SmartMuni

A DIGITAL PLATFORM FOR ENVIRONMENTAL DATA ANALYSIS

Federico Righini | SmartMuni

28.08.2024

ABOUT US

Federico Righini is Managing Director at Quanta S.r.l. and product manager of the SmartMuni Platform.

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SmartMuni is an environmental monitoring service developed by Quanta for public administrations and local authorities.

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Quanta S.r.l. is a company specialized in development and production of industrial electronics and environmental monitoring solutions.

www.quanta.it

AGENDA

- INTRODUCTION

- Atmospheric Pullution and Ecological Transition
- The Role of the Municipality

- ENVIRONMENTAL DATA IN THE EUROPEAN UNION

- Official Measurements
- CAMS - Copernicus Atmosphere Monitoring Service
- Indicative Measurements
- Emission Inventories

- ACCESSING THE DATA

- An Overview of Data Sources

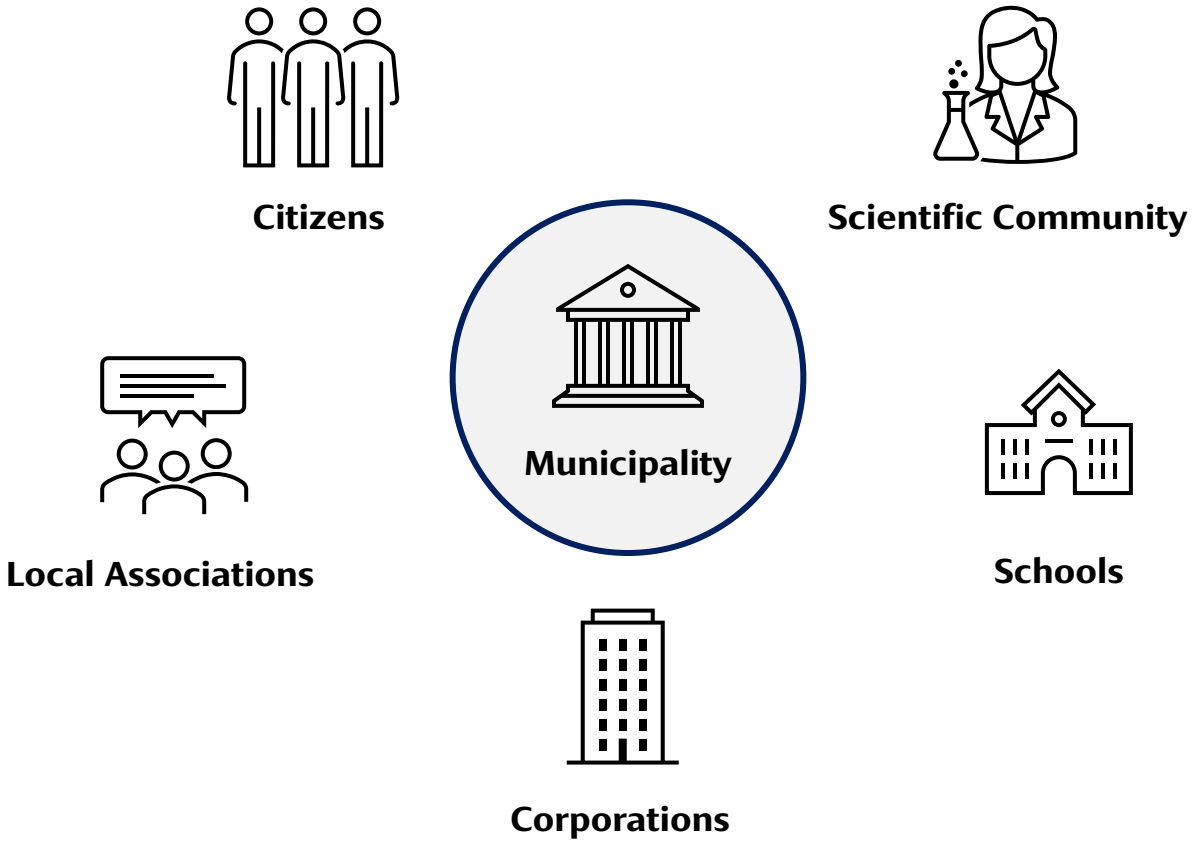
- SMARTMUNI DIGITAL PLATFORM

- Platform Overview
- Opportunities for Local Administrations

Atmospheric Pollution and Ecological Transition

Despite the enormous efforts made by many Countries, reducing air pollution remains one of the most significant challenges of this century due to its impact on human health, the environment, and the economy as a whole. Although in some parts of the West it is no longer as evident a problem as it was a few decades ago, the negative effects of pollution on the ecosystem and the most vulnerable populations are still very much visible.

The Municipality is at the center of the community...



...and is responsible for several activities

The Smart City Paradigm

DATA GENERATION

UNDERSTANDING AND SHARING THE DATA

PLANNING TARGETED POLICIES

ATMOSPHERIC POLLUTION

WHAT ARE THE AVAILABLE DATA ?

Data Sources

Official Measurements

Official Monitoring Network, managed by the national Environmental Protection Agencies

CAMS

Copernicus Atmosphere Monitoring Service: The European Earth Observation Program

Indicative Measurements

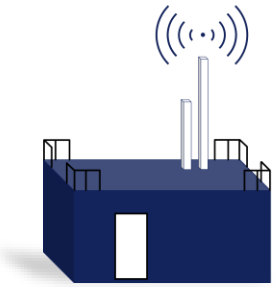
Hyperlocal Monitoring Networks

Emission Inventory

A registry produced by regional EPAs that provides estimates of the emissions from various pollution sources in a geographical area

Official Measurements

Official Measurements are produced the Environmental Protection Agencies using both fixed and mobile stations equipped with **certified instruments**. They have **legal value** and constitute the reference benchmark in terms of accuracy.



Due to the **high cost** associated with producing official measurements, it is challenging to achieve extensive coverage across the entire national territory at high resolution. As a result, while official measurements provide highly accurate and legally significant data, their **limited geographical coverage** can sometimes constrain the overall understanding of air quality across broader regions

arpae
agenzia prevenzione ambiente energia emilia-romagna

ARPAT

PIEMONTE
Arpa
Agenzia Regionale per la Protezione Ambientale

CAMS – Copernicus Atmopshere Monitoring Service

CAMS is the European Earth observation program, providing a wide range of environmental data collected from a series of satellites and ground stations located across the globe.

Copernicus provides a global and continuous view of the Earth and its environmental systems, including those related to air quality and climate

CAMS data provide information on the concentration of atmospheric pollutants with hourly frequency and a spatial resolution of 10 km x 10 km, processed with the contribution of:

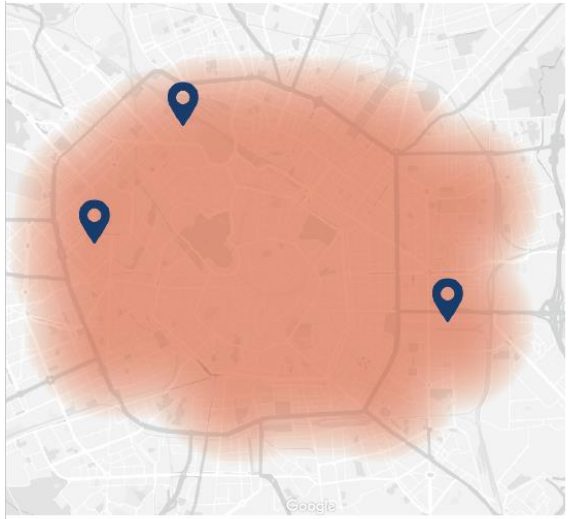
- **Satellite images** captured by ESA's (European Space Agency) Sentinel-5 fleet.
- **Ground-based measurements** carried out by the monitoring networks of Environmental Protection Agencies, such as ARPA in Italy.
- **Integrated modeling systems**, such as MINNI (Integrated Model for the Evaluation of Air Quality in Italy), overseen by the Italian Ministry of Environment and Energy Security

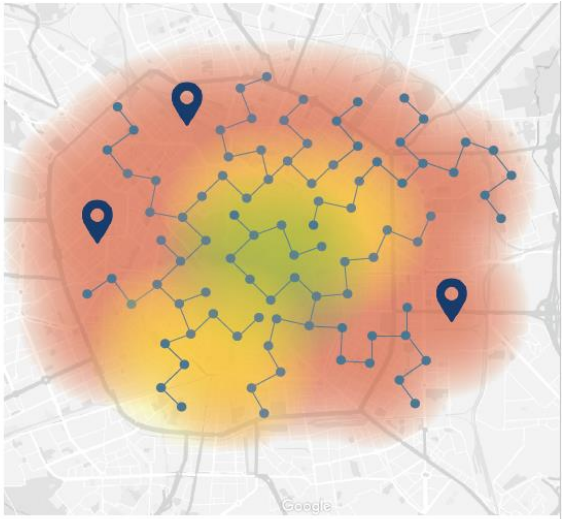
Misurazioni Indicative e Monitoraggio Iperlocale

As provided by European Directive 2008/50/EC, **indicative measurements** are air quality observations 'based on quality objectives that are less stringent than those required for fixed site (official) measurements',

Indicative Measurements are produced with low-cost air quality monitoring stations and are utilized to supplement spatial and/or temporal discontinuities of regulatory networks. Their cost effectiveness allows to establish dense networks and understand local pollution dynamics.

Indicative Measurements don't have legal value, but can be used by administrators to monitor local hotspots and design policies.



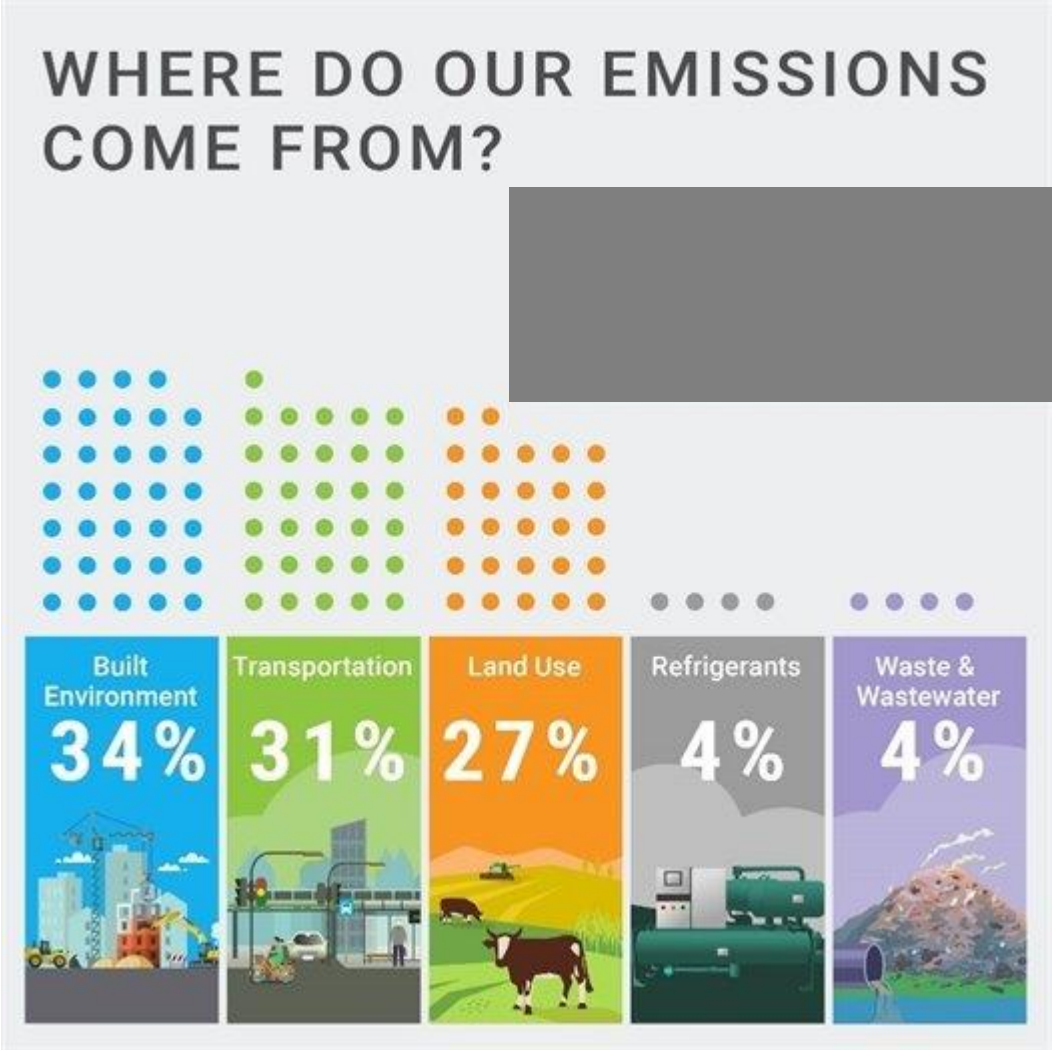


Emission Inventory

The emissions inventory is a report that quantifies the level of atmospheric pollutants released into the air from various sources. It is a systematic framework that identifies, quantifies, and records the emissions of pollutants from different human activities.

