II Congreso de Ingeniería Municipal

Barcelona 27 y 28 de Octubre

ESTRATEGIA DE RESILIENCIA URBANA

EN BARCELONA.

MANUEL VALDÉS LÓPEZ

DOCTOR INGENIERO DE CAMINOS, CANALES Y PUERTOS\
GERENCIA ADJUNTA DE INFRAESTRUCTURAS Y COORDINACIÓN URBANA\
HABITAT URBÀ \ AJUNTAMENT DE BARCELONA

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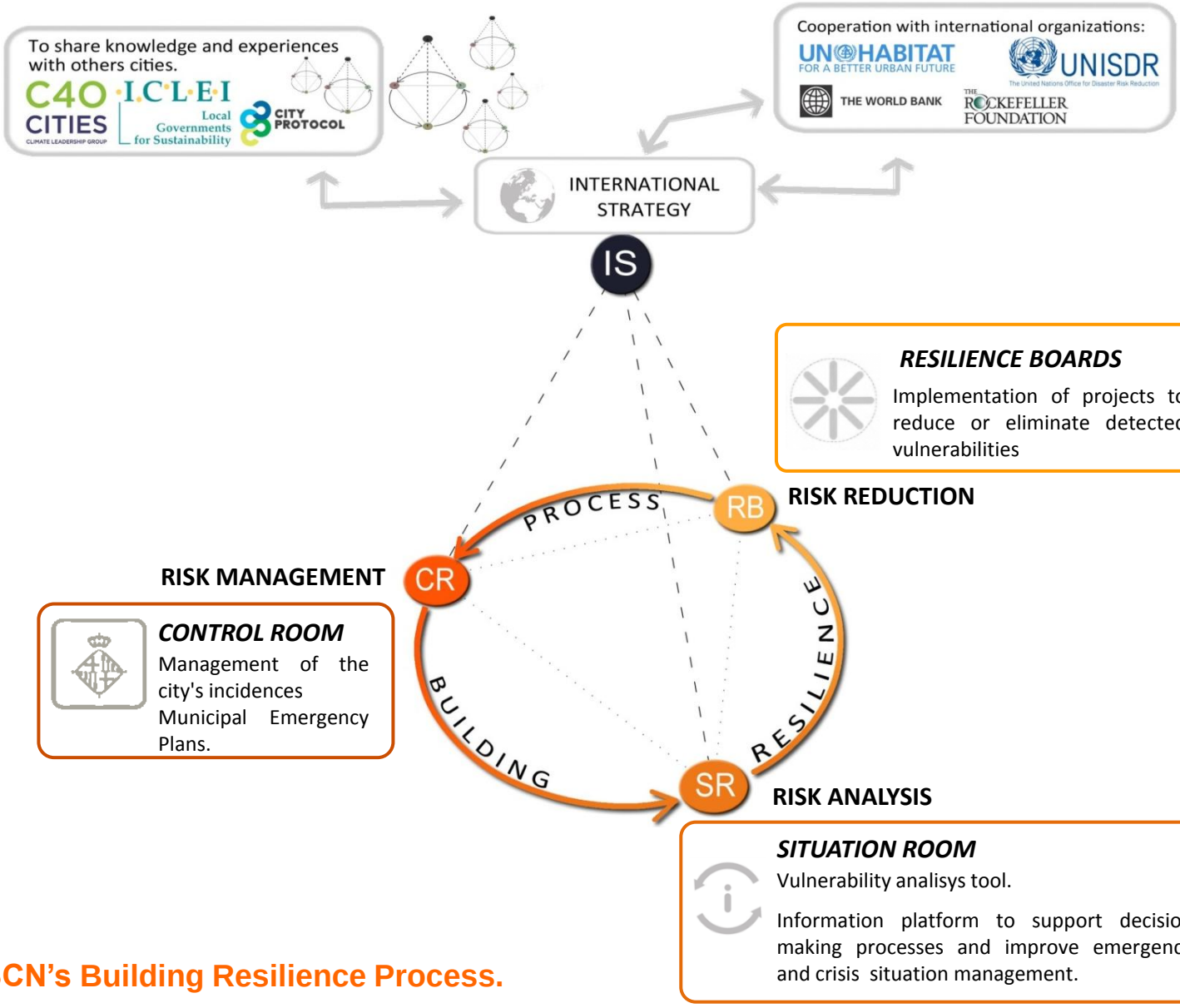
Col·legi d'Enginyers Tècnics
d'Obres Públiques de Catalunya

RESILIENCE DEPARTMENT STRUCTURE

- Control Room.

