

The European Commission's
**INTELLIGENT CITIES
CHALLENGE**

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L'Aquila: Intelligent City Transformation Overview

ICC Final Deliverable



Executive summary

After 13 years, L'Aquila is still suffering from consequences of 2009 earthquake. A new city development model should be based on a Smart City and Intelligent City paradigm, to drive the final part of transition to a new normality and follow ongoing European and global innovation processes. There is still much to do to build a complete sustainable mobility system, to enhance characterization as a “City of Knowledge”, to establish modern social structures.

For this reasons, L'Aquila needs to find methods to achieve an innovation being inclusive, integrated, structured, co-designed and sustainable over time. Prioritized solutions are directly linked to this aims: an Urban Data Platform would be useful as technological foundation to have a continuous gathering and processing of data coming from several Smart City initiatives, a Citizens Participation Model is needed to have a structured participation on projects influencing city life, Sustainable Urban Logistic Plan (including a Freight Consolidation Center) is a direct follow-up after the approval of Sustainable Urban Mobility Plan. All of these challenges are faced applying a continuous interaction with stakeholders to use existing technical and social knowledge as a leverage .

During ICC some results have been achieved: besides the different level of implementation of single solutions (documented in the rest of the document), city initiatives are now more coordinated and there is more mutual exchange in the ecosystem to inform one another about ongoing projects and collaboration opportunities.

In next 3 years, L'Aquila will work to transform Smart City Director's Cabin, to design SULP and continue SUMP implementation towards an intermodal/MAAS system, to have a more effective action by City Administration and its controlled companies to manage city data.

Mayor Foreword

After the start of ICC track, many important events have struck our cities, showing an emerging need for new social models, technology-driven services and cooperation actions. During this period, ICC method was a useful instrument to build a broad vision of citizens needs and coordinate different innovation projects.

Much work is still to do to enhance cooperation between City Administration, citizens and stakeholders, to establish procedures to use scientific research as a booster for economic development and to introduce data-driven planning and decision processes, but we think the steps already done during the track are an important base, as we have planted some fruitful seeds for our future.

In years to come, we commit for a sustainable development of our city and its territory, implementing a change agenda based on five connected pillars: physical and social reconstruction, innovation, culture, tourism, education.

The city of L'Aquila pursued an EU-supported transformation over four main stages, and this document details that journey by these sections

Overview to the city's journey and structure of this document



1 Preparation & assessment

5 months:
September 2020 – January 2021



2 Ambition & roadmap

3 months:
February 2021 – April 2021



3 Implementation

15 months
May 2021 – July 2022



4 Review & way forward

2 months
August 2022 – September 2022

*Reported as
one section*

Summary

Find out **where a city is, where it should go** and who in the ecosystem is going to **mobilise make things happen**

Develop a **concrete plan** to achieve **measured improvements**, collaborating with the community; push action with immediate benefits

Get “big moves” **done** and **see results**; take **action in partnership** with others

Measure success, and commit to **keep connections and improvements going**

Section

1

September 2020 to January
2021

L'Aquila: Preparation and assessment

ICC transformation



Introduction

- L'Aquila is an important Education and Research center. The city has recently obtained funding by the Economic Development Ministry to establish an **House of Emerging Technologies**, for technology transfer to SME of research experiences about 5G, IoT, Blockchain, AI (only 6 cities in Italy were funded).
- Its economy is based on Administration offices, University and research, ITC and pharma industries.
- Recovery after 2009 earthquake has been seen as an occasion to change the city paradigm and build a **Smart City**. A Director's Cabin has been established, composed by experts belonging to the local ecosystem.
- A document of Smart City guidelines was released in 2020, an Open Data platform was also released in its first version.
- The city has a relevant territory extension (more than 460 sqkm related to about 70000 inhabitants) and it is characterized by many city hamlets at remarkable distances from main city parts.
- The **Sustainable Urban Mobility Plan** (SUMP) design has been completed, now the City Administration is working for its implementation. It was designed using a wide participation process.
- In accordance with its situation and needs, L'Aquila is involved in ICC in activities about Citizens participation, e-government, Mobility and Logistics

City needs: State of the city overview

Significance of insight to what we want to do on the ICC

 Of critical importance to ICC journey and we should be working to change

 Of importance to ICC journey, and we should act to change this along the journey as opportunity presents

 Contextually relevant, but not major point of attention in ICC and unlikely to be impacted on the journey

The state of L'Aquila today

L'Aquila is well recovering after the 2009 earthquake, but it still suffers some problems due to increase of urban sprawl, city parts still relevantly interested by the reconstruction process, economic issues.

The City has started an innovation track, but still a lot remains to do to build a complete Smart/Intelligent City system, including citizen participation procedures and instruments, a centralized management of sensors and data, strong structures connecting research system and enterprises.

Key insights from city performance analysis

Higher performance observed

- 1 Education and Research system is of excellent level.
- 2 Health system is well developed
- 3 Government services show a good general level (but no excellence points)
- 4 Culture in general shows a good development level
- 5 Social connectedness and identity are good

Lower performance observed

- 1 There are no studies or organized datasets about city logistic. Logistics are still influenced by materials supply for building sites
- 2 Citizens' mobility is being strengthened and shifted towards sustainability, but the mobility system is not enough green and solid yet
- 3 Economy is slightly weak in an absolute sense, however quite strong if compared to the general situation of Central and Southern Italy
- 4 The city needs methods for the management of ongoing initiatives and an enhancement of participation and co-design procedures
- 5 Environmental quality in general is fine, but a diffusion of environmental culture is needed

City Ecosystem – Points of view about the city



Insights from interviews



Coordinate initiatives among different subjects



Encourage information exchange and co-design



Design future managing of sensors, communication infrastructures and data



Build **business models** allowing sustainability over time of initiatives started as pilot projects, also supporting cooperation with privates



Evaluation from survey



Good interest on **mobility** (more for citizens than freight)



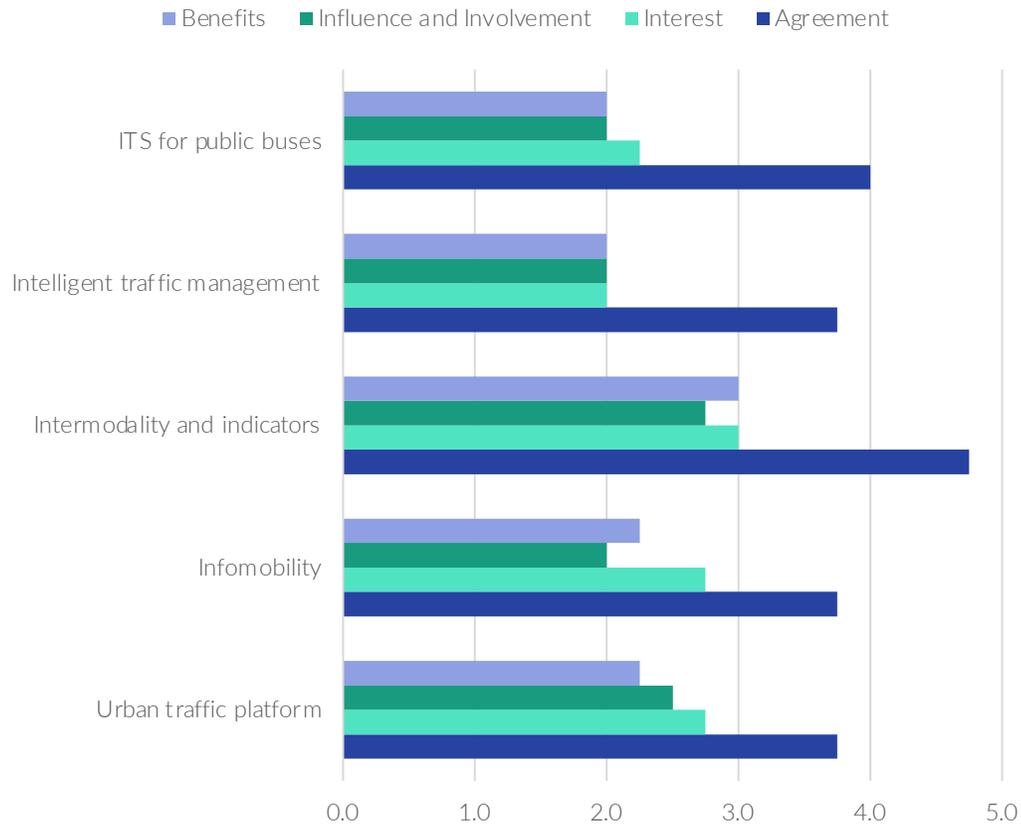
Foster citizens' participation



Research system is a city excellence

City Ecosystem – participation levels on single topics

Smart and Green Mobility and Transport for citizens



Items showing higher support: Intermodality and indicators, ITS for public buses.

Intermodality and indicators also show the highest level for benefits, influence and involvement.