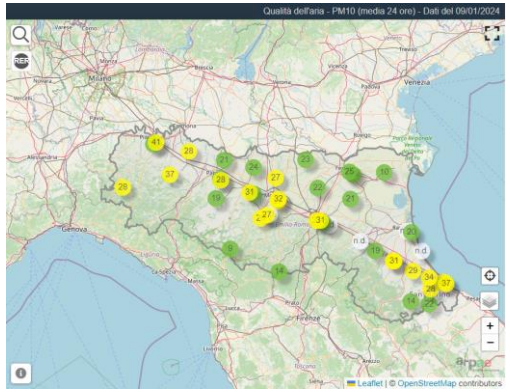
The main objective of an emissions inventory is to provide an overview of pollution sources and their magnitude, thereby facilitating the design and implementation of policies aimed at improving air quality and reducing environmental impacts.

Member States of the European Union are required to adhere to a set of obligations in terms of data production for emission inventories. The emission inventories and related reports must be made publicly accessible. This allows for greater transparency and enables stakeholders, including the public, to access information on national emission levels and sources.



HOW CAN DATA BE ACCESSED ?

Data Access: Official Measurements

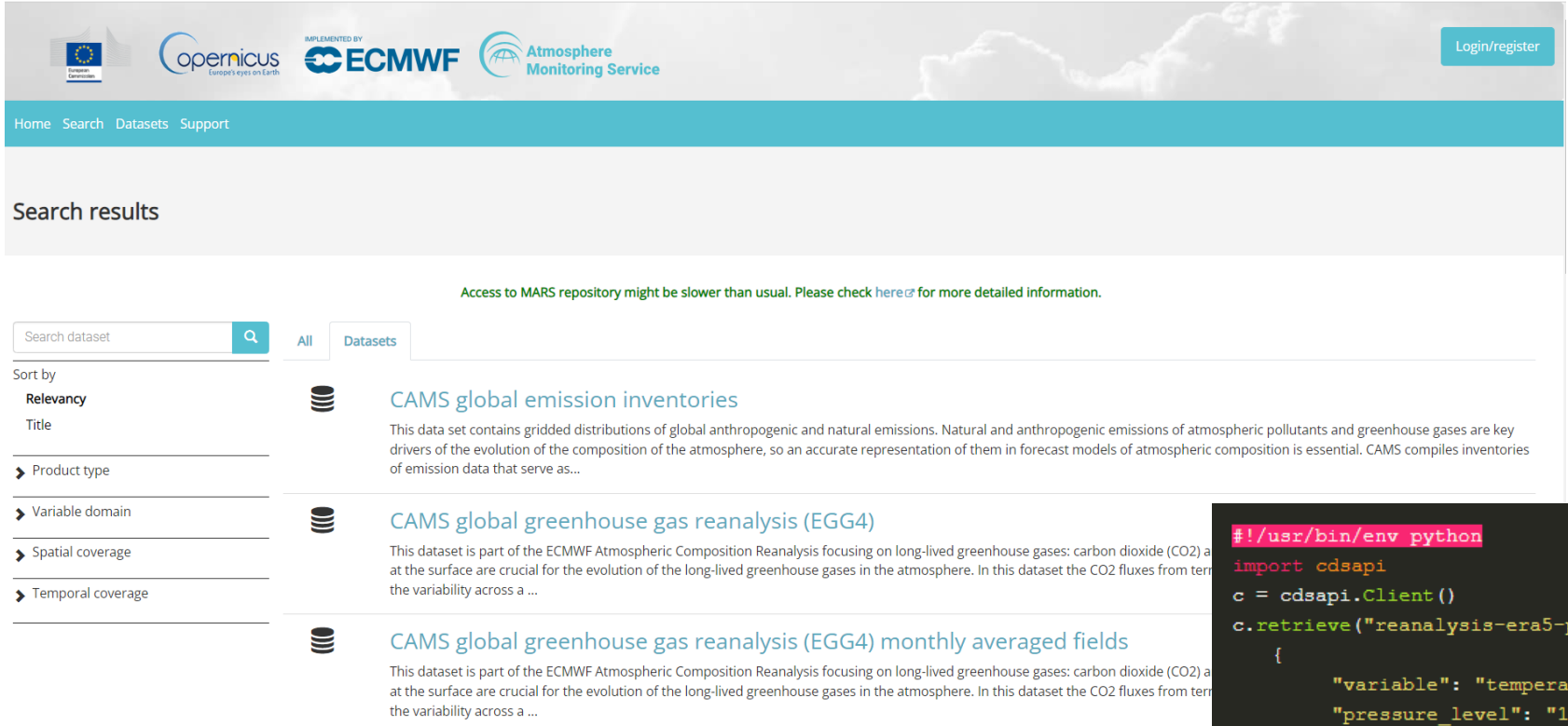


Near-real-time Air Quality Maps

Annual Regional Reports

Open Data Catalogues

Data Access: CAMS (Copernicus)




```
#!/usr/bin/env python
import cdsapi
c = cdsapi.Client()
c.retrieve("reanalysis-era5-pressure-levels",
    {
        "variable": "temperature",
        "pressure_level": "1000",
        "product_type": "reanalysis",
        "year": "2008",
        "month": "01",
        "day": "01",
        "time": "12:00",
        "format": "grib"
    "download.grib")
```

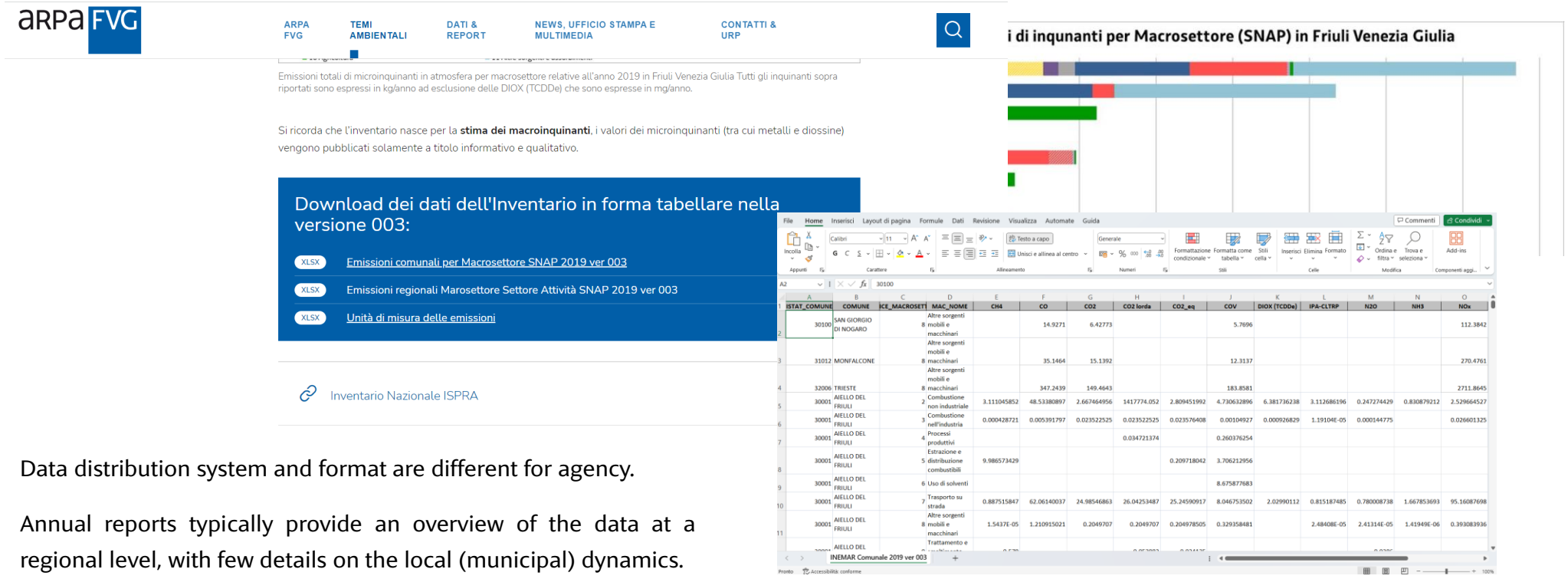
CAMS data can be downloaded for free from the CDS (Copernicus Data Store) portal. The process requires programming skills, both for the download operation (Python) and for the subsequent stages of data processing and visualization.

Data Access: Local Networks

Data access for local networks is often fragmented and varies depending on the platform used by the provider. Each local network may utilize different data management systems, formats, and access protocols, making it challenging to obtain a comprehensive and unified dataset. Users must often navigate through multiple platforms, each with its own specific requirements and interfaces, to access the desired data. This fragmentation can lead to inconsistencies in data availability, accessibility, and usability, complicating efforts to integrate and analyze information across different local networks.

Data Access: Emission Inventory

Emission inventory data are typically made available by the regional Environmental Protection Agencies on their website.



Data distribution system and format are different for agency.

Annual reports typically provide an overview of the data at a regional level, with few details on the local (municipal) dynamics.

THERE ARE SEVERAL ENVIRONMENTAL OPEN DATASETS AVAILABLE IN EU MEMBER STATES

USING THE APPROPRIATE DATASET FOR THE SPECIFIC GOAL IS KEY

ACCESSING AND INTERPRATING DATA IS EXTREMELY COMPLICATED AND TIME-CONSUMING

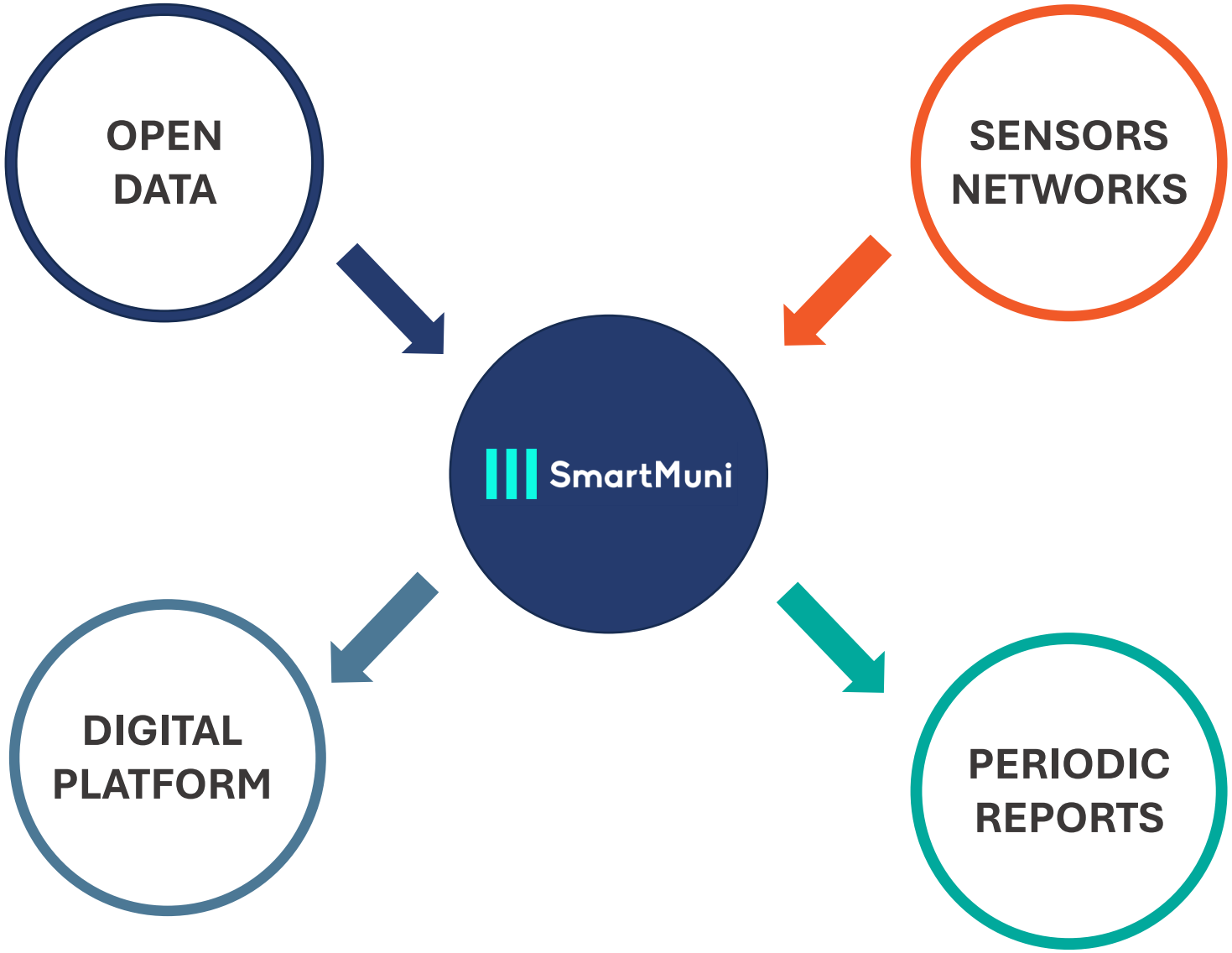
Our Solution

SmartMuni

A DIGITAL PLATFORM TO

UNDERSTAND, SHARE AND ANALYZE

LOCAL ENVIRONMENTAL DATA


OPEN DATA
SENSORS NETWORKS
SmartMuni
DIGITAL PLATFORM
PERIODIC REPORTS

SmartMuni

1 DIGITAL PLATFORM - 3 FUNCTIONS

1. A DIGITAL SERVICE FOR CITIZENS AND LOCAL COMPANIES
2. A TOOL TO SUPPORT THE LOCAL ADMINISTRATION IN POLICY PLANNING
3. A TOOL TO SUPPORT THE LOCAL ADMINISTRATION IN COMMUNICATION ACTIVITIES

1

A DIGITAL SERVICE FOR CITIZENS AND LOCAL COMPANIES

i. Provide citizens with timely information about the local air quality, describing the contribution of all pollution sources

ii. Provide businesses with detailed information on air quality and meteorological variables, useful for internal planning or promoting activities

2

A TOOL TO SUPPORT THE LOCAL ADMINISTRATION IN POLICY PLANNING

i Local Environmental Policies

ii Hotspots Monitoring

ii Local Mobility Plans

ii Urban Development Plans

3

A TOOL TO SUPPORT THE LOCAL ADMINISTRATION IN COMMUNICATION ACTIVITIES

i. Policy Implementation

ii. Environmental Awaress Campaigns

iii. Community Engagement

SmartMuni

QUANTA CUSTOM ELECTRONICS

AGENDA

- [x] WHO WE ARE
  RE2N at a glance
- [ ] DIGITAL SUSTAINABILITY
  An intro

WHO WE ARE

RE2N

In RE2N, every day we imagine new ways to "retune" companies through digital innovation and sustainability. Our web apps enable companies, non-profits, institutions, and territories to create and develop digital spaces to generate positive economic, social, and environmental impacts.

