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Webinar Series

Organised by MANDAT INTERNATIONAL

Standardisation in the water sector: Challenges and Opportunities

MAY 17,2022
10-13.00 CET

ONLINE

Join Us!

eurecat
Centre Tecnològic de Catalunya

NAIADES Speakers

FIWARE

egm

ITU

External Speakers

Some info

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This session will be entirely recorded and published on the NAIADES channels.

Feel free to post your questions in the chat.

Please feel free to share your thoughts about the workshop on Twitter, via:

@naiadesproject, using #NAIADESwebinars

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Webinar Series

Moderation by:

Eunah Kim

UDGA

Agenda

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SESSION

- **Standardisation in the water sector:** Aitor Corchero, Eurecat, ICT4Water Cluster, NAIADES
- **Smart Water Management: Challenges and Standardisation Prospects**: Ramy Fathy, International Telecommunication Union (ITU-T)
- **Agile standardisation for the water domain. Smart Data Models:** Alberto Abella, *FIWARE*
- **Aqua3S Water standardisation actions to support Water Security and Crisis Management:** Philippe Cousin, *EGM, Aqua3S*

PANEL DISCUSSION & WRAP-UP

NAIADES Speaker

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Aitor Corchero
EURECAT

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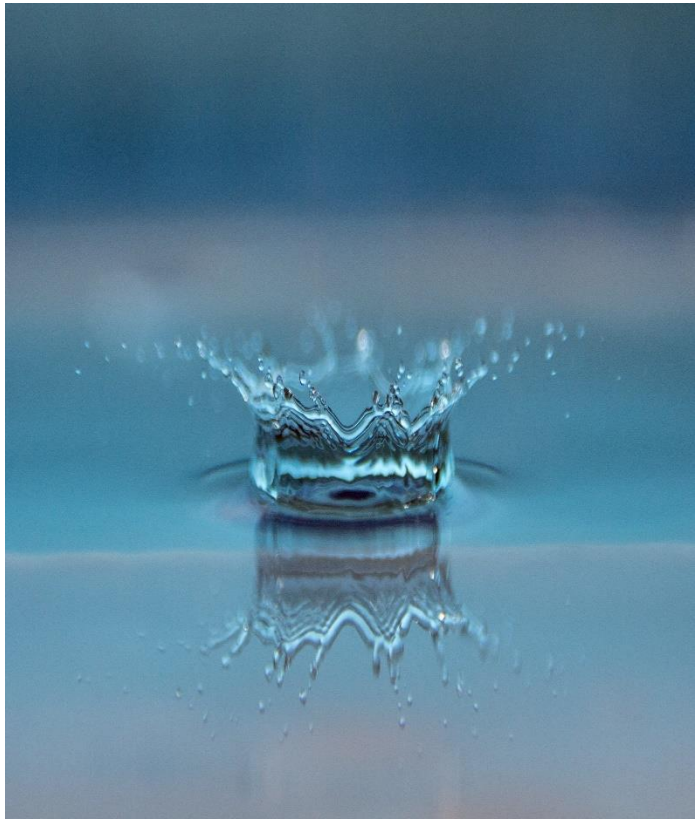
Standardisation in the water sector

Aitor Corchero, EURECAT



Agenda

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1. Why is important standardization in the water sector?
2. Digital vs Physical Standardization
3. Standardization Landscape Overview
4. Standardization trends in water domain
5. Remarks

Why is important standardization in the water sector?

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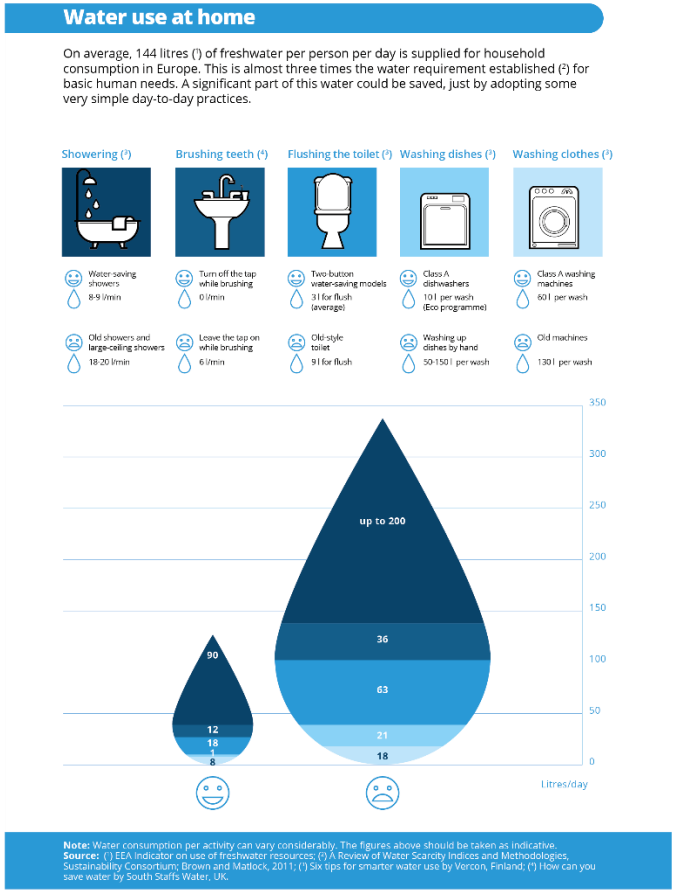
Ensure responsible management of water use towards increasing water scarcity



Source: EEA

Why is important standardization in the water sector?

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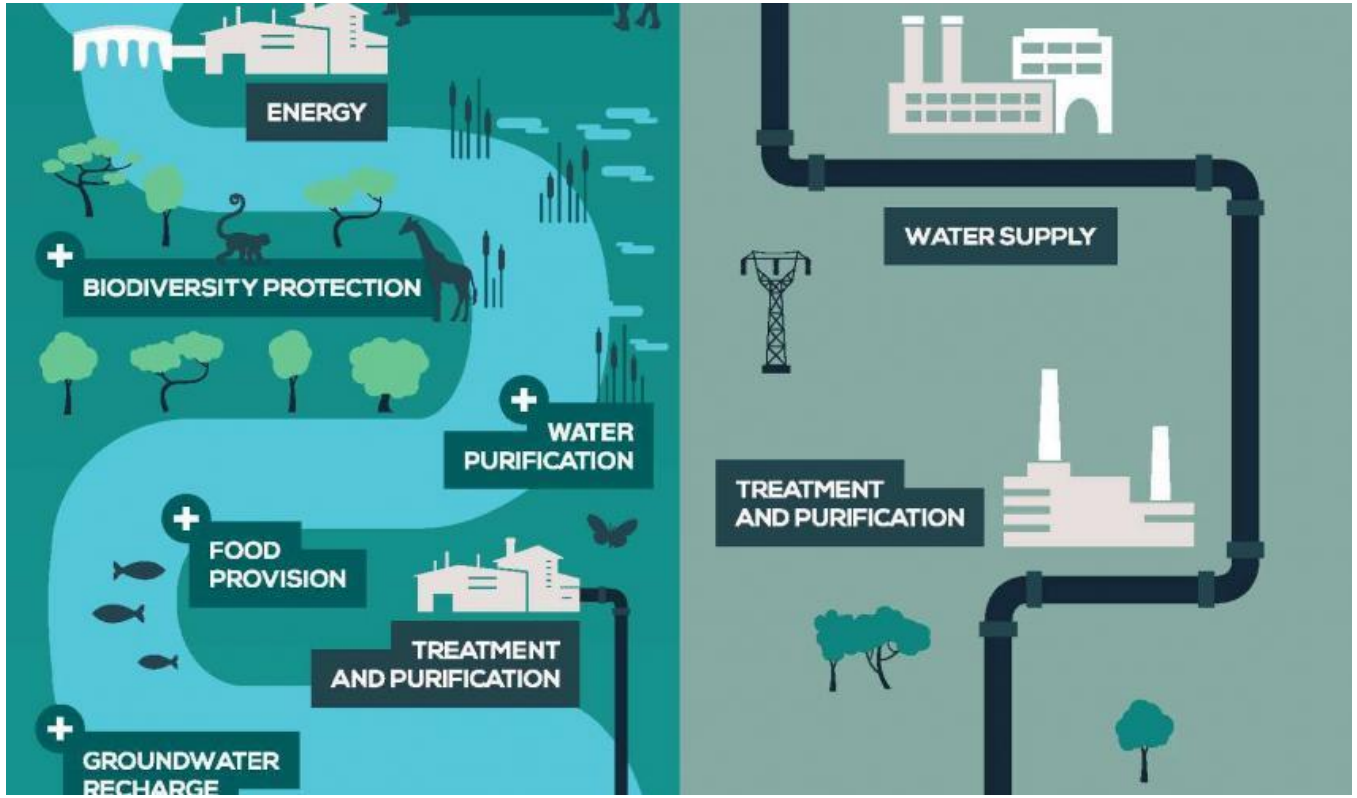
Ensure secure and safe operation of (waste/drinking) water infrastructure



Source: IUCN

Why is important standardization in the water sector?

