CONCERTO Premium
Concept and monitoring

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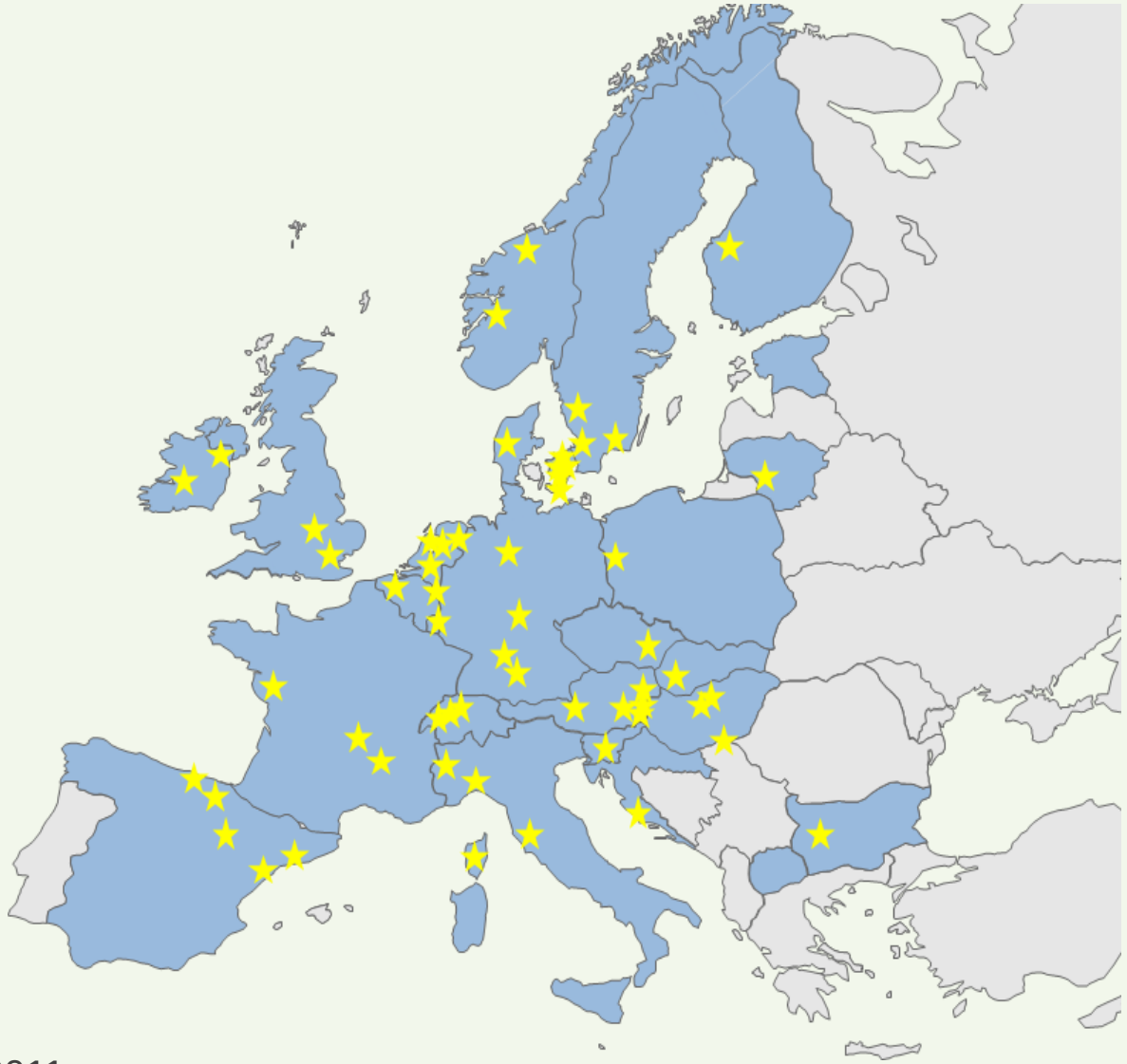
18 November 2011

CONCERTO is co-funded by the European Commission under the Research Framework Programme

