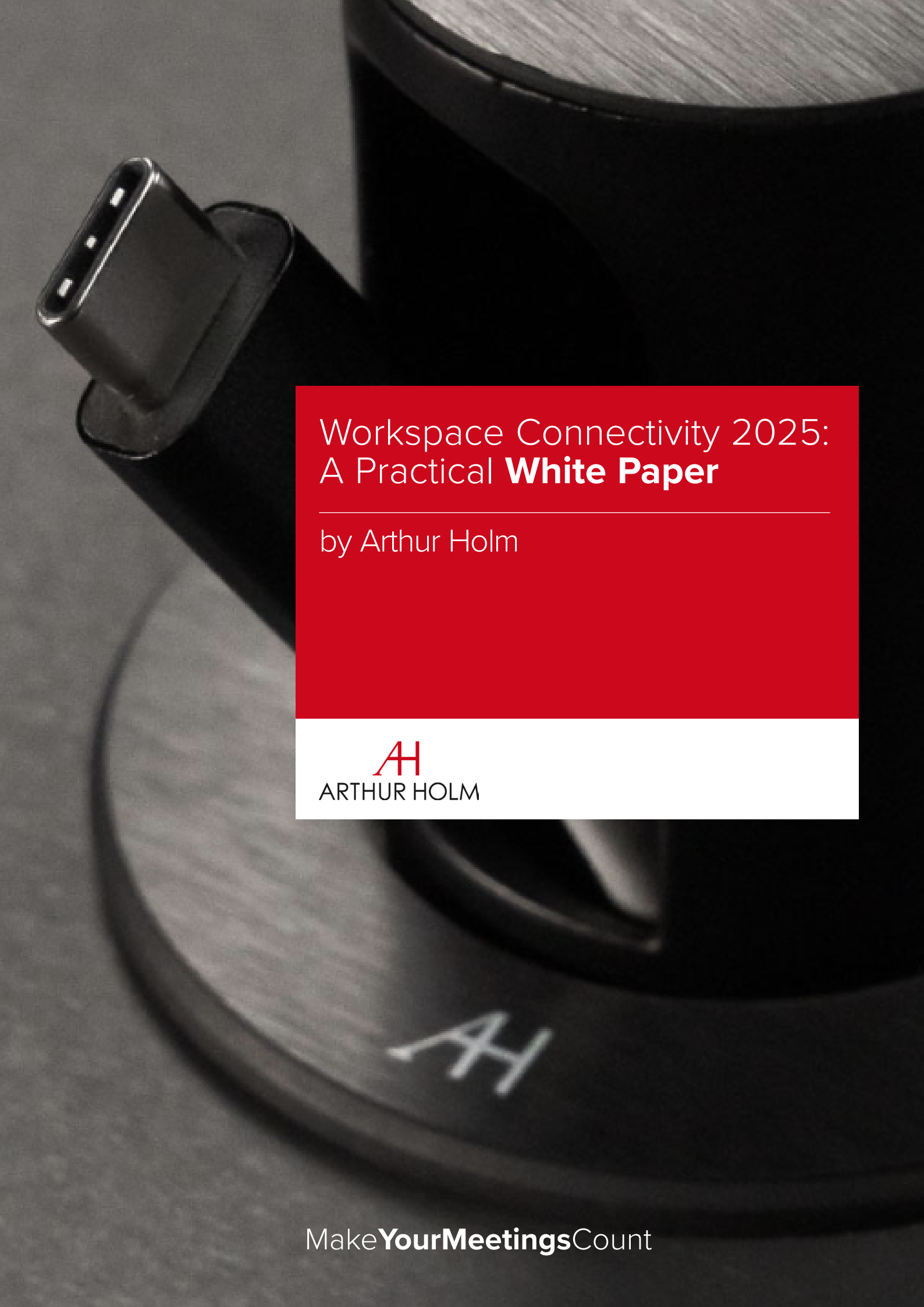

Workspace Connectivity 2025: A Practical **White Paper**

by Arthur Holm

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Make**YourMeetings**Count

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Work is hybrid, devices are mobile, and meeting spaces must serve both in-room computers and bring-your-own (BYO) laptops, tablets and phones. Across all of these, **USB-C has become the connective tissue**—carrying power, data, and video—while **Wi-Fi 7** and **Bluetooth LE Audio/Auracast** reshape wireless experience. **HDMI remains vital at the display endpoint and in AV** racks, but for computers and mobile devices **USB-C is the default now and the future**. The most resilient strategy is: standardize **on USB-C for user connections and keep HDMI for room displays**.

