CamScore

CAMSCORE
ASSESSMENT & APPLICATION GUIDE

DASHCAM SAFETY SCORECARD PROGRAMME

Consumer assessment programme for vehicle dashboard cameras (dashcams)

MIROS
MALAYSIAN INSTITUTE OF ROAD SAFETY RESEARCH
■ ASEAN ROAD SAFETY CENTRE

In partnership with

CyberSecurity
MALAYSIA

CAMSCORE ASSESSMENT GUIDE

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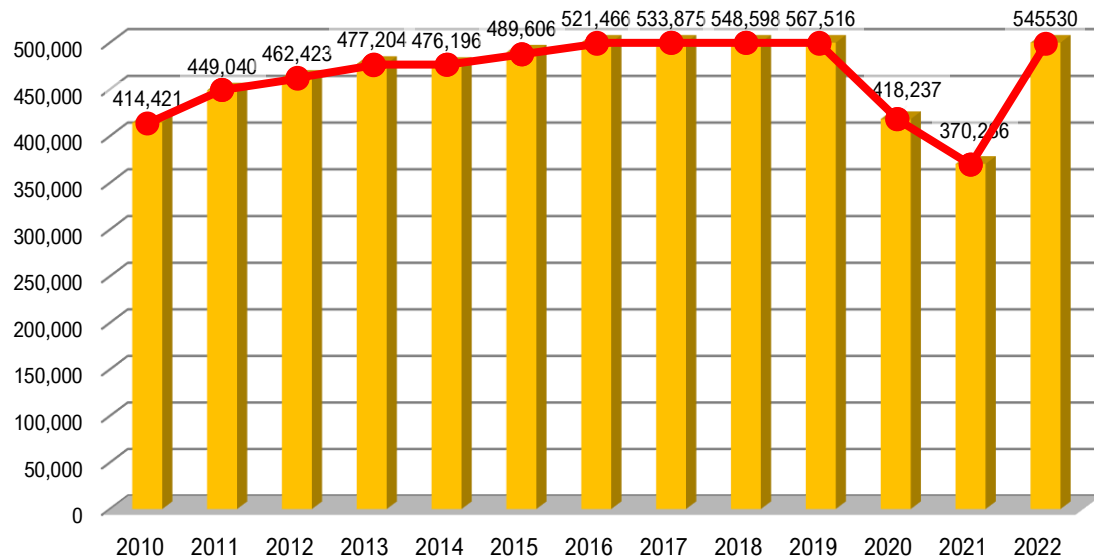
Application

Acknowledgement

Thank you to all who helped and supported the development of this assessment guide in terms of discussion and the needed information, particularly academia and industry professionals from the Modern Vehicle Expert Consortium (MOVE). We truly appreciate your feedback and participation in making this assessment programme a success.
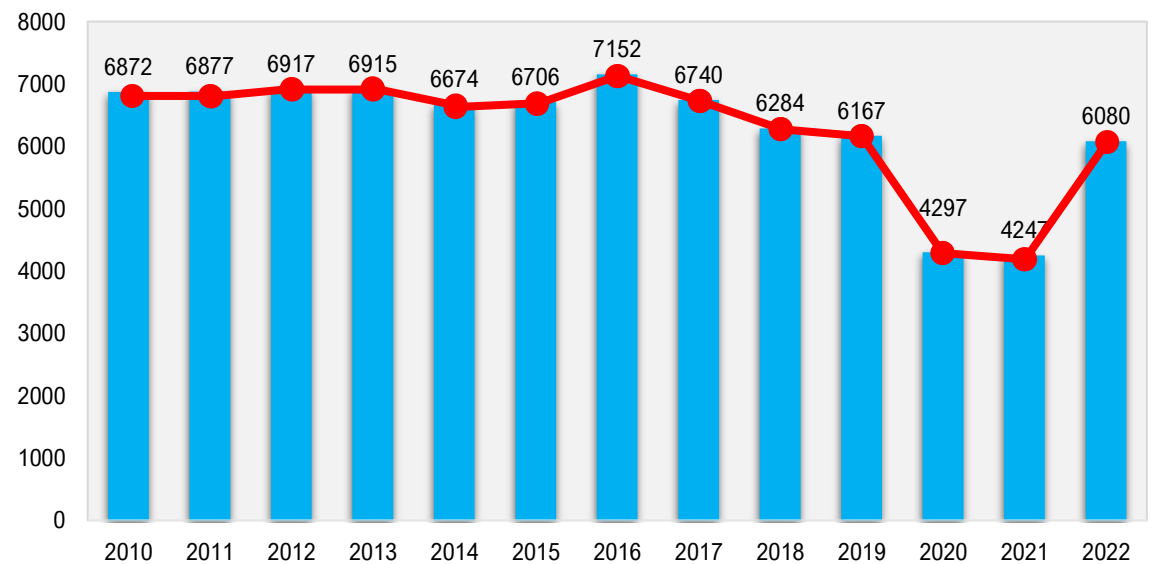
Background