The CONCERTO Initiative



CONCERTO community

58 communities

23 countries

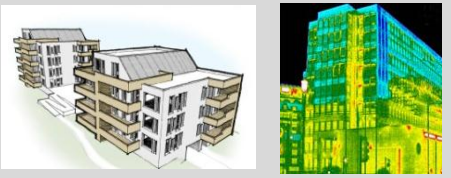
The CONCERTO Initiative

Energy supply

Energy demand

CONCERTO Community

Renewable Energy Sources



Energy Efficiency

The CONCERTO Premium overall concept

CONCERTO projects

EU/
Member States/
Local Authorities

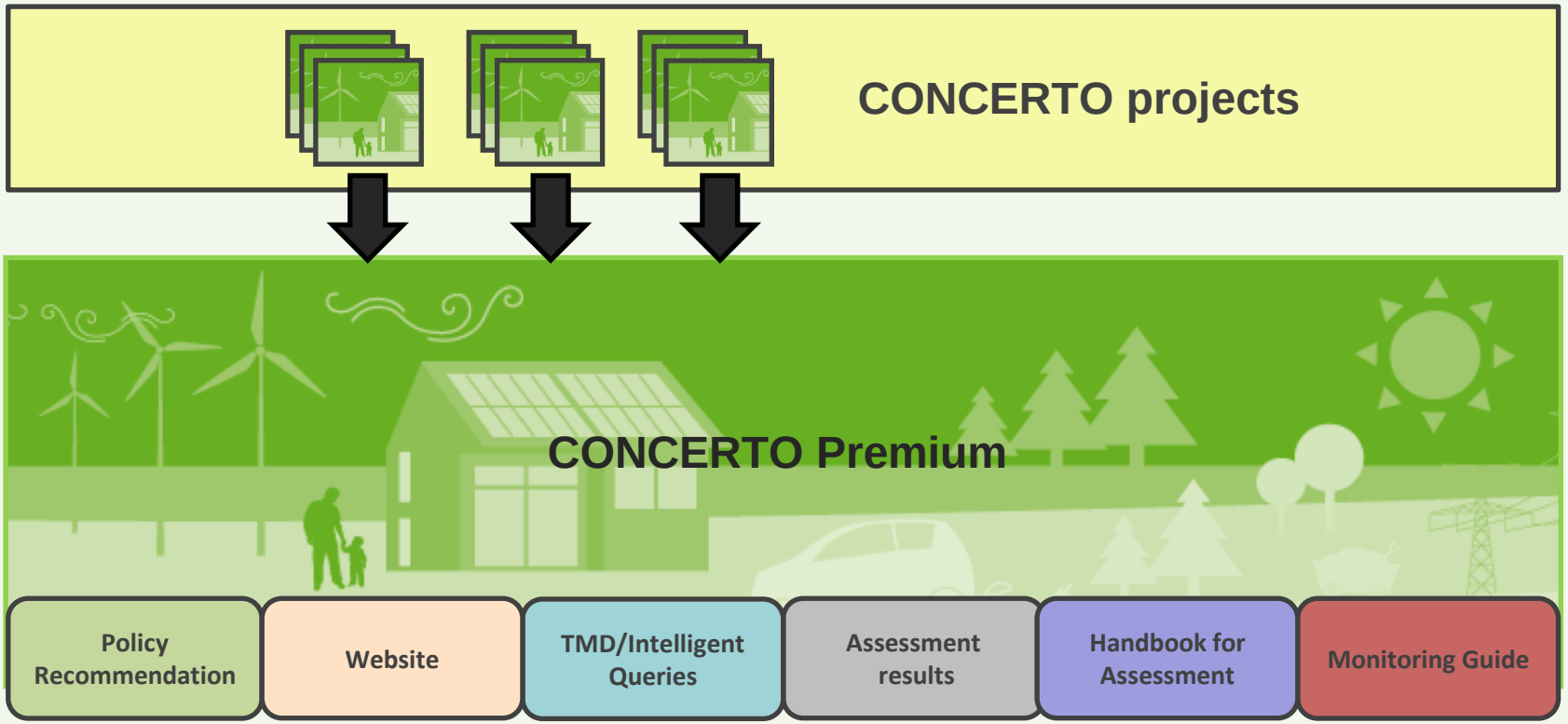
Scientists/
Students

Tenants/
Landlords

Other
Stakeholders

Future Projects

The CONCERTO Premium overall concept



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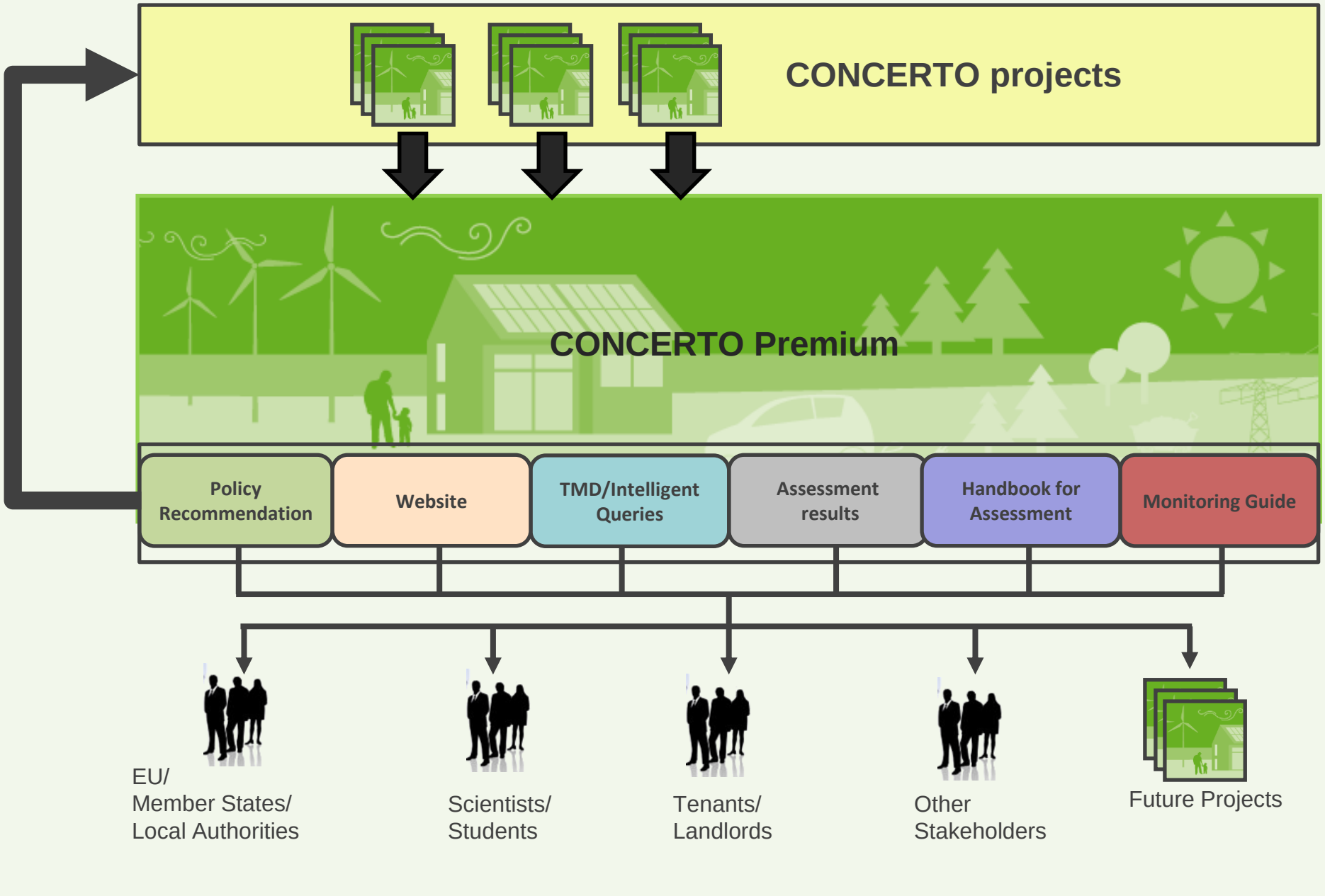
The CONCERTO Premium overall concept



