

Request for Comments for RDS Nachhaltigkeit on 28.07.2022

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Abstract. *This document is a Request for Comments (RC) for the Request for Domain Specifications (RDS) on Nachhaltigkeit from July 28, 2022.*

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1. Introduction

The requested domain specification is about extending various schema.org types with new properties to represent the knowledge about the sustainability features (e.g., whether they use local products, are close to public transportation) of various tourism related entities.

In the remainder of the document we provide our suggestions in relation to the requests made in the RDS. We then conclude with a summary and some general remarks. The Appendix A lists the suggested enumeration members for the newly introduced enumeration types.

2. Suggestions

This section presents our suggestions according to the requests made for the NachhaltigkeitDS. Each subsection contains a suggestion and starts with a quote from the RDS followed by our answer including how the request is recommended to be implemented.

2.1 Request for extending various types

“Event, LodgingBusiness, FoodEstablishment, TouristAttraction, Offer, Trail, Organization, Trip, City”

The RDS requests the extension of 9 types with new properties (see Section 2.2). We see that the extensions are requested on types that may share a hierarchy. Therefore we recommend extending the most generic possible supertypes of these types. This way the modification to schema.org will be kept at minimum as the subtypes inherit the properties from super types. This way we can achieve the same results in practice by just extending 5 types instead of 9.

Representation with schema.org

| Types to extend | Covered Requested Subtype |
|---------------------|---------------------------|
| schema:Event | schema:Event |
| schema:Offer | schema:Offer |
| schema:Organization | schema:Organization |
| schema:Place | schema:City |
| | schema:FoodEstablishment |
| | schema:LodgingBusiness |

| | |
|-------------|--------------------------|
| | schema:TouristAttraction |
| | schema:Trail |
| schema:Trip | schema:Trip |

2.2. Request for new properties for sustainability

| Typen | Eigenschaften für die Typen |
|---|--|
| 1. Event, LodgingBusiness, FoodEstablishment, TouristAttraction, Offer, Trail, Organization, Trip, City | 1. Reduzierung der Co ² -Emission/ ReductionCo ² Emission |
| 2. Event, LodgingBusiness, FoodEstablishment, TouristAttraction, Offer, Organization, Trip, City | 2. Lokale Herstellung / LocalProduce |
| 3.Event, LodgingBusiness, FoodEstablishment, TouristAttraction, Offer, Trail, Organization, Trip, City | 3. umweltfreundliche und/ oder öffentliche Verkehrsmittel zur An- und Abreise / SustainableJourney |
| 4. Event, LodgingBusiness, FoodEstablishment, TouristAttraction, Offer, Trail, Organization, City | 4. Nachhaltige Mobilität in der Region / SustainableLocalMobility |
| 5. Event, LodgingBusiness, FoodEstablishment, TouristAttraction, Offer, Trail, Trip, City | 5. Gästecard /Guestcard |
| 6. LodgingBusiness, FoodEstablishment, TouristAttraction, Offer, Trail, Organization, Trip | 6. E-Ladestation Fahrrad / eChargingStationBike E-Ladestation Auto / eChargingStationCar |
| 7. Event, TouristAttraction, Offer, Trail, Trip, City | 7. Besucherlenkungskonzepte (saisonale und regionale Einschränkungen) / SeasonalVisitorGuidance |
| 8. Event, LodgingBusiness, FoodEstablishment, TouristAttraction, Offer, Trail, Organization, Trip, City | 8. Netzwerke/ Zertifizierungen / NetworksCertifications (z.B. TourCert, Travelife Gold Certification, Green Sign / InfraCert, Green Globe Standard – Hotels & Resorts, "EMAS (Eco-Management and Audit Scheme mit Referenzdokument Tourismus", |