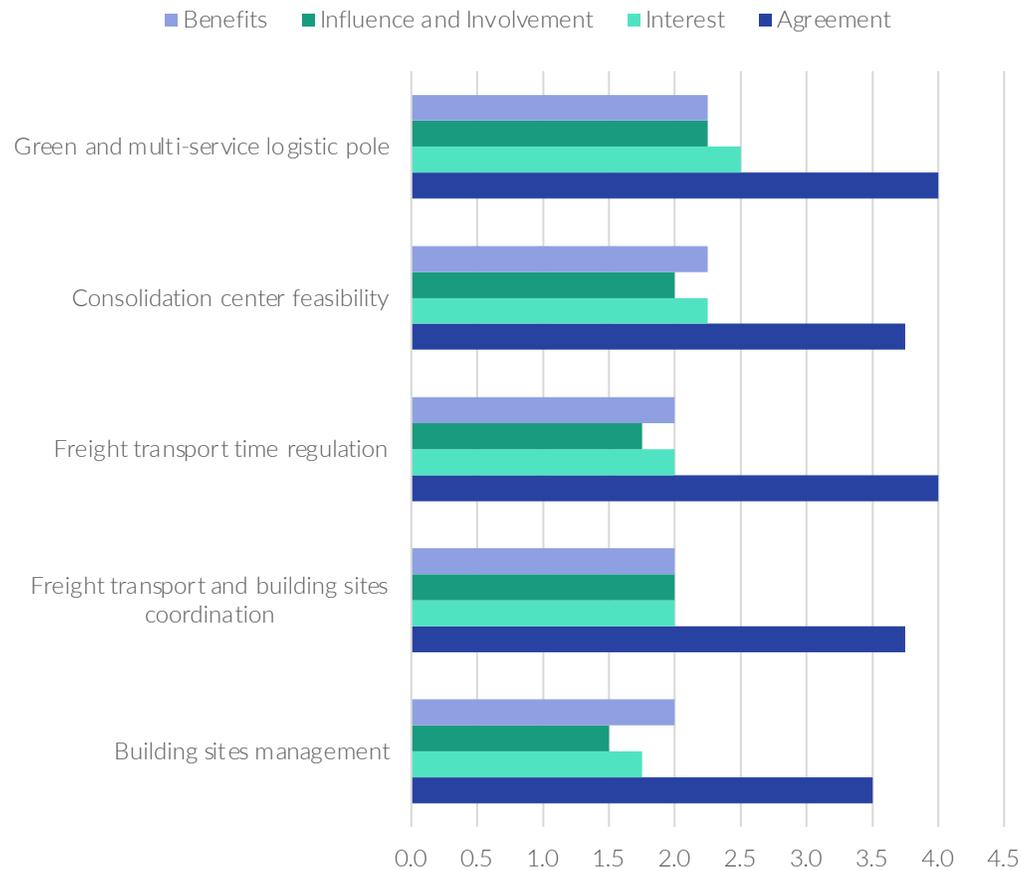
There is strong need to perceive city mobility as a unified and interconnected system, monitored and controlled on a regular base with modern methods.

In general, all topics concerning information and control systems for mobility receive an high attention.

Stakeholders are more involved in “system” actions than “device” actions.

City Ecosystem – participation levels on single topics

Logistic and Supply chain pole



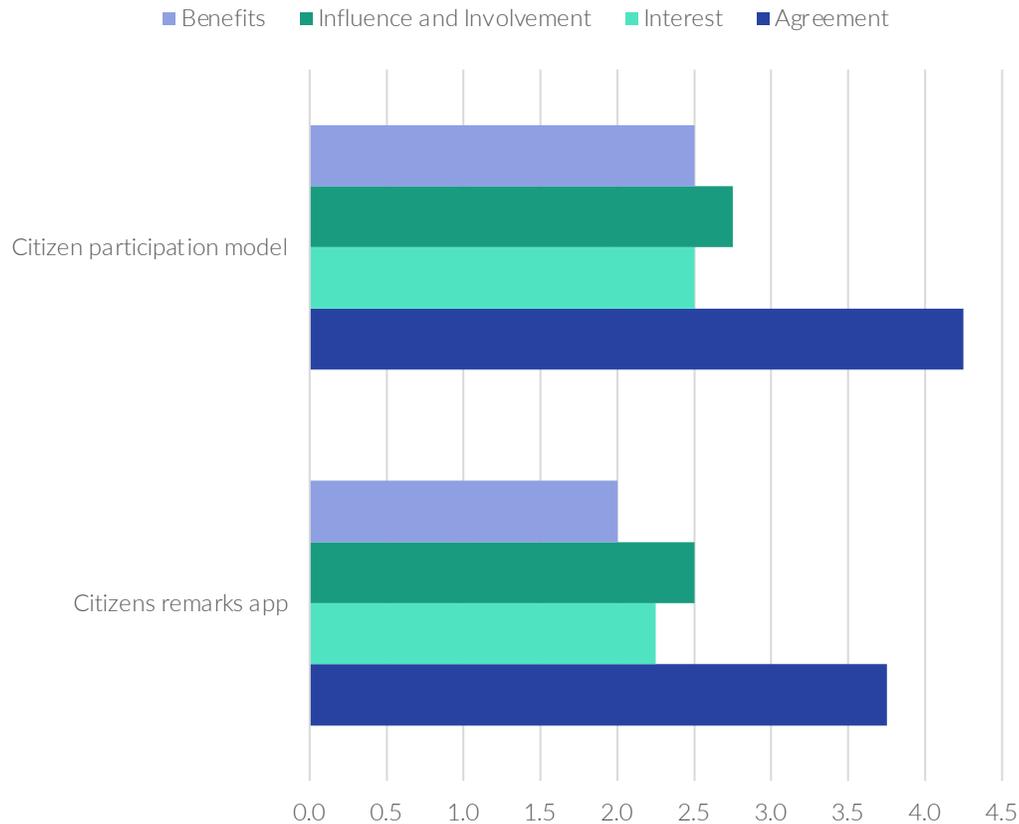
Agreement level is quite high for every item, but there is a strong difference between agreement and other variables.

This is probably due to the type of stakeholders or because actions on logistics are considered too difficult to realize in a situation where rebuilding of the city is still in progress.

There is a trend to prefer actions seen as structural and not directly related to reconstruction, so showing the desire to think about a “new normality” at the end of reconstruction process.

City Ecosystem – participation levels on single topics

Enhancing citizen participation, connectivity and community

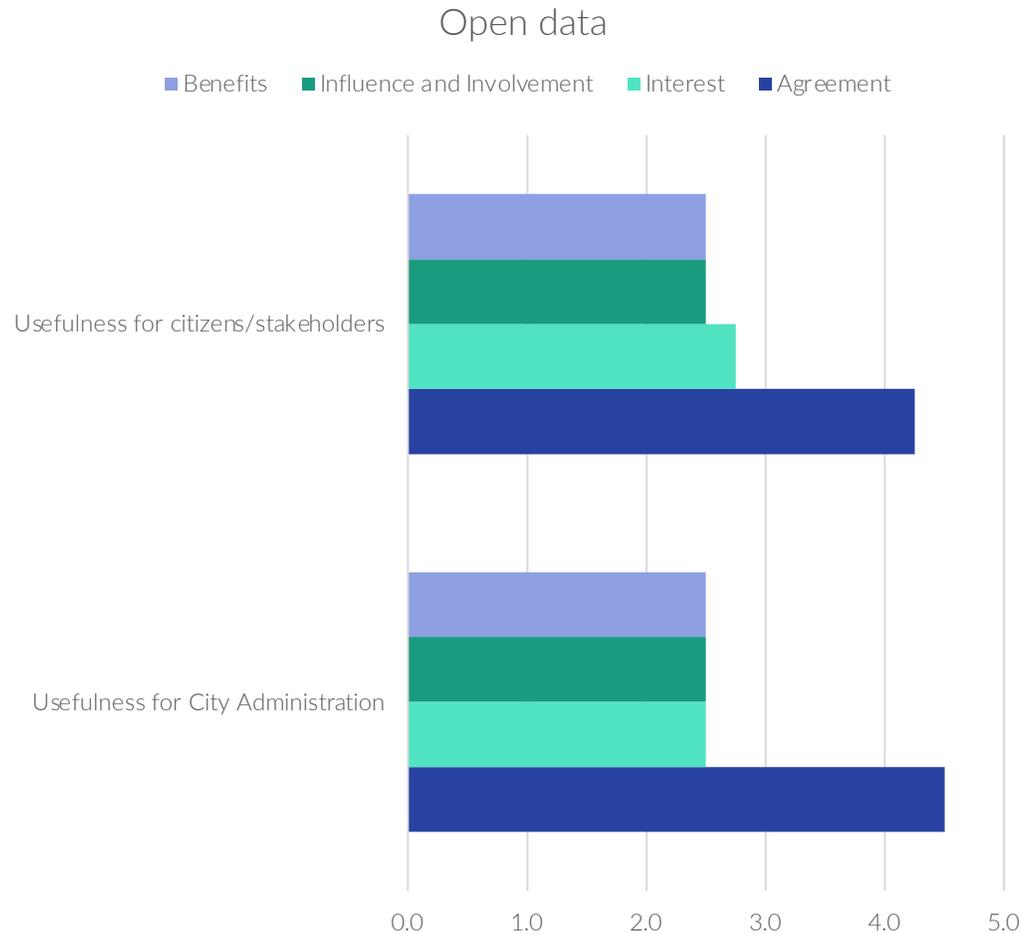


Also in this case, models and methods are considered more important than instruments, so a simple app for remarks seems not enough for a better city management, probably because there are still doubts about the follow-up of remarks given.

On the other side, a citizens participation model is considered as more important, giving an opportunity to anticipate probable issues and mitigate them together.

Considering that the first reconstruction phase has been directly managed by Italian national structures, there is a desire from stakeholders to come back to design the future of their city.

City Ecosystem – participation levels on single topics



Agreement levels are quite high, while levels for other variables are lower; there is more agreement about usefulness for public administration.