The CONCERTO information flow

CONCERTO projects

General data from CONCERTO project sites

country data

Social Data

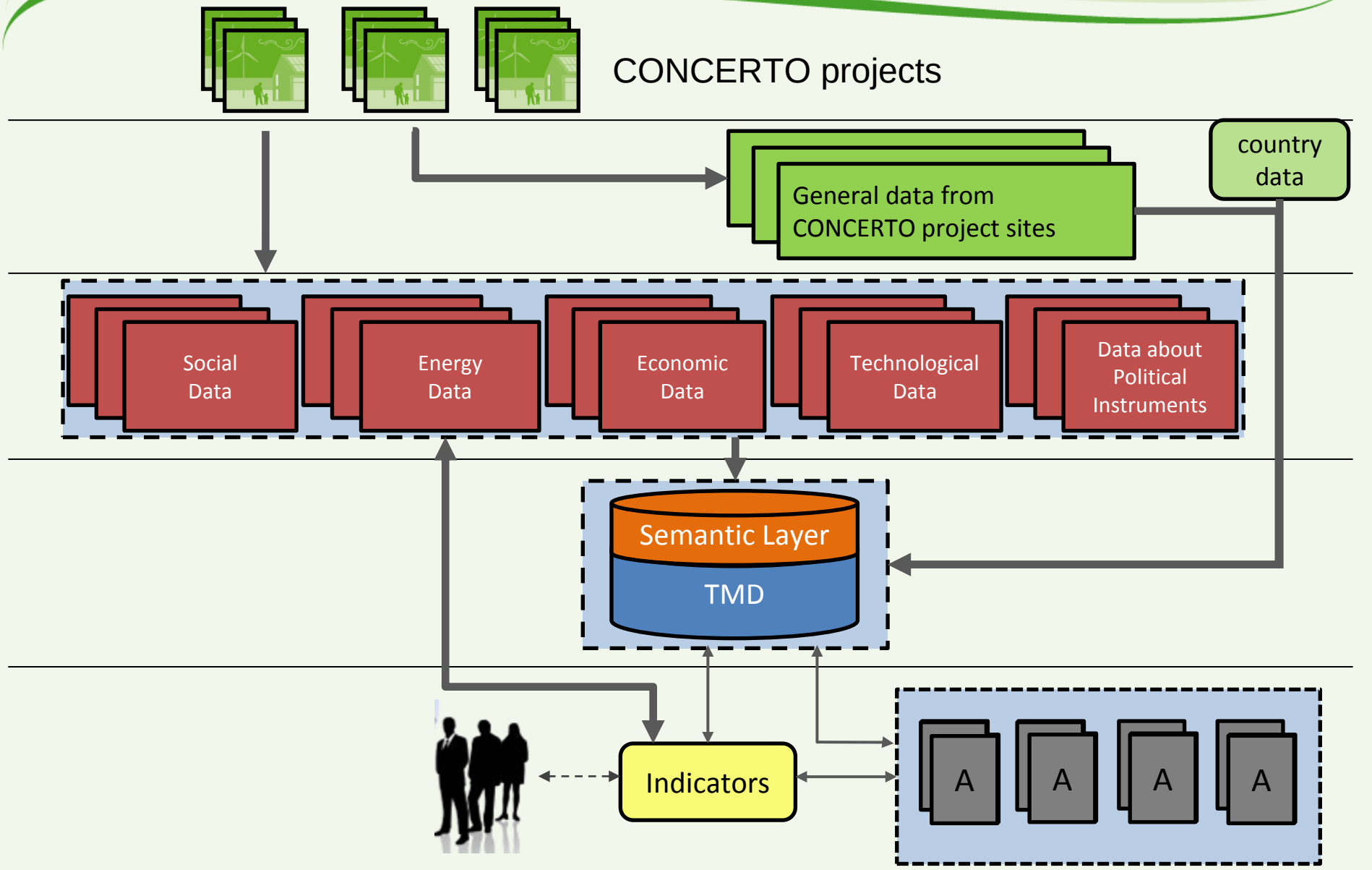
Energy Data

Economic Data

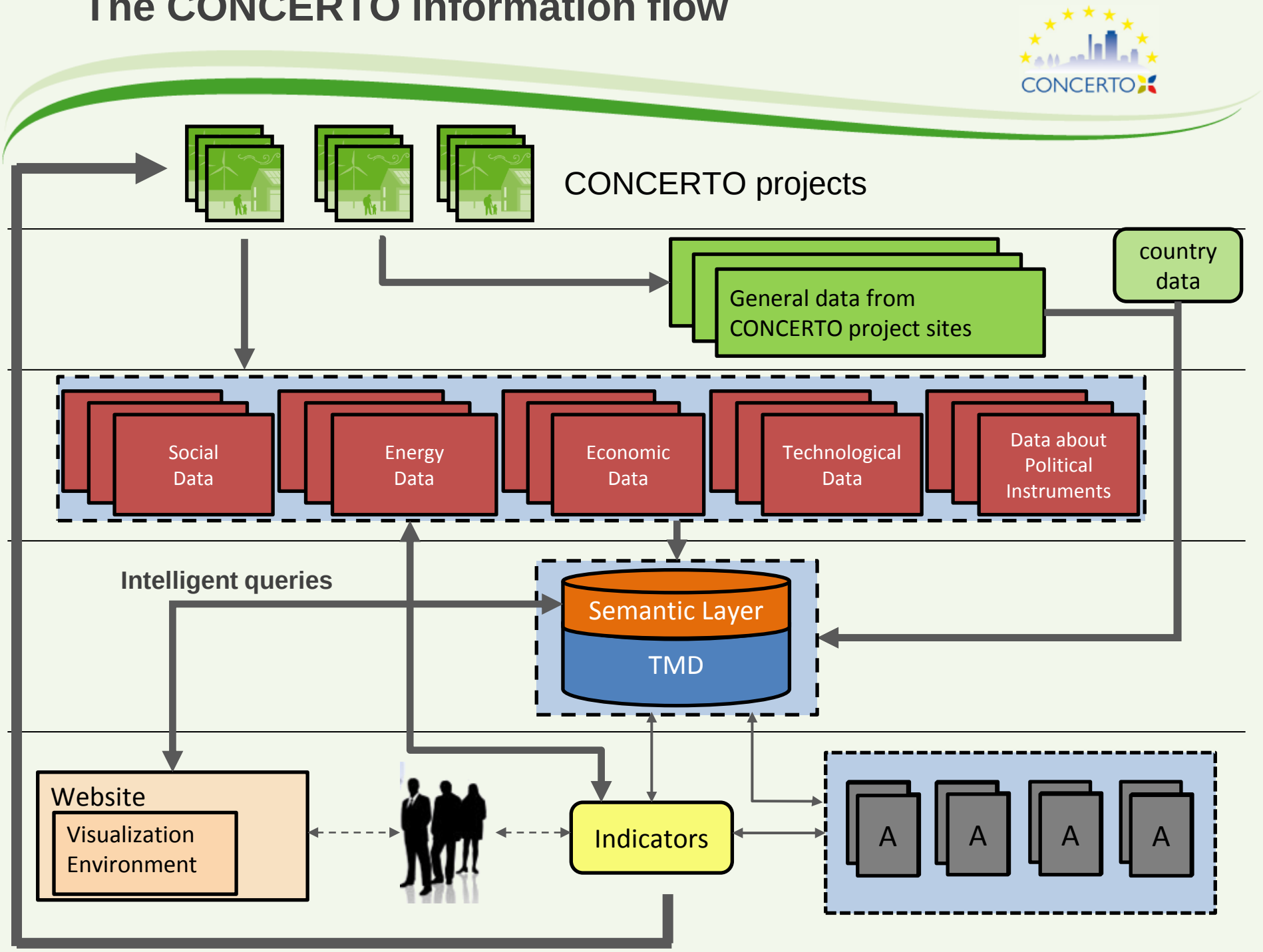
Technological Data

Data about Political Instruments

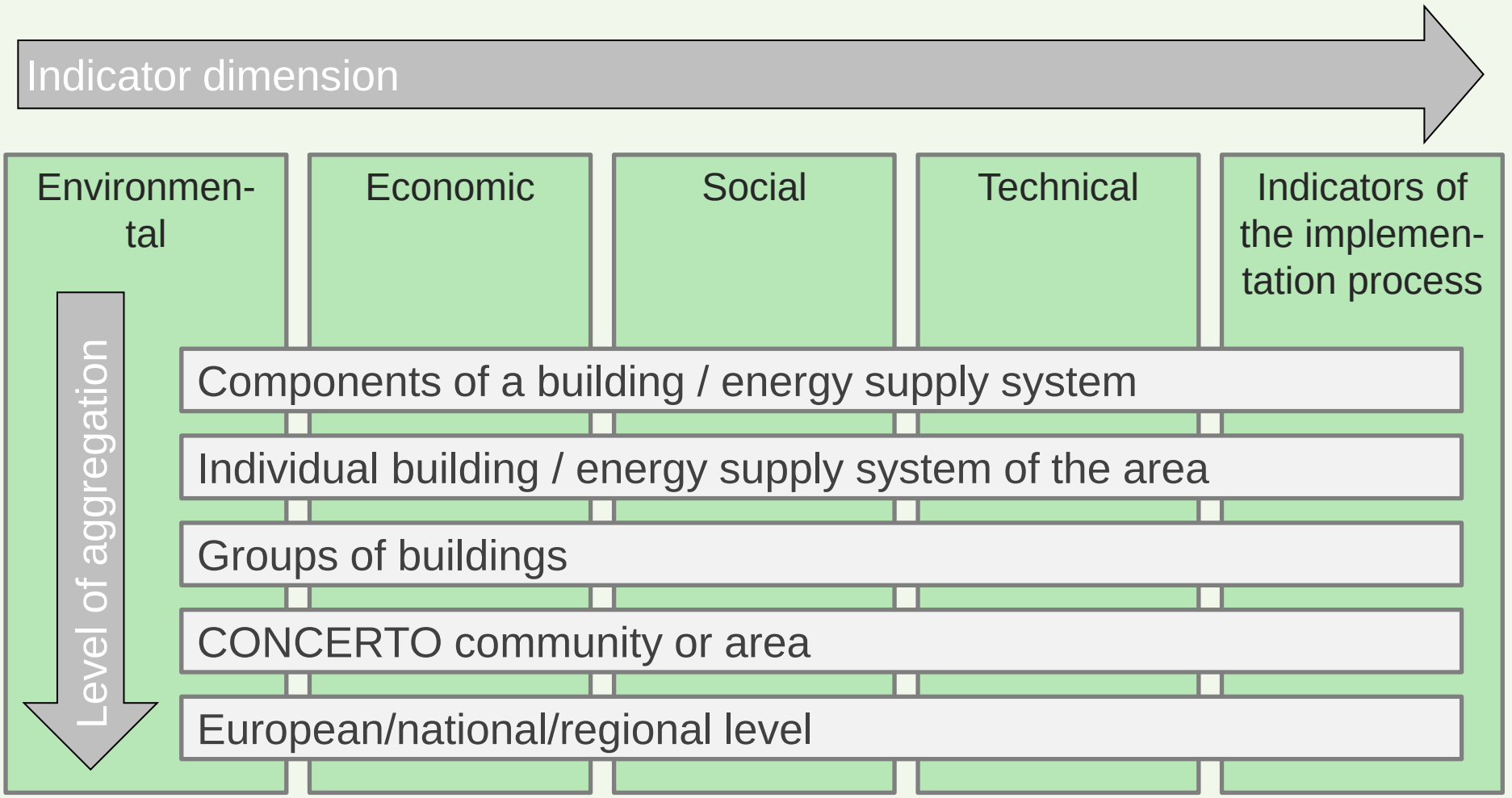
The CONCERTO information flow



The CONCERTO information flow



Indicator dimensions and aggregation levels



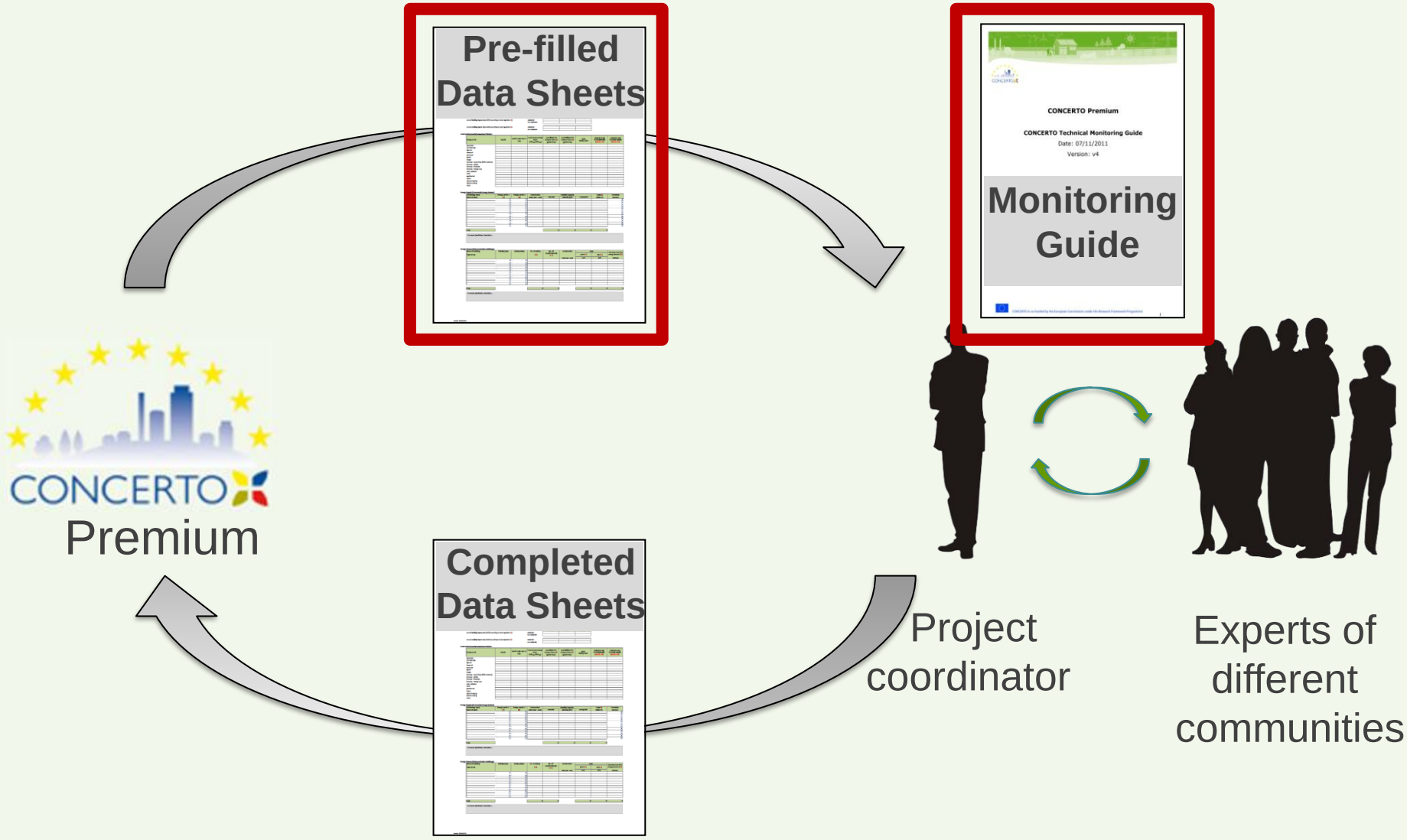
Indicator dimensions and aggregation levels

General Prioritization:

1. **Economic** (Payback period, CO_2 abatement costs)
2. **Environmental** (CO_2 emissions, primary energy demand)
3. Technical (Efficiency, Peak load)
4. Social (Satisfaction of inhabitants)
5. Implementation process (barriers)

- Interest is highly depending on target group

Data collection procedure



Monitoring guides

(A) Technical Monitoring Guide

(B) Economic Monitoring Guide

(C) Social Monitoring Guide

Data reqiurements:

- **Yearly** measured values of
