



KASTURI TECHNOLOGY
MALAYSIA



QUICK REFERENCE · 2026

Meeting Room AV Quick Reference

The room types, the numbers and the decisions, condensed to twelve pages for the person who has to specify the room.
Everything essential, nothing you can skip.

ROOM TYPES

DISPLAY SIZING

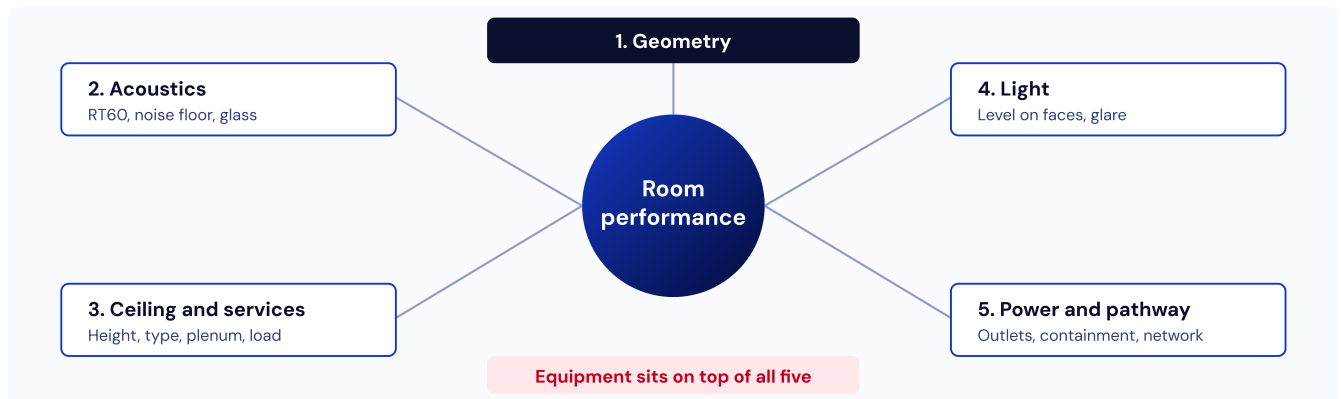
ACOUSTICS

BUDGETS IN MYR

CHECKLIST

1 Why meeting rooms fail

In almost every room people avoid booking, the equipment is fine. What failed was one of five constraints that sit outside the equipment list, and were usually decided by someone who was never asked about video conferencing.



THE FIVE FAILURES WE FIND MOST OFTEN

1. **The table is too long for the camera.** A 6 m table with one front of room bar leaves the far end unreadably small.
2. **Untreated glass on two or three walls.** Glass reflects every frequency that matters for speech.
3. **The aircon is louder than NC-40.** Automatic gain control ends up chasing the air conditioning, not the talker.
4. **No power or conduit in the table.** Found on install day, solved with a cable taped to the carpet for five years.
5. **Nobody owns the room after handover.** No firmware policy, no monitoring, no named person.

ONE RULE ABOVE ALL

People forgive a mediocre picture. They will not forgive bad audio. If the budget comes under pressure, protect the microphone, the loudspeaker and the acoustic treatment before you protect the screen size.

WHAT "IT DOES NOT WORK" USUALLY MEANS

"They cannot hear us"	Mic distance, RT60 or noise floor
"We cannot hear them"	Speaker placement or level
"There is an echo"	Reflections, or a second open device
"You look far away"	Camera distance and framing mode
"It takes ten minutes"	Cables, switching, or no owner

2 Find your room

Areas assume a 2.7 m clear ceiling. The right hand column is the one number that decides most of the system, so measure it before you talk to anybody.