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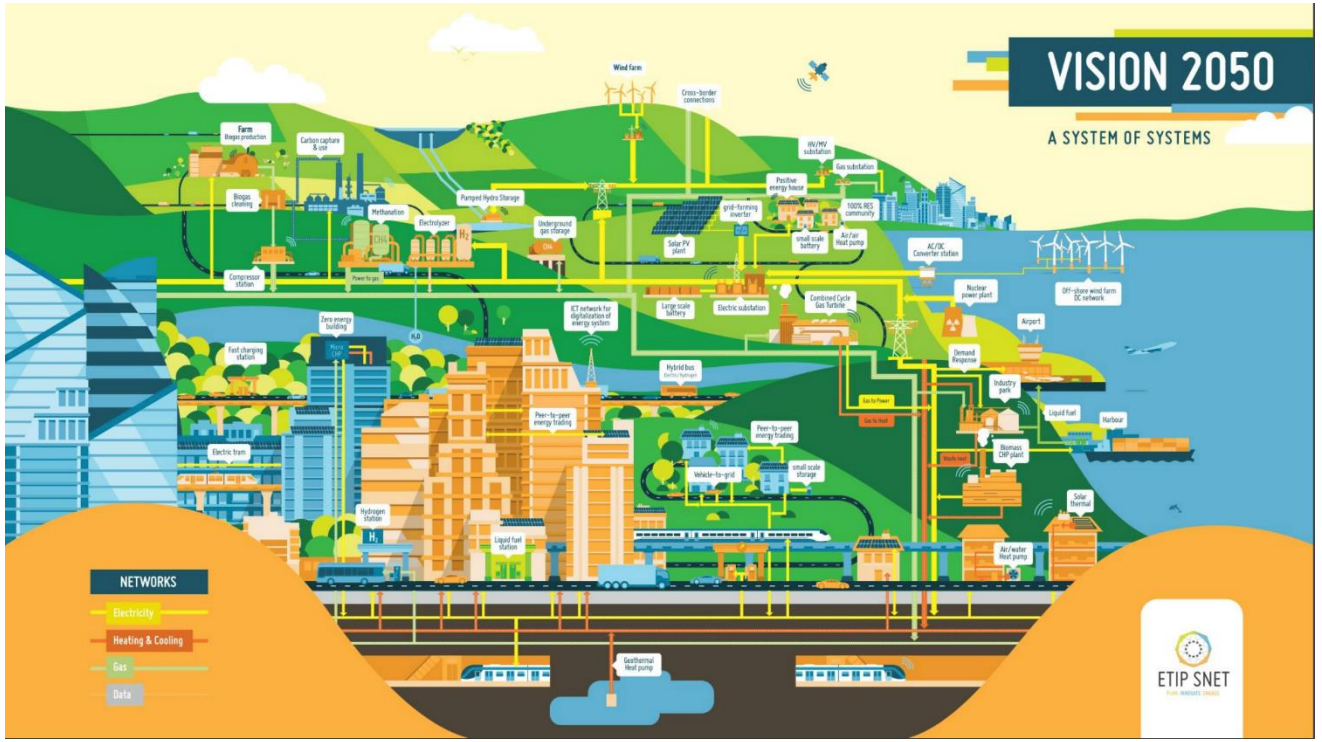
Promote and foster knowledge exchange between water and interrelated infrastructures



Source: https://www.etip-snet.eu/wp-content/uploads/2018/05/ETIP-SNET-Presentation-27-June.pdf

Why is important standardization in the water sector?

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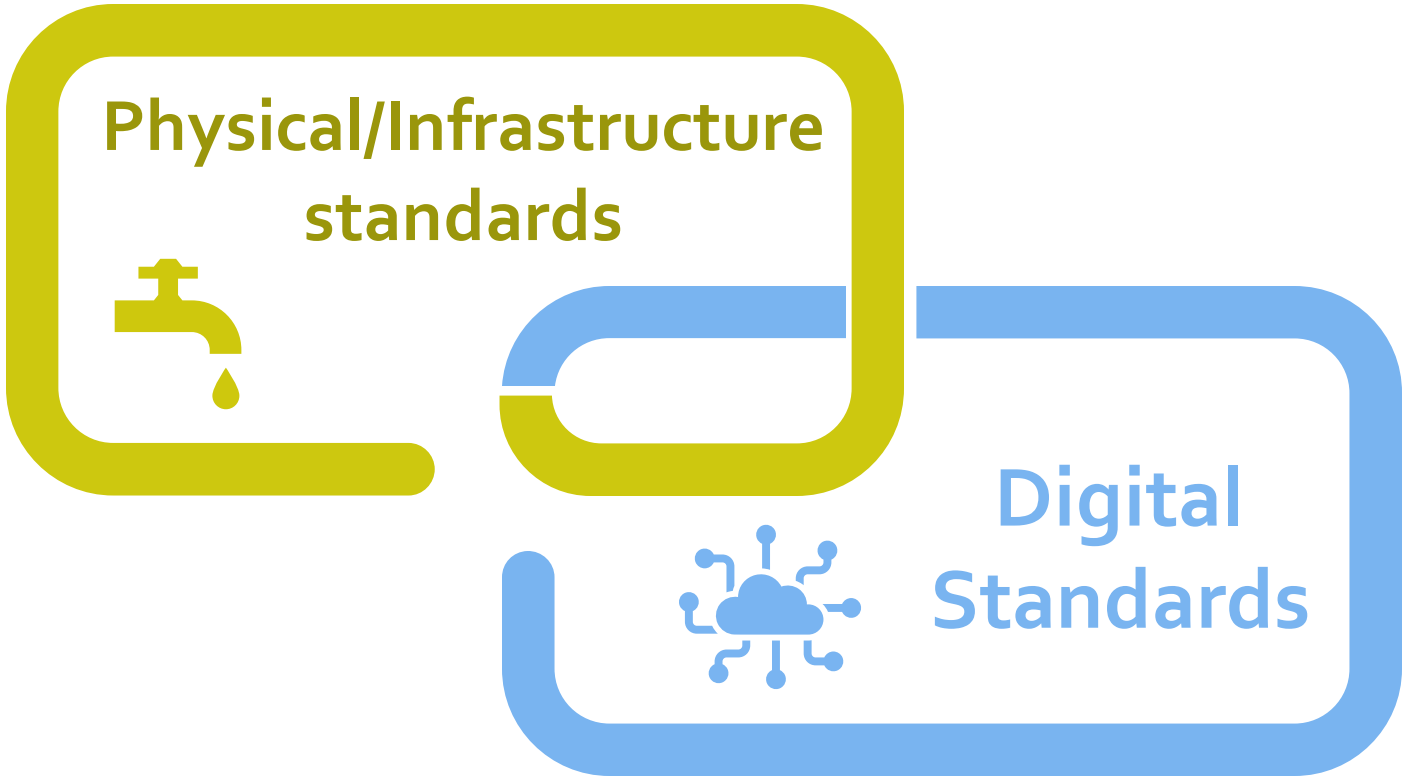
Engage stakeholders towards building smart water society

Source: Water Europe

Digital vs Physical Standardization



Digital vs Physical Standardization

Source: ICT4Water Cluster

PHYSICAL. Procedures and methods for ensuring safe and secure water use and treatment.

DIGITAL. Methods and procedures for data exchange and elaboration of trustworthy AI.

Digital vs Physical Standardization

Source: ICT4Water Cluster

PHYSICAL. Procedures and methods for ensuring safe and secure water use and treatment.

- Infrastructure materials
- Infrastructure safety indicators and metrics

Digital vs Physical Standardization

Source: ICT4Water Cluster

DIGITAL. Methods and procedures for data exchange and elaboration of trustworthy AI.

- Newer/novel sensors
- Interoperability paradigms
- IA methods and architectures

Standardization Landscape Overview

Source: https://aolite.github.io/naiadesStandardization/#/

Standardization trends in water domain

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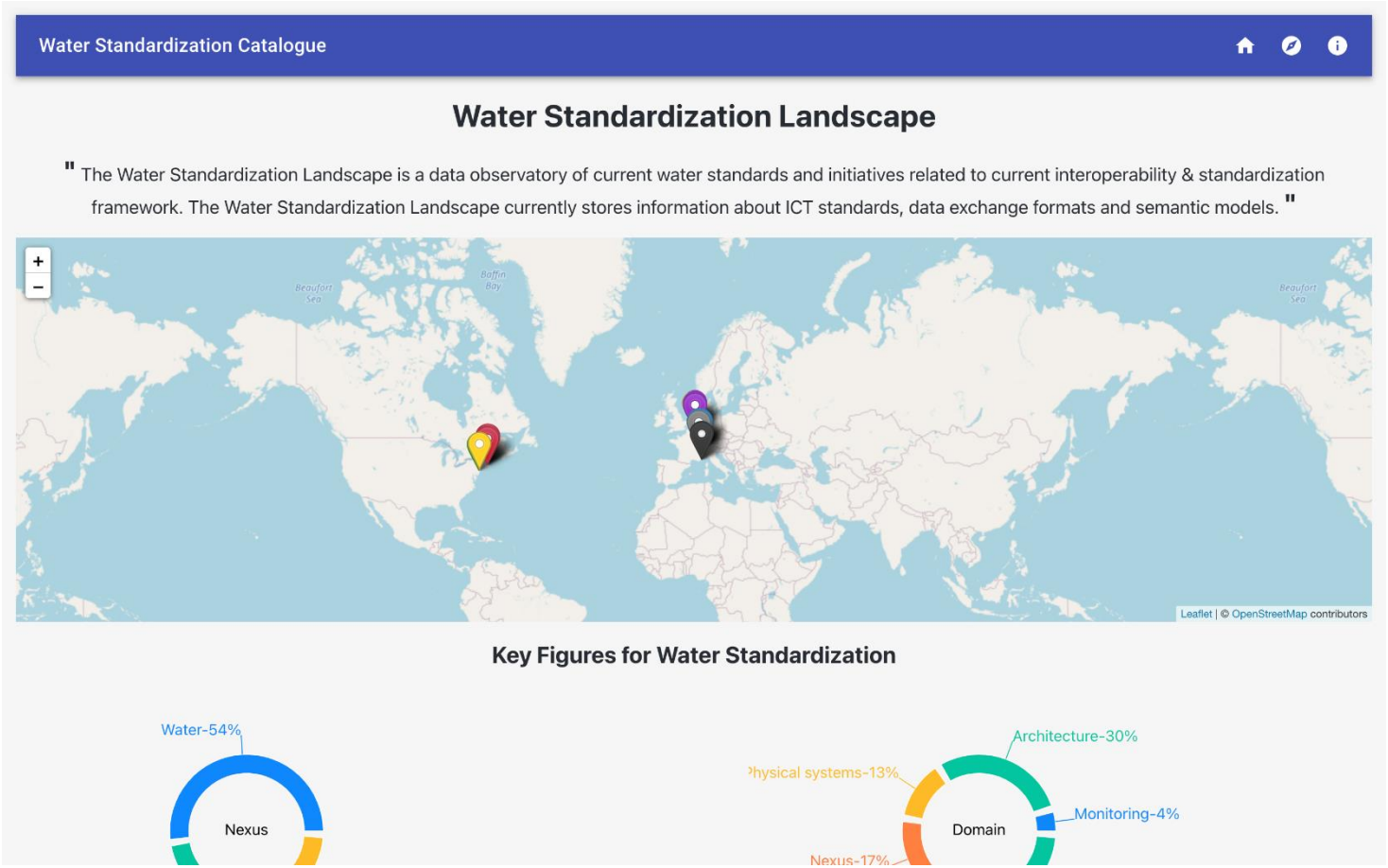
A catalogue of water standards for monitoring current and upcoming initiatives