| | |
|--|--|
| | <i>Green Key, EU Ecolabel, Viabono, Bio Hotel, Deutscher Nachhaltigkeitskodex (DNK), DIN EN ISO 14001, Ökoprofit, Green Pearls, Ecocamping - Klimafreundlicher Betrieb/Management, Tripadvisor Green Leaders (Ökospitzenreiter Tripadvisor), ehc = eco hotels ceertified, Umweltsiegel Alpenvereinshütten, Certified Green Hotel, Bayrisches Umweltsiegel für das Gastgewerbe, DEHOGA Umweltcheck, Blaue Flagge, Partner der Nationalen Naturlandschaften)</i> |
| <i>9. Event, LodgingBusiness, FoodEstablishment, TouristAttraction, Offer, Trail, Organization, Trip, City</i> | <i>9. Abfallkonzept/Mülltrennung/ FoodwasteConcept</i> |
| <i>10. Event, LodgingBusiness, FoodEstablishment, Offer</i> | <i>10. Eigene Produktion / InHouseProduction</i> |
| <i>11.1 Event, LodgingBusiness, FoodEstablishment, TouristAttraction, Offer, Organization</i> | <i>11.1 Mehrwegprodukte (Bspw.: Verzicht auf Portionsverpackungen, Einkauf von großen Gebinden) / ReusableProducts</i> |
| <i>11.2 Event, LodgingBusiness, FoodEstablishment, TouristAttraction, Offer, Trail, Organization, Trip, City</i> | <i>11.2 Verzicht auf Plastik/ natürliche Materialien / NaturalMaterials</i> |
| <i>11.3 Event, LodgingBusiness, FoodEstablishment</i> | <i>11.3 gentechnisch nicht veränderte Produkte / GeneticallyUnmodifiedProducts</i> |
| <i>12. Event, LodgingBusiness, FoodEstablishment, TouristAttraction, Offer, Trail, Organization, Trip, City</i> | <i>12. Informationsangebote (zur Nachhaltigkeit) / SustainabilityEducation</i> |

The RDS requests a total of 14 new properties. Most of the properties are requested for most of the types requested to be extended in Section 2.1. When we analyze these properties one pattern that stands out is that they have either Boolean (true,false), Text or Enumeration ranges. Following our overall modeling approach, we recommend to model all requested properties as enumeration members or instances of LocationSpecificFeature.

We recommend introducing a new property sustainabilityFeature with range SustainabilityFeatureEnumeration or LocationSpecificFeature. The enumeration type allows us to specify a finite set of canonical members (supporting boolean and enumeration values), while LocationSpecificFeature provides the flexibility of having custom textual and

numerical values as key-value pairs. This is, for example, also inline with the modeling of accessibility features for lodging businesses¹. The enumeration members of SustainabilityFeatureEnumeration type and its two subtypes are listed in Appendix A.

Extension to schema.org

| Property | Domain | Range |
|------------------------------|--|--|
| schema:sustainabilityFeature | schema:Event OR schema:Offer OR schema:Organization OR schema:Place OR schema:Trip | odta:SustainabilityFeatureEnum eration OR schema:LocationFeatureSpecifi cation* |

(*) LocationFeatureSpecification is further restricted.

Restriction to schema.org (*)

| Property | Domain | Range |
|--------------|---|--|
| schema:name | schema:LocationFeatur eSpecification | schema:Text |
| schema:value | schema:LocationFeatur eSpecification | schema:Text OR schema:Boolean OR schema:Number |

3. Conclusion

In this Request for Comments, we provided our suggestions for building a domain specification for sustainability domain. Note that sustainability is a vertical theme that may involve many other domains. The modeling approach we choose also considers that this RC may be incorporated with other RCs (e.g. EventDS can be extended with sustainabilityFeature property). The request was made for new properties, however many of these properties' purpose is merely to provide a boolean or an enumeration value. Therefore we introduced one new property and a hierarchy of enumeration types for flexible modeling.

Note that we did not introduce any type specific restrictions on the potential enumeration members (i.e., currently all members of SustainabilityFeatureEnumeration are allowed on all types extended with the new sustainabilityFeature property). This is because most of the features asked for most of the types anyway, therefore the modeling overhead is not justified. There are still some open questions such as:

- Is there a more granular classification of the sustainability features (i.e., are new subtypes for SustainabilityFeatureEnumeration necessary)?
- What is a typical value for CO2Reduction for the textual range?
- Are translations of enumeration members correct?