A common issue about open data is that citizens and stakeholders sometimes don't have the instruments and knowledge for a full understanding of possibilities activated by the availability of structured open data

Consequently, open data are seen only as a method to have an information exchange between administration entities or to control the quality of public administration work

City Ecosystem – highlights from workshops

Workshop feedback review

- Stakeholders recognize a **good research** based in the city and innovation is seen as started, but still too slow. There is a need to enhance **co-design, coordination** of initiatives between different entities and **sustainability** of these initiatives. L'Aquila is working to implement a green **Smart City** model. Data collection and KPIs should be used in future also for urban planning and territory protection.
- The ecosystem at the moment contributes mainly with technical and scientific **knowledge** and bringing the **point of view** of citizens committees, industry is represented but less strongly. Cooperation is quite good, some more steps should be done to encourage **other methods** of participation besides workshops (surveys and so on).
- Probably some work is needed to **foster an open-mind attitude** and co-design approach on citizens and institutions; being the main administration center of the Abruzzo Region, the city has to embrace a “shared development” vision

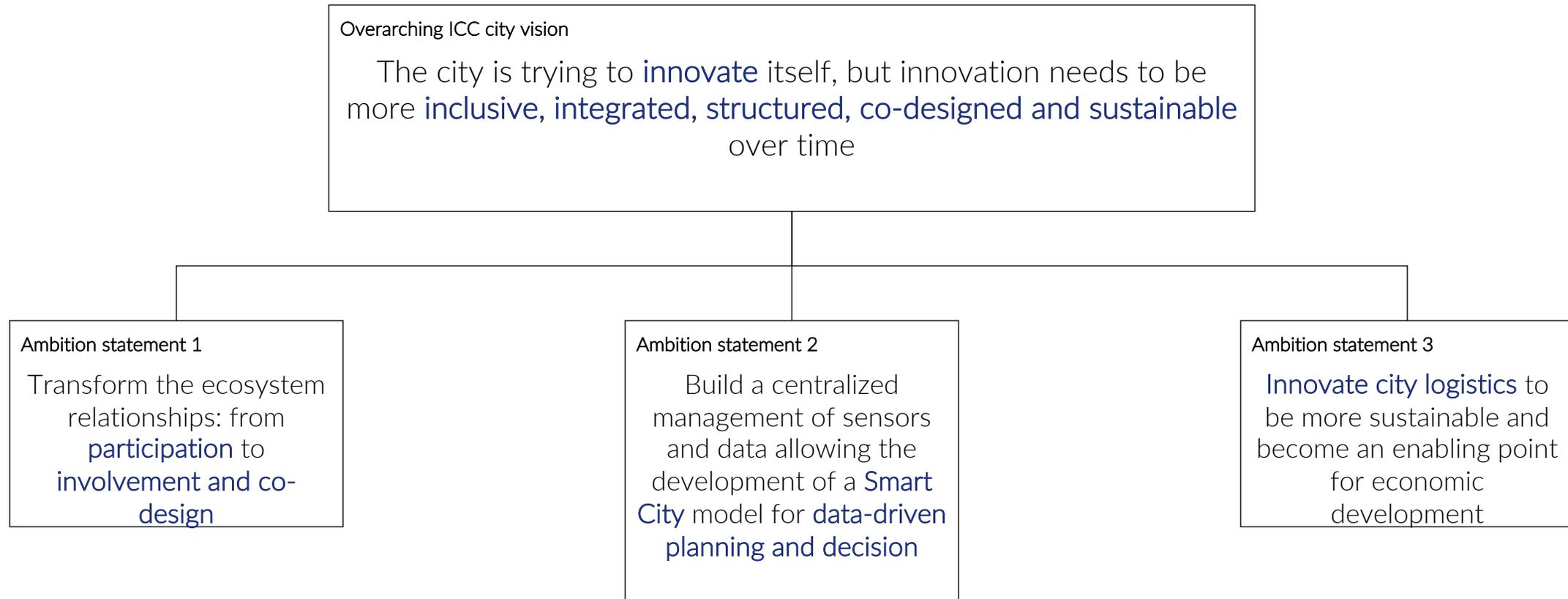
City Ecosystem – working with stakeholders

Reflections on working norms with the ecosystem

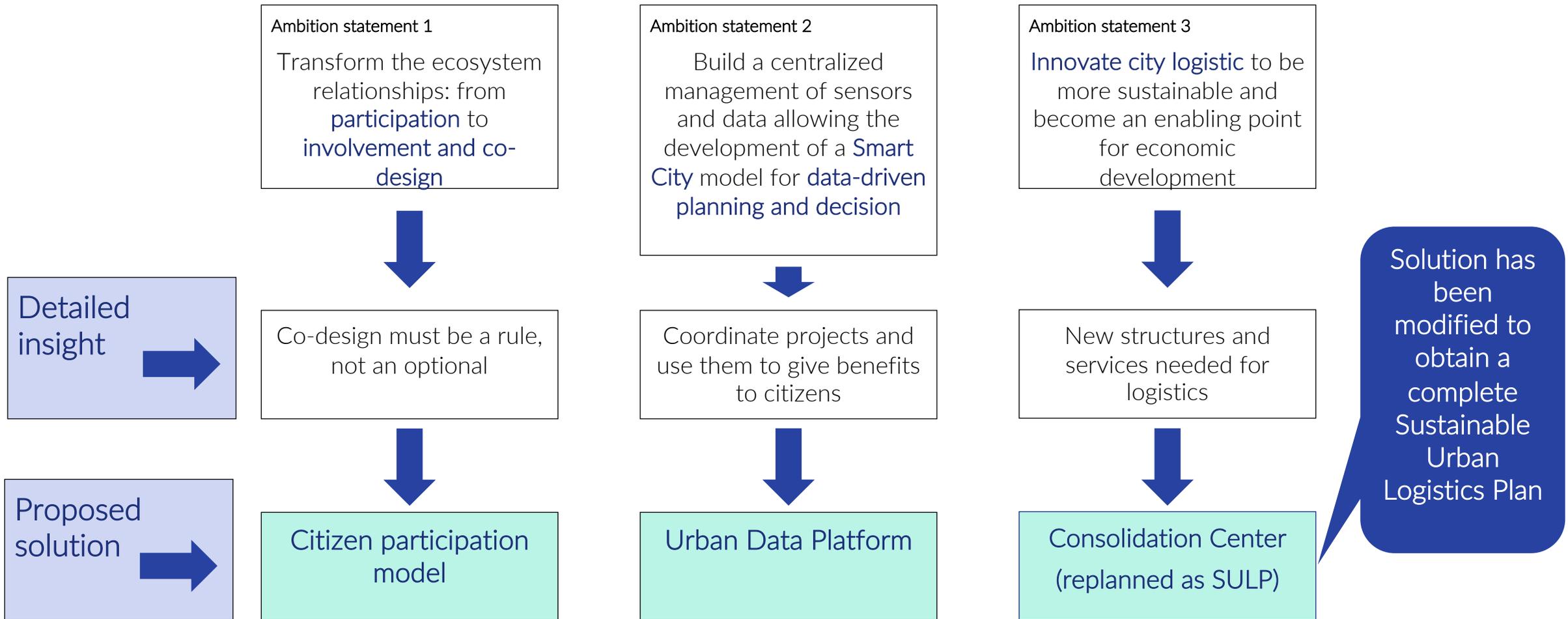
- Participation in the stakeholders group can use many different instruments, new instruments should be always be sought to unlock new participation possibilities.
- In addition to the basic stakeholder group, more stakeholders can be added, dedicated to single initiatives.
- For a good result, a proper amount of time must be dedicated to workshop set-up and dissemination.
- Stakeholder involvement is good if they see clearly which is the added value of the initiatives.

