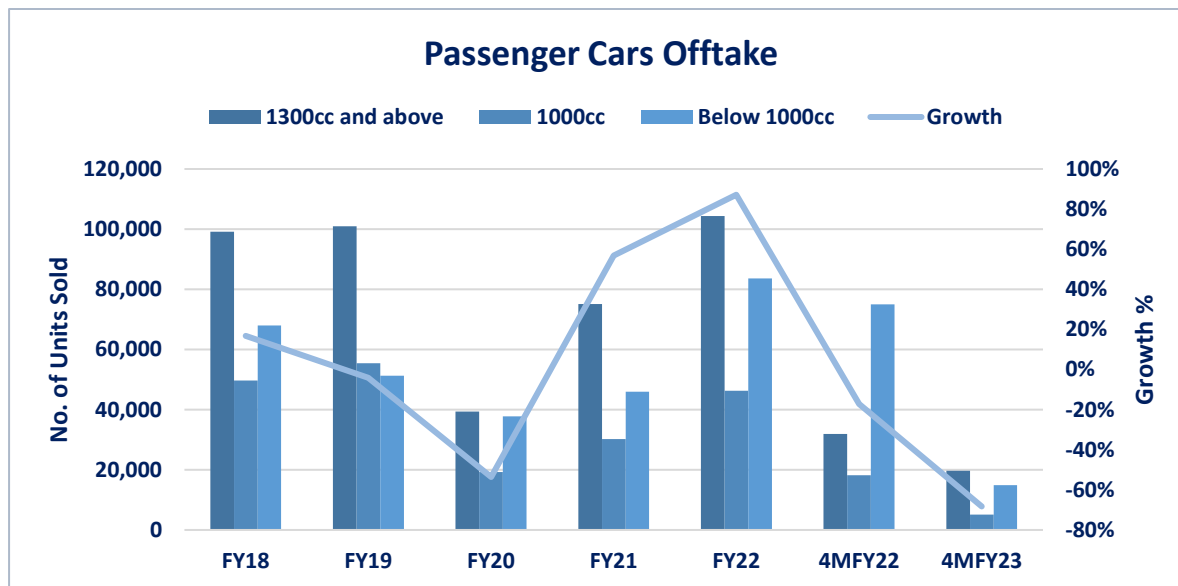
\*Figures for Gross Revenue are estimated, using internal calculations.



# TRACKING SERVICES

## Local Industry | Automobile Offtake

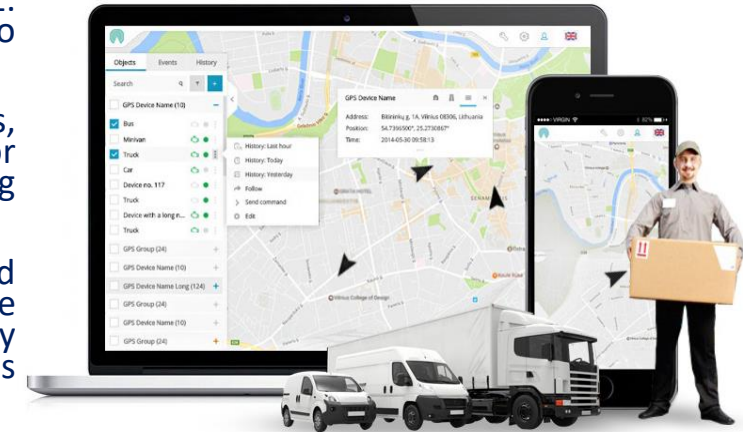
- During FY22, cumulative units including cars, buses and trucks sold were ~240,678 as compared to ~155,529 in FY21, registering a growth of ~55% YoY.
- Passenger Cars Offtake reached ~39,700 units during 4MFY23 as compared to ~75,000 units in SPLY.
- During 4MFY23, there has been a significant drop in the offtake of trucks & cars, however, bus sales increased in 4MFY23 to ~210 units in comparison to ~184 units sold during SPLY.



Note: SPLY is short for Same Period Last Year.