CREATION OF A RESILIENCE DEPARTMENT WITHIN CITY COUNCIL'S ORGANIZATIVE STRUCTURE.



BCN's Building Resilience Process.

RESILIENCE STRATEGY: A continuous process

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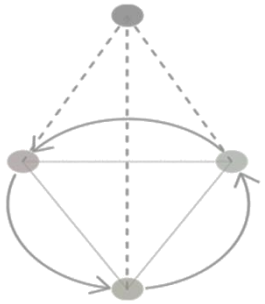


RESILIENCE DEPARTMENT STRUCTURE

- Control Room.

· Management of the city's incidences.

· Municipal Emergency Plans.

CONTROL ROOM WITHIN RESILIENCE STRATEGY.

RISK MANAGEMENT

VISION:

- To have a transversal vision of the city.
- Knowledge's improvement about the working condition of the city.
- City's response capacity improvement against critical situations.
- To improve communicating capacity with involved stakeholders in city planning-management .
- To improve continuity and efficiency Guarantee of management city's services.

OBJECTIVES:

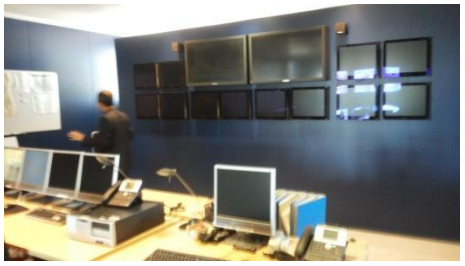
- To prepare a place of access to critical information about city's state in order to support analysis and strategic decision-making.
- Control Room's performance improvement in order to be able to assume it's new role in the city's resilience strategy.

CONTROL ROOM'S BACKOFFICE: FUNCTIONAL SCHEME

- Operative transverse vision focussed on solving incidences and improving urban services management.
- City's response capacity improvement against critical situations and emergencies.
- To improve the new CR's role as a communication kneecap between different stakeholders.

CONTROL ROOM'S FRONTOFFICE: FUNCTIONAL SCHEME

- To have an information access place (accessible to Mayor and it's counsellors) that allows to have a real time transverse vision of the city.
- Support tool on strategic decision-making.
- Always connected to Control Room's BackOffice.



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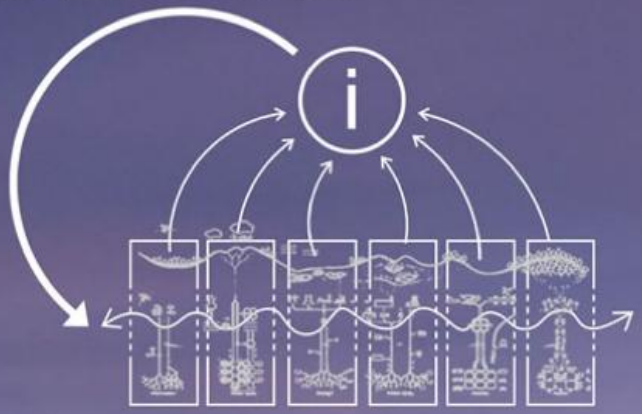
RESILIENCE STRATEGY: A continuous process

PLATAFORMA DE CONEIXEMENT

Generació i comunicació de nova informació, no disponible actualment, de suport a la presa de decisions



APRENENTATGE

Historització de dades, permet incorporar millores al sistema respecte esdeveniments passats

situation [room]

Sign in

username

password

Log in

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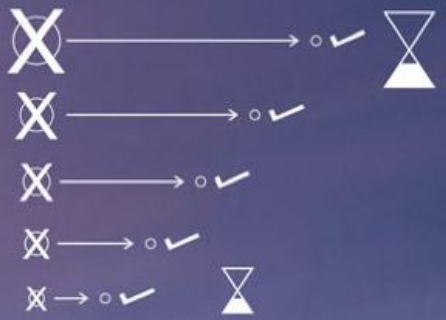
EFICIÈNCIA

Eina de suport per una gestió més eficient



VERSATILITAT

Múltiples usuaris, facilitat d'adaptació de continguts

SITUATION ROOM

Integration of City information/maps.