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1. The big forces reshaping workspace connectivity

USB-C everywhere

- One small, reversible port now delivers charging (USB Power Delivery), high-speed data (USB 3.x/USB4), and video.
- EU common-charger rules accelerated the shift; Apple's move to USB-C on iPhone sealed it culturally.

Single-cable desks and BYOD rooms

- USB-C monitors and compact docks power the laptop (65–140W), light up two or more external displays, backhaul Ethernet, and fan out to peripherals.
- Hot-desks and shared rooms lean on "just plug in the USB-C cable" to avoid user friction.

Wireless takes a leap

- **Wi-Fi 7 (802.11be)** unlocks lower latency, higher throughput, and better spectrum agility for dense offices and real-time meetings.
- **Bluetooth LE Audio with Auracast** enables broadcast audio in shared spaces (lobbies, reception, training rooms) and better multi-device audio in huddle areas.

Private 5G/5G-Advanced on the horizon

- Industrial campuses and logistics sites are adopting private cellular for coverage and deterministic performance where Wi-Fi struggles. Office IT should track this trend for specific facilities.

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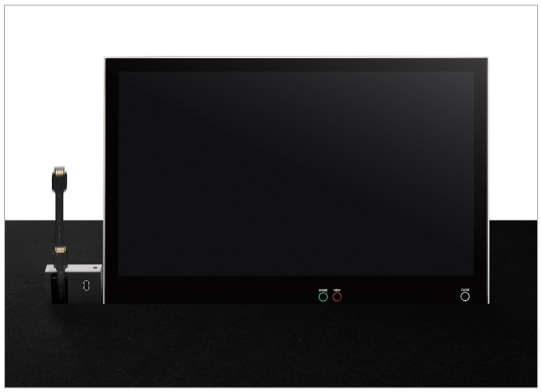
2. What people use to connect laptops, tablets, and phones:



Wired (desk and room)

- **USB-C**— Primary for laptops/tablets and increasingly for phones. Carries power + data + video; enables one-cable docking and display.
- **HDMI** — Ubiquitous on room displays, projectors, and many PCs. Great for direct display connections; limited for power/data.
- **DisplayPort (full-size or via USB-C/ DP Alt Mode)** — Common on monitors and docks; preferred for high-refresh and daisy-chain setups.
- **Ethernet (1/2.5GbE via dock/ monitor)** — Still the most predictable for conferencing and large updates at desks.
- **USB-A** — Keyboards, mice, receivers, headsets via docks; legacy but still everywhere.

Wireless (personal and room)

- **Wi-Fi 6/6E transitioning to 7** for primary network access and content sharing.
- **Bluetooth (LE Audio/Auracast)** for headsets, hearing-accessibility, and multi-listener scenarios.
- **Wireless display**: AirPlay, Miracast, Google Cast remain helpful fallbacks but wired **USB-C is more reliable for critical meetings**.

Reality check in rooms: Users most often succeed with **USB-C** to the table dock or screen; **HDMI** is the next-most reliable when a simple video-only connection is all that's needed. Wireless casting is convenient but inconsistent in congested RF or with DRM content.

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3. HDMI vs USB-C — which is the future?

Strengths of HDMI:

- Universal on TVs, projectors, switchers, and AV ecosystems.
- Zero-config for video sinks; EDID/HDCP handled end-to-end.
- Newer versions (2.1/2.1a/2.2) support high bandwidth and gaming features; perfect for signage and conference room displays.

