AMERICANA IOT

BUSINESS CASE

Business Case	
Project Title	***AMERICANA TELEMATICS***
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Document Control

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EXECUTIVE SUMMARY

Telemetry IoT integration with ALMP provides end-to-end control and transparency for fuel consumption, fleet optimization, maintenance costs and safety.

This innovative fleet management solution optimizes driver and vehicle utilization through real-time data tracking, achieving increased productivity and cost reduction.

Key business goals as below:

- Behavior Assessment
- Crash Alerts
- Training Requirement for Safe Driving
- Assets Utilization
- Green points riders ranking

Following is the projection for next year for the spending, savings, and net cost savings:

Description	Assumptions	FY-2024
HD Stores	**200 Delivery NSO YOY**	1957
Drivers with Smart IoT Enabled	**14% Driver Increase - YoY**	9300
Transactions(Mn)	**15% Transaction Growth-YOY**	55.00
Estimated Smart IoT Device Cost	20% AMC and New Device Cost	$ 37,380.00
Estimated Infra, people and rollout cost with ALMP	5% increase in infra cost YoY	$ 107,998.85
Estimated Cost Savings with Fleet Management and Telematics (FMT)	15% savings increase YoY	$ 59,264.68
Net Cost Savings with Fleet Management and Telematics (FMT)		**$ (86,114.17)**

PROJECT DESCRIPTION

ALMP with an integration approach and fleet management will be helping in reduction of the run cost for drivers and vehicles with Americana Last Mile Platform product to achieve more efficient utilization of riders and vehicles to optimize journey and order delivery experience.

- Automated Driving Habit Assessment
    - Performance Report
    - Driver Training
    - Prevent unsafe driving.
    - Driver Management
- Crash Alert
    - Over Speed Alarm
    - Accident Alerts
    - SMS Alerts
- Optimize Fleet Delivery Routes with On-trip & off-trip Monitoring.
    - Fleet live tracking
    - Geo fencing
    - Route allocation

DELIVERY COST AND BUDGET

ALMP platform integrated fleet management solution will initially require having smart devices (IoT) enablement on vehicles available with the drivers. Where with different markets we can consider the device costing with breakup marketwise will be as per below table:

IoT Device Cost Market Wise			
Market	**Total Drivers**	**Unit Price ($ per year)**	**Expected Cost ($ per year)**
UAE	270	$ 120.00	$ 32,340.00
Qatar	42	$ 120.00	$ 5,040.00

Other Costs

Cloud Infra and Licenses Cost for IoT Integration with ALMP			
Environments	**Items**	**Unit Price ($ per month)**	**Expected Cost ($ per year)**
DEV	ALMP CLOUD DEV ENVIRONMENT	$ 146.44	$ 1,757.32
QA	ALMP CLOUD QA ENVIRONMENT	$ 146.44	$ 1,757.32
UAT	ALMP CLOUD UAT ENVIRONMENT	$ 292.89	$ 3,514.63
PROD	ALMP CLOUD PROD ENVIRONENT (OPEX)	$ 2,928.86	$ 35,146.32
DR	ALMP CLOUD DR ENVIRONMENT	$ 146.44	$ 1,757.32
Licenses & APIs	Google Maps, Monitoring, Atlassian, Confluent, API etc.	$ 6,000.00	$ 72,000.00
	Estimated Total ALMP Infra Cost $		**57,966.45**

Note: IoT device connectivity cost will be additional based on market.

With all the spending below will be the cost of delivery of Fleet Management System with ALMP integration scope:

Estimated Total Cost of Americana IoT PoC		
Estimated Total Device Cost (per year)	$	37,380.00
Estimated Total ALMP Infra Cost (per year)	$	57,966.45
Estimated Total Rollout Cost	$	9,500.00
Estimated Total Development Team Cost	$	40,532.40

Total Estimated Cost of Delivery (Without Device) $ 107,998.85

Note: Market-wise DoD will increase, and the cost of devices will be gradually reduced as this feature will be enabled with the DoD partners.