CityProtocol.org

STRUCTURE

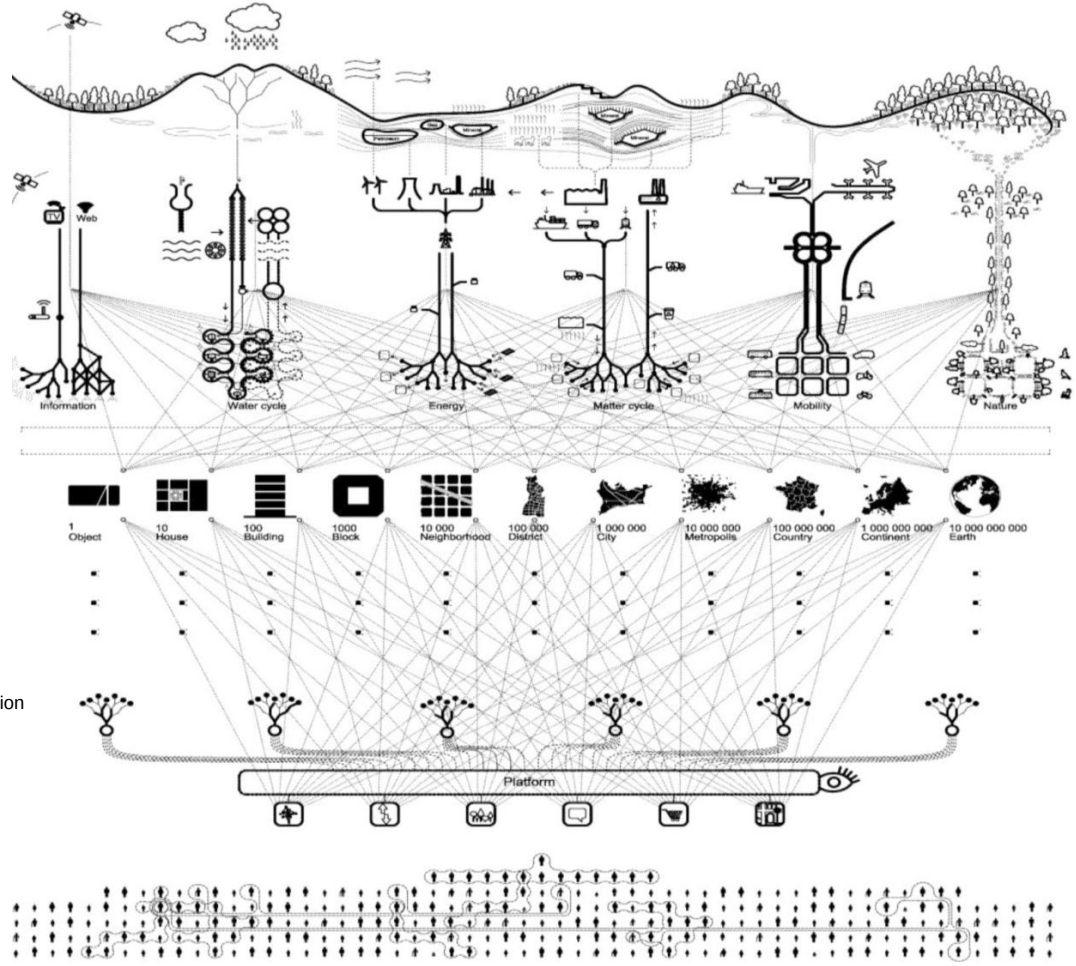
- Environment
- Infrastructure
- Public space
- Nodes
  - housing
  - industry
  - offices
  - shopping
  - economy
  - leisure
  - health
  - education
  - culture
  - sports
  - administration
  - security