Standardization trends in water domain

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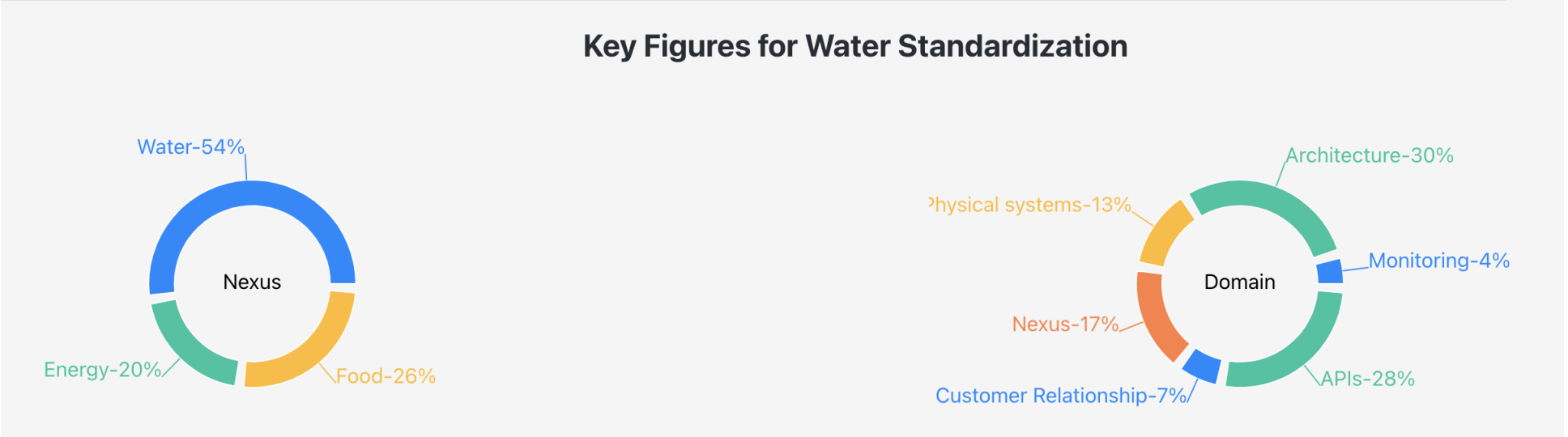
Water Standards are moving towards Nexus involvement.



Standardization trends in water domain

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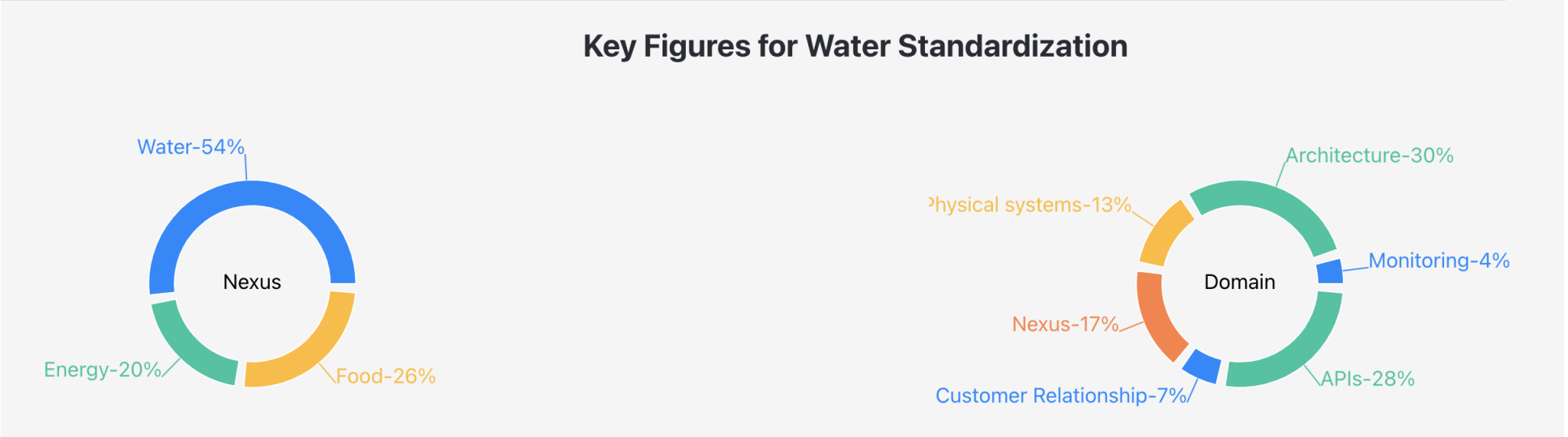
In the digital aspect, there are covering all data value chain and work is pending in trustworthy IA methodologies.



Standardization trends in water domain

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Detail view and standard documents accesibility

Remarks

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- Standards provides solutions to to ensure water efficiency, quality, harmonization, safety, transparency and sustainability.

- Open standards provides the engagement of open communities to adopt the standards.

- Bringing accessibility to standards contributes to their wider adoption and the generation of newer business models.

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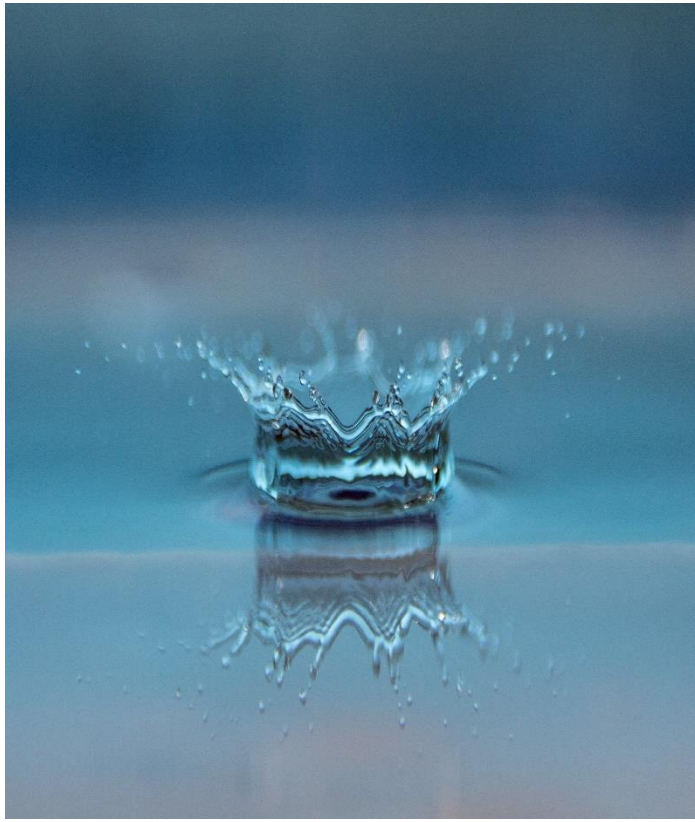
Smart Water Management: Challenges & Standardisation Prospects

Ramy Fathy, ITU, NTRA



Invited Speaker

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Ramy Fathy

Chairman of Focus Group on AI and IoT for Digital Agriculture, and Vice Chairman of Study Group 20 on IoT & Smart Cities from International Telecommunication Union and executive Director, Digital Services and QoE, National Telecommunications Regulatory Authority (NTRA) of Egypt

Smart city services and infrastructure

- Smart lighting
- Smart transport
- Smart waste management
- Smart water management

Water – Energy Nexus

The water-energy nexus refers to the water used to generate electricity and to the electric energy used to abstract, store, distribute, treat and process water.

Water is used in all stages of electric energy conversion making power systems vulnerable to water scarcity and warming.

Smart farming and agriculture

- Livestock monitoring
- Conservation monitoring
- Smart irrigation systems
- Plant & soil monitoring
- Smart greenhouses
- Rainwater harvesting systems

To frame the challenge?

- IoT, AI and other emerging technologies are expected to optimize and rationalize water abstraction, and distribution, monitor water levels and quality.

- Are there any associated environmental problems?

