

# Data Offerings description schema definitions in the API template

## **When Creating resources as per Data Offering**

**you need to send all the field of attributes in every block**

**so please use the entire template structure**

**and remember again that you need to use the entire template with all attributes of the template**

**even if you have to keep some "values" of the attribute empty**

Take Note That for the creation of DataOfferings system will accept with new deployment in progress

1 Data Offering has

- 1 "Contract parameters" description
- - 1 "Pricing part" description
- - 1 "Dataset" description
- - possible array for "Distribution"
- - array for "DataInformation"
- - list for Theme

**You can find the main Semantic Data Models files for i3-Market in github project at**

**<https://github.com/i3-Market-V2-Public-Repository/SemanticsDataModels>**

**and the specific files for last version at**

**<https://github.com/i3-Market-V2-Public-Repository/SemanticsDataModels/tree/public/Version-2>**

## Definitions for Semantic description of Data Offerings in relation to the API Template

### DataOffering

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#### **"marketId":**

<i>RDF Property:</i>	core:marketId
<i>Definition:</i>	This is the market name Id, which is uniquely identified a marketplace
<i>Range:</i>	Market place Identifier: xsd:string
<i>Usage note:</i>	
<i>See also:</i>	

#### **"provider":**

<i>RDF Property:</i>	core:provider
<i>Definition:</i>	Provider of the DataOffering
<i>Range:</i>	Provider Identifier: xsd:string
<i>Usage note:</i>	Should be the identifier of the Provider in i3-Market system Verification should be done with registered providers. All other providers shall be rejected. Return an error message in case an unregistered provider is specified.
<i>See also:</i>	Maybe connected with the IDs in Identity manager. <b>As the actual registration is by the Marketplaces/DataSpaces they have the knowledge and responsibility to have the name/identity of the Providers [that have knowledge of the Owners] they would know who are the providers..</b>

#### **"owner":**

<i>RDF Property:</i>	core:owner
<i>Definition:</i>	Owner of the DataOffering

<i>Range:</i>	Owner Identifier: xsd:string
<i>Usage note:</i>	Should be the identifier of the Owner in i3-Market system.  Owners are not registered in i3-MARKET. Optional parameter. Not to be verified.
<i>See also:</i>	

**"marketDid": (automatically filled by e.g. WEB-RI in creation moment of the data offering)**

<i>RDF Property:</i>	core:marketDid
<i>Definition:</i>	This is the market Did, registered in VC and i3-Market, which is uniquely identified a marketplace
<i>Range:</i>	Market place Identifier: did
<i>Usage note:</i>	This ID is generated at the marketPlace level, and inserting into an offering automatically by the marketPlace itself rather than by a user.
<i>See also:</i>	

**"providerDid": (automatically filled by e.g. WEB-RI in creation moment of the data offering)**

<i>RDF Property:</i>	core:providerDid
<i>Definition:</i>	Provider of the DataOffering Did, registered in VC and i3-Market, which is uniquely identified
<i>Range:</i>	Provider Identifier: did
<i>Usage note:</i>	Should be the identifier of the Provider in i3-Market system  Verification should be done with registered providers. All other providers shall be rejected. Return an error message in case an unregistered provider is specified.
<i>See also:</i>	linked to VC

**"ownerDid":** (at the moment not required until we manage to identify the managements of owners in the system)

<i>RDF Property:</i>	core:ownerDid
<i>Definition:</i>	Owner of the DataOffering Did, registered in VC and i3-Market, which is uniquely identified
<i>Range:</i>	Owner Identifier: did
<i>Usage note:</i>	Should be the identifier of the Owner in i3-Market system.  Owners are not registered in i3-MARKET. Optional parameter. Not to be verified.
<i>See also:</i>	Maybe connected with the IDs in Identity manager

**"dataOfferingTitle":**

<i>RDF Property:</i>	core:dataOfferingTitle
<i>Definition:</i>	The title of the DataOffering
<i>Range:</i>	xsd:string
<i>Usage note:</i>	A name to identify the dataoffering. A few words only, that summarize the offering.
<i>See also:</i>	

**"dataOfferingDescription":**

<i>RDF Property:</i>	core:dataOfferingDescription
<i>Definition:</i>	A description of the DataOffering
<i>Range:</i>	xsd:string
<i>Usage note:</i>	Used to have description text to describe what the data offering is about. This can be a long block of text. At least 1000 chars shall be reserved for this.
<i>See also:</i>	

**"category":**

<i>RDF Property:</i>	core:category
<i>Definition:</i>	A category to have high level classification of domain for the Data Offering
<i>Range:</i>	xsd:anyURI
<i>Usage note:</i>	<p>Use the Categories naming schemaa defined for high level categories as URIs: Categories should only be added through extending the categories list. This is done by the community.</p> <p>The parameter should be checked against this list of categories e.g:</p> <p>Automotive Manufacturing Wellbeing</p>
<i>See also:</i>	<p>Categories in Table below</p> <p>prefix: <a href="http://i3.market.eu/auth/dataCatagory">dataCatagory</a> &lt;<a href="http://i3.market.eu/auth/dataCatagory">http://i3.market.eu/auth/dataCatagory</a>&gt;</p> <p><a href="http://i3.market.eu/auth/dataCatagory">dataCatagory</a>:Automotive</p> <p>Data Categories [as per definitions in github file: [ <a href="https://github.com/i3-Market-V2-Public-Repository/SemanticsDataModels/blob/public/Version-2/DataOfferingCategory.ttl">https://github.com/i3-Market-V2-Public-Repository/SemanticsDataModels/blob/public/Version-2/DataOfferingCategory.ttl</a> ]</p> <p>&lt;<a href="http://i3.market.eu/auth/dataCatagory/Manufacturing">http://i3.market.eu/auth/dataCatagory/Manufacturing</a>&gt;</p> <p>&lt;<a href="http://i3.market.eu/auth/dataCatagory/Automotive">http://i3.market.eu/auth/dataCatagory/Automotive</a>&gt;</p> <p>&lt;<a href="http://i3.market.eu/auth/dataCatagory/Wellbeing">http://i3.market.eu/auth/dataCatagory/Wellbeing</a>&gt;</p> <p>&lt;<a href="http://i3.market.eu/auth/dataCatagory/Agriculture">http://i3.market.eu/auth/dataCatagory/Agriculture</a>&gt;</p> <p>&lt;<a href="http://i3.market.eu/auth/dataCatagory/Culture">http://i3.market.eu/auth/dataCatagory/Culture</a>&gt;</p> <p>&lt;<a href="http://i3.market.eu/auth/dataCatagory/Economy">http://i3.market.eu/auth/dataCatagory/Economy</a>&gt;</p> <p>&lt;<a href="http://i3.market.eu/auth/dataCatagory/Education">http://i3.market.eu/auth/dataCatagory/Education</a>&gt;</p> <p>&lt;<a href="http://i3.market.eu/auth/dataCatagory/Energy">http://i3.market.eu/auth/dataCatagory/Energy</a>&gt;</p> <p>&lt;<a href="http://i3.market.eu/auth/dataCatagory/Environment">http://i3.market.eu/auth/dataCatagory/Environment</a>&gt;</p> <p>&lt;<a href="http://i3.market.eu/auth/dataCatagory/Government">http://i3.market.eu/auth/dataCatagory/Government</a>&gt;</p> <p>&lt;<a href="http://i3.market.eu/auth/dataCatagory/Health">http://i3.market.eu/auth/dataCatagory/Health</a>&gt;</p>

