



VEYRUM ROBOTICS STANDARD



VRS-SVC-501

Service & Public — AR Rubric Data Twin

Machine-readable criteria, tier ceilings, contributors and bands of VRS-SVC-201 (VRS 2026 (draft)); generated, never hand-edited.

VEYRUM RESEARCH INSTITUTE

DOCUMENT

VRS-SVC-501

VERSION

1.0.0

STATUS

Draft

DATE

16 September 2026

Foreword. Data Artifact: the machine-readable twin of **VRS-SVC-201** (VRS 2026 (draft)) — the sector criteria with their point ranges, rungs and tier ceilings, the contributing intrinsic criteria, the letter bands and the application classes — generated FROM the protocol's Clause 5–7 by `tools/vrs-twin-generate.py`. Consistency is by construction and re-verified on every build (conformance check 15). The JSON in Clause 4 is the normative payload; scorer tooling consumes it directly. A change to VRS-SVC-201 and to this twin is one change instrument.

1 Scope

This Data Artifact carries the rubric data of the Service & Public (SVC) sector in machine-readable form: the 10 sector criteria of VRS-SVC-201 Clause 6 with points, rungs and Unverified / Verified / Certified ceilings; the contributing intrinsic criteria of Clause 5; the letter bands and application classes of Clause 7. It states no independent requirements. Where this artifact and VRS-SVC-201 could be read to differ, VRS-SVC-201 governs and this twin is regenerated to match.

2 Normative references

- **VRS-SVC-201**, *Service & Public — AR Assessment Protocol* — source protocol twinned (Clauses 5–7).
- **VRS-SVC-001**, *Service & Public — Sector Standard* — application classes and hazard groups.
- **VRS-GEN-005**, *IR Methodology* — point sum, tier ceilings, no-evidence rule.
- **VRS-GEN-006**, *AR Scheme* — pool mechanics, letter bands, tier caps by construction.
- **VRS-GEN-002**, *Designation and Drafting Rules* — criterion layout (§6.5) and versioning.

3 Terms and definitions

The terms of VRS-GEN-001 and VRS-SVC-201 apply. **data twin** — a machine-readable artifact regenerated one-to-one from a source protocol's normative clauses. **rung** — a named state of a criterion awarding a stated integer number of points (VRS-GEN-002 §3.9). **ceiling** — the maximum points a criterion awards at a stated tier (VRS-GEN-002 §3.10).

4 Payload

Sector criteria total **100** points; ceilings Unverified **70**, Verified **85**, Certified **100**.

```
{
  "_meta": {
    "description": "SVC sector AR rubric data twin – machine-readable form of VRS-SVC-201 Clause 5/6/7 (VRS 2026 (draft)). Generated by tools",
    "edition": "VRS 2026 (draft)",
    "source_protocol": "VRS-SVC-201 v1.0.0",
    "generated": "2026-09-16",
    "conforms_to": "VRS-GEN-005 §6 (point sum, tier ceilings); VRS-GEN-006 §6–§8 (pool, bands, tier caps by construction)"
  },
  "sector_code": "svc",
  "bands_percent": {
    "AAA": 90,
    "AA": 75,
    "A": 60,
    "B": 45,
    "C": 0
  },
  "application_classes": [
    "mobile service (delivery, cleaning, guidance, retail)",
    "stationary interactive (kiosk/reception robots)",
    "telepresence"
  ],
  "contributing_ir_criteria": [
    {
      "id": "SF-1",
      "document": "VRS-GEN-101",
      "clause": "6.1"
    },
    {
      "id": "SF-2",
      "document": "VRS-GEN-101",
      "clause": "6.2"
    },
    {
      "id": "SF-4",
```

```

    "document": "VRS-GEN-101",
    "clause": "6.4"
  },
  {
    "id": "SF-5",
    "document": "VRS-GEN-101",
    "clause": "6.5"
  },
  {
    "id": "SF-8",
    "document": "VRS-GEN-101",
    "clause": "6.8"
  },
  {
    "id": "RL-3",
    "document": "VRS-GEN-102",
    "clause": "6.3"
  },
  {
    "id": "SV-1",
    "document": "VRS-GEN-103",
    "clause": "6.1"
  },
  {
    "id": "SV-6",
    "document": "VRS-GEN-103",
    "clause": "6.6"
  },
  {
    "id": "CY-2",
    "document": "VRS-GEN-105",
    "clause": "6.2"
  },
  {
    "id": "CY-4",
    "document": "VRS-GEN-105",
    "clause": "6.4"
  },
  {
    "id": "CY-6",
    "document": "VRS-GEN-105",
    "clause": "6.6"
  },
  {
    "id": "MS-1",
    "document": "VRS-GEN-106",
    "clause": "6.1"
  },
  {
    "id": "MS-7",
    "document": "VRS-GEN-106",
    "clause": "6.7"
  },
  {
    "id": "SI-2",
    "document": "VRS-GEN-104",
    "clause": "6.2"
  },
  {
    "id": "SI-6",
    "document": "VRS-GEN-104",
    "clause": "6.5"
  }
],
"sector_criteria": [
  {
    "clause": "6.1",
    "id": "SVC-1",