ICC strategy: Vision and ambition statements

Describe the ICC strategy: Vision and ambition statements

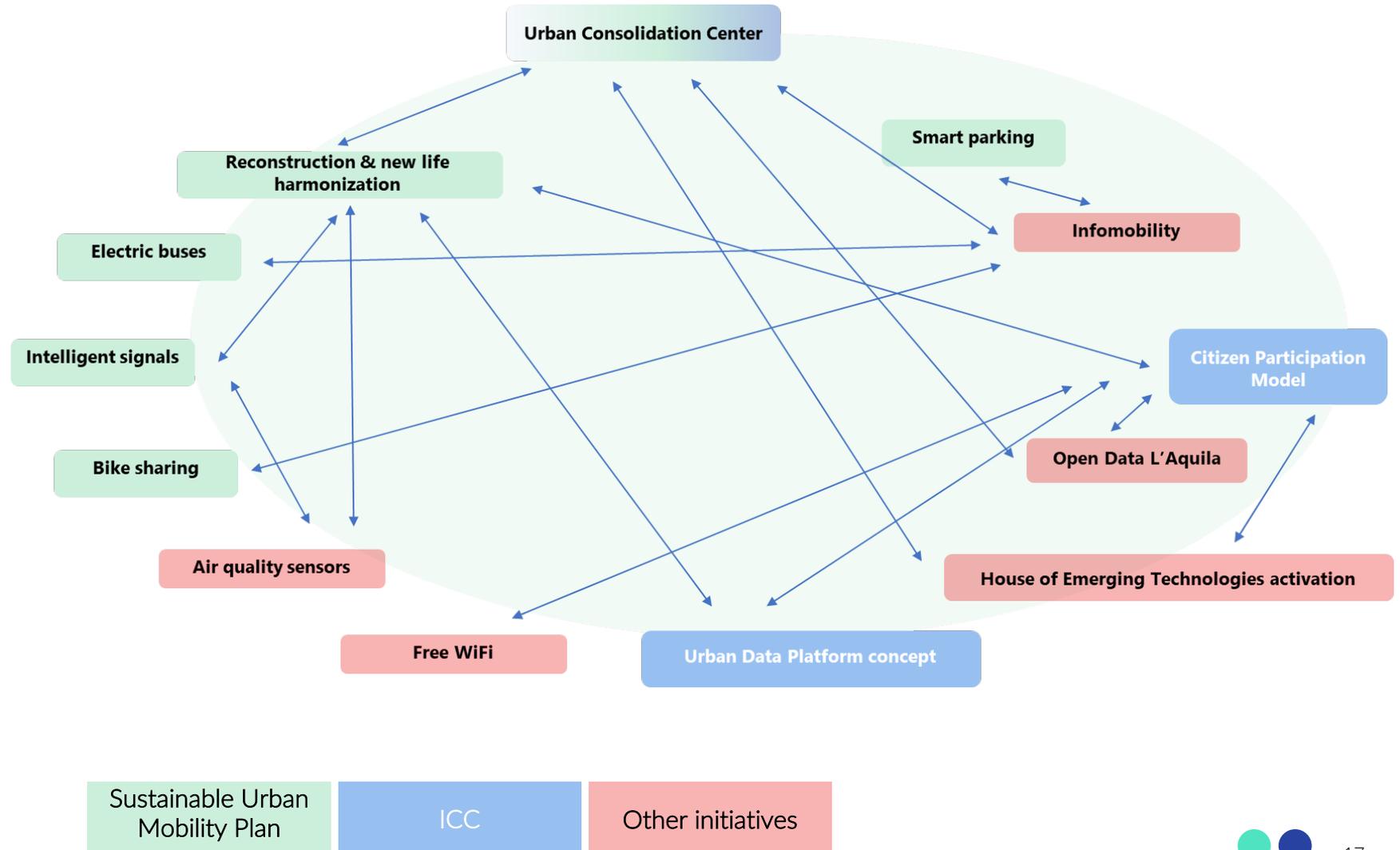


City strategy: justification

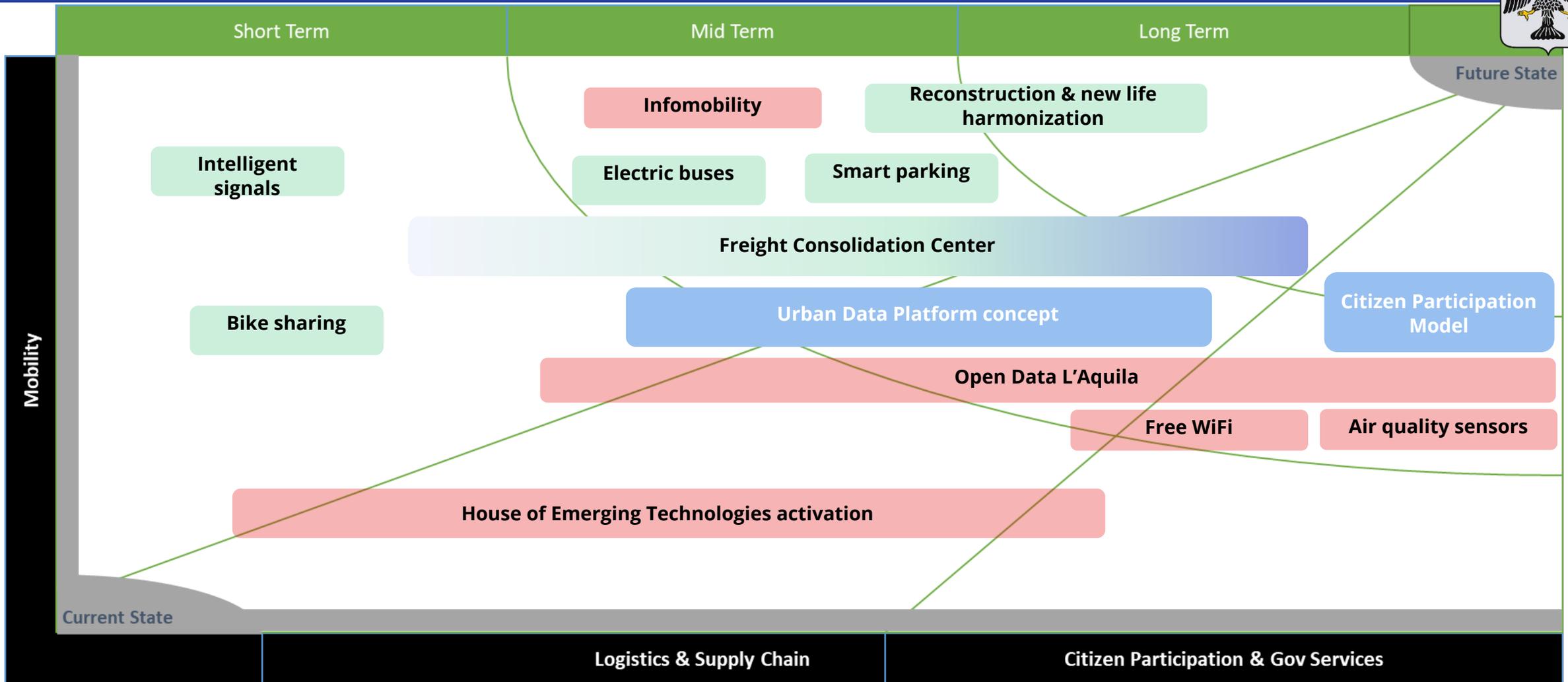


City strategy: justification

- Several initiatives ongoing in the city can be managed in accordance with ICC objectives and priorities defined during the track.
- Initiatives can be managed in a vertical but integrated way, outlining shared requirements, middle-time and long-time purposes, common elements in stakeholders, users, technologies, design process.
- For example, a Consolidation Center could have a data gathering system and some aggregated data could be periodically published in Open Data L'Aquila; at the same time, data from Open Data L'Aquila could be useful for Consolidation Center management.
- Success could be achieved using structures already established (e.g. Smart City Director's Cabin) and fostering information exchange with local research institutions



City strategy: justification



Section

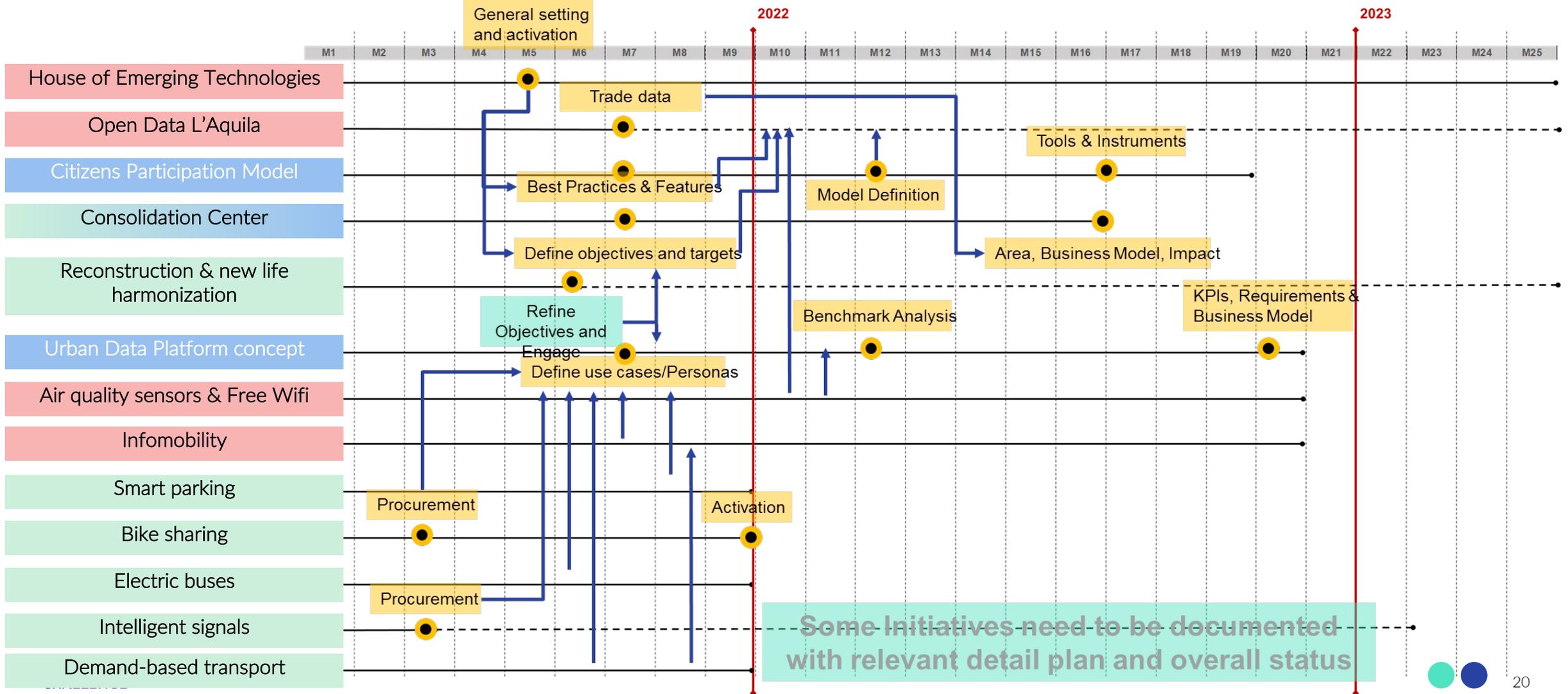
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L'Aquila: Ambition and roadmap