    - energy generation and
    - energy consumption

  should be provided ideally for 2 years
- **Final energy** - Delivered energy to the enduser
- **Unprocessed**
- No weather correction

Data collection sheets

Will be filled in by CONCERTO Premium

Will be pre-filled by CONCERTO Premium

Level of aggregation	Corresponding CONCERTO data collection sheet
1 - Country	Data collection sheet for **national data**
2 - Community	Data collection sheet for **community data**
3 - CONCERTO area	Data collection sheet for **CONCERTO area**
	Data collection sheet for **social data**
4 - CONCERTO demonstration projects	Data collection sheet for **demonstration energy system data**
	Data collection sheet for **demonstration building data**

Data collection sheets

Reasons for the extensive data collection sheets:

- large parts of indicators should be determined by calculation
- economic indicators cause higher data requirements
- high heterogeneity of data available in different projects or countries

CONCERTO data collection sheets

- **offer** the **flexibility** to specify different components included in the economic and energy data - if available
- **improve** the **comparability** of the data of different projects & countries

Data collection sheets - Example

			[€]
Total investment of this building			
	Total investment contains parts of the following cost groups according to CEEC Code*		
	CONSTRUCTION COSTS	**Total investment contains:**	
	A - Preliminaries[A]	☐ YES	
	B - Substructure[B]	☐ YES	
	C - External superstructure/envelope[C]	☐ YES	
	D - Internal superstructure[D]	☐ YES	
	E - Internal finishings[E]	☐ YES	
	F - Services installations[F]	☐ YES	
	G - Special equipment[G]	☐ YES	
	H - Furniture and fittings[H]	☐ YES	
	I - Site and external works[I]	☐ YES	
	J - Construction contingencies[J]	☐ YES	
	DESIGN AND INCIDENTAL COSTS		
	L - Design Team Fees[L]	☐ YES	
	M - Ancillary costs and charges[M]	☐ YES	
	N - Project Budget contingencies[N]	☐ YES	
	LAND AND FINANCE		
	U - Land costs[U]	☐ YES	
	V - Finance[V]	☐ YES	
	X - Taxes on land[X]	☐ YES	