Soul

A team of experts in business modeling, CSR, and digital transformation

Strenght

Leading-edge solutions for the technological development of the platform

Brain

Academic collaborations for the development of methodologies and algorithms for evaluating and ranking the impacts of activities

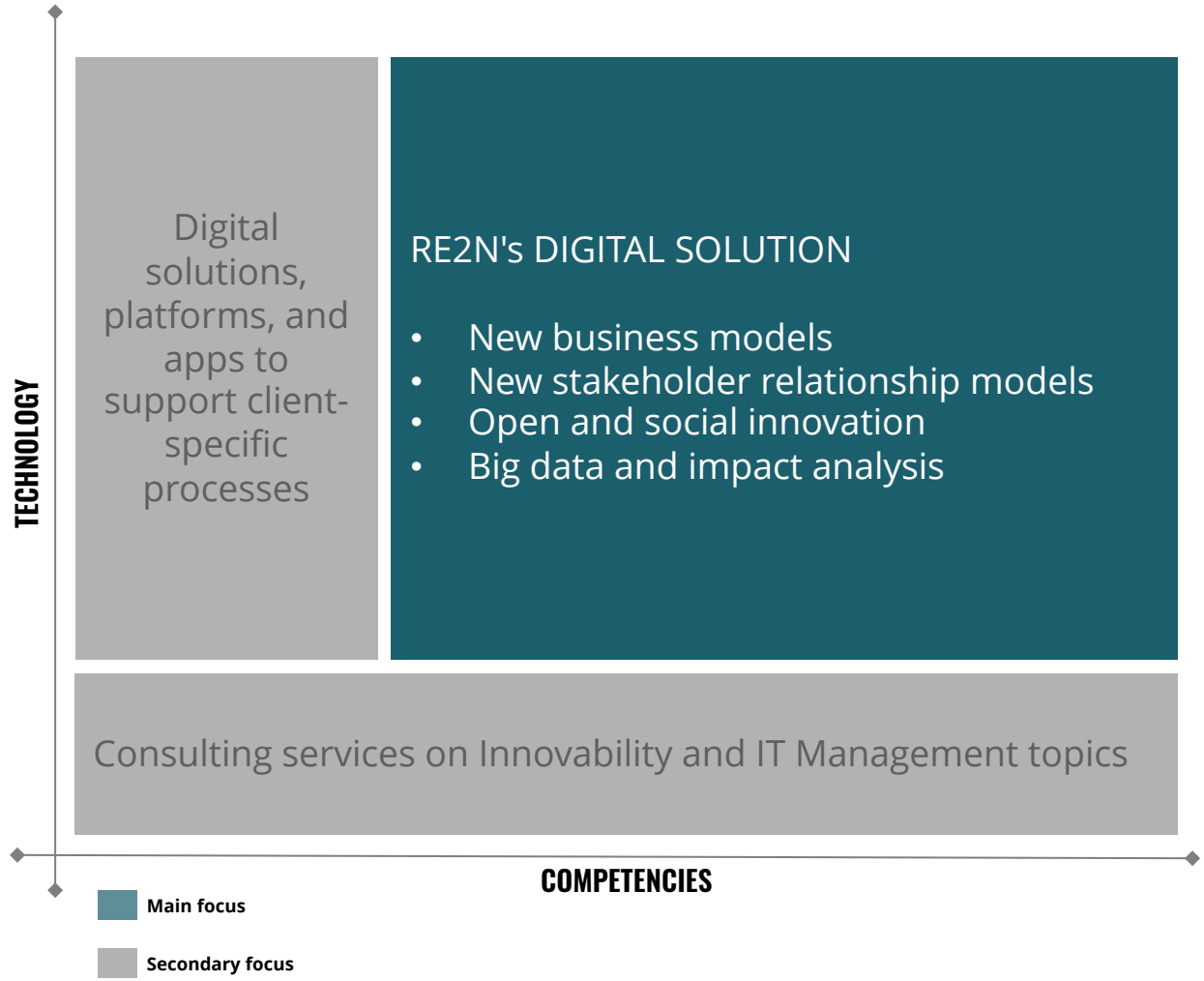
Passion

Ideas, actions, and values that contaminate and transform businesses into sustainable businesses

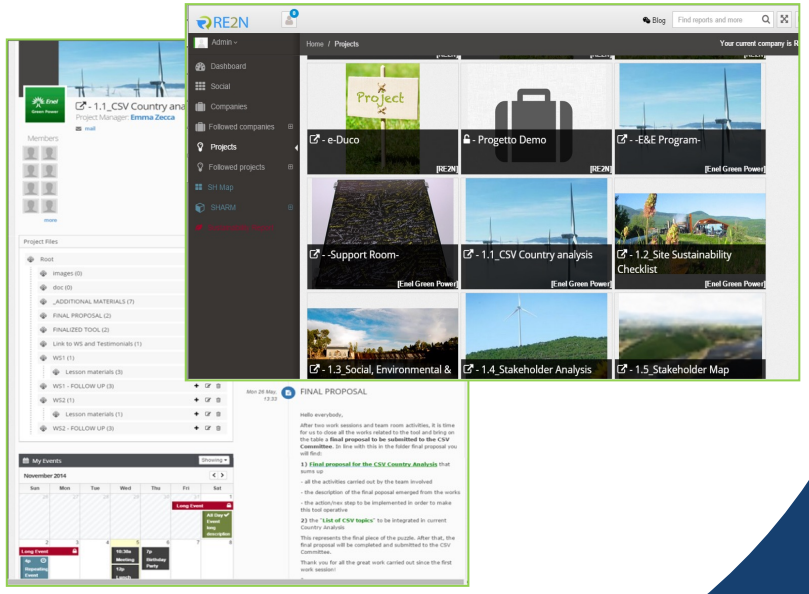
BUSINESS MODEL

innovability digital solution

- A platform and **apps focused on "innovability"** developed based on strong domain expertise recognized by clients
- Solutions designed for **immediate scalability** both in multinational contexts and for SMEs
- **Strong innovation capacity** that anticipates needs and effectively translates them into software products



RE2N PLATFORM



Business Social Network

A business social network for sharing activities and information between companies and stakeholders

Collaborative Platform

A collaborative platform to engage and contribute to stakeholders' initiatives and to co-design interventions

WEB Apps

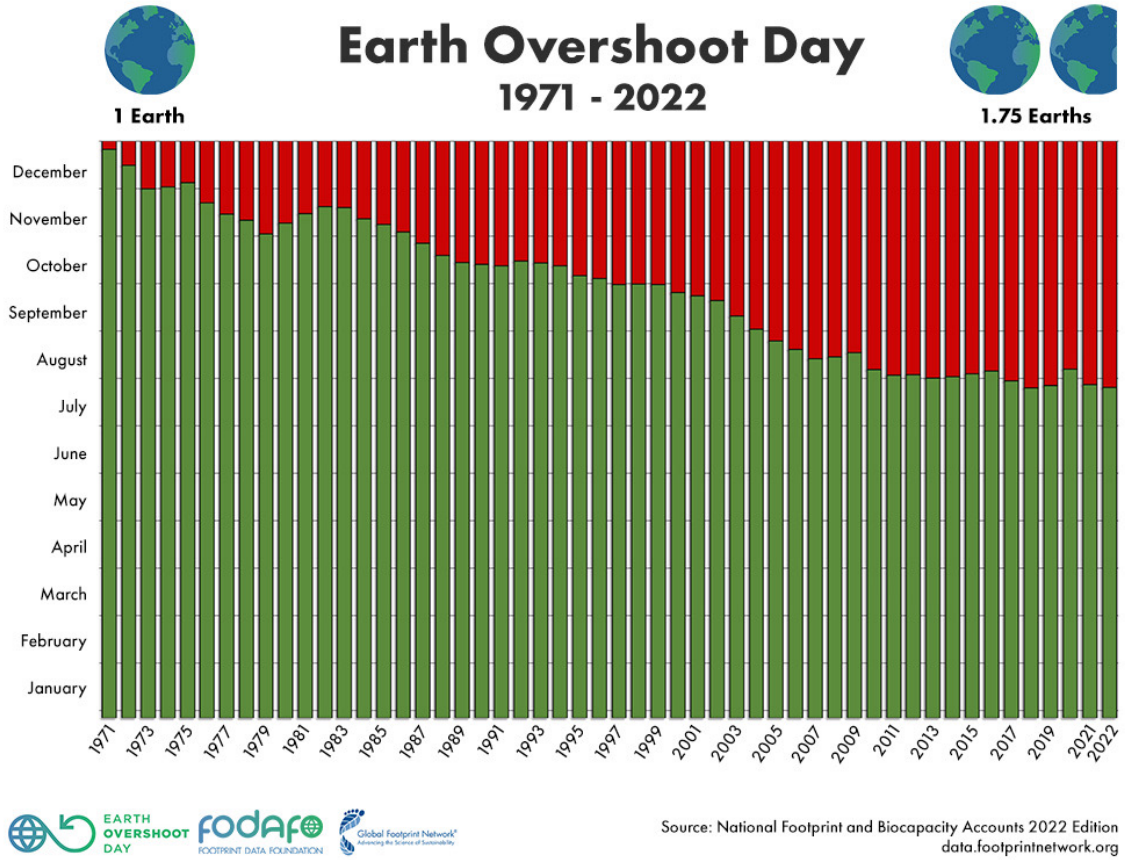
An integrated ecosystem of tools and apps for developing CSR projects, shared value, social, and open innovation

