

# Research results fly the nest: Exploitation and Standardization in the SMR and RESIN projects

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Lisbon, Portugal

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Officer – Communications and Member Relations

**ICLEI – Local Governments for Sustainability**

● ICLEI – Local Governments for Sustainability is a global network of local and regional governments including:

- Câmara Municipal de Águeda
- Câmara Municipal de Almada
- Câmara Municipal de Cascais
- Câmara Municipal de Lisboa
- Câmara Municipal do Seixal
- Câmara Municipal de Torres Vedras

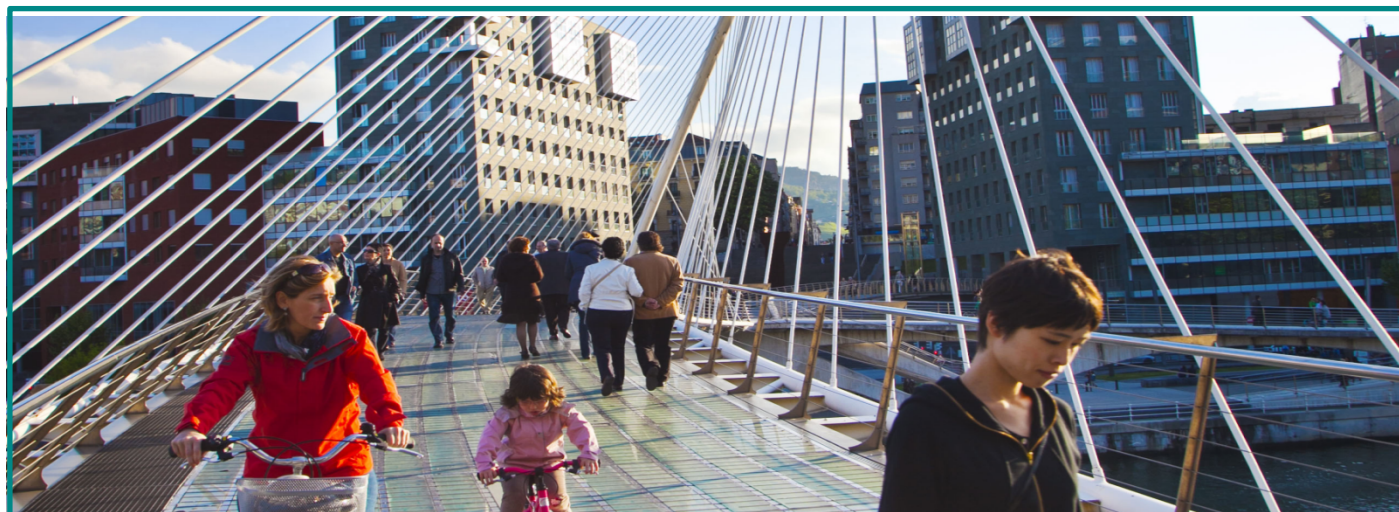
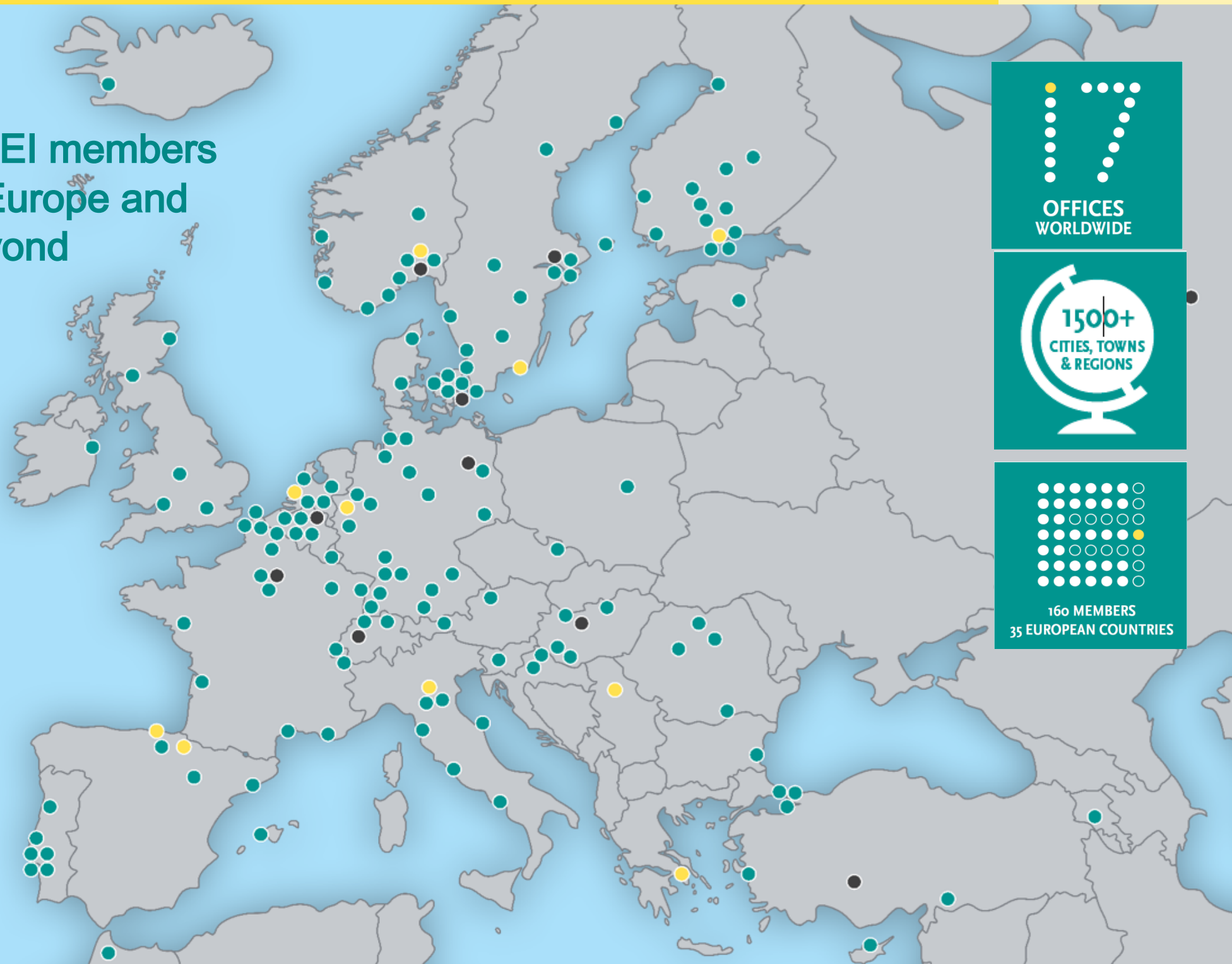