	<a href="http://i3.market.eu/auth/dataCatagory/International">&lt;http://i3.market.eu/auth/dataCatagory/International&gt;</a> <a href="http://i3.market.eu/auth/dataCatagory/Justice">&lt;http://i3.market.eu/auth/dataCatagory/Justice&gt;</a> <a href="http://i3.market.eu/auth/dataCatagory/Regions">&lt;http://i3.market.eu/auth/dataCatagory/Regions&gt;</a> <a href="http://i3.market.eu/auth/dataCatagory/Society">&lt;http://i3.market.eu/auth/dataCatagory/Society&gt;</a> <a href="http://i3.market.eu/auth/dataCatagory/Science">&lt;http://i3.market.eu/auth/dataCatagory/Science&gt;</a> <a href="http://i3.market.eu/auth/dataCatagory/Transport">&lt;http://i3.market.eu/auth/dataCatagory/Transport&gt;</a>
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**"status": The previous "isActive" attribute had to be changed to core:status**

<i>RDF Property:</i>	core:status
<i>Definition:</i>	To define if the dataoffering is “active” and so can be displayed and shared for the use of consumers [e.g.if not this is private only for providers/admin view and not on available to other views]
<i>Range:</i>	xsd:string
<i>Usage note:</i>	Possible values: “Active”: The offer is active and visible to everyone. “Inactive”: The offer is not visible, but still exists and can be activated again. “ToBeDeleted”: Data offer is still available and visible, but will be deleted once the last contract on this offer expired. No new purchases allowed on it. “Deleted”: The offer is not visible and cannot be activated again. No longer available for consumers or providers.
<i>Note:</i>	Rename this field to “ <b>Status</b> ”. Possible values: “Active”: The offer is active and visible to everyone. “Inactive”: The offer is not visible, but still exists and can be activated again. “ToBeDeleted”: Data offer is still available and visible, but will be deleted once the last contract on this offer expired. No new purchases allowed on it. “Deleted”: The offer is not visible and cannot be activated again. No longer available for consumers or providers.

**"dataOfferingExpirationTime":**

<i>RDF Property:</i>	core:dataOfferingExpirationTime
<i>Definition:</i>	Expiration Time of dataOffering in case

<i>Range:</i>	Can be: xsd:dateTime
<i>Usage note:</i>	<p>The dateTime data type is used to specify a date and a time.</p> <p>The dateTime is specified in the following form "YYYY-MM-DDThh:mm:ss" where:</p> <ul style="list-style-type: none"> <li>• YYYY indicates the year</li> <li>• MM indicates the month</li> <li>• DD indicates the day</li> <li>• T indicates the start of the required time section</li> <li>• hh indicates the hour</li> <li>• mm indicates the minute</li> <li>• ss indicates the second</li> </ul> <p><b>Note:</b> All components are required!</p> <p>The following is an example of a dateTime declaration in a schema:</p> <p>“2002-05-30T09:00:00”</p>
<i>See also:</i>	

**"dataOfferingCreated": [this can be created automatically by the system at registration time, by engine timestamp, instead of manually by market...]**

<i>RDF property</i>	core:dataOfferingCreated
Definition:	Date of formal issuance [e.g., publication] of the data offering.
Range:	encoded using the relevant ISO 8601 Date and Time compliant string [DATETIME] and typed using the appropriate XML Schema datatype [XMLSCHEMA11-2] [xsd:dateTime].
Usage note:	<p>This property SHOULD be set using the first known date of issuance.</p> <p>The date of the initial publication of this data offering in i3-MARKET.</p>
See also:	<a href="#">§ 6.4.7 Property: release date</a>

**"lastModified": [this can be created automatically by the system at registration time, by engine timestamp, instead of manually by market...]**

RDF Property:	core:lastModified
Definition:	Most recent date on which the data offering was changed, updated or modified.
Range:	encoded using the relevant ISO 8601 Date and Time compliant string [DATETIME] and typed using the appropriate XML Schema datatype [XMLSCHEMA11-2] [xsd:dateTime].
Usage note:	The value of this property indicates a change to the data offering record. An absent value MAY indicate that the item has never changed after its initial publication, or that the date of last modification is not known, or that the item is continuously updated.
See also:	§ 6.6.2 Property: frequency, § 6.5.4 Property: update/modification date and § 6.8.4 Property: update/modification date in DCAT 3 webpage

#### "versionNotes":

<i>RDF Property:</i>	<a href="#">adms:versionNotes</a>
<i>Definition:</i>	A description of changes between this version and the previous version of the resource [ <a href="#">VOCAB-ADMS</a> ].
<i>Range:</i>	xsd:string
<i>Usage note:</i>	In case of backward compatibility issues with the previous version of the resource, a textual description of them <i>SHOULD</i> be specified by using this property.
<i>See also:</i>	<a href="#">§ 6.4.26 Property: current version</a> , <a href="#">§ 6.4.24 Property: has version</a> , <a href="#">§ 6.4.28 Property: is replaced by</a> , <a href="#">§ 6.4.25 Property: is version of</a> , <a href="#">§ 6.4.23 Property: previous version</a> , <a href="#">§ 6.4.7 Property: release date</a> , <a href="#">§ 6.4.27 Property: replaces</a> , <a href="#">§ 6.4.31 Property: status</a> , <a href="#">§ 6.4.30 Property: version notes</a> .