## Local Industry | Business Risk

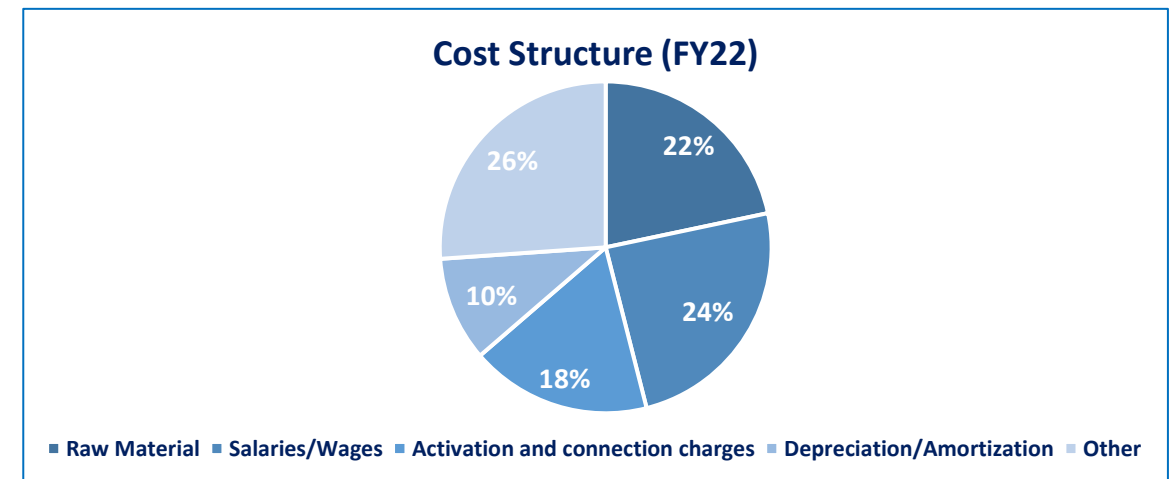
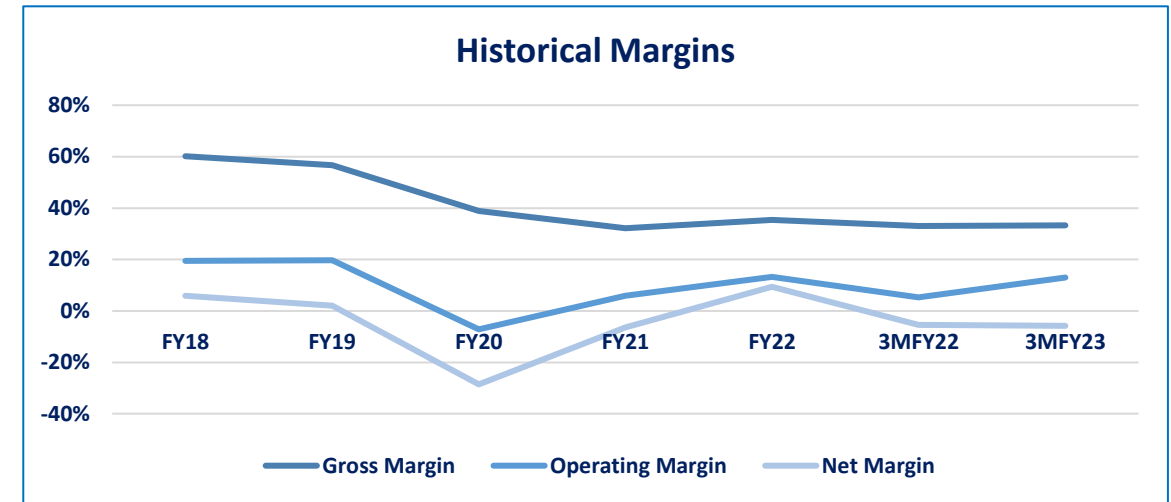
- **Increasing competition:** The increase in competition within the tracking services industry is exhibited by the steady growth in number of CVAS licenses issued by the Pakistan Telecommunication Authority (PTA) each year. Since CY18, PTA has issued a total of ~41 CVAS licenses for vehicle tracking services till November, 2021. This increasing competition has a negative impact on margins as players are forced to reduce prices in order to maintain their market shares.
- **B2B Model:** Since many players within the industry are involved in providing services to other businesses, their demand depends on conditions in these client industries. If the overall economy, or any client industry or sector is not doing well, it would hamper the creation of new demand for the players providing tracking services.
- **Digital Literacy:** Mobile phone usage in Pakistan has increased exponentially in recent years and has resulted in increased digital literacy among the population. However, the majority of population, particularly those residing in rural areas or belonging to low income groups, remain lacking in digital literacy particularly regarding advanced technologies. As a result, this limits or restricts the potential of the tracking services market catered towards consumers.
- **Interest Rate:** As the industry is highly leveraged and dependent on the offtake of automobile industry. Increase in policy rate would affect the financing of cars and a higher finance cost will put a strain on profitability.
- **Data Privacy Infringement:** Data related to vehicle contain sensitive information, such as vehicle make, drivers' personal details, and routes traversed. The data can be exploited for carrying out malicious or criminal activities. Data privacy infringement is a major reason discouraging end customers from using vehicle tracking systems.
- **Imported Raw Material:** Impact on revenue due to disruption in supply chain as the industry is heavily dependent on import of raw material from China and USA. Also, the volatility of exchange rate and the depreciation of PKR can affect the profitability of the industry.
- **High R&D Costs:** In order to ensure competitiveness and prevent technological obsolescence in the future, there is need for significant research and development in the industry. As a result, the R&D costs of the industry can be quite high and many R&D projects may not result in fruitful outcomes as desired.