¹ <http://odta.sti2.org/?dsb-list=nAnWVfvH3&dsb-ds=457kFvJAj>

We kindly ask ODTA members to take a look at the footnotes and consider these questions during the discussion.

Appendix A. Enumeration Members for SustainabilityFeatureEnumeration type

There are also some indications in RDS that some of the enumeration members can be grouped under subtypes of SustainabilityFeatureEnumeration type. We recommend the following (sub)types and their members (A > B notation indicates that B is a subtype of A).

SustainabilityFeatureEnumeration

| Enumeration Member | Label in English | Label in German |
|-------------------------------|------------------------------|---|
| CO2Reduction ² | Reduzierung der CO2 Emission | Reduzierung der CO2 Emission |
| LocalProviderUsage | Local production | Lokale Herstellung |
| SustainableGuestCard | Guestcard | Gästecard |
| EChargingStationBike | E-Charging Station for Bikes | E-Ladestationen Fahrrad |
| EChargingStationAuto | E-Charging Station for Cars | E-Ladestationen Auto |
| SeasonalGuestGuidance | Seasonal guest guidance | Besucherlenkungskonzepte |
| Recycling | Recycling concept | Abfall-/Mülltrennungs-/Food wastekonzepte |
| InHouseProduction | In-house production | Eigene Produktion |
| ReusableProducts | Reusable products | Mehrwegprodukte |
| NaturalMaterials ³ | Natural materials | Verzicht auf Plastik |
| NoGMOProducts | No GMO products | Gentechnisch nicht veränderte Produkte |
| SustainabilityEducation | Sustainability education | Informationsangebote zur Nachhaltigkeit |

SustainabilityFeatureEnumeration > SustainableTransportationEnumeration⁴

| Enumeration Member | Label in English | Label in German |
|--------------------|------------------|-----------------|
|--------------------|------------------|-----------------|

² This property is requested to have Text as range but not clear how a value for this would look like.

³ Maybe it's better to call it "compostable materials"?

⁴ Sustainable local mobility and sustainable journey enumerations merged under this one.

| | | |
|-----------------------------------|--|-------------------------------|
| NearTrainStation | Near train station | Nähe zu Bahnhof |
| NearBusStop | Near bus stop | Nähe zu Bushaltestelle |
| NearParkAndRide | Near Park and Ride | Nähe zu Park and Ride |
| NearEChargingStation | Near e-charging station | Nähe zu E-Ladestation |
| NearBikeMaintenanceStation | Near bicycle maintenance station | Nähe zu Fahrradservicestation |
| RegionalPublicTransportationCards | Regional public transportation tickets | Regio-Cards für ÖPNV |
| BicycleRental | Bicycle rental | Verleih von Fahrräder |
| ElectricVehicleRental | Electrical vehicle rental | Verleih von Elektrofahrzeugen |

SustainabilityFeatureEnumeration > SustainabilityCertificateEnumeration⁵

| Enumeration Member | Label in English | Label in German |
|---|--|--|
| GreenStar | Green Star | Green Star |
| ECMSustainabilityGroup | ECM Sustainability Group | ECM Sustainability Group |
| GlobalDestinationSustainabilityMovement | Global Destination Sustainability Movement | Global Destination Sustainability Movement |
| GlobalSustainableTourismCouncil | Global Sustainable Tourism Council | Global Sustainable Tourism Council |

⁵ List is just an example, ODTA should decide what the members of this Enumeration should be

Anfrage neuer Domain Specifications

Hinweis: Viele Schemata existieren bereits. Schauen Sie deshalb gerne zuerst, ob das gewünschte Schema bereits vorhanden ist – direkt bei [schema.org](https://schema.org/docs/schemas.html) (<https://schema.org/docs/schemas.html>) oder bei der ODTA.

