BY

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BTECH AUTOMOTIVE ENGINEERING 2017-2021)

NSSR FOR ROAD SAFETY AND THE TGMB HUB - FOR 4W, 2W, AND COMMERCIAL VEHICLES

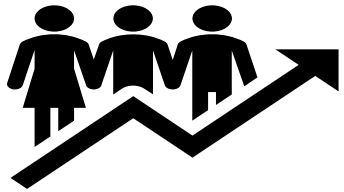
NSSR – National Security Social Responsibility

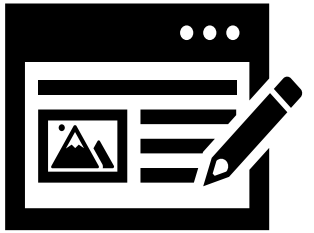
TGMB – THE GLOBAL AND MUTUALLY BENEFICIAL HUB

COE-v1.00.2025

SUMMARY OF INTERACTIONS

- Discussion stage 1: Presentation of the NSSR ROAD SAFETY HANDBOOK
- Discussion stage 2: Preview of Benefits Analysis
- Discussion stage 3: Baselining for brand's USP and BI/CQI foundation
- We expect to cover this much (Discussion 1,2 and 3) in the first meeting
- In the next rounds, with investments in mind …
- Discussion 4: Pull-out Feedback, Empirical Study Areas and results possible
- We expect to cover Discussion 4 in the second meeting
- Discussion 5: Suitable Data Analysis or Case study and unique results identification
- Discussion 5 as the third meeting will be carried out to formalize the approach
- Discussion 6: Report presentation and follow-up discussion
- With the report presentation, we expect to complete the solution's Benefit analysis in Discussion 6.
- Discussion 7: Discussion of the TGMB Hub framework and the TGMB Vision for the USHD
- To be held as applicable depending upon the level of Hub automation expected by your brand





EXECUTIVE SUMMARY

Brand Equity

Fast Track Supportive insights

The Handbook and its Gap Analysis incorporates the use of Business Research Methodologies at your organization to study and evaluate

- Dealership/Showroom Management with sensitivity towards Road Safety on-boarding, and improved BI/CQI for brand equity development
- Service Centre/Workshop Operations Management with Road Safety on-boarding and BI/CQI Fast Track Analytics
- Use and incorporate BI/CQI Fast Track Analytics via the product offering called

The Global and Mutually Beneficial (TGMB) Hub framework

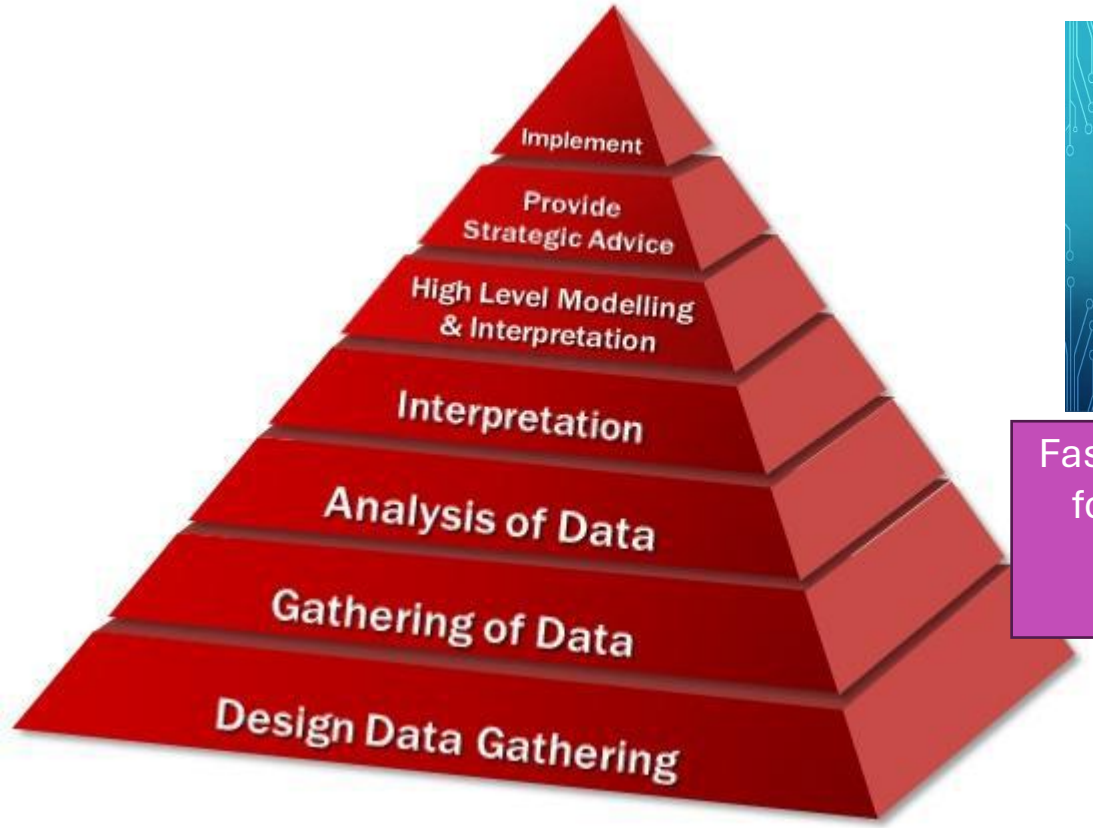
We have 2 variants called the

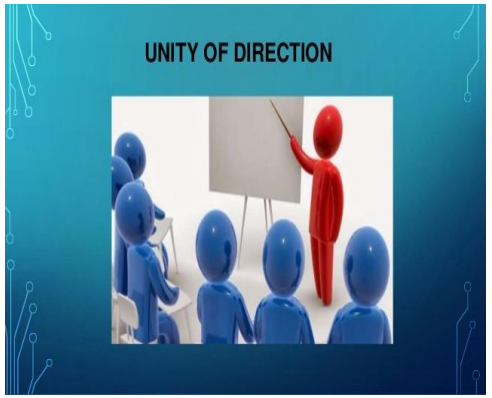
1. TGMB Hub + USHD framework with suitable-fit data analysis

2. TGMB Hub + USHD framework with agile data analysis

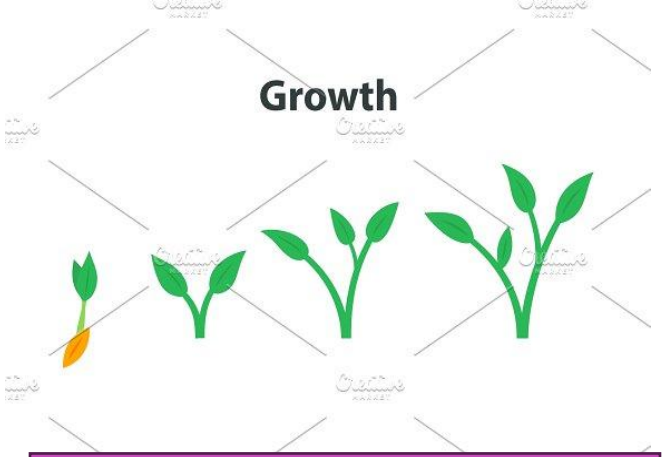
INNOVATIVE Solutions

BRANDING & FUTURE CONNECTED ANALYTICS



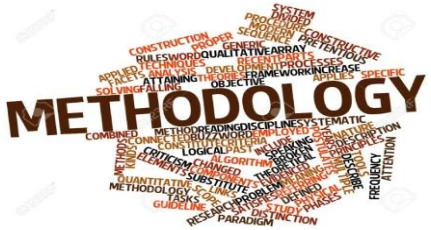


Fast Track Supportive insights, for Road Safety and BI/CQI related Brand equity development



In-time editioning for brand equity development

Transformations or Ripple effect

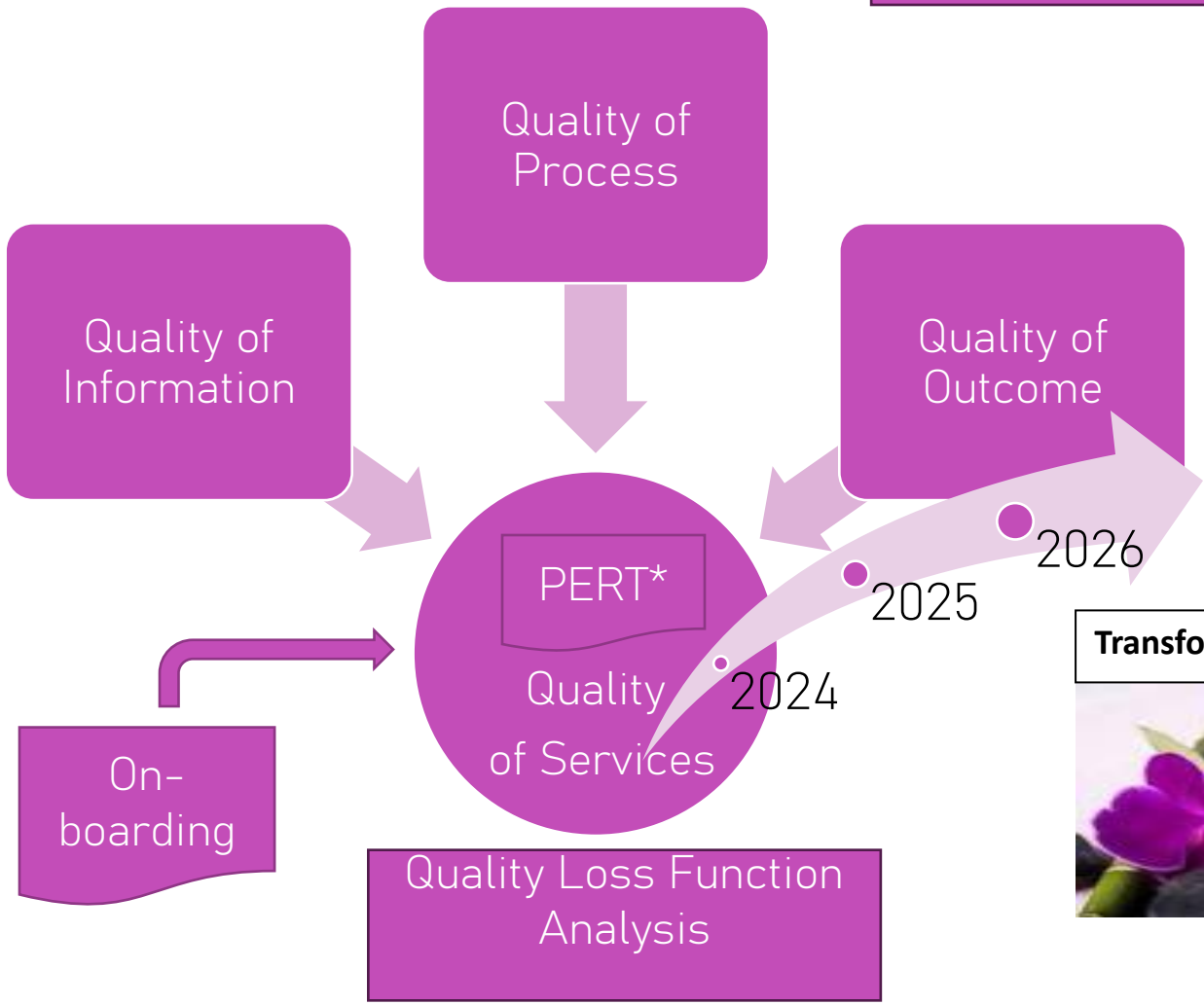


Ask for our Brand Equity Development

Reports, Empirical Studies and Case Studies

BRAND & KEY OPINION LEADERSHIP

Ask for our Empirical Studies and Case Studies



In-time editioning for brand equity devellopment

Transformations or Ripple effect

Investments

STAGES OF THE FAST TRACK ANALYSIS

The 2 stages of the Gap Analysis are of

- (1) Knowledge widening for Key Opinion Leadership and **Road Safety (related Fast Track Supportive insights)**
- (2) that of collecting/presenting data regarding dealership/showroom management, service centre/workshop operation, and business methodologies practiced in the organization
- to present logical, related, and consistent findings via the use of appropriate Statistical Tools.
- *Note: Our Fast Track Analytics has been developed with suitable-fit data so we can showcase our solution without additional data gathering, but for more agile data analytics we can do a case study or empirical study specifically for your organization.*

OBJECTIVES OF THE FAST TRACK ANALYSIS

Study the important management methodologies being used for

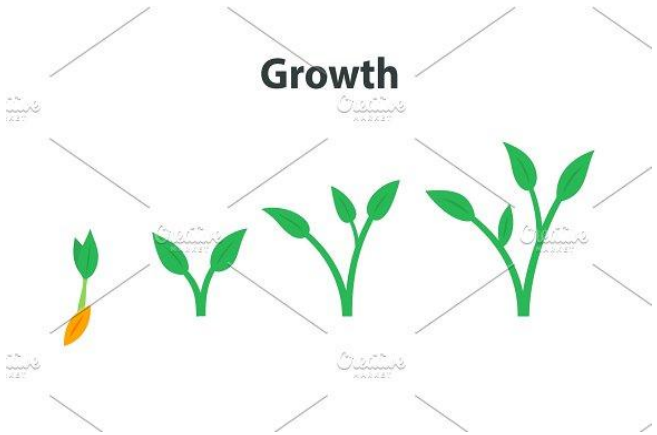
(a) Dealership/Showroom Management, with **Investment focus for Road Safety and In-time editions for Brand equity development)**

(b) Service Centre/Workshop Operations Management, with Road Safety on-boarding and

(c) Fast Track Analytics for BI/CQI in different or accompanying focus areas like QCD Management specifically, Customer Experience Improvement, Future Prospects for Brand Equity Development, Demand and Supply Planning etc

OBJECTIVES OF THE FAST TRACK ANALYSIS

- I. Addressing of pain points
- II. Empirical study of the effects of Brand Presence and Customer Centricity in Road Safety on-boarding, Dealership/Showroom Management, Service Centre Management, and Customer Relationship Management
- III. Augmentation of the current management methodologies with Fast Track Analytics to help position the brand/brands and business as a premium choice dealer or service centre



OBJECTIVES OF THE FAST TRACK ANALYSIS

Key Opinion Leadership in Future Analytics and Business Intelligence

AOEC proposes the following 7 case studies and analytics for the year 2025-2026

- Case study for Brand Equity or Brand Experience Improvement and preparation of reports
- Case study for Proactive Emphasis on Sustainable Quality to improve brand equity and preparation of reports
- Case study for Market Penetration Analysis to improve branding and preparation of reports
- Case study for Service Centre Improvement and preparation of reports
- Case study for SMART Service Anywhere Anyhow (SAA) strategies and preparation of reports
- Case study for SMART Brand Analytics and preparation of reports
- Case study for Continual Quality Improvement and preparation of reports
- Case study for Road Safety on-boarding (and Fast Track Supportive insights) for Brand equity development

PERFORMANCE METRICS CONSIDERED WITH FAST TRACK ANALYSIS

- 1. Why this Brand/Model/Variant on-boarded reasoning and Market share
- 2. Return on total assets
- 3. Average annual market share growth for the past ___ years
- 4. Average annual sales growth over the past ___ years
- 5. Average annual growth in return on total assets over the past ___ years
- 6. Value addition via TGMB Vision and Average operations cost
- 7. Value addition via TGMB Vision and Overall service cost
- 8. Value addition via TGMB Vision and Overall customer service costs
- 9. Road Safety on-boarding
- 10. Overall competitive position

FORWARD LIFETIMES

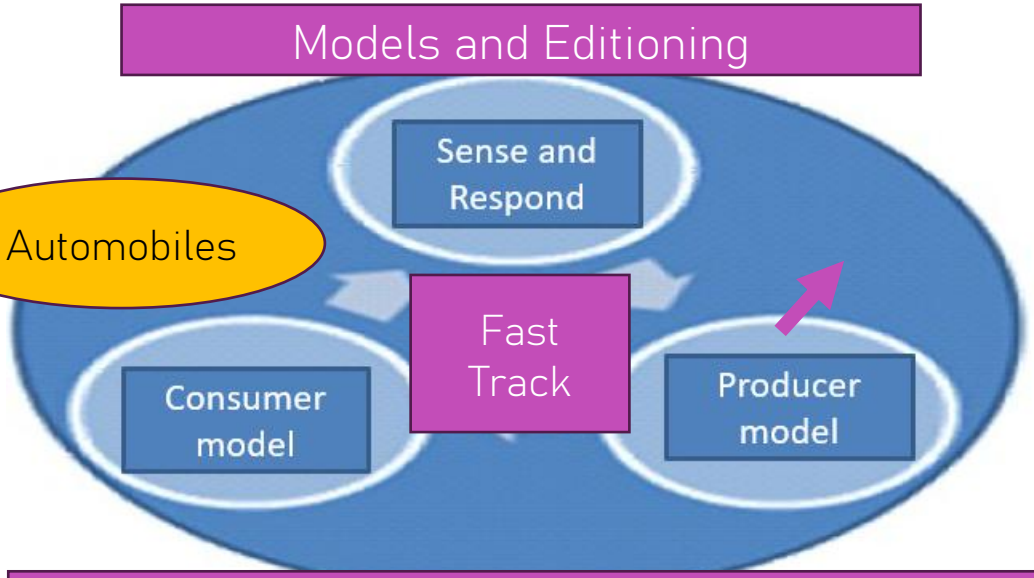
Investments

COST PROFILE FOR A DEALERSHIP

Total costs for dealership = Costs (HO/dealership/service centre) + Costs (Operations) + Costs (Manpower) + Costs (Processes) + Costs (Deeper Interaction Links+On-baording) + Costs (Measures and Metrics) + Costs (Tools and Technology) + Cost (Administration) + Costs (Inventory) + Costs (Spares) + Costs (CRM) + Costs (**In-time editions for Brand Equity development**)

Deeper Interaction Links for
- ❑ CRM for BI/CQI
- ❑ Social Performance Teaming for Road Safety
- ❑ Viewpointing, and In-time Adaptivity

Automobiles



Deeper Interaction Links for Road Safety and BI/CQI via
- ❑ Assistance system (Steer)
- ❑ Resilience system (Harness)
- ❑ Vewpointing System (Hover)

- ❑ Driver Fitness
- ❑ Vehicle Fitness
- ❑ Road system understanding
- ❑ Alpha Assistance

CRM specific Fast Track Analysis, Case studies and Empirical Studies

BRAND EQUITY ESSENTIALS

Brand Equity for the Automotive sector is known to mean

- ✓ Brand Assertion
- ✓ Brand Satisfaction
- ✓ Brand Stability
- ✓ Brand Scalability
- ✓ On-boarding

Brand Equity and DIL(s)

Some mainline Market Penetration strategies are as follows:

1. Micro focus and optimization in pricing strategy (via tiered pricing, promotions & discounts, strategic adjustment to suit buying behaviour)
2. Intensive marketing
3. Widespread (or geo-codified) distribution channels
4. Brand partnerships
5. Brand sponsorship of events/community Road Safety on-boarding and welfare projects
6. Enhancing of Service Quality
7. Customer Loyalty programmes/incentives
8. D2L Management System relativity for the driver & co-passengers, social performance teaming and Future Criteria Adaptivity

BRAND EQUITY ESSENTIALS

Potential advantages of Market penetration strategies

1. Lowers risk of market dynamics and customer buying behaviour

2. Cost efficiency in branding and brand equity development

3. Greater customer loyalty

4. Increased market share

5. Competitive advantage

6. More Brand Assertion, Brand Satisfaction,

Brand Stability, Brand Scalability and On-boarding

Limitations of Market penetration strategies

1. Does not manage market dependency always

2. Does not mitigate risk of market saturation

3. Repeated marketing can cause customer fatigue

4. Risk of competitive reaction

5. Sometimes narrows focus for new or emerging markets

To offset the potential downsides mentioned above, it is sustainable to use market penetration alongside other growth strategies like product development, market development, and diversification. AOEC finds that Key Opinion Leadership and focus can mitigate the limitations mentioned.