- What are the key issues?
  - Scalability
  - Interoperability
  - Viability

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ITU-T Study Group 20 IoT and Smart Cities & Communities

- Internet of Things and its Applications
- Smart Cities and Communities
- IoT Identification
- Digital health related to IoT and SSC

Q1/20	Q2/20	Q3/20	Q4/20	Q5/20	Q6/20	Q7/20
• Interoperability and interworking of IoT and SC&C applications and services	• Requirements, capabilities and architectural frameworks across verticals enhanced by emerging DT	• IoT and SC&C architectures, protocols and QoS/QoE	• Data analytics, sharing, processing and management, including big data aspects, of IoT and SC&C	• Study of emerging digital technologies, terminology and definitions	• Security, privacy, trust and identification for IoT and SC&C	• Evaluation and assessment of Smart Cities and Communities

Africa Region

Americas Region

Arab Region

EECAT Region

Relevant Work Items

- Framework of monitoring of water system for smart fire protection
- Use cases of IoT based smart agriculture

New Focus Group

Focus group on Artificial Intelligence (AI) and Internet of Things (IoT) for Digital Agriculture (FG-AI4A)

Focus group on Artificial Intelligence (AI) and Internet of Things (IoT) for Digital Agriculture (FG-AI4A)

WG - Glossary

WG - Digital Agriculture Use-cases and solutions

WG- Data acquisition and Modelling

WG- Roadmap

WG – Ethical, legal & regulatory considerations

WG – Collaboration & Outreach

FG-AI4A explores the potential of leveraging AI and IoT for data collation and handling, improving modelling from a growing volume of agricultural and geospatial data, to enable effective interventions related to the optimization of agricultural production processes.

1. Topic Group on “Georeferenced Data Management”
2. Topic Group on “Irrigation strategy and smart water management”
3. Topic Group on “Weather modelling and forecasting”
4. Topic Group on “Data Science for surface and underground water monitoring”

AI and Internet of Things for Digital Agriculture
ITU Focus Group

Focus Group on Smart Water Management

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Completed deliverables

- The Role of ICT in Water Resource Management
- Smart Water Management Stakeholders Map
- Smart water management project classification
- Smart water management stakeholder challenges and mitigation
- Technical report on the KPI to assess the impact of the use of ICT in SWM

- FG-SWM was established by ITU-T Study Group 5 in 2013
- It completed its activities in March 2015
- During its tenure, it focused on:
  - Identifying water-management ICT applications and services with the potential to ensure interoperability and the benefits of economies of scale
  - Developing a set of methodologies for estimating the impact of ICTs on water conservation.
  - Drafting technical reports that address standardization gaps and identify new standardization work items to be taken up by its parent group, ITU-T Study Group 5

Focus Group on Environmental Efficiency for Artificial Intelligence and other Emerging Technologies (FG-AI4EE)

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#	DELIVERABLE TITLE	SCOPE	TIMELINE	LEADER
Technical report D.WG3-6	**Guidelines on the Environmental Efficiency of 5G Usage in Smart Water Management**	This guidance document is intended to support researchers and practitioners in measuring and improving the environmental efficiency of IoT technologies, in particular 5G connectivity in water management systems. The requirements, recommended processes, best practices and other considerations regarding the measurement and verification of environmental impact/efficiency contained in this document are developed based on inputs from leading academic experts and industry leaders. These requirements provide general guidelines applicable to the use of IoT connectivity of 5G. Other stakeholders may also utilize this guidance to gain new understanding on the environmental impacts from the use of Internet of Things (IoT) and 5G to connect and enable further networked sensors and applications to manage water supplies and reduce water loss.	To be completed by Nov. 2022	Dr Ramy Ahmed Fathy Co-Chairman, Focus Group on AI and IoT for Digital Agriculture (FG-AI4A)

Call for Contributions open

First draft available on FG-AI4EE SharePoint (mailing list access required – see next slide)

United 4 Smart Sustainable Cities

U4SSC

11 SUSTAINABLE CITIES AND COMMUNITIES

Convention on Biological Diversity · ECLAC · Food and Agriculture Organization of the United Nations · ITU · UNDP · United Nations Economic Commission for Africa · UNECE · UNESCO · UN environment · UNEP FINANCE INITIATIVE · United Nations Framework Convention on Climate Change · UN-HABITAT FOR A BETTER URBAN FUTURE · UNIDO · UN 4 PARTNERSHIPS · UNITED NATIONS UNIVERSITY UNU-EGOV · UN WOMEN · WORLD METEOROLOGICAL ORGANIZATION

- City Platforms
- Building Urban Economic Resilience at City Level
- Innovative Financing for Smart Sustainable Cities Projects
- Artificial Intelligence in Cities
- Procurement for Smart Sustainable Cities
- Digital Transformation for People-Oriented Cities

Supporting Digital Transformation for Cities and Communities

- Digital Transformation of Cities and Communities
- Developing a Digital Transformation Strategy
- Data Processing and Management
- Connectivity, Digital Divide and Digital Inclusion
- Accessibility and Digital Inclusion
- Reduce the Environmental Impact of Cities
- Smart Energy Management
- Smart Water Management
- Emergency Management
- 4IR and Smart Manufacturing

https://toolkit-dt4c.itu.int/

Thank You!!

tsbsg20@itu.int

Invited Speaker

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Alberto Abella
FIWARE

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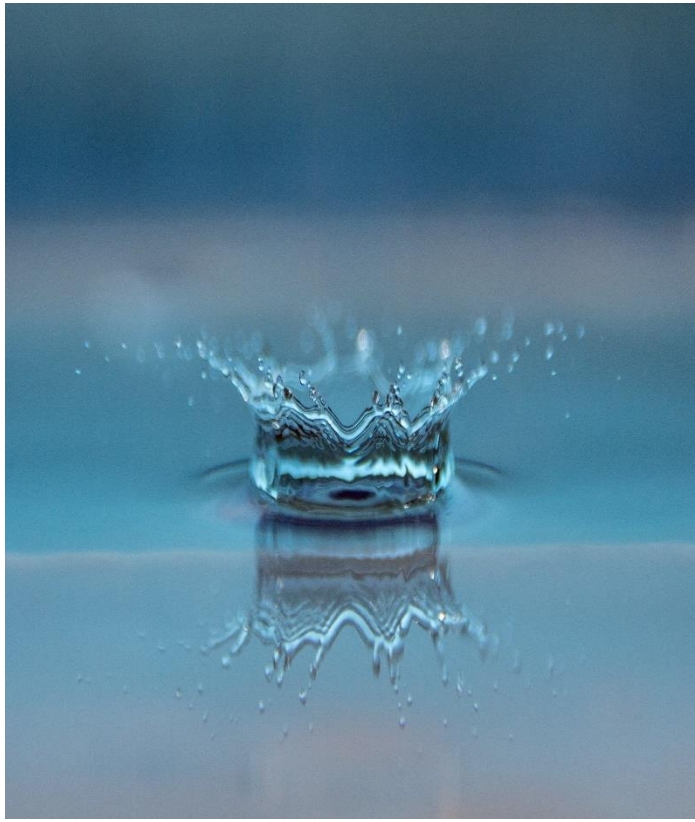
Webinar Series

Agile standardization for the water domain. Smart Data Models

Alberto Abella, FIWARE Foundation



Agenda

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1. Why do we have to standardize?
2. What is agile standardization?
3. Smart Data Models Program. Agile standardization in practice
4. Current status for water domain
5. How to participate in it

Standardization: Concept

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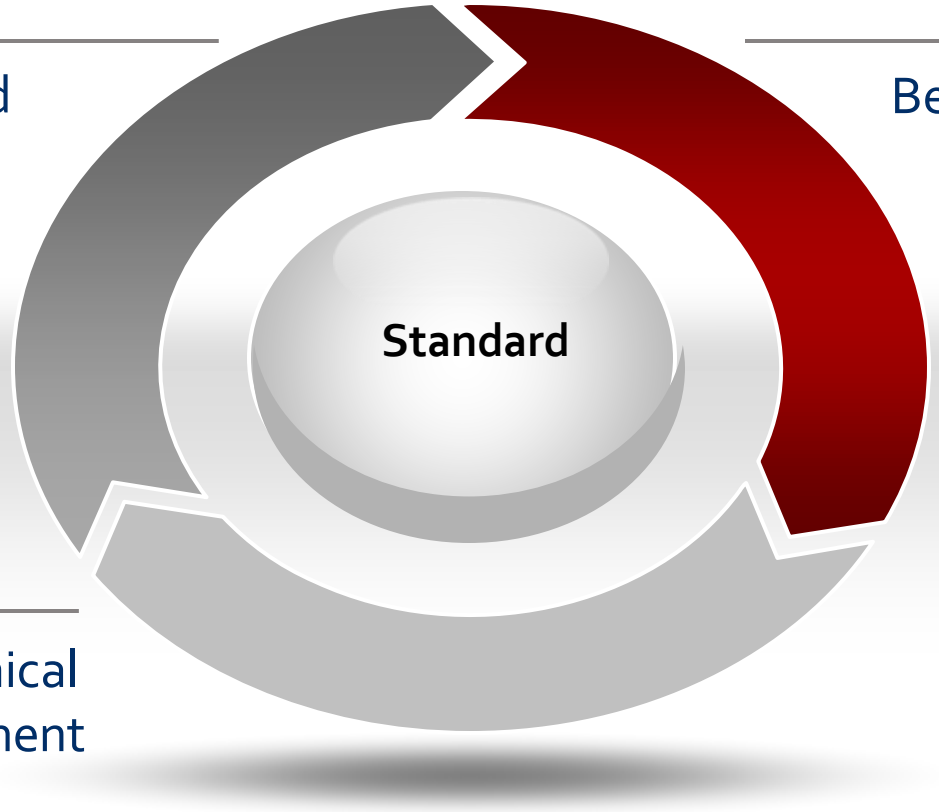
Process

Well defined and documented

Consensus

Between the different agents of the standard. It requires large amounts of time.