```

```

    "name": "Anchor conformity (ISO 13482 / ISO 12100)",
    "points_max": 15,
    "what_is_measured": ".",
    "rungs": [
      {
        "points": 15,
        "state": "third-party-assessed conformity + functions validated for uninstructed-bystander conditions"
      },
      {
        "points": 13,
        "state": "pack-evidenced (documents), not demonstrated"
      },
      {
        "points": 12,
        "state": "third-party-assessed conformity ((public certificate))"
      },
      {
        "points": 10,
        "state": "self-declared + internal validation"
      },
      {
        "points": 5,
        "state": "self-declaration only"
      },
      {
        "points": 0,
        "state": "none"
      }
    ],
    "ceiling": {
      "unverified": 12,
      "verified": 13,
      "certified": 15
    },
    "company_wide": null,
    "evidence_bar": "DoC or equivalent for the rated version.",
    "applicability": "mobile service (delivery, cleaning, guidance, retail) · stationary interactive (kiosk/reception robots) · telepresenc",
    "not_applicable_by_class": false
  },
  {
    "clause": "6.2",
    "id": "SVC-2",
    "name": "Bystander detection and stop – children and reduced-mobility profiles",
    "points_max": 15,
    "what_is_measured": "Detection/stop with test obstacles at child height and low-contrast/slow-moving profiles at declared max speed.",
    "rungs": [
      {
        "points": 15,
        "state": "all declared profiles witnessed"
      },
      {
        "points": 12,
        "state": "pack-evidenced (documents), not demonstrated"
      },
      {
        "points": 10,
        "state": "adult profile at limits"
      },
      {
        "points": 8,
        "state": "certified with published data"
      },
      {
        "points": 5,
        "state": "nominal only"
      },
      {
        "points": 0,