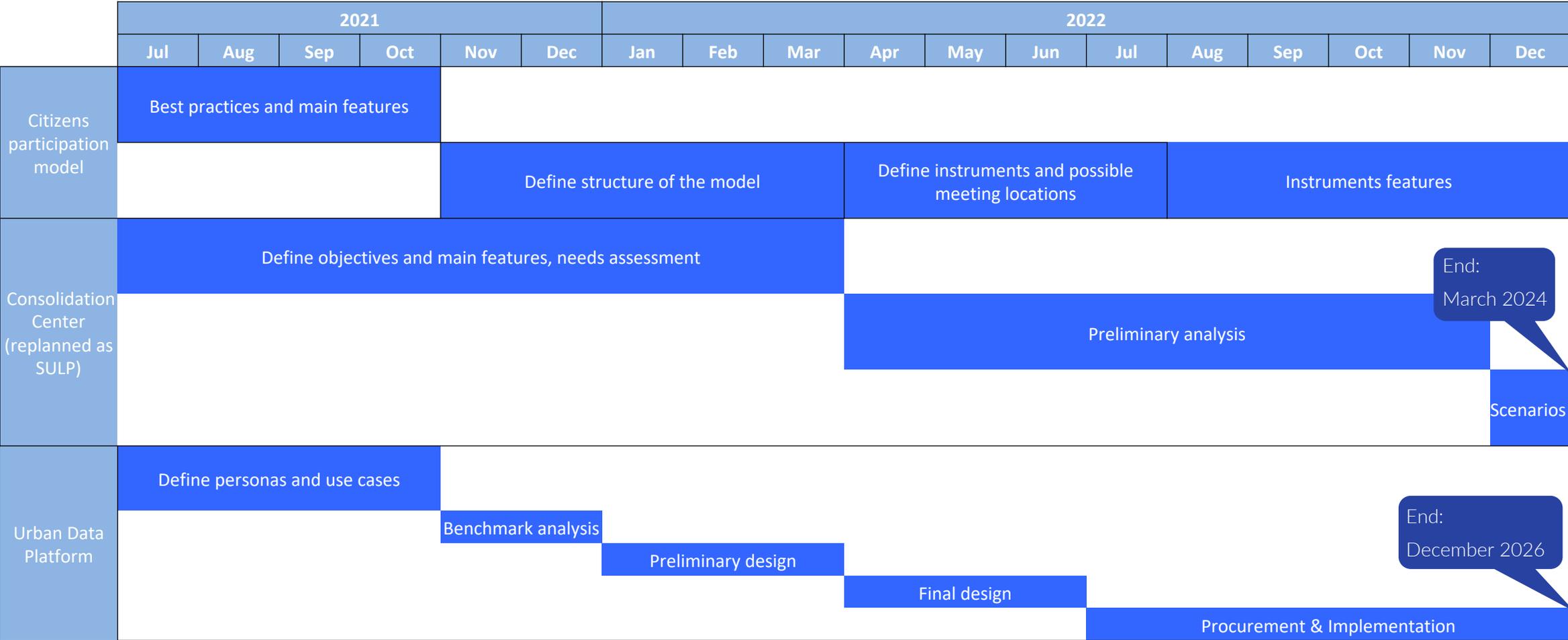
ICC Transformation

February 2021 to May 2021

High level implementation roadmap (“10000m plan” – first version and dependencies)



High level implementation roadmap (“10000m plan” – updated version)



Rationale to road map

- L'Aquila is involved in many different local, national and international projects, so roadmap design had to take into account interaction with other projects, grouped in topics.
- An important part of L'Aquila general development plan is covered by actions included in Sustainable Urban Mobility Plan (SUMP), which was designed and approved during ICC track (final approval in January 2022).
- As a general rule, resources allocation has the tendency to give more attention to activities already funded by Italian Ministries or other sources and this can cause shortage of human resources on other activities.
- Intermediate results of prioritized projects can be sometimes used to foster progress on other projects; for example, data gathered for a project can be used also in the analysis phase of another project. ICC track has built significantly on data, plan and experiences developed during SUMP design.

Initiative charter: Freight consolidation Center (replanned as SULP)

Strategy		Stakeholders involved		Inputs, outputs, outcomes and impacts	
Description  <p>Preliminary analysis for freight consolidation center</p> <p>A Consolidation Center is needed to optimize last mile logistics</p> <p>This project has been re-planned, as City Administration is now planning a complete Sustainable Urban Logistics Plan</p>	Solution lead: Municipality 	Source of funding and estimated cost  <p>70.000 euros from Italian Sustainable Mobility Ministry to develop Sustainable Urban Logistics Plan</p>			
Link to vision  <p>The city is trying to innovate itself, but innovation needs to be more inclusive, integrated, structured, co-designed and sustainable over time</p>	Solution working team: Mobility Service  <p>External experts</p>	Solution maturity outputs  <p>A comprehensive study about logistics in L'Aquila does not exist at the moment, technological solutions and advanced regulation measures have not been implemented.</p> <p>First suggestion from stakeholders to organize city logistics will be summarized to develop SULP.</p>			
Link to ambition statement  <p>Innovate city logistic to be more sustainable and become an enabling point for economic development</p>	Contributors: MemEx (Consulting company)  <p>Urban Center</p> <p>Legambiente</p>				
Expected impact and timing  <p>SULP implementation will reduce pollution coming from last-mile deliveries (impact evaluation will be performed during feasibility studies)</p> <p>SULP process should finish before March 2024</p>	Risks and mitigation  <p>Risks: reconstruction process can block the development of realistic logistics plans</p> <p>Challenges: find needed data and evaluate interaction with traffic forecasts, involve logistics company as stakeholders</p> <p>Mitigations: consider the influence of reconstruction process in logistics organization, try to involve companies while beginning the project</p>	City performance outcomes and impacts  <p>City logistics is not well regulated at the moment, a better organization will give lower pollution, less traffic jams and higher economic efficiency for local companies</p>			

Initiative charter: Citizens participation model

Strategy	Stakeholders involved	Inputs, outputs, outcomes and impacts
<p>Description</p>  <p>Define procedures and instruments to foster citizens participation, co-design and co-decision. Procedures should cover the full initiative process, from needs assessment to coordinated implementation. Instruments are needed to support the process (share information and opinions, monitoring implementation and so on).</p>	<p>Solution lead: Municipality</p>  <hr/> <p>Solution working team: Smart City Office Mobility Service</p> 	<p>Source of funding and estimated cost</p>  <p>Funding is not earmarked yet – Funding will be necessary for participation instruments establishment and maintenance (10000 + 1000 per year, estimated) and for a meeting location (still to be defined)</p>
<p>Link to vision</p>  <p>The city is trying to innovate itself, but innovation needs to be more inclusive, integrated, structured, co-designed and sustainable over time</p>	<p>Contributors: Urban Center</p> 	<p>Solution maturity outputs</p>  <p>A first model structure has been defined with Urban Center and other stakeholders. This structure has been transformed into a guidelines document under review</p>
<p>Link to ambition statement</p>  <p>Transform the ecosystem relationships: from participation to involvement and co-design</p>	<p>Risks and mitigation</p>  <p>Risks: Under administrative aspects, it's not fast and easy to adapt administrative timelines to participation results. Challenges: Spread participation procedures in City Administration Departments Mitigations: effective communication to underline that co-designed projects and plans will receive a better acceptance among citizens and will experience less obstacles during implementation</p>	<p>City performance outcomes and impacts</p>  <p>Citizens participation has been performed in single initiatives, e.g. Sustainable Urban Mobility Plan, but it's still not a rule and it's not well structured.</p>
<p>Expected impact and timing</p>  <p>Building a citizens participation model, participation could be implemented in all different Departments of City Administration, reaching co-designed plans and decisions Process should finish before December 2022</p>		<p>A wider organized participation will allow a better response to real citizens needs, will remove barriers and foster dialogue with City Administration.</p>

Initiative charter: Urban Data Platform

Strategy	Stakeholders involved	Inputs, outputs, outcomes and impacts
<p>Description</p>  <p>Build a Urban Data Platform to help data-driven city management. Platform should gather data from different city initiatives and installed devices, provide information to citizens and support simulations and data-driven decisions by calculating city indicators.</p>	<p>Solution lead: Municipality in first phase, then Invitalia</p>  <hr/> <p>Solution working team: Smart City Office Digitilization Office (to engage)</p>	<p>Source of funding and estimated cost</p>  <p>Funding is granted by National Complementary Fund (3 MEuro)</p>
<p>Link to vision</p>  <p>The city is trying to innovate itself, but innovation needs to be more inclusive, integrated, structured, co-designed and sustainable over time</p>	<p>Contributors: AMA, GSSI, University, ZTE</p>  	<p>Solution maturity outputs</p>  <p>Personas and use case have been defined and discussed with stakeholders</p>
<p>Link to ambition statement</p>  <p>Build a centralized management of sensors and data allowing the development of a Smart City model for data-driven planning and decision</p>	<p>Risks and mitigation</p>  <p>Risks: management, hosting and maintenance can be difficult to carry out if there is not a clear operation responsibility</p> <p>Challenges: Capacity building in City Administration</p> <p>Mitigations: responsibilities definition during project development, upskilling held by partners directed to City Administration employees</p>	<p>City performance outcomes and impacts</p>  <p>City data are not linked and organized now, there are few connections between different databases.</p> <p>A platform linking and organizing different data will allow fast and data-driven decisions, accurate analysis and forecasts, simulation models and research.</p>
<p>Expected impact and timing</p>  <p>The platform could rise a huge set of new services for city users and enterprises.</p> <p>Project should be completed before end of 2026</p>		<p>Intermediate results of local start of the project obtained will be transmitted to guide new project.</p>

Key Performance indicators - overview

Solution	Activities – Inputs and actions	Solution Maturity - outputs	City performance – outcomes and impacts
Freight Consolidation Center (Replanned as Sulp)	Define objectives and targets - Definitions reached	Shops data fields (number of information fields available for every shop, e.g. location, number of workers, shop surface and so on) % of activities performed Identified shops (number of shops for which requested information fields have been filled)	% of freight deliveries using green vehicles % Commercial vehicles in city center reduction People working in Consolidation Center
	Define main features - Definitions reached		
	Map variables - Map refinement		
	Find and rank usable areas - Number of usable areas		
	Choose area(s) - Choices available		
	Calculate impact (match with targets) - Congestion/pollution reduction forecasted		
	Define business model - Definitions reached		