ODTA

Titel: _____

Letztes Änderungsdatum: _____

Autoren: _____

URI: _____

| 1a: Ein Schema ist bereits vorhanden – Ihnen fehlen in diesem aber wichtige Aspekte/Felder? | 1b: Ihnen fehlt ein komplettes Schema? |
|--|--|
| <p><i>Beispiele:</i></p> <ul style="list-style-type: none">• <i>Bestehende Inhalte aus der eigenen Datenbank sind nicht abbildbar.</i>• <i>Der gesamte Themenbereich „Ski-Infrastruktur“ ist nicht konkret genug.</i>• <i>Es fehlen ergänzende Charakteristika (z. B. „Gepäckaufbewahrung“, „überdachter Rastplatz“, „Ruhezone mit Sitzmöglichkeiten“)</i> | <p><i>Beispiele:</i></p> <ul style="list-style-type: none">• <i>Es fehlt ein komplett neuer Type für z. B. „digitale Informationsstele“.</i>• <i>Es fehlen spezifischere Benennungen (z. B. „Tropfsteinhöhle“, „Stollen“ statt „Höhle“)</i> |
| <p>a) Geben Sie bitte für das bestehende Schema dessen genauen Namen an.</p> <p>_____</p> | <p>a) Geben Sie bitte an, um welches Schema es sich handelt.</p> <p>_____</p> |
| <p>b) Erläutern Sie bitte, welche Aspekte/Felder noch ergänzt werden müssen.</p> <p>Ergänzt werden sollen Angebote, Produkte, Konzepte und messbare Maßnahmen, die als Eigenschaften in den einzelnen schon bestehenden Schemata wiedergefunden werden können. Die jeweiligen Ausprägungen können Text, Boolean, Enumeration oder Number sein.</p> | <p>b) Machen Sie bitte Angaben dazu, was das Schema enthalten sollte.</p> <p>Da Nachhaltigkeit als Querschnittsthema verstanden wird, wird es als sinnvoll angesehen, die bereits vorhandenen genannten Schemata (1a) um die unter 4. aufgeführten Eigenschaften (Properties) zu erweitern, die sich unter dem Themenbereich "Nachhaltigkeit / Sustainability" zusammenfassen lassen. Ggf. kann es aber auch sinnvoll sein, dafür ein neues Schema unter selbem Namen einzuführen unter dem die einzelnen Properties thematisch gebündelt eingeordnet werden können.</p> |

| 2: Warum ist dieses Thema für die ODTA-Mitglieder und darüber hinaus relevant? |
|--|
| <p>Bitte kreuzen Sie die relevanten Punkte an: Die gewünschte Domain Specification...</p> <p>... wird nicht nur für Ihre Region/Ihr Unternehmen benötigt, sondern auch anderswo.</p> <p>... weist klar erkennbare Unterschiede zu bestehenden Domain Specifications auf.</p> <p>... hat eine hohe Relevanz für die Kundinnen und Kunden.</p> <p>... ist ein wesentliches Merkmal zur Merkmalsbeschreibung einer Unterkunft, Veranstaltung o.a.</p> |
| <p>Erläutern Sie bitte Ihre Auswahl.</p> |

| | |
|---|--|
| <p>(Optional) 3: Wie kann dieser Fall via das bestehende Schema.org-Vokabular repräsentiert werden?</p> | <p>(Optional) 4: Wie sollte schema.org erweitert werden, falls dies nötig ist?</p> |
| <p><i>Beispiel:</i></p> <ul style="list-style-type: none"> • „Digitale Informationsstele“ kann auf Properties/Types der TouristInformation-Center basieren (https://ds.sti2.org/HkSGnbNfJG): address, contactPoint, geo ... | <p><i>Beispiel:</i></p> <ul style="list-style-type: none"> • Tourist-Information (TouristInformationCenter) mit persönlichem Besucherverkehr & außerhalb der Öffnungszeiten erreichbarem digitalen Info-Terminal: „openingHoursSpecification“ erweitern mit „OfficeHoursSpecifications“ |
| <p>Geben Sie bitte an, mit welchen Properties und Types das neu eingebrachte Thema über das bestehende Schema.org Vokabular bereits abgebildet werden könnte.</p> | <p>Geben Sie bitte Beispiele, wie schema.org erweitert werden könnte. Schlagen Sie hierfür neue Types und Properties vor, welche Ihre Bedürfnisse abdecken.</p> |

[illegible]