

FirmsFinder GEO — knowledge-graph.json

Fișier sursă	geo/knowledge-graph.json (repository aipath512/firmsfinder)
Commit sursă	7840a680e04a3b327ccdeb5dd5698c2ea1fc1293
SHA-256 (octeții fișierului JSON)	4e23e115138046db7c533e63f26e205b4b4a2294c732679c71b450bf3c27a227
Dimensiune JSON	10295 octeți
Generat la	2026-10-14 08:52:43 (UTC+03:00, Europe/Bucharest)
Generat la (UTC)	2026-10-14 05:52:43 UTC
Generat de	Claude (asistent AI creat de Anthropic), Claude Sonnet 5.5; ora provine de la ceasul sesiunii
Versiune document	v1.0

Conținutul de mai jos este textul fișierului JSON, neschimbat; liniile lungi sunt rupte doar vizual, pentru afișare. Acest PDF este o redare a fișierului la commit-ul indicat. Nu este semnătură electronică calificată (eIDAS), nu este certificat și nu atestă că fișierul este valid sau implementat în runtime. Amprenta SHA-256 se referă la octeții fișierului JSON din repository, nu la acest PDF.

```
{
  "schema": "FIRMSFINDER_GEO_KNOWLEDGE_GRAPH",
  "version": "1.0.0",
  "generated_at": "2026-10-13",
  "website": "https://firmsfinder.eu/",
  "publisher": "AiVenture S.R.L.",
  "language": "ro-R0",
  "status": "draft_not_verified",
  "geo_signals": [
    "GE032",
    "GE033"
  ],
  "purpose": "Metamodel semantic ERE: tipuri de entitati, predicate directe/inverse, cardinalitati bidirectionale si reguli de evidenta. Nu contine firme reale sau relatii comerciale confirmate.",
  "references": {
    "entities": "/geo/entities.json",
    "topic_clusters": "/geo/topic-clusters.json",
    "glossary": "/geo/glossary.json",
    "claims": "/geo/claims.json",
    "evidence": "/geo/evidence.json",
    "proprietary_data": "/geo/proprietary-data.json"
  },
  "graph_model": {
    "notation": "ERE",
    "edge_direction": "directed_with_declared_inverse",
    "cardinality_convention": {
      "0..N": "zero sau mai multe legaturi distincte",
      "subject_to_object": "pentru un subiect, cate obiecte poate avea",
      "object_to_subject": "pentru un obiect, cate subiecte il pot avea",
      "scope": "cardinalitati conceptuale propuse, nu statistici observate"
    },
    "node_types": [
      {
        "term_id": "TERM-001",
        "name": "Firmă",
        "topic_cluster_ids": [
          "TC-001"
        ],
        "concept_id": "FF-CONCEPT-001"
      },
      {
        "term_id": "TERM-002",
        "name": "Activitate economică",
        "topic_cluster_ids": [
          "TC-004"
        ],
        "concept_id": "FF-CONCEPT-002"
      },
      {
        "term_id": "TERM-003",
        "name": "Cod CAEN",
        "topic_cluster_ids": [
          "TC-004"
        ],
        "concept_id": "FF-CONCEPT-003"
      },
      {

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    "term_id": "TERM-005",
    "name": "Produs",
    "topic_cluster_ids": [
      "TC-005"
    ],
    "concept_id": "FF-CONCEPT-004"
  },
  {
    "term_id": "TERM-006",
    "name": "Serviciu",
    "topic_cluster_ids": [
      "TC-005"
    ],
    "concept_id": "FF-CONCEPT-005"
  },
  {
    "term_id": "TERM-010",
    "name": "Furnizor potențial",
    "topic_cluster_ids": [
      "TC-003"
    ],
    "concept_id": "FF-CONCEPT-007"
  },
  {
    "term_id": "TERM-011",
    "name": "Client potențial",
    "topic_cluster_ids": [
      "TC-002"
    ],
    "concept_id": "FF-CONCEPT-006"
  },
  {
    "term_id": "TERM-012",
    "name": "Partener potențial",
    "topic_cluster_ids": [
      "TC-003"
    ],
    "concept_id": "FF-CONCEPT-008"