#### "previousVersion":

<i>RDF Property:</i>	<a href="#">dcat:previousVersion</a>
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<i>Definition:</i>	The previous version of a resource in a lineage [ <a href="#">PAV</a> ].
<i>Range:</i>	xsd:anyURI
<i>Usage note:</i>	<p>This property is meant to be used to specify a version chain, consisting of snapshots of a resource.</p> <p>The notion of version used by this property is limited to versions resulting from revisions occurring to a resource as part of its life-cycle. One of the typical cases here is representing the history of the versions of a dataset that have been released over time.</p>
<i>See also:</i>	<a href="#">§ 6.4.26 Property: current version</a> , <a href="#">§ 6.4.24 Property: has version</a> , <a href="#">§ 6.4.28 Property: is replaced by</a> , <a href="#">§ 6.4.25 Property: is version of</a> , <a href="#">§ 6.4.23 Property: previous version</a> , <a href="#">§ 6.4.7 Property: release date</a> , <a href="#">§ 6.4.27 Property: replaces</a> , <a href="#">§ 6.4.31 Property: status</a> , <a href="#">§ 6.4.30 Property: version notes</a> .

### "replaces":

<i>RDF Property:</i>	<a href="#">dcterms:replaces</a>
<i>Definition:</i>	A related resource that is supplanted, displaced, or superseded by the described resource [ <a href="#">DCTERMS</a> ].
<i>Range:</i>	xsd:anyURI
<i>Usage note:</i>	resource replaced
<i>See also:</i>	<a href="#">§ 6.4.26 Property: current version</a> , <a href="#">§ 6.4.24 Property: has version</a> , <a href="#">§ 6.4.28 Property: is replaced by</a> , <a href="#">§ 6.4.25 Property: is version of</a> , <a href="#">§ 6.4.23 Property: previous version</a> , <a href="#">§ 6.4.7 Property: release date</a> , <a href="#">§ 6.4.27 Property: replaces</a> , <a href="#">§ 6.4.31 Property: status</a> , <a href="#">§ 6.4.30 Property: version notes</a> .

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<i>RDF Property:</i>	<a href="#">dcat:previousVersion</a>
<i>Definition:</i>	The previous version of a resource in a lineage [ <a href="#">PAV</a> ].
<i>Range:</i>	xsd:anyURI

<i>Usage note:</i>	<p>This property is meant to be used to specify a version chain, consisting of snapshots of a resource.</p> <p>The notion of version used by this property is limited to versions resulting from revisions occurring to a resource as part of its life-cycle. One of the typical cases here is representing the history of the versions of a dataset that have been released over time.</p>
<i>See also:</i>	<a href="#">§ 6.4.26 Property: current version</a> , <a href="#">§ 6.4.24 Property: has version</a> , <a href="#">§ 6.4.28 Property: is replaced by</a> , <a href="#">§ 6.4.25 Property: is version of</a> , <a href="#">§ 6.4.23 Property: previous version</a> , <a href="#">§ 6.4.7 Property: release date</a> , <a href="#">§ 6.4.27 Property: replaces</a> , <a href="#">§ 6.4.31 Property: status</a> , <a href="#">§ 6.4.30 Property: version notes</a> .

## "contractParameters":

{

### "interestOfProvider":

<i>RDF Property:</i>	core:interestOfProvider
<i>Definition:</i>	<p>This property is used to identify the interest of the data owner/provider related to the trading/sharing of their data assets. The following possibilities exist:</p> <ul style="list-style-type: none"> <li>• Free Sharing</li> <li>• Quotation</li> <li>• Selling of data [e.g. just earning money by selling the data, no specific feedback on these data by a data consumer expected]</li> </ul>
<i>Range:</i>	xsd:string
<i>Usage note:</i>	It could be simple notations like: Free Sharing -Quotation -Selling of data ; or we can decide to have specific definitions for our system
<i>See also:</i>	

### "interestDescription":

<i>RDF Property:</i>	core:interestDescription
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<i>Definition:</i>	Data provider can specify which sort of quotation he wants exactly, e.g., quotation for maintenance service or quotation for optimization of production
<i>Range:</i>	xsd:string
<i>Usage note:</i>	More text description of the interest of the data owner/provider related to the trading/sharing of their data assets. Example: "This data is shared only for the purpose of creating a quotation for maintenance for the production machines described in the data set. Any other use of this data is not permitted."
<i>Note:</i>	

### **"hasGoverningJurisdiction":**

<i>RDF Property:</i>	core:hasGoverningJurisdiction
<i>Definition:</i>	The file format of the distribution.
<i>Range:</i>	xsd:string [or xsd:anyURI]
<i>Usage note:</i>	Can be string naming like: GLOBAL US JURISDICTION EU JURISDICTION [or we use URIs to define the specific terms for jurisdictions <b>ToDo: Define a list of jurisdictions, which are valid here.</b>
<i>See also:</i>	

### **"purpose":**

<i>RDF Property:</i>	core:purpose
<i>Definition:</i>	Purpose of the Agreement
<i>Range:</i>	xsd:string
<i>Usage note:</i>	Short label for the purpose

	In case we could have specific terminology for define list of @purpose@ terms
<i>Note:</i>	This parameter is part of the contractual parameters. Ask contract partners, what this is for [Susanne].

### **"purposeDescription":**

<i>RDF Property:</i>	core:purposeDescription
<i>Definition:</i>	In case full text description of describing the reasons behind the creation of the Agreement
<i>Range:</i>	xsd:string
<i>Usage note:</i>	text description
<i>Note:</i>	This parameter is part of the contractual parameters. Ask contract partners, what this is for [Susanne]

### **"hasIntendedUse":**

{

#### **"processData": "true OR false",**

<i>RDF Property:</i>	core:processData
<i>Definition:</i>	If consumer allowed to process data
<i>Range:</i>	xsd:boolean
<i>Usage note:</i>	The value space of xsd:boolean is true and false. Its lexical space accepts true, false, "TRUE" or "FALSE"
<i>Note:</i>	Part of contractual parameters. Ask contract partners, what this is for. Make this parameter to type Boolean.

