

# Tracking Services

## Sector Study



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- Tracking Services are used to monitor the data of objects on the go. It is becoming an increasingly important tool for businesses that want real time information about their vehicle fleet, personnel or merchandize.
- Tracking services can provide variable information, which enables organizations to increase their efficiency and productivity. In addition, individual users have greater degree of convenience with navigational applications along with being able to track 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) – It consists of a number of Earth-orbiting satellites. A GPS receiver, like the one in your mobile phone, can locate four or more of these satellites, figure out the distance to each, and deduce your location through trilateration. GPS is ideal for outdoor positioning, such as surveying, farming, transportation or military use.
  - 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) - Network of devices that connect via radio frequency. These devices pass data over radio waves and provide users with a network range of 70 to 300 feet.

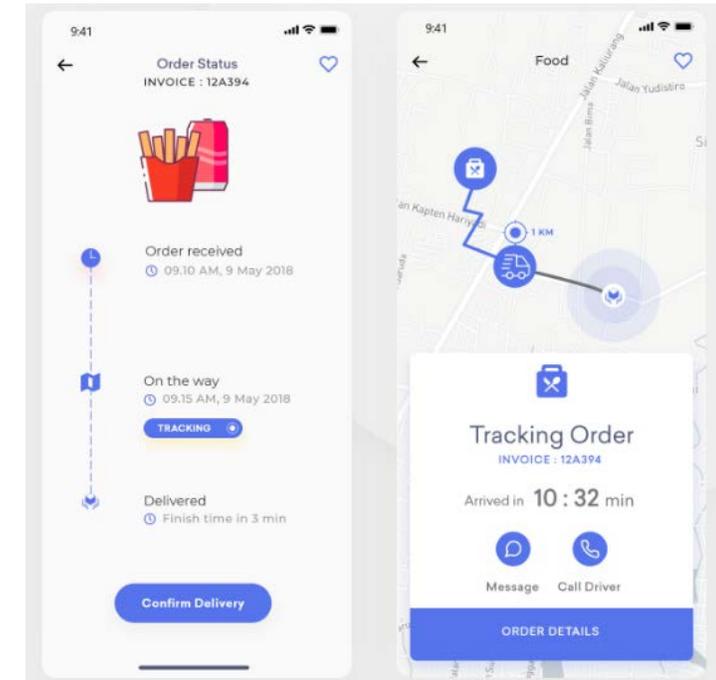


## Applications of Tracking Services

- 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 such as:
  - 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.

## Overview

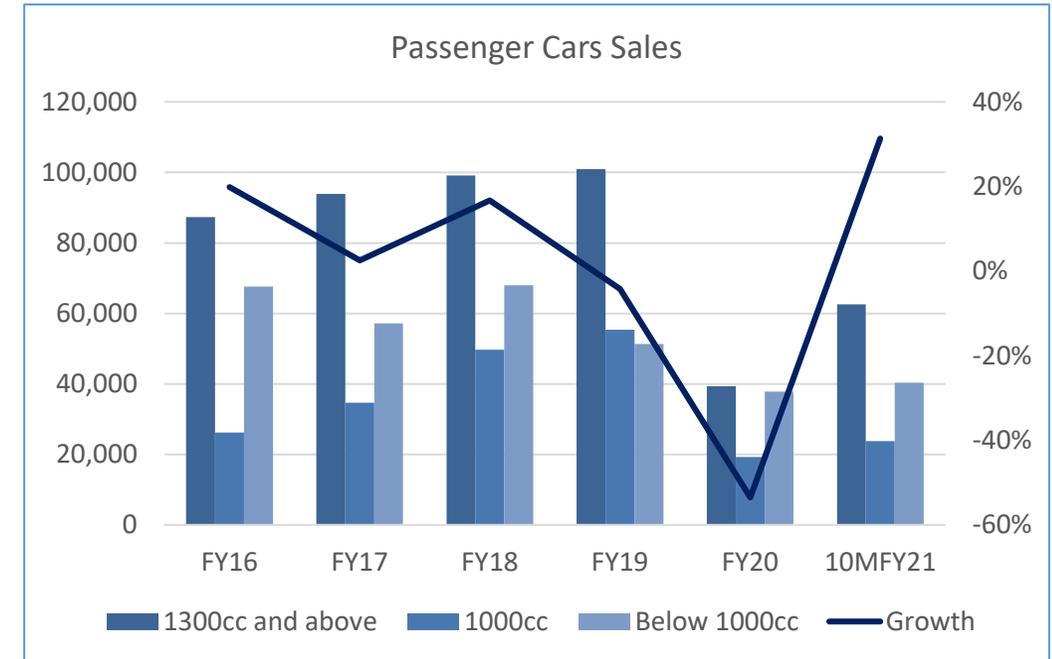
- The tracking services industry is a subsegment of both the broader technology and logistics industries.
- Pakistan's tracking services market had an approximate size of PKR~3,821mIn in FY20 as compared to PKR~4,219mIn in FY19 (~9% decline YoY). The decline is attributable to slowdown faced by the automobile industry which is a related industry along with challenges created by the COVID-19 pandemic in the last quarter of the fiscal year.
- There are currently ~166 organizations which have obtained the Class Value Added Services (CVAS) licence under the vehicle tracking service category from the Pakistan Telecommunication Authority (PTA). A significant number of these firms use this service to meet internal requirements. Only one firm which provides tracking services is listed on the Pakistan Stock Exchange, the remaining are private firms. There has been a steady increase in the number of licenses each year, with 13 new licenses issued since the beginning of 2020.
- Insurance companies and banks use vehicle tracking services to cover their exposure on the automobile in case of theft as it enables or increases likelihood of vehicle recovery. In addition, many automobiles now come with in built navigation systems which incorporate tracking technology.
- Moreover, ride-hailing services, such as Uber and Careem, which are replacing traditional taxis and public transport methods, employ the use of digital mapping and location based services in order to track rides, suggest optimal routes and estimate arrivals times. In addition, there are a number of online services which enable users to track the delivery of food, groceries or other packages.