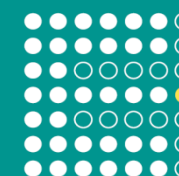
Image: Mikel Arrazola

committed to sustainable development...

# ICLEI members in Europe and beyond



OFFICES  
WORLDWIDE



160 MEMBERS  
35 EUROPEAN COUNTRIES

- ... additional cities part of our adaptation and resilience network





## Smart Mature Resilience (SMR)

- develops tools to assess and build cities' resilience
- produces results that advise the decision-making process towards enhanced resilience
- established three CEN Workshop Agreements, one chaired by ICLEI and DIN

**Partner cities:** Donostia (Spain), Glasgow (U.K.), Kristiansand (Norway), Bristol (U.K.), Riga (Latvia), Rome (Italy), Vejle (Denmark)

### SMR European Resilience Management Guideline

- helps cities implement an integrated management system to enhance city resilience
- is supported by five tools:



Resilience  
Management  
Guideline



Risk Systemicity  
Questionnaire



Resilience Building  
Policies



Resilience Maturity  
Model



City Resilience  
Dynamics



Resilience  
Information Portal





## RESIN - Climate Resilient Cities and Infrastructures

- develops practical tools to support cities in designing and strengthening climate adaptation strategies
- is an interdisciplinary, practice-based research project investigating climate resilience in European cities

**Partner cities:** Bilbao (Spain), Bratislava (Slovakia), Greater Manchester (UK), Paris (France)

### RESIN E-Guide

- is a comprehensive tool supporting cities throughout their adaptation process
- provides convenient access to the tools and resources that can help them, including:
  - European Climate Risk Typology
  - IVAVIA: Impact and Vulnerability Analysis for Critical Infrastructures and Built-up Areas
  - Adaptation Options Library

## ● Why are cities looking to standards?

- a growing awareness of the interconnectedness of urban development issues;
- an increasing number (and confusion) of sustainability related commitments;
- growing attention to the importance of urban areas for sustainable development;
- a lack of local capacities to develop own standards;
- a lack of clear mandates based on legal requirements;
- a lack of commonly agreed (quality) criteria for sustainability management processes and support services
- a growing number of initiatives to benchmarking and rating of cities based on indicators - including by the private sector

## Global and EU Standardization activity

**ISO/TMB/  
Smart Cities SAG +  
TF**



Jointly with IEC and ITU

**CEN-CLC-ETSI/ SSCC-  
Sector Forum**



### Strategy and Advisory Structures

- ✓ Recommendations and coordination
- ✓ No standardization development

**ISO/TC 268 et  
ISO/TC 268/SC 1**



**IEC SyC  
smart cities**



**ISO-IEC/JTC 1  
WG 11**

**ITU-T/FG  
SSC**



### Technical Committees

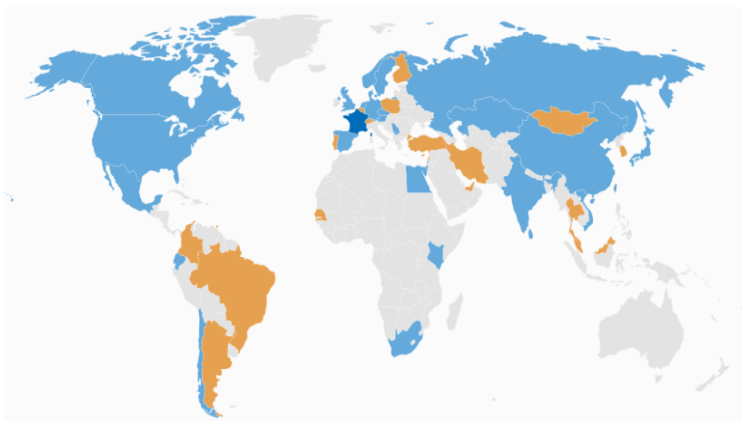
- ✓ Standardization Development  
(Standards, TS, TR, PAS...)