Malaysia road crash and deaths statistics

Road crash statistics, 2010-2022

Year	Value
2010	414,421
2011	449,040
2012	462,423
2013	477,204
2014	476,196
2015	489,606
2016	521,466
2017	533,875
2018	548,598
2019	567,516
2020	418,237
2021	370,256
2022	545530

Road deaths statistics, 2010-2022

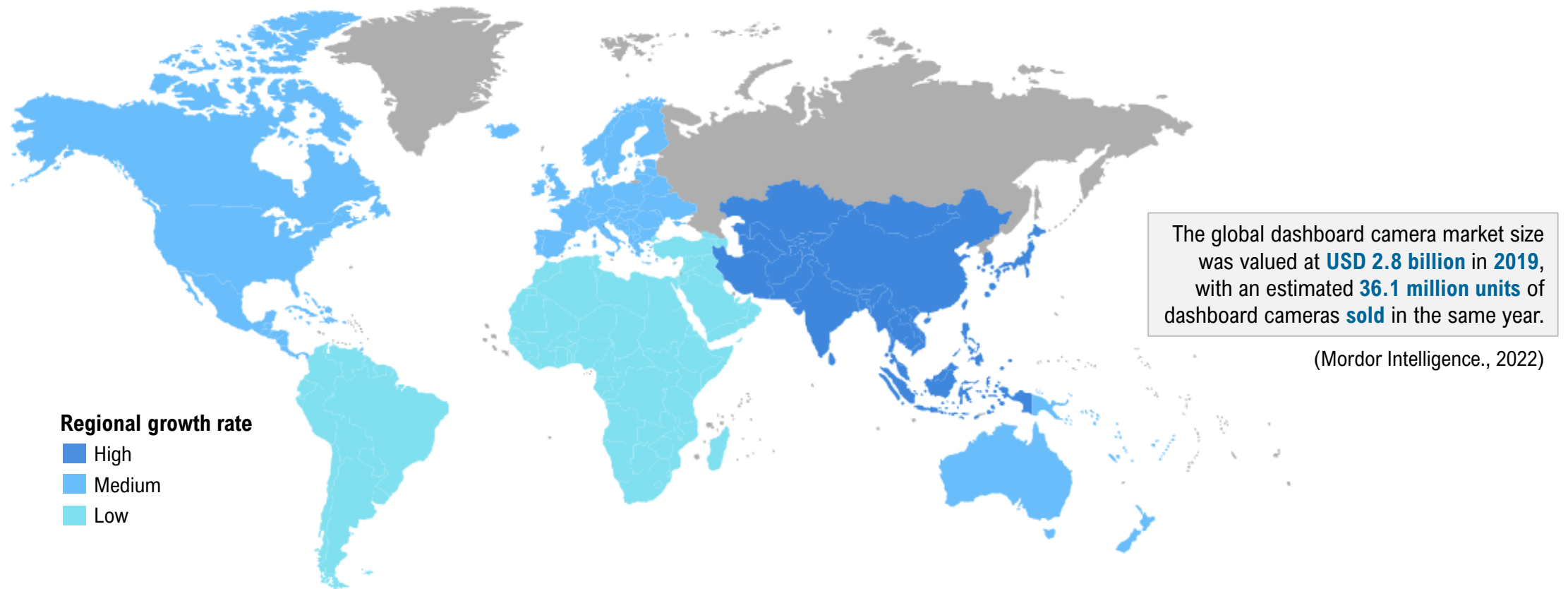| Year	Value
2010	6872
2011	6877
2012	6917
2013	6915
2014	6674
2015	6706
2016	7152
2017	6740
2018	6284
2019	6167
2020	4297
2021	4247
2022	6080

