# Future codecs roadmap checklist 2026-2030

Fora Soft Learn

*AV2, H.267 and end-to-end neural compression - one-page operator's guide*

Companion to article 6.6 of Block 6. Print on A4. Walk this top-down in your codec roadmap meeting.

## 1. The three tracks - one row per developer group

| Track | Group | Coding gain | Licensing | Broad in |
|---|---|---|---|---|
| AV2 | AOMedia | ~30% vs AV1 | Royalty-free | 2027-2028 |
| H.267 | JVET | ~40% vs H.266 | Patent pools | 2032-2036 |
| DCVC-RT | Microsoft | -21% vs H.266 | Proprietary | Closed apps |
| DCVC-Large | Microsoft | -31% vs H.266 | Proprietary | GPU only |
| JPEG AI | JPEG | ~30% vs JPEG2K | ISO standard | Images only |
| NNVC | MPEG | Inside ECM | Patent pools | Inside H.267 |

## 2. The 2026-2028 AV2 migration plan - tick each step

- [ ] Lock the AV1 baseline. Measure bitrate and VMAF on your top-20 catalogue today.
- [ ] Set up an AV2 encode pilot. Start with libavif/avm reference encoder against 6-12 of your clips.
- [ ] Compute same-VMAF BD-rate of AV2 vs AV1 on your content (target -25% to -35% range).
- [ ] Audit player support: software AV2 decode on Chromium/Firefox late 2026, Safari TBD.
- [ ] Audit hardware decode: phone SoCs 2027, smart TVs 2027-2028, set-top boxes 2028.
- [ ] Design a 2-codec fallback ladder: AV2 to capable devices, AV1 to long tail.
- [ ] Keep H.265/HEVC for the Apple iOS path (Apple still does not ship hardware AV1/AV2 universally).
- [ ] Re-run the benchmark every 6 months as encoder maturity (a la SVT-AV1) catches up.

## 3. Neural compression in 2026 - what is actually deployable

- [ ] Pre-processing wrapper. Run SimaBit / Deep Render / similar BEFORE your traditional encoder. Typical recovery: 20-30% bits on top of AV1/H.265. No decoder change. Today.
- [ ] Closed-ecosystem app. Cloud gaming, video conferencing, surveillance - ship neural end-to-end where you control both encoder and decoder. Plan a 2027-2028 pilot if relevant.
- [ ] Watch mobile NPU decode. MobileNVC (2024) hit 1080p real-time on a phone NPU. Production hardware support is one chip generation away (2027-2028).
- [ ] Plan around the bitstream-vs-weights problem. Neural codecs ship as model weights, not a fixed spec. Plan a versioning and rollout strategy that mirrors how you ship app updates today.

## 4. Four mistakes we see most often - rule each one out

- [ ] Do NOT plan a pipeline migration around H.267. Timeline 2028+, licensing uncertain, AV2 covers 90%.
- [ ] Do NOT assume neural codec wins on BD-rate alone. Decoder cost, GPU dependence, and bitstream stability matter as much as bits.
- [ ] Do NOT skip the same-VMAF benchmark on YOUR catalogue. Public numbers shift 5-15 percentage points per content type.
- [ ] Do NOT drop H.264 yet. Long-tail device coverage 2026-2030 still wants an H.264 fallback rung.

## 5. Questions for any 2026-2027 codec or pre-processor vendor

1. What is your BD-rate vs AV1 (not vs x264) on MY content, at MY top-rung VMAF target?
2. What is your encoded fps at 1080p on a 16-core CPU (or your reference NPU/GPU)?
3. What is the licensing path? Patent-pool exposure? Sublicensing for SaaS?
4. What decoders ship today? Browsers, phones, TVs, set-tops - with version numbers.
5. What is the model-weight versioning story? How do I keep clients in sync over 5 years?