# ISO TC 268

Sustainable cities and communities

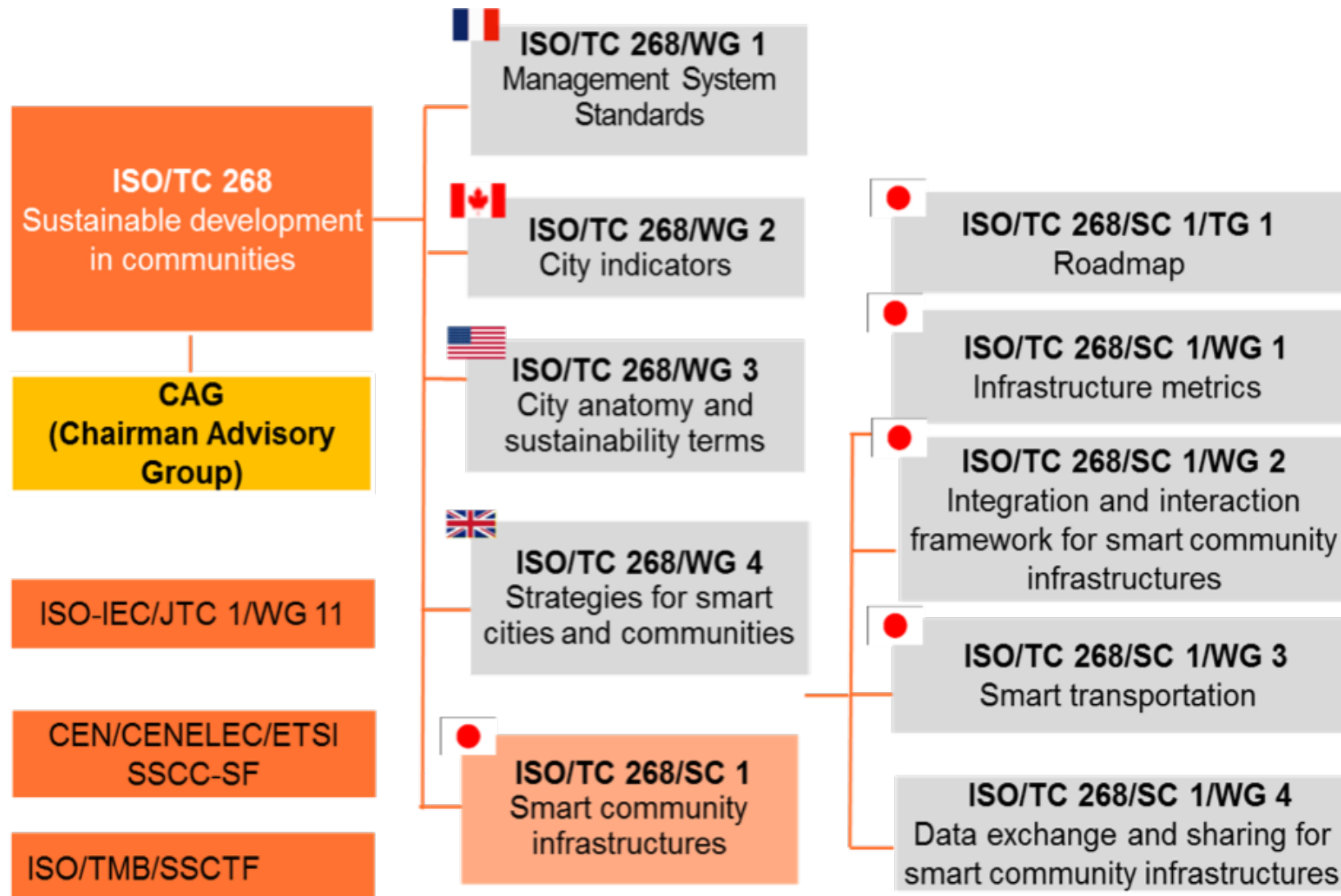
- requirements, frameworks, guidance, supporting techniques and tools related to the achievement of sustainable development considering smartness and resilience
- *TC 268 will contribute to the UN Sustainable Development Goals through its standardization work.*
- The proposed series of International Standards will encourage the **development and implementation of holistic and integrated approaches** to sustainable development and sustainability.



10 published ISO standards: 4 under the direct responsibility of ISO/TC 268  
12 ISO standards under development: 7 under the direct responsibility of ISO/TC 268  
36 Participating members  
22 Observing members

Secretariat: AFNOR, Mr. Bernard Leservoisier  
Chairman: Dr. Bernard Gindroz  
Creation date: 2012

