Overseas Business Proposal

PREPARED FOR

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[NTTA]

EXECUTIVE SUMMARY

NTTA has a strong record of using high levels of technology to facilitate the customer experience of motorists on tollways. In an attempt to expand our market share we have decided to expand the use of NTTA technology to either Malaysia or Brazil. Malaysia has a centralized set of tollways controlled by the government, these tollways employ a number of different technologies to ease transit and ensure proper revenue flow. Brazil has a decentralized system of tollways that are controlled by individual companies. Both systems lack a reliable and fast method of tracking motorists and charging them accordingly. NTTA will offer reliable technology, installation, and maintenance to ease the waiting times for customers and ensure higher quality service.

Product Selection

The high power RFID tags coupled with cameras that serve as license plate readers allow motorists to continue driving at high speeds without needing to stop or slow down. This technology was first introduced in the U.S. under the name TollTag, the technology was pioneered by the Texas Turnpike Authority (TTA), NTTA's parent organization. The first tests were conducted on the Dallas North Tollway and in 1989 the technology was opened to all motorists. In the year 2010, NTTA was the first in the nation to convert an existing toll system to completely cashless. The lower costs of managing the system enables NTTA to offer benefits to its customers, such as lower fares and discounts on airport parking.

Country Selection

Our targeted countries Malaysia and Brazil have fairly similar economies and government backgrounds. There are many reasons for our choice of targeting Malaysia,

reasons include their technology, government system, environmental damages, and consumer preferences. In the past years, Malaysia has been trying to eliminate cash transactions within their toll system by implementing the Electronic Toll Collection program, which is a cashless toll system. Although users do not have to pay in cash, due to lack of proficient technology they are still stuck in traffic for long stretches of time. The technology still requires motorists to slow down to scan their toll card on the machine. Malaysia is aiming to have a more efficient, faster, and safer option for their toll system. The lack of options in terms of technology makes it hard for Malaysia to do it alone, NTTA's product is a good fit for their goal. Malaysian Expressway System is operated by private companies but under high supervision of the government, which is the Malaysia Highway Authority. This supervision authorization allows NTTA to work efficiently with the government of Malaysia. NTTA would provide the Malaysian Expressway System with our technology, and the Malaysia Highway Authority would have access to the system. Due to users having to stop every time they pass through the toll, there is a significant environmental impact on Malaysia caused by vehicle carbon emissions. Some issues with the current system include motorists forgetting to reload their cards resulting in motorists spending more time than they need to in traffic. Results have shown that Malaysians spends at least 53 minutes on the road due to inefficient toll systems. To address the problem, NTTA will be providing our high tech, non-stop toll system in order to reduce user's time spent on the highway and limit environmental damages.

Brazil's electronic toll collection market is very competitive. Since tolls are owned and operated by private companies, the Brazilian government has very little control over the

operations of the companies. Grupo CCR is a major player in the market as it owns a large portion of the tollways in Brazil. Sem Parar, an electronic collection system owned by FleetCor Technologies Inc, is RFID enabled chip that motorists place on their windshield. This system allows motorists to pay for tolls, parking, and fuel effortlessly. Due to high competitiveness in Brazil's toll system industry, it is a higher risk and challenge for NTTA to target such market. NTTA will not be able to cooperate efficiently with the government, as unlike Malaysia, Brazil's government has very minimal control over their toll system. As a foreign investor, NTTA's position is at a disadvantage compared to local companies that are familiar with the structure of Brazil's political and economic situations.

After careful consideration and discussions with the team, NTTA's marketing team has decided to focus on entering Malaysia's toll system industry instead of Brazil due to the reasons stated above.

Market Overview

According to our research, from the year 2016 to 2040, Asia is projected to be the region that would be spending the most resources and money on Electronic Toll Collection system, resulting in an estimated 15,600 Billion USD. That amount is shown to be three times the amount that America would be spending. This is driven by the investment challenges in improving and developing a nation's road systems, which directly leads to their success in economy and transportation. Progressive developments of these systems are encouraging many developing countries to engage in such technology, including Malaysia, in order to fast forward their progress to being a developed country.

Malaysia has also recently gone through a historical political change, leading to many developmental changes in all industries. Malaysia has a current focus on developing its country out of the “third world country”. The new government is very focused on improving the country’s infrastructure and transportation system, giving us the best timing to enter the market through licensing and collaborating with the government.

There have been many petitions going on, led by the people of Malaysia, demanding toll-free roads. Two main reasons for this petition is a large amount of money spent on tolls and the time spent on traffic every day. Since removing the toll system is impossible for many countries due to the massive income it brings to the government, NTTA is able to provide the solution for the second reason, which is time-consuming. With the technology NTTA licenses to Malaysia, road users will be able to save up to two hours on average every day in their commuting time. Additionally, it is not guaranteed, but the cost of system management will be lower in the long run. The lower costs will enable countries, like Malaysia, to lower toll prices at their discretion. NTTA would not be able to satisfy both petition reasons, but we are able to solve at least one of the biggest problems faced by Malaysians.