Technical definition

The standard finally is a technical document. It is not a requirement to have implementations or examples.

Standardization is the process of implementing and developing technical standards based on the consensus of different parties that include firms, users, interest groups, standards organizations and governments

Standardization: Limitation in digital markets

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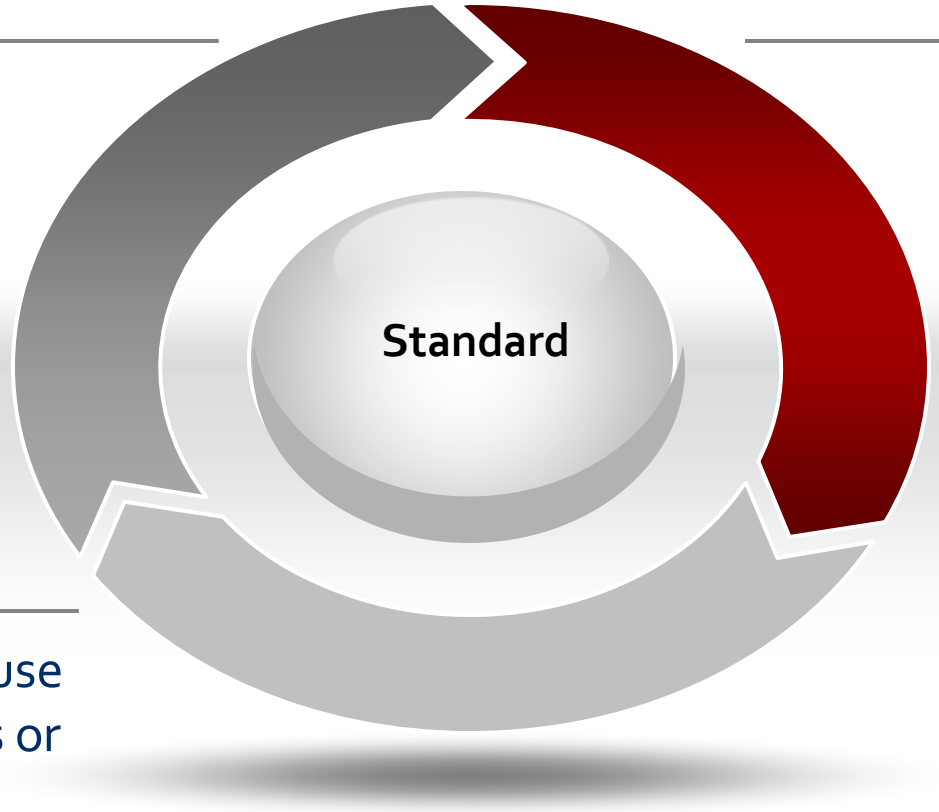
Process

Standards are frequently not open

Consensus

The production time of the standard could make it irrelevant for the market. Hardly defined on demand



Technical definition

Testing the standard against use cases frequently reveals flaws or improvements

Standardization scenarios at digital markets

Jungle	Competing	Adopted Standard	Public regulation
No actual standards	Several standards in the market	One winning standard	Mandatory
Each user/maker create their own	Not open licensed	It could be the result of a winning one in the competing scenario	Do not provide details
Full incompatible formats	Generated by incumbents in the market	Occasionally released as open from incumbent to cope market	Different administrations different regulations
Need 'translators'	Could be not complete		
Jungle	**Competing**	**Adopted Standard**	**Public regulation**
Cost of definition	Cost of the standard	Focus on the business problems not in the technology to access data	Implementations are not compatible
Costs of translators	Cost of translators		Costs of translators
Cost of data acquisition			Cost of data acquisition

Agile Standardization

- Standardization driven by use cases
- Limited consensus
- Agile versioning (not backwards incompatibility)
- Not full descriptive documentation
- Complementary of classical standardization

Agile Standardization

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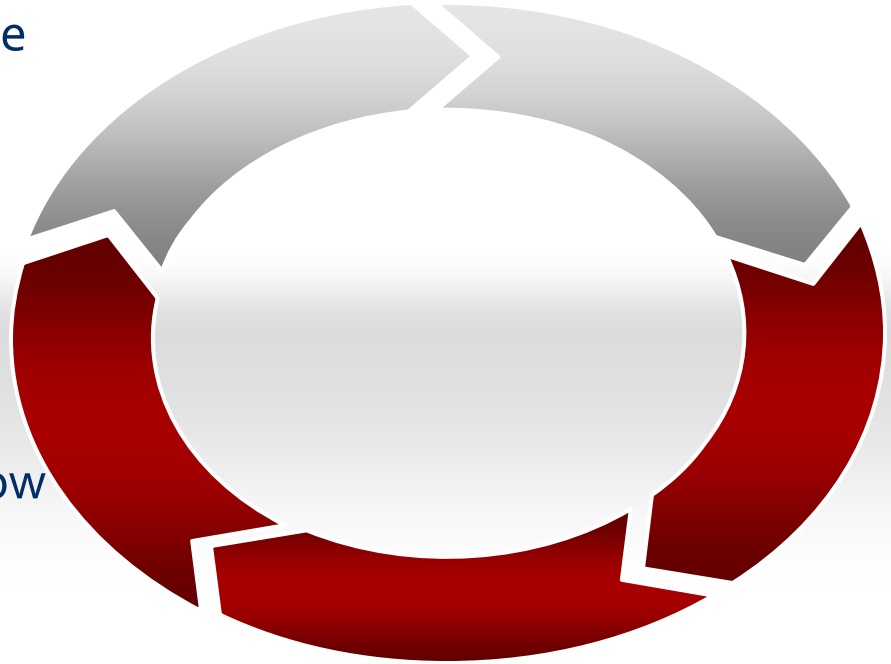
Market Speed

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

Timeliness

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



Examples

Having actual examples allow shorter discussions

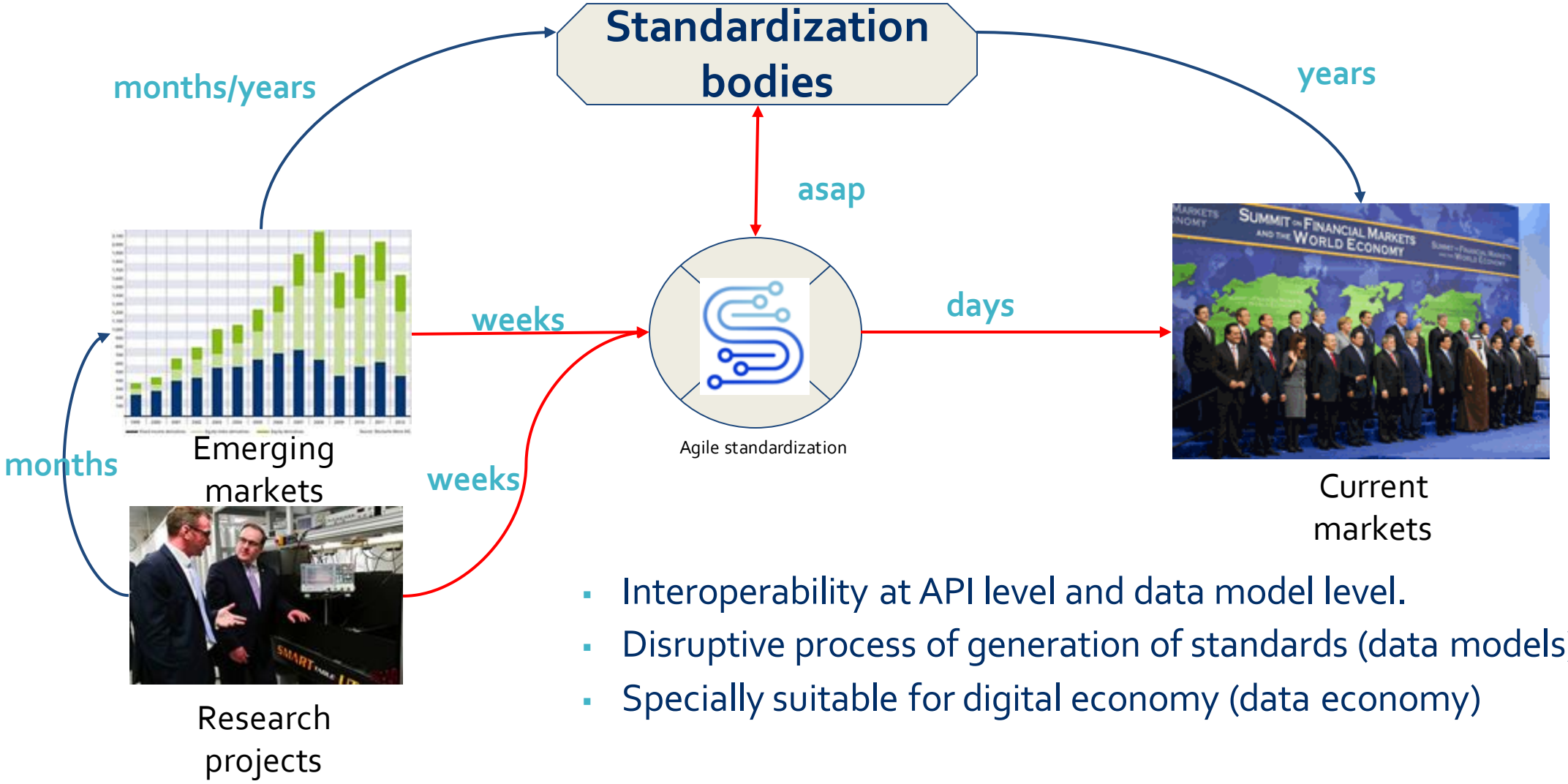
Adoption

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

Content

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

Agile Standardization



- Interoperability at API level and data model level.
- Disruptive process of generation of standards (data models)
- Specially suitable for digital economy (data economy)