SAVINGS AND FLEET COMPLIANCE

A FOC trial was conducted in Bahrain with one of the partners with below summary:

Country	Stores	GPS Trackers Installed	Trial Duration	Trial Month
BAH	1	3	30 Days	23-Aug

Bike #	Driver Name	Fuel Consumption July (L)	Fuel Consumption Aug (L)	Orders Delivered July	Orders Delivered Aug	July L/Order	Aug L/Order	Aug Mileage	L/KM	Var L/Order	Saving/Order (0.140)
29562	Momin	103.595	83.043	590	529	0.176	0.157	3010	0.0276	-0.0186	-0.0026
29574	Uzaal	105.18	111.03	548	570	0.192	0.195	2806	0.0396	0.0029	0.0004
29590	Anil	157.833	127.303	454	524	0.348	0.243	3306	0.0385	-0.1047	-0.0147
Total		366.608	321.376	1592	1623	0.230	0.198	9122	0.0352	-0.0323	-0.0045

Savings per order	#Orders per month	Savings per day	Savings per month	Annual Savings (in BD)	Exchange Rate BD-USD	Annual Savings in $
0.0056	4000	22.48467302	674.5401907	8094.482289	$2.65	**$21,450**

Out of the above case study and trial here with the current business case we are taking the 50% savings only for the Americana IoT PoC project.

Estimated Cost Savings Market Wise				
Countries	**Savings Per Order ($)**	**Orders Per Month**	**Annual Savings in $**	
UAE	0.003	1,466,923	$	49,474.92
Qatar	0.003	290,265	$	9,789.76
		Estimated Total Cost Savings		**$59,265**

Additional savings

In addition to above savings further the smart devices with GPS trackers will also help reduce Stolen Bikes with following:

Estimated Cost Savings on Vehicles Theft				
S. No.	**Year of Theft**	**Total Theft**	**Estimated Vehicle Cost**	
1	FY-21	7	$	91,000.00
2	FY-22	4	$	52,000.00
3	FY-23	3	$	39,000.00
4	FY-24	5	$	60,666.67
		Total Estimated Cost of Theft Vehicles	**$**	**242,666.67**

Beyond cost benefits

- IMPROVED SAFETY AND COMPLIANCE
- REDUCED FUEL COSTS
- LOWER OVERALL OPERATIONAL COSTS
- INCREASED PRODUCTIVITY
- BETTER COMMUNICATION

ASSUMPTIONS

Below is the list of assumptions made during this draft version of documentation with basic costing, budgeting, and savings can be listed in below:

Assumption	Actions to validate Assumptions
Microsoft Azure Cloud BoQ for Production is considered as **$11,715.44**	Validation can be done with Etisalat.

Monthly order volume considered from ALMP LAMDA DB with 18% order volume for 1click in October 2023	Can be validated with the monthly order volume available in LAMDA DB for Power BI reporting tables.
ALMP Dev, QA is considered 5%, UAT 5% and DR 5% of Production BoQ.	Below attached projected ALMP production BoQ component list shared via Etisalat.
For savings only considering 50% values to consider in estimates.	Trial case study with a few IoT devices are available above to validate.

ALMP Cloud (BoQ) Considered for infrastructure calculation:

Microsoft Azure Estimate			
Americana | ALMP on Azure Cloud - BoQ			
Service type	**Region**	**Description**	**Estimated monthly cost ($)**
Virtual Machines	UAE North	1 F8 (8 vCPUs, 16 GB RAM) (1 year reserved), Linux, (Pay as you go); 1 managed disk – E4, 100 transaction units; Inter Region transfer type, 5 GB outbound data transfer from UAE North to East Asia	$663.24
Azure Kubernetes Service (AKS)	UAE North	4 D8 v3 (8 vCPUs, 32 GB RAM) (1 year reserved), Linux; 4 managed OS disks – E4, 0 clusters	$787.51
Azure Container Registry	UAE North	Premium Tier, 1 registries x 30 days, Geo Replication - 1 regions, 0 GB Extra Storage, Container Build - 1 CPUs x 1 Seconds - Inter Region transfer type, 5 GB outbound data transfer from UAE North to East Asia	$150.00
Confluent Cluster	UAE North	Kafka Component: 2 D4V2 (8 cores, 28 GB RAM) Head nodes x 730 Hours, 1 D4V2 (8 cores, 28 GB RAM) Region nodes x 730 Hours, 3 D4V2 (8 cores, 28 GB RAM) Zookeeper nodes x 730 Hours, 0 D4V2 (8 cores, 28 GB RAM) Edge nodes x 730 Hours, 0 Standard disks	$2,400.00
API Management	UAE North	Premium tier, 1 base unit x 730 Hours, 0 additional units	$5,590.34
Azure Database for PostgreSQL	UAE North	Flexible Server Deployment, General Purpose Tier, 2 D8 v4 (8 vCores) (1 year reserved), 5 GB Storage, 0 GB Additional Backup storage - LRS redundancy, without High Availability	$838.03
Azure Private Link	UAE North	1 Endpoints X 730 Hours, 100 GB Outbound data processed, 100 GB Inbound data processed	$9.30
Key Vault	UAE North	Vault: 1 operations, 1 advanced operations, 1 renewals, 0 protected keys, 0 advanced protected keys; Managed HSM Pools: 0 Standard B1 HSM Pool(s) x 730 Hours	$40.15
Azure Cache for Redis	UAE North	Standard tier; 1 C0 instances, 730 Hours	$106.00
Azure Policy		Azure Policy guest configuration, 1 Servers	$6.00
Storage Accounts	UAE North	Block Blob Storage, General Purpose V2, LRS Redundancy, Hot Access Tier, 1 TB Capacity - Pay as you go, 10 x 10,000 Write operations, 10 x 10,000 List and Create Container Operations, 10 x 10,000 Read operations, 100,000 Archive High Priority Read, 1 x 10,000 Other operations. 1,000 GB Data Retrieval, 1,000 GB Archive High Priority Retrieval, 1,000 GB Data Write	$22.01
Azure Monitor	UAE North	Log analytics: 0.2 GB Daily logs ingested; Application Insights: 0.2 GB Daily logs ingested, 3 months Data retention, 0 Multi-step Web Tests; 0 resources monitored X 1 metric time-series monitored per resource, 0 Log Alerts at 5 Minutes Frequency, 0 Additional events, 0 Additional emails, 0 Additional push notifications, 0 Additional web hooks (in millions)	$60.58
Load Balancer	UAE North	Standard Tier: 5 Rules, 1,000 GB Data Processed	$23.25
Virtual Network		UAE North (Virtual Network 1): 100 GB Outbound Data Transfer; UAE North (Virtual Network 2): 100 GB Outbound Data Transfer	$40.00
Application Gateway	UAE North	Web Application Firewall V2 tier, 730 Fixed gateway Hours, 5 GB Data transfer	$360.62
IP Addresses	UAE North	0 Dynamic IP Addresses, 2 Static IP Addresses	$50.26
VPN Gateway	UAE North	VPN Gateways, VpnGw2 tier, 730 gateway hour(s), 21 S2S tunnels, 128 P2S tunnels, 0 GB, VPN VPN gateway type	$478.15
Bandwidth		Internet egress, 500 GB outbound data transfer from UAE North routed via Public Internet	$48.00
Azure Site Recovery	UAE North	0 Customer instances, 1 Azure instances	$25.00
Static Web Apps	Central	Standard tier, 1 app, 0 GB of Bandwidth overages	$9.00
Azure Communication Services	East US	0 local and 0 toll-free United States (+1) phone number(s); 1 reoccurring call(s) (30 minutes X 0 call(s) per month X 0 participants per call), 10 chat users X 1000 message(s) sent per chat user, 0 connections X 0 minutes per connection X 1 Mbps upload speed	$8.00
Support		**Support**	$0.00
		Licensing Program	**Microsoft Online Services Agreement**
		Total	**$11,715.44**

Appendix A: Business Case - Approval

The undersigned acknowledge they have reviewed the ALMP Fleet Management **Business Case** and agree with the approach it presents. Changes to this **Business Case** will be coordinated with and approved by the undersigned or their designated representatives.

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: _____

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: _____

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: _____