# ISO TC 268 : Organization



## ● How we fit in to ISO TC 268

### **Organizations in liaison (Category A)**

**ICLEI** International Council for Local Environmental Initiatives

**ECOS (Europe)** European Environmental Citizens Organisation for Standardisation

A **FIDIC** International Federation of Consulting Engineers

**GCIF** Global City Indicators Facility

**UNEP** United Nations Environment Programme

**UNISDR** UN Office for Disaster Risk Reduction

### **Organizations in liaison (Category D)**

*C & D liaisons participate at the level of a Working Group*

**APEC** Asia Pacific Economic Cooperation

**RESIN** RESIN - Climate resilient cities and infrastructures

**SMR** Smart Mature Resilience project

### **SMR**

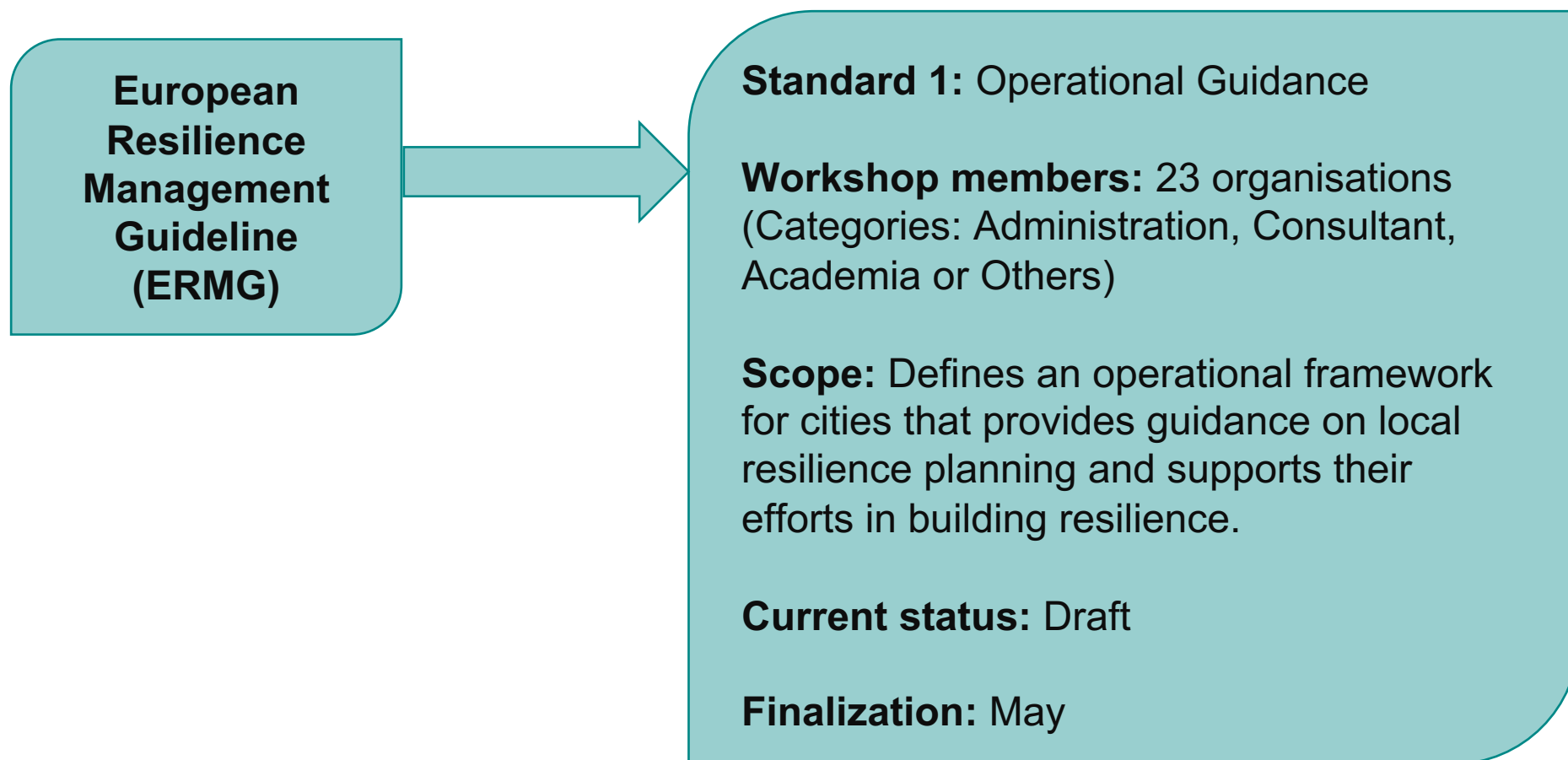
- request to include parts of CRD - Operational Guidance in the introduction of ISO 37123 Sustainable Development in Communities - Indicators for Resilient Cities

**RESIN** liaisons with TCs including ISO/TC 268/WG 1 – Management System Standards, ISO/TC 268/WG 2 - Sustainable cities and communities – City indicators, ISO/TC 207/SC 7

## ● City Resilience Development series

- Series initiated by SMR of three EU (CEN) standards
- Committees primarily but not exclusively composed of project partners
- Standards based on research and tools developed within the project
- Timeframe
  - First Kick-off June 2017
  - Finalisation May-June 2018
    - 12 month for the whole series
- Liaison with *ISO/TC 268 Sustainable cities and communities*
  - presentation of standards series at the plenary meeting in China
- After the finalisation of the standards
  - Dissemination/Communication of CWAs
  - Translation in the project cities' languages
  - Potential uptake

## ● CEN/WS 92 – Operational Guidance



## ● City Resilience Development Series

### Content of Operational Guidance CWA

- Strategic governance awareness
- A framework that provides operational guidance to develop city resilience at local level

