

Modelos de datos 'de facto'

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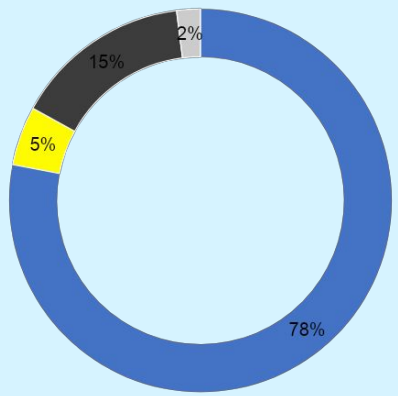
MAY 18, 2022

10-11.30 CET

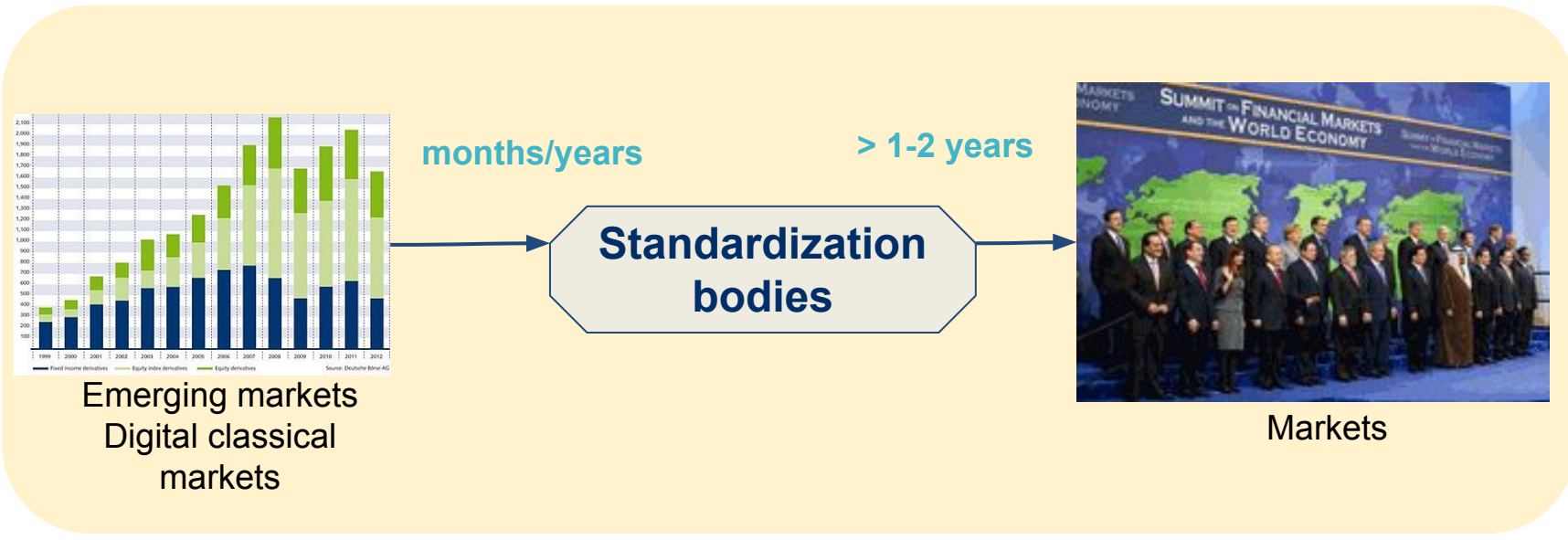
- 1. Current (classical) Standardization**
- 2. Agile standardization. De facto standardization.**
- 3. Smart Data Models Program. Agile standardization in practice**
- 4. Current status**
- 5. How to participate in it**

Current (classical) Standardization

- Why should we talk about standardization in an open data environment?
- How could we stop market underdevelopment for the lack of useful standards?



87 % of open data in Spain are not using a standardized data model



- Let's review current scenarios

Standardization scenarios at digital markets

Scenario

Jungle

No actual standards

Each user/maker create their own

Full incompatible formats

Need 'translators'



Competing

Several standards in the market

Not open licensed

Generated by incumbents in the market

Could be not complete technical details



Adopted Standard

One winning standard

It could be the result of a winning one in the competing scenario

Occasionally released as open from incumbent to cope market



Public regulation

Mandatory

Do not provide details

Different administrations different regulations



Costs

Jungle

Cost of definition

Costs of translators

Cost of data acquisition

Competing

Cost of the standard

Cost of translators

Adopted Standard

Focus on the business problems not in the technology to access data

Public regulation

Implementations are not compatible

Costs of translators

Cost of data acquisition

Ex.