As a starter, calculation of Market Penetration rate (MPR) is done using the following equation but tools like Market Explorer help.

MPR = (Number of customers using product or service / Total Addressable Market) x 100

BRAND EQUITY ESSENTIALS

Meaning of Market Penetration

Market penetration is a measure of how much a product or service is being used by target customers compared to the total estimated market for that product or service.

Market penetration also relates to the number of potential customers that have purchased a specific company's product instead of a competitor's product.

Market penetration is a ***measure of the reach and sales of a brand, product, or service*** within an existing market.

Key contributors for brand excellence are:

Year 2025: Sensitized competitiveness with frameworks such as

a. Design for dealership performance
b. Connected & Responsive Quality of service enablers
c. New BI & CQI led Deep Interaction (DIL) links
d. Improved sales & marketing, service operations and process efficiency
e. Key opinion led nutshell inventory, parts management and disposal
f. Key opinion led management of demand and supply
g. Key opinion led Sustainable development and growth

Brand Equity and its Sensitized competitiveness for

- ❑ Driver Fitness
- ❑ Vehicle Fitness
- ❑ Road system understanding
- ❑ Alpha Assistance
- ❑ Viewpointing and in-time Adaptivity

CRM specific Fast Track Analysis, Case studies and Empirical Studies

Ask for our Planner, Road Safety handbook, Ownership de-mystifier Guide and Calendar for 2025

SALES AND MARKETING ESSENTIALS

Increase revenue	Develop tactics to acquire market Negotiate and sign agreements with suppliers	Sales force Training, Motivation and Compensation
Create an environment or experience for the customer to buy again	Design a membership programme that helps create and manage accounts of customers *Read customers as stakeholders or customers	Decide on sales quotas for customers Or customer accounts Recommend products/services to customers Provide incentives Feedback to management on new or deficient areas
Build trust and relationship (motivation) to recommend product, service, company to others	Develop terms and condition for Quality of Service Develop Brand equity policy *Read customer as stakeholder or customer	Honour terms and conditions for Quality of Service Provide relevant after sales services Rely on Business and Consultative Intelligence (that is implement and improve the 6 Vital ingredients) Build and use customer profiles for interactions, relationships and nature of selling
Increase belied in company's products/services	Design and Develop brand equity	Enhance brand equity Exercise right push
Profit Maximization Sales Maximization	Develop and improve the Marketing mix	Enhance Marketing mix via Sales Leadership, Sales management and Sales supervision

SALES AND MARKETING ESSENTIALS

Brief on the 6 Vital ingredients to win business	▪ Sound and Relevant business knowledge ▪ Competitive industry knowledge ▪ Awareness of company's policy, key departments and people ▪ Accountable products/services knowledge ▪ Sales skills of the modern era ▪ Positive and enthusiastic attitude to earn client's trust, relate to product / service need with customer-oriented synergy, also address circumstantial need

GROWTH AREAS EVALUATED AND CONTRIBUTION

- Customer engagement and Road Safety on-boarding
- Understanding of customer needs & benefit analysis
- Responsive dealership and service management
- Analysis of Functional Safety or crash worthiness of vehicles in context of accidental repairs or incidence evaluation
- Effectively coordinating dealership, service-operations, systems and processes to sell the existing and upcoming models
- Deploying a Fast Track Analytics (TGMB Hub) programme and Unifying Showcase Help Desk (USHD) to implement all of the above and accentuate the brand
- The Pull-out Form Feedback and Responses will be processed by the USHD for empirical studies, or case studies or newer BI/CQI/Fast Track Analytics.
- As roleplay for this commitment, BASELINE USHD strategies will be delivered by AOEC but setting up a business specific USHD will need to be discussed and ighlighted for the dealers interested in the Fast Track

DEALERSHIP/SHOWROOM PAIN-POINTS AND BUSINESS RESEARCH SPECIFIC AREAS

- Improved Road Safety on-boarding
- Improved Brand Equity specific Customer engagement
- Improved Brand Equity specific First Contact data recording
- Improved Vehicle Sheet/Details Information
- Effectively coordinating QCD (**Quality, Cost and Delivery** Management) for dealership, service-operations, systems and processes
- Fast Track Analytics for BI/CQI in brand equity development
- Responsive CRM based data recording/analysis
- Basal Pain point specific Management Accounting
- TGMB Hub driven brand image and brand equity development

SERVICE CENTRE/WORKSHOP PAIN-POINTS AND BUSINESS RESEARCH SPECIFIC AREAS

- Improved Road Safety on-boarding
- CRM dashboard of customer's vehicle experience (part of the consumer model)
- CRM dashboard of customer's easy ownership experience (part of the consumer model)
- CRM dashboard of dealer's experience (part of the producer model)
- Basal spare parts management experience (part of the producer-consumer model)
- Voluntary Crashworthiness and safety analysis with accidental repairs or incidence evaluation
- USHD Profile based scorecard of experience for the forward lifetime theory (part of the emerging sense and respond dynamics)

BI/CQI AND FUTURE CONNECTED ANALYTICS

We have an early pricing strategy for

Basic on-boarding & Suitable Fit Analytics

Customized on-boarding & Agile Fit Analytics

Codified TGMB Hub

Ask for our Empirical studies and Case studies

(ROADMAP IN PROGRESS) URL:

https://aakkashkvautoengg.wixsite.com/transformviability

https://aakkashkvautoengg.wixsite.com/businesstab

https://venkataoec.wixsite.com/safercommuting

We quote our pricing for each case study in INR as a part of the

Road Safety on-boarding and USHD dashboards:5K

Basic TGMB Hub: 10K

Customized TGMB Hub: 15K

Codified TGMB Hub WIP: 25K

TGMB HUB MODEL, ON-BOARDING GUIDANCE, QUESTIONNAIRES, SURVEYS, USHD VEHICLE SHEETS, USHD REPORTS, AND USHD MILESTONED DASHBOARDS

USHD DASHBOARD FRAMEWORK

The USHD dashboard will be developed with the following framework:

LEVEL OF AUTOMATION

BASIC
(Suitable data fit enabled Hub)

MANAGED
(Case study enabled Hub)

CODIFIED
(Autonomic Desks enabled Hub)

USHD network or Dealer network

TGMB Hub + USHD Cloud

TGMB Hub + USHD

Use of Cloud computing, networking technology and IT

USHD Site cluster or Dealer network

TGMB Site System **(Dealer)**

Cloud computing

Showcased Networking (OTA)

On-boarding and Focus Analytics

TGMB Codification System

TGMB Program Enabler

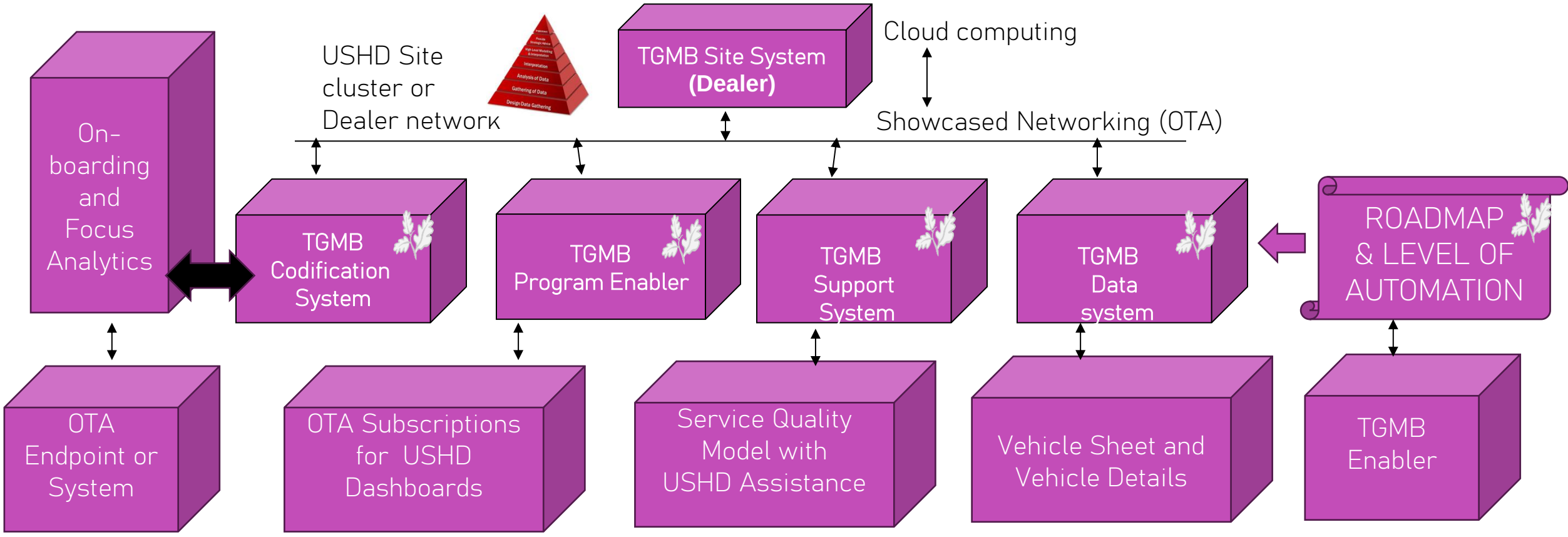
TGMB Support System

TGMB Data system

ROADMAP & LEVEL OF AUTOMATION

USHD DASHBOARD FRAMEWORK

The USHD dashboard will be developed with the following framework:



TGMB HUB + USHD FRAMEWORK AND ITS SYSTEMS DETAILS

- Our basic summary for the emerging dynamics in the products/ services industry

- We believe the solution needed is more than what is being envisioned today. We are concerned that climate change is going to affect the responsiveness of demand/supply networks, intelligence of mobility, road safety on-boarding, , sustainability of vehicle investments, ownership and on-boarding programmes.

- We propose to develop a TGMB Hub+USHD dashboard, that helps deploy a TGMB Site system at each connected business unit, where the Site system incorporates a Cloud-based framework that includes the following:

- 1. A TGMB Codification system – that codifies the KOL-driven product like On-boarding and Focus Analytics for Safer Commuting to develop a sense and respond solution that can autonomically help design Global and Mutually Beneficial Analytics at the business unit

- 2. A TGMB Program Enabler – will include, activate or deactivate programme elements on a pay-by-subscription basis or synergetic-consultation-basis

- 3. A TGMB Support System – that helps a business unit implement data integration & sense and response functions for connected Supply chain strategy, planning, and operation.

- 4. A TGMB Data System – that helps survey, identify, and gather data for Global & Mutually Beneficial and Future Connected Analytics

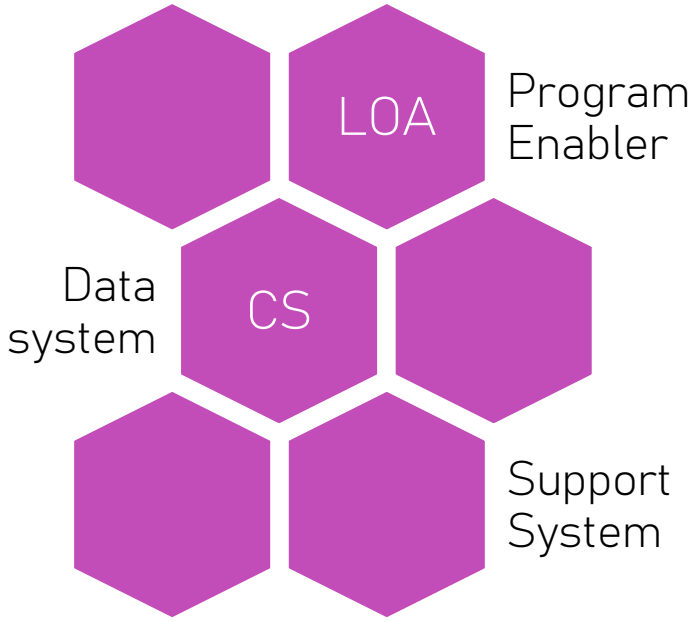
TGMB HUB + USHD FRAMEWORK – FUTURE CONNECTED ANALYTICS

PROJECTS FOR

- ✓ PASSENGER 4W(s)
- ✓ 2W(S)
- ✓ COMMERCIAL VEHICLES

APPENDIX A

(Value added Branding)



Abbreviations: LOA: Level of Automation CS: Codification System

Red: Primary components G: Secondary components Y: Tertiary components and B: Timeline interactive components

YOUR VEHICLE SHEET

Vehicle Sheet

A. Exteriors
B. Interiors
C. Engine and Performance
D. Battery and Battery Management System*
E. Electric Motor and Motor Controller*
F. Safety
G. Comfort and Convenience
H. Seats and Upholstery
I. Entertainment/Multimedia
J. Other Features and Specifications
K. Onboard Diagnostics
L. *Added systemic intelligence (plus **editioned*** Timeline Monitors)

Q 1

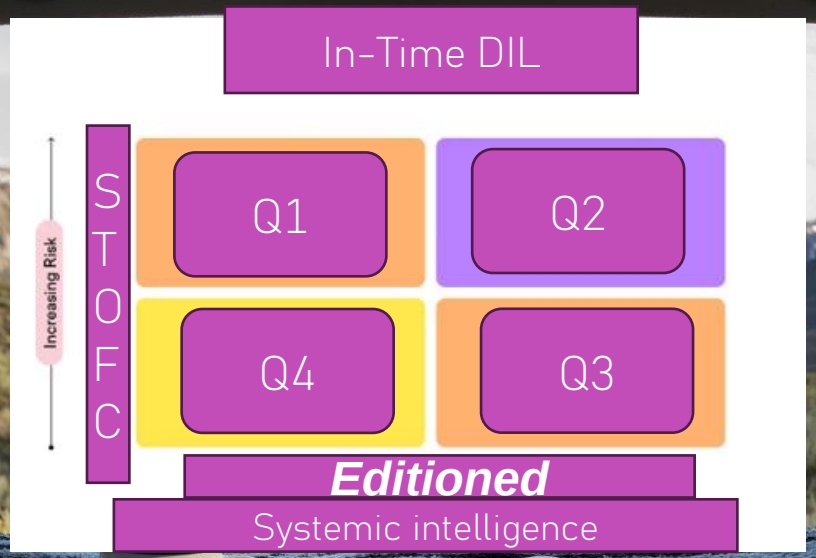
Q 2

Q 3

Q 4

** For Electric Vehicles amd Hybrids*

S: strategic T:Tactical
O: Operational FC Future Connected:
(Systemic Intelligence)



YOUR VEHICLE DETAILS

Vehicle Details

Vehicle Identification Number/ Vehicle Registration Number:

Make:

Type:

Year

Model & Variant:

TGMB Quadrants: SI (Q1/Q2/Q3/Q4)

Colour:

Petrol/Diesel/Electric/Hybrid

YOUR VEHICLE DETAILS

<u>Vehicle Information:</u>

Engine power (kW):

Engine number/code:

Chassis number/code:

Paint and Bodywork code:

Recommended engine oil:

OBD2 version:

Road Safety on-boarding:

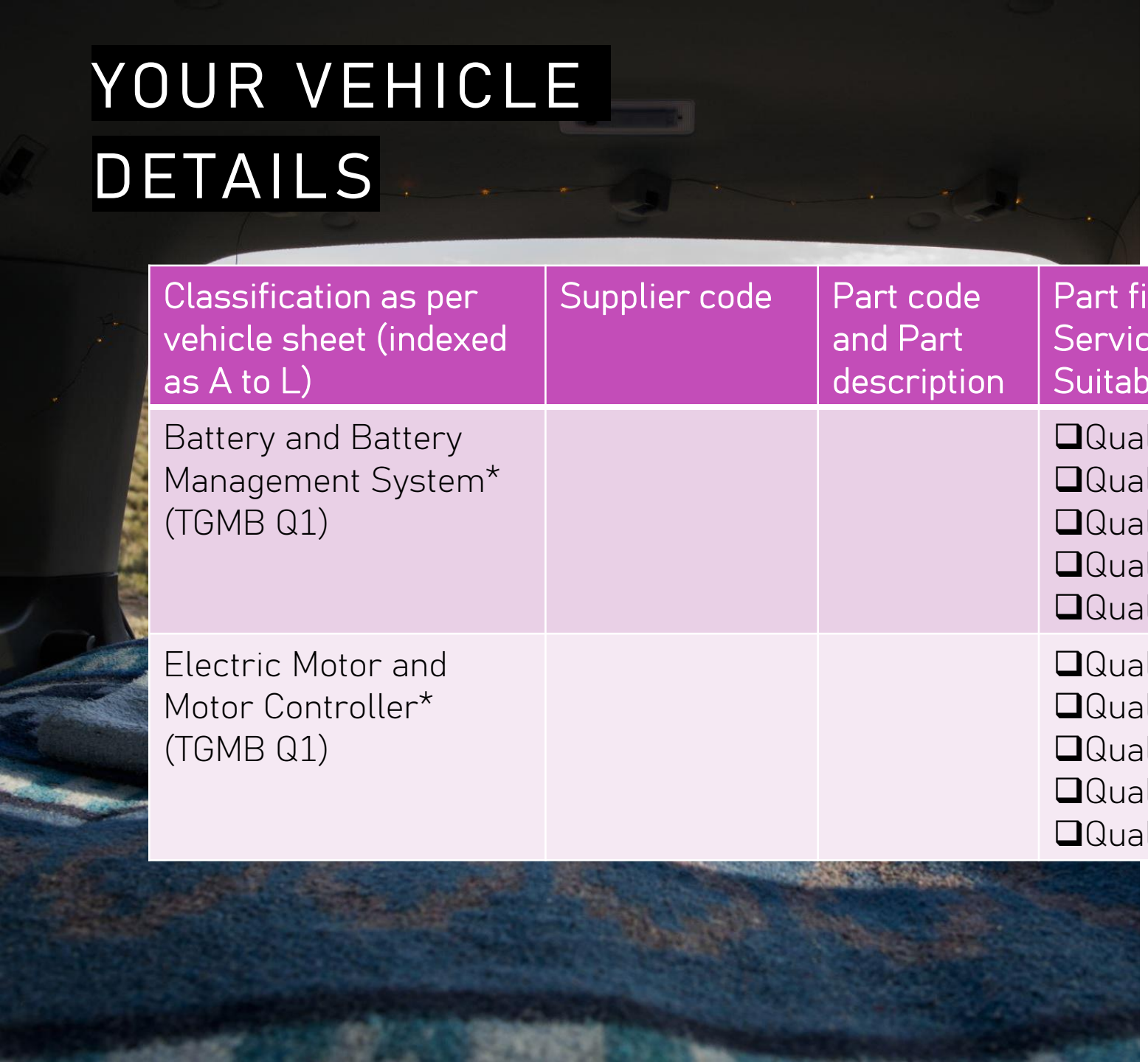
In-Time DIL Edition (WIP):

YOUR VEHICLE DETAILS

Vehicle Details

Nutshell inventory (for any Deep Interaction Linking):

Classification as per vehicle sheet (indexed as A to L)	Supplier code	Part code and Part description	Part fitness categories for (SAAT) Service Anywhere Anytime Ticketing or Suitability
Exteriors (TGMB Q2)			❑Quality of information ❑Quality of Process ❑Quality of Outcome ❑Quality of Service ❑Quality Loss Function Analysis
Interiors (TGMB Q2)			❑Quality of information ❑Quality of Process ❑Quality of Outcome ❑Quality of Service ❑Quality Loss Function Analysis
Engine and Performance (TGMB Q1)			❑Quality of information ❑Quality of Process ❑Quality of Outcome ❑Quality of Service ❑Quality Loss Function Analysis

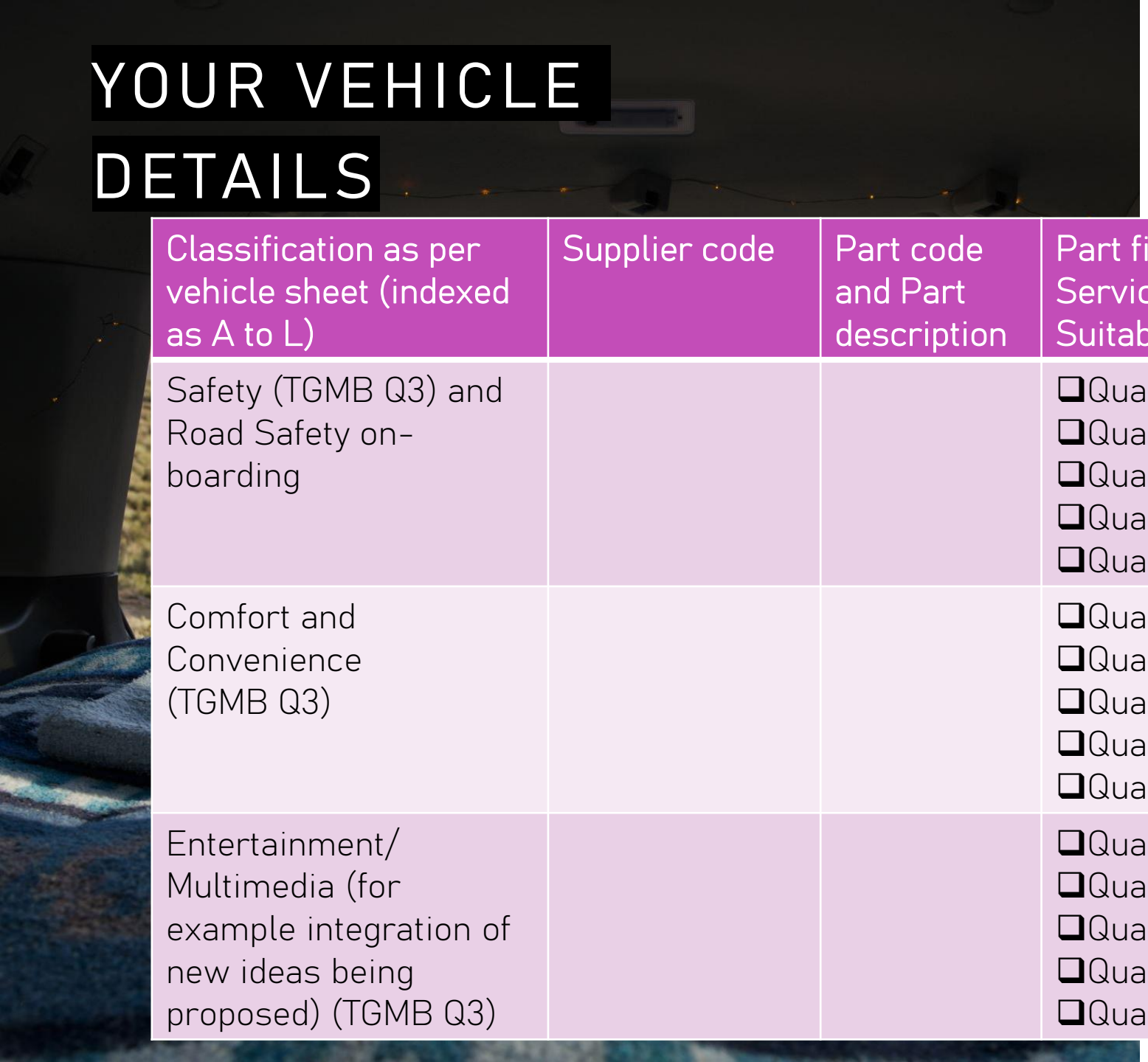


YOUR VEHICLE DETAILS

Vehicle Details

Nutshell inventory (for any Deep Interaction Linking):

Classification as per vehicle sheet (indexed as A to L)	Supplier code	Part code and Part description	Part fitness categories for (SAAT) Service Anywhere Anytime Ticketing or Suitability
Battery and Battery Management System* (TGMB Q1)			❑Quality of information ❑Quality of Process ❑Quality of Outcome ❑Quality of Service ❑Quality Loss Function Analysis
Electric Motor and Motor Controller* (TGMB Q1)			❑Quality of information ❑Quality of Process ❑Quality of Outcome ❑Quality of Service ❑Quality Loss Function Analysis

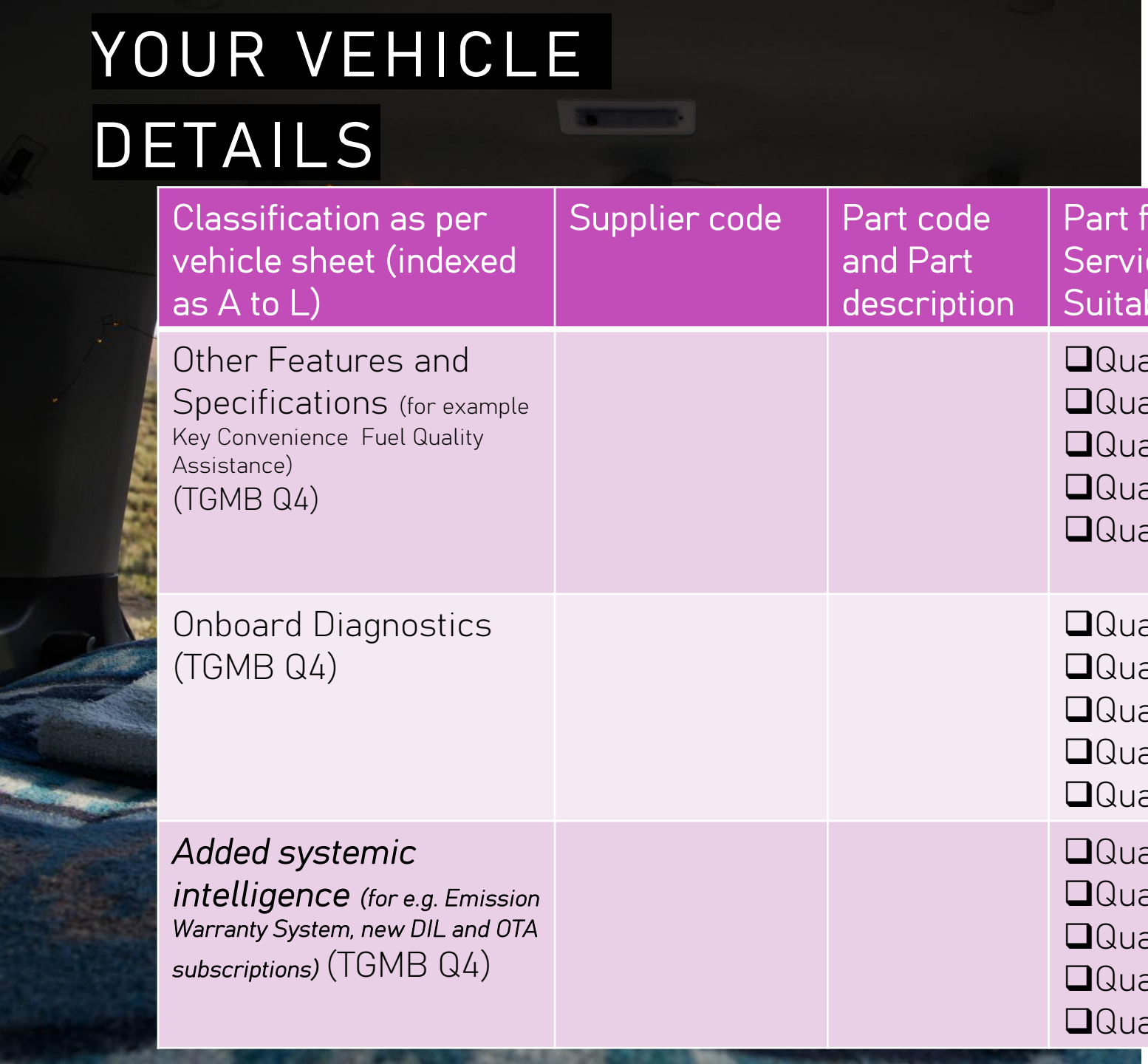


YOUR VEHICLE DETAILS

Vehicle Details

Nutshell inventory (for any Deep Interaction Linking):

Classification as per vehicle sheet (indexed as A to L)	Supplier code	Part code and Part description	Part fitness categories for (SAAT) Service Anywhere Anytime Ticketing or Suitability
Safety (TGMB Q3) and Road Safety on-boarding			❑Quality of information ❑Quality of Process ❑Quality of Outcome ❑Quality of Service ❑Quality Loss Function Analysis
Comfort and Convenience (TGMB Q3)			❑Quality of information ❑Quality of Process ❑Quality of Outcome ❑Quality of Service ❑Quality Loss Function Analysis
Entertainment/ Multimedia (for example integration of new ideas being proposed) (TGMB Q3)			❑Quality of information ❑Quality of Process ❑Quality of Outcome ❑Quality of Service ❑Quality Loss Function Analysis

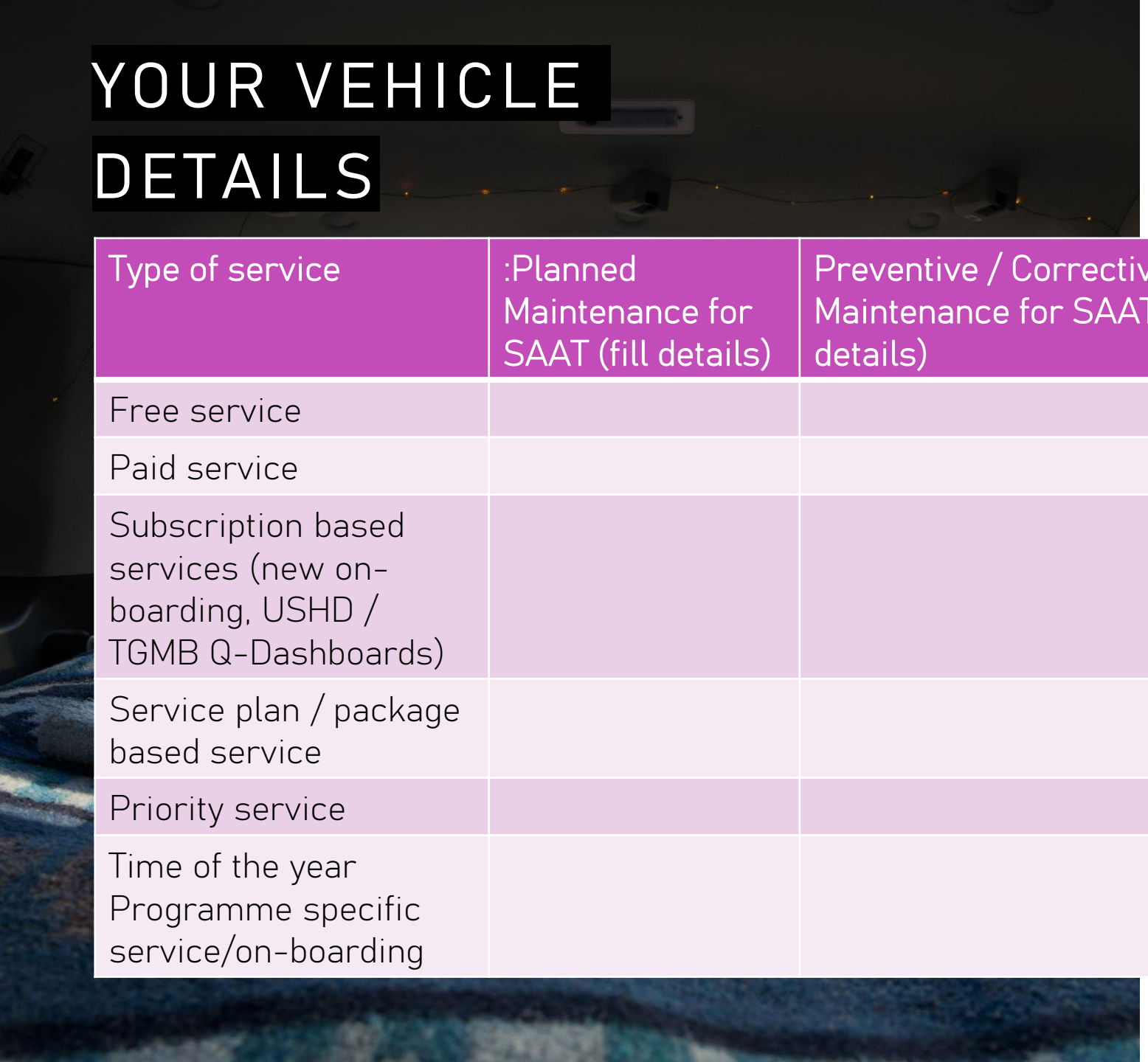


YOUR VEHICLE DETAILS

Vehicle Details

Nutshell inventory (for any Deep

Classification as per vehicle sheet (indexed as A to L)	Supplier code	Part code and Part description	Part fitness categories for (SAAT) Service Anywhere Anytime Ticketing or Suitability
Other Features and Specifications (for example Key Convenience Fuel Quality Assistance) (TGMB Q4)			❑Quality of information ❑Quality of Process ❑Quality of Outcome ❑Quality of Service ❑Quality Loss Function Analysis
Onboard Diagnostics (TGMB Q4)			❑Quality of information ❑Quality of Process ❑Quality of Outcome ❑Quality of Service ❑Quality Loss Function Analysis
Added systemic intelligence (for e.g. Emission Warranty System, new DIL and OTA subscriptions) (TGMB Q4)			❑Quality of information ❑Quality of Process ❑Quality of Outcome ❑Quality of Service ❑Quality Loss Function Analysis