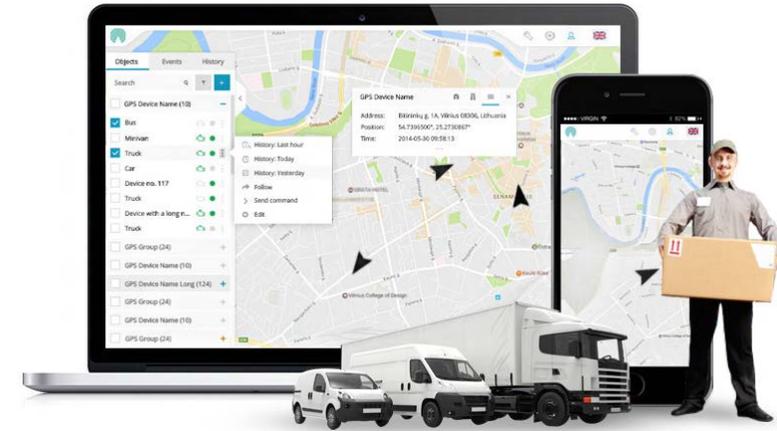
## Demand Factors

- **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. The industry was adversely impacted in FY20 when passenger car sales witnessed a steep decline of ~54%.
- There has been significant recovery during 10MFY21, which is a positive indicator for the tracking services industry. This has been spurred in part by reduction in monetary policy rate to 7%, thus encouraging buyers to avail cheaper auto-financing and increasing the demand of vehicles.
- **Online Applications:** There is an increasing trend of service delivery apps catered towards providing consumers with maximum convenience. The Coronavirus 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.
- **Cargo Tracking:** The development of various Special Economic Zones (SEZs) alongside a number of CPEC projects has created opportunities in cargo tracking and fleet management for the tracking industry. This is expected to be an area of growth for the industry in contrast with automobile tracking which is a relatively saturated market.