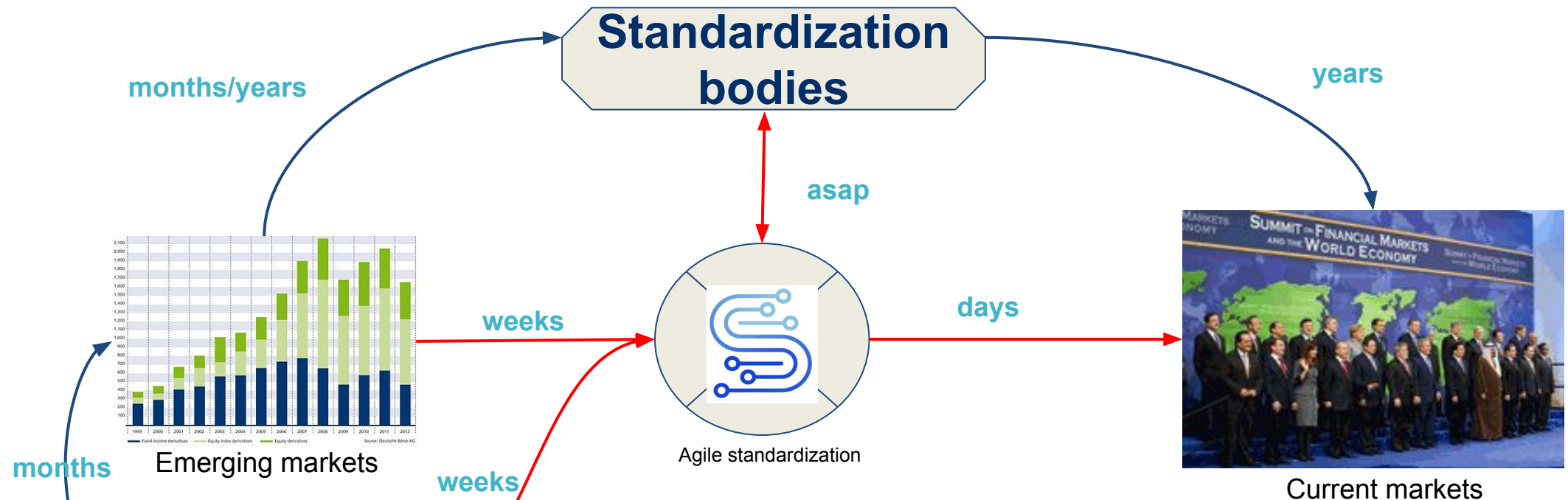
id of open data datasets

API open data portals

Doc. office format (Microsoft)
GTFS (Google)
DCAT-AP?

Report in transparency portals

Agile Standardization



- Standardization driven by use cases
- Limited consensus
- Agile versioning (As long as it is not backwards incompatible)
- Only description of the data fields
- Complementary of classical standardization

Agile Standardization

Market Speed

Standardization can be done simultaneously to project execution of R+D projects.

Examples

Having actual examples allow shorter discussions

Content

Include technical definition, examples, exports, shorter discussions, documentation translated



Timeliness

Provide an immediate cuasi standardization based on first use cases. Evolution as quick.

Adoption

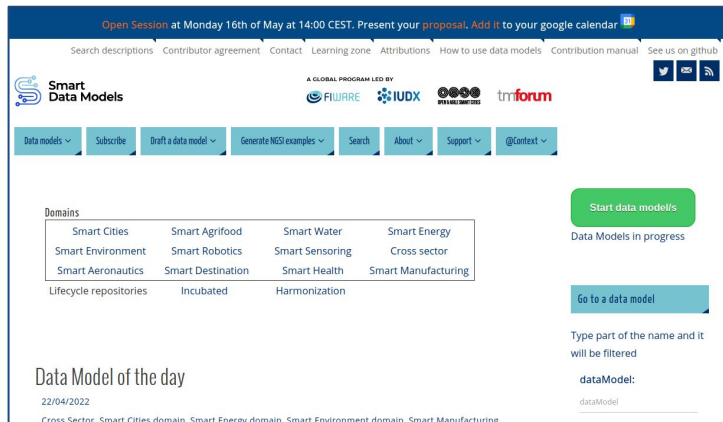
Not reinventing the wheel for those cases when open and adopted standard exists