CORPORATE SPACE TYPES AND THE CONSTRAINT THAT DECIDES THE DESIGN

SPACE	PAX	TYPICAL SIZE	DISPLAY	AUDIO APPROACH	THE DECIDING CONSTRAINT
Focus booth	1 to 2	1.2 x 1.5 m	24 to 32 in	Personal device	Pod ventilation noise, keep under 40 dB(A)
Huddle room	3 to 5	3.0 x 2.7 m	55 in	All in one bar	Nearest face no closer than 1.2 m to the lens
Small meeting	4 to 6	4.9 x 4.9 m	55 to 65 in	All in one bar	Mic to farthest talker within 2.0 m
Standard meeting	6 to 12	5.5 x 6.0 m	65 to 86 in	Bar plus expansion mic	Mic to farthest talker within 2.4 m
Large meeting	12 to 16	4.5 x 9.8 m	86 in or larger	Modular, ceiling mic and speakers	Length beyond 8 m defeats a single bar
Boardroom	16 to 24	7.0 x 12.0 m	Dual 98 in or LED	DSP, two arrays, distributed speakers	Farthest viewer distance and table width
Training room	20 to 40	8.0 x 12.0 m	LED or dual 98 in	DSP, voice lift, wireless mics	Reinforcing the trainer to the back row
Divisible room	2 x 20	8.0 x 16.0 m	2 per half	DSP presets, partition sensing	Moving wall isolation, Rw 45 to 50
Town hall	60 to 200	12 x 20 m plus	LED wall	Distributed, wireless mics	Reverberation and coverage uniformity
Briefing centre	10 to 20	7.0 x 10.0 m	LED, 2.5 mm or finer	DSP with programme audio	Ambient light control and content ownership
Control room	4 to 12	6.0 x 9.0 m	24/7 rated wall	Operator intercom	Continuous duty rating and heat load
Lobby	Transient	Wall dependent	LED or LCD	Usually mute	Ambient light and nearest viewer distance

THE NUMBER THAT RECLASSIFIES A ROOM

Microphone to farthest talker. Under 2.4 m an all in one bar is honest. Beyond it, no amount of beamforming makes the far end sound close.

ASPECT RATIO BEATS AREA

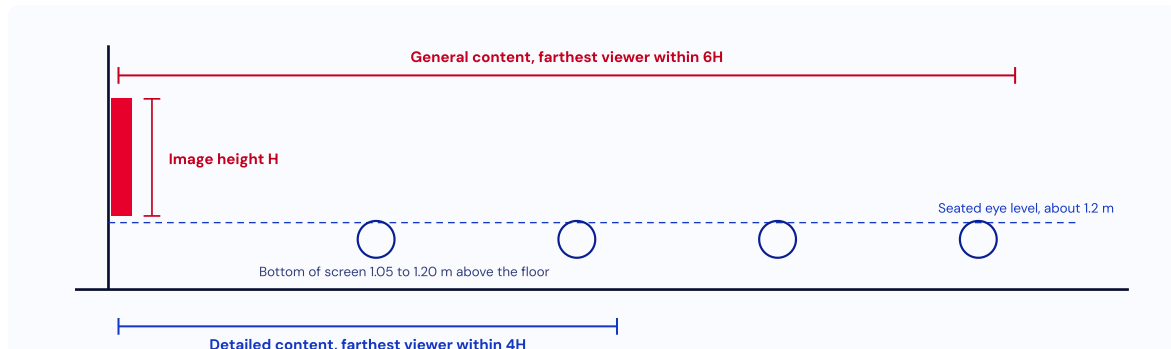
A 44 m² room at 4.5 x 9.8 m and one at 6.6 x 6.6 m need completely different systems. The long room needs modular audio and probably two displays.

COUNT THE WALL SEATS

Rooms are specified by seats at the table and used by everyone who squeezes in. Wall seats sit outside mic and camera coverage unless you design for them.

3 Size the display with arithmetic

Display size is not a taste decision. ANSI/AVIXA V202.01, known as DISCAS, ties it to the distance of the farthest viewer and the kind of content on screen.



H is image height, not the diagonal. For a 16:9 display, image height is the diagonal multiplied by 0.49. A 65 in panel has an image height of 0.81 m.

DISPLAY SIZE BY FARTHEST VIEWER DISTANCE

FARTHEST VIEWER	GENERAL CONTENT, 6H	DETAILED CONTENT, 4H	COMMONLY INSTALLED
2.5 m	34 in	50 in	55 in
4.0 m	54 in	80 in	75 in
5.0 m	67 in	100 in	86 in
6.0 m	80 in	120 in	98 in
7.5 m	100 in	151 in	Dual 98 in or LED
9.0 m	120 in	181 in	LED wall

The first two columns are calculated minimums at 16:9, so round up to the nearest panel you can buy. The right hand column is what gets installed. Below about 6 m that compromise is generous. Above it, an LED wall becomes the correct answer.

GEOMETRY RULES

Horizontal viewing angle	Within 45 degrees
Preferred	Within 30 degrees
Bottom of screen	1.05 to 1.20 m
Closest viewer	Not nearer than 2H
Camera lens height	1.1 to 1.5 m

TWO DISPLAYS DO NOT HELP DISTANCE

Side by side displays do not change image height, so they do not extend viewing distance. They are for showing content and people at the same time. If you need a bigger picture, buy a bigger picture.