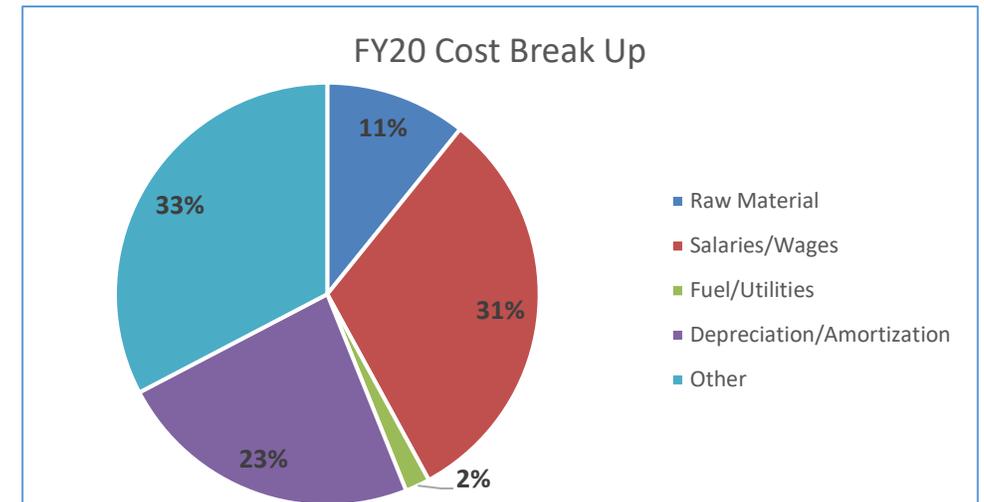
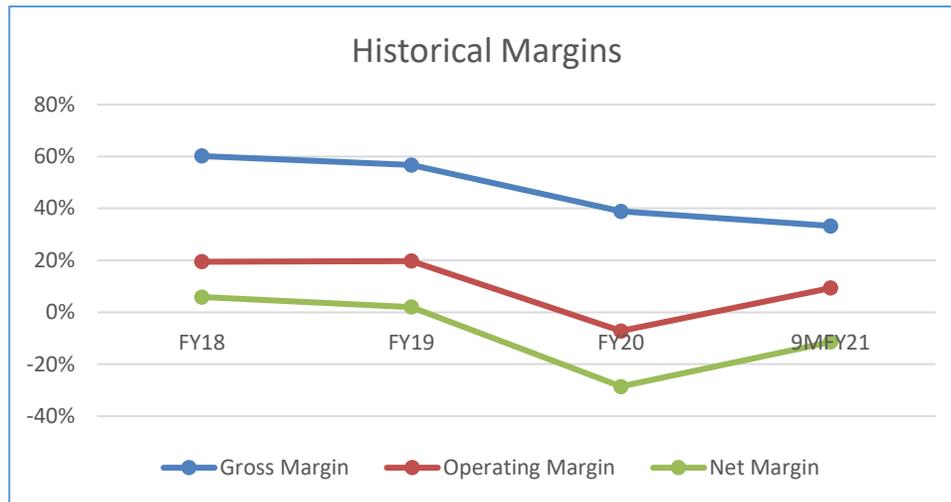
## Business Risk

- **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 the beginning of 2020, PTA has issued 13 new CVAS licenses for vehicle tracking services.
- The increasing competition level 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.
- **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.