# TRACKING SERVICES

## Business Risk | Margins & Cost Structure

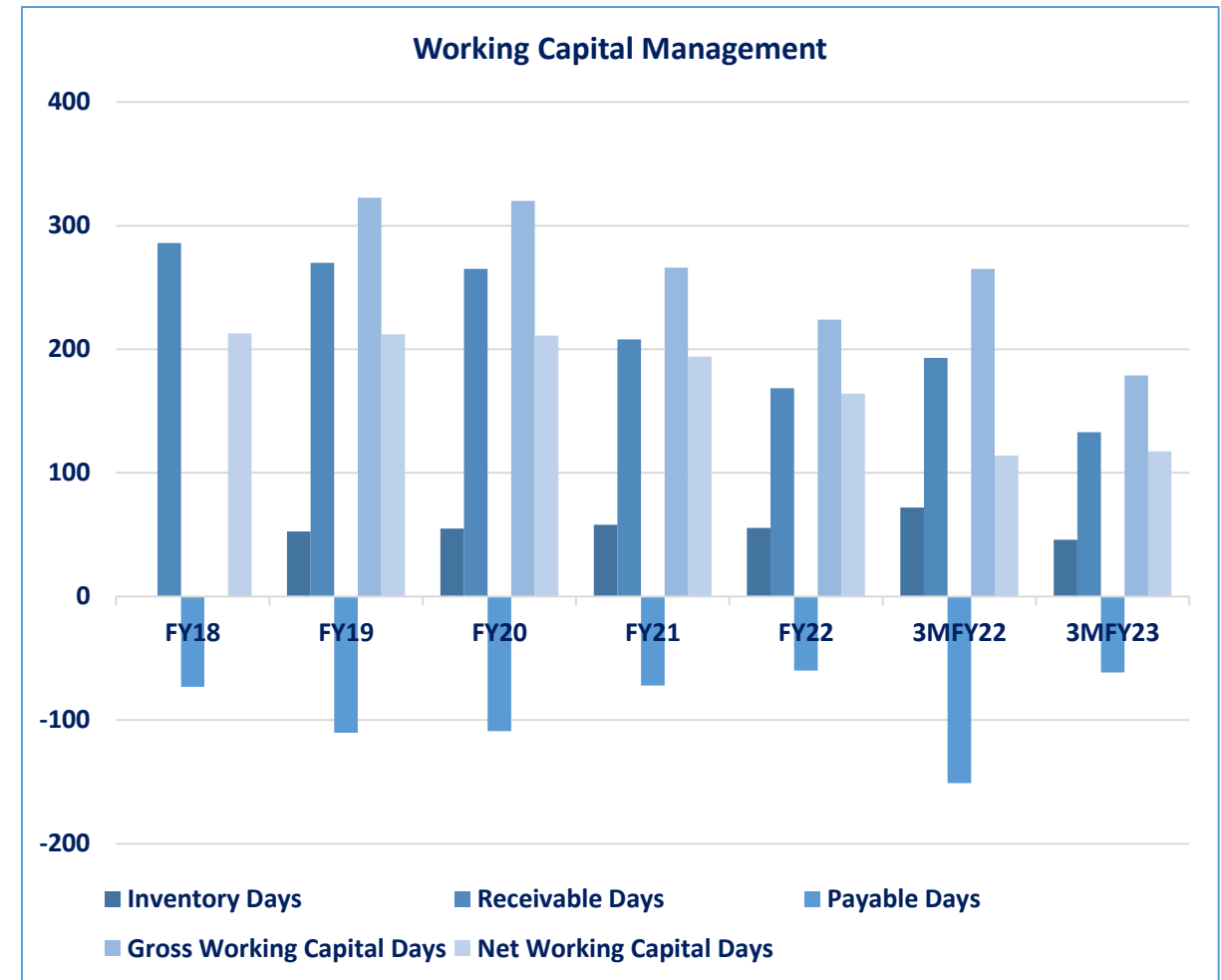
- The industry's profit margins have, on average, registered a declining trend, as competition has intensified. Market players remain competitive by either lowering prices or offering extra value-added services to retain and acquire new customers. The industry's gross margins have decreased from ~60% in FY18 to ~35% in FY22, falling at an average CAGR of ~10%. However, for FY22, gross margins have increased to ~35%, compared to ~32% in FY21. For 3MFY23, the numbers stayed stagnant at ~33%, compared to corresponding period last year.
- On a YoY basis, during FY22, there was improvement in industry margins as compared to FY21 on account of post COVID-19 recovery. However, unfavorable macro-economic pressures began to build up during FY22. As the tracking services sector is linked to automobile sector, any adverse effect on the latter impacts the former's performance. The country's car sales plunged by ~53% during 4MFY23 amid escalating car prices, expensive auto-financing and lower supply due to non-availability of CKD parts.
- During 3MFY23, the operating margins clocked in at ~13%, up from ~9.3% during same period last year, while the net margin was recorded at ~-6% (SPLY: ~-5%), due to ~24% QoQ increase in finance costs and ~60% increase in taxation. During FY22, net margins (~9%) returned to positive as against FY21 (~-6%), which was largely backed by retiring short-term debt.
- The largest component of direct costs for the industry is Equipment and Salaries & Wages, which contributes ~46% to total direct costs as the industry imports devices from the US and China and requires technically proficient and skilled labor force.