4 Acoustics and light, the two you cannot buy later

ACOUSTICS

Two numbers describe whether a room can carry a conversation. RT60 is how long sound takes to decay by 60 dB. NC is how loud the room is when empty.

RT60 TARGETS		NOISE, NC RATING	
Small room	0.4 to 0.5 s	Ideal	NC-25 to 30
Meeting room	0.4 to 0.6 s	Ceiling	NC-35
Boardroom	0.4 to 0.6 s	Typical local room	NC-38 to 45
Training	0.5 to 0.7 s	Usual source	Fan coil unit
Town hall	0.6 to 0.9 s		

A typical 5.5 x 6.0 x 2.7 m room with hard finishes measures about RT60 1.1 s. Adding roughly 20 m² of material rated NRC 0.85, which is about 16 percent of the room's surface area, brings it to 0.52 s. As a planning figure, expect to treat 20 to 30 percent of surface area.

TREAT THE ROOM BEFORE YOU UPGRADE THE MICROPHONE

A beamforming array improves the direct to reverberant ratio by a few decibels. Bringing RT60 from 1.1 s to 0.5 s improves it by far more, and costs less than the array.

LIGHT

Office lighting puts light on the desk. A camera needs light on the face, which is a vertical surface. Most meeting rooms have plenty of the first and almost none of the second.

LIGHTING TARGETS	
Vertical illuminance on face	300 to 500 lux
Working target	400 lux
Colour temperature	3500 to 4000 K
Colour rendering index	85 minimum
Uniformity across faces	Within 2 to 1

FOUR RULES

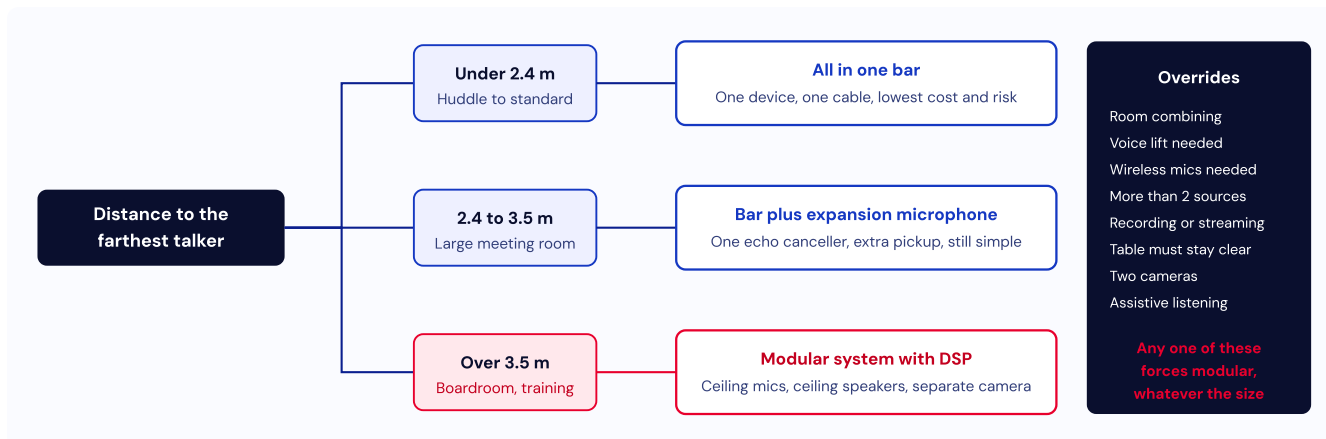
- **Never seat anyone with a window behind them.** The camera exposes for the window and the person becomes a silhouette.
- **Use large area fixtures.** Panels and linear fittings give soft light. Small downlights put hard shadows in eye sockets.
- **Keep every source the same colour temperature.** Mixed sources give faces a cast no white balance can fix.
- **Zone and dim.** Presentation, video call and full brightness are three different scenes.

MEASURE IT IN TWO MINUTES

Hold a lux meter at the seated head position with the sensor facing the camera, not facing up. That reading is what the camera sees. Check the seat nearest the window and the seat furthest from it.

5 The biggest cost decision you will make

Video bar or modular system. The honest test is not the size of the room in square metres. It is the distance from the device to the farthest talker.



WHAT THE BAR GENUINELY GIVES YOU

- One vendor, one support call. Firmware, echo cancellation, framing and audio tuning come from one vendor and are tested together. The trade is a single hardware failure domain, so hold a spare across a fleet.
- Fast, cheap installation. A mount, a power point and a network cable.
- Predictable rollout. Twenty identical rooms behave identically, which is worth more than any individual feature when you are the one supporting them.