▶ Approximately, more than 400,000 road crashes were recorded for the 10-year period (2010-2019) excluding the pandemic Covid-19 period (2020 and 2021). From the figure, more than 6,000 road fatalities were recorded each year for the same period. Motorcyclists contributed over two-third of total road deaths, followed by passenger vehicles. In 2019 alone, 6,167 road deaths were recorded which led to around RM8.76 billions of economic loss to the nation.
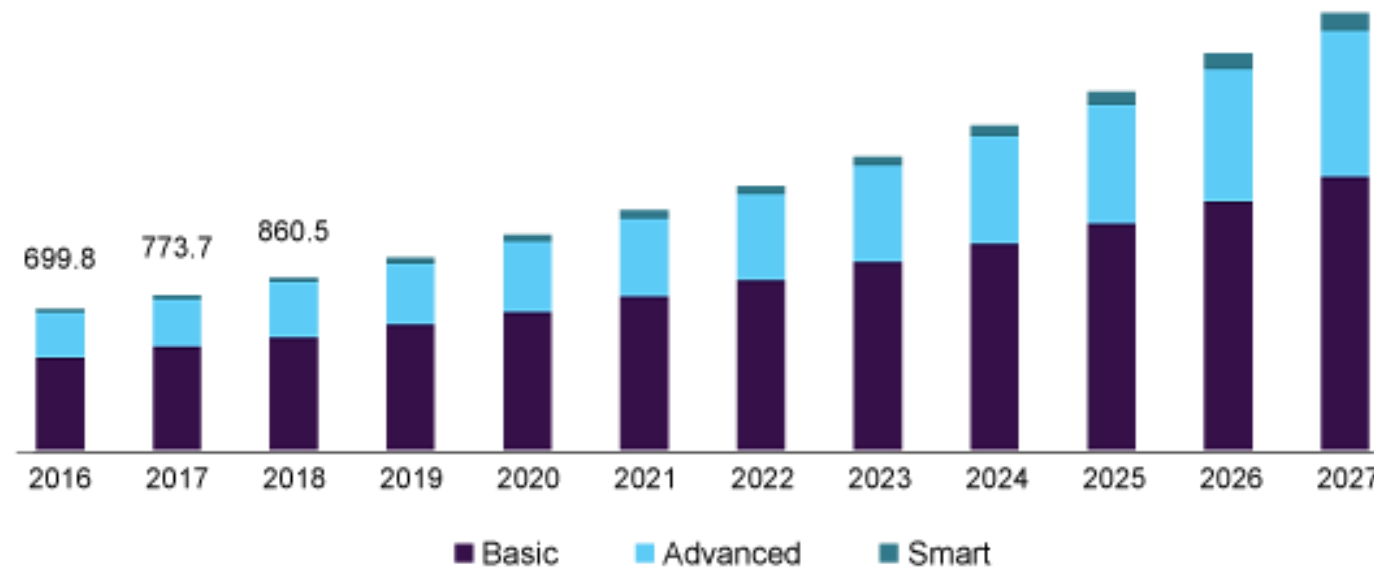
Background (cont'd.)

Dashcam market

Global dashboard camera market – growth rate by region (2022-2027)

The global dashboard camera market size was valued at **USD 2.8 billion** in **2019**, with an estimated **36.1 million units** of dashboard cameras **sold** in the same year.

(Mordor Intelligence., 2022)

Regional growth rate
- High
- Medium
- Low

Background (cont'd.)

Dashcam market

Europe dashboard camera market size, by technology, 2016-2027 (USD million)

(Grand View Research, Inc., 2020)

Background (cont'd.)

Dashcam market

Malaysia situation

Some of the several popular dashcam brands used in Malaysia include:

MORE AFFORDABLE PRICE WITH HIGHER QUALITY VIDEOS

Vision and Mission

VISION

Safer and **secured mobility** for all road vehicles in Malaysia.

MISSION

To spearhead utilisation of **visual aid technology** on road vehicles to enhance consumer safety and security on the road.