  },
  {
    "term_id": "TERM-013",
    "name": "Concurent potențial",
    "topic_cluster_ids": [
      "TC-003"
    ],
    "concept_id": "FF-CONCEPT-009"
  }
],
"relation_types": [
  {
    "id": "REL-001",
    "subject_type": "Firmă",
    "subject_term_id": "TERM-001",
    "predicate": "desfășoară activitate",
    "object_type": "Activitate economică",
    "object_term_id": "TERM-002",
    "inverse_predicate": "este desfășurată de",
    "cardinality": {
      "subject_to_object": {
        "min": 0,
        "max": "N",
        "notation": "0..N"
      },
      "object_to_subject": {
        "min": 0,
        "max": "N",
        "notation": "0..N"
      }
    },
    "semantic_status": "model_rule",
    "evidence_requirement": "sursă despre activitate și dată",
    "instance_status": "no_verified_instances_in_this_file"
  },
  {
    "id": "REL-002",
    "subject_type": "Activitate economică",
    "subject_term_id": "TERM-002",
    "predicate": "este clasificată prin",
    "object_type": "Cod CAEN",
    "object_term_id": "TERM-003",
    "inverse_predicate": "clasifică activitatea",
    "cardinality": {
      "subject_to_object": {
        "min": 0,
        "max": "N",
        "notation": "0..N"
      }
    }
  }
]

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    },
    "object_to_subject": {
      "min": 0,
      "max": "N",
      "notation": "0..N"
    }
  },
  "semantic_status": "classification_mapping",
  "evidence_requirement": "nomenclator oficial și revizie",
  "instance_status": "no_verified_instances_in_this_file"
},
{
  "id": "REL-003",
  "subject_type": "Firmă",
  "subject_term_id": "TERM-001",
  "predicate": "oferă",
  "object_type": "Produs",
  "object_term_id": "TERM-005",
  "inverse_predicate": "este oferit de",
  "cardinality": {
    "subject_to_object": {
      "min": 0,
      "max": "N",
      "notation": "0..N"
    },
    "object_to_subject": {
      "min": 0,
      "max": "N",
      "notation": "0..N"
    }
  },
  "semantic_status": "requires_evidence",
  "evidence_requirement": "ofertă publică sau document verificabil",
  "instance_status": "no_verified_instances_in_this_file"
},
{
  "id": "REL-004",
  "subject_type": "Firmă",
  "subject_term_id": "TERM-001",
  "predicate": "prestează",
  "object_type": "Serviciu",
  "object_term_id": "TERM-006",
  "inverse_predicate": "este prestat de",
  "cardinality": {
    "subject_to_object": {
      "min": 0,
      "max": "N",
      "notation": "0..N"
    },
    "object_to_subject": {
      "min": 0,
      "max": "N",
      "notation": "0..N"
    }
  },
  "semantic_status": "requires_evidence",
  "evidence_requirement": "descriere de serviciu și sursă",
  "instance_status": "no_verified_instances_in_this_file"
},
{
  "id": "REL-005",
  "subject_type": "Firmă",
  "subject_term_id": "TERM-001",
  "predicate": "poate furniza către",
  "object_type": "Firmă",
  "object_term_id": "TERM-001",
  "inverse_predicate": "poate cumpăra de la",
  "cardinality": {
    "subject_to_object": {
      "min": 0,
      "max": "N",
      "notation": "0..N"
    },
    "object_to_subject": {
      "min": 0,
      "max": "N",
      "notation": "0..N"
    }
  },
  "semantic_status": "hypothesis_only",
  "evidence_requirement": "dovadă ofertă, nevoie și compatibilitate",
  "instance_status": "no_verified_instances_in_this_file"
},
{
  "id": "REL-006",
  "subject_type": "Firmă",

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    "subject_term_id": "TERM-001",