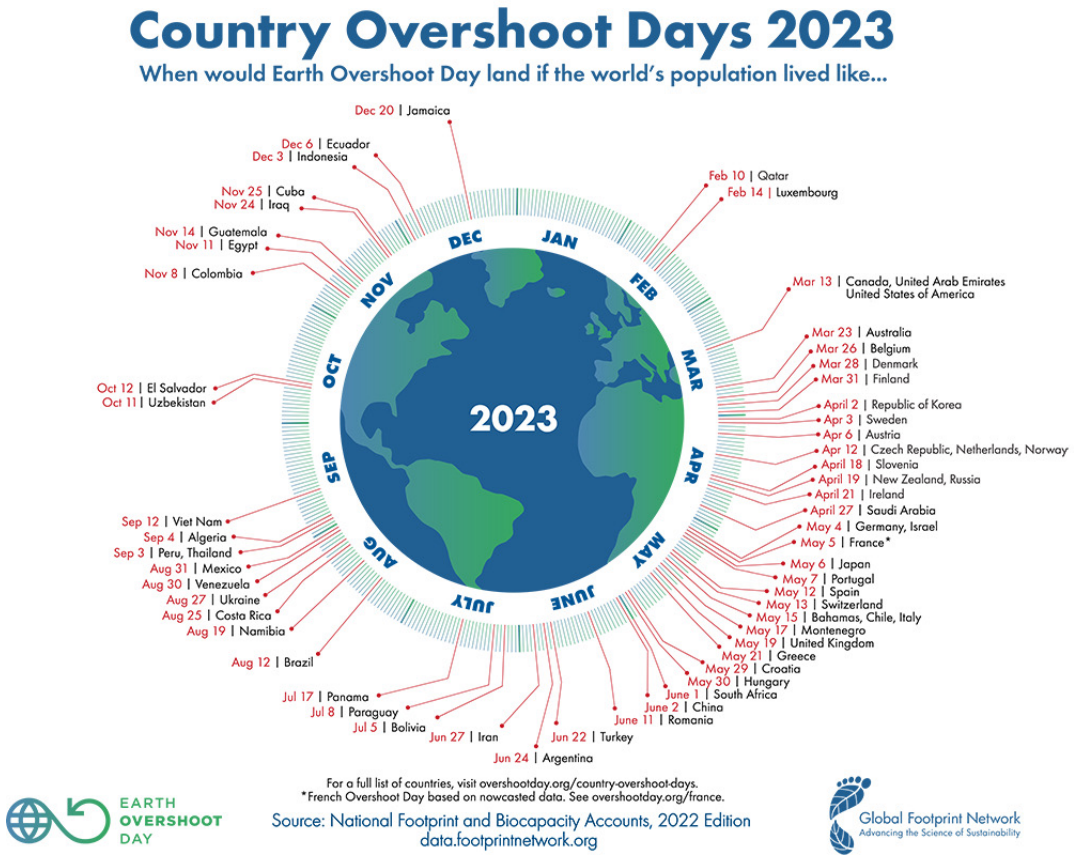
AGENDA

RE2N

- [ ] WHO WE ARE
  RE2N at a glance
- [x] DIGITAL SUSTAINABILITY
  An intro

We live in a world (and in a way) no longer sustainable

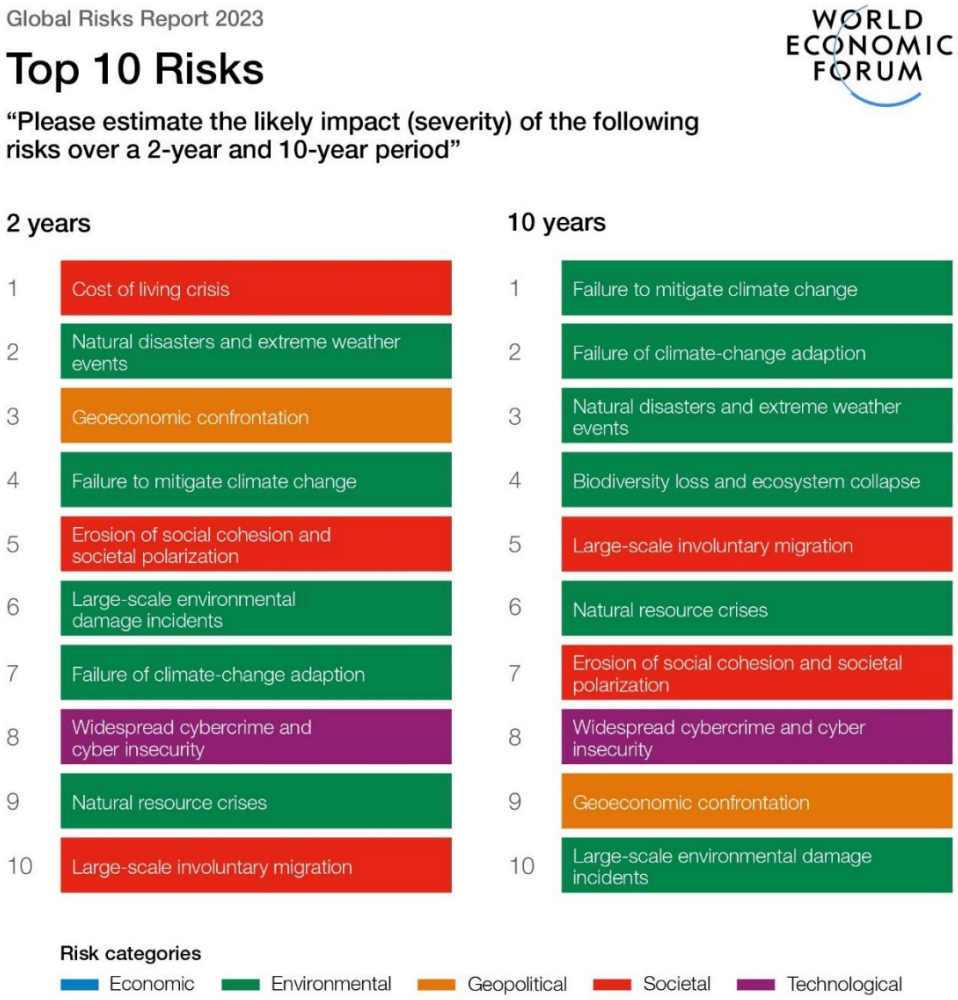




https://www.overshootday.org/

ITALY: may 12th

We live in a world (and in a way) no longer sustainable



NON-FINANCIAL RISKS

World Economic Forum Report 2023:

6 out of 10 major global risks are related to environmental impacts:

- Failure in climate change mitigation;
- Failure in climate change adaptation;
- Natural disasters;
- Biodiversity loss;
- Resource crises;
- Human-made environmental disasters;

** Fonte: The Global Risk Report 2020 (the World Economic Forum, Gennaio 2023)*

Sustainability is the new black

MARKET AND CONSUMER CHOICES

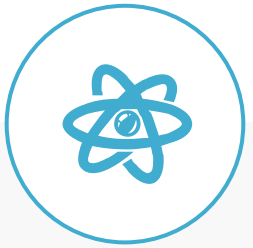
Consumers, especially the younger generations, are **increasingly aware**

INVESTOR APPEAL

Investors are increasingly sensitive to **sustainability issues and seek companies with good environmental, social, and governance performances**

INSTITUTIONS AND SOCIETY

Sustainability is now on the **agenda of all policymakers and international institutions**



COMPETITION

Sustainability is increasingly the driver **to differentiate from competitors** and to **develop innovative products and services and new** business models

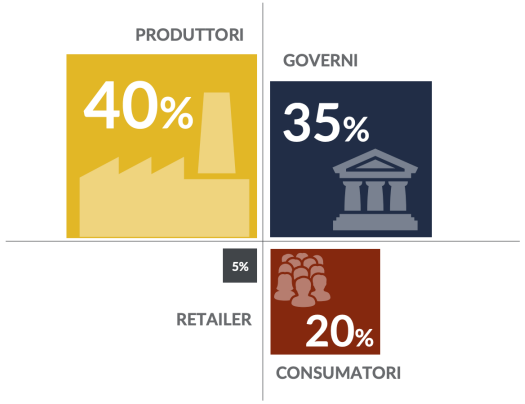
Sustainability is the new black

The conditions have now been created for Sustainability to take on the role of an "existential driver" that characterizes and influences lifestyles and directly impacts purchasing and consumption choices. GFK identifies three main attitudes in this regard:

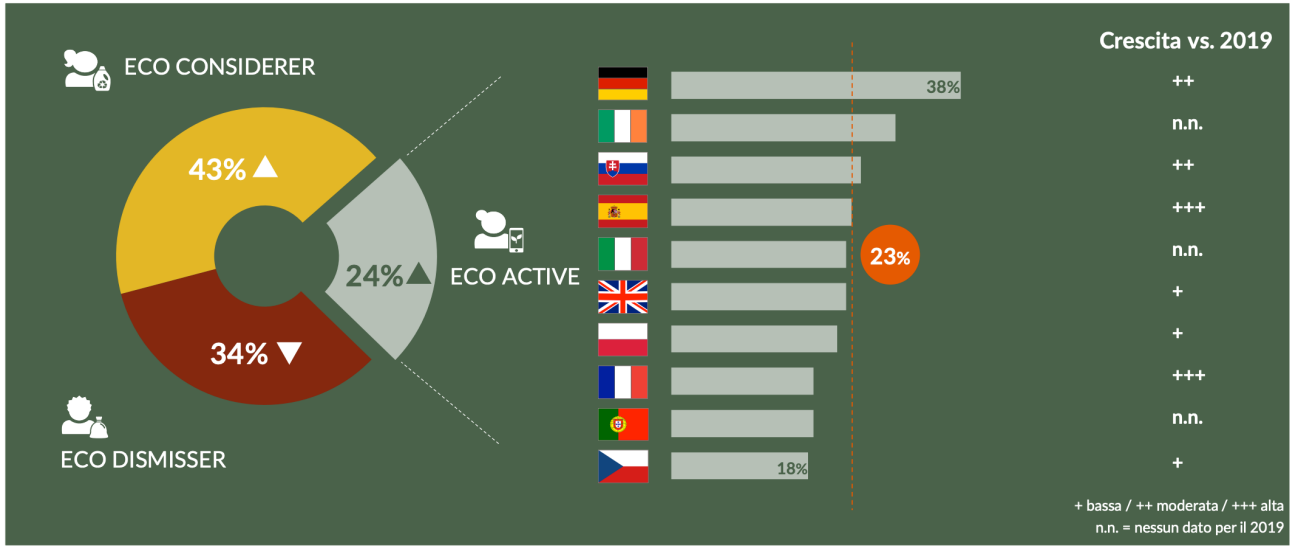
- **Eco Active**: Responsible consumers and citizens strongly committed to taking significant steps to reduce environmental impact.
- **Eco Considerers**: People increasingly concerned and attentive to environmental issues but tend to consider that action is primarily the responsibility of governments and companies.
- **Eco Inattentive or Uninterested**: Individuals who are not interested in environmental impact challenges and do not have concerns related to these issues.

Chi può fare la differenza nella riduzione dell'impatto ambientale?

(Dati 2020 - EU10)



Fonte: Ricerca "Who Cares? Who does? Sustainability Concern and Action" - Edizione 2020 - EU10: Italia, Gran Bretagna, Irlanda, Germania, Francia, Slovacchia, Repubblica Ceca, Polonia, Portogallo e Spagna



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Twin Transformation

acknowledging ongoing global changes combines the digital and sustainability agendas by aligning the SDGs (Sustainable Development Goals) with new technologies that enable their achievement more effectively and efficiently

TWIN TRANSFORMATION → DIGITAL AND SUSTAINABLE CHANGE

Twin Transformation

But what are the rationales for the convergence of digital and sustainability?

At least six digital factors act as enablers/accelerators for sustainability:

- Dematerialization of objects
- Association of information
- Separation between location and presence
- Availability of real-time and granular data
- Increased capacity for analysis and evaluation
- Connection and communication (with stakeholders)

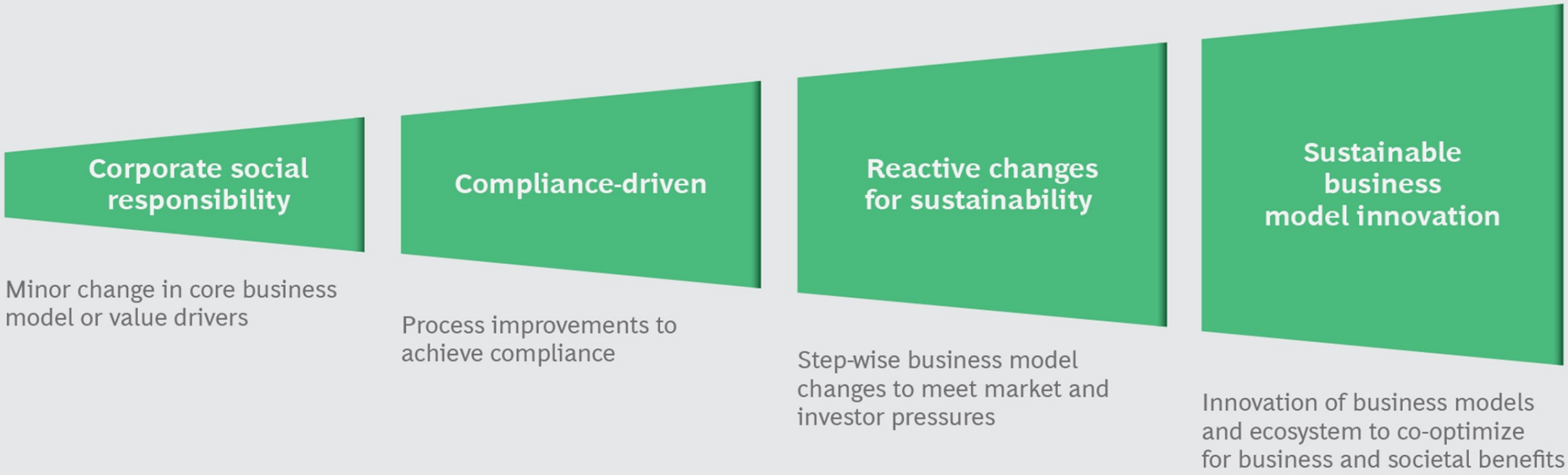
Twin Transformation

Twin Transformers are companies with the following characteristics:

- Promote business models based on sustainability-driven ecosystems made accessible by technology;
- Recombine resources and processes to adapt technological applications to sustainable practices;
- Use financial and non-financial KPIs;
- Implement sustainable and traceable product life cycles with their partners;
- Cultivate a talent culture to support the twin transformation