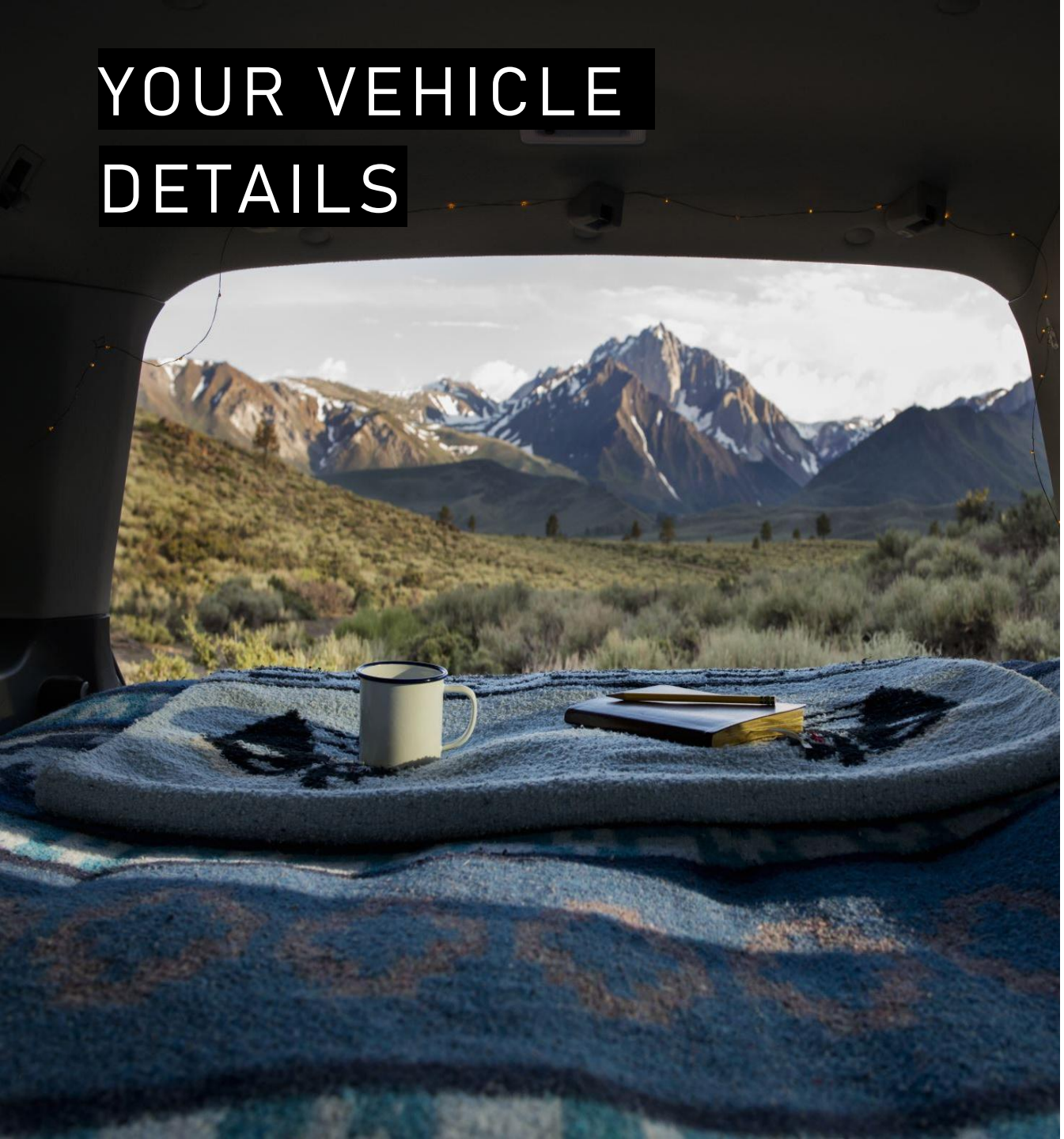


YOUR VEHICLE DETAILS

Vehicle Details

Type of service for the vehicle:

Type of service	:Planned Maintenance for SAAT (fill details)	Preventive / Corrective Maintenance for SAAT (fill details)	Deep Interaction Link or Lifecycle Maintenance for SAAT (fill details)
Free service			
Paid service			
Subscription based services (new on-boarding, USHD / TGMB Q-Dashboards)			
Service plan / package based service			
Priority service			
Time of the year Programme specific service/on-boarding			



Typical Vehicle Management policies

1. A reactive maintenance strategy results in the reduction of the lifetime of a vehicle and also adds expense or costs in maintaining and using a vehicle.

2. Predictive maintenance helps overcome this issue.

3. Among the different types of maintenance

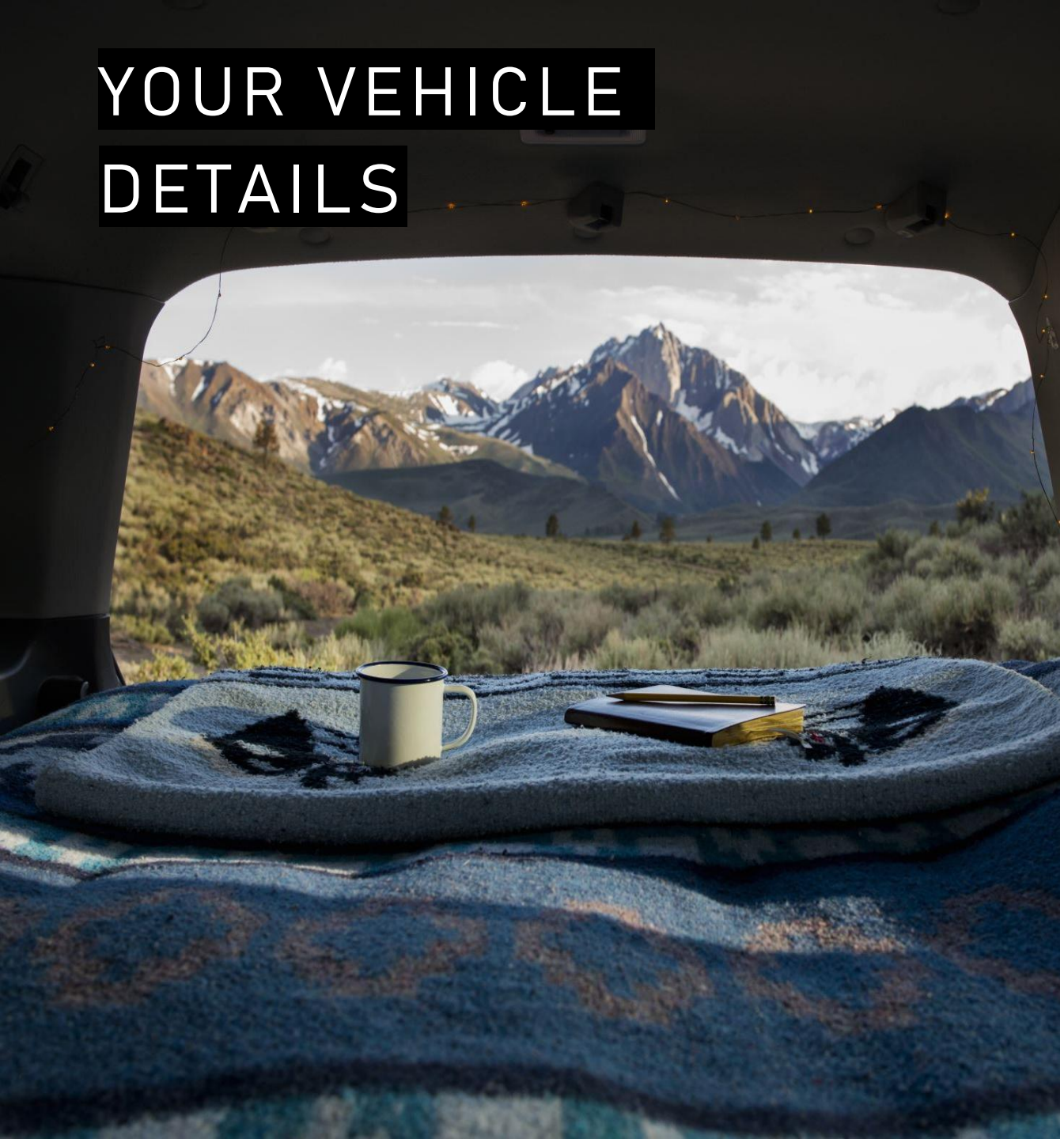
(a) Preventive maintenance is performed after a fault has occurred. It is used for infrequent failures and for parts upgradation

(b) Corrective maintenance is performed as breakdown maintenance

© Predictive maintenance uses the analysis of the current condition of the vehicle to predict a failure

4. For vehicle health monitoring the typical mechatronic systems and subsystems are

(a) Engine (b) Gearbox (c) Brakes (d) Ignition (e) Fuel injection (f) Emission (g) Cooling (h) Battery (i) Sensors (j) Actuators (k) Other subsystems associated with electromechanical processes



Typical Vehicle Management policies

5. Engine Control Unit (ECU) controls sensors and actuators to screen and diagnose faults or problems

The ECU is also associated with the Controller Area Network (CAN) through which a distinctive subsystem and driver communicate with each other

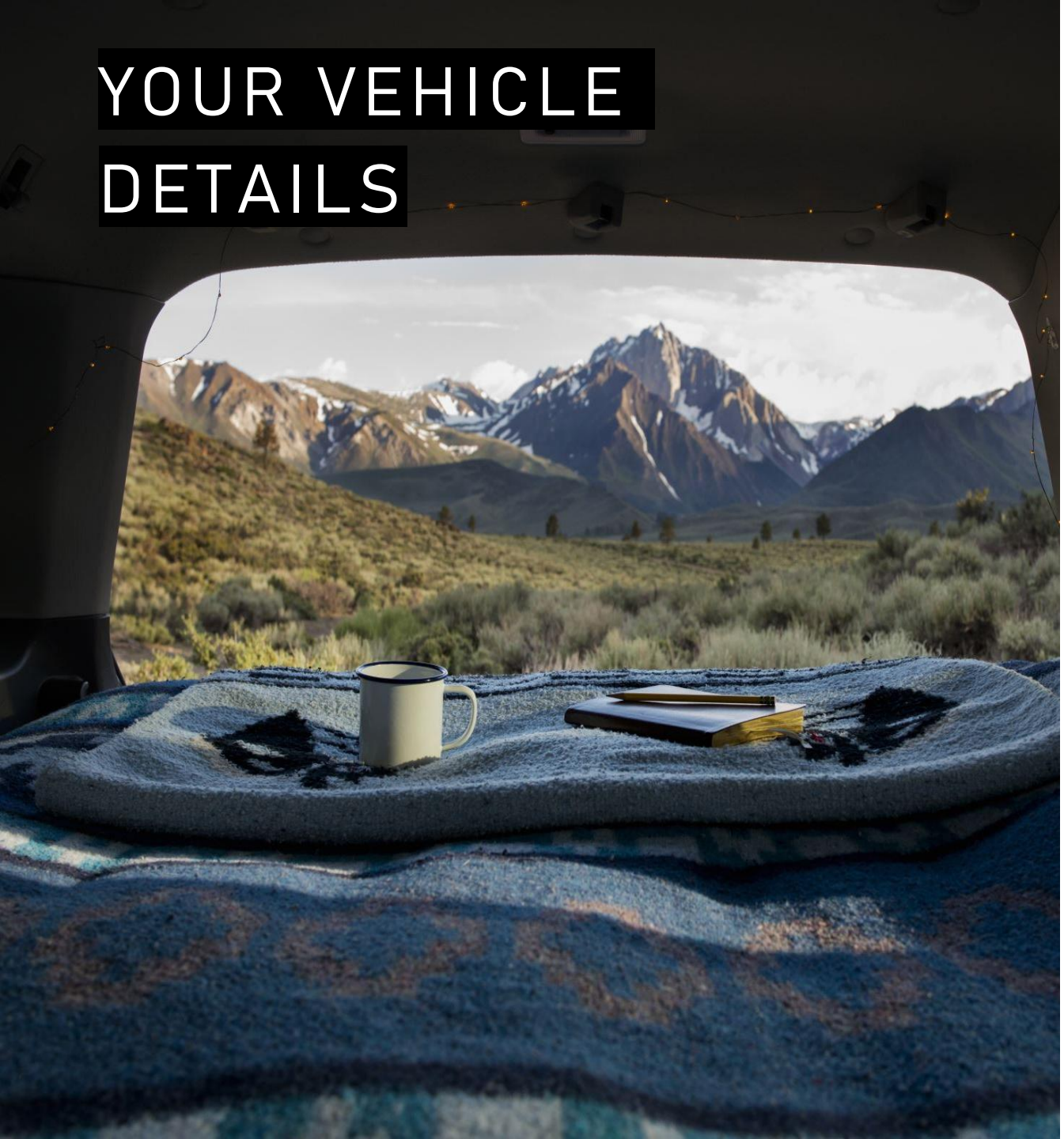
ECU communication is done via a high-level diagnostic protocol i.e the OBD2 and UDS

The OBD2 protocol allows the vehicle to diagnose and self-report codes

The OBD framework allows a vehicle owner or repair professional to access diagnostic data about the current condition of the subsystems

The UDS provides specific details

Thereon system maintenance is done via a diagnostic and prognostic ability related to the current state and futuristic state of the system or subsystem



Typical Vehicle Management policies

6. Remote health monitoring involves the monitoring of different systems and subsystems remotely and using prognostics to predict faults in advance

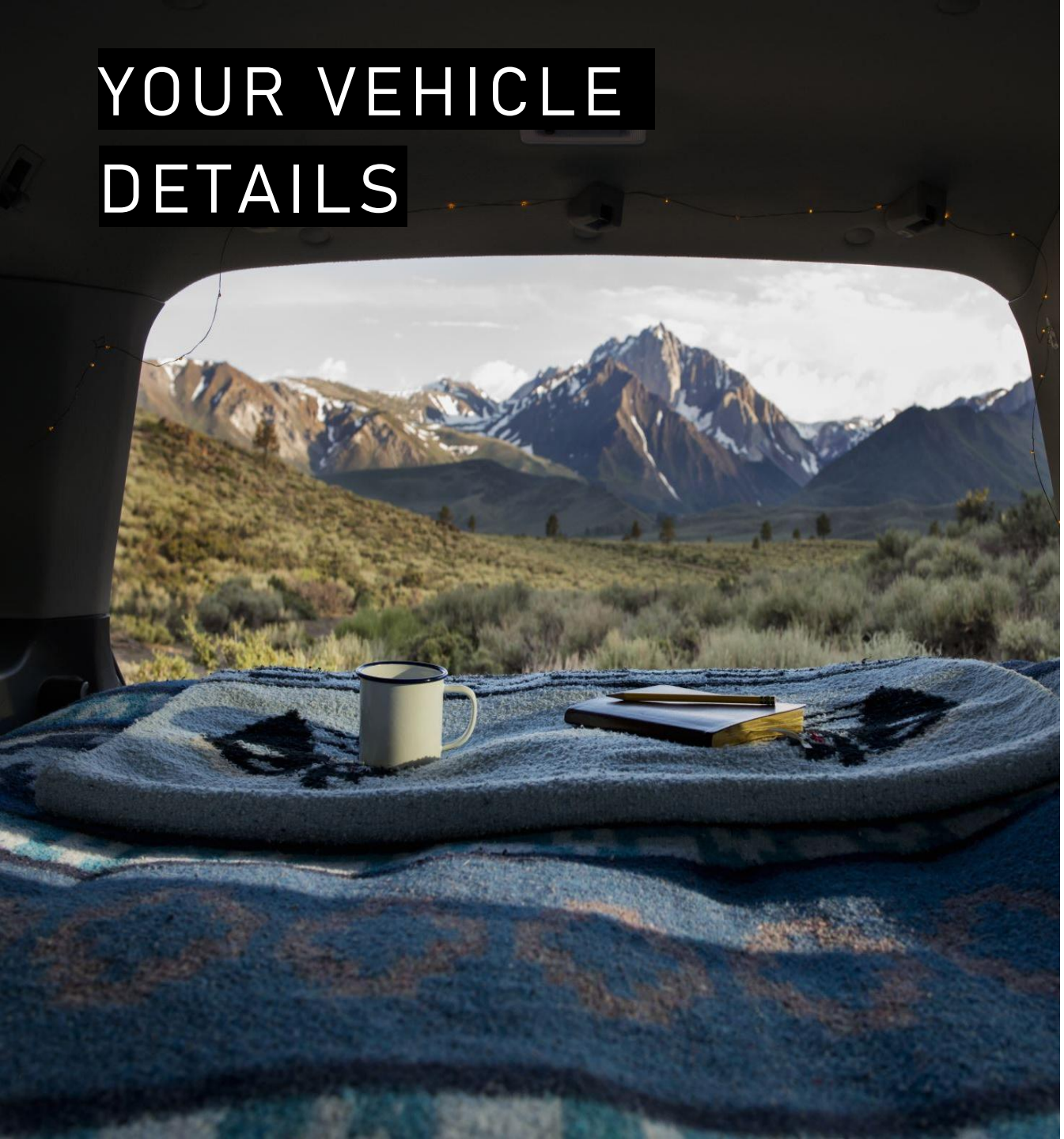
7. Sequential Pattern Learning Algorithm – the algorithm learns patterns from warranty data of the vehicle and converts these patterns to a rule based expert system that helps diagnose conditions or use fault patterns

8. COSMO (Consensus self-organized models for fault detection) helps increase vehicle and parts/systems lifetimes

9. BRACID (Bottom up induction of rules and cases for imbalanced data) to deal with imbalanced data via learning classifiers

10. Kalman model to monitor vehicle health via sensor data for fault prediction and engine abnormal behavior via anomaly detection