Competitive Environment

The competitive environment in Malaysia for smart tollway management technology is limited. SmartTAG ETC is a low powered short range radio-frequency identification (RFID) tag that vehicle owners place on their headlights. The technology requires motorists to slow down their vehicles so that the RFID reader is able to detect a signal. This technology speeds up motorist payment time by a couple of seconds but is not enough to

allow multi-lane free flow of vehicles. Another Malaysian competitor is Touch n' Go, a Philips' MIFARE Classic microchip embedded card. Touch n' Go allows motorists to pay toll fares by completely stopping at a toll booth and scanning their card. The card must be reloaded at a select list of stores in order for motorists to pay for their toll fares. Cash is another competitor in the Malaysian tollway system. Cash is often an option for motorists that do not have any of the other systems. The benefit of these systems is that they give consumers a lot more choice in terms of the payment method. The disadvantage is that all of these systems are slower, less efficient, and costlier in the long run than NTTA's technology. Touch n' Go and SmartTAG owns 100% of the market share for electronic toll collection systems. All of these systems are managed by the Malaysian Highway Authority, the authority would be the organization responsible for contracting a company to replace outdated technology.

Cash is also a viable alternative for motorists that do not have either electronic system. An option to use cash as a payment method would give motorists the option to not use our technology. Cash as a payment option on toll roads is time consuming, costly, and inefficient. Another indirect competitor for NTTA technology is open free highways. Open highways give motorists another alternative than using toll roads, and if the Malaysian government makes it a viable option then the demand for our technology will be impacted. Malaysia has many toll roads because the toll fares help finance the maintenance and creation of new roads. Open highways are not a viable option to build at scale and so Malaysia has chosen to build toll roads.

Our competitive advantage over all of these competitors is the lower costs of NTTA technology in the long run. The costs of the technology will be large in the beginning because the existing systems will need to be replaced. The benefit is that we can use the existing infrastructure to make the transition more cost effective. NTTA has previous experience switching toll roads from cash payment and a mixture of payment options to a completely automated system. In the long run, tollway operators will not have to pay salaries to those accepting cash payments and would reduce the need for maintenance of toll booths. Additionally, NTTA technology allows motorists to drive at normal speed on the highway without missing a single vehicle. The technology is able to scan license plates and even if the motorist does not have funds on their account, a bill can be made to the license plate holder's address. This reduces wait times for motorists, which reduces congestion on toll roads. Faster commutes also results in lower carbon emissions from vehicles, due to spending less time on the road. Overall this system is much more beneficial to the Malaysian Highway Authority and motorists because the unified system allows ease of use and easier management.

Product and Service Description

NTTA's RFID chip technology combined with the license plate reader program allows tollway operators to have better control over a highway, without the need for a cumbersome payment process. The RFID chip, a picture is available in Appendix 5.1, is placed on the inside of a vehicle windshield. This tag contains the RFID chip that an electronic receptor at each tollway gantry scans, a gantry is pictured in Appendix 5.2. The receptors provide customers with cheaper rates because the technology is able to charge customers directly to their account and the reader is more accurate. Additionally, these

receptors are beneficial because they allow customers to pay for parking and entrance into airports. The high-speed cameras, also mounted on tollway gantries, scan all license plates for non-NTTA members. Non-NTTA members received a slightly elevated charge, this is to fund the extra costs of sending bills to the address on file. Customers always have the option to become a member and receive a cheaper bill, as an incentive to switch over. Both of these technologies work together to ensure motorists can drive at high speeds without needing to stop or slow down. This enables vehicles to continue driving without causing traffic.

Another important part of this system is that a vehicle owner is able to order the tag online or on an app by putting their licence plate number and license number. At the time the order is placed the vehicle owner also funds the account with a minimum amount of money, to be determined by the Malaysian Highway Authority. Customers are able to add more funds automatically by setting a threshold to refund the account. Additionally, customers are able to check their charges and other account details on an app available on the Android and Apple app store.

Positioning Statement

The technology that NTTA would be licensing to Malaysia will solve several problems faced by road users and the government of Malaysia, those include, environmental protection and improvement, less time wasted on the road, government and road users having easy access to payments and collections of road fees, and lastly promoting Malaysia's infrastructure development.

In Malaysia, fossil fuel emissions by vehicles is one of the main causes of air pollution. A toll system that is available now in Malaysia is not helping out with the

situation, but actually making it worse. Toll booths break down very frequently causing extra traffic time adding on to the usual 40 minutes delay. CO2 emissions increased by a considerable amount over the last couple of years as the number of vehicles per household increased. By licensing our technology, road users do not have to stop or slow down to have their tags scanned, saving up a large amount of time on the road and reducing CO2 emissions at the same time.

The current toll system requires users to top up their card manually and own an expensive transponder device. That causes some inconveniences when road users forget to reload their card, they would be stuck at the toll booth causing road users behind them to slow down and wait. With our product, road users will only have to register an account with the government and have their payments deducted automatically from a credit card they link it to. Even without registering to an account, the government can easily charge road users by using our high-speed camera as it captures vehicle license plates, then sends mail to the household of the road user.