Key Performance indicators - overview

Solution	Activities – Inputs and actions	Solution Maturity - outputs	City performance – outcomes and impacts
Citizens Participation method	Evaluation of best practices - Number of references consulted	% of activities performed Number of best practices identified	Persons involved % of participated city plans % of approved citizens proposals % of Administration departments involved
	Define main features of the model - Definitions reached		
	Define structure of the model - Definitions reached		
	Define instruments and possible meeting locations - Definitions reached		
	Define main features of the instrument - Definitions reached		

Key Performance indicators - overview

Solution	Activities – Inputs and actions	Solution Maturity - outputs	City performance – outcomes and impacts
Urban Data Platform	Define Personas	% of activities performed	Number of users % of city services connected to UDP Number of city indicators directly calculated
	Define use cases		
	Benchmark analysis		
	Define Hosting		
	Define Requirements (Features/capabilities)		
	Define business model		
	Define KPIs		

Key Performance indicators - Cross cutting indicators

Cross cutting indicators

Population

Employment rate (number of person aged 20 to 64 in employment divided by the total population of the same age group)

Total number of people participating in participation offerings

tech start-ups

Public transport total capacity

% of public transport modes with real time data availability

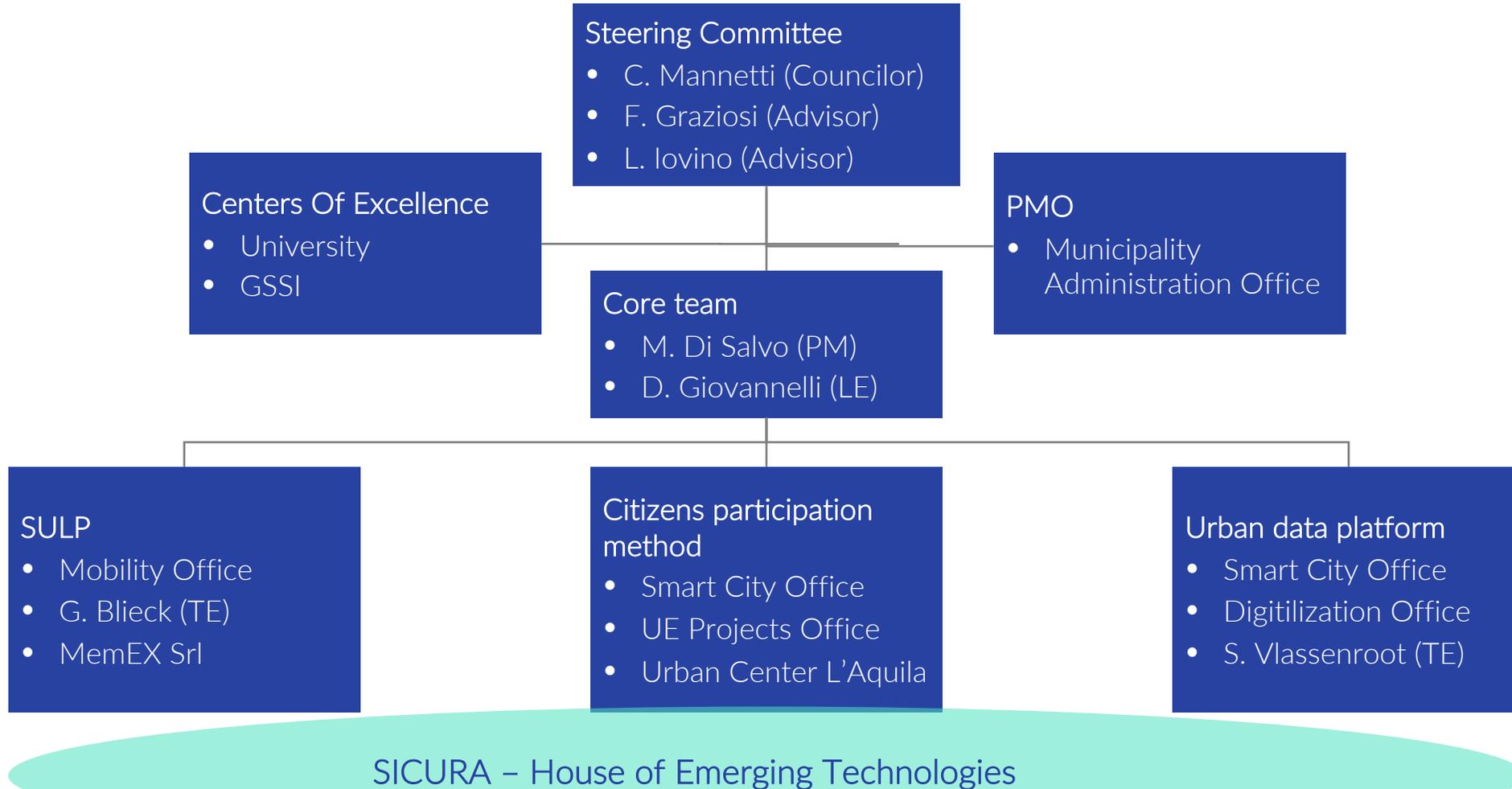
Transport satisfaction scores

% of EV in public transport

Rationale to KPI approach

- Gathering data on a regular base and calculating KPIs are still challenging activities for L'Aquila, as there is no established procedure and necessary agreements to acquire data from certificated sources and convert them into KPIs. So some KPIs have been defined mainly on general data that can be found in publicly available databases.
- Solution implementation KPIs are defined simply monitoring % of activities really performed against the forecasted ones.
- As we are introducing brand new solutions, in many cases performance indicators cannot be measured until the end of solution implementation.
- In some cases, when we use “general“ indicators it is not simple to distinguish solution impact on city performance form other variables that can influence it.

Governance structure for roadmap implementation



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Section

3+4

L'Aquila: Impact

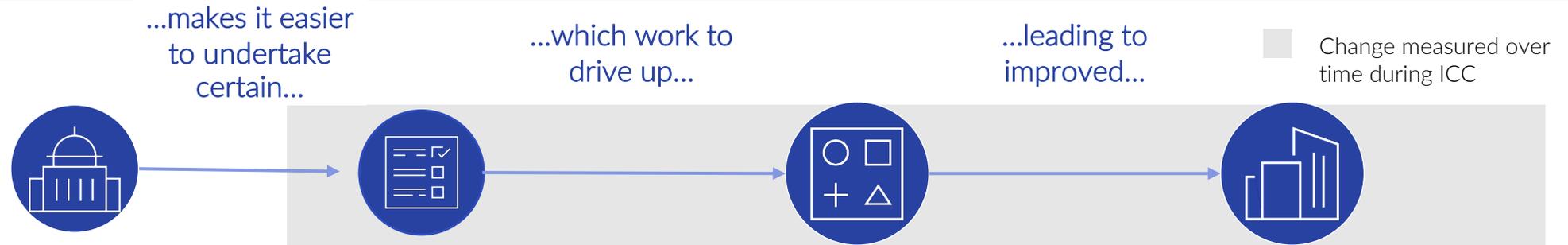
ICC Transformation

February 2021 to May 2021

Impact executive summary

- ICC track has brought L'Aquila to achieve some successes, mainly changing the approach to city management. A comprehensive needs assessment has been conducted, so giving to City Administration and stakeholders a deeper understanding of city needs. After ICC there is also a better coordination between different ongoing projects, we have found some synergies to use as a leverage. We have defined a procedure for co-design of projects, we have started a structured analysis to design future solutions for city logistics and last mile deliveries, we have gathered city projects to define some Use cases and Personas for a Urban Data Platform and we have drafted some hypothesis for its structure. We have now a wider stakeholders ecosystem and a higher involvement.
- Main obstacles to ICC track development were: shortage of internal resources (mainly allocated to respect deadlines on funded projects), effort to stimulate some stakeholders to participate also to “general” sessions, i.e. to sessions not dedicated to single projects raising their particular interests.
- In next three years, we want to continue working on some main themes:
 - Inclusion and coordination, giving a new structure to Smart City Director's cabin, establishing a transversal working group internal to City Administration and dedicated to EU Policies and Smart City, using structured participation on a regular base
 - Sustainability, with implementation of SUMP actions, design of SULP, transition towards intermodality and MAAS paradigm
 - Use research and education system as a booster for economic development, using structures as the House of Emerging Technologies and building stronger connections for technology transfer and upskilling

There are four types of measurable concepts that come together to drive success in the ICC



Idea	Local enablers – city characteristics	Activities – actions and inputs	Technology maturity – outputs	City performance – outcomes and impacts
Description	<p>Each city has unique strengths and weaknesses that help action happen. These can be stakeholder networks, local capabilities, cultural factors or many more that drive success in ICC projects.</p>	<p>A cities main intervention on the ICC is to take actions. These can be direct (e.g., procuring technology), or indirect, (e.g., forming a working group on a topic). The right actions can lead to the right inputs going in to the ICC (e.g., funding, time)</p>	<p>Cities can drive technological solutions to try and improve city performance. How well these solutions are currently used can be described as their 'maturity', - considering whether they are available for stakeholder use, what stakeholders think of them, and so on</p>	<p>Success of an intelligent city is ultimately measured by its ability to address city needs. These can be considered an improved quality of citizen life and a better environment for stakeholders</p>
Example	<p>A history of strong collaboration between city and a local university...</p>	<p>...allows the creation of a new e-health pilot project using social housing in the city...</p>	<p>...leads to the launch a new tele-health solution utilising 4G data connections...</p>	<p>...resulting in pre-emptive diagnosis and lower wait times at medical facilities</p>

Assessment of city performance - discussion

- City population is slowly getting back to levels reached before 2009 earthquake, but social canvas is still to be rethought and rebuilt. As a consequence, citizen participation has to be structured and organized; people have shown during ICC a strong desire to take part in conceptual reconstruction of the city.
- L'Aquila shows an outstanding research and education system, but there are still not enough occasions to develop a sound and stable technology transfer process to enable economic growth through research results.
- A systematic data gathering must be established to build a “digital twin” of the city to be used as a support for planning, project evaluation, KPIs calculation and to implement a smart city model.
- Modernization process on public transport has begun, but much work is still needed to convert the whole system to full intermodality, fostering sustainable mobility culture in a society traditionally using private cars.