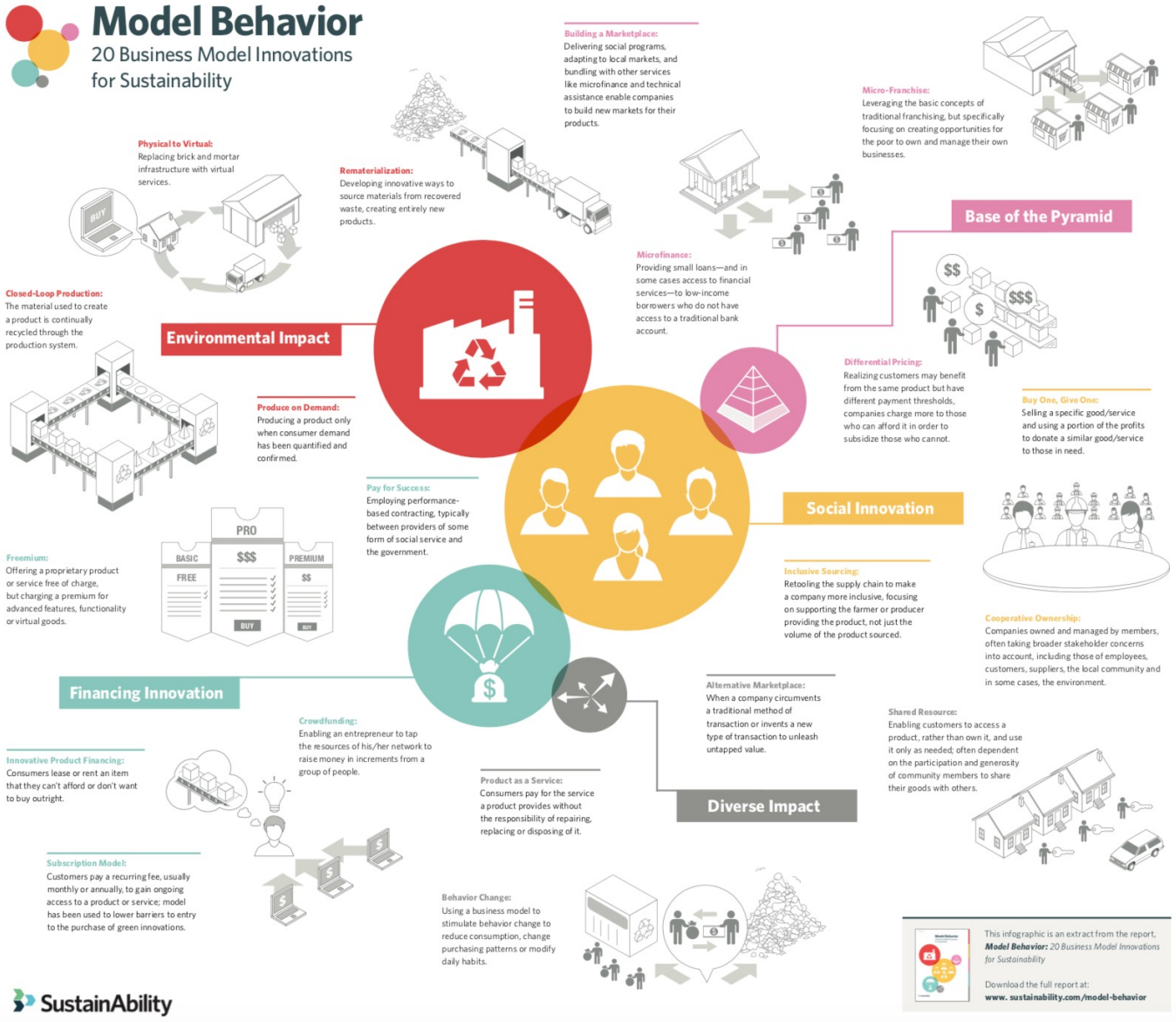
Business model sustainable innovation

EXHIBIT 1 | From Compliance to Sustainable Competitive Advantage



Source: BCG analysis.

Business model sustainable innovation



https://www.peterfisk.com/wp-content/uploads/2020/04/20-Sustainable-Business-Model-Innovations.pdf

Business model sustainable innovation

Environmental Impact

- **Closed-Loop Production:** The material used to create a product is continually recycled through the production system.
- **Physical to Virtual:** Replacing brick and mortar infrastructure with virtual services.
- **Produce on Demand:** Producing a product only when consumer demand has been quantified and confirmed.
- **Rematerialization:** Developing innovative ways to source materials from recovered waste, creating entirely new products.

Social Innovation

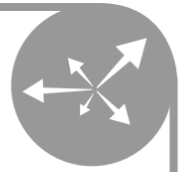
- **Buy One, Give One:** Selling a specific good/service and using a portion of the profits to donate a similar good/service to those in need.
- **Cooperative Ownership:** Companies owned and managed by members, often taking broader stakeholder concerns into account, including those of employees, customers, suppliers, the local community and in some cases, the environment.
- **Inclusive Sourcing:** Retooling the supply chain to make a company more inclusive, focusing on supporting the farmer or producer providing the product, not just the volume of the product sourced.

Business model sustainable innovation

Base of the Pyramid

- **Building a Marketplace:** Companies build new markets for their products in innovative and socially responsible ways, including delivering social programs, adapting to local markets, and bundling with other services like microfinance and technical assistance.
- **Differential Pricing:** Realizing customers may benefit from the same product but have different payment thresholds, companies charge more to those who can afford it in order to subsidize those who cannot.
- **Microfinance:** Providing small loans—and in some cases access to financial services—to low-income borrowers who do not have access to a traditional bank account.
- **Micro-Franchise:** Leveraging the basic concepts of traditional franchising, but specifically focusing on creating opportunities for the poor to own and manage their own businesses.

Diverse Impact

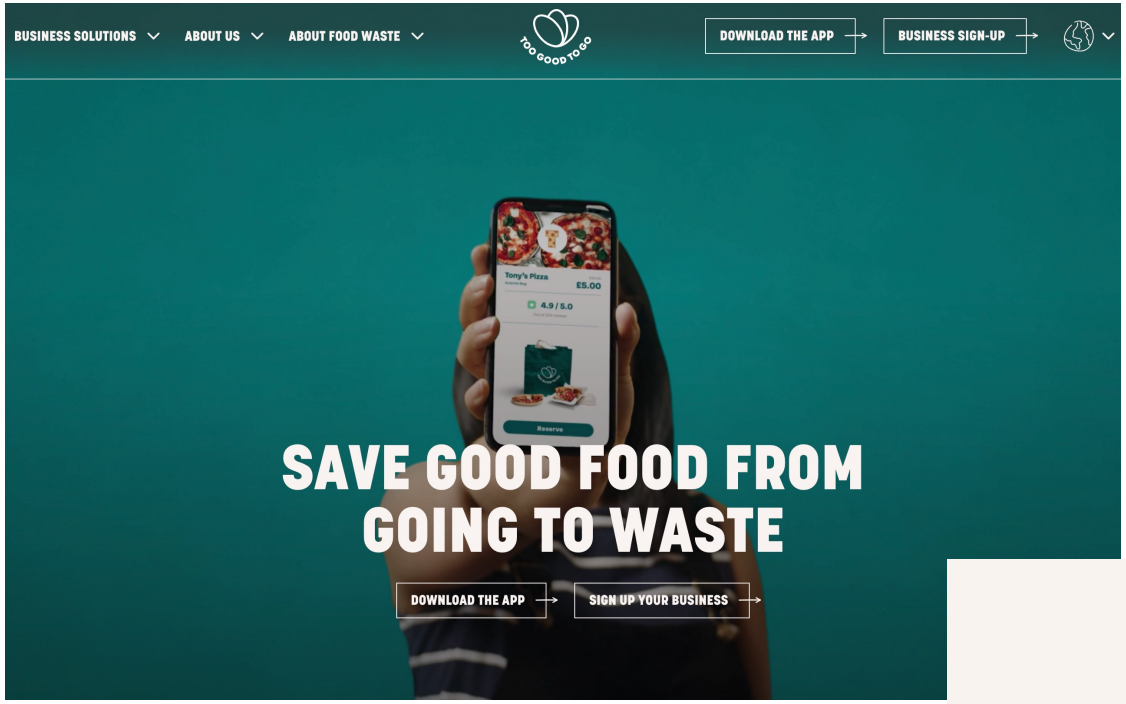


- **Alternative Marketplace:** When a firm circumvents a traditional method of transaction or invents a new type of transaction to unleash untapped value.
- **Behavior Change:** Using a business model to stimulate behavior change to reduce consumption, change purchasing patterns or modify daily habits.
- **Product as a Service:** Consumers pay for the service a product provides without the responsibility of repairing, replacing or disposing of it.
- **Shared Resource:** Enabling customers to access a product, rather than own it, and use it only as needed; often dependent on the participation and generosity of community members to share their goods with others.

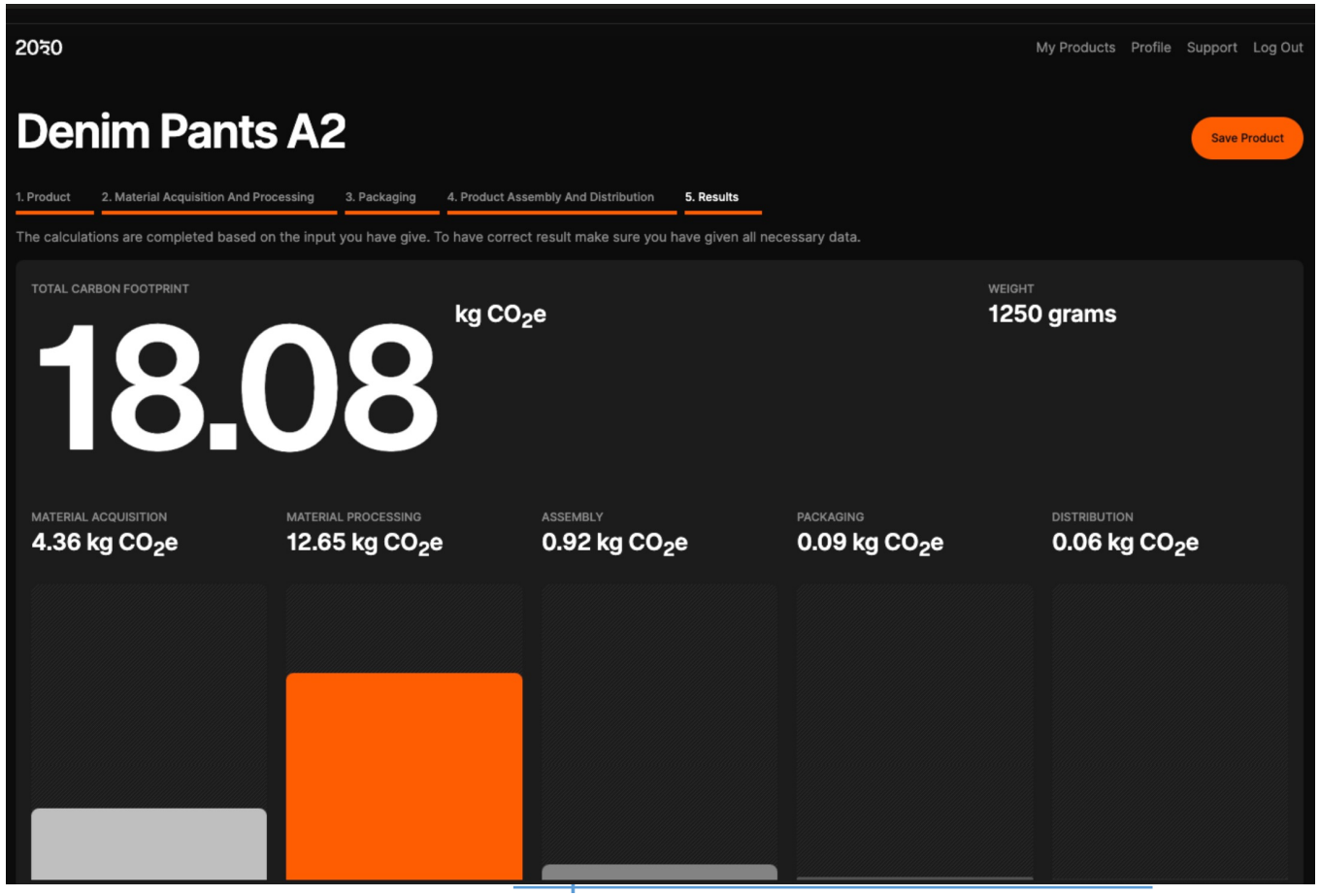
Financing Innovation

- **Crowdfunding:** Enabling an entrepreneur to tap the resources of his/her network to raise money in increments from a group of people.
- **Freemium:** Offering a proprietary product or service free of charge, but charging a premium for advanced features, functionality or virtual goods.
- **Innovative Product Financing:** Consumers lease or rent an item that they can't afford or don't want to buy outright.
- **Pay for Success:** Employing performance-based contracting, typically between providers of some form of social service and the government.
- **Subscription Model:** Customers pay a recurring fee, usually monthly or annually, to gain ongoing access to a product or service; model has been used to lower barriers to entry to the purchase of green innovations.

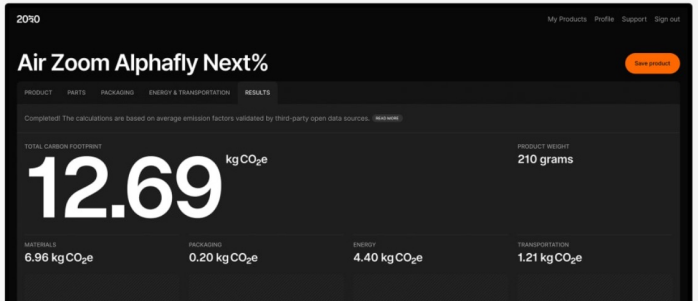
Business model sustainable innovation



Business model sustainable innovation



Doconomy



Business model sustainable innovation

Yuka

Applicazione Indipendenza Libro Blog

Fai le scelte migliori per la tua salute

Yuka decifra le etichette e analizza l'impatto di prodotti alimentari e cosmetici sulla tua salute.

Scarica su App Store

DISPONIBILE SU Google Play

Business model sustainable innovation

L'impatto della community

Adotta uno stile di vita sano e sostenibile con Acea Waidy WOW e contribuisci alla riduzione dell'uso della plastica e dell'emissione di CO2. Tieni d'occhio le tue emissioni di CO2 con l'app Acea Waidy WOW e contribuisci a rendere il mondo un posto migliore!