What is the Smart Data Models Program

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\+ 73 organizations

- 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

What is the Smart Data Models Program

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Interoperability

Semantic (Smart Data Models)

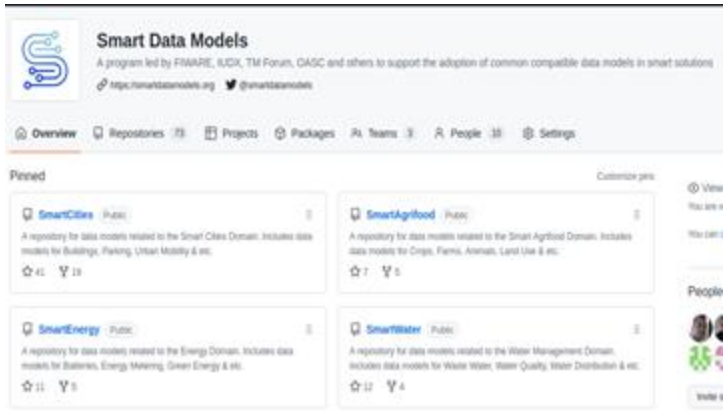
API (NGSI)

- **Smart Data Models**
  a. Provides serialization of data models
  b. Provides definitions
  c. Provides data types for the attributes
  d. Provides 6 languages documentation

- **NGSI standard**
  a. Fully open standard
  b. Several software implementations
  c. Lifely ecosystem of Software packages
  d. Open standardization by ETSI

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: Structure of repositories

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Contents

Documented definitions of attributes

Entity: RevenueCollection

Open License

document generated automatically

Global description: **A Data Model for city revenue collection operations.**

List of properties

- address : The mailing address
- alternateName : An alternative name for this item
- amountCollected : Amount collected towards the service corresponding to this observation.
- areaServed : The geographic area where a service or offered item is provided.
- dateProvider : A sequence of characters identifying the provider of the harmonised data entity.
- dateCreated : Entity creation timestamp. This will usually be allocated by the storage platform.
- dateModified : Timestamp of the last modification of the entity. This will usually be allocated by the storage platform.
- dateObserved : The date and time of this observation in ISO8601 UTC format
- description : A description of this item
- enrolmentCertificateRecoveryAmount : Amount collected towards Enrolment Certificate from the establishment on annual basis.
- id : Unique identifier of the entity
- location : Geojson reference to the item. It can be Point, LineString, Polygon, MultiPoint, MultiLineString or MultiPolygon
- month : Month corresponding to this observation and is described in MM format, for eg. '05' for the month of May.
- municipalityInfo : Municipality information corresponding to this observation.
- name : The name of this item.
- owner : A List containing a JSON encoded sequence of characters referencing the unique ids of the owner(s)
- registrationCertificateRecoveryAmount : Amount collected towards Registration Certificate on monthly basis from the establishment per employee.
- revenueCollectionType : Type of source from which the city administration collects the revenue, could be property tax, vehicle registration, party hall booking, community hall booking, auditorium booking etc.
- seeAlso : list of uri pointing to additional resources about the item
- source : A sequence of characters giving the original source of the entity data as a URL. Recommended to be the fully qualified domain name of the source provider, or the URL to the source object.
- totalCount : Count of the revenue collection service corresponding to this observation.
- type : NGSI Entity type. It has to be RevenueCollection
- vehicleType : Type of vehicle from the point of view of its structural characteristics. This is different than the vehicle category . The following values defined by *VehicleTypeEnum* and *VehicleTypeEnum2*, DATEX 2 version 2.3
- vehicleTypeCode : The code for vehicleType corresponding to this observation. For eg.- '1' - MOPED/SCOOTER, '2' - MOTOR CYCLE, '4' - PRIVATE MOTOR CAR/JEEP CAR, '21' - TEMPO, '26' - BUS, etc.
- year : Year corresponding to this observation and is described in YYYY format, for eg. '2020'.

Required properties

Data Model description of properties

Sorted alphabetically (click for details)

- full yaml details

Example payloads

- Markdown
  - English
  - French
  - German
  - Spanish
  - Italian
  - Japanese
- Swagger
- openAPI 3.0

Contents: Examples and exports

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Contents

Examples

- example-geojsonfeature.json
- example-geojsonfeature.json.csv
- example-normalized.json
- example-normalized.json.csv
- example-normalized.jsonld
- example-normalized.jsonld.csv
- example.json
- example.json.csv
- example.jsonld
- example.jsonld.csv

- Json
- Jsonld
- CSV
- Geojson feature
- DTDL
- … others to come (SQL)

Contents: *Single Source of Truth*

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Contents

Schemas for data validation

```
{
    "$schema": "http://json-schema.org/schema#",
    "$schemaVersion": "0.0.1",
    "modelTags": "",
    "$id": "https://smart-data-models.github.io/dataModel.Environment/SeaConditions/schema.json",
    "title": "Sea Conditions schema",
    "description": "This entity contains a harmonised geographic description of sea conditions",
    "type": "object",
    "allOf": [
        {
            "$ref": "https://smart-data-models.github.io/data-models/common-schema.json#/definitions/GSMA-Commons"
        },
        {
            "$ref": "https://smart-data-models.github.io/data-models/common-schema.json#/definitions/Location-Commons"
        },
        {
            "properties": {
                "type": {
                    "type": "string",
                    "enum": [
                        "SeaConditions"
                    ],
                    "description": "Property. NGSI-LD Entity Type. It has to be SeaConditions"
                },
                "waveLevel": {
                    "type": "number",
                    "minimum": 0,
                    "maximum": 9,
                    "description": "Property. Model:'https://schema.org/Number'. Units:'Douglas sea scale'. It indicate
                },
                "surfaceTemperature": {
```

- Json schema format

Contents: Examples and exports

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- 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

Contents: Water data models

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Available subjects (35 DM)

- OpenChannelManagement
- WasteWater
- WaterConsumption
- WaterDistributionManagementEPANET
- WaterQuality

Incubating

- Water Distribution

Related (32 DM)

- Weather
- Social Media
- Risks
- Satellite imagery
- Device
- Open Connectivity Foundation

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

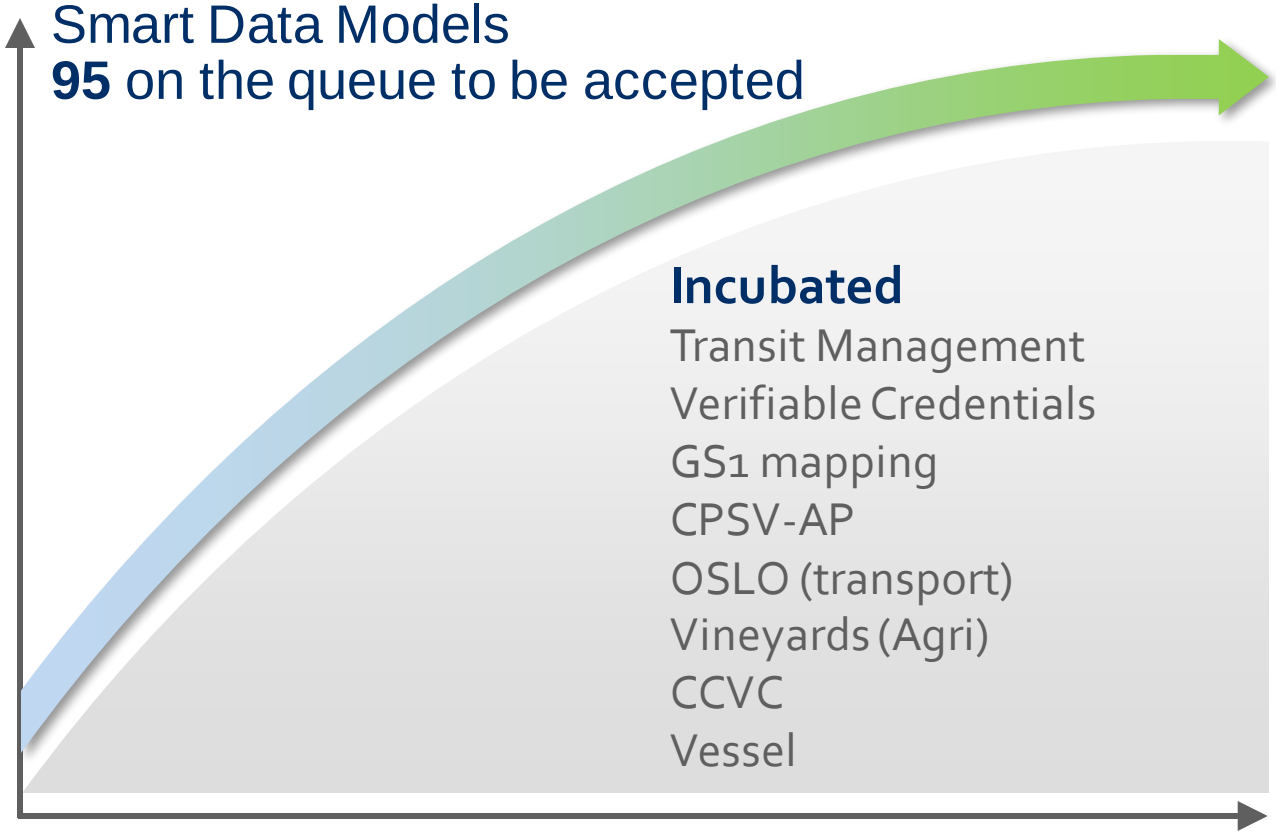
Updated 12-5-22

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

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CONTRIBUTING

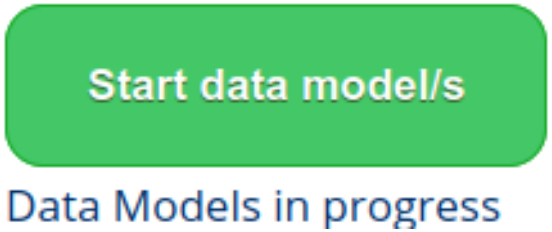
- Contribution manual. Available at https://bit.ly/contribution_manual
- Learning zone. (videos + tools)