Assessment of solution maturity - progress against KPIs

	Where we started	Midway through the challenge	Final results
Freight Consolidation Center (Replanned as SULP)			
1 Shops data fields	0	2	
2 % of activities performed	0	29%	
3 Identified shops	0	557	
Citizens participation model			
1 Best practices identified	0	5	5
2 % of activities performed	0	80%	
Urban Data Platform (Replanned)			
1 % of activities performed	0	35%	

Assessment of solution maturity - discussion

- For some projects, lack of specific knowledge in Public Administration can cause a slower progress, so an upskilling can be necessary, mainly for people working on innovation areas. Moreover, stronger connection must be designed inside and outside the City Administration, to break silos and make decision and information sharing processes smoother.
- Urban mobility transformation is proceeding quite well, still some work is needed to achieve a better integration with smart city activities; in future, also KPIs should be integrated between different operation areas.
- Participation procedures are an important part in project design, but sometimes interactions take longer times than forecasted and Public Administration procedures in general have not enough attention for this phase, so raising the risk to lose some contributions or failing to transfer inputs into final projects.

Assessment of city ecosystem and activities - progress against KPIs

	Where we started	Midway through the challenge	Final results	
Ecosystem				
1	Number of stakeholders groups involved	7	12	12
2	Number of projects shared with stakeholders	5	11	11
3	Number of collaborations on single projects	4	6	6
Activity				
1	Number of monitored projects	11	14	14
2	% of activities performed on ICC solutions (mean value)	0%	48%	

Assessment of city ecosystem and activities - discussion

- Replanning has been necessary for some projects (Urban Data Platform and Freight Consolidation Center), as different and wider opportunities have risen during ICC track.
- Cooperation instruments and procedures need to be refined; much of ICC process has been affected by Covid 19 restrictions, so making interaction more difficult. Co-design must be more structured on a regular base.
- Smart City Director's Cabin should be reformed and included in a wider cooperation system including City Administration Departments, stakeholders and citizens.
- It is important to establish a stakeholders group actively involved in projects also not directly linked to their interests and operation fields, so to obtain a multidisciplinary approach in discussion and co-design
- Priorities over Next Generation EU projects and other financed projects have made harder to allocate time and resources on ICC activities.

5 key lessons

Lesson	Reflections
1 Time for dialogue	It is important to schedule a regular dialogue with stakeholders, give them updates about ongoing projects and asking them about their priorities and ongoing project. Trust across the ecosystem can be built demonstrating that every initiative, feedback and contribution in general has a follow-up (e.g. evaluation and action planning).
2 Scouting	Beyond local ecosystem, a continuous scouting work must be performed on regional and national trends, projects and funding opportunities, to find grant possibilities and project synergies based on assessed needs.
3 Break silos	Contacts between different departments in the City Administration cannot be managed on a personal-knowledge base, it is necessary to establish transversal working groups and fixed cooperation procedures.
4 Need for cooperation	Even when you are carrying out innovative projects, the best project is fated to failure if you don't have cooperation and acceptance among stakeholders and users. Sometimes a "Kaizen" approach can be a soft way to disrupt social inertia.
5 Resources	In some cases, resources availability on projects not funded can be low, because priority is given to the respect of deadlines on funded projects. This obstacle can be partly (but non completely) overcome by stressing communication to make people understand the added value of every project.

Reflections on city collaborations

- Cooperation among cities can rise starting from common interests or other common characteristics (geographical zone, economic structure, dimension and so on).
- On the other hand, a real cooperation on common projects can be blocked by different factors: for example, different national laws or funding procedures can make easier some actions for a city and harder for another.
- L'Aquila had contacts with Padua, establishing a collaboration for City Vision initiative organized by Fiera di Padova/BLUM.
- Also, some information exchange was made with Rome about common projects concerning sustainable mobility, sustainable logistics and citizens participation.
- Preliminary contacts and information exchange are quite easy to establish, while real cooperations to develop common projects are much harder to start.

Commitments

Commitments to on-going resources

Adopting a new governance model for Smart City and EU projects, with a match between internal structure and participation ecosystem, develop upskilling on City Administration personnel

Commitments to on-going collaboration

Continuing cooperation with University, GSSI and other stakeholders and establishing a regular data exchange about projects implementation, creating new network connections with other cities to cooperate on common projects

Commitments to on-going KPIs

Enhancing the number of calculated KPIs, raise satisfaction on Local Transport, raise % of projects co-designed with stakeholders and citizens

3 Years plan - ambitions

Building on the ICC, what would will the city aim to achieve in 3 years time?

Achieving a wider cooperation with citizens and stakeholders, using city data for planning and decision making, spreading sustainable mobility and intermodality culture to obtain lower GHG and noise emissions

What steps will you take over the next 3 years to achieve these goals?

Completing the implementation of a participation system for co-designed projects, calculating City KPIs regularly, developing a unified system for data exchange among city departments and institutions, designing Sustainable Urban Logistics Plan and continuing implementation of Sustainable Urban Mobility Plan actions

3 Year plan - targets

KPI	Category	What commitments will the city make to this end?
1 Sulp design - % of activities	Solution maturity	Completing Sulp design and approval, feasibility study for Freight Consolidation Center
2 Number of stakeholders groups involved	Ecosystem	Enlarging the ecosystem reaching involvement of at least 20 stakeholders groups
3 % of freight deliveries using green vehicles	City performance	Reaching 10% of deliveries using green vehicles in first year of Sulp implementation
4 Number of city indicators evaluated on a regular base	City performance	Evaluating 10 city indicators, at least yearly
5 Number of monitored projects	Activities	Reaching the number of 25 ongoing projects regularly monitored

Appendix

L'Aquila: Additional information

ICC Transformation

February 2021 to May 2021

City Needs: State of the city – detailed analysis

Higher performance areas 

Key insight

Education and Research system is of excellent level.

Data points

University of L'Aquila is on 2nd place in Italy (and 87th in the world) in the sustainability ranking by Times Higher Education, 1st in Italy for Atmospheric Science in Shangai ARWU 2020

The Gran Sasso Science Institute (GSSI) is an international PhD school and a center for research and higher education in the areas of Physics, Mathematics, Computer Science and Social Sciences

The city hosts ZIRC, the Innovation and Research Center of the international ICT company ZTE.

Gran Sasso National Labs for Nuclear Physics are located near the city

Interpretation

Education and research are important elements of the economic structure of L'Aquila

So what?

Integration of research system in city activities must be strengthened, L'Aquila must offer a wide collection of affordable services for students and researchers

One of the aims in the ICC track is to find ways to industrialize the results of research projects

City Needs: State of the city – detailed analysis

Higher performance areas 

Key insight

Data points

Interpretation

So what?

Health system is well developed

L'Aquila has an important Hospital (also connected to Medicine Course in University) with a separated Covid structure and the District Health Agency.

An Health Emergency and Rescue Operation Center will be established soon.

In 2020 Report presented by ItaliaOggi, L'Aquila is on 10th position out of 107 Italian Districts in the item "Health system"

Health system is basically good

Traditional care organization must be sided by new opportunities offered by emerging technologies (Remote diagnosis, smart pharmaceutical delivery,...)

Government services show a good general level (but no excellence points)

Based on ICC CityScanner and SmartCity reports.

The city has 2 open data platforms (one general purpose, the other dedicated to reconstruction in cooperation with State institutions), but the digitization level in services for citizens is not good yet

Benefits coming from innovation must be done available to every citizen and user in the city system

The innovation track to provide services to citizens must be fastened and integrated with research projects

City Needs: State of the city – detailed analysis

Higher performance areas 

Key insight

Culture in general shows a good development level

Data points

L'Aquila hosts the “Perdonanza”, belonging to UNESCO Intangible Heritage.

Many cultural events are normally held during the year.

In 2020 Report presented by Il Sole 24 Ore (important financial newspaper), L'Aquila is on 11th position out of 107 Italian Districts in the item “Culture and Freetime”

Interpretation

Culture and cultural heritage can be powerful leverages for social and economic development

So what?

Work is still needed to spread a cultural and inclusive attitude among citizens, cultural heritage must be available to everyone

Social connectedness and identity are good

Based on ICC CityScanner and SmartCity reports. 12th position in “Social Security” ranking in ItaliaOggi report 2020, 54th on “Social quality” ranking in ICityRate report 2019

Recovery after earthquake has pushed citizens pride and identification as a leverage for a new development

City identity must be held alive, but city must gain a new self-consciousness through contact with different territories

City Needs: State of the city – detailed analysis

Lower performance areas



Key insight

There are no studies or organized datasets about city logistic. Logistic is still influenced by materials supply for building sites

Data points

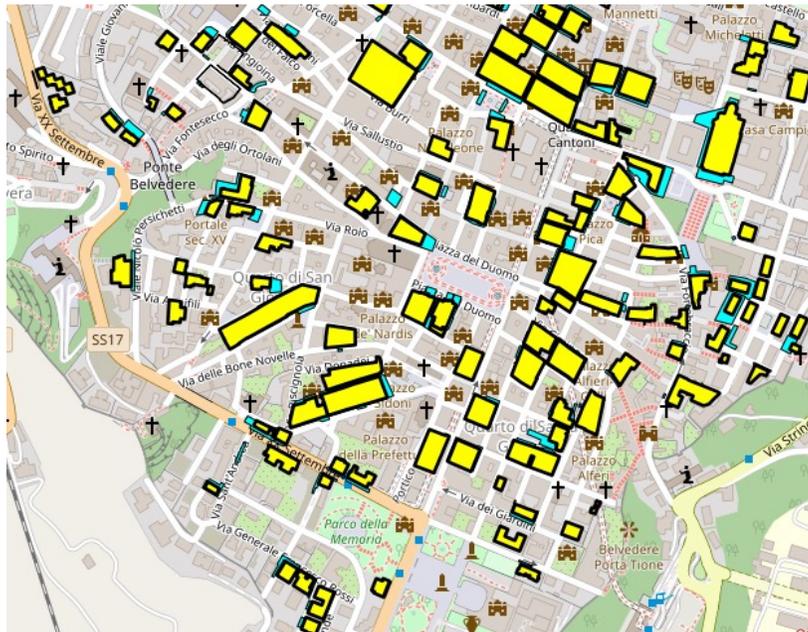
Only general data can be found about city logistics, surveys performed during the Sustainable Urban Mobility Plan process did not bring many results.