Strengths of USB-C:

- **One cable** for **power + data + multiple displays + peripherals + Ethernet**.
- **Backwards-friendly**: simple adapters to HDMI, DisplayPort, VGA when needed.
- **Policy-friendly:** aligns with global push to standardize charging and reduce e-waste.

The bottom line

For **computers and mobile devices** in workspaces, **USB-C is the long-term winner** because it solves power, data, and display together, and it is mandated/standardized on most new devices. **HDMI will remain dominant at the display endpoint** (the TV/projector on the wall) and as a secondary “video-only” user option. Healthy designs expose **both**: a USB-C tether for one-cable use and an HDMI lead for universal fallback.

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4. Reference designs by space type

Hot-desks / receptions

- USB-C monitor (65–100W PD) or compact USB-C dock with: 2× USB-A, 1× USB-C downstream, Ethernet, and a secondary HDMI port for a second screen.
- Headset support: prioritize Bluetooth LE Audio-ready headsets/dongles; offer a wired USB option.
- Cable management: one visible USB-C tether and a tucked HDMI lead.

Huddle rooms, small meeting rooms (2–8 people)

- Single USB-C table cable to a conference soundbar/camera or table dock feeding the display.
- HDMI fallback to the display.
- Wi-Fi 7 AP placement optimized for the room to support high-density wireless sharing.

Conference rooms

- USB-C BYOM: table dock routes USB-C to camera, speaker/mic, and display(s); provide HDMI fallback.
- Ethernet backhaul from dock for stable video calls.

Training rooms / auditoriums

- HDMI integration with matrix/switcher remains practical.
- Add a USB-C ingest to support one-cable presenters and power delivery.
- Consider Auracast transmitters for assistive listening and silent-seminar use.

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5. Practical recommendations (2025–2028)

Adopt USB-C as the primary user interface at every desk and room; publish a corporate standard for wattage (e.g., 100–140W PD) and required features (DP Alt Mode).

Keep HDMI everywhere as an endpoint and fallback. Use short, certified Ultra High-Speed HDMI leads.

Refresh Wi-Fi to Wi-Fi 7 where density and latency matter (meeting floors) and align switch uplinks accordingly (2.5/10GbE where justified).

Standardize on Bluetooth LE Audio-capable headsets as you renew UC peripherals; pilot **Auracast** for accessibility and multi-listener scenarios.

Cabling hygiene: label USB-C tethers with PD wattage and host orientation; provide a small set of branded USB-C → HDMI/DP adapters in each room.

Accessibility & inclusivity: expose front-of-room USB-C, keep a few USB-A ports on docks, and stock 3.5mm audio breakouts for assisted listening.

6. FAQ you'll get from stakeholders

- "**Do we still need HDMI?**" Yes, at the display and as a universal fallback; it reduces meeting friction.
- "**Is wireless casting 'good enough'?**" Keep it as a convenience; for critical meetings and training, wire it.
- "**What about iPads and phones?**" Most modern iPads and many Android phones output video over USB-C; iPhones (USB-C) need an adapter for HDMI or can cast wirelessly.

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7. A quick decision matrix

Scenario	Best primary connection	Why	Keep as fallback
User at a hot-desk	**USB-C** to monitor/dock (65–100W PD)	One cable for power, net, displays, peripherals	HDMI to second screen
Presenter in a huddle room	**USB-C** to table dock	Predictable video + audio + camera + charging	HDMI direct to display
Large conference room	**HDMI** into AV switcher	Simple, compatible, long cable runs	USB-C ingest + adapters
Visitor with only a phone	**USB-C** (if supported) or wireless cast	Minimal setup	HDMI adapter

Conclusion

USB-C has crossed the tipping point as the **default user connection** for work. It consolidates power, data, and displays in a way HDMI never aimed to. **HDMI is not going away**—it remains the universal language of displays and AV infrastructure. The winning workspace is bilingual: **USB-C first for users, HDMI always at the screen**, with Wi-Fi 7 and LE Audio modernizing the wireless backdrop.