WHAT MODULAR GENUINELY GIVES YOU

- Microphones where the people are, not where the display is. In a long room this is decisive.
- Even loudspeaker coverage. No front row too loud, no back row straining.
- Room combining, voice lift, wireless microphones, multiple cameras and assistive listening. These sit outside what a self contained bar is built to do, though some models accept an expansion microphone or a satellite camera. Check the specific model.
- Component level upgrade, so the camera can change without replacing the audio system.

6 Audio in one page

Every microphone decision comes back to one ratio: how much of what reaches the capsule is the talker and how much is the room. Doubling the distance costs 6 dB of direct sound and gives the room the same 6 dB back.

MICROPHONE TYPES

TYPE	WORKING DISTANCE	THE TRADE
Integrated in a bar	Up to 2.4 m	Free and well tuned, but fixed at the display wall, which is the worst position in any long room.
Table puck or boundary	0.8 to 1.2 m	Best raw signal to noise ratio of any type. Picks up laptop fans and tapping, and people move them.
Ceiling array	1.5 to 3.0 m	Invisible, nothing on the table, zones you can gate and mute. Costs more and rewards a low RT60.
Pendant	1.0 to 2.0 m	Gets the capsule down where the talkers are when the ceiling is high or exposed.
Wireless	0.1 to 0.4 m	Follows the person. Batteries, charging and frequency coordination come with it.

LOUDSPEAKER LAYOUT IS ARITHMETIC

Coverage diameter = $2 \times (\text{ceiling height minus } 1.2 \text{ m}) \times \tan(\text{dispersion angle} / 2)$

Spacing = coverage diameter x 0.7 for even coverage, or x 0.5 for the smoothest level and best speech clarity.

CEILING HEIGHT	COVERAGE DIAMETER	SPACING	SPEAKERS PER 50 M ²
2.7 m	3.0 m	2.1 m	12
3.0 m	3.6 m	2.5 m	8
3.5 m	4.6 m	3.2 m	5
4.0 m	5.6 m	3.9 m	4

NEVER MIX TWO SYSTEMS

One echo canceller per room. A bar plus an independent ceiling array, or a laptop with its own microphone open in the same room, produces artefacts no setting will fix. If a room needs both, the ceiling microphone must feed the device that already owns the loudspeaker.

LEVEL TARGETS

Speech in a meeting room	70 to 75 dB SPL
Programme audio	80 to 85 dB SPL
Variation across seats	Within 6 dB
Signal to noise over ambient	25 dB or better

DO NOT USE THE DISPLAY SPEAKERS

A television's built in loudspeakers fire backwards into the wall, arrive late relative to the picture and cannot be equalised. Acceptable in a huddle room as a fallback, and nowhere else.

100 V LINE OR LOW IMPEDANCE

More than four loudspeakers, runs over 30 m, or any need for zoning means a constant voltage line. Two speakers beside a screen can stay low impedance. 100 V and 70.7 V are distinct standards, so amplifier, transformer taps and total load must all match one of them.

7 Cables, network and the things IT must agree first

PRACTICAL DISTANCE LIMITS

Almost every intermittent AV fault traces back to a cable being asked to go further than it can. HDMI cables are certified by category, not by version number. Lengths below are design rules of thumb for a specified set of equipment, not certified maximums.

SIGNAL	RELIABLE DISTANCE	NOTE
Premium High Speed HDMI Cable	5 m	Often 10 m when certified
Ultra High Speed HDMI Cable	3 m	Plan active optical from the start
Active optical HDMI	30 to 100 m	Directional, fragile bend radius
HDBaseT Class B	70 m	No Ethernet channel
HDBaseT Class A, Spec 3.0	100 m	Use shielded Cat6a, not Cat5e
USB 2.0 passive	5 m	The limit that surprises people
USB 3.x passive	3 m	Table tethers must be active
Active USB over category	60 to 100 m	Confirm the USB class is supported
100 V loudspeaker line	200 m and beyond	Size the conductor for the load

TWO LINES FOR YOUR TENDER

All category cabling serving AV shall be shielded Cat6a or better, and every link shall be certified with results handed over. Any run exceeding the manufacturer's stated limit shall be extended by an approved method rather than a longer cable.

