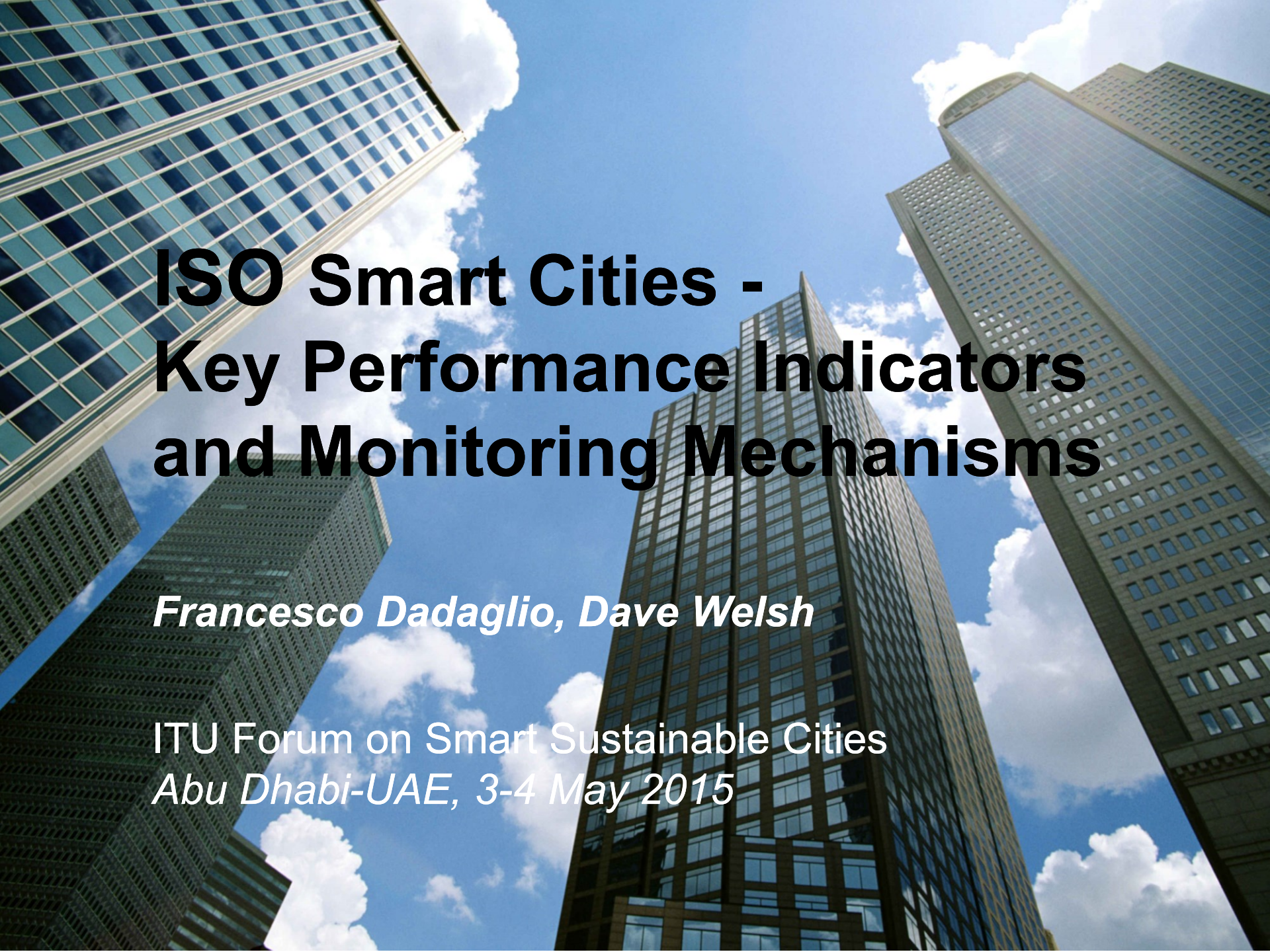


# ISO Smart Cities - Key Performance Indicators and Monitoring Mechanisms

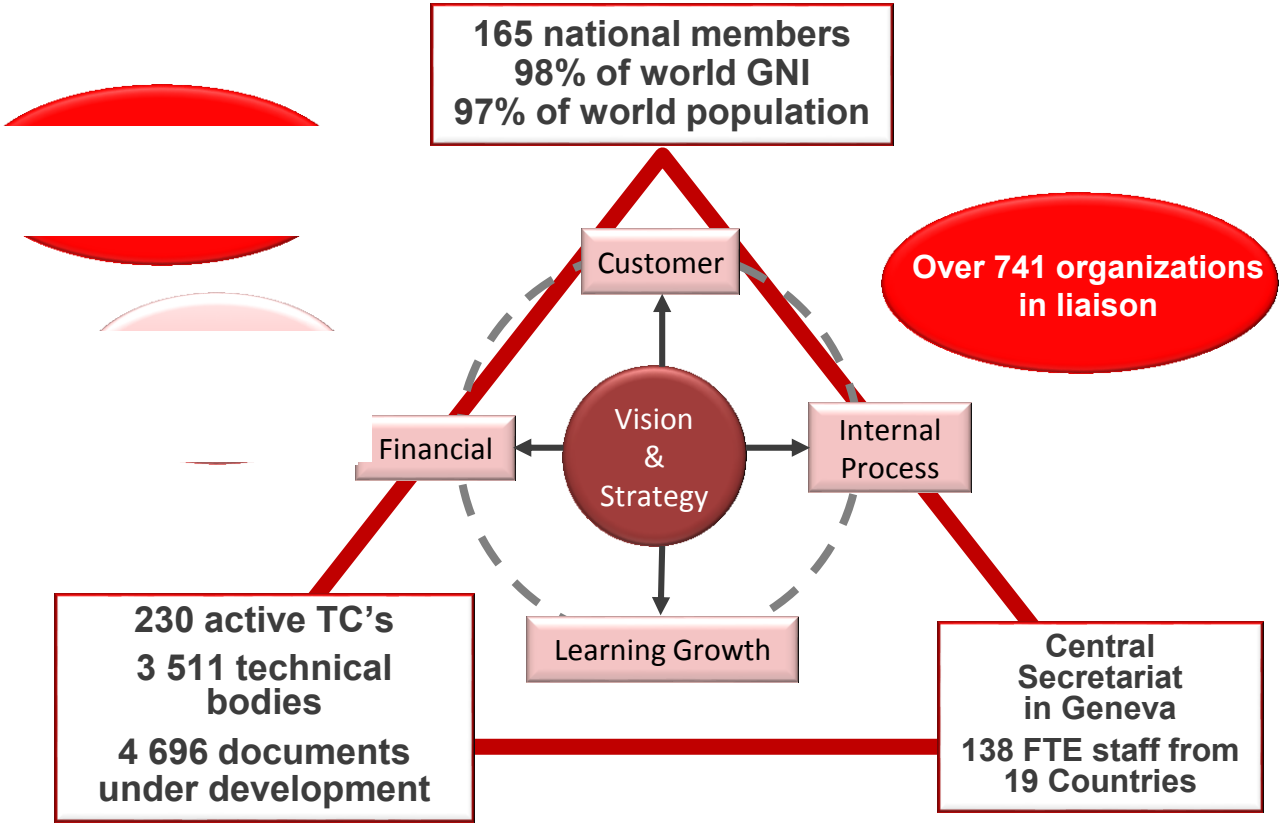
***Francesco Dadaglio, Dave Welsh***

ITU Forum on Smart Sustainable Cities
*Abu Dhabi-UAE, 3-4 May 2015*

# Agenda

- ISO Smart Cities Strategic Advisory Group Mandate
- ISO Indicators Update
- Q & A

# ISO – A Global System



# Recent & future activities

- Launch meeting in Geneva on 17 June 2014
- Second meeting in London on 1 September 2014
- Third meeting in Barcelona on 19 November 2014
- Fourth meeting in Tokyo on 29 and 30 January 2015
- Fifth meeting in San Francisco on 30 March and 1 April 2015
- Sixth meeting in Berlin on 19 and 20 May 2015
- Final meeting in Geneva on 23, 24, 25 June 2015