# TRACKING SERVICES

## Financial Risk | Working Capital Management

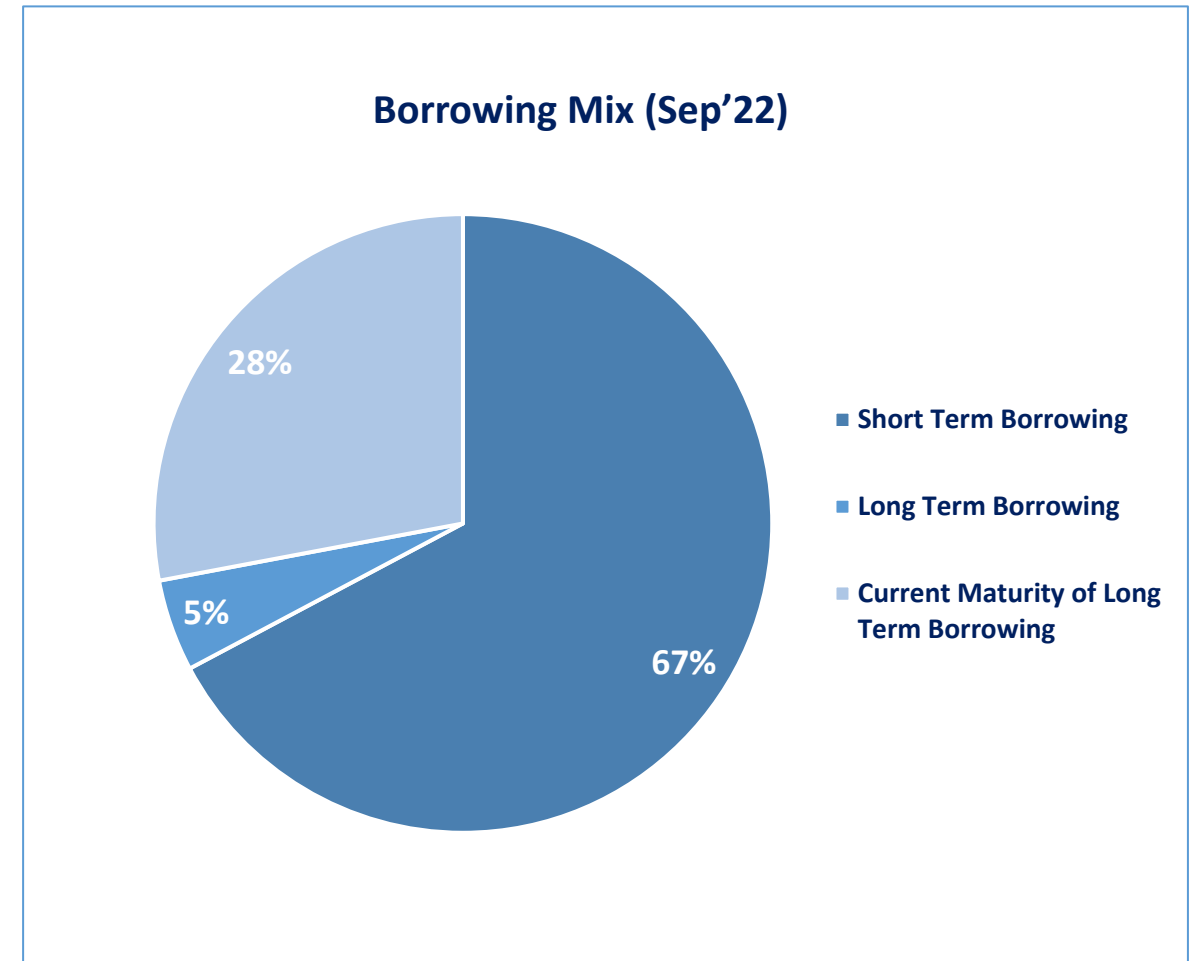
- The industry’s working capital cycle is largely a function of trade receivables and trade payables. Inventory levels have remained largely stable in recent years while a slight declining trend is observed in days receivables and payable, as well as the gross and net working capital days. Corporate clients normally maintain a minimum credit period of ~3-4 months leading to a longer cash cycle for the industry.
- The net working capital cycle of the industry, on average, is close to ~200 days. The longer operating cycle is due to the credit policy adopted by the industry, as the subscriptions are mostly renewed on quarterly or annual basis.
- There is a continuous dip in net working capital days since FY20. During 3MFY23, the figure recorded at ~117 days (3MFY22: ~114 days), up from ~164 days in FY22 (FY21: ~194 days).



Note: Working Capital Days are reflective of a single listed player.

## Financial Risk | Borrowings

- The industry's total borrowings stood at PKR~5,733mln at the end of FY22 as compared to PKR~8,710mln at the end of FY21, a YoY decrease of ~34%.
- During FY22, long-term borrowing stood at PKR~1,039mln (FY21: PKR~3,090mln). Meanwhile, short-term borrowing stood at PKR~964mln (FY21: PKR~1,297mln). In addition, current maturity to long-term borrowing stands at PKR~405mln (FY21: PKR~753mln).
- Total borrowings of the industry has come down in 3MFY23, amounting to PKR~2,167mln as compared to PKR~3,198mln in 3MFY22, representing a drop of ~32%, on the back of repayments made during the period mentioned.
- Short-term borrowings contribute the highest in the total borrowings mix (~67% as of 3MFY23), followed by current maturity (~28% during same period last year).
- The industry has an average leverage ratio near to ~50%, indicating a moderate to high level of financial risk.
- Due to considerably high finance cost, interest coverage has been muted. For FY22, it clocked in at ~1.9x, compared to FY21, when it was recorded at ~1.5x. At QoQ level, interest coverage did not deviate much from the annuals (3MFY23: ~1.6x ; 3MFY22: ~1.5x).