539 litri
di acqua bevuta

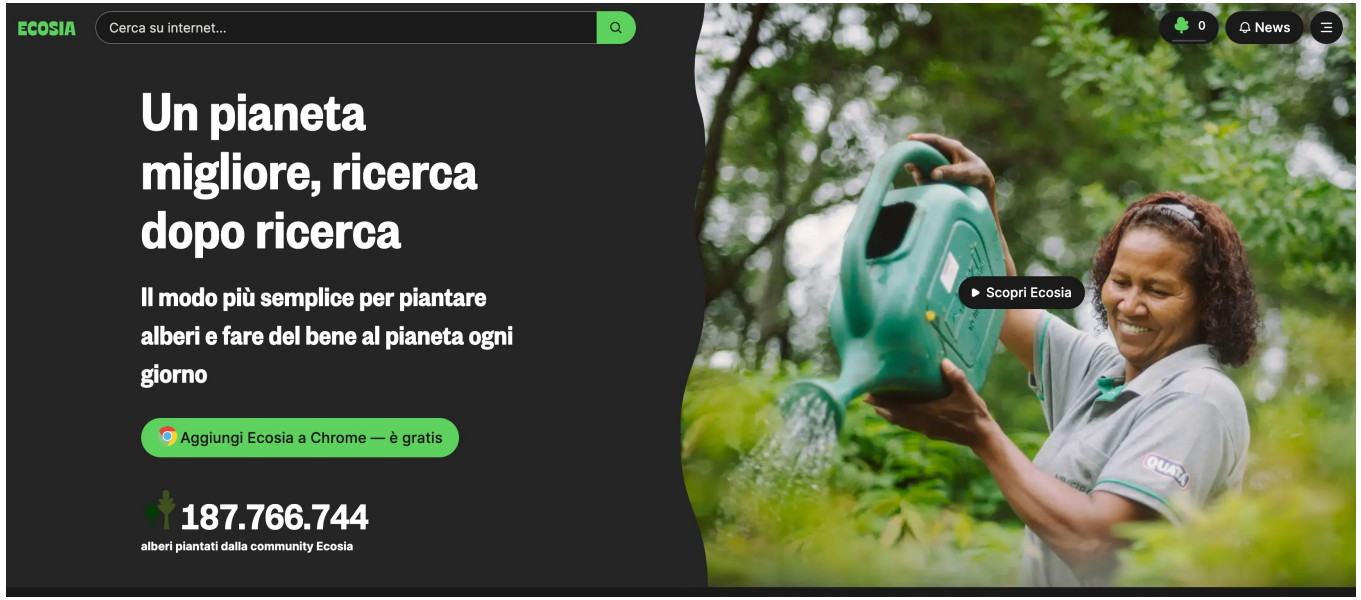
+ 50.000
Punti idrici mappati

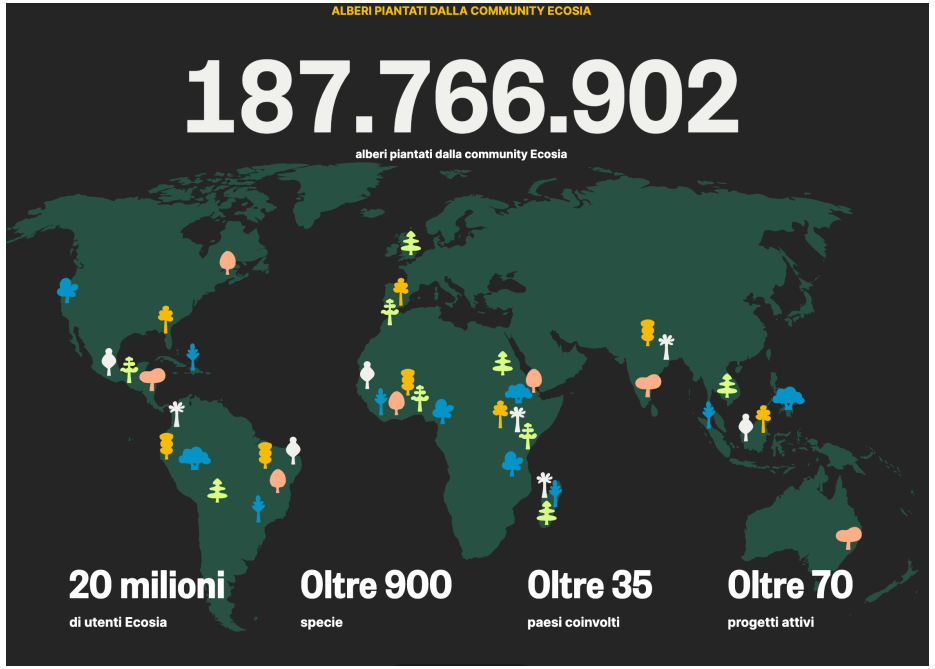
359 bottiglie
di plastica risparmiata

300+
Punti idrici con approfondimento

86.16 gr
di CO2 risparmiata

Business model sustainable innovation





RE2N

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https://www.facebook.com/re2nsrl/

How Emilia-Romagna Digital Agenda (ADER) measures the digitalization of municipalities

27th June 2024

AGENDA

EMILIA-ROMAGNA DIGITAL AGENDA

DATA VALLEY AS A COMMON GOOD

DESIER INDEX

CONTACT US

EMILIA-ROMAGNA DIGITAL AGENDA

Who we are

- **Emilia-Romagna Digital Agenda (ADER) performs coordination functions of the Regional Digital Agenda**, set up within the **Cabinet of the President of the Regional Government**
- ADER aims **to oversee the implementation of the Digital Agenda policy** and **to maintain relations with the national, interregional and European levels**

ADER aims to transform the Region into a digitally inclusive and innovative hub, driven by data-powered development and equitable access to technology for all

EMILIA-ROMAGNA DIGITAL AGENDA

Our Vision and Mission

AgendaDigitale ER

VISION

- To **generate** a **new sustainable development**
- To enable **digital transformation** of the **economy** and **society** with **infrastructure**, **right of access and people's skills**
- To **combine excellence** in **computing capacity, research and digital inclusion**
- To **promote participation** and **democracy**, helping to **overcome gender inequalities**, designing **new tailored services**, and transforming intangible assets – i.e. **data - into a community asset**

MISSION

- To **develop of a regional Data Strategy**, in line with the European one
- To **support digital development throughout its territory** and within its society promoting a regional digital ecosystem
- To **support sustainable development and create opportunities** with **inclusive digital capabilities, resources and skills for all citizens** – **infrastructure must be present and equally distributed** throughout the territory
- To **collect skills which are fundamental to take us into a future regional society**

AGENDA

EMILIA-ROMAGNA DIGITAL AGENDA

DATA VALLEY AS A COMMON GOOD

DESIER INDEX

CONTACT US

DATA VALLEY AS A COMMON GOOD

The current Digital Agenda

DATAVALLEY bene comune ER
L'AGENDA DIGITALE 2020-2025

- Latest planning: refer to the **2020-2025 legislative mandate**
- **Ambitious objective to make Emilia-Romagna a Data Valley as a Common Good**, a place for the **elaboration and development of the most advanced technological and innovation solutions**
- **To ensure an inclusive dissemination of digital skills**, **resources and competences**, in order to guarantee **equal opportunities to all citizens and territories**

DATA VALLEY AS A COMMON GOOD

Eight strategic Challenges (1/4)

DATAVALLEY
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DATA FOR THE REGION

1

- **To promote** and encourage the **use of data for user-centred service design**, more flexible and adapted to specific needs
- **To develop systems for analysing and interpreting data to support political and economic decisions**, ensuring ethical aspects

DIGITAL SKILLS

2

- **To spread digital skills, responsibility and awareness** among all population groups, with a **specific focus on the gender gap**
- **To support e-skills in the private sector and re-skilling in the work environment**
- **To spread e-skills in the world of public administration**

DATA VALLEY AS A COMMON GOOD

Eight strategic Challenges (2/4)

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DIGITAL PUBLIC ADMINISTRATION

3

- **Governance for data use** and streamline internal procedures
- **To strengthen relations with local authorities** and **overcome paper archives** with digitization of documents
- Introduce the professional job title of **'Data Manager' within public administrations**

DIGITAL ENTERPRISES

4

- **To support change in service production**, accelerating the process of digitalization of enterprises with **big data, HPC and AI**
- **To encourage dynamics of data sharing**, according to a logic of reciprocity **between PA, businesses and Third Sector**

DATA VALLEY AS A COMMON GOOD

Eight strategic Challenges (3/4)

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DIGITAL PUBLIC SERVICES

5

- **To design services with digital & mobile first logic, with a user-centred approach**
- **To make processes flexible and responsive to society's changes** - collaborative culture with users, transparent processes, open and consolidated tools, use of cloud architectures to support transformation

HYPER-CONNECTED EMILIA-ROMAGNA

6

- To complete steps for an **enabling technology infrastructure and make ultra broadband connectivity available, especially in rural areas**
- **To extend the regional Wi-Fi net in the coastal area and in sports places**
- **To explore new 5G solutions and Internet of Things (IoT) networks**

DATA VALLEY AS A COMMON GOOD

Eight strategic Challenges (4/4)

DATAVALLEY
bene comune ER
L'AGENDA DIGITALE 2020-2025

DIGITAL COMMUNITIES

7

- **To realise 100% digital communities** combining **digital and local sustainable development**, slow tourism and artistic heritage
- **To facilitate the introduction of technology in the local economy**, smartworking, co-working places and distance learning

WOMEN AND DIGITAL

8

- **To consolidate gender equality in the education and training environment**
- **To promote female participation in the Data Valley environment**

AGENDA

EMILIA-ROMAGNA DIGITAL AGENDA

DATA VALLEY AS A COMMON GOOD

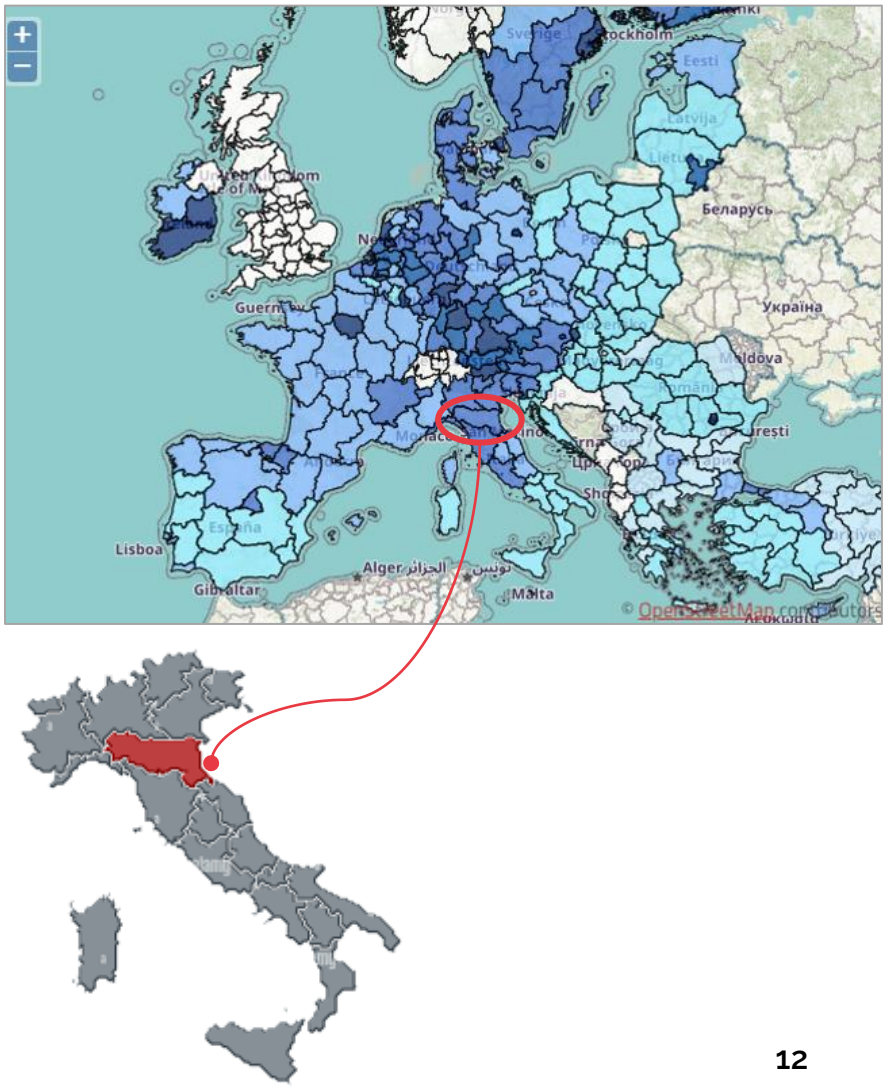
DESIER INDEX

CONTACT US

DESIER INDEX

Emilia-Romagna Region in a nutshell

- Region in Northern Italy
- **4.450.000 inhabitants**
- **330 municipalities**
  - 121 small-mountain municipalities
  - 135 municipalities < 5.000 inhabs.
  - Only 13 municipalities > 50.000 inhabs.
  - 258 (78%) are in <> municipal associations (**Unioni di Comuni**)



DESIER INDEX

What is DESIER Index

Following the **logic and models of the EU Commission**, we developed **our DESIER Index**, a tool that allows us **to monitor the homogeneity and digital cohesion of our territories**

→ **It is a system and a working model that comes from the past and is future-proof**

- **Born in 2021**
- **Synthetic Index to measure** the digitization of the **330 municipalities** of the Emilia-Romagna Region
- Obtained by standardizing and summing **60 indicators at municipal level**
- **Transfer at local and municipal level the DESI indicator produced every year by the European Commission until 2022**

DESIER INDEX

What are our key questions?