Data collection sheets

CONCERTO Premium aims at providing a convenient data collection procedure

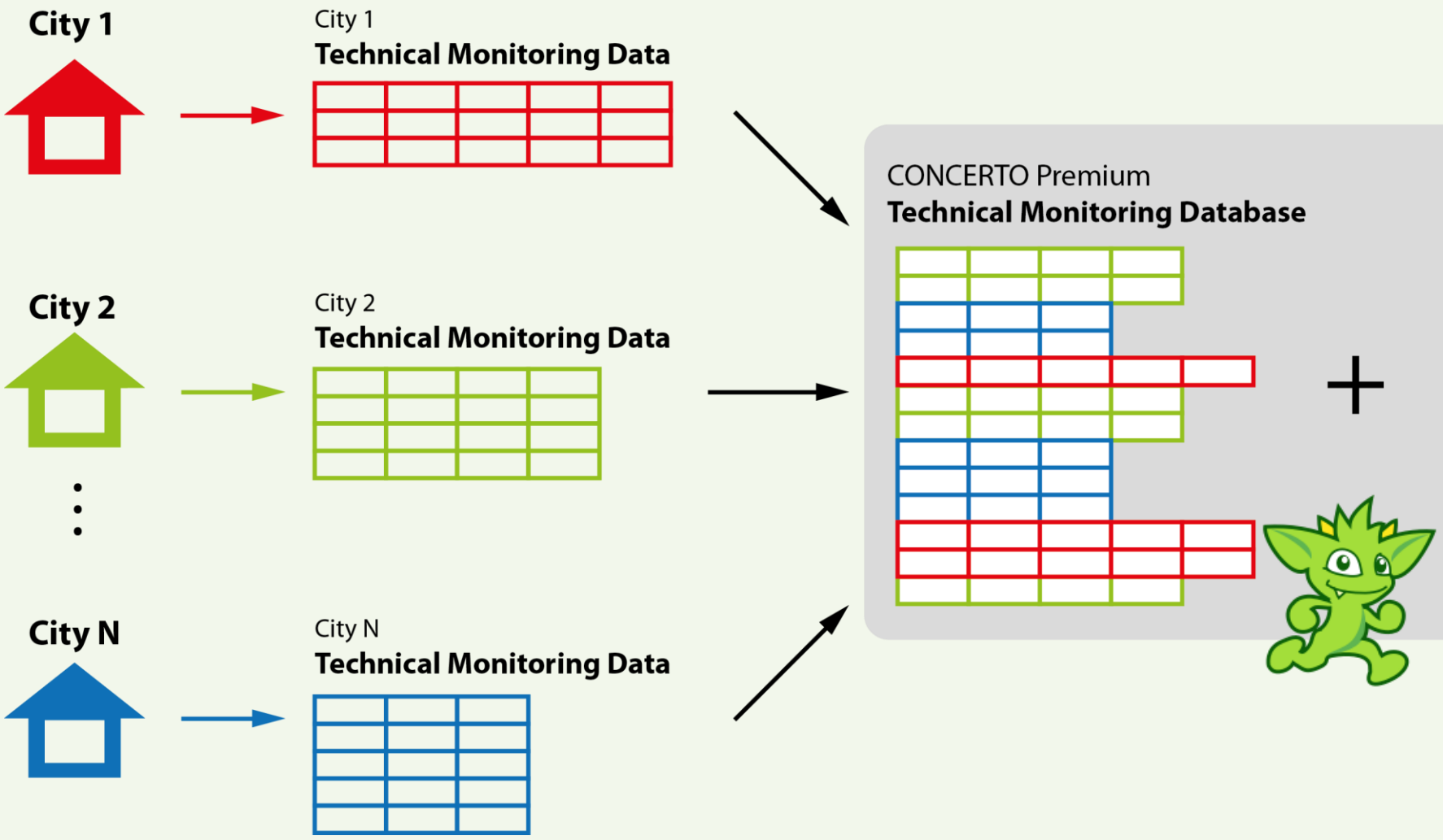
→**pre-filling** of the data collection sheets with data from the projects

The more data we have about the projects the less has to be filled in by the projects themselves.