What is the Smart Data Models Program

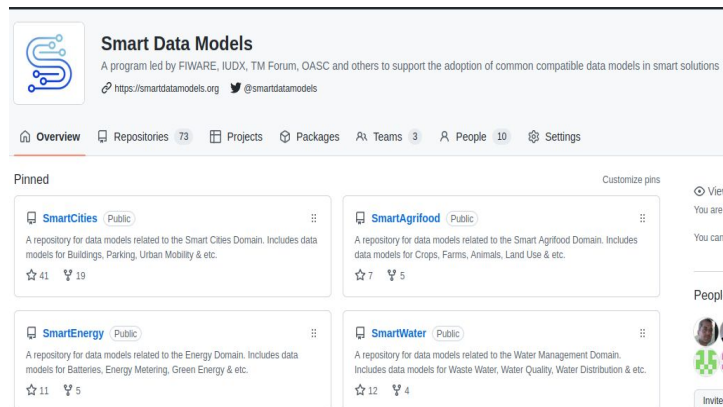


- Smart Data Models is a collaborative program to **provide data models**
 - a. multisector
 - b. agile standardized
 - c. free and open-licensed data models
 - d. based on actual use cases and open standards

Contents: General Structure



- **Smartdatamodels.org**
- Main site with updates
- Services for the contributors



- **Smart-data-models.github.com**
- Repositories (55) for all the elements of the data models

Contents: Structure of repositories



Data models are published on github

<https://smart-data-models.github.com>

Data models are group in subjects

Each subject is an independent repository

Each data model is a folder

Inside there are all the documents of the data model, specifications, examples, exports, adopters, etc.

Incubated repository

For those data models 'in definition'

Contents: Examples and exports

- Demo
- Main site: smartdatamodels.org
 - a. Search data models. [Link](#)
 - b. Search attributes. [Link](#)
 - c. Draft a data model. [Link](#)
 - d. Get examples. [Link](#)

Example payload

```
{  
  "id": "waterqualityobserved:Sevilla:D1",  
  "type": "WaterQualityObserved",  
  "dateObserved": "2017-01-31T06:45:00Z",  
  "measurand": ["NO3, 0.01, M1, Concentration of  
Nitrates"],  
  "location": {  
    "type": "Point",  
    "coordinates": [-5.993307, 37.362882]  
  },  
  "temperature": 24.4,  
  "conductivity": 0.005,  
  "pH": 7.4,  
  "NO3": 0.01  
}
```

<https://raw.githubusercontent.com/smart-data-models/dataModel.WaterQuality/de6371e975d2c73b7d4b0d077daaf7adb9fa78ca/WaterQualityObserved/schema.json>

Current status (domains, subjects & data models)

1	Smart Energy	424
2	Smart Sensoring	138
3	Smart Cities	85
4	Cross Sector	69
5	Smart Water	35
6	Smart Agrifood	24

7	Smart Environment	23
8	Smart Aeronautics	13
9	Smart Robotics	12
10	Smart Destination	11
11	Smart Manufacturing	3
12	Smart Health	2