- Which Municipalities and Associations are the most “digitalised” in Emilia-Romagna?
- How is the **digital gap evolving across the areas in the region**?
- Where have the most **significant gaps been found**?
- What differences emerged between performance at local level in terms of **enabling factors** and **achieved results** regarding digitalisation?
- What are the **conditions that might favour harmonious and fair** digital development throughout the area?

DESIER INDEX

Methodology elements (1/2)

4 analysis areas/components:

1. **Human capital:** Digital Skills, Advanced Training and labour market, Use of the internet and ICT Specialists
2. **Connectivity:** Landline Coverage, Mobile phone Coverage, Landline Use, Mobile phone Use
3. **Integration of Digital Technologies:** E-business, Impact on the market
4. **Digital Public Services:** Digital public service Development, Data and interoperability, Use of e-government and Impact on digitization

- Each of these Areas are then analysed more in depth:
  - **Enabling factors**
  - **Achieved results**

DESIER INDEX

Methodology elements (2/2)

To calculate the DESIER Index:

- **all 60 indicators are standardized** (on a scale from 0 to 100)
- **a weight is assigned to each of them so that the sum of the 60 individual weights amounts to 1**
- **DESIER index is calculated as the sum of all standardized and weighted indicators**

DESIER INDEX

How to use it

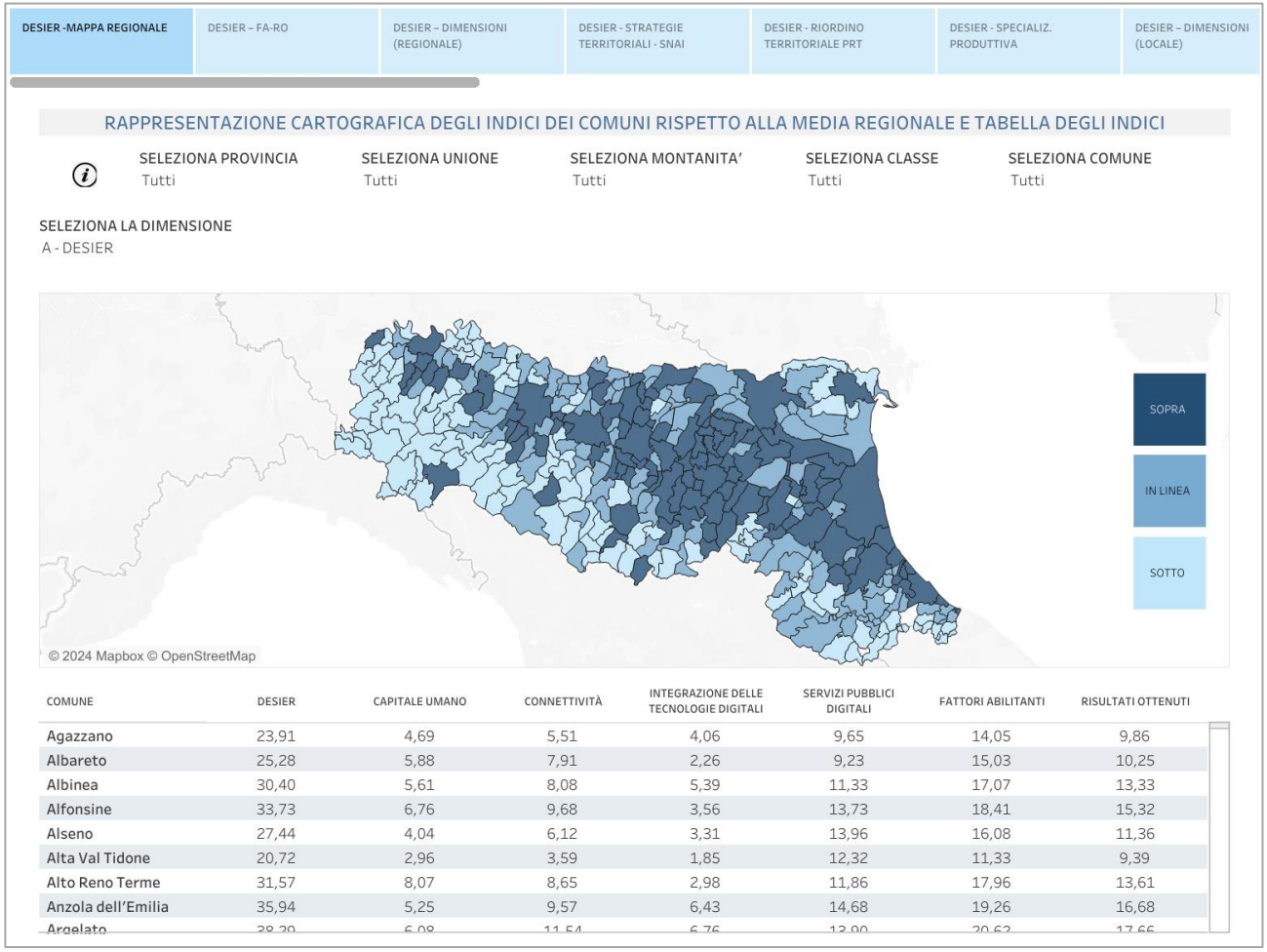
https://digitale.regione.emilia-romagna.it/desier

The analysis of the DESIER Index is available through an online dashboard accessible to all

- Maps and graphs which provide a **regional overview, plus specific insight at local level**
- Virtual pathway: **from the regional outlook to the specific municipal situation**
- **Every single data can be downloaded from the dashboard**

DESIER INDEX

Online Dashboard



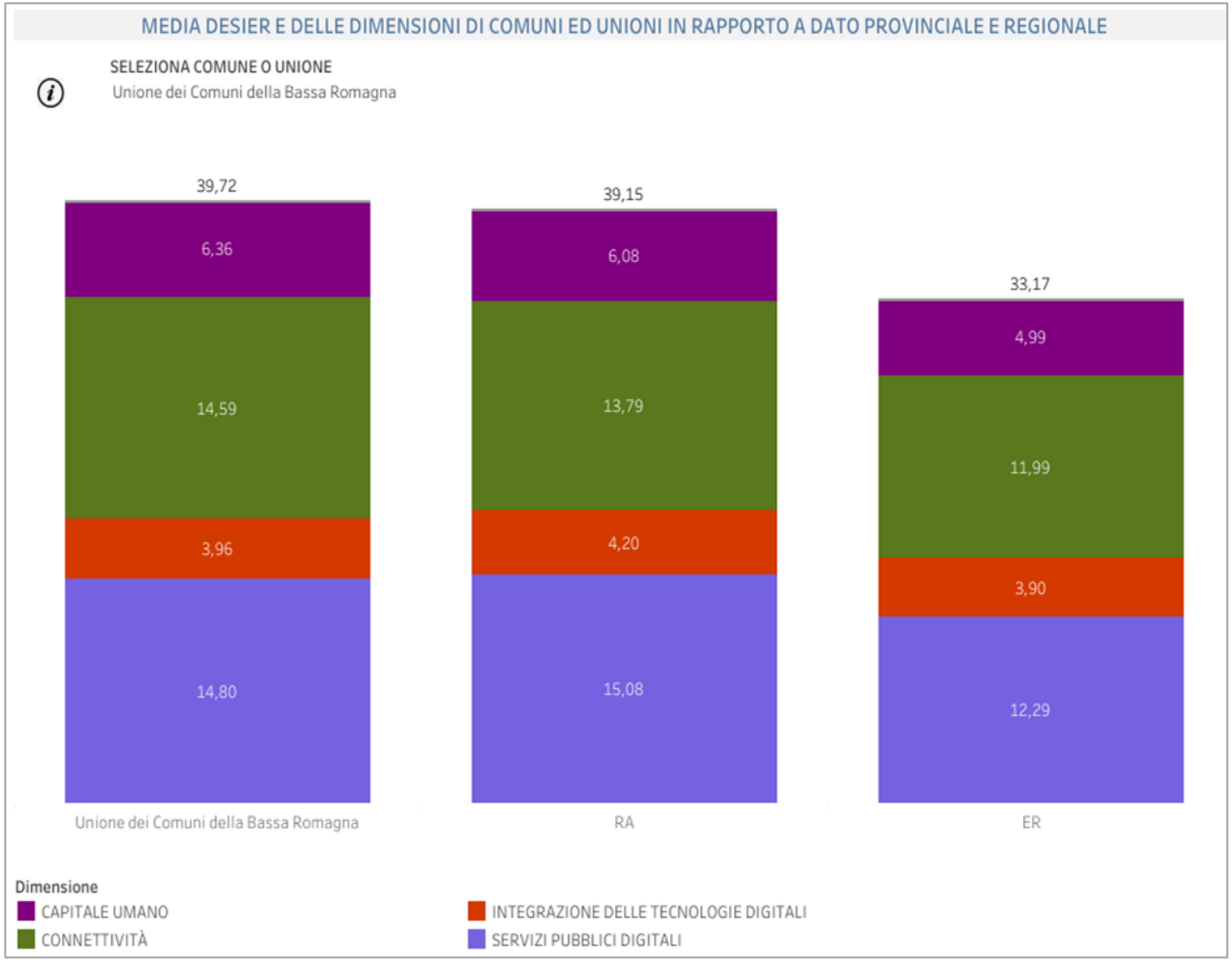
COMUNE	DESIER	CAPITALE UMANO	CONNETTIVITÀ	INTEGRAZIONE DELLE TECNOLOGIE DIGITALI	SERVIZI PUBBLICI DIGITALI	FATTORI ABILITANTI	RISULTATI OTTENUTI
Agazzano	23,91	4,69	5,51	4,06	9,65	14,05	9,86
Albareto	25,28	5,88	7,91	2,26	9,23	15,03	10,25
Albinea	30,40	5,61	8,08	5,39	11,33	17,07	13,33
Alfonsine	33,73	6,76	9,68	3,56	13,73	18,41	15,32
Alseno	27,44	4,04	6,12	3,31	13,96	16,08	11,36
Alta Val Tidone	20,72	2,96	3,59	1,85	12,32	11,33	9,39
Alto Reno Terme	31,57	8,07	8,65	2,98	11,86	17,96	13,61
Anzola dell'Emilia	35,94	5,25	9,57	6,43	14,68	19,26	16,68
Argelato	38,39	6,08	11,54	6,76	13,90	20,63	17,66