INFORMATION

- Information

CIVITAS

- People



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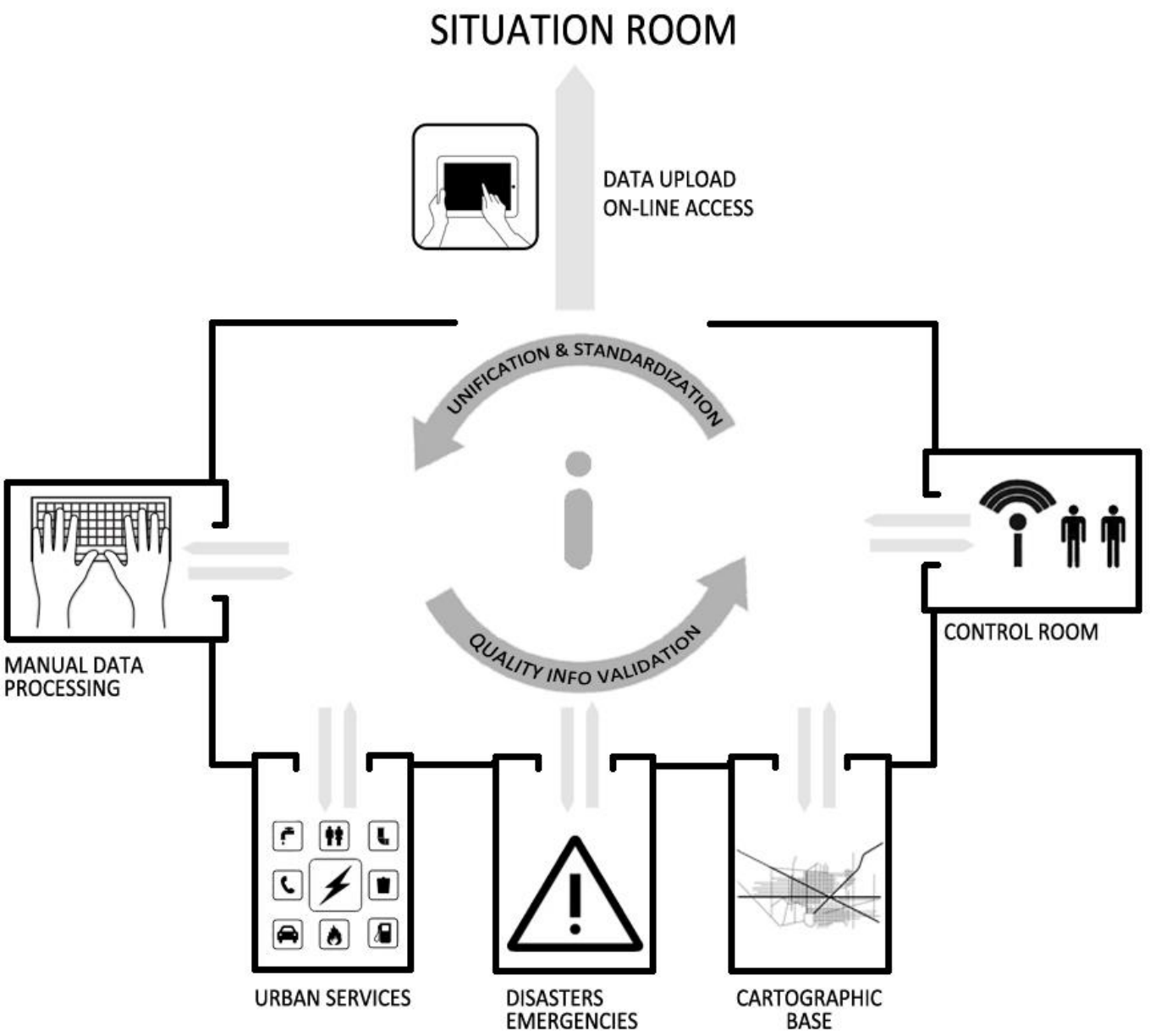
THE SITUATION ROOM: Integration of all city functional information

SITUATION ROOM

Integration of City information/maps.



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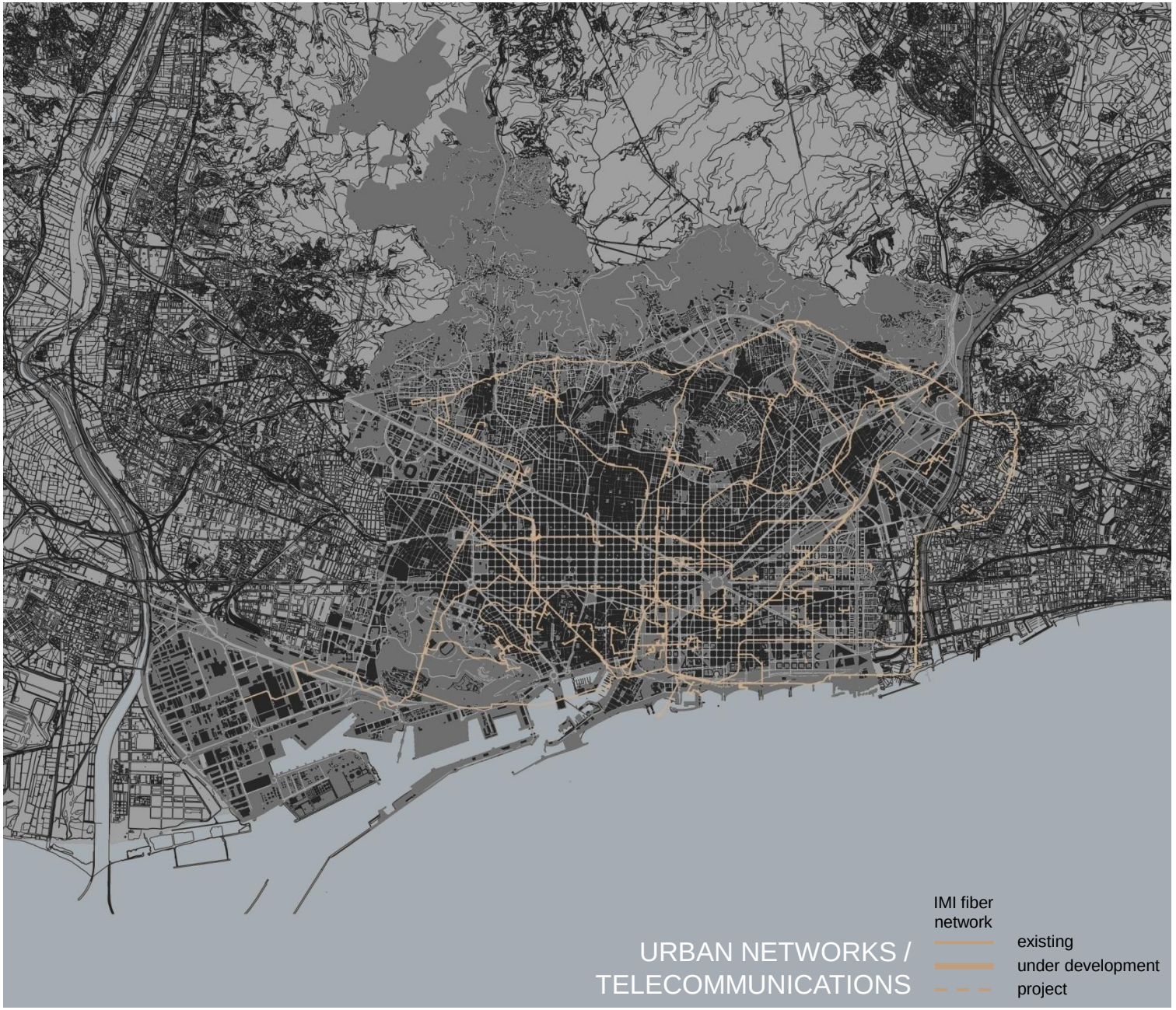
THE SITUATION ROOM: Integration of all city functional information

SITUATION ROOM

Integration of City information/maps.

-Urban networks:
- -Telecommunications
- -Water cycle: supply
- -Water cycle: sewer
- -Matter cycle
- -Energy
- -Mobility



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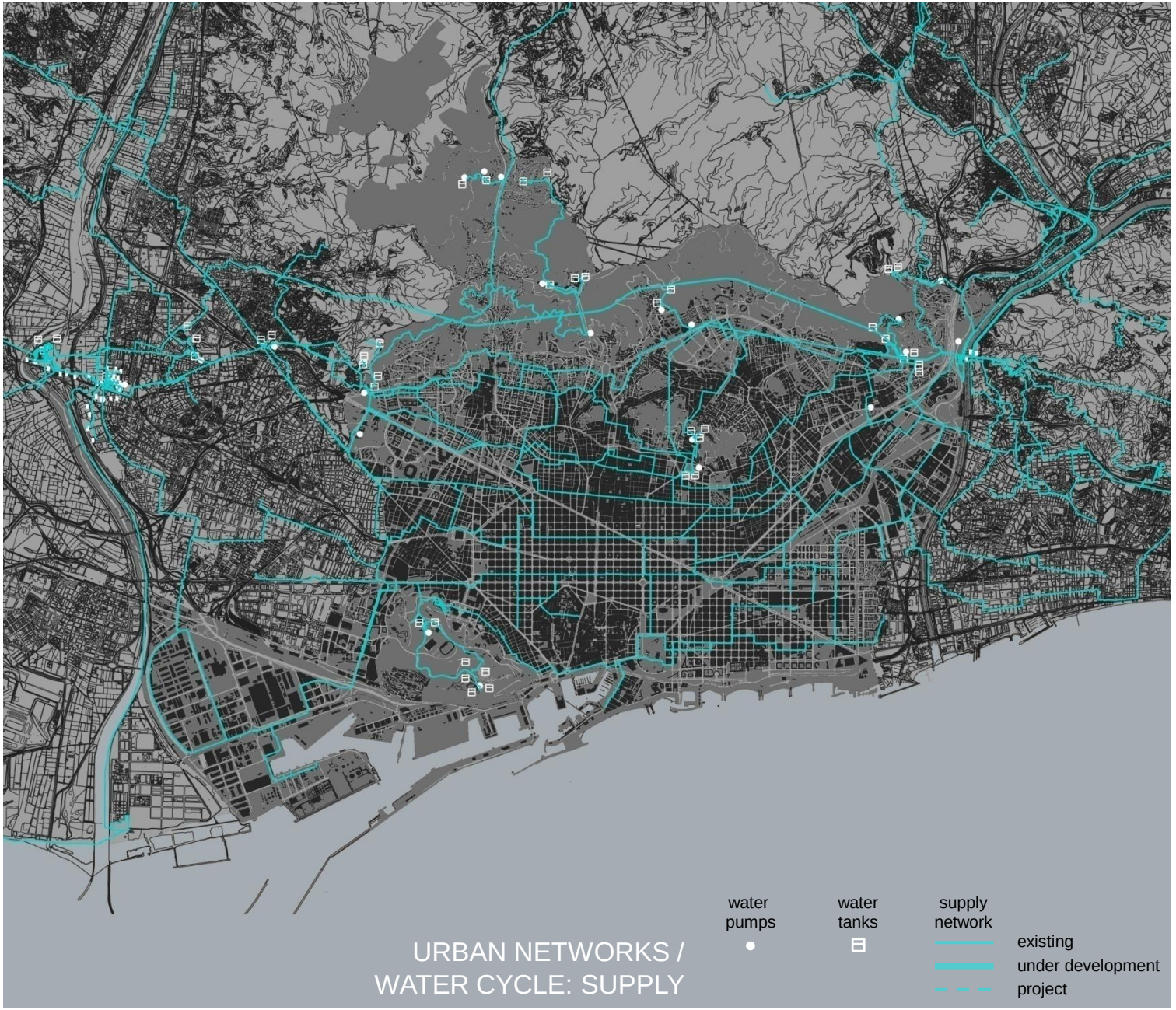

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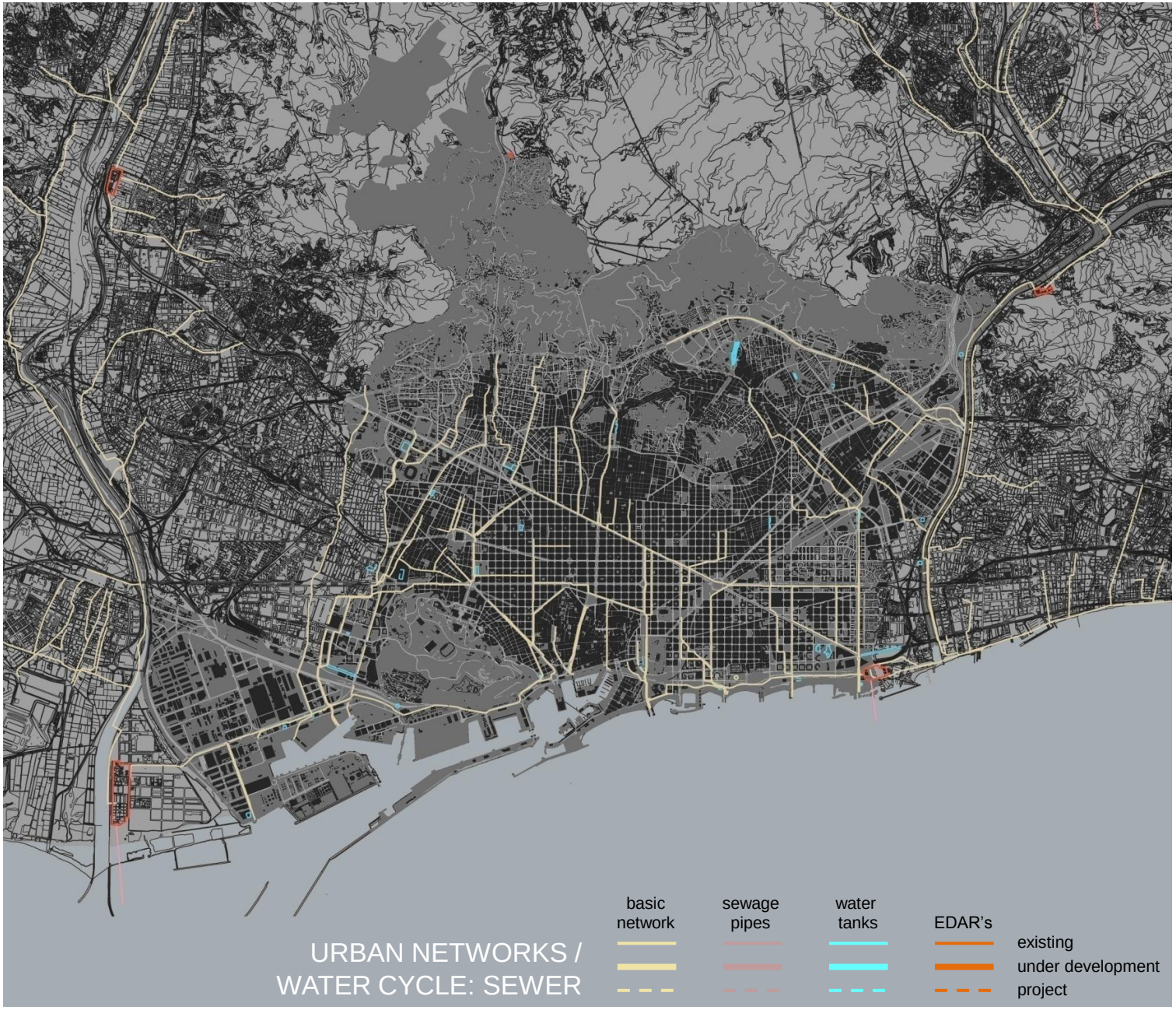

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