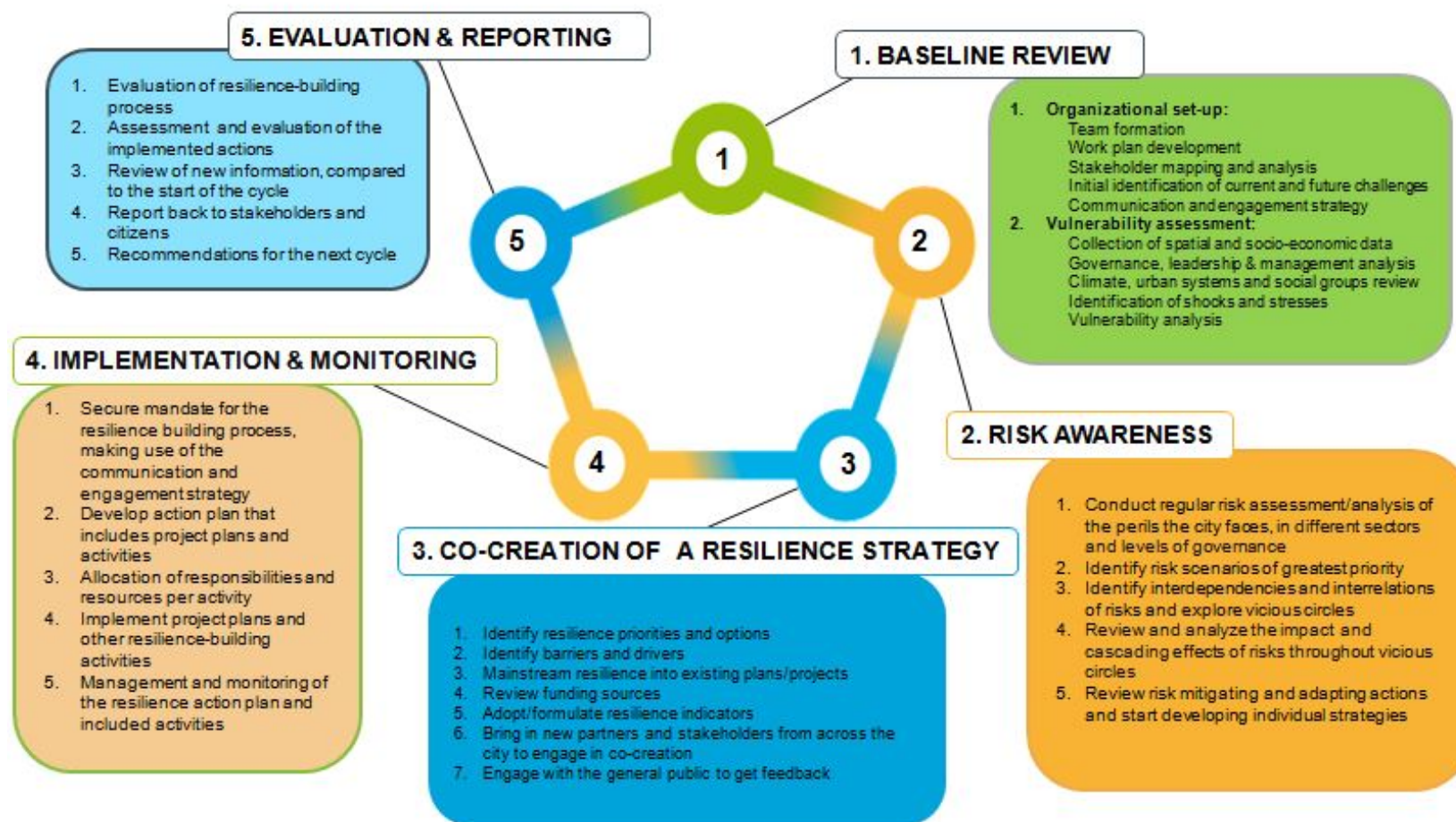
For each step

- Description
- Requirements
- Recommendations
- Use of tools in the step

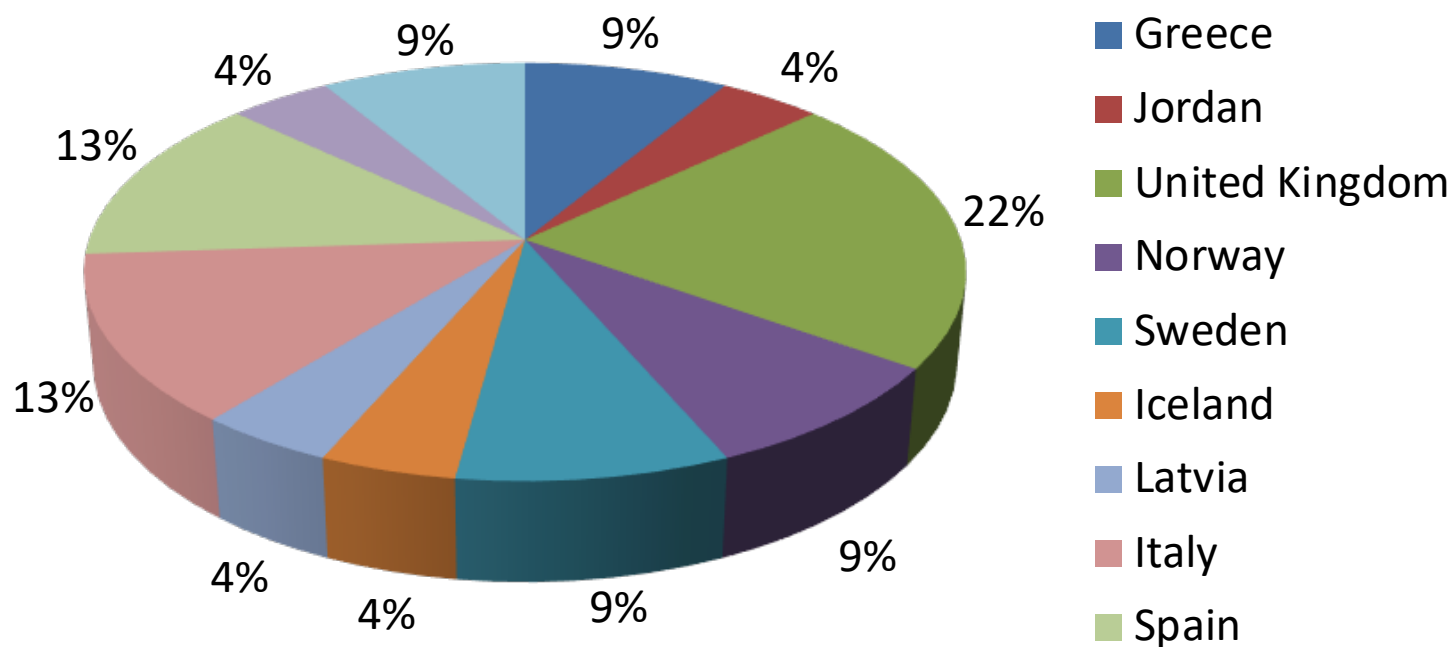
Annexes (Handbooks, good practices, stakeholder involvement)