Different shades of blue

the darker they are
the higher their level of digitization

DESIER INDEX

Each Index in a single territory



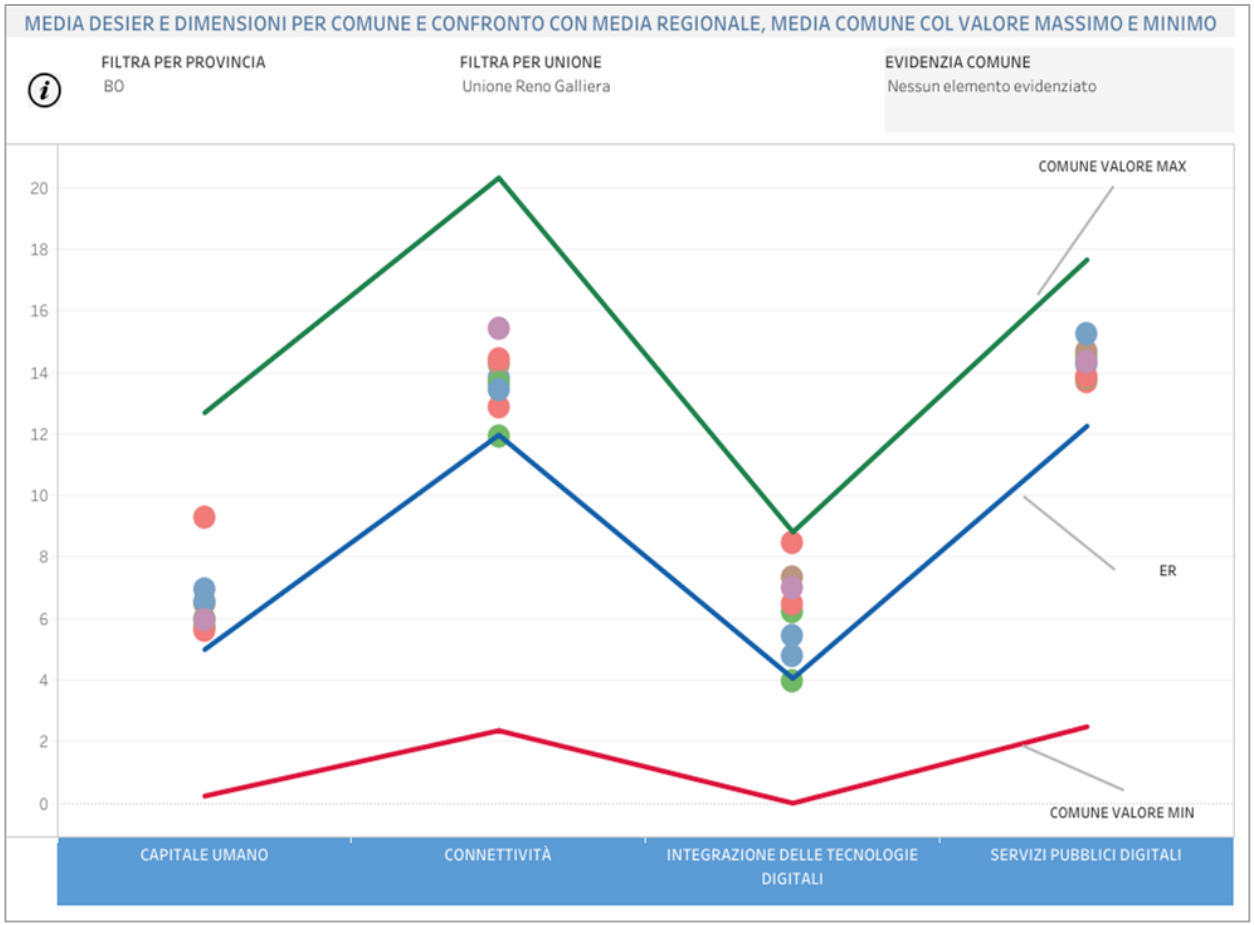
bars of different heights and colors

the higher they are
the higher their level of digitization

- Municipality /Association of Municipalities (Unioni)
- District
- Region

DESIER INDEX

4 dimensions through territories

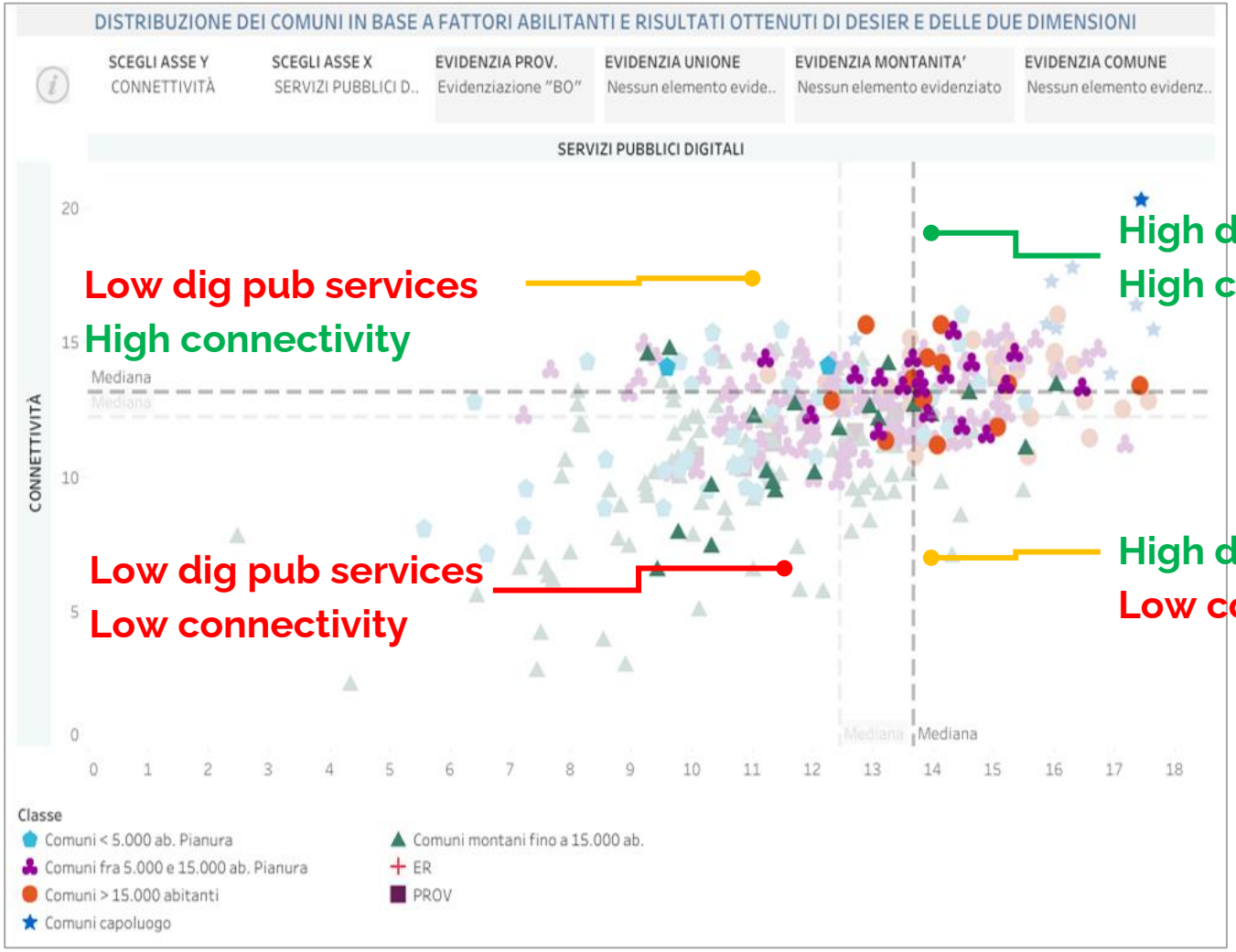


Dot= municipalities

Am I the best?
Am I the worst?
Am I the middle one?

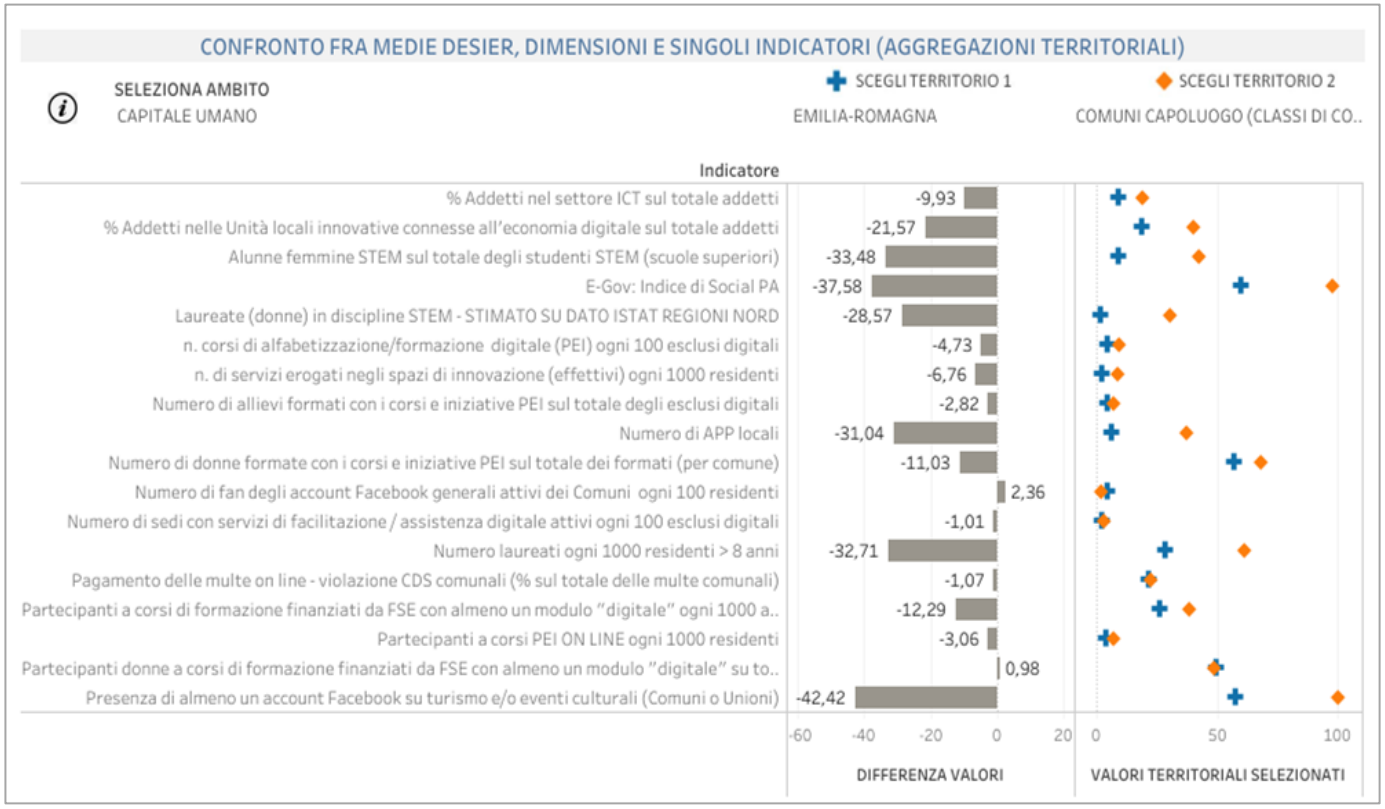
DESIER INDEX

Positioning respect dimensions



DESIER INDEX

Territorial comparison on indicators

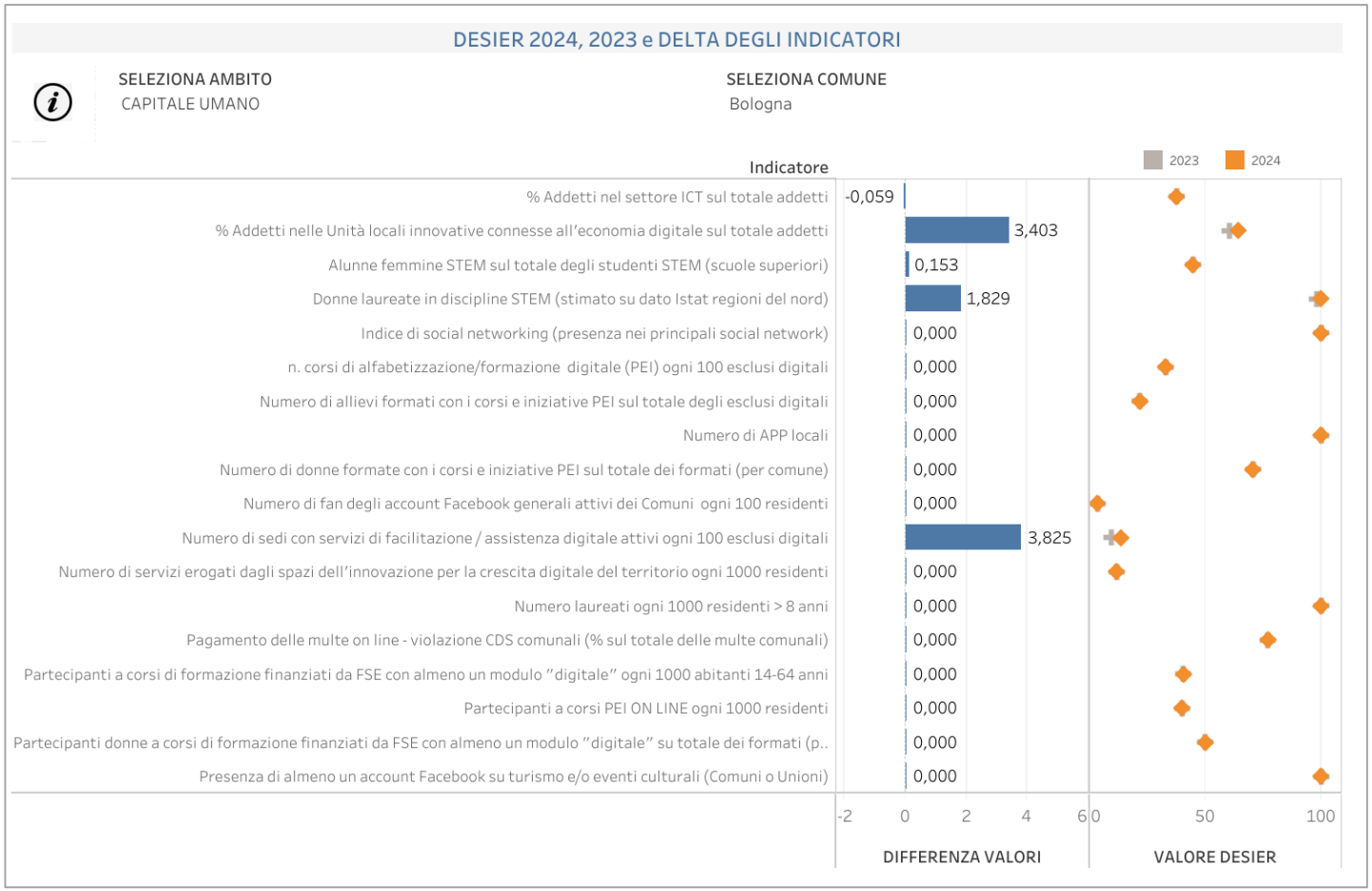


+++ Your performance is better than mine++++

I could learn something from you

DESIER INDEX

Timing comparison on indicators: 2024 vs. 2023



DESIER INDEX

How we use it?

Instrument available for local administration offices and organizations:

- To select the best practices which deserve to be disseminated
- To identify any gaps to be filled, priority areas to focus on,
- To monitor the trend of digitalization indices over time and across geographical areas

premio 2022 Agenda Digitale Emilia-Romagna

THANK YOU FOR YOUR ATTENTION

"Reaching the Digital Decade targets depends on a collective effort by all. Each Member State will contribute to this ambitious goal from a different starting point, determined by resources, comparative advantages and other relevant factors such as the population size, the scale of the economy and the areas of specialisation. ……."

Digital Economy and Society Index (DESI) 2022
European Commission

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