Updated 12-5-22

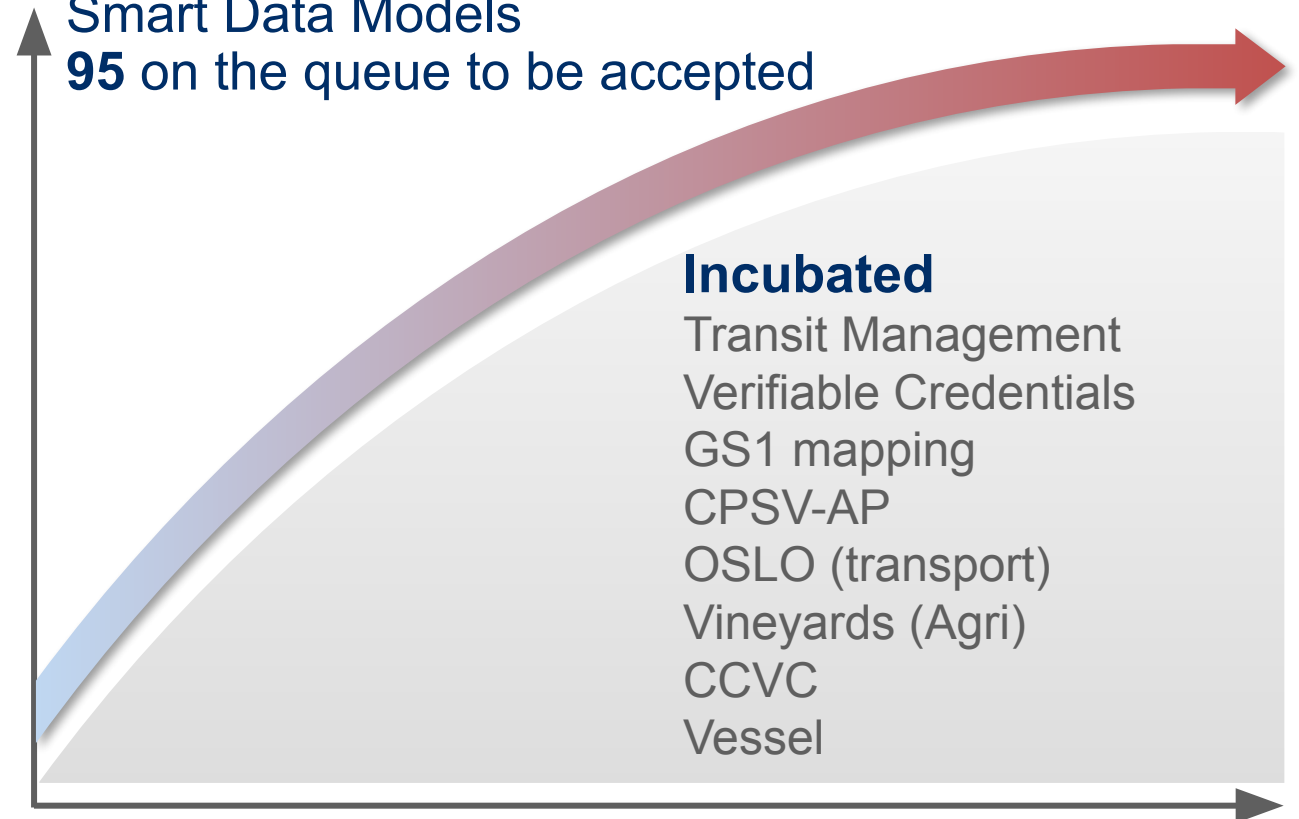
Current status: New subjects new data models

55 subjects (Groups of data models)

1	AutonomousMobileRobot
2	IT
3	STAT-DCAT-AP
4	OCF
5	Digital Innovation Hub
6	Unmanned Aerial Vehicle

793 Official
Smart Data Models

95 on the queue to be accepted



Updated 12-5-22

Contributors and dissemination



- 114 active contributors
- 224 contribution in data models
- 22 services to contributors in data models



- Contributors belong to 73 different organizations
- Terms available for search 18.005
- Documented adopters 108



- Every term in data models has an associated page <https://smartdatamodels.org/term>
- Google finds 618 pages in smartdatamodels.org

Updated 12-5-22

How to participate

CONTRIBUTING

- Contribution manual. Available at https://bit.ly/contribution_manual
- [Learning zone](#). (videos + tools)

CONTRIBUTION AGREEMENT

- Mandatory for accepting contributions and release them with open license

SUPPORT

1. Open sessions available for booking <https://calend.ly/smartdatamodels>
2. Button for announcing new drafted data models for community
3. Slack channel (smart-data-models.slack.com)

Start data model/s

Data Models in progress

Can I use these data models for free?

- Absolutely. They are open-licensed allowing you free use, modification, and sharing.

Where do these data models come from?

- They are based on real case scenarios or mapping of adopted and open standards

Do I have to use the FIWARE platform or the NGSI standard to use them.

- Not at all. They are compatible with it but we also export in several other formats (JSON, JSON-LD, CSV, DTDL, etc)

My organization is willing to be part of the Steering Board. What do I need to do?.

- A MoU is required and it is possible to collaborate globally or for some of the domains (environmental, robotics, etc). Let's start with a mail at info@smartdatamodels.org

Thank you!

Contact



Web

<https://www.smartdatamodels.org>



Mail

info@smartdatamodels.org



Twitter

[@smartdatamodels](https://twitter.com/smartdatamodels)



Slack

smart-data-models.slack.com



LinkedIn

<https://www.linkedin.com/company/smart-data-models>



GitHub

<https://github.com/smart-data-models>



Calendly

<https://calendly.com/smartdatamodels>