**Final report to TMB - September 2015**

# ISO TMB Smart Cities Strategic Advisory Group Mandate

1. Clear working definition of ‘smart cities’
2. Describe smart cities landscape & identify aspects most relevant to ISO
3. Review existing initiatives and activities in ISO
4. Gap analysis – areas for ISO work, and collaboration across standards bodies
5. Coordinate ISO input and nomination of experts to IEC/SEG 1

*14 experts*
*4 liaison reps*
*8 observers*

*Launch June 2014*

*Report September 2015*

# Current key activities

**Demand-side survey:**

*Countries (27):*

- Australia, Brazil, Canada, China, Finland, France, Germany, India, Indonesia, Israel, Japan, Kenya, Korea (Republic of), Malaysia, Mexico, Morocco, Netherlands, Nigeria, Russian Federation, Singapore, South Africa, Spain, Sweden, Switzerland, UK, United Arab Emirates, USA

*Associations and organizations (9):*

- Bloomberg, C40, City Protocol Society, ICLEI, Smart Cities Council, UNEP, World Bank, Eurocities, OECD

# Demand-Side Survey

## Purpose

- To understand
  - **how cities perceive standards & SDOs**, and
  - **cities needs in relation to guidance**
- **Engage the unengaged**:
  - city leadership / senior officials
  - small & mid-sized cities
- **Inform ISO plans**, and how it operates with SDOs / influential bodies

## Process

- Launch March
- Close end April
- First insights May/June

## Content

1. Current Experience with standards
2. Relevance at senior levels
3. Leadership content
4. City domain content
5. Legitimacy of SDOs
6. Any other matters

## Targets

- 5-10 Cities of different sizes and levels of development – selected via national bodies

# Smart cities & some ISO committees

**…noting the survey with committees is taking place**

- TC 59/SC 17 Sustainability in buildings and civil engineering works
- TC 163 Thermal performance and energy use in the built environment
- TC 205 Building environment design
- TC 242 Energy management
- TC 268 Sustainable development in communities
- TC 268/SC 1 Smart community infrastructures
- JTC 1 Study Group on Smart Cities; etc.

# TC 268 Sustainable development in communities & TC 268/SC 1 Smart community infrastructures

Click here to see the committees work programme.

# Standards developed by ISO/TC 268 & SC 1

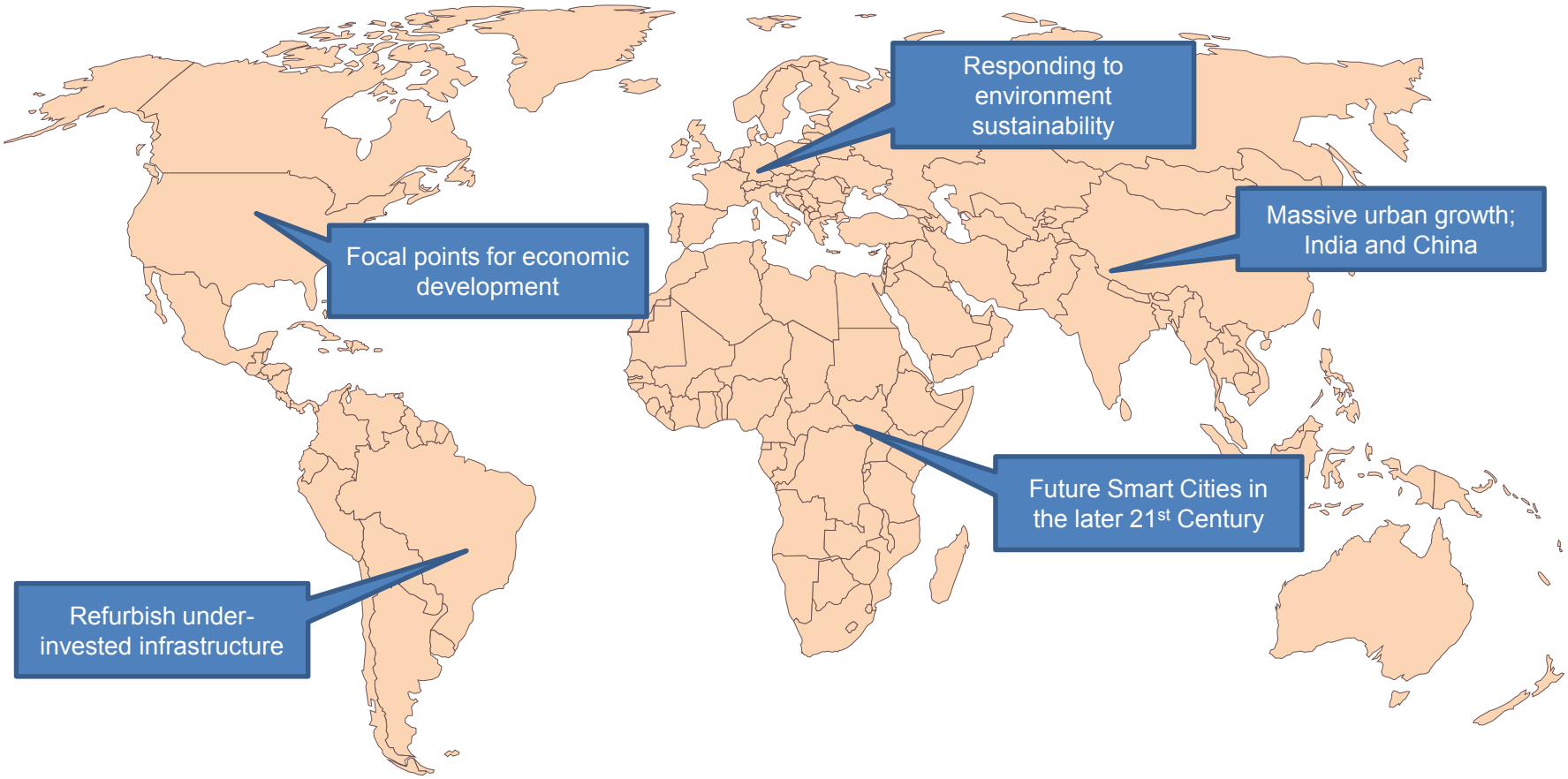
- **ISO 37120** Sustainable development & resilience of communities - Indicators for city services & quality of life
- **ISO/TR 37150** Smart community infrastructures - Review of existing activities relevant to metrics
- **ISO 37101** Sustainable development of communities -- Management systems -- Requirements with guidance for resilience and smartness
- **ISO 37102** Sustainable development & resilience of communities – Vocabulary
- **ISO/TR 37121** Inventory & review of existing indicators on sustainable development & resilience in cities
- **ISO/TS 37151** Smart community infrastructures -- Principles and requirements for performance metrics
- **ISO/TR 37152** Smart community infrastructures -- Common framework for development & operation

# ISO Indicators Update

- Thank you for listening!

- Introducing: Dave Welsh, ANSI appointed expert to the ISO/TMB Smart Cities SAG for the update on indicators

# Drivers shaping the Smart Cities landscape

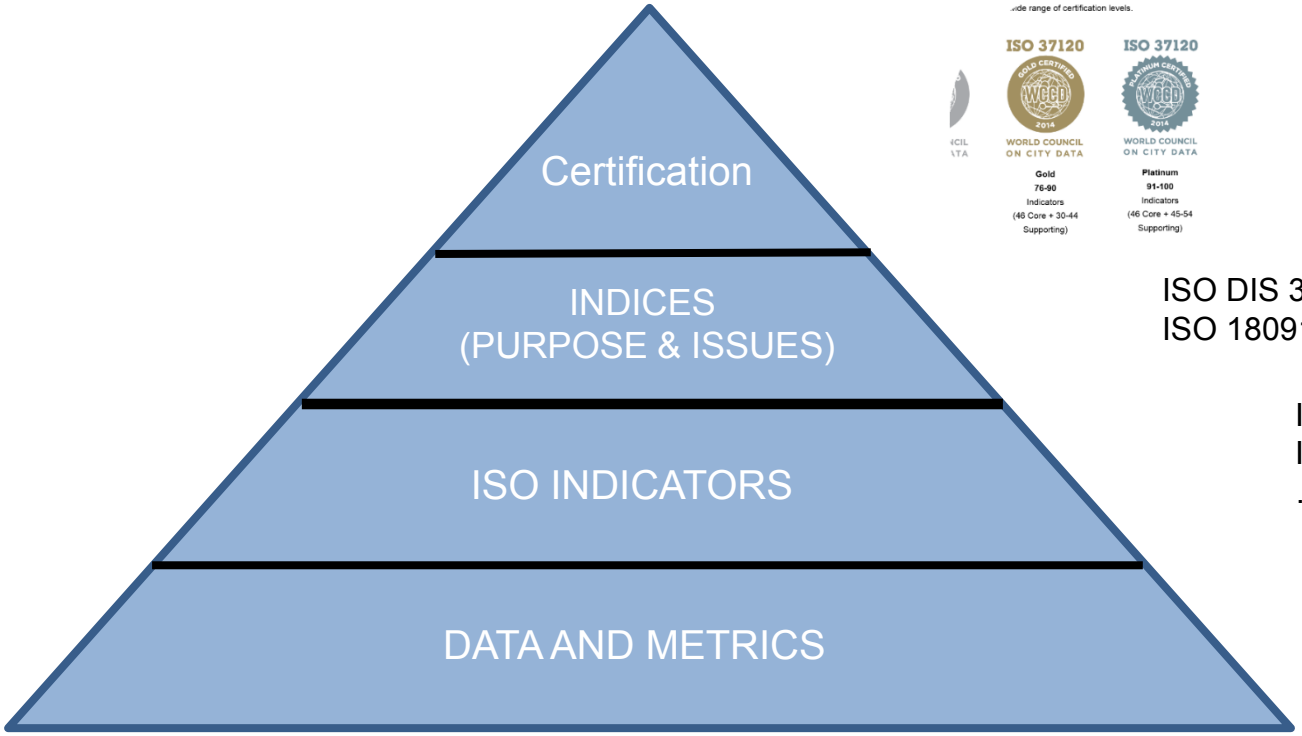



* United Nations, Population Division, World Urbanization Projects, 2014 Revision http://esa.un.org/unpd/wup/

# WHY CITY STAKEHOLDERS NEED GLOBAL STANDARDIZED INDICATORS?

- **TO DETERMINE ENTRY POINTS FOR INVESTMENT** in city markets and make informed decisions through data analysis
- **TO BENCHMARK INVESTMENTS** and monitor progress
- **TO EVALUATE** the “impact” of infrastructure projects on the sustainability and efficiency of the city
- **TO BUILD** Smart and Sustainable Cities
- **TO EVALUATE** the investment in comparative perspective across cities nationally and globally
- **TO STRENGTHEN** the effectiveness of city governance

# Building on the ISO Foundation for Sustainable Development







ISO DIS 37101
ISO 18091

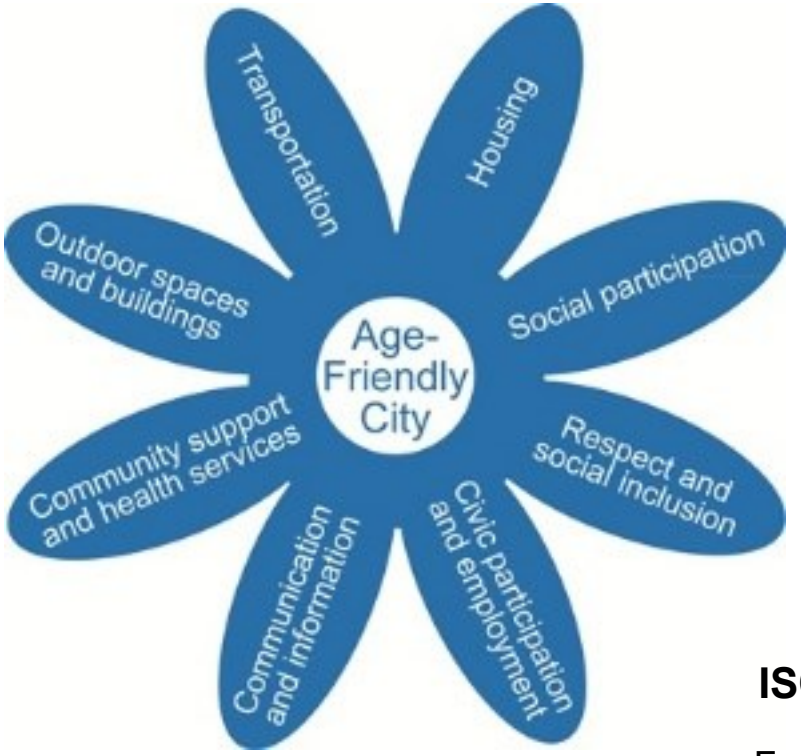
ISO 37120
ISO TR/AWI 37121
… more

ISO TR 37150
ISO TS 37151
… more

ISO 14000 Environmental management
ISO 50001 Energy management
ISO 27001 Information security management
ISO 22000 Food safety management
ISO 26000 Social responsibility
ISO 31000 Risk management
… more

**ISO/TC 204 - Intelligent transport systems**
**ISO/TC 22 - Road vehicles**
**ISO/TC 205 - Building environment design**
**ISO/TC 20 - Aircraft and space vehicles**
**ISO/TC 59 - Buildings and civil engineering works**
… more
Plus ISO Liaison Relations

# Example: Age Friendly Cities




**ISO 37120 - City Services and Quality of Life (17 Themes)**

| | |
|---|---|
| Economy | Safety |
| Education | Shelter |
| Energy | Solid Waste |
| Environment | Telecommunication and Innovation |
| Finance | Transportation |
| Fire and Emergency Response | Urban Planning |
| Governance | Wastewater |
| Health | Water and Sanitation |
| Recreation | |

**ISO 37120 – 46 Core/56 Support Indicators**

For Example **Health (core Indicators)**

- Average life expectancy
- Number of in-patient hospital beds per 100 000 population
- Number of physicians per 100 000 population
- Under age five mortality per 1 000 live births

# ISO 37121 - Indicators for Sustainable Development and Resilience in Cities

Review and Development of New Indicators on Sustainability and Resilience

- Smart Cities
- Emergency Preparedness
- Changes in rainfall and storm surges
- Protection of biodiversity
- Alternative energy
- Risk assessment
- Resilience Infrastructure
- Smart Grid
- Economic resilience
- Political resilience
- Walkability & Accessibility
- Transit & Mobility
- Water & Waste Management
- Green buildings

# Smart Cities "Working Definition"

**WORKING DEFINITION: A "SMART CITY" should be described as one that:**

- **dramatically increases the pace at which it improves its sustainability and resilience,**
- **by fundamentally improving how it engages society, how it applies collaborative leadership methods, how it works across disciplines and city systems, and how it uses data and integrated technologies,**
- **in order to provide better services and quality of life to those in and involved with the city (residents, businesses, visitors).**

Building on ISO Guide 82 on Sustainability and ISO Guide 73 on Resilience, a Smart City has …

…. **PURPOSE**: accelerated improvement in sustainability and resilience

….. **COMMON MEANING**: sustainability is the destination, smart is the accelerator

….. **CHARACTERISTICS**: People-centric (citizens, businesses, workers, residents, visitors, etc.); well led and governed; inclusive and open (to all people and to new ideas); transparent in communications and operations; secure in respect of personal information; supported by integrated services and infrastructure; and pro-active in learning and developing

# THANK YOU!