11. Least Square Support Vector Machine (SVM) classifier for diagnostics and remote



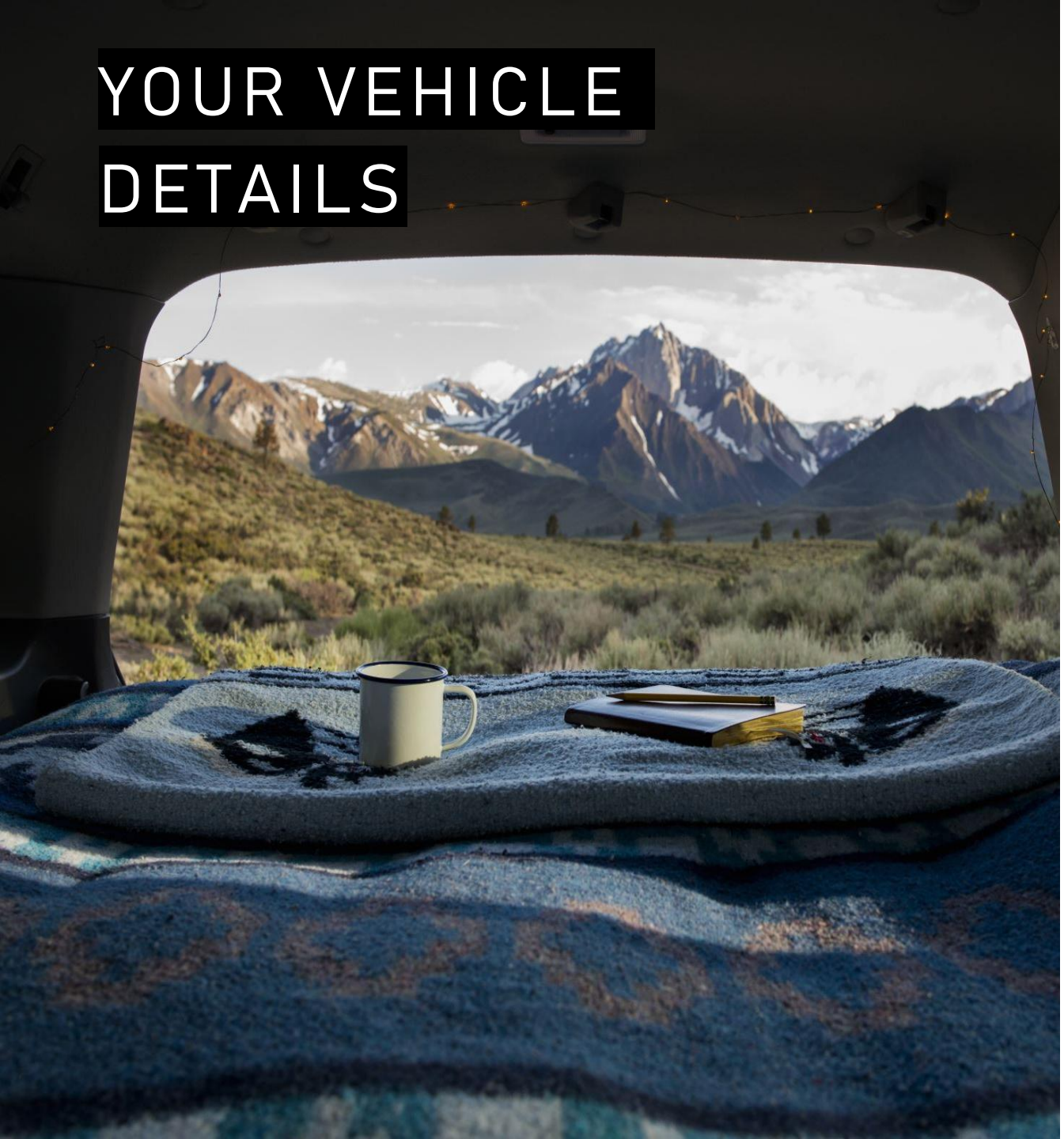
Typical Vehicle Management policies

12. Predictive maintenance via the use of a vehicle database for storing maintenance records of vehicles visiting a workshop

13. vehicle monitoring system that monitors driver activity and status of engine via SMART phones for communications between the vehicle and back end server

14. Comprehensive analysis of vehicle's on-board and off-board data using supervised and unsupervised learning techniques usin a telematics gateway

15. Multi-sensor fusion technique that monitors vehicle health using oil data and vibration signals



Typical Vehicle Management policies

16. VMMS – A real time vehicle monitoring and fault prediction system , which diagnoses main subsystems such as (a) Ignition (b) Exhaust (c) Fuel injection (d) Cooling and Other mechatronic subsystems

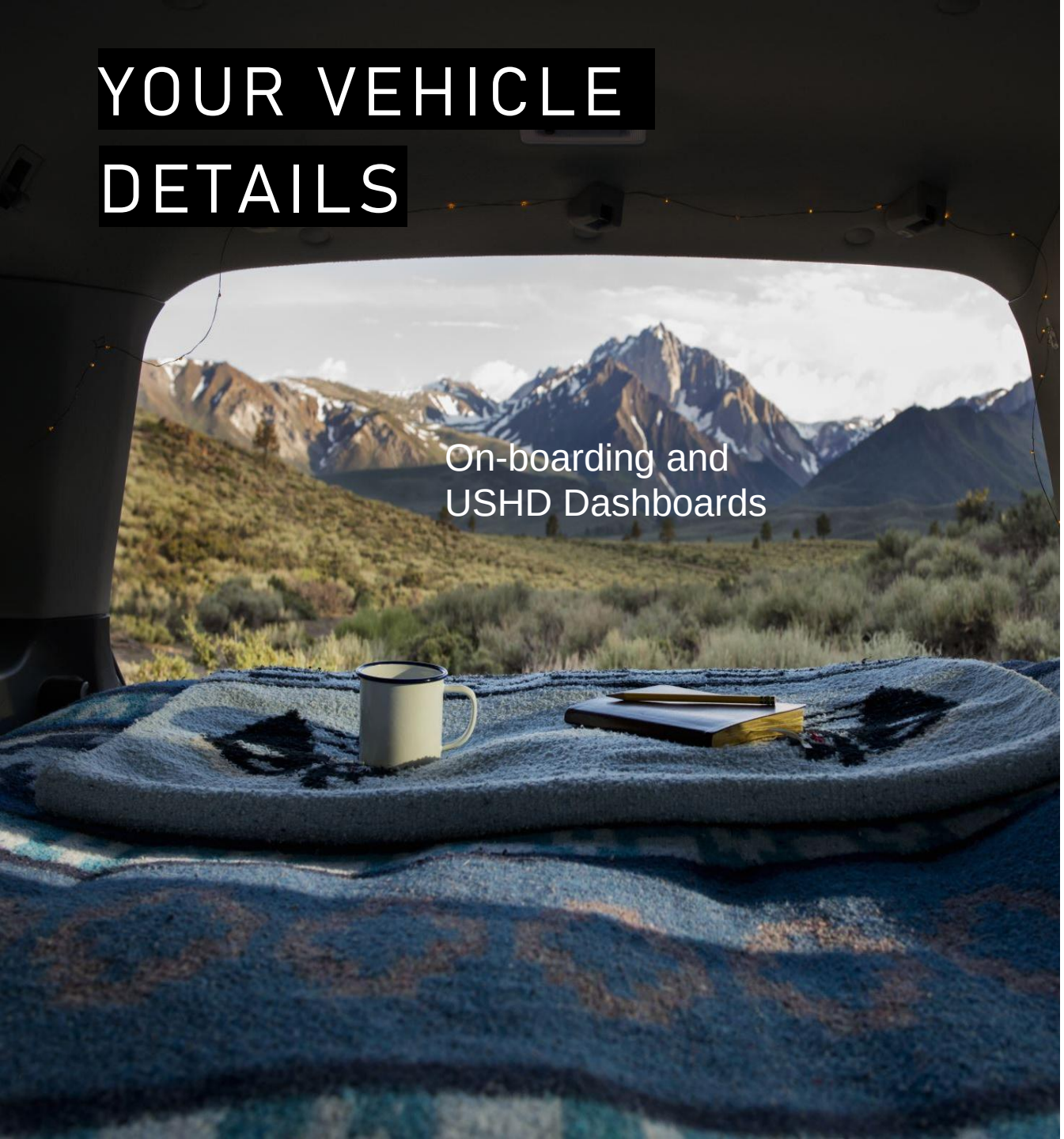
It uses machine learning techniques such as Decision tree, Support Vector Machine, K-Nearest Neighbor and Random Forest

It uses a SMART Phone App, OBD scanner, Bluetooth protocol to communicate DTC from scanner to SMART Phone and wireless mobile data communication from SMART Phone to the back-end server

It uses a classification algorithm for pattern learning

It relies on push notifications of abnormal condition via SMART Phone alerts or emails

17. The cost constraints in using sensor data based systems is the need for large memory space, high processor speed and custom made SMART Phone Apps



18. Deep Interaction Link or Lifecycle Maintenance for SAAT

- As maintenance is mostly a reactive strategy for a vehicle pr fleet owned by a customer, we find certain aspects are important such as
- (a) Predicting of remaining useful lifetimes of vehicles and their parts/ components
- (b) Assessing the effect of remaining useful lifetimes on the cost of repairs or replacements
- (c) Considerations of the safety of using a vehicle whose parts/ components need periodic maintenance
- (d) Optimization of the maintenance schedule of the fleet to support objectives such as
- (1) reduced expenses
- (2) efficient resource utilization
- (3) consistent service delivery via the fleet
- (4) reduced carbon footprint
- (5) high-performance customer experience of owning, selling or creating the brand (6) TGMB KOL ANALYZERS
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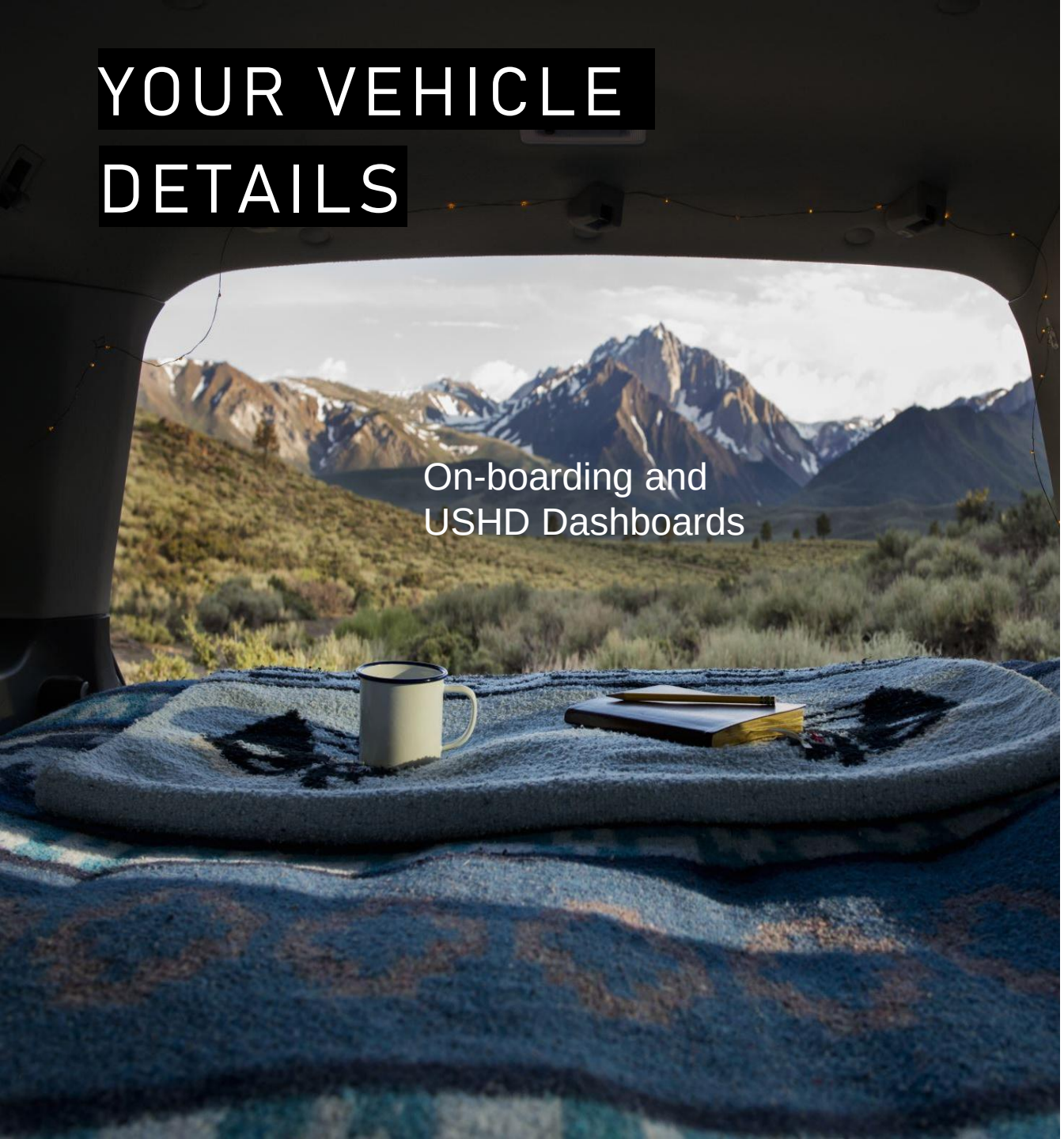
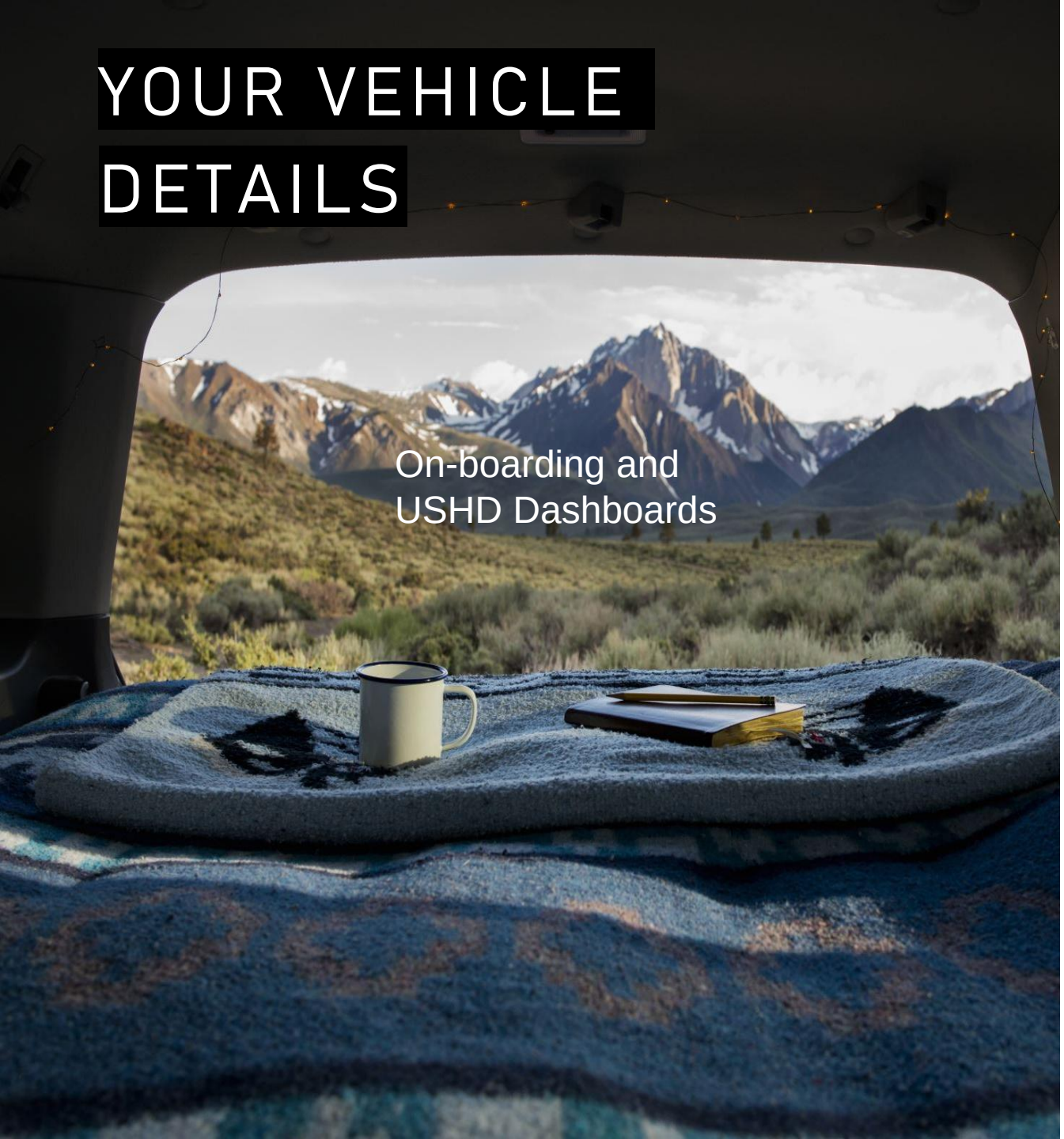


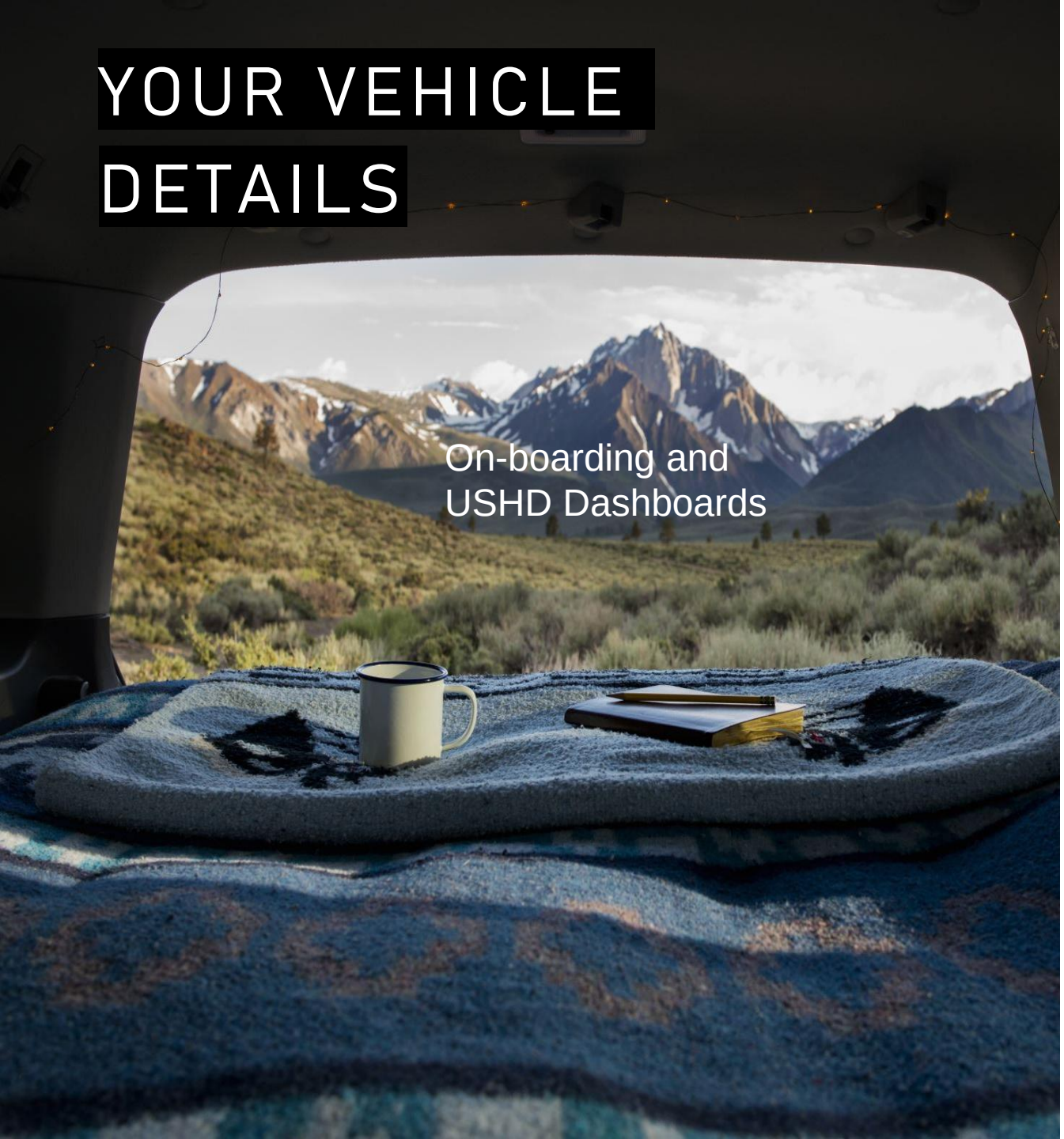
18. Deep Interaction Link or Lifecycle Maintenance for SAAT