```

```

    "state": "not established"
  }
],
"ceiling": {
  "unverified": 8,
  "verified": 12,
  "certified": 15
},
"company_wide": null,
"evidence_bar": "Detection envelope declared incl. minimum object size.",
"applicability": "mobile service (delivery, cleaning, guidance, retail) · stationary interactive (kiosk/reception robots) · telepresenc
"not_applicable_by_class": false
},
{
  "clause": "6.3",
  "id": "SVC-3",
  "name": "Contact force / toppling protection",
  "points_max": 10,
  "what_is_measured": "Contact energy limits on collision; anti-topple at declared speed with declared payload/height.",
  "rungs": [
    {
      "points": 10,
      "state": "witnessed"
    },
    {
      "points": 8,
      "state": "certified ((public))"
    },
    {
      "points": 7,
      "state": "publicly evidenced only (no pack, no demonstration)"
    },
    {
      "points": 6,
      "state": "validation report"
    },
    {
      "points": 3,
      "state": "documented"
    },
    {
      "points": 0,
      "state": "not established"
    }
  ],
  "ceiling": {
    "unverified": 7,
    "verified": 8,
    "certified": 10
  },
  "company_wide": null,
  "evidence_bar": "Mass, CoG height and max speed declared.",
  "applicability": "mobile service (delivery, cleaning, guidance, retail) · stationary interactive (kiosk/reception robots) · telepresenc
  "not_applicable_by_class": false
},
{
  "clause": "6.4",
  "id": "SVC-4",
  "name": "Adversarial-interaction behaviour",
  "points_max": 10,
  "what_is_measured": "Response to deliberate obstruction, tampering, riding/leaning, blocked path: declared safe behaviour (stop, retrea
  "rungs": [
    {
      "points": 10,
      "state": "witnessed all declared cases"
    },
    {
      "points": 8,

```

```

    "state": "pack-evidenced (documents), not demonstrated"
  },
  {
    "points": 6,
    "state": "documented + certified/tested"
  },
  {
    "points": 3,
    "state": "documented"
  },
  {
    "points": 0,
    "state": "not established"
  }
],
"ceiling": {
  "unverified": 6,
  "verified": 8,
  "certified": 10
},
"company_wide": null,
"evidence_bar": "Adversarial-interaction behaviours documented.",
"applicability": "mobile service (delivery, cleaning, guidance, retail) · stationary interactive (kiosk/reception robots) · telepresenc
"not_applicable_by_class": false
},
{
  "clause": "6.5",
  "id": "SVC-5",
  "name": "Egress and crowd-flow discipline",
  "points_max": 8,
  "what_is_measured": "Robot never blocks declared egress routes; yields in dense crowds; stranded-robot state is movable/alerting.",
  "rungs": [
    {
      "points": 8,
      "state": "witnessed"
    },
    {
      "points": 7,
      "state": "pack-evidenced (documents), not demonstrated"
    },
    {
      "points": 6,
      "state": "documented + tested"
    },
    {
      "points": 3,
      "state": "documented"
    },
    {
      "points": 0,
      "state": "not established"
    }
  ]
},
"ceiling": {
  "unverified": 6,
  "verified": 7,
  "certified": 8
},
"company_wide": null,
"evidence_bar": "Egress/crowd behaviours documented.",
"applicability": "mobile service (delivery, cleaning, guidance, retail) · stationary interactive (kiosk/reception robots) · telepresenc
"not_applicable_by_class": false
},
{
  "clause": "6.6",
  "id": "SVC-6",
  "name": "In-service failure and recovery",
  "points_max": 10,

```

```

    "what_is_measured": "Fault → declared safe stop with alert; recovery by venue staff per manual within declared time.",
    "rungs": [
      {
        "points": 10,
        "state": "witnessed"
      },
      {
        "points": 8,
        "state": "pack-evidenced (documents), not demonstrated"
      },
      {
        "points": 7,
        "state": "documented + repair record"
      },
      {
        "points": 6,
        "state": "publicly evidenced only (no pack, no demonstration)"
      },
      {
        "points": 4,
        "state": "documented"
      },
      {
        "points": 0,
        "state": "not established"
      }
    ],
    "ceiling": {
      "unverified": 6,
      "verified": 8,
      "certified": 10
    },
    "company_wide": {
      "text": "Repair record company-wide → 7",
      "ceiling": 7
    },
    "evidence_bar": "Fault behaviours documented.",
    "applicability": "mobile service (delivery, cleaning, guidance, retail) · stationary interactive (kiosk/reception robots) · telepresenc
    "not_applicable_by_class": false
  },
  {
    "clause": "6.7",
    "id": "SVC-7",
    "name": "Bystander data capture and privacy",
    "points_max": 10,
    "what_is_measured": "What sensors capture of the public, on-device vs cloud, retention, signage guidance, opt-out.",
    "rungs": [
      {
        "points": 10,
        "state": "shown on console + matches disclosure + third-party privacy audit"
      },
      {
        "points": 8,
        "state": "evidenced by documents alone (public or pack), not demonstrated"
      },
      {
        "points": 7,
        "state": "documented in detail"
      },
      {
        "points": 4,
        "state": "partial disclosure"
      },
      {
        "points": 0,
        "state": "undisclosed"
      }
    ]
  },