WHAT IT NEEDS TO AGREE BEFORE THE ORDER

BANDWIDTH	DSCP, TEAMS THEN ZOOM
Typical call	4 to 8 Mbps
Large gallery	10 to 20 Mbps
Peak with content	30 Mbps
Design for peak	35 Mbps
Connection	Wired gigabit
Audio	46, then 56
Video	34, then 40
Sharing	18, then 40
Applied	End to end

POE BUDGET, COUNTED PER ROOM

DEVICE	CLASS	WATTS
Ceiling microphone array	PoE+	15 to 25
Touch console	PoE+	13 to 25
Scheduling panel	PoE	7 to 13
PTZ camera	PoE+	13 to 25
Video bar	Model specific	Mains, or 50 to 90 on PoE++ models
Typical boardroom total		120 to 180

Classes are typical, not a rule. Many video bars are mains powered, so build the real figure from the final equipment schedule. Specify the switch by total PoE budget, not per port maximum. Many switches advertise 90 W per port and only 370 W across all of them.

SEGMENTATION

A dedicated AV VLAN, a separate VLAN for network audio where used, and guest wireless presentation isolated from both. Change every default password. Ask how long the model you are buying will receive security updates.

8 Budget bands in ringgit

Indicative supply, install and commissioning ranges for the Klang Valley as at September 2026, excluding SST. Planning figures for a budget submission, not a quotation.

INDICATIVE ALL IN COST BY SPACE AND SPECIFICATION TIER

SPACE	ESSENTIAL	STANDARD	PREMIUM
Huddle room 3 to 5	RM 8,000 to 14,000	RM 14,000 to 22,000	RM 22,000 to 32,000
Small meeting room 4 to 6	RM 12,000 to 20,000	RM 20,000 to 32,000	RM 32,000 to 48,000
Standard meeting room 6 to 12	RM 15,000 to 35,000	RM 35,000 to 62,000	RM 62,000 to 95,000
Large meeting room 12 to 16	RM 35,000 to 65,000	RM 65,000 to 110,000	RM 110,000 to 180,000
Boardroom 16 to 24	RM 30,000 to 80,000	RM 80,000 to 160,000	RM 160,000 to 320,000
Training room 20 to 40	RM 70,000 to 140,000	RM 140,000 to 260,000	RM 260,000 to 450,000
Divisible room 2 x 20	RM 150,000 to 260,000	RM 260,000 to 450,000	RM 450,000 to 800,000
Town hall 60 to 200	RM 180,000 to 380,000	RM 380,000 to 750,000	RM 750,000 and above
Briefing centre LED based	RM 250,000 to 500,000	RM 500,000 to 950,000	RM 950,000 and above
Control room 4 to 12 operators	RM 160,000 to 320,000	RM 320,000 to 650,000	RM 650,000 and above
Lobby LED wall per m ² installed	RM 9,000 to 14,000 2.5 mm	RM 15,000 to 24,000 1.5 mm	RM 24,000 to 38,000 1.2 mm

WHAT EACH TIER CONTAINS

Essential Display, certified bar or BYOD kit, mount, cables, install, basic handover.

Standard Adds larger or second display, expansion microphone, touch console, wireless presentation.

Premium Modular: DSP, ceiling arrays, ceiling loudspeakers, separate cameras, control processor, rack.

WHAT THESE FIGURES EXCLUDE

- SST
- Acoustic treatment, RM 250 to 600 per m² of treated surface
- Furniture and table modification
- Power, containment, wall reinforcement, making good
- Network switches and IT labour
- Platform licences, about RM 1,800 per room per year

WHERE THE MONEY GOES IN A HEALTHY ROOM

Display and mounting **20 to 30%**

Audio, mics and speakers **25 to 35%**

Camera and codec **20 to 30%**

Switching, control, rack **10 to 15%**

Labour and commissioning **12 to 18%**

If audio is under 20 percent of the total, the room is underspecified for audio whatever the equipment list says.

9 Readiness checklist before the ceiling closes

Every unticked item on this page becomes a variation order later.