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)



Other FAQ

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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

Invited Speaker

NAIADES Webinar Series

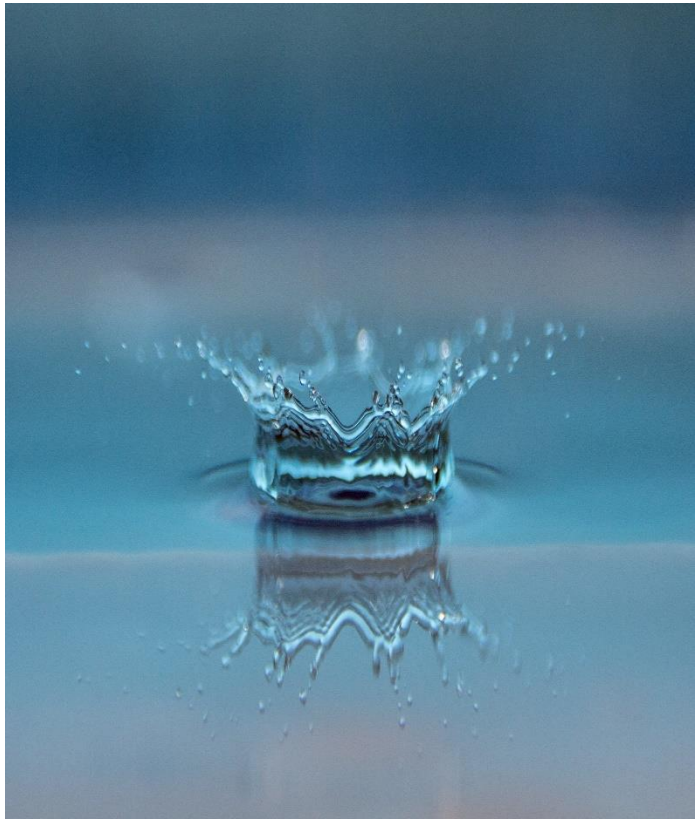
Philippe Cousin
EGM, aqua3s

NAIADES

Webinar Series

Aqua3s Water Standardisation actions to support Water Security and Crisis Management

Philippe Cousin, EGM, aqua3s



First : what is water security?

At an intuitive level, what aspect of the water could represent an “hazard” against “my security”?

Waterborne diseases

Floods, effects of climate change on the hydrological cycle

Low efficiency, Leakages on distribution networks

Pollution & contamination, Bad quality

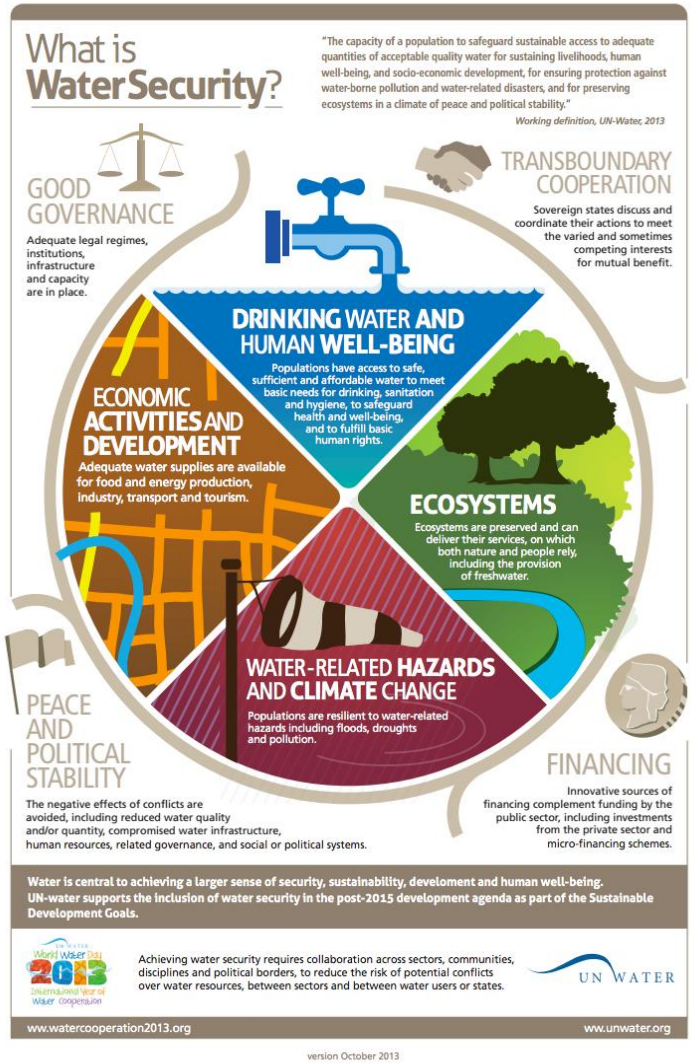
Water scarcity, droughts

High operation and maintenance costs, disrepair and service failure

What is water security?

The official UN's definition

"The capacity of a population to safeguard sustainable access to adequate quantities and acceptable quality of water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability." [UN, 2013]



A unique EU regulation dedicated to water security (i.e. which alone encompasses all this definition) does not exist!

Water Security in EU regulation

there are different directives related to one ore more aspect(s)

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access to adequate quantities and acceptable quality of water

- The Drinking Water directive (DWD, 98/83/EC)
- the DWD amendment 2015/1787
- Rigth2water initiative and the update of DWD (2020/2184)

Floods, droughts, natural water-related disasters

- The Floods Directive (FD, 2007/60/EU)
- Directive of European Critical Infrastructures (ECID) *(Note: not directly applicable to distribution network yet)*
- Groundwater Directive (2006/118/EC)
- Water Framework directive (WFD, 200/60/EU)

Different aspects

Protection against accidental or malicious threats

- Directive on security of network and information systems(NIS)
- Directive of European Critical Infrastructures (ECID) (*Note: not directly applicable to distribution network yet)*
- Proposal for a Directive for the resilience-critical-entities
- Proposal for a revised NIS Directive (NIS2)

preserving ecosystems and environment

- Water Framework directive (WFD, 200/60/EU)
- Groundwater Directive (2006/118/EC)
- The Floods Directive (FD, 2007/60/EU)
- Environmental Quality Standards Directive (2008/105/EC)
- IPPC Directive
- Seveso Directives
- The Urban Waste-water Treatment Directive
- The Nitrates directive

Water Security in EU regulation

… but there are also many targets …

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Water supply & distribution networks

- The Drinking Water directive (DWD, 98/83/EC)
- the DWD amendment 2015/1787
- Rigth2water initiative and the update of DWD (2020/2184)
- Directive on security of network and information systems(NIS)
- Directive of European Critical Infrastructures (ECID) (*Note: not directly applicable to distribution network yet)*
- Proposal for a Directive for the resilience-critical-entities
- Proposal for a revised NIS Directive (NIS2)

Water bodies (rivers, groundwater, etc.)

- The Floods Directive (FD, 2007/60/EC)
- Groundwater Directive (2006/118/EC)
- Water Framework directive (WFD, 200/60/EC)
- Nitrate Directive (91/676/EEC)

Human health & safety

- The Drinking Water directive (DWD, 98/83/EC)
- the DWD amendment 2015/1787
- Rigth2water initiative and the update of DWD (2020/2184)
- The Floods Directive (FD, 2007/60/EC)
- Seveso Directives

Main direct target(s)

Environment (Urban, natural etc.)

- Nitrate Directive (91/676/EEC)
- Nitrate Directive (91/676/EEC)
- Environmental Quality Standards Directive (2008/105/EC)
- Groundwater Directive (2006/118/EC)
- IPPC Directive
- Seveso Directives
- Nitrate Directive (91/676/EEC

Water Security in EU regulation

… as well as actors involved!