```

```

    "ceiling": {
      "unverified": 8,
      "verified": 8,
      "certified": 10
    },
    "company_wide": null,
    "evidence_bar": "Privacy disclosure exists.",
    "applicability": "mobile service (delivery, cleaning, guidance, retail) · stationary interactive (kiosk/reception robots) · telepresenc
    "not_applicable_by_class": false
  },
  {
    "clause": "6.8",
    "id": "SVC-8",
    "name": "Venue network exposure",
    "points_max": 8,
    "what_is_measured": "Operates on segmented guest/venue networks; remote access controlled; updates signed.",
    "rungs": [
      {
        "points": 8,
        "state": "shown"
      },
      {
        "points": 7,
        "state": "documented + public security audit"
      },
      {
        "points": 4,
        "state": "documented"
      },
      {
        "points": 0,
        "state": "not established"
      }
    ],
    "ceiling": {
      "unverified": 7,
      "verified": 7,
      "certified": 8
    },
    "company_wide": null,
    "evidence_bar": "Network model documented.",
    "applicability": "mobile service (delivery, cleaning, guidance, retail) · stationary interactive (kiosk/reception robots) · telepresenc
    "not_applicable_by_class": false
  },
  {
    "clause": "6.9",
    "id": "SVC-9",
    "name": "Public-context field record",
    "points_max": 8,
    "what_is_measured": "Incidents involving the public over the window.",
    "rungs": [
      {
        "points": 8,
        "state": "none above near-miss (model-specific)"
      },
      {
        "points": 6,
        "state": "company-wide record in place of model-specific data"
      },
      {
        "points": 5,
        "state": "remediated"
      },
      {
        "points": 3,
        "state": "null-result rung"
      }
    ]
  }

```

```

      "points": 0,
      "state": "unremediated major"
    }
  ],
  "ceiling": {
    "unverified": 5,
    "verified": 8,
    "certified": 8
  },
  "company_wide": {
    "text": "Company-wide → 6",
    "ceiling": 6
  },
  "evidence_bar": "Exposure declared or null search recorded.",
  "applicability": "mobile service (delivery, cleaning, guidance, retail) · stationary interactive (kiosk/reception robots) · telepresenc
  "not_applicable_by_class": false
},
{
  "clause": "6.10",
  "id": "SVC-10",
  "name": "Premises-liability support",
  "points_max": 6,
  "what_is_measured": "Operator guidance, signage kit, incident-reporting process and insurance-relevant documentation provided to venues
  "rungs": [
    {
      "points": 6,
      "state": "all provided"
    },
    {
      "points": 5,
      "state": "publicly evidenced only (no pack, no demonstration)"
    },
    {
      "points": 4,
      "state": "guidance + reporting"
    },
    {
      "points": 2,
      "state": "guidance only"
    },
    {
      "points": 0,
      "state": "not established"
    }
  ],
  "ceiling": {
    "unverified": 5,
    "verified": 6,
    "certified": 6
  },
  "company_wide": null,
  "evidence_bar": "None.",
  "applicability": "mobile service (delivery, cleaning, guidance, retail) · stationary interactive (kiosk/reception robots) · telepresenc
  "not_applicable_by_class": false
}
],
"pool": {
  "sector_only": {
    "points": 100,
    "ceiling_unverified": 70,
    "ceiling_verified": 85,
    "ceiling_certified": 100,
    "best_letter": {
      "unverified": "A",
      "verified": "AA",
      "certified": "AAA"
    }
  }
},