DESIGN FROZEN

- ☐ Room dimensions confirmed on site
- ☐ Table size, shape and position agreed
- ☐ Display size calculated from farthest viewer
- ☐ Display bottom edge at 1.05 to 1.20 m
- ☐ Camera position and lens height agreed
- ☐ Microphone positions on the ceiling plan
- ☐ Loudspeaker layout calculated
- ☐ Platform decided, licences ordered

STRUCTURE

- ☐ Wall reinforcement behind the display
- ☐ Independent slab fixings for ceiling devices
- ☐ Rack location agreed and accessible

POWER AND PATHWAYS

- ☐ AV on its own circuit, not the lighting circuit
- ☐ Outlets behind the display and at the table
- ☐ Floor boxes set out from the table, not the wall
- ☐ Surge protection, protective earthing and bonding confirmed at the rack
- ☐ Conduit 32 mm minimum, 50 mm for two or more
- ☐ Draw wires in every conduit
- ☐ AV containment separate from mains
- ☐ One spare Cat6a to every device position
- ☐ Two spare Cat6a to the display wall

NETWORK

- ☐ AV VLAN created
- ☐ Guest presentation isolated
- ☐ Switch PoE budget confirmed
- ☐ QoS marking agreed end to end
- ☐ Firewall ports opened
- ☐ Room accounts and mailboxes created

ENVIRONMENT

- ☐ Acoustic treatment with a measured RT60 target
- ☐ Air diffuser away from the microphone position
- ☐ 400 lux vertical at seated head height
- ☐ Lighting scenes and dimming specified
- ☐ Blinds where anyone faces a window

THE ITEM MOST OFTEN MISSED

Wall reinforcement behind large displays. It has to be built into the partition, it needs several weeks of notice, and it is the difference between a clean install and a bracket bolted through plasterboard into whatever happens to be behind it.

10 Ten questions that separate a designer from a box shifter

Ask these of every bidder. A good integrator answers each with a number. A box shifter changes the subject to product features.

1. WHAT RT60 DOES THIS ROOM NEED, AND HOW WILL YOU VERIFY IT?

Expect 0.4 to 0.6 seconds and an offer to measure it in octave bands before handover.

2. WHAT IS THE DISTANCE FROM THE CAMERA TO THE FARTHEST SEAT?

They should already have measured it, and be able to say what face size it produces.

3. WHAT IS THE MICROPHONE TO FARTHEST TALKER DISTANCE?

This is the number that decides bar or modular. If they have not measured it, the proposal is a guess.

4. HOW MANY LOUDSPEAKERS, AND WHAT IS THE LEVEL VARIATION ACROSS THE SEATS?

Expect a count derived from ceiling height and dispersion angle, and a target within 6 dB.

5. WHAT BACKGROUND NOISE LEVEL DOES THIS ROOM HAVE NOW?

If nobody has measured it with the air conditioning running, nobody knows whether the audio design will work.

6. WHAT HAPPENS IF THE NETWORK IS DOWN?

A room that cannot show a laptop on the screen without the internet is a fragile room.

7. WHAT EXACTLY IS EXCLUDED FROM THIS PRICE?

A proposal without an exclusions list is not a proposal, it is a price.

8. WHAT IS HANDED OVER AT COMPLETION?

Drawings, exported configuration files, credentials, IP schedule, cable test results, commissioning measurements. Withhold final payment against it.

9. HOW LONG WILL THIS HARDWARE RECEIVE SECURITY UPDATES?

A five year hardware life with two years of updates is a security problem waiting.

10. WHO ANSWERS THE PHONE IN YEAR TWO, AND HOW FAST?

Response times in writing, or the answer is nobody.

THERE IS A MUCH LONGER VERSION OF THIS

The full guide runs to 52 pages and 20 scaled drawings

Everything in this quick reference, plus scaled plan drawings for eight space types, the acoustic and coverage calculations worked through, ceiling and lighting detail, Malaysian build practicalities, a full site survey form, four checklists, and specification text you can paste into a tender.

REQUEST THE FULL GUIDE

Email us and we will send the complete Meeting Room AV Buyer Guide 2026 as a PDF.

sales@kasturi.com.my

+603 7960 1808 · +6017 303 9377

OR START WITH YOUR ACTUAL ROOM

Free assessment and site visit, or answer four questions online and get an indicative design and budget.

kasturi.com.my/room-designer/

kasturi.com.my/how-much-does-a-video-conferencing-system-cost-in-malaysia/

KASTURI TECHNOLOGY

Suite 702, Block G
Phileo Damansara 1
No 9, Jalan 16/11
46350 Petaling Jaya, Selangor

TALK TO US

+603 7960 1808
+6017 303 9377
sales@kasturi.com.my

COVERAGE

Kuala Lumpur, Selangor,
Johor Bahru, Penang, Perak,
Melaka, Pahang, Sabah, Sarawak

This guide is vendor neutral. Figures are indicative planning values for the Klang Valley as at September 2026 and do not constitute a quotation. Standards are cited by reference and should be read in full before being used contractually. © 2026 Kasturi Technology.