Aim and Scope

AIM

Safer and *secured mobility* for all road vehicles in Malaysia. To provide consumers with an additional tool to be used when choosing a dashcam to purchase while providing deeper insights on the safety aspect.

SCOPE

Stimulate good dashcams to enter the market and assist in crash investigation and ultimately reduce related road crashes by encouraging safe driving.

APPROACH

FEATURES DEFINITION AND EXPLANATION
  Basic, Advanced, ADAS

SCORE DISTRIBUTION

MARKING EVALUATION / STAR RATING

Features Definition and Explanation

I. Basic features

#	ITEM	DESCRIPTION / EXPLANATION
1	Frame rate (fps)	The "frame rate" is the number of frames recorded per second (fps). The higher the frame rate, the smoother the resulting movie. At 60 fps, 60 frames are recorded every second.
2	Night mode	Night mode is different from night vision. Night mode enhances night visual and obtain sharp, colour-accurate images at night. Night mode enabled a dashcam to record footage when the it detects a low-light environment.
3	Resolution	The number of pixels contained in each frame. Video resolution determines the amount of detail in your video or how realistic and clear the video appears. Description as follow: • High-definition (HD) – 1280 x 720 • Full HD – 1920 x 1080 • 2K – 2560 x 1440 • 4K – 4096 x 2160
4	Pixel	The smallest unit of a digital image or graphic that can be displayed and represented on a digital display device.
5	Recording angle (Field-of-view)	The maximum area that the device can capture. The bigger the recording angle, the wider the field-of-view. Recording angle depends on to two factors, the focal length of the lens and the sensor size.

Features Definition and Explanation (cont'd.)

I. Basic features (cont'd.)

#	ITEM	DESCRIPTION / EXPLANATION
6	Storage	A type of storage device that is used for storing media and data files. It provides a permanent and non-volatile medium to store data and files from the attached device internally or externally.
7	Loop recording	A continuous loop recording records video by overwriting older video with new footage. This allows the camera to keep recording even if the storage is full, ensuring the dashcam never miss to record a second of your drive.
8	Emergency recording (automated trigger)	A dashcam is normally equipped with a 3-axis G-sensor module, which detects movement and triggers an emergency recording mode. In the event of a collision that exceeds a certain force threshold, the device will automatically lock and save that video clip to prevent it being overwritten.
9	Warranty period	The period of time that warrants free repair and adjustment services or 1-to-1 exchange in case of a malfunction occurred under normal use that has followed instruction manuals.
10	OS compatibility	The ability for the dashcam to connect to one or more operating systems.
11	Date & time stamp	An indication of the date and time recorded in the video.
12	Auto ON/OFF operation (auto start & recording)	The recording function will automatically start and stop depending on the vehicle ignition.
13	Built-in battery	A battery-powered of having an internal power source so the dashcam works even when the engine is turned off and there is no external power source needed.
14	User manual	Instruction manual or the basic list and advanced functions of the device on how it operates.

Features Definition and Explanation(cont'd.)

II. Advanced features

#	ITEM	DESCRIPTION / EXPLANATION
1	App control	The app control lets you view live and recorded footage on your smartphone or any mobile device, download video, and remotely control dashcam settings.
2	WiFi	Allows a smartphone or other devices to be paired to the dashcams via WiFi connection.
3	GPS	Shows the vehicle's speed and, for some models, the location of the vehicle with Google Maps integration.
4	Parking mode	Monitors surroundings while the vehicle is parked and the engine is not running. Allows them to continue recording while the vehicle is parked and turned off.
5	Display - screen availability	A display screen for viewing recorded video footage.
6	Audio recording	The ability for the dashcam to record audio with the video footage.
7	Voice control/command	Ability to control the device by voice commands.
8	Speed indicator	Ability for the dashcam to record the vehicle's speed.
9	Backup power supply	A storage backup power supply that allows the dashcam to operate when the vehicle stopped or switched-off such as to maximize the parking mode protection and prevent battery discharge to the vehicle.
10	Multi-input camera	Ability to connect to multiple cameras.
11	Package inclusive of rear dashcam	The dashcam package comes with rear dashcam.

Features Definition and Explanation(cont'd.)