# European Resilience Management Guideline



## ● Member country origin



## ● CEN/WS 91 – Maturity Model

### Resilience Maturity Model



```
graph LR; A[Resilience Maturity Model] --> B[Standard 2: Maturity Model  
Workshop members: 22 organisations  
(Categories: Administration, Consultant, Academia or Others)  
  
Scope: The Maturity Model is a strategic tool that provides a theoretical roadmap about how the resilience process of a city may be. It enables cities to assess their current maturity stage and to identify the policies to implement in order for the city to evolve and move to the next maturity stage.  
  
Current status: Draft  
  
Finalization: May];
```

#### **Standard 2: Maturity Model**

**Workshop members:** 22 organisations  
(Categories: Administration, Consultant, Academia or Others)

**Scope:** The Maturity Model is a strategic tool that provides a theoretical roadmap about how the resilience process of a city may be. It enables cities to assess their current maturity stage and to identify the policies to implement in order for the city to evolve and move to the next maturity stage.

**Current status:** Draft

**Finalization:** May

## City Resilience Development – Maturity Model

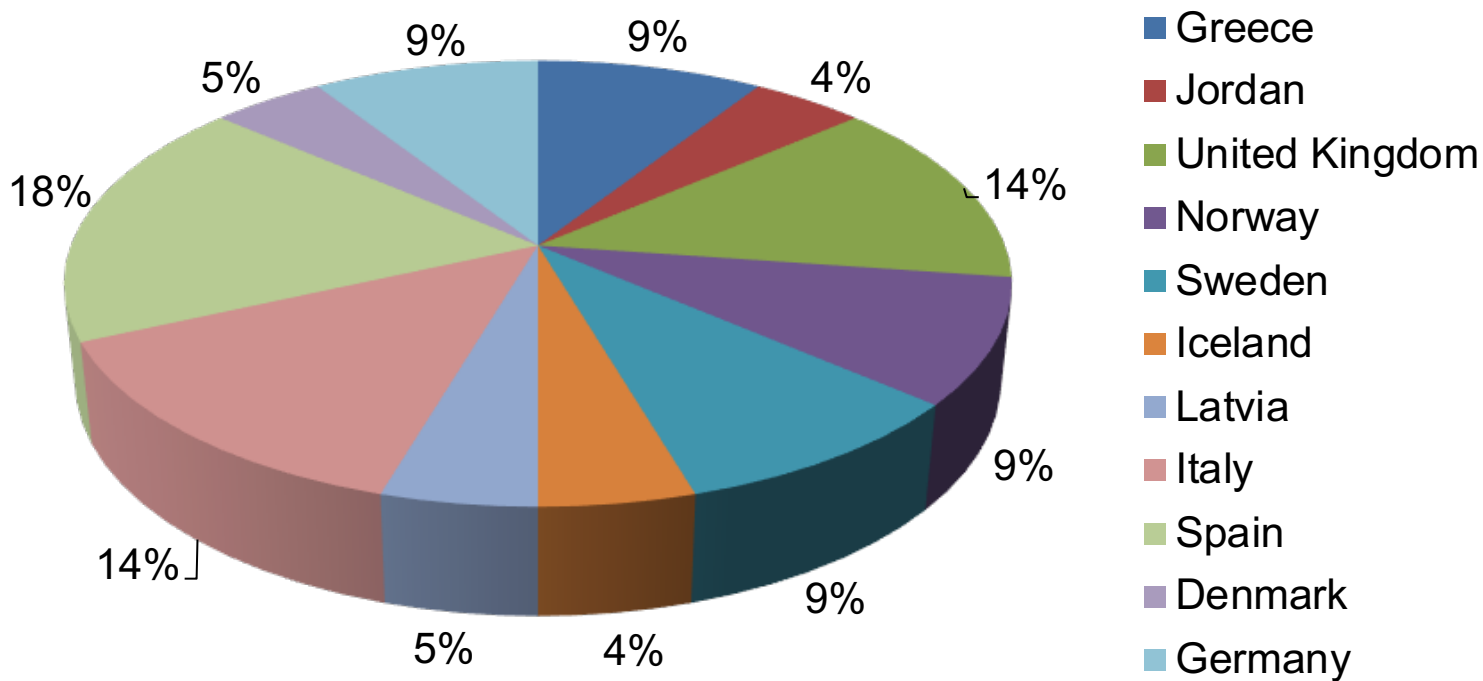
- Based on the Resilience Maturity Model (RMM)
- Additional contributors who did not take part in the development of the RMM:
  - TIER3 cities
  - Researchers from other projects

Their “critical view” has been really valuable to better explain, make more coherent and improve the content – led to the update of the RMM