#### **"shareDataWithThirdParty": "true OR false",**

<i>RDF Property:</i>	core:shareDataWithThirdParty
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<i>Definition:</i>	If consumer allowed to share data with third parties
<i>Range:</i>	xsd:boolean
<i>Usage note:</i>	The value space of xsd:boolean is true and false. Its lexical space accepts true, false, “TRUE” or “FALSE”
<i>Note:</i>	Part of contractual parameters. Ask contract partners, what this is for. Make this parameter to type Boolean.

**"editData": "true OR false"**

<i>RDF Property:</i>	core:editData
<i>Definition:</i>	If consumer allowed to edit the Data
<i>Range:</i>	xsd:boolean
<i>Usage note:</i>	The value space of xsd:boolean is true and false. Its lexical space accepts true, false, “TRUE” or “FALSE”
<i>Note:</i>	Part of contractual parameters. Ask contract partners, what this is for. Make this parameter to type Boolean.

} ,

**"hasLicenseGrant":**

{

**"copyData": "true OR false",**

<i>RDF Property:</i>	core:copyData
<i>Definition:</i>	If licence grant to copy data
<i>Range:</i>	xsd:boolean
<i>Usage note:</i>	The value space of xsd:boolean is true and false. Its lexical space accepts true, false, “TRUE” or “FALSE”
<i>Note:</i>	Part of contractual parameters. Ask contract partners, what this is for.

**"transferable": "true OR false",**

<i>RDF Property:</i>	core:transferable
<i>Definition:</i>	If licence is transferable
<i>Range:</i>	xsd:boolean
<i>Usage note:</i>	The value space of xsd:boolean is true and false. Its lexical space accepts true, false, “TRUE” or “FALSE”
<i>See also:</i>	

**"exclusiveness": "true OR false",**

<i>RDF Property:</i>	core:exclusiveness
<i>Definition:</i>	If licence grant exclusiveness
<i>Range:</i>	xsd:boolean
<i>Usage note:</i>	The value space of xsd:boolean is true and false. Its lexical space accepts true, false, “TRUE” or “FALSE”
<i>See also:</i>	

**"revocable": "true OR false"**

<i>RDF Property:</i>	core:revocable
<i>Definition:</i>	If licence is revocable
<i>Range:</i>	xsd:boolean
<i>Usage note:</i>	The value space of xsd:boolean is true and false. Its lexical space accepts true, false, “TRUE” or “FALSE”
<i>See also:</i>	

} ,

**"hasPricingModel":**

{

**"pricingModelName":**

<i>RDF Property:</i>	pricingmodel:pricingModelName
<i>Definition:</i>	The name to define the legacy , by Marketplace, pricing model related to the data offering
<i>Range:</i>	xsd:string
<i>Usage note:</i>	Princing models are individually defined by marketplaces. No common pricing model will be defined for i3-MARKET. Maybe try to generalize existing pricing models.
<i>See also:</i>	

**"basicPrice":**

<i>RDF Property:</i>	pricingmodel:basicPrice
<i>Definition:</i>	The generic basic price for the traded data for basic cost of trade
<i>Range:</i>	xsd:double
<i>Usage note:</i>	Number related to price
<i>See also:</i>	

**"currency":**

<i>RDF Property:</i>	pricingmodel:currency
<i>Definition:</i>	The file format of the distribution.
<i>Range:</i>	xsd:string
<i>Usage note:</i>	Using ISO 4215 Currency Terminology
<i>See also:</i>	lis-ISO-4217-Currencyt_one.xml See XML file for 3 letter abbreviations. <a href="#">lis-ISO-4217-Currencyt_one.xml</a>

**"hasPaymentOnSubscription":**

{

**"timeDuration":**

<i>RDF Property:</i>	pricingmodel:timeDuration
<i>Definition:</i>	Time duration of subscription
<i>Range:</i>	<a href="#">xsd:anyURI</a>
<i>Usage note:</i>	<p>Or generic xsd:string text with labels for duration vocabulary or URIs with vocabulary like:</p> <p>e.g.</p> <p>"<a href="http://reference.data.gov.uk/def/intervals/Day">http://reference.data.gov.uk/def/intervals/Day</a>"</p> <p>"<a href="http://reference.data.gov.uk/def/intervals/Hour">http://reference.data.gov.uk/def/intervals/Hour</a>"</p> <p>"<a href="http://reference.data.gov.uk/def/intervals/Minute">http://reference.data.gov.uk/def/intervals/Minute</a>"</p> <p>"<a href="http://reference.data.gov.uk/def/intervals/Month">http://reference.data.gov.uk/def/intervals/Month</a>"</p> <p>"<a href="http://reference.data.gov.uk/def/intervals/Quarter">http://reference.data.gov.uk/def/intervals/Quarter</a>"</p> <p>"<a href="http://reference.data.gov.uk/def/intervals/Second">http://reference.data.gov.uk/def/intervals/Second</a>"</p> <p>Price is per timeDuration. E.g. if parameter is "Second" here, then the specified price is per second [€/ s]</p>
<i>See also:</i>	Terms in <a href="https://github.com/i3-Market-V2-Public-Repository/SemanticsDataModels/blob/public/Version-2/intervals.rdf">https://github.com/i3-Market-V2-Public-Repository/SemanticsDataModels/blob/public/Version-2/intervals.rdf</a>

**"description":**

<i>RDF Property:</i>	dcterms:description
<i>Definition:</i>	The description of payment on subscription
<i>Range:</i>	<a href="#">xsd:string</a>
<i>Usage note:</i>	Text description
<i>See also:</i>	

**"repeat":**

<i>RDF Property:</i>	pricingmodel:repeat
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<i>Definition:</i>	If subscription can be repeated define the frequency, e.g. Daily, Monthly,....
<i>Range:</i>	<a href="#">xsd:anyURI</a>
<i>Usage note:</i>	<p>We can use specific vocabulary</p> <p>e.g. in freq definitions like:</p> <p><a href="http://purl.org/cld/freq/daily">http://purl.org/cld/freq/daily</a></p> <p>freq:monthly</p> <p>freq:weekly</p> <p>.....</p>
<i>See also:</i>	<p>See also</p> <p><a href="https://github.com/i3-Market-V2-Public-Repository/SemanticsDataModels/blob/public/Version-2/freq.rdf">https://github.com/i3-Market-V2-Public-Repository/SemanticsDataModels/blob/public/Version-2/freq.rdf</a></p>

#### **"hasSubscriptionPrice":**

<i>RDF Property:</i>	pricingmodel:hasSubscriptionPrice
<i>Definition:</i>	Price allocated to subscription payment type
<i>Range:</i>	<a href="#">xsd:double</a>
<i>Usage note:</i>	Price
<i>See also:</i>	

} ,

#### **"hasPaymentOnPlan":**

{

There may be things like Basic Plan, Premium Plans, ... Gives access to certain types of data.  
Difficult to implement in i3-MARKET.