Interpretation

Reconstruction process still has a huge impact on city life, so blocking a good logistics planning

So what?

Data search must be performed to understand the state of logistics in the city and plan its management in the future



On the left: rebuilding sites still working in the historical center - involved buildings in yellow, building sites additional ground occupation in cyan

On the right: cranes turning areas in the same zone



City Needs: State of the city – detailed analysis

Lower performance areas



Key insight

Data points

Interpretation

So what?

Citizens mobility is being strengthened and shifted towards sustainability, but the mobility system is not enough green and solid yet

86th position on ICityRate report 2019 (based on 2018 data). Satisfaction about public transport is 2,4 / 5 (110 Google reviews)

Public transport must be strengthened, adapted to citizens needs and the process must use green technologies

Continue the process already started (SUMP, electric buses, bikesharing, bicycle routes and so on)

Economy is slightly weak in an absolute sense, however quite strong if compared to the general situation of Central and Southern Italy

GDP per capita in 2019 is 21545 k€ in L'Aquila district, value for Southern Italy is 19200 k€ while Italian mean value is 29700 k€

Economy is better in a little area in and around the city, but lack of economic connections with the rest of the region causes weaknesses

Opportunities for economic development must be searched and exploited

The city needs methods for the management of ongoing initiatives and an enhancement of participation and co-design procedures

There is not an updated screening about initiatives managed by different institutions, participation has been used for the SUMP and some other projects, but it's not a rule

Participation must be a part of main administration procedures

Develop methods to coordinate initiatives and enhance participation

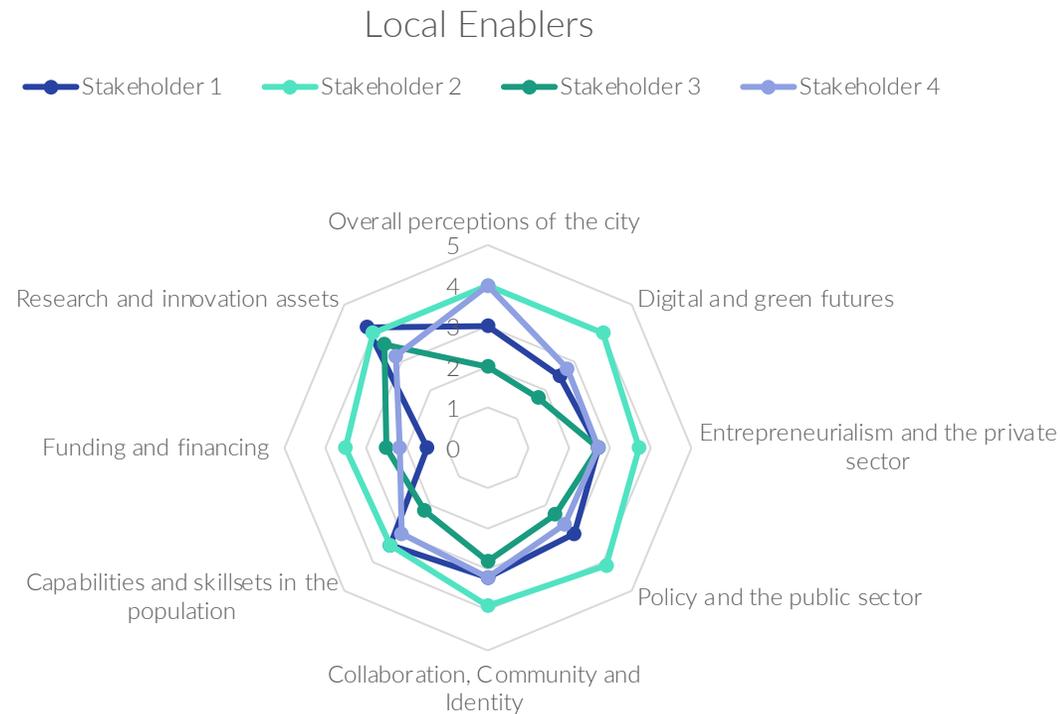
Environmental quality in general is fine, but a diffusion of environmental culture is needed

There are no major issues about air pollution and the city is in a very green zone (natural parks, protected zones and so on), but much still has to be done about circular economy/waste management and to include environmental variables when considering new projects

L'Aquila has a great natural heritage, but not enough involvement in protecting and enhancing its value

Consider environmental aspects in every new planning and government project

City Needs: bottom-up perspectives

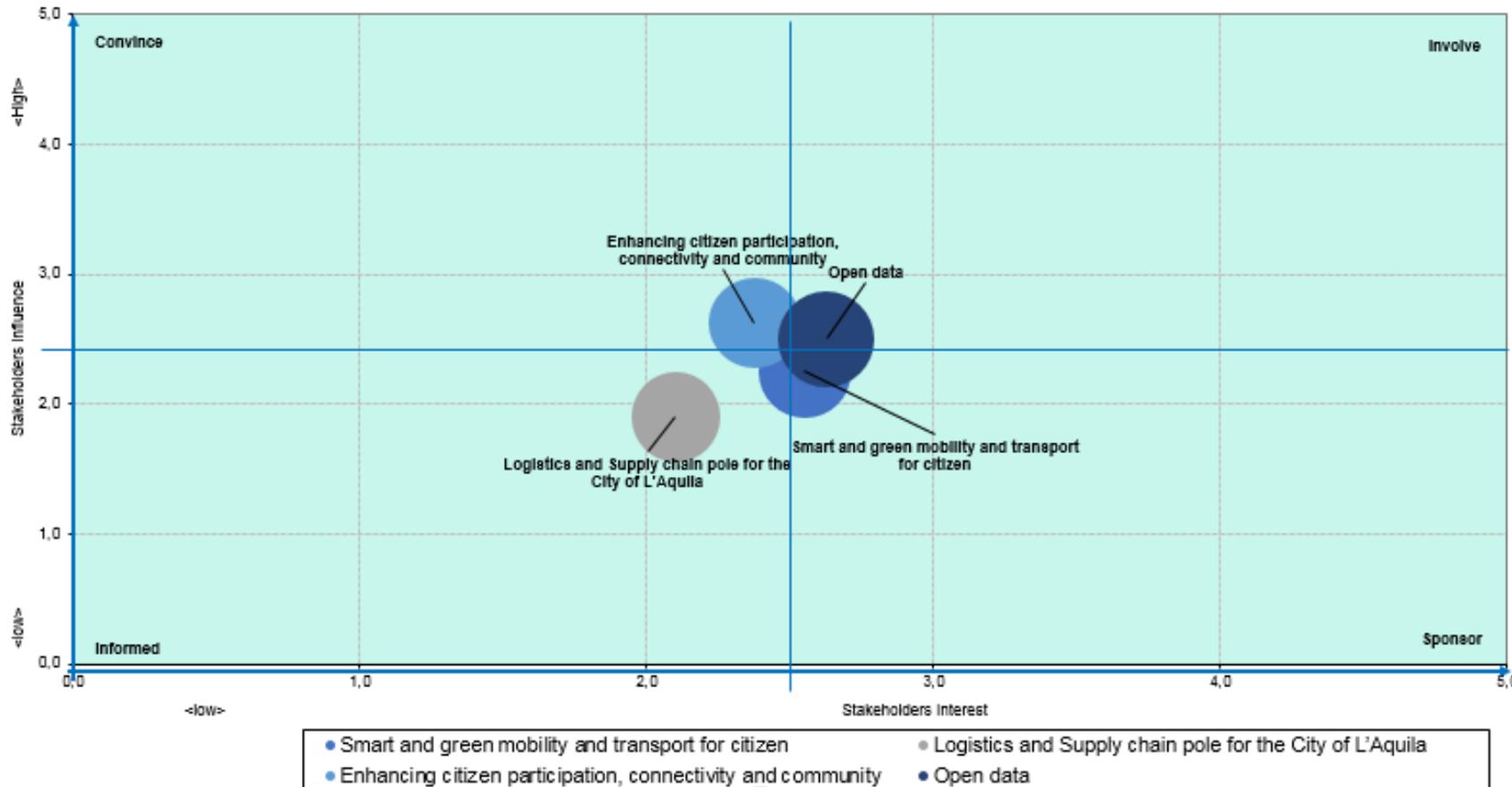


Stakeholders recognize Research system value, other results are much variable. Quite low mean values in “Entrepreneurialism and the private sector” and “funding and financing”

City Needs: bottom-up perspectives

Stakeholder Map

Size of the circle = benefici attesi (I.e. Più grande è la dimensione del cerchio, maggiore è il beneficio atteso)



Low differences about expected benefits

Highest interest for “Smart and green mobility and transport for citizens”

“Citizen participation” shows the highest influence value for the stakeholder group

Logistic hub shows the lowest values for interest and influence

Higher interest values on open data and people mobility