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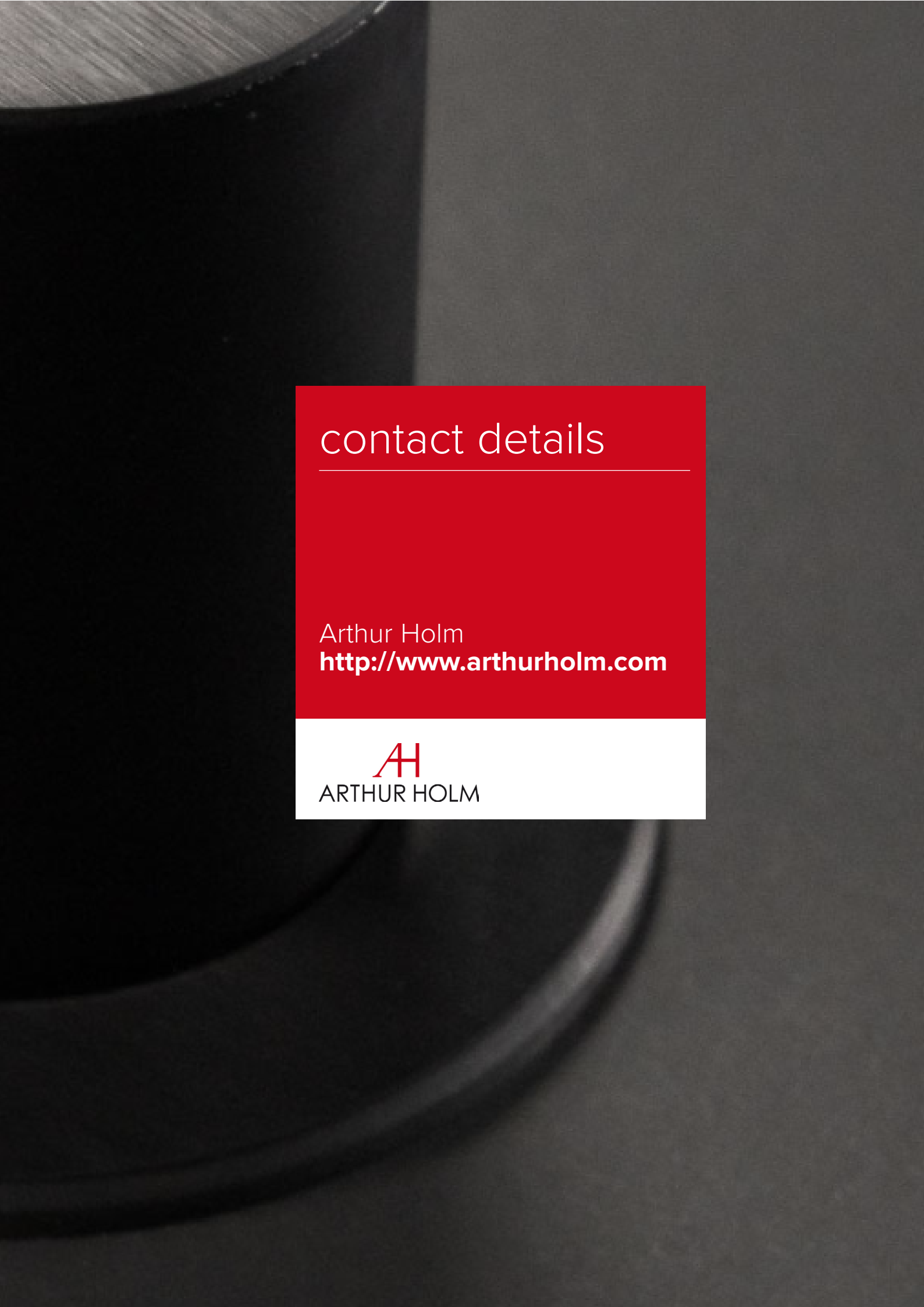

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