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Some of the WS Actors

Water utility, water supply network manager

- Management of the network
- Implementation of directives (i.e. DWD)
- Redaction of sectorial plan
- Monitoring
- Definition of emergency protocol

Local (i.e. Municipalities) and regional government authorities

- Emergency chain
- Redaction of sectorial plans & definition of measures
- planning

Security forces

- Emergency response
- First aid
- Definition of emergency protocol

Environmental Agencies & Water authorities

- Implementation of directive (i.e. FD, FWD)
- Redaction of sectorial plans & definition of measures
- Environmental Monitoring
- Management of water bodies
- planning

Civil protection, first responder

- Emergency response
- Definition of emergency protocol
- monitoring
- First aid

Health care operators

- Emergency response
- First aid
- Definition of emergency protocol
- Monitoring

Water Security in EU regulation

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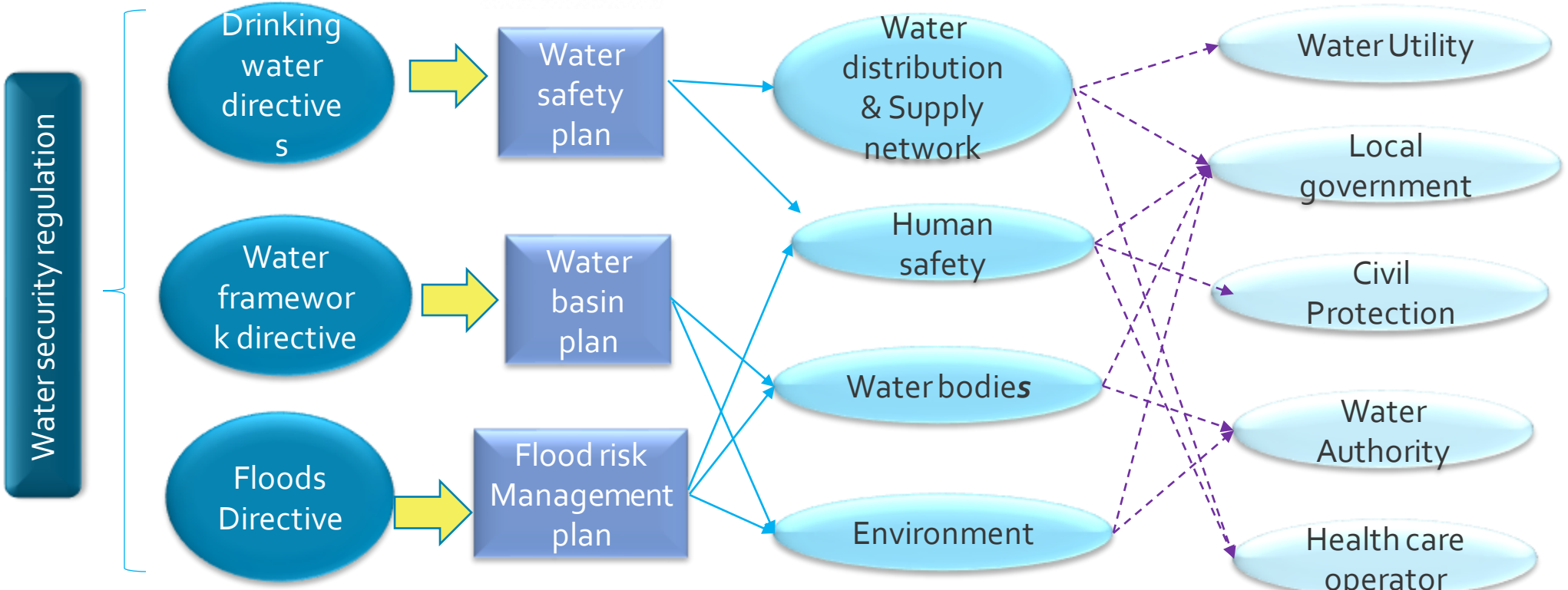
Synergies? Coordination? Contrasts?



Market feedback from aqua3S survey

- Water security appears as a **concept too wide** and complex to be regulated by one single Directive.
- Nevertheless, there is the need of a common legislative instrument that is explicitly address to the **water security as a whole**, to create or strengthen **connections** between the water security directives.
- A specific focus should be given on issues as: the **roles of different actors**, the **coordination of different planes**, how the various actors involved have to conciliate the different, and in some cases even contrasting, needs, at every scale and also **in emergency**
- **The Introduction of sectorial regulation or guidance specific for the water distribution networks and for the water bodies**, to integrate the aspects of water security which are currently treated by generic or not water-centered regulations (i.e. cyber security.)
- Provide to the technical staff of the water security sector (i.e. water utility operators) a **guidance about international standards**, **new technologies and procedures** and their relationship with regulation
- Water is still treated mostly as a 'technical matter' by most of the actors. The proper emphasis should be given to issues as the **inclusion of marginalized categories, the transparency to the Customer, raising the awareness of water supply operators about the legal and ethical implications for the service they are providing**

Standardisation in Water Security

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Highlights & Main Achievements

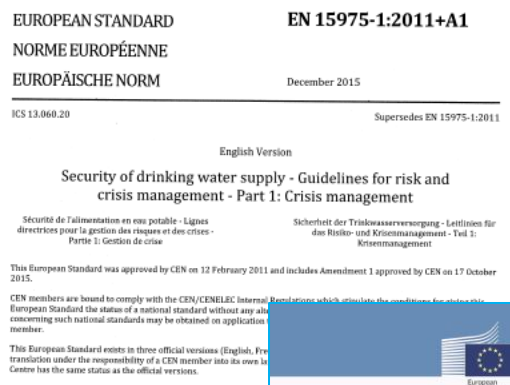
- Collective water-related projects coordination on digital standards through ICT4WAter and aqua3S contributions
- Identification of 4 key standards (i.e., **EN15795, EN 17075, TS 17091**, **ISO/TS 16489**) and market gaps (on non-digital standards)
- Liaison established with **CEN TC 164 , CEN TC 230, CEN TC 391**
- First market feedback with a first webinar

Ongoing:

- Bottom-up actions : new market oriented workshops/webinars
  2022 to continue identifying gaps
- Top-down actions :
  - Contributions to CEN TC 164 on EN 15795
  - Contributions to CEN TC 230, TC 391
  - Cooperation with ERNCIP on standards for water security plan
- Feedback to EC/EU groups on Strategy and policy-making from feedbacks identified
- Paper on standardization findings in 2022

Water security plan

European reference Network for Critical Infrastructure protection


EUROPEAN STANDARD EN 15975-1:2011+A1
NORME EUROPÉENNE
EUROPÄISCHE NORM
December 2015
ICS 13.060.20
Supersedes EN 15975-1:2011
English Version
Security of drinking water supply - Guidelines for risk and crisis management - Part 1: Crisis management

JRC TECHNICAL REPORTS
Guidance on the production of a water security plan for drinking water supply
ERNCIP Chemical and Biological (CB) Risks to Drinking Water Thematic Group
Teixeira, R.
Carmi, G.
Raich, J.
Gattinesi, P.
Hohenblum, P.
Theocharidou, M. (Ed.)
Giannopoulos, G. (Ed.)
2019

Feedbacks from workshop aqua3S- ERNCIP-CEN TC 164 -4th nov 21

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WORKSHOP
Standardisation needs for water security

On-line 4th November 10:00 – 12 :00

Attendees will be asked to give their opinion on the level of details of the Water Security Plan and on the needs to contribute with more details to CEN EN 15795

AGENDA

10:00-10:20	Setting the scene	• EC DG Home representative • ERNCIP & aqua3S
10:20-10:45	Security of drinking water supply – Guidelines for risk and crisis management	• CEN TC 164 - Status of standard EN 15795 – Frenz Peter • CEN TC 391 (TBC)
10:45-11:00	Water Security Plan: A guidance towards a resilient drinking water supply against chemical and biological threats	ERNCIP TG Water
11:00-11:45	Open discussion from attendes • Why we need a guideline • What are the issues ? • Do we need to contribute to EN15795 standard	Moderator from aqua3S (P.Cousin)
11:45- 12:00	On-line survey conclusion	aqua3S

Lesson on two main standardisation issues to address

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LEVEL OF DETAILS NEEDED: Trade-off between standards with high level or very detailed descriptions. "evil is in the details " different opinion between small or large stakeholders

- Standard EN 15975 (CEN TC 164)
  Security of drinking water supply – Guidelines for risk and crisis management
- Standard CEN TS 17091 (CEN TC 391)
  Crisis management - Guidance for developing a strategic capability

INNOVATION : Take into account innovations in new technologies to ensure high level trustability of the information in particular when related to crisis management or public safety. Issues on tempo between long standardisation process and fast technologies development

- Standard EN 17075 (CEN TC 230 WG4)
  Water quality — General requirements and performance test procedures for water monitoring equipment — Continuous measuring devices
- ISO TS 16489
  Water quality — Guidance for establishing the equivalency of results

aqua3S

Experts are contributing to CEN Working groups

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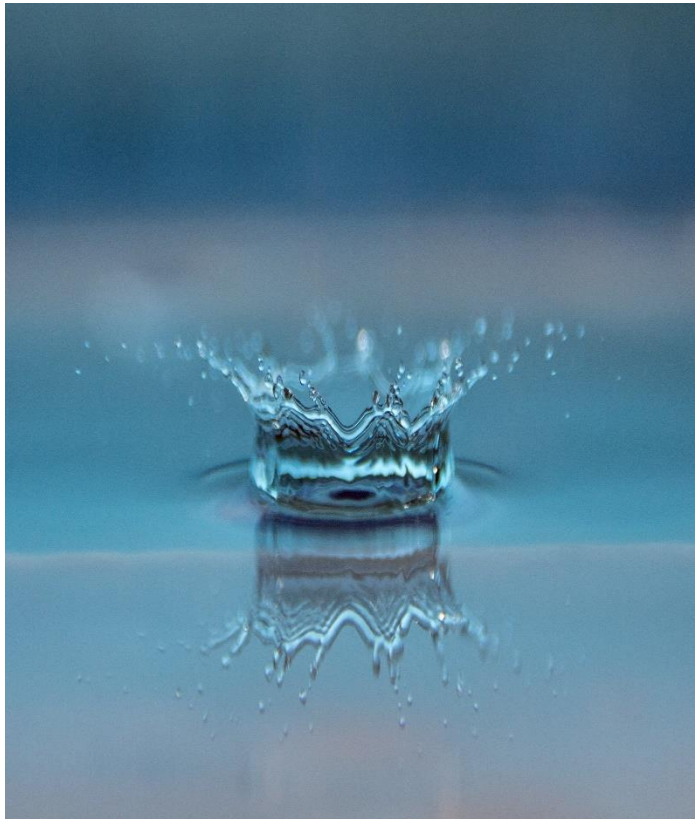
Panel discussion
&
wrap-up



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