Example for other usage: Deliver data only once a month or once every x period.  
Optional parameter, does not have to be used.

**Recommendation: Do NOT implement plans for now. Keep these parameters out, remove them.**

#### **"description":**

<i>RDF Property:</i>	pricingmodel:planDescription
<i>Definition:</i>	The text description of plan
<i>Range:</i>	Xsd:string
<i>Usage note:</i>	Description text
<i>See also:</i>	

### **"planDuration":**

<i>RDF Property:</i>	pricingmodel:planDuration
<i>Definition:</i>	The duration of the Plan
<i>Range:</i>	<a href="#">xsd:anyURI</a>
<i>Usage note:</i>	<p>Or generic xsd:string text with labels for duration vocabulary or URIs with vocabulary like:</p> <p>e.g.</p> <p>"<a href="http://reference.data.gov.uk/def/intervals/Day">http://reference.data.gov.uk/def/intervals/Day</a>"</p> <p>"<a href="http://reference.data.gov.uk/def/intervals/Hour">http://reference.data.gov.uk/def/intervals/Hour</a>"</p> <p>"<a href="http://reference.data.gov.uk/def/intervals/Minute">http://reference.data.gov.uk/def/intervals/Minute</a>"</p> <p>"<a href="http://reference.data.gov.uk/def/intervals/Month">http://reference.data.gov.uk/def/intervals/Month</a>"</p> <p>"<a href="http://reference.data.gov.uk/def/intervals/Quarter">http://reference.data.gov.uk/def/intervals/Quarter</a>"</p> <p>"<a href="http://reference.data.gov.uk/def/intervals/Second">http://reference.data.gov.uk/def/intervals/Second</a>"</p>
<i>See also:</i>	Terms in <a href="https://github.com/i3-Market-V2-Public-Repository/SemanticsDataModels/blob/public/Version-2/intervals.rdf">https://github.com/i3-Market-V2-Public-Repository/SemanticsDataModels/blob/public/Version-2/intervals.rdf</a>

### **"hasPlanPrice": "string"**

<i>RDF Property:</i>	pricingmodel:hasPlanPrice
<i>Definition:</i>	The price of the Plan
<i>Range:</i>	<a href="#">xsd:double</a>

<i>Usage note:</i>	Price
<i>See also:</i>	

} ,

**"hasPaymentOnApi":**

{

**"description":**

<i>RDF Property:</i>	Dcterms:description
<i>Definition:</i>	The text description of payment type
<i>Range:</i>	Xsd:string
<i>Usage note:</i>	Description text
<i>Note:</i>	Optional. Useful for Agora.

**"numberOfObject":**

<i>RDF Property:</i>	pricingmodel:numberObject
<i>Definition:</i>	number of Objects for API Handle payments
<i>Range:</i>	Xsd:double
<i>Usage note:</i>	
<i>Note:</i>	Optional. Useful for Agora.

**"hasAPIPrice": "string"**

<i>RDF Property:</i>	pricingmodel:hasAPIPrice
<i>Definition:</i>	The price of the API payment type
<i>Range:</i>	<a href="#">xsd:double</a>
<i>Usage note:</i>	Price
<i>Note:</i>	Optional. Useful for Agora.

```

    } ,
    "hasPaymentOnUnit":

```

```

    {
        "description":

```

<i>RDF Property:</i>	Dcterms:description
<i>Definition:</i>	The text description of payment type
<i>Range:</i>	Xsd:string
<i>Usage note:</i>	Description text Purchase a cluster of data. Sets of data. One cluster is a group of data sets.
<i>See also:</i>	

```

    "dataUnit":

```

<i>RDF Property:</i>	pricingmodel:dataUnit
<i>Definition:</i>	Data Unit type handle by service
<i>Range:</i>	Xsd:string
<i>Usage note:</i>	Define what the unit resembles. Example: A predefined data set. A "Unit" of transaction as indicated in specification of the service method of exchange .
<i>See also:</i>	Data unit type - In telecommunications, a <b>protocol data unit (PDU)</b> is a single unit of information transmitted among peer entities of a computer network , For example the data unit in which data are packeted when transmitted in streams. also e.g. a data unit that contains one or many stream data objects.

```

    "hasUnitPrice": "string"

```

<i>RDF Property:</i>	pricingmodel:hasUnitPrice
<i>Definition:</i>	The price of the by Unit payment type

<i>Range:</i>	xsd:double
<i>Usage note:</i>	Price per data unit
<i>See also:</i>	

} ,

**"hasPaymentOnSize":**

{

**"description":**

<i>RDF Property:</i>	Dcterms:description
<i>Definition:</i>	The text description of payment type
<i>Range:</i>	Xsd:string
<i>Usage note:</i>	Description text
<i>See also:</i>	

**"dataSize":**

<i>RDF Property:</i>	pricingmodel:dataSize
<i>Definition:</i>	The size of data exchanged for payment
<i>Range:</i>	typically typed as xsd:nonNegativeInteger.
<i>Usage note:</i>	<p>The size in bytes can be approximated [as a non-negative integer] when the precise size is not known.</p> <p>While it is recommended that the size be given as an integer, alternative literals such as '1.5 MB' are sometimes used.</p>
<i>See also:</i>	We can decide to use a specific vocabulary

**"hasSizePrice": "string"**

<i>RDF Property:</i>	pricingmodel:hasSizetPrice
<i>Definition:</i>	The price of the by Unit payment type

<i>Range:</i>	xsd:double
<i>Usage note:</i>	Price E.g. pay per Megabyte of data.
<i>See also:</i>	

} ,

**"hasFreePrice":**

{

**"hasPriceFree": "FREE"**

<i>RDF Property:</i>	pricingmodel:hasPriceFree
<i>Definition:</i>	The data is shared for free
<i>Range:</i>	Xsd:string
<i>Usage note:</i>	“FREE”. Data is for free, no payment needed.
<i>See also:</i>	We might use an URI as Pricingmodel:Free as unique term

} } ,

**"hasDataset":**

{ [DataSet Description]

Description of the data sets contained. Note: This is not a description of the individual data items, but an overview.