    "predicate": "poate concura cu",
    "object_type": "Firmă",
    "object_term_id": "TERM-001",
    "inverse_predicate": "poate concura cu",
    "cardinality": {
      "subject_to_object": {
        "min": 0,
        "max": "N",
        "notation": "0..N"
      },
      "object_to_subject": {
        "min": 0,
        "max": "N",
        "notation": "0..N"
      }
    },
    "semantic_status": "hypothesis_only",
    "evidence_requirement": "suprapunere demonstrabilă a ofertelor/piețelor",
    "instance_status": "no_verified_instances_in_this_file"
  }
},
"relation_instance_schema": {
  "required_fields": [
    "id",
    "relation_type_id",
    "subject_entity_id",
    "object_entity_id",
    "assertion_status",
    "source_ids",
    "evidence_ids",
    "observed_at"
  ],
  "optional_fields": [
    "valid_from",
    "valid_to",
    "confidence",
    "rationale",
    "reviewed_by",
    "reviewed_at"
  ],
  "allowed_assertion_status": [
    "hypothesis",
    "source_asserted",
    "verified",
    "rejected"
  ],
  "confidence_rule": "confidence numeric nu transforma ipoteza in relatie verificata",
  "inverse_rule": "relatia inversa este o vedere a aceleiasi muchii; nu crea doua dovezi sau doua contracte",
  "identity_rule": "identificatorii firmelor trebuie stabiliti pe baza unei surse de identitate documentate"
},
"illustrative_instance": {
  "synthetic": true,
  "do_not_publish_as_real_company": true,
  "nodes": [
    {
      "id": "EX-FIRM-A",
      "type": "Firmă",
      "label": "Producator exemplificativ A"
    },
    {
      "id": "EX-PRODUCT-1",
      "type": "Produs",
      "label": "Ambalaje din carton"
    }
  ],
  "edges": [
    {
      "id": "EX-EDGE-1",
      "relation_type_id": "REL-003",
      "subject_entity_id": "EX-FIRM-A",
      "object_entity_id": "EX-PRODUCT-1",
      "assertion_status": "hypothesis",
      "source_ids": [],
      "evidence_ids": [],
      "observed_at": null,
      "rationale": "Exemplu exclusiv didactic; oferta reala nu este confirmata"
    }
  ]
},
"inference_rules": [
  {
    "id": "RULE-001",
    "rule": "CAEN != dovada_produs",
    "effect": "nu crea relatie verificata Firma-ofera-Produs exclusiv din cod CAEN"
  }
]

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    },
    {
      "id": "RULE-002",
      "rule": "potential != contractual",
      "effect": "nu transforma relatie potentiala in contract sau client existent"
    },
    {
      "id": "RULE-003",
      "rule": "inverse_is_view",
      "effect": "inversele nu dubleaza numarul relatiilor factuale"
    },
    {
      "id": "RULE-004",
      "rule": "verified_requires_evidence",
      "effect": "starea verified necesita surse si dovezi verificabile"
    },
    {
      "id": "RULE-005",
      "rule": "temporal_validity",
      "effect": "o relatie observata la o data nu este automat valabila permanent"
    },
    {
      "id": "RULE-006",
      "rule": "classification_version",
      "effect": "orice mapare CAEN trebuie sa precizeze revizia nomenclatorului si sursa"
    }
  ],
  "validation": {
    "json_syntax": "validated_locally",
    "glossary_relation_ids_match": "validated_locally",
    "real_world_instances": "not_collected",
    "runtime_graph_engine": "not_verified",
    "deployment": "not_verified",
    "cluster_mapping": "validated_against_defined_TC_001_to_TC_008",
    "concept_ids": "internal_concept_identifiers_not_entities_json_refs"
  }
}

```