## Margins & Cost Structure

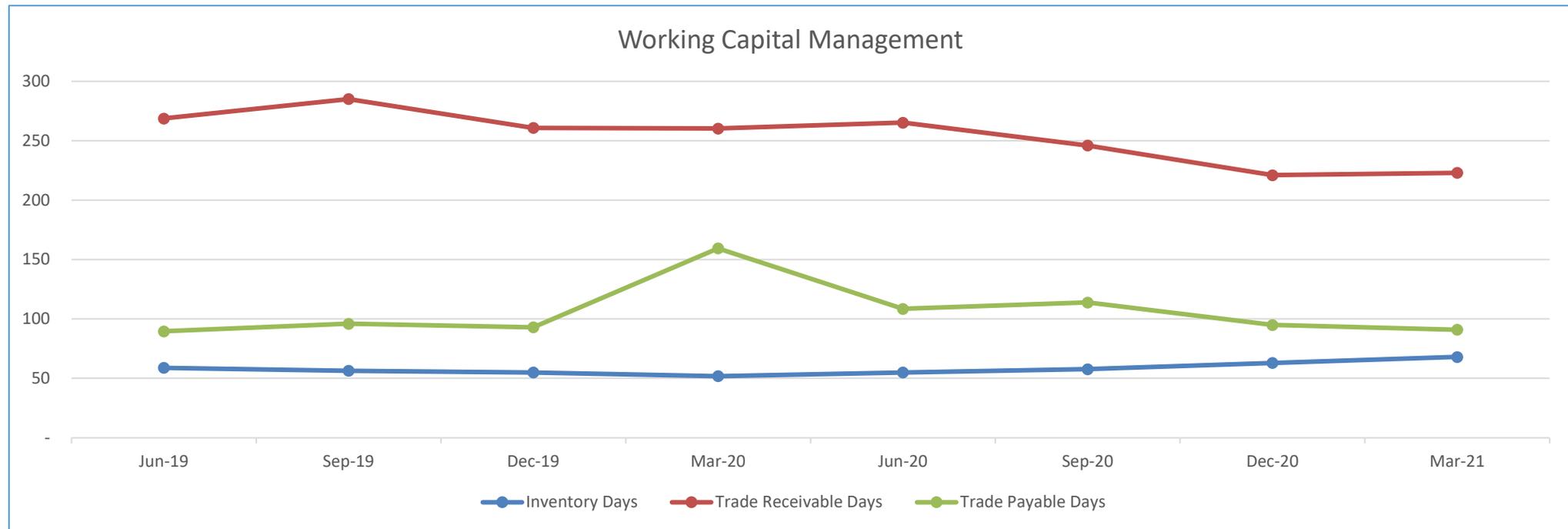
- In recent years, the industry’s gross margins have observed a declining trend as the level of competition has increased and players try to maintain competitive advantage by reducing prices. Despite this, the industry has maintained a high level of gross margin, above 35% as most players are providing high quality services.
- During FY20, there was a significant decline in overall margins, with gross margin falling from ~57% to ~39%. This was due to the spread of COVID-19 pandemic, which resulted in an overall slowdown in the economy and related industries such as automobiles. In addition, the high interest rates during the period resulted in decline in net margin which fell to -29% in FY20 from 2% in FY19.
- During 9MFY21, the gross margin stood at ~33% after a slight decline due to rise in direct costs and a more competitive business environment. Meanwhile, the bottom-line recovered due to decline in finance costs on the back of reduction of policy rate.
- The largest component of direct costs for the industry is Salaries & Wages, which contributes ~31% to total direct costs as the industry has a requirement for technically proficient and skilled labor force.



Note: Margins and cost figures are reflective of 1 listed player

## Working Capital Management

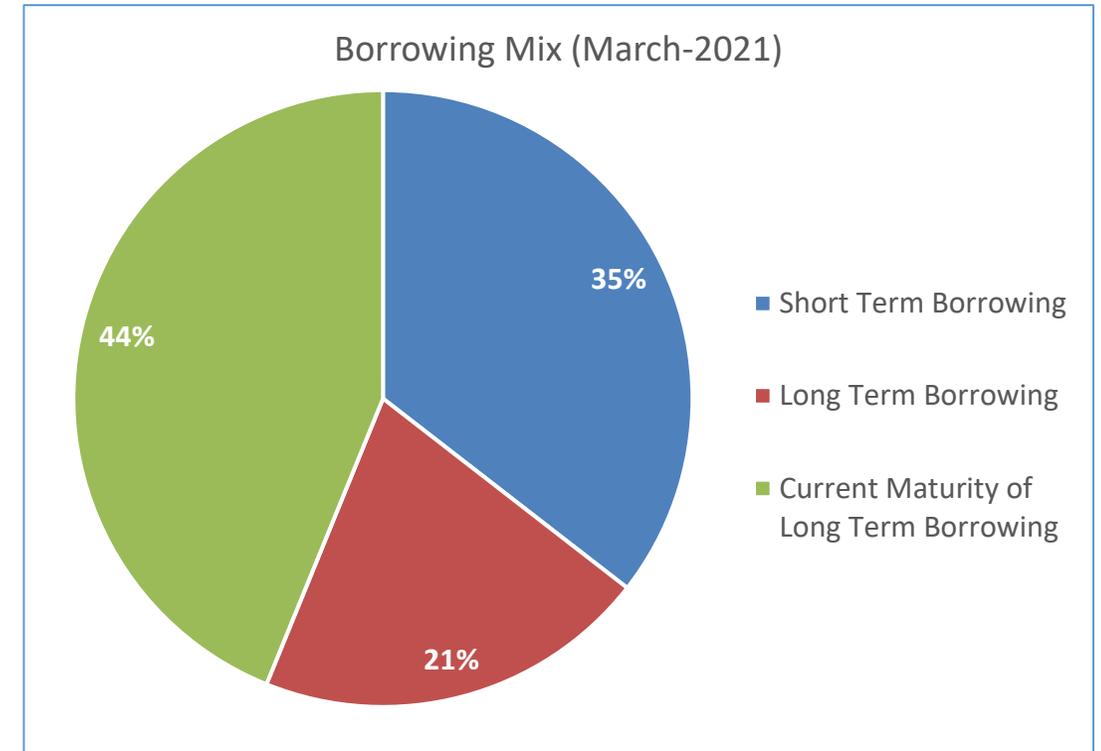
- The industry's working capital cycle is largely a function of trade receivables and trade payables. Inventory levels have remained largely stable in recent years while there has been a slight decreasing trend in trade receivable days. Corporate clients normally maintain a minimum credit period of 4 months leading to a large cash cycle for the industry.
- The average net working capital cycle of the industry is ~200-210 days. Net working capital days in March 2021 stood at 200 days, a small decline from 212 days in June 2020.