- For optimizing a maintenance schedule, it is important to acknowledge that each vehicle has certain parts or components that have to be maintained in a predictive and/or preventive manner based on their respective damage from wear & tear and subsequent reduction in remaining useful lifetimes.
- To optimize maintenance schedules, the common practice is to use Multi- objective Evolutionary Algorithms (MOEA) to find the Pareto optimal set of schedules
- To understand this better, in order to predict or heuristically-schedule maintenance, such an algorithm must
- (1) identify the usage of the vehicle and driving tasks
- (2) use a rolling time window horizon to predict the remaining useful lifetimes of parts or components
- (3) minimize process changes between the previous maintenance schedule and the next
- (4) help maintenance-specific estimation, spares management, and other service analytics



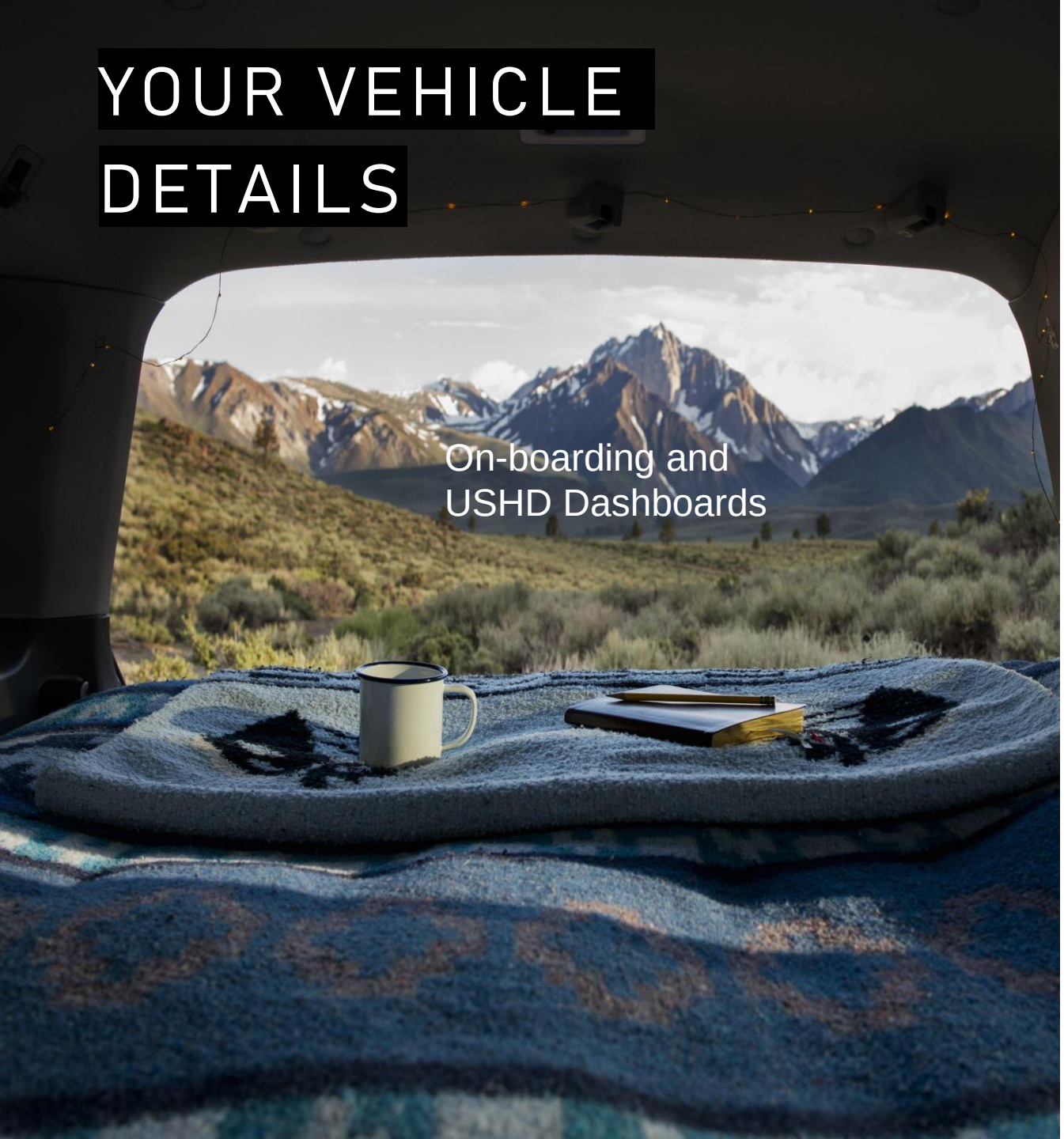
18. Deep Interaction Link or Lifecycle Maintenance for SAAT

- From the (dealer's) Service Centre's or Workshop's point of view, the considerations that matter are
- (1) maintenance estimation
- (2) fixed setup costs and fixed schedule costs
- (3) preparation of the Workshop for the nature of work
- (4) resource allocation for the total workload
- (5) spares (availability) management to control the expected number of failures or faults that the vehicle or fleet of vehicles may experience on the road
- (6) optimization of the next maintenance schedule to reduce or control maintenance costs and workload
-



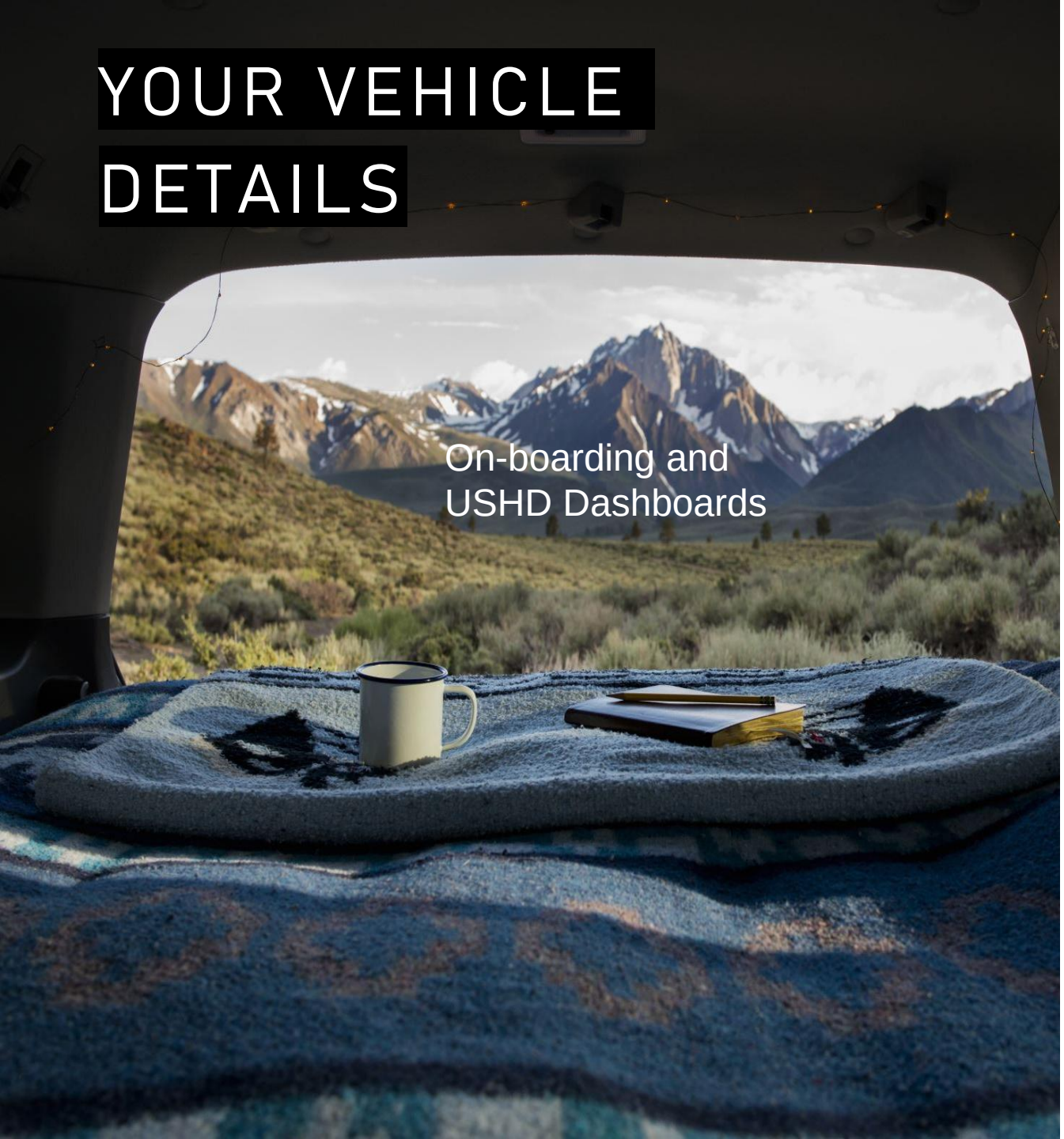
18. Deep Interaction Link or Lifecycle Maintenance for SAAT

- A real-time concern is that from the time a maintenance schedule is released for a vehicle or vehicle fleet, continuous changes could occur to
- (1) the vehicle condition
- (2) prediction of the remaining useful lifetimes of the parts or components
- (3) responsiveness of the maintenance schedule and its objectives of meeting the TGMB benefits of buying, using and owning a vehicle
- (4) cost variance in terms of setup costs, maintenance costs and penalty costs
- The emerging degradation of a high investment EV or fleet of EV(s), needs in-time editioning by the manufacturer, where the end of lifecycle or need for costlier maintenance will need TGMB quadrants to be incorporated into the design and architecture of the EV to permit TGMB value enabling during and after expected lifetimes. The TGMB value enabling we propose is called TGMB Asset Creation to enable D2L or CQI-Residual value management

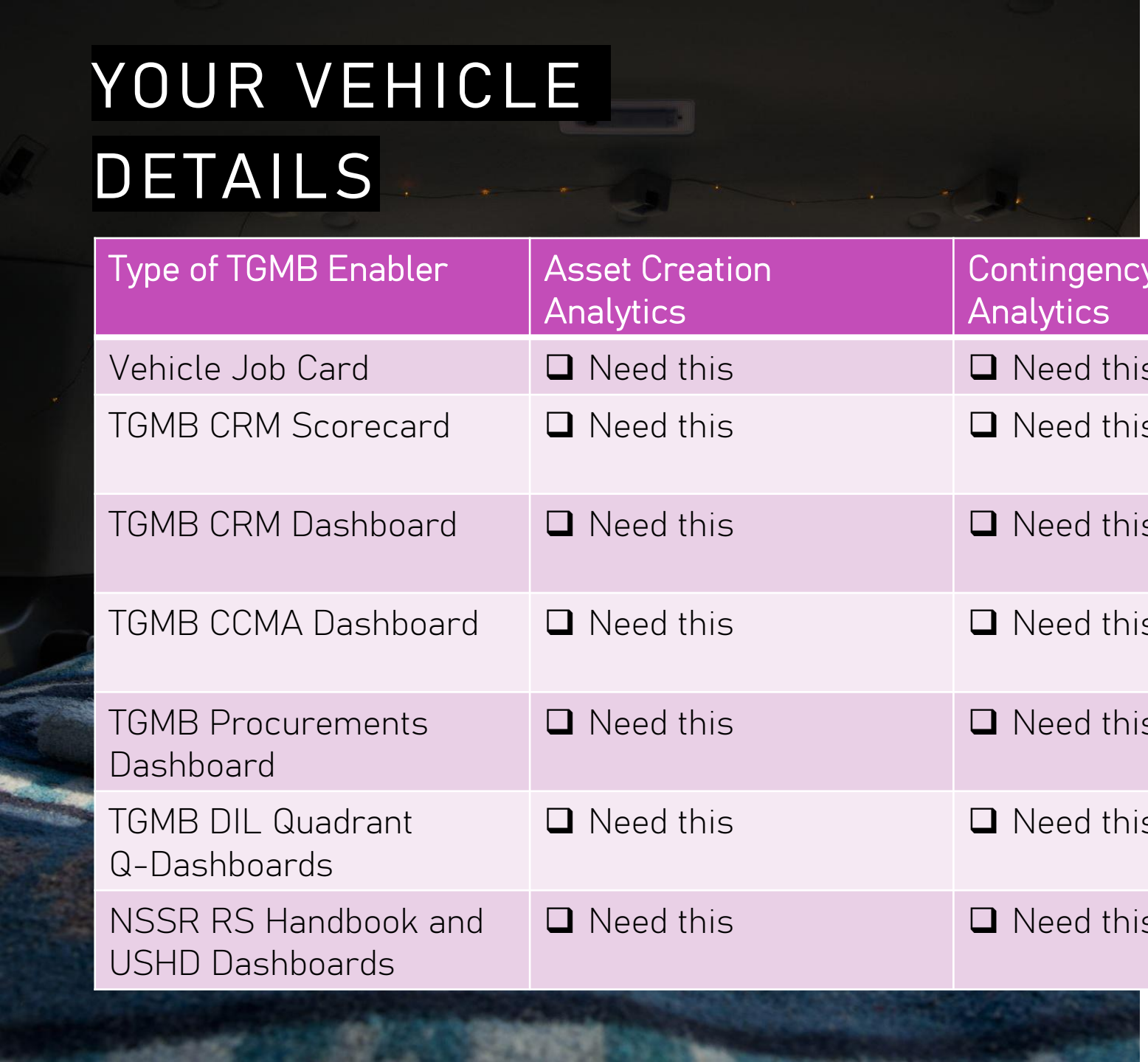


18. Deep Interaction Link or Lifecycle Maintenance for SAAT

- Here penalty costs are based on the assumption that
- (1) if a part or component is serviced before it's due date the penalty cost is equal to the full maintenance costs
- (2) if the component is serviced on the due date the penalty costs are zero
- (3) if the component is serviced after the due date, failure expectation increases to lead to selective parts replacement or upgradation where the working out of penalty costs will need to add spares costs too



- 18. Deep Interaction Link or Lifecycle Maintenance for SAAT
- Highlight of degradation seen in a vehicle
- **Reference:** Vehicle Inspection methodology used today
- (1) Degradation in the oil filter and/or air filter
- (2) Degradation in the performance of suspension and springs
- (3) Degradation of brake pads
- (4) Degradation of tyres
- (5) Degradation of chassis and it's expected condition
- (6) Degradation of engine
- (7) Degradation of the manual gear system or automatic transmission
- (8) Degradation in vehicle's ingress protection from dust and water
- For optimizing maintenance schedules, vehicle inspection status and estimation of damage or degradation is known to help.
- Here degradation of components (numbered 2, 3, 4, 5, and 6) can be calculated based on physical condition (or wear and tear) but in case of components (numbered 1 and 7) degradation occurs due to lack of periodic counter measures (or preventive maintenance).