## Local Industry | Regulatory Framework

- Players in the tracking services industry are required to obtain a Data Class Value Added Services (CVAS) License from the Pakistan Telecommunication Authority (PTA). The Data CVAS license covers two types of services, vehicle tracking and internet/ data services.
- The adjacent table summarizes the applicable initial license fees.
- In addition, for commercial organizations, an Annual License Fee is also applicable which is 0.5% of the Licensee's Annual Gross Revenue from the Licensed Services for the latest financial year. Annual License Fee for 'Not-For-Profit' CVAS license is PKR 5,000/- per annum.
- The process of obtaining the license includes submitting relevant documents to the PTA including Memorandum & Articles of Association, along with a Technical Network Plan which lays out detailed technical architecture showing mechanism for service delivery. The CVAS License is valid for a period of fifteen years.
- After obtaining the license, the organization must also obtain a commencement certificate which is issued after an inspection of the organizations network and equipment.

Initial License Fee	Nationwide	Provincial*
Commercial	PKR 300,000	PKR 100,000
Non-Profit	PKR 150,000	PKR 50,000
<i>*50% reduction in commercial rate for Baluchistan</i>		

# TRACKING SERVICES

## SWOT

- Conducive environment due to presence of IT Parks, Tech SEZs and start-up Incubators.
- Large population with access to smartphones.
- Technology based ventures using tracking services including delivery services.
- Availability of skilled workers.



- B2B players are dependent on conditions in client industries and sectors such as the automobile industry.
- Low level of digital literacy amongst a portion of the country's population, particularly in rural areas.
- High R&D costs in order to maintain competitive advantage.

- Technological obsolescence, if new technology is introduced.
- Increasing level of competition in the industry may further reduce margins.
- Increase in policy rates can significantly impact the industry's bottom line.

- Growing urbanization and digital literacy has increased demand for online services, apps and e-commerce platforms.
- Introduction of new players in automobile segment has expanded the market for vehicle tracking services.
- CPEC projects and SEZs expected to increase demand for cargo tracking and fleet management.

## Outlook: Stable

- Just as the economy was recovering in 1HCY22, external pressures started coming in: the country witnessed GDP growth of ~6% for the FY22, while average inflation clocked in at ~21%, the highest in the last 13 years. The SBP increased the policy rate from 7% to 13.75% periodically during the year, however, the PKR witnessed significant depreciation, especially in 4QFY22. All these factors, coupled with political instability, are likely to impact the tracking services sector as well.
- The pandemic, while compelling a large number of people towards remote working, created opportunities for the tracking industry to provide services to a number of apps and e-commerce platforms for the tracking of food and good deliveries. This opened a new stream of revenue for the industry.
- In Pakistan, production of vehicles came to a standstill during FY22, due to non-availability and inaccessibility of importing materials for production. However, production has picked up, albeit at a very slow pace. Simultaneously, sales of used cars picked up, mimicking a new car purchase behavior with consumers safeguarding their recent purchase with tracker installations.
- SBP regulations have further tightened, impacting car financing and consumers' purchasing power. Some respite is observed as OEMs have started accepting bookings and market is anticipated to recover.
- Margins have been affected due to increase in operational expenses and competitiveness of the industry. Recovery in margins was observed during FY22, owing to presence of the IoT market, development of Special Economic Zones (SEZs), boom in the fin-tech industry and entry of new auto players in the market. Investment in R&D and innovation can also continue to create growth opportunities for the industry in previously untapped areas.
- Moreover, partnerships with local players in industry segments like hospitality and transport, collaborations with mobile manufacturers, shift towards the IoT market, and new opportunities opening up in the form of Export Processing Zone mandates are all expected to diversify revenue streams for the sector's players, to make them more sustainable over a mid- to long range period.



- Pakistan Bureau of Statistics (PBS)
- Pakistan Stock Exchange (PSX)
- Pakistan Telecommunication Authority (PTA)
- PACRA Database
- Bloomberg

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