# Contents

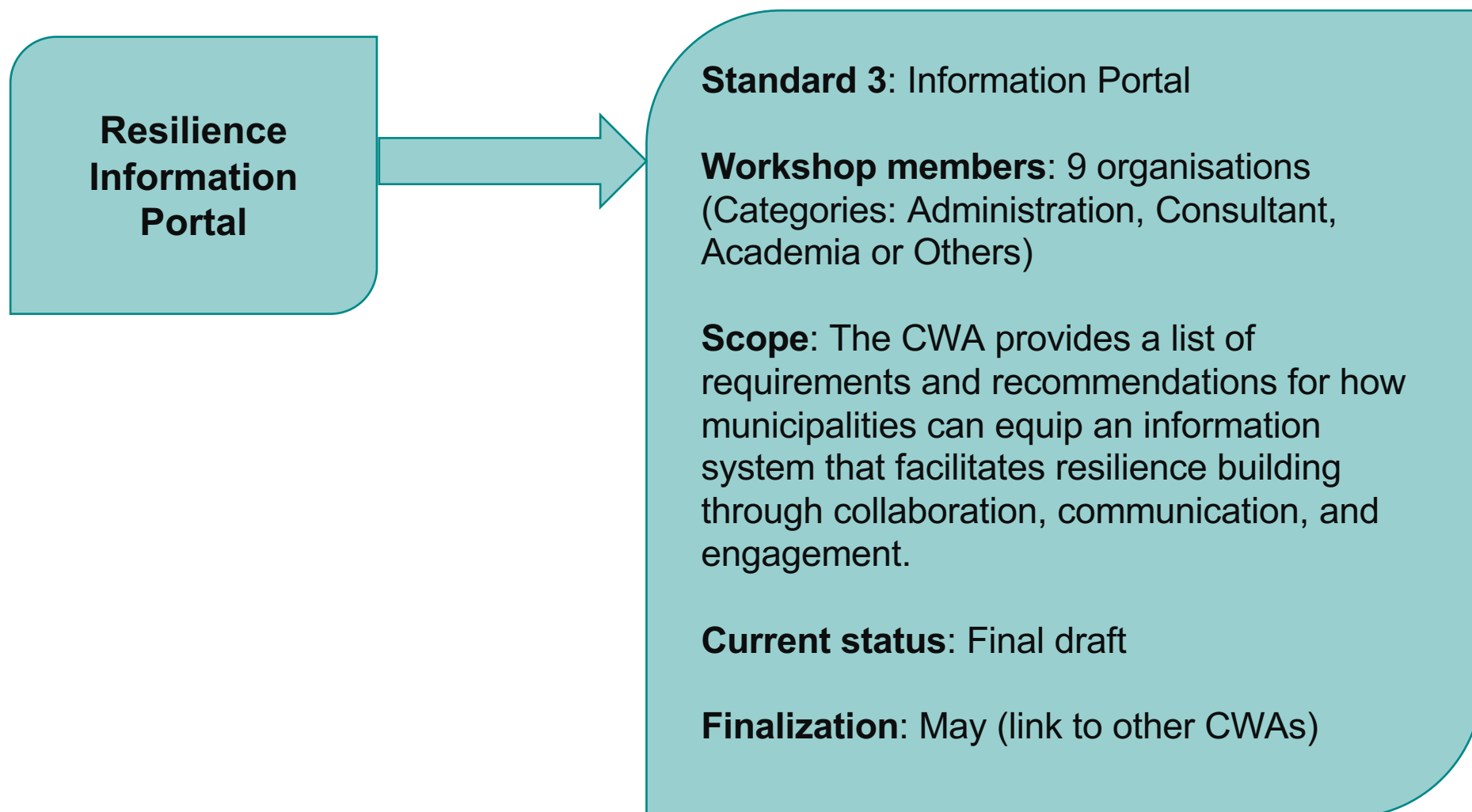
- 1) Terms and References
- 2) Factors that influence shocks and chronical stresses of cities
- 3) Resilience dimensions and sub dimensions
- 4) Maturity Stages (1-5)
  - Description
  - Stakeholder involvement
  - Policies
- 5) Indicators
- 6) Annex A - Template for case studies to illustrate best practice implementation of the policies