YOUR VEHICLE DETAILS

TGMB Analytics

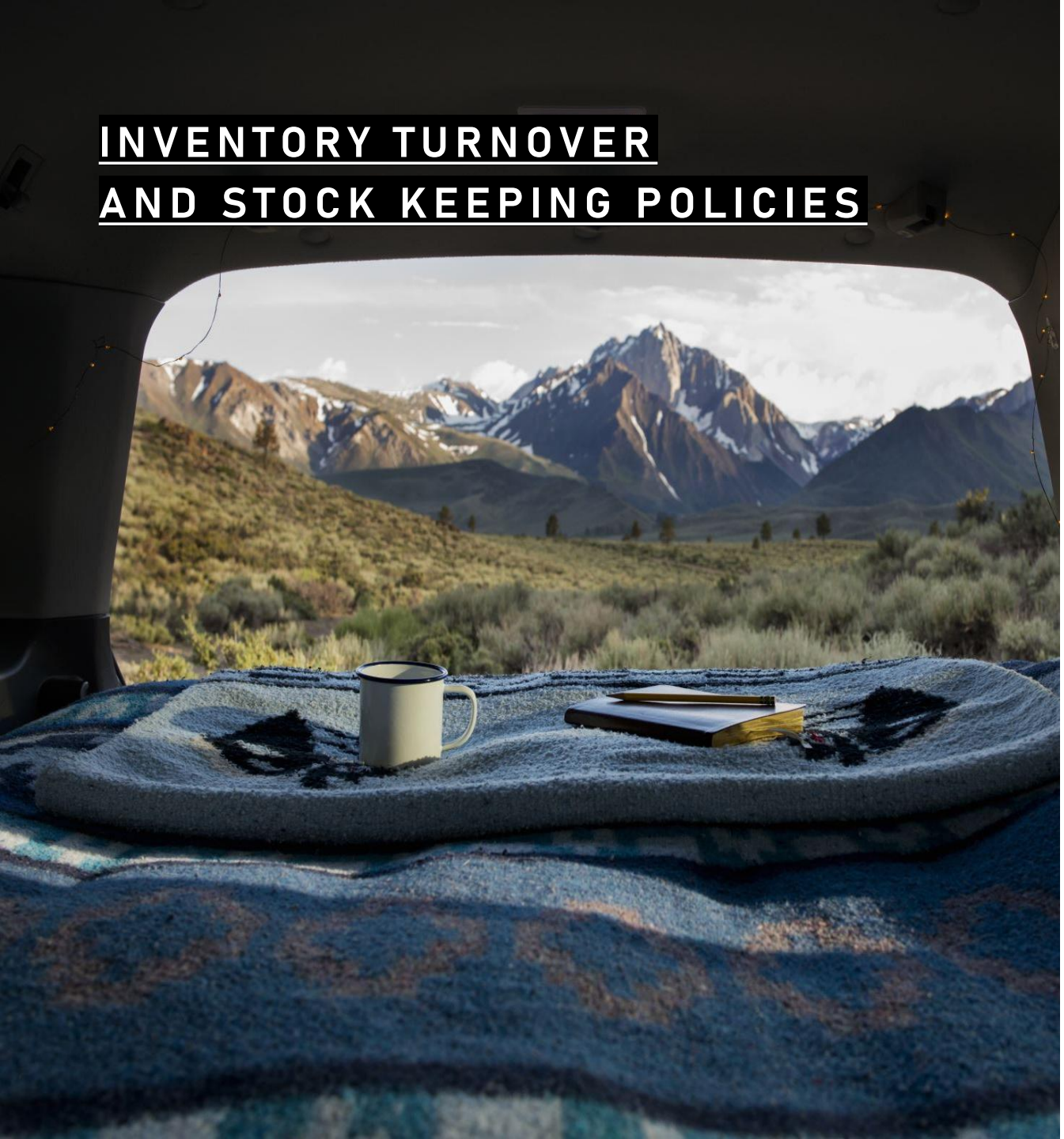
Deep Interaction Links for Service Quality Model:

Type of TGMB Enabler	Asset Creation Analytics	Contingency Planning Analytics	STRIDE codification Analytics
Vehicle Job Card	❑ Need this	❑ Need this	❑ Need this
TGMB CRM Scorecard	❑ Need this	❑ Need this	❑ Need this
TGMB CRM Dashboard	❑ Need this	❑ Need this	❑ Need this
TGMB CCMA Dashboard	❑ Need this	❑ Need this	❑ Need this
TGMB Procurements Dashboard	❑ Need this	❑ Need this	❑ Need this
TGMB DIL Quadrant Q-Dashboards	❑ Need this	❑ Need this	❑ Need this
NSSR RS Handbook and USHD Dashboards	❑ Need this	❑ Need this	❑ Need this

TGMB HUB + USHD FRAMEWORK – FUTURE CONNECTED ANALYTICS

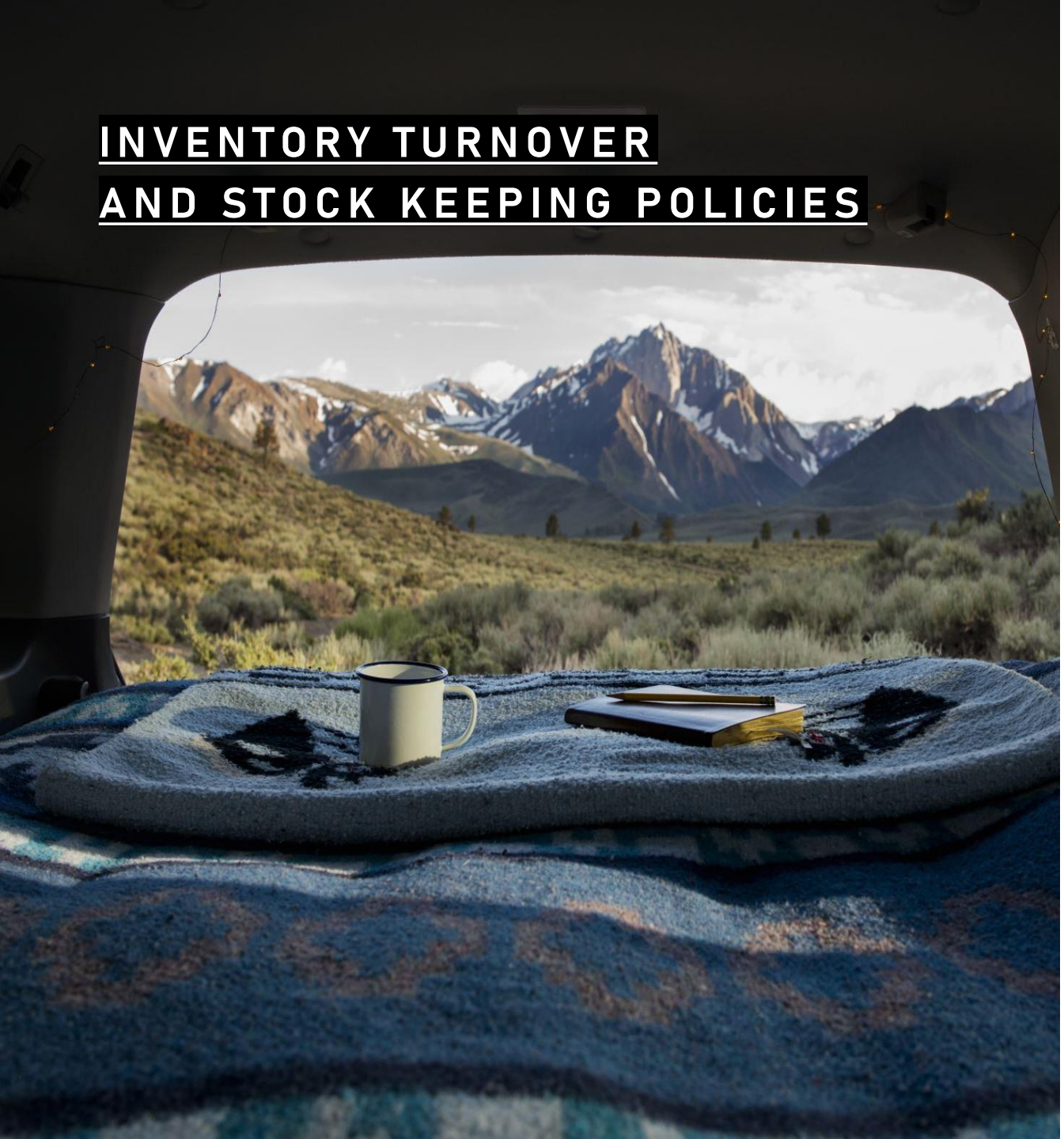
APPENDIX B

(Value added Branding)



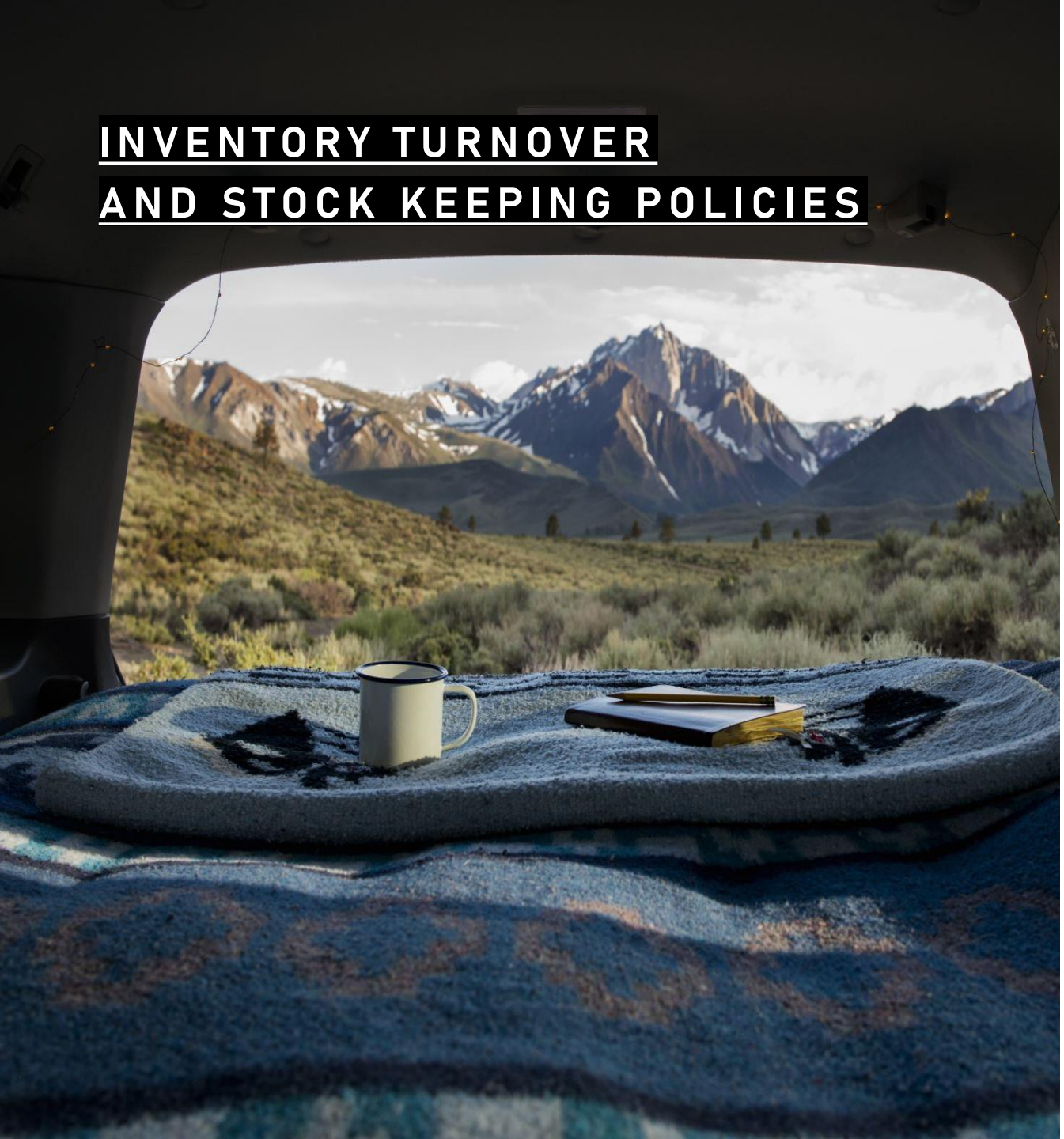
INVENTORY TURNOVER AND STOCK KEEPING POLICIES

- Deep Interaction Link or Lifecycle Maintenance for SAAT
- Spares Parts Inventory Management
- DIL Analysis can help make the organization's inventory systems more responsive
- Though a dealership competes with other sane brand dealerships this function of spare parts inventory management must be measured, monitored and managed from an individual dealership point of view.
- This point of view depends upon the current automobile market, its economics and the responsiveness needed from the business's vision and operational practices
- Managing the spare parts inventory is a complex system of processes and responsibilities for driving RoI, profitability, performance and customer retention



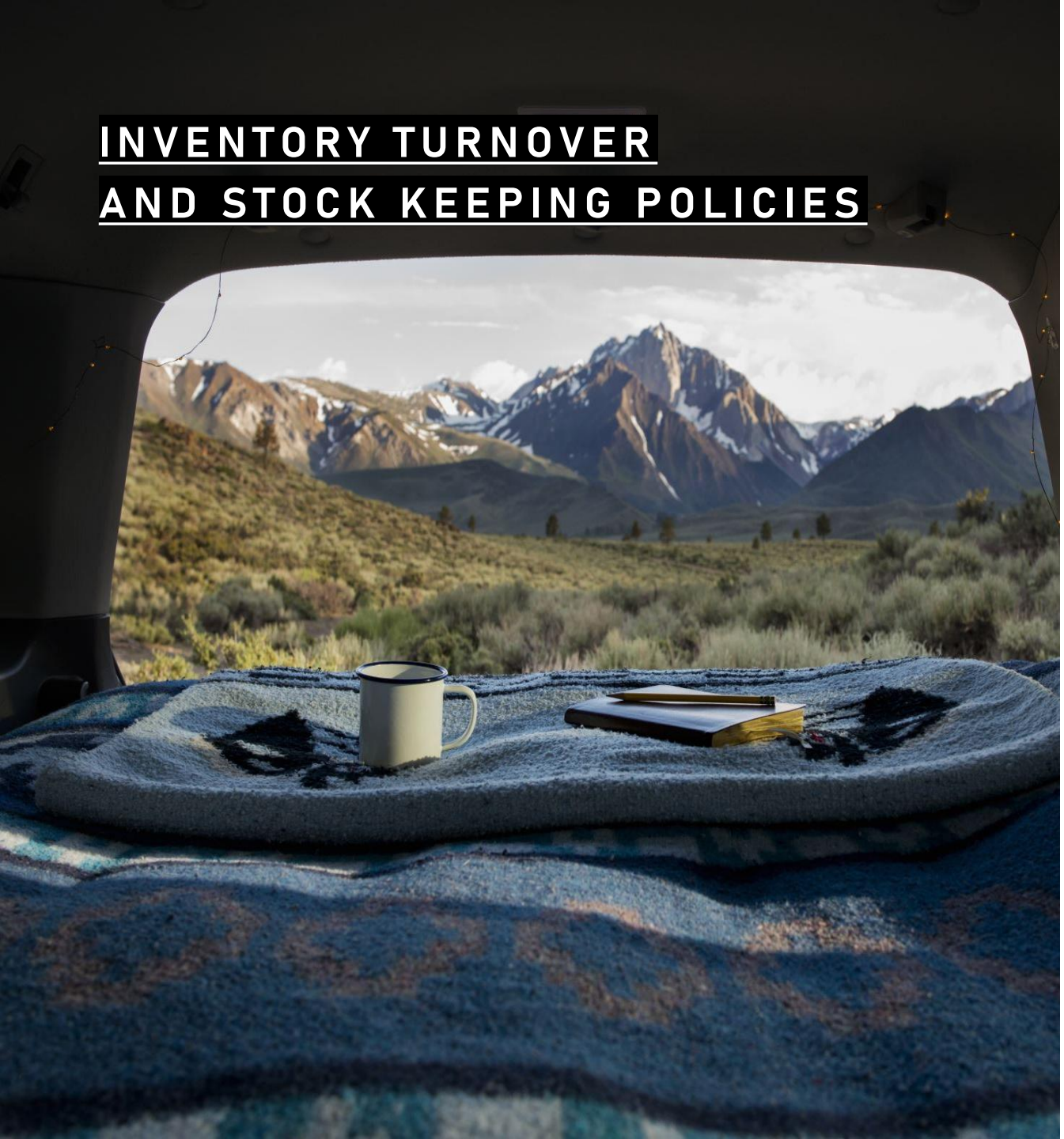
INVENTORY TURNOVER AND STOCK KEEPING POLICIES

- Deep Interaction Link or Lifecycle Maintenance for SAAT
- Spares Parts Inventory Management
- The spare parts department deals with challenges such as
- 1. Vehicle maintenance & repair intervals and requirements
- 2. Increased dynamics or competition from the after-market, the grey market and non-OEM parts suppliers
- 3. Increasing technology and replacements costs of parts
- 4. Impact of parts inventory on workshop productivity, and digitally-connected service centres & shop floors etc
- 5. Impact of eCommerce or online selling on automobile spare parts supply or sourcing



INVENTORY TURNOVER AND STOCK KEEPING POLICIES

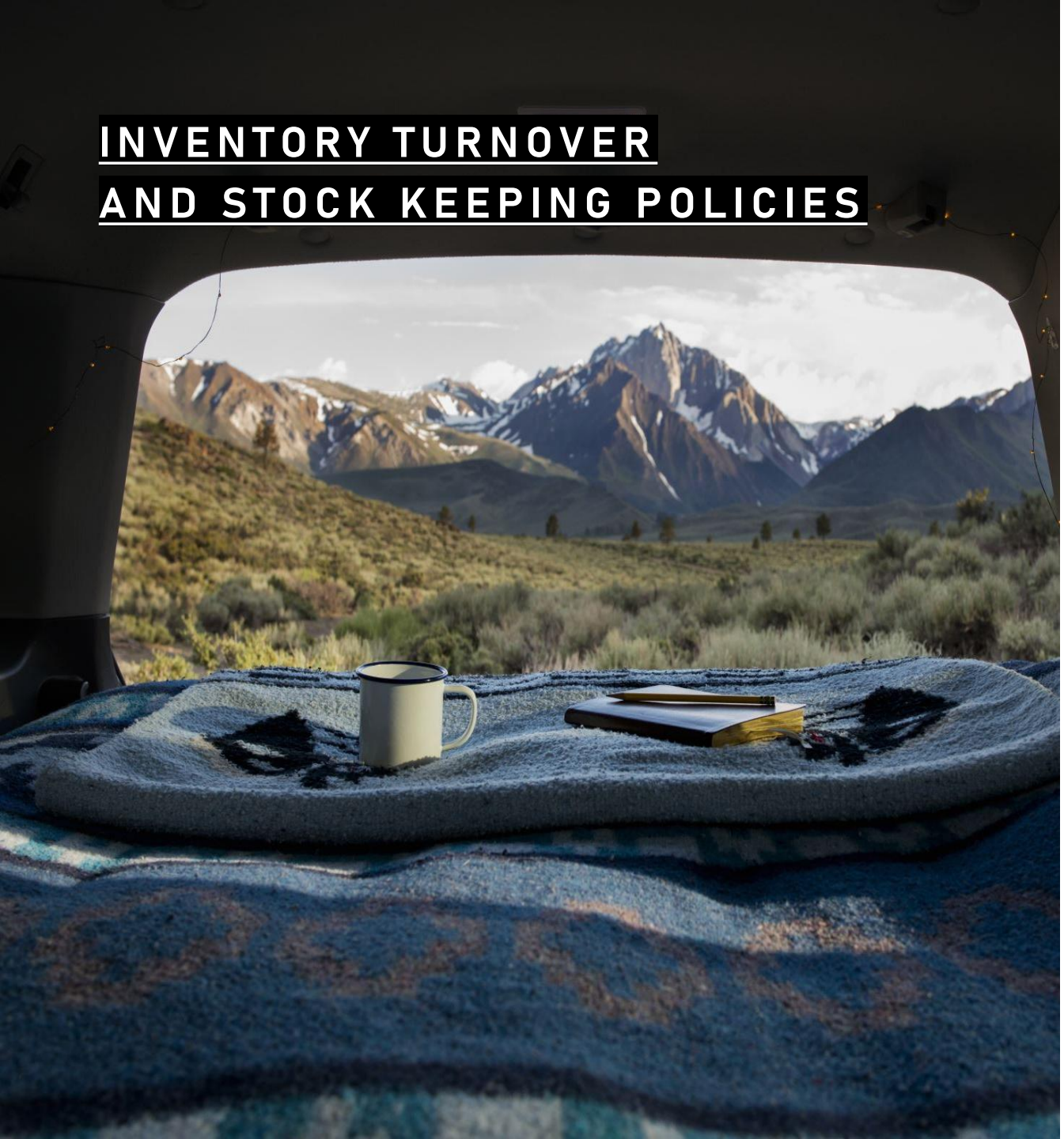
- Deep Interaction Link or Lifecycle Maintenance for SAAT
- Spares Parts Inventory Management
- **Observations**
- For sustainable development and growth, the spare parts management systems must focus on 3 areas
- 1. Service levels
- 2. Profitability
- 3. Dealership sales
- 4. D2L Value Addition
- 5. NSSR RS Guidelines