III. ADAS

The system warns the driver but does not interfere with the vehicle system

#	ITEM	DESCRIPTION / EXPLANATION
1	Lane Departure Warning (LDW) system	Designed to help driver to avoid crashes due to drifting or departing lane. The LDW feature alerts the driver when the dashcam detects the vehicle may be crossing a lane boundary unintentionally. For example, the dashcam alerts (via audible and/or visual warning) the driver if the driver crosses some solid painted lane boundaries.
2	Forward Collision Warning (FCW) system	Warning systems warn the driver of an impending collision by detecting stopped or slowly moved vehicles ahead. The feature helps the driver to avoid rear-end collisions by providing a visual and audible warning in critical situations where a collision is imminent. When a vehicle that is driving in front suddenly breaks abruptly, a quick response may be required.

Score Distribution

Components	Points
I. Basic Features	3.0
II. Advanced Features	1.5
III. ADAS (5★ pre-requisite)	0.5
TOTAL	**5.0**

Score Distribution (I. Basic Features)

#	Items	Minimum Requirement	Item Description						Point Calculation
			Min. requirements. (A)	Score	Add. Req. 1 (B)	Score	Add. Req. 2 (C)	Score	
1	Frame rate (fps)	Min. frame rate	24≤ fps ≤30	1	30≤ fps <60	0.25	fps ≥60	0.5	
2	Night mode	Yes	Aval.	1	-	-	-	-	
3	Resolution	Min. resolution	1280x720	1	1920x1080	0.25	>1920x1080	0.5	
4	Pixel	Min. pixel	720p	1	1080p	0.25	>1080p	0.5	
5	Recording angle (Field-of-view)	Min. angle	90≤ deg ≤130	1	130< deg <150	0.25	deg ≥150	0.5	
6	Storage	Yes	Aval. (external)	1	Built-in	0.25	-	-	
7	Loop recording	Yes	Aval.	1	-	-	-	-	BFS = [(Sum[A + (B or C)])/18] x 3.0
8	Emergency recording (automated trigger)	Yes	Aval.	1	-	-	-	-	
9	Warranty period	Yes	Aval.	1	At least 1 year	0.25	>1 year	0.5	
10	OS compatibility	Yes	Android / iOS / Huawei AppGallery	1	Win & Mac	0.25	-	-	
11	Date & time stamp	Yes	Aval.	1	-	-	-	-	
12	Auto ON/OFF operation (auto start & recording)	Yes	Aval.	1	-	-	-	-	
13	Built-in battery	Yes	Aval.	1	Lithium-ion	0.25	Supercapacitor (SC)	0.5	
14	User manual	Yes	Aval.	1	Hardcopy	0.25	Softcopy	0.5	
	MAX SCORE (I) =	18	TOTAL (A) =	14	TOTAL (B) =	2.25	TOTAL (C) =	4	

Score Distribution (II. Advanced Features)

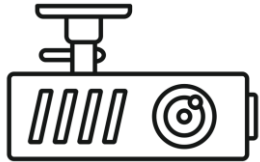| #	Items	Minimum Requirement	Item Description	Score	Point Calculation
1	App control	Yes	Aval.	2	
2	WiFi	Yes	Aval.	1	
3	GPS (built-in)	Yes	Aval.	2	
4	Parking mode	Yes	Aval.	2	
5	Display - screen availability	Yes	Aval.	1	
6	Audio recording	Yes	Aval.	2	AFS = (Sum/16) x 1.5
7	Voice control/command	Yes	Aval.	2	
8	Speed indicator	Yes	Aval.	1	
9	Backup power supply	Yes	Aval.	1	
10	Multi-input cameras	Yes	>1	1	
11	Package inclusive of rear dashcam	Yes	Aval.	1	
			TOTAL (MAX) =	16	*AFS – Advanced Features Score

Score Distribution (III. ADAS – 5★ pre-requisite)

Exclusive ADAS pre-requirement condition for 5-star rating:

- Must achieve full score for **Min Requirement (= 14 points)** in Basic Features.
- ADAS to be included (either one or both) – **lane departure warning (LDW)**; **forward collision warning (FCW)**