**"title":**

RDF Property:	dcterms:title
Definition:	A name given to the dataset.
Range:	Xsd:string [rdfs:Literal]
<i>Usage note:</i>	Title
<i>See also:</i>	

**"keyword":**

RDF Property:	dcat:keyword
Definition:	A keyword or tag describing the resource.
Range:	Xsd:string [rdfs:Literal]
Usage note:	Text keywords, [in case we can decide to have a selection of terminologies to set as keywords].  One or more keywords describing the data.
See also:	To have multiple keywords You can have multiple instances of the property "keyword"

### "dataset":

<i>RDF Property:</i>	
<i>Definition:</i>	
<i>Range:</i>	
<i>Usage note:</i>	
<i>See also:</i>	

### "description":

RDF Property:	dcterms:description
Definition:	A free-text account of the dataset.
Range:	Xsd:string [rdfs:Literal]
Usage note:	Description Text of Data Set
See also:	

### "issued":

<i>RDF property</i>	dcterms:issued
---------------------	----------------

Definition:	Date of formal issuance [e.g., publication] of the distribution.
Range:	encoded using the relevant ISO 8601 Date and Time compliant string [DATETIME] and typed using the appropriate XML Schema datatype [XMLSCHEMA11-2] [xsd:dateTime].
Usage note:	This property SHOULD be set using the first known date of issuance. The date of the initial publication of this dataset in i3-MARKET.
See also:	<a href="#">§ 6.4.7 Property: release date</a>

### **"modified":**

RDF Property:	dcterms:modified
Definition:	Most recent date on which the item was changed, updated or modified.
Range:	encoded using the relevant ISO 8601 Date and Time compliant string [DATETIME] and typed using the appropriate XML Schema datatype [XMLSCHEMA11-2] [xsd:dateTime].
Usage note:	The value of this property indicates a change to the actual item, not a change to the catalog record. An absent value MAY indicate that the item has never changed after its initial publication, or that the date of last modification is not known, or that the item is continuously updated.
See also:	§ 6.6.2 Property: frequency, § 6.5.4 Property: update/modification date and § 6.8.4 Property: update/modification date in DCAT 3 webpage

### **"temporal":**

RDF Property:	dcterms:temporal
Definition:	The temporal period that the dataset covers.
Range:	In general used singularly can be used URIs as in intervals vocab OR dcterms:PeriodOfTime [An interval of time that is named or defined by its start and end dates]



Usage note:	<p>In case we extend the model to serve The temporal coverage of a dataset may be encoded as an instance of <code>dcterms:PeriodOfTime</code>, or may be indicated using a IRI reference [link] to a resource describing a time period or interval.</p> <p>e.g. as [a <code>dcterms:PeriodOfTime</code></p> <p><code>dc:startDate "2016-03-04"^^xsd:dateTime ;</code></p> <p><code>dc:endDate "2018-08-05"^^xsd:dateTime ;</code></p>
See also:	<a href="https://github.com/i3-Market-V2-Public-Repository/SemanticsDataModels/blob/public/Version-2/intervals.rdf">https://github.com/i3-Market-V2-Public-Repository/SemanticsDataModels/blob/public/Version-2/intervals.rdf</a>

### "language":

<i>RDF Property:</i>	<code>dcterms:language</code>
<i>Definition:</i>	A language of the item. This refers to the natural language used for textual metadata [i.e. titles, descriptions, etc] of a cataloged resource [i.e. dataset or service] or the textual values of a dataset distribution
<i>Range:</i>	<p>Resources defined by the Library of Congress [ISO 639-1, ISO 639-2] SHOULD be used.</p> <p>If a ISO 639-1 [two-letter] code is defined for language, then its corresponding IRI SHOULD be used; if no ISO 639-1 code is defined, then IRI corresponding to the ISO 639-2 [three-letter] code SHOULD be used.</p>
<i>Usage note:</i>	Repeat this property if the resource is available in multiple languages.
<i>See also:</i>	Also If representations of a dataset are available for each language separately, define an instance of <code>dc:Distribution</code> for each language and describe the specific language of each distribution using <code>dcterms:language</code> [i.e. the dataset will have multiple <code>dcterms:language</code> values and each distribution will have just one as the value of its <code>dcterms:language</code> property].

### "spatial":

<i>RDF Property:</i>	<code>dcterms:spatial</code>
<i>Definition:</i>	The geographical area covered by the dataset.

Range:	<p>Xsd:anyURI to use in case using a IRI reference [link] to a resource describing a location. It is recommended that links are to entries in a well maintained gazetteer such as Geonames.</p> <p>Or a dcterms:Location [A spatial region or named place]</p>
Usage note:	<p>The spatial coverage of a dataset may be encoded as an instance of dcterms:Location,</p> <p>or may be indicated using a IRI reference [link] to a resource describing a location. It is recommended that links are to entries in a well maintained gazetteer such as Geonames.</p>
See also:	<p>e.g. for bbox</p> <p>dcterms:spatial [ [a dcterms:Location ]</p> <p>dcat:bbox ""POLYGON[[ 3.053 47.975 , 7.24 47.975 , 7.24 53.504 , 3.053 53.504 , 3.053 47.975 ]]" ; ]</p>

### "accrualPeriodicity":

<i>RDF Property:</i>	dcterms:accrualPeriodicity
<i>Definition:</i>	The frequency at which dataset is published.
<i>Range:</i>	<a href="#">xsd:anyURI</a>
Usage note:	<p>We can use specific vocabulary</p> <p>e.g. in freq definitions like:</p> <p><a href="http://purl.org/cld/freq/daily">http://purl.org/cld/freq/daily</a></p> <p>freq:monthly</p> <p>freq:weekly</p> <p>.....</p>
See also:	See also <a href="https://github.com/i3-Market-V2-Public-Repository/SemanticsDataModels/blob/public/Version-2/freq.rdf">https://github.com/i3-Market-V2-Public-Repository/SemanticsDataModels/blob/public/Version-2/freq.rdf</a>