INVENTORY TURNOVER AND STOCK KEEPING POLICIES

- Deep Interaction Link or Lifecycle Maintenance for SAAT
- Spares Parts Inventory Management
- Here these service levels help a dealership improve overall customer retention and in time increase market penetration via vehicles sales or repeat purchases from the dealership
- Some key metrics for improved inventory management and profitability of business are
- 1. Days supply
- 2. Fill rate
- 3. Obsolescence
- 4. Non-stock investment
- 5. Non-stock parts usage in service or repairs
- 6. Emergency purchases
- 7. NSSR RS USHD Showcasing/Reviews
- 8. Lost customer numbers

INVENTORY TURNOVER AND STOCK KEEPING POLICIES

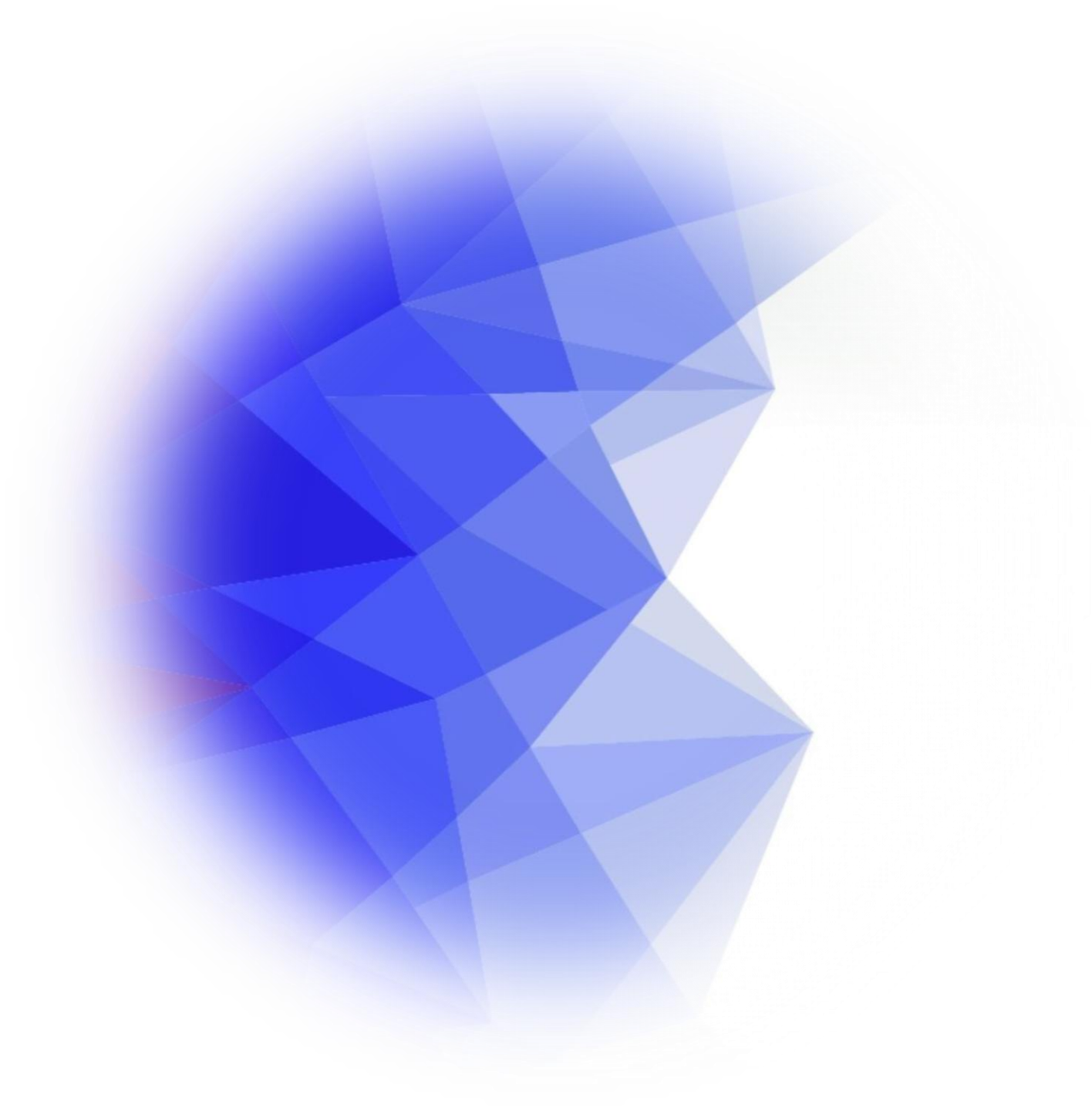


- Deep Interaction Link or Lifecycle Maintenance for SAAT
- In these scenarios any definition or redefinition of parts obsolescence must concern itself with associated issues such as
- (1) Repair delays
- (2) Additional handling
- (3) Emergency purchases
- (4) (Loaned) Vehicle policy expenses
- (5) (NSSR RS USHD) Showcasing/Reviews
- (5) Costs to productivity
- (6) Reduction in customer satisfaction and retention leading to reduced overall profitability

TGMB HUB + USHD FRAMEWORK – FUTURE CONNECTED ANALYTICS

APPENDIX C

(Value added Branding)



DEEP INTERACTION LINK FOR AUTOMOBILES AND BRANDS

INNOVATION FOR AUTOMOBILES AND BRANDS

- Manufacturer connected dealers or independent dealers in a city, neighborhood and strategic location are most frequented by people of different backgrounds.
- Along with any interest for a brand/model/variant, most of the people select automobiles based on a
- A. Desire to own or Cause specific response OR B. Intelligently Guided response, where the important quality attributes are
- 1. Vehicle details 2. Value for money 3. Aesthetics 4. Perceived Road Safety & Quality 5. Forward Lifetime theory, 6. Brand Value pertaining to the vehicle detailing, or insights for any voice of customer information such as unique features of the brand, the model, the variant, with any ease of ownership grade (we call this Deep interaction for the Juran Trilogy, as this is seen as inferential rather than today's custom previews or showcasing of analysis) for the targeted market, the customer segment, the manufacture-AND/OR assemble-AND/OR import to sell programme, the vision specific dealership and supplier networking, the-design for service-to-customers processes, and the assisted delayering and stake-holding of any likelihood of concerns for the diversity in customer expectations

INNOVATION FOR AUTOMOBILES AND BRANDS

- For the mobility needed today, Expectations of vehicle detailing, connected analytics information and ease of ownership based quality attributes are emerging to be important for brand identity and brand-value-stream-mapping.
- AOEC's idea or innovation is to add a Deep Interaction Link (label or tag) to the automobile/part/component/product in its original vehicle branding, in order, to help a manufacturer/dealer/supplier/stakeholder/customer enter the link into a web browser, or TGMB unifying showcase to review an Integrated principle for road safety and quality control factors and attributes.
- The integrated principle for road safety & quality control could on incorporation for an automobile/part/component/product add pertinent or deep interaction attributes like reliability, procurement enablers, process level, and verification attributes like the doing business factors, service quality model, service anywhere anytime norms like nutshell inventory, part fitness, vehicle management, ticketing and innovative "voice of customer" features that help infer more about the right vehicle suitability, right advertising, right channelling, right influencing and if possible inferential quality analysis like links to reviews, vehicle lifecycle-assessments, focus groups, staff/employee/spokesman reviews, .Deep interaction "TGMB unifying-points" that evaluate the principle for quality control.
- The Deep Interaction Link (label or tag) is based on the Juran Trilogy of implementing Quality Planning, Quality Control and Quality Improvement to manage the cost of poor quality or quality recognition and brand equity enablers for vehicle suitability and road system on-boarding for voice of the customer factors, and global & mutually beneficial attributes

INNOVATION FOR AUTOMOBILES AND BRANDS

- The Deep Interaction Link will also need the dealer to integrate additional activities

❑ Complaints redressal for brand equity or ease of ownership or road safety expectations

❑ Product liability details for brand equity or ease of ownership or road safety expectations

❑ Product recall, returns for brand equity or ease of ownership or road safety expectations

❑ Management of waste and with or without salvaging of items that can be reused/recycled, to manage the issues of Loss of reputation, loss of goodwill, loss in business share, delay or stoppage of supply

- The emphasis for this innovation is to help dealers incorporate BI/CQI facts based on road safety dashboarding and quality based decision making, relationship management for the principle for quality control, quality control tools and lean principle tools that reduce gaps for asset accountability, defects, variance, waste in what is seen as responsive & repetitive need for quality emphasis or call to plan emphasis, when the quality standards are not always adherent to multi-regulatory interests.

INNOVATION FOR AUTOMOBILES AND BRANDS

- The Deep Interaction Link will help work across brands/silos where this innovation can associate a Road System on-boarding innovation, Fast Track Pertinence, Action Centre, Unifying Showcase Help Desk (USHD) and Brand Equity Development Programmes that dealerships and their networks can intend to take up as case study or as different solution finding initiatives.
- Continual focus can add preponderance of possibilities, and business insights of tomorrow into relevant classes of automobiles/parts/components/products/goods.
- Ask for a case study or solution finding, by contacting us on M 9342867666 or by emailing us on venkataoec@gmail.com
- Our TGMB Unifying Showcase URL for this https://venkataoec.wixsite.com/deeper-interaction-a
- Our indications are that global automotive operating system market will need to use a foundation called the TGMB unifying fundamentals for the projectization of any releases or versioning

INNOVATION FOR AUTOMOBILES AND BRANDS

- TGMB unifying fundamentals
- Safer Commuting is one of the main unifying fundamental for automobile manufacturers and dealerships. The interest is to implement the same via a TGMB / USHD Dashboard framework.
- AOEC proposes a Safer Commuting related Road Safety handbook, Unifying Showcase Help Desk for this insight.
- We will be updating more details on our deep interaction link website. The TGMB Unifying Showcase URL for this is https://venkataoec.wixsite.com/deeper-interaction-a
- AOEC summarizes the problem description for unified safer commuting to be as follows.

INNOVATION FOR AUTOMOBILES AND BRANDS

- Problem description: Automobile Brand Equity Development Programmes for Safer Commuting will need to develop more hazards warning systems or imagery services to achieve a concept called Call-to-attention-mitigation of risks known to occur daily or incidentally due to road systems.
- The Safer Commuting solution will need to define the value stream mapping for this Call to attention mitigation of road systems risks with knowledge / key opinion or Call-to-attention enabling Road Safety Focus, Road System PI(s), KPI(s) or PI independent Kanban First Views for road systems affected by severe driving conditions.
- Severe driving conditions can be designed by Serial Numbered Focus (SLNF) Analytics, or Showcase Numbered Focus (SWNF) Analytics, or Docked View Numbered Focus (DVNF) Analytics
- Further more, today most automobile manufacturers deliver OTA packages for connected vehicle features. The Safer Commuting solution can be incorporated via OTA like connected vehicle themes, that are developed for (1) an evaluated Road System/Route or for (2) a Commuting theme like the LOD or Map View enabled Call-to-attention-mitigation of risks for severe driving conditions OTA stands for Over The Air networking, LOS stands for Line of Sight

INNOVATION FOR AUTOMOBILES AND BRANDS

- Road Safety focus (or LOS or PI/Map Views for) Severe driving conditions such as

Driving in dusty road conditions
Driving in road systems degraded by salt/corrosive toxins/ emissions
Driving in the condition of inflowing dust/sand/ water
Driving in mountainous areas
Towing related driving conditions
Driving in afflicted conditions (like low fuel or undue contingency or contaminated fuel, degraded parts, poor or damaged head lights, …)
Driving in frequent stop and start conditions or brake affected conditions
Driving in sunroof affected conditions
Driving in wiper, or windshield affected conditions
Driving in dealer-network-affected conditions
Driving in Emergency Services affected conditions
Driving in out-of-network-coverage conditions
Driving in reverse gear specifically conditions
Driving in journey parameter affected conditions
Driving in non-showcased conditions

INNOVATION FOR AUTOMOBILES AND BRANDS

- Conceptual Recommendaton services to manage the listed severe driving conditions
- D1. Quality of information for any Call to attention perspective/highlight as a recommendation/project/case study for the road safety feedback/response/condition
- The recommendation could be on-boarding Road Safety Focus, Road system metrics, KP(s)I, Surveys, Interviews, Engagement methodologies. The project/ case study could be one of the many stored in the TGMB Hub Clloud
- D2. Quality of process for any Call to attention on-boarding/perspective/highlight as STRIDE codification of safe commuting influencers as details/case studies/projects for the road safety condition
- D3. Trouble shooting for any Call to attention on-boarding/perspective/highlight as Perspective imagery or Kanban First Views. as perspectives/case studies/projects for the road safety condition
- D4. The effectiveness of such recommendation services can be sustainably evaluated via a constructive report called Quality of Safer Commuting Strategic-Tactical-Operational+ On-boarding intelligence for impact ad frequency of risk/hazard/incidence due to the road safety condition

INNOVATION FOR AUTOMOBILES AND BRANDS

- AOEC plans to develop the deliverables D1, D2, D3 and D4 as on-boarding or proof of concept solutions, where the same will be designed on the basis of select real world scenarios.
- The benefits of the proposed solution that can be integrated into a SMART Phone or Vehicle Multimedia System are expected to be as follows

❑ Improve the vehicle's performance, handling and focus analytics for safer commuting

❑ Deliver Kanban First View functionality for different features like Customer Engagement Assistance, BPI Assistance, Sourcing Assistance, CCMA Assistance, DIL Payload Box and Drop for Service Anywhere Anytime experiences and USHD Recommendation services)

❑ Add/Receive/Relay updated/connected call to attention imagery or perspective imagery.

❑ Provide USHD Recommendation services for Safer Commuting

UNIVERSAL PLANNER

SOCIAL RESPONSIBILITY

SA 8000

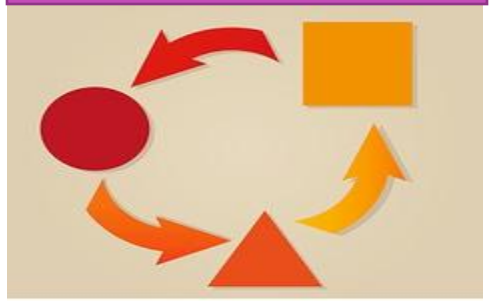
NSSR RS HANDBOOKS

Innovation & Improvement

Learning, Knowledge

Right to Education

Trends and Investment Cycle



Green Thinking

End of lifecycle

Lite emergence

NSSR HANDBOOK FOR PASSENGER 4W(S)

unbound

By

Venkatram K S (Gap Analyst, AOEC)

Aakkash K V (Emerging Analyst, BTECH & PGDM)

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TABLE OF CONTENTS (PILOT)

NSSR HANDBOOK FOR PASSENGER 2W(S)

unbound

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TABLE OF CONTENTS (PILOT)

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NSSR HANDBOOK FOR COMMERCIAL VEHICLES (LCV, MCV, HCV)

unbound

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Aakkash K V (Emerging Analyst, BTECH & PGDM)

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INNOVATION FOR AUTOMOBILES AND BRANDS

- The NSSR RS Handbook and Pull-outs will help plan for and integrate TGMB CRM activities for

❑ Complaints redressal for brand equity or ease of ownership or road safety expectations

❑ Product liability details for brand equity or ease of ownership or road safety expectations

❑ Product recall, returns for brand equity or ease of ownership or road safety expectations

❑ Management of waste and with or without salvaging of items that can be reused/recycled, to manage the issues of Loss of reputation, loss of goodwill, loss in business share, delay or stoppage of supply

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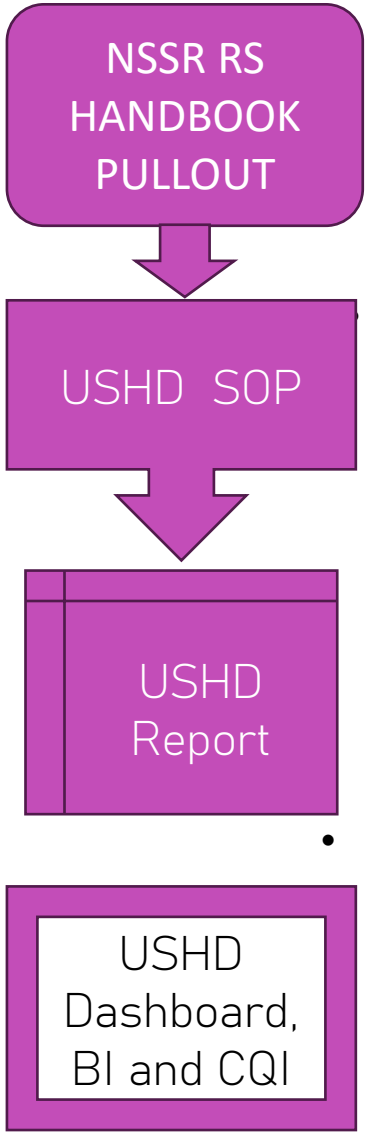
WORKFLOW



NSSR RS HANDBOOK

Road Safety Social Responsibility & on-boarding

- Pull-out forms or Key opinions scanned and sent
- Delayering/USHD Dashboards/FMCEA indicators
- USHD score specific roleplay or BI/CQI incorporation
- (ISO 9004) specific Reports/Case studies/ Empirical Studies
- BA or DevOps to Real World Lifecycle