Note: Working capital figures are reflective of 1 listed player

## Financial Risk

- The industry's total borrowing stood at PKR~2,785mln at the end of March 2021 as compared to PKR~3,408mln at the end of June 2020.
- The largest component of the industry's borrowing is current maturity of long term borrowing which constitutes ~44% of total borrowing and stands at PKR~1,221mln (Jun-20: PKR~1,656mln)
- Meanwhile, short term borrowing contributes ~35% to total borrowing and stands at PKR~989mln (Jun-20: PKR~1,105mln).
- In addition, long term borrowing amounts to ~21% of total borrowing and stands at PKR~574mln (Jun-20: PKR~647mln).
- The industry has an average leverage ratio of ~55% indicating a moderate level of financial risk (or leveraging).



Note: Borrowing figures are reflective of 1 listed player

## 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 shows 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.

Initial License Fee	Nation Wide	Provincial*
Commercial	PKR 300,000	PKR 100,000
Non-Profit	PKR 150,000	PKR 50,000

\*50% reduction in commercial rate for Baluchistan

- 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.



# TRACKING SERVICES | LOCAL INDUSTRY

## SWOT Analysis

- Conducive environment due to the presence of IT Parks, Tech SEZs and Start Up Incubators.
- Availability of skilled labor as 20,000 IT qualified individuals enter the workforce each year.
- Large population with access to smart phones
- Technology based ventures using tracking services including delivery services.

- Technological obsolescence if new technology is introduced.
- Increasing level of competition in the industry may further reduce margins.



- 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.

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

## Outlook: Stable

- Pakistan's economy is on the path of recovery after the decline witnessed due to the COVID-19 pandemic which caused various industries to suspend operations and restricted demand. Likewise, it further hampered demand of the automobile industry which saw an overall decline in passenger car sales by ~54% during FY20. However, both the overall economy and automobile industry have begun to recover since the start of FY21 as exhibited by the ~31% increase in passenger car sales during 10MFY21.
- In addition, the lockdown restrictions forced a large number of people towards remote working while also increasing the usage of various online services. This situation created opportunities for the tracking industry to provide services to a number of apps and e-commerce platforms for the tracking of deliveries.
- While margins have observed a declining trend due to increase in competitiveness in the industry, this would be compensated by the expected growth in business volumes on the back of various CPEC projects, development of Special Economic Zones (SEZs) as well as the entrance of new auto players in the market. Investment in R&D and innovation would also continue to create growth opportunities for the industry in previously untapped areas.
- The decision taken by the State Bank of Pakistan (SBP) to lower the policy rate by 625bps to 7% in the last quarter of FY20 has lowered the finance costs and improved margins during 9MFY21. In addition, the lower interest rates have encouraged consumers to obtain auto-financing and thus contributed to the increase in passenger car sales.
- The inflation level in the country has also declined. The average inflation rate during the 10MFY21 stood at ~8.6% as compared to an average inflation rate of ~10.7% during FY20. Moreover, the exchange rate is also expected to remain stable in the near future.

- Pakistan Bureau of Statistics (PBS)
- Pakistan Stock Exchange (PSX)
- State Bank of Pakistan (SBP)
- Pakistan Telecommunication Authority (PTA)
- PACRA Database
- <https://electronics.howstuffworks.com/everyday-tech/location-tracking1.htm>

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