Marking Evaluation / Star Rating

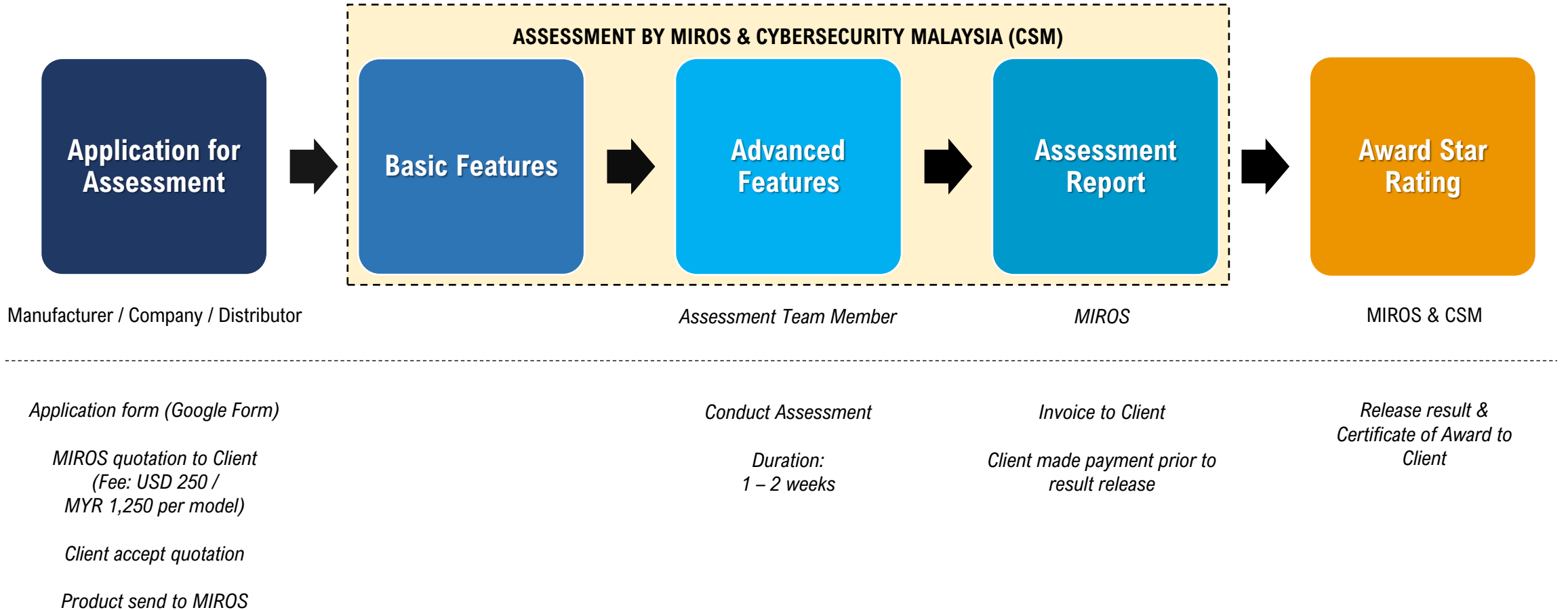| Final Points	Star
4.50 – 5.00	★ ★ ★ ★ ★
3.75 – 4.49	★ ★ ★ ★
3.00 – 3.74	★ ★ ★
2.00 – 2.99	★ ★
1.25 – 1.99	★

Sponsored Assessment

For sponsored assessment, the applicant **must surrender one set of the product (minimum)**, however, we **encouraged that applicant send 2 sets.**

Assessment fee is **USD 250 / MYR 1,250 per model** payable to Malaysian Institute of Road Safety Research (MIROS)

Assessment Procedure

ASSESSMENT BY MIROS & CYBERSECURITY MALAYSIA (CSM)

Application for Assessment → Basic Features → Advanced Features → Assessment Report → Award Star Rating

Manufacturer / Company / Distributor

Assessment Team Member

MIROS

MIROS & CSM

Application form (Google Form)

MIROS quotation to Client (Fee: USD 250 / MYR 1,250 per model)

Client accept quotation

Product send to MIROS

Conduct Assessment

Duration: 1 – 2 weeks

Invoice to Client

Client made payment prior to result release

Release result & Certificate of Award to Client

Application Form

Kindly scan QR code to apply.

For any related inquiry, kindly email to:

✉ cvu@miros.gov.my