### "temporalResolution":

RDF Property:	dcat:temporalResolution
---------------	-------------------------

Definition:	Minimum time period resolvable in the dataset.
Range:	xsd:duration
Usage note:	If the dataset is a time-series this should correspond to the spacing of items in the series. For other kinds of dataset, this property will usually indicate the smallest time difference between items in the dataset.
<i>See also:</i>	

**"theme":** [

<i>RDF Property:</i>	dc:theme
<i>Definition:</i>	A [sub-]category of the resource. A resource can have multiple themes.
<i>Range:</i>	<a href="#">would</a> be better to have xsd:anyURI with URIs that represent the various terms in a vocabulary [to be defined with Pilot partners for terms related to domains]
<i>Usage note:</i>	Use this for domain specific categories. E.g. subcategories like production machines, assembly lines, ... To be defined by each application domain. Theme can be used multiple times to provide multiple subcategories.  The set of themes used to categorize the resources are organized in a skos:ConceptScheme, skos:Collection, owl:Ontology or similar, describing all the categories and their relations in the catalog.
<i>See also:</i>	

],

**"distribution":** [ [Distribution: A specific representation of a dataset. A dataset might be available in multiple serializations that may differ in various ways, including natural language, media-type or format, schematic organization, temporal and spatial resolution, level of detail or profiles [which might specify any or all of the above].

{

**"title":**

RDF Property:	dcterms:title
Definition:	A name given to the distribution
Range:	Xsd:string [rdfs:Literal]

Usage note:	Title
See also:	

### "description":

RDF Property:	dcterms:description
Definition:	A free-text account of the distribution.
Range:	Xsd:string [rdfs:Literal]
Usage note:	Description Text of Data Set
See also:	

### "license":

RDF Property:	dcterms:license
Definition:	A legal document under which the distribution is made available.
Range:	dcterms:LicenseDocument
Usage note:	<p>For interoperability, it is recommended to use canonical IRIs of well-known licenses such as <a href="#">those defined by Creative Commons</a>.</p> <p>Information about licenses and rights SHOULD be provided on the level of Distribution. Information about licenses and rights MAY be provided for a Dataset in addition to but not instead of the information provided for the Distributions of that Dataset. Providing license or rights information for a Dataset that is different from information provided for a Distribution of that Dataset SHOULD be avoided as this can create legal conflicts. See also guidance at § 9. License and rights statements.</p>
See also:	<p><a href="#">§ 6.8.7 Property: rights</a> <a href="#">§ 6.4.19 Property: license</a></p> <p><b>ToDo: Describe a list of possible licenses here.</b></p>

### "accessRights":

RDF Property:	<a href="#">dcterms:accessRights</a>
---------------	--------------------------------------

Definition:	Information about who can access the resource or an indication of its security status.
Range:	dcterms:LicenseDocument
Usage note:	<p>Information about licenses and rights <i>MAY</i> be provided for the resource. See also guidance at <a href="#">§ 8. License and rights statements</a>.</p> <p>to express statements concerning only access rights [e.g., whether data can be accessed by anyone or just by authorized parties];</p> <p>Access rights can also be expressed as code lists / taxonomies. Examples include the access rights code list [<a href="#">EUV-AR</a>] used in [<a href="#">DCAT-AP</a>] and the <a href="#">Eprints Access Rights Vocabulary Encoding Scheme</a>.</p>
See also:	<p><a href="#">§ 6.4.20 Property: rights</a></p> <pre> dcterms:accessRights &lt;http://publications.europa.eu/resource/authority/access-right/PUBLIC&gt; ;  dcterms:conformsTo &lt;http://www.opengis.net/def/serviceType/ogc/csw&gt; ; </pre>

#### "downloadType":

RDF Property:	<b>core:downloadType</b>
Definition:	Information about Download Type [if means like as 'Stream' or 'Bulk' dataset download]
Range:	<a href="#">xsd:string</a>
Usage note:	To use set of words like 'Stream' and 'Bulk' ..
See also:	

#### "conformsTo":

RDF Property:	<a href="#">dcterms:conformsTo</a>
Definition:	An established standard to which the distribution conforms. [Very OPTIONAL]
Range:	<a href="#">dcterms:Standard</a> [A basis for comparison; a reference point against which other things can be evaluated.]

<i>Usage note:</i>	<p>This property <i>SHOULD</i> be used to indicate the model, schema, ontology, view or profile that this representation of a dataset conforms to. This is [generally] a complementary concern to the media-type or format.</p> <p>This is a link to a specific file that describes the data in a domain specific format. Can also be a text in a freely definable format.</p>
<i>See also:</i>	<a href="#">§ 6.8.17 Property: format</a> , <a href="#">§ 6.8.16 Property: media type</a>

### "mediaType":

<i>RDF Property:</i>	dc:mediaType
<i>Definition:</i>	The media type of the distribution as defined by IANA [IANA-MEDIA-TYPES].
<i>Range:</i>	Xsd:anyURI [dcterms:MediaType]
<i>Usage note:</i>	<p><a href="#">dc:mediaType</a> <i>SHOULD</i> be used if the type of the distribution is defined by IANA [IANA-MEDIA-TYPES]. <a href="https://www.iana.org/assignments/media-types/">https://www.iana.org/assignments/media-types/</a></p> <p>e.g. mediaType &lt;<a href="http://www.iana.org/assignments/media-types/application/ld+json">http://www.iana.org/assignments/media-types/application/ld+json</a>&gt;</p> <p>E.g. a link to a XML, csv or JSON file, to describe the data format.</p>
<i>See also:</i>	<a href="#">§ 6.8.16 Property: media type</a> , <a href="#">§ 6.8.15 Property: conforms to</a>

### "packageFormat":

<i>RDF Property:</i>	<a href="#">dc:packageFormat</a>
<i>Definition:</i>	The package format of the distribution in which one or more data files are grouped together, e.g. to enable a set of related files to be downloaded together.
<i>Range:</i>	Xsd:anyURI [ <a href="#">dcterms:MediaType</a> ]
<i>Usage note:</i>	<p>In case it is compressed, this could be .zip, .rar, ...</p> <p>This property to be used when the files in the distribution are packaged, e.g. in a <a href="#">TAR file</a>, a <a href="#">Frictionless Data Package</a> or a <a href="#">Bagit</a> file. The</p>

	format <i>SHOULD</i> be expressed using a media type as defined by IANA [ <a href="#">IANA-MEDIA-TYPES</a> ], if available.
<i>See also:</i>	<a href="#">§ 6.8.18 Property: compression format</a> .