```

```
    "with_contributors": "contributor ceilings are those of the cited IR standards; the combined pool sums are verified by the conformance ga
  },
  "rules": {
    "no_evidence": "0 points (VRS-GEN-005 §6, R3.3); the criterion stays in the pool at full range",
    "not_applicable": "criterion removed from numerator and denominator for that class (VRS-GEN-006 §6)",
    "tier_rule": "AR tier ≤ IR tier (VRS-GEN-006 §7)"
  }
}
```

5 5 Field dictionary

FIELD	MEANING
sector_criteria[].clause	VRS-SVC-201 subclause (6.k) — the “Required by” reference used in derived packs and protocols
sector_criteria[].points_max	Upper end of the criterion's integer range
sector_criteria[].rungs[]	Every verifiable state and its points, highest first; the 0 state is implicit where not listed
sector_criteria[].ceiling	Maximum points at each tier; always equal to a rung value (VRS-GEN-002 §7.5.1)
sector_criteria[].company_wide	Field-record criteria only: the reduced ceiling when company-wide data substitutes for model data
sector_criteria[].applicability / not_applicable_by_class	Application classes the criterion applies to; excluded criteria leave the pool for that class
contributing_ir_criteria[]	Intrinsic criteria counted in the sector pool, with the standard and clause that score them
pool.sector_only	Sums over the sector criteria and the best attainable letter at each tier (A / AA / AAA by construction)
bands_percent	Letter thresholds as a percentage of the applicable pool (VRS-GEN-006 §4)

6 6 Verification

Regenerate with `python3 tools/vrs-twin-generate.py --sector svc --check` ; a non-zero exit means the committed twin no longer matches VRS-SVC-201 and shall be regenerated before publication.

7 Bibliography

- VRS-SVC-201, *Service & Public — AR Assessment Protocol*, v1.0.0, 2026 — the source of every number in Clause 4.
- VRS-SVC-001, *SVC Sector Standard*, 2026 — sector scope, hazard taxonomy and application classes.
- VRS-GEN-005, *Intrinsic Rating — Methodology*, 2026 — point aggregation and tier ceilings for the contributing IR criteria.
- VRS-GEN-006, *Application Rating Scheme*, 2026 — letter bands and pool mechanics reproduced in `bands_percent` and `pool`.
- VRS-GEN-002, *Designation and Drafting Rules*, 2026 — §6.5 criterion layout and §7.5.1 (ceilings equal rungs) that this twin verifies.
- VRS-GEN-004, *Change, Edition and Review Policy*, 2026 — how a twin regeneration is designated.
- VRS-GEN-009, *Robot Risk Passport and Registry — Data Schema*, 2026 — consumer of the payload.
- ISO/IEC 21778:2017, *Information technology — The JSON data interchange syntax*.

8 Change history

VERSION	DATE	CHANGE
1.0.0 (draft)	2026-09-16	VRS 2026 (draft) rewrite: regenerated from VRS-SVC-201 Clause 5–7 (criteria, rungs, tier ceilings, contributors, bands, classes). Weights, modifiers, confidence and stage- <code>prior</code> fields removed.

About Veyrum Research Institute

Veyrum Research Institute is the research arm of Veyrum — the independent intelligence and trust layer for the robotics industry (research, ratings and registry, advisory, data, and specialist insurance & finance introductions).

Disclaimer

The opinions in this document are independent and current as of the date of publication, based on information believed reliable; they are not guarantees or warranties of safety, fitness, or compliance, and are not engineering, legal, or financial advice. This document may be revised. © 2026 Veyrum.

Contact: hello@veyrum.com · VRS-SVC-501 · Version 1.0.0