Infrastructure development is one of the main ways to improve a country's economy and world status. By implementing our product, NTTA is also providing employment to Malaysian people because the building of the toll systems will need a huge amount of on site and off site workers for the transition.

Marketing Mix

MARKETING OBJECTIVE - North Texas Tollway Authority (NTTA) is in the business of providing motorists with an intelligent, efficient, and low-cost alternatives for tollway payments. Malaysia has been trying to introduce similar technology in the past and

failed. NTTA offers installation, maintenance, and support of the system for a reasonable fee to the Malaysian government. NTTA would like to break into the tollway technology sector in Malaysia by licensing the technology to the Malaysian government for use on a select number of tollways. After successful installation and perceived acceptance of the technology by motorists on the selected tollways, NTTA will pursue further licensing contracts. A licensing deal with the Malaysian government reduces liability and risk. Past failed attempts by the Malaysian government to successfully implement the technology, presents a significant risk for an alternative market entry.

PRICE - NTTA provides high-quality maintenance and support after the installation of the product. To cover the costs of technology, NTTA will seek an upfront payment equivalent to the cost of hardware. Maintenance and support will be funded by a 20% fee on all toll fees levied by the Malaysian Highway Authority. These fees will help NTTA meet the demands and needs of motorists related to the technology.

PRODUCT - NTTA markets a complete tollway fee management system. The technology that NTTA currently uses will be tailored to the needs of Malaysian Highway Authority and other organizations working with this system. The benefits of this product are discussed in the Product and Service Description section of this report. Current systems are outdated, time-consuming, and cumbersome, thereby giving NTTA a competitive advantage.

PLACE - The place of the introduction of this technology is to be determined by the Malaysian Highway Authority. We highly recommend the implementation of this technology on the Iskandar Malaysia and Johor Bahru expressways. These expressways serve as major ports of entry on the southern border with Singapore, this would result in immediate positive

effects for a major trading partner. This would further ease Malaysian international commerce. NTTA will be working alongside the Malaysian Highway Authority in Malaysia, representatives will be sent to hash out the details of the negotiation.

PROMOTIONAL STRATEGY - Since the Malaysian government has had previous experience trying to implement a similar system, we would promote this as an all in one package by experts in the field. For motorists, we would inform them about how to order a tag from a custom made app and how to work with the app. A press package would need to be prepared after successful negotiations with the Malaysian Highway Authority, the package would include information useful for motorists. This would aid the transition and allow motorists to receive answers to any questions that they might have. The roll out process of the technology also serves in the transition for Malaysia people to become accustomed to the change in technology.

Conclusion

NTTA believes that we can change Malaysia's current situation to a brighter future as we have proven it through our contributions in Texas. Licensing our product to Malaysia will not only increase of market share worldwide, but we also believe that with our outstanding services and technology, we can enhance our company's image in the market. By expanding our business to Malaysia, we also increase our chances of entering markets around Malaysia that have similar problems and backgrounds. This expansion into international markets gives NTTA a chance to prove itself to future clients of its ability to manage transitions in technology.

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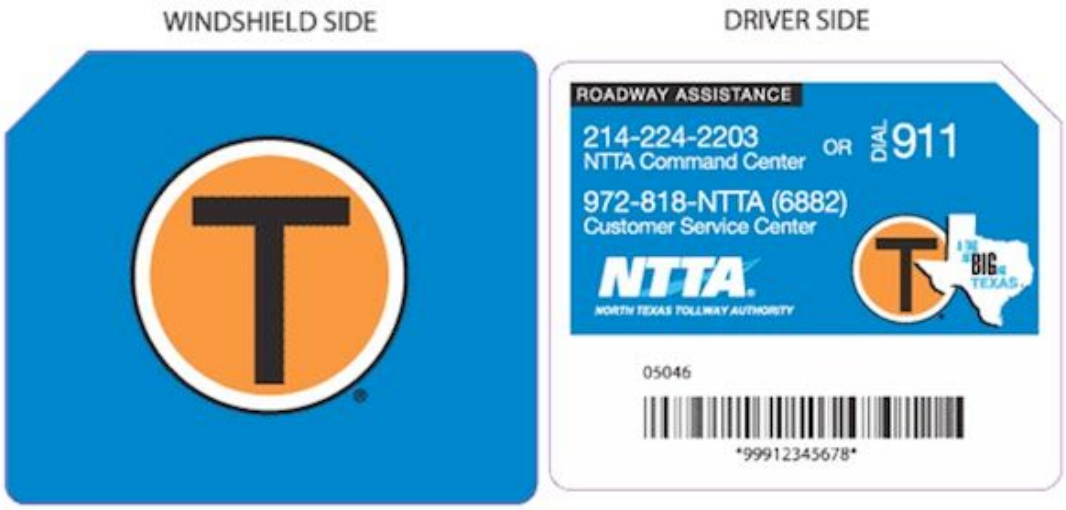
Appendix

2.1



2.2