## "accessService":

{

## "conformsTo":

<i>RDF Property:</i>	<a href="#">dcterms:conformsTo</a>
<i>Definition:</i>	An established standard to which the distribution conforms.
<i>Range:</i>	<a href="#">dcterms:Standard</a> [A basis for comparison; a reference point against which other things can be evaluated.]
<i>Usage note:</i>	This property <i>SHOULD</i> be used to indicate the model, schema, ontology, view or profile that this representation of a dataset conforms to. This is [generally] a complementary concern to the media-type or format.
<i>See also:</i>	<a href="#">§ 6.8.15 Property: conforms to</a>

## "endpointDescription":

<i>RDF Property:</i>	dc:endpointDescription
<i>Definition:</i>	A description of the services available via the end-points, including their operations, parameters etc.
<i>Range:</i>	<a href="#">xsd:string</a>
<i>Usage note:</i>	<p>The endpoint description gives specific details of the actual endpoint instances, while dcterms:conformsTo is used to indicate the general standard or specification that the endpoints implement.</p> <p>An endpoint description may be expressed in a machine-readable form, such as an OpenAPI [Swagger] description [<a href="#">OpenAPI</a>], an OGC GetCapabilities response [<a href="#">WFS</a>], [<a href="#">ISO-19142</a>], [<a href="#">WMS</a>], [<a href="#">ISO-19128</a>], a SPARQL Service Description [<a href="#">SPARQL11-SERVICE-DESCRIPTION</a>], an [<a href="#">OpenSearch</a>] or [<a href="#">WSDL20</a>] document, a Hydra API description [<a href="#">HYDRA</a>], else in text or some other informal mode if a formal representation is not possible.</p>

<i>See also:</i>	
------------------	--

### **"endpointURL":**

<b>RDF Property:</b>	dc:endpointURL
<b>Definition:</b>	The root location or primary endpoint of the service [a Web-resolvable IRI].
<b>Range:</b>	<a href="#">xsd:anyURI</a>
<b>Usage note:</b>	The URL address of the resource via service
<i>See also:</i>	

### **"servesDataset":**

<i>RDF Property:</i>	dc:servesDataset
<i>Definition:</i>	A collection of data that this data service can distribute. The Dataset ID or Title
<i>Range:</i>	<a href="#">xsd:string</a>
<i>Usage note:</i>	
<i>See also:</i>	

### **"serviceSpecs": "string"**

<i>RDF Property:</i>	core:serviceSpecs
<i>Definition:</i>	Description of service specification for more detail on the data service implementations
<i>Range:</i>	
<i>Usage note:</i>	To extend in case the description of data service to add more details descriptions on the system. To describe more details about the Service, e.g. QoS, ...
<i>See also:</i>	In progress



} } ],

"datasetInformation": [

[Optional class. A description of types which represent attributes of observations , measurements , fields,.. in the dataset..]

High level description. NOT a description of each data point [that can go into conformsTo]. This is just to give an overview of the data, not a detailed description.

**ToDo: See how this works in practice. Give feedback to Achille.**

{

"measurementType":

<i>RDF Property:</i>	core:measurementType
<i>Definition:</i>	The data types which represent attributes of observations , measurements , in the dataset. *derived mostly from Wellbeing requirements[
<i>Range:</i>	<a href="#">xsd:anyURI</a>
<i>Usage note:</i>	<p>Simple text strings</p> <p>Or use of specific vocabularies collected to support domains</p> <p>For example like the vocab created for wellbeing</p> <p>[ex &lt;<a href="http://www.i3-market.eu/wellbeing_annotations/Sleep_count_micro_awakenings">http://www.i3-market.eu/wellbeing_annotations/Sleep_count_micro_awakenings</a>&gt;</p> <p>Specific types of measurements for a certain domain. Parameter can be put multiple times in the API call.</p>
<i>See also:</i>	<p>See also example for Wellbeing in DataRecords_Annotations_for_Wellbeing_datasets_measurements_02.ttl attached to this page but also in github <a href="https://github.com/i3-Market-V2-Public-Repository/SemanticsDataModels/blob/public/Version-2/DataRecords_Annotations_for_Wellbeing_datasets_measurements_02.ttl">https://github.com/i3-Market-V2-Public-Repository/SemanticsDataModels/blob/public/Version-2/DataRecords_Annotations_for_Wellbeing_datasets_measurements_02.ttl</a></p>

"measurementChannelType":

<i>RDF Property:</i>	core:measurementChannelType
<i>Definition:</i>	The data measurement Channel types in the dataset. Derived from AGORA requirements

<i>Range:</i>	<a href="#">xsd:string</a> or xsd:anyURI
<i>Usage note:</i>	Simple text strings Or use of specific vocabularies collected to support domains
<i>See also:</i>	

#### **"sensorId":**

<i>RDF Property:</i>	<a href="#">core&gt;sensorID</a>
<i>Definition:</i>	Sensor ID
<i>Range:</i>	<a href="#">xsd:string</a>
<i>Usage note:</i>	ID used to identify the sensors in original data sets source
<i>See also:</i>	

#### **"deviceId":**

<i>RDF Property:</i>	<a href="#">core&gt;deviceID</a>
<i>Definition:</i>	Device ID
<i>Range:</i>	<a href="#">xsd:string</a>
<i>Usage note:</i>	ID used to identify the devices in original data sets source
<i>See also:</i>	

#### **"cppType":**

<i>RDF Property:</i>	core:cppType
<i>Definition:</i>	The cpp types in the dataset. Derived from AGORA requirements
<i>Range:</i>	<a href="#">xsd:string</a> or xsd:anyURI
<i>Usage note:</i>	Simple text strings Or use of specific vocabularies collected to support domains
<i>See also:</i>	

**"sensorType": "string"**

<i>RDF Property:</i>	core:sensorType
<i>Definition:</i>	The cpp types in the dataset. Derived from Wellbeing and AGORA requirements
<i>Range:</i>	<a href="#">xsd:string</a> or xsd:anyURI
<i>Usage note:</i>	Simple text strings Or use of specific vocabularies collected to support domains
<i>See also:</i>	

} 1 }

}