## ● Member country origin





## ● CEN/WS 88 – Information Portal



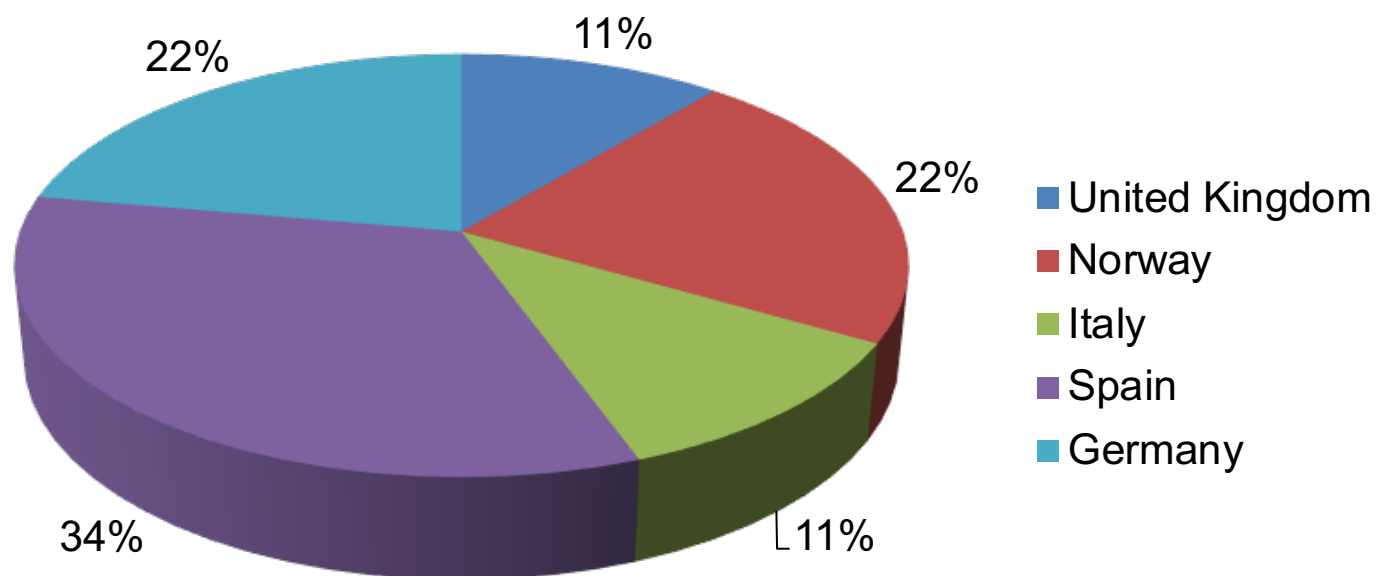
# Contents

- Design goals and principles of an Resilience Information Portal
- Functional specifications of a Resilience Portal (RP)
- Required and recommended criteria's for the implementation of an RP
- Technical product environment
- Function per maturity stage (SMART) - intersection with Maturity Model
- Data management
- Performance requirements
- User interface
- Further quality requirements

Link to the Information Portal on the SMR Website:

<http://smr-project-test.appspot.com/RPDonostia.page>

## ● Member country origin



## ● Standardized approach to tools in RESIN

- European climate risk typology (enabling comparison of risk across cities and regions, based on IPCC AR5 risk framework)
- Standardised approach to impact, risk and vulnerability assessment: IVAVIA
- Library of adaptation options, with specific work on increasing comparability between options (also working with project partner NEN to identify measures where a need for a standard exists)
- Decision support system (online portal supporting risk assessment and climate adaptation planning)

## ● Cities engagement in standardization preparation in RESIN

- The city of Bratislava (Slovakia) has been applying an Impact and Vulnerability Analysis of Vital Infrastructures and built-up Areas (IVAVIA) tool locally, which uses standardised methods to assess vulnerability on the basis of risk.
- According to Eva Streberová, Climate Adaptation Expert, City of Bratislava (Slovakia), using this tool depends on cooperation between the city council and its stakeholders, providing a range of co-benefits.
- Greater Manchester (United Kingdom) has also used the IVAVIA method to arrive at systematically mapped risk indicators and indices, particularly focussing on flooding and its repercussions on the transport network.
- Use of the tool has enabled Greater Manchester to produce an impact chain demonstrating the interactions between pluvial flooding and the system of major arterial roads in Greater Manchester.

## ● Next for ICLEI Europe and standardization: NBS

Reference in the 2016 AUWP SWD(2015)301 accompanying the COM(2015)686	Objective	State of play	Commission's priorities
14.	<p>The Commission is currently initiating a research and innovation policy agenda to further develop and upscale the use of nature-based solutions and to promote the market for them in Europe and worldwide– including Green Infrastructure elements and adaptation measures. This refers as well to the sustainable construction of buildings (such as with green roofs and walls). The development of protocols for functional or performance based specifications and measurement and testing methodologies, leading eventually to standardisation, would help the assessment of the cost-effectiveness of nature-based solutions in economic, social and environmental terms, support public procurement of such solutions and overall stimulate the market for them. In addition to the above mentioned activities under Horizon 2020, a dedicated feasibility study is needed to involve relevant stakeholders to scan the area on this particular subject, based on and complementing actions towards standardisation prepared by other services.</p>	<p>The Communication COM(2013)249 on the strategy on Green Infrastructure identifies standards as possibly contributing to 'growing the market' for Green Infrastructure solutions. The Commission will assess how technical standards, particularly in relation to physical building blocks and procedures, could increase the deployment of Green Infrastructure. Internal work to prepare a mandate is being started, aiming at a completed draft mandate by the end of Q2 2018.</p>	3. A Resilient Energy Union with a Forward-Looking Climate Change Policy
15.	An external consultant has been carrying out for DG CLIMA	M/555 -COMMISSION IMPLEMENTING	3. A Resilient

## European Commission Staff Working Document on Standardisation

Available here:

<https://publications.europa.eu/en/web/eu-law-and-publications/publication-detail/-/publication/3c9e1b89-faa2-11e7-b8f5-01aa75ed71a1>



## CLEVER Cities contribution to Standardization of NBS

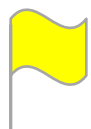
1. Propose and discuss protocols and standards with relevant standardization process at national, EU and international level
2. Specifically through WP5, Task 5.4: Scale up and extension of CLEVER solutions: Based on assessment of scalability for each solution, potential instruments will be identified and standards proposals will be elaborated. The results will feed into the CLEVER Cities guidance (T1.4) and promotional activities to optimise pan-European dissemination in WP6-7.
3. Network partners will offer their global structures and advocacy capacities to access EU and international policy and standardisation processes,
4. ICLEI ES will be able to offer support in defining standardisation processes for CLEVER solutions owing to its involvement in German and international standardisation work.

For more information and how to get involved, visit

[www.iclei-europe.org/members](http://www.iclei-europe.org/members)



## Where you can find us...



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