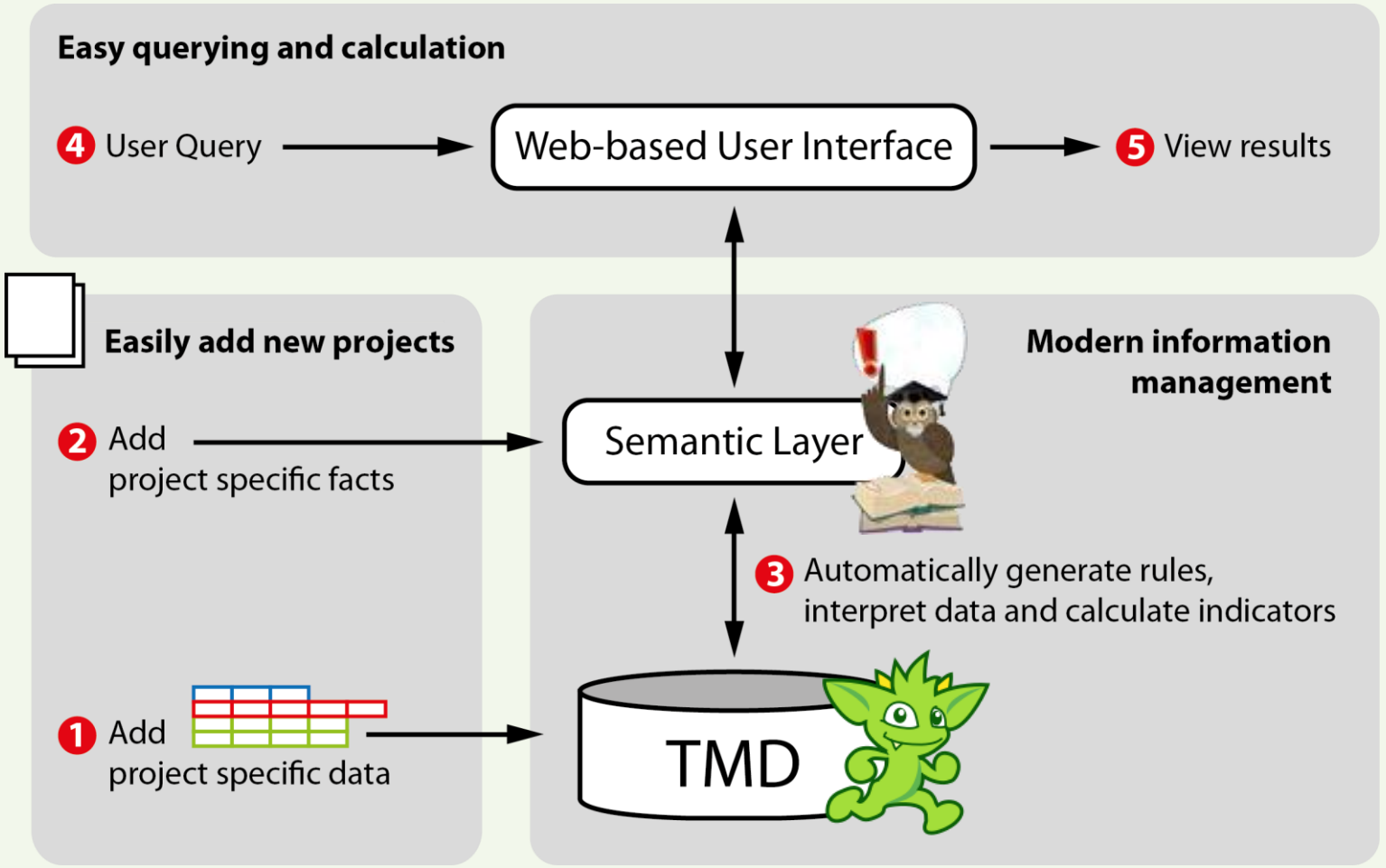
→use of **Excel format** for the data collection – well-known and fast

→**automatic import** in the CONCERTO Premium database

CONCERTO Premium TMD: Flexible data management



TMD and semantic layer summary



Example 1: Energy consumption for space heating

Goal: Comparing the space heating demand of building 1 and 2

- **Building 1:**
  - Energy consumption for space heating: 120 kWh/(m² a)
  - Energy consumption for hot water: 10 kWh/(m² a)
  - Floor area: 100 m²
  - Occupants: 4
- **Building 2:**
  - Energy consumption for space heating **and** domestic hot water: 150 kWh/(m² a)
  - Floor area: 110 m²
  - Occupants: 2

Example 1: Energy consumption for space heating

Building 1

Building 1	120 kWh/(m²a)	10 kWh/(m²a)	100 m²	4
Building 2	…	…	…	…
Building 3	…	…	…	…

CONCERTO Premium
Technical Monitoring Database

Building 1	…	…	…	
Building 1	120 kWh/(m²a)	10 kWh/(m²a)	100 m²	4
Building 2	…	…	…	…
Building 2	150 kWh/(m²a)	110 m²	2	
Building 3	…	…	…	…

Building 2

Building 1	…	…	…
Building 2	150 kWh/(m²a)	110 m²	2

Example 1: Energy consumption for space heating

Facts & rules definition

General Facts & Rules

A: Energy consumption for space heating and domestic hot water = Energy consumption for space heating + Energy consumption for domestic hot water

B: Approximated energy consumption for hot water = #Occupants * energy consumption for hot water/ occupant of a building

C: Approximated energy consumption for hot water = floor area * energy consumption for hot water/ floor area of a comparable building (type 1)

D: Buildings are comparable (type 1) if the difference of the building floor areas is less than 20%

City 1 Specific Facts & Rules

City 2 Specific Facts & Rules

Example 1: Energy consumption for space heating

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Building	Without rules	A	A, B	A, C	A,C,D	A,B,C,D
Building 1	120	120	120	120	120	120
Building 2	?	<150 AND < 150	145* AND < 150	<150 AND < 150	140* AND < 150	140*-145* AND < 150

* estimated

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www.concerto.eu

THANK YOU FOR YOUR ATTENTION!

CONCERTO is co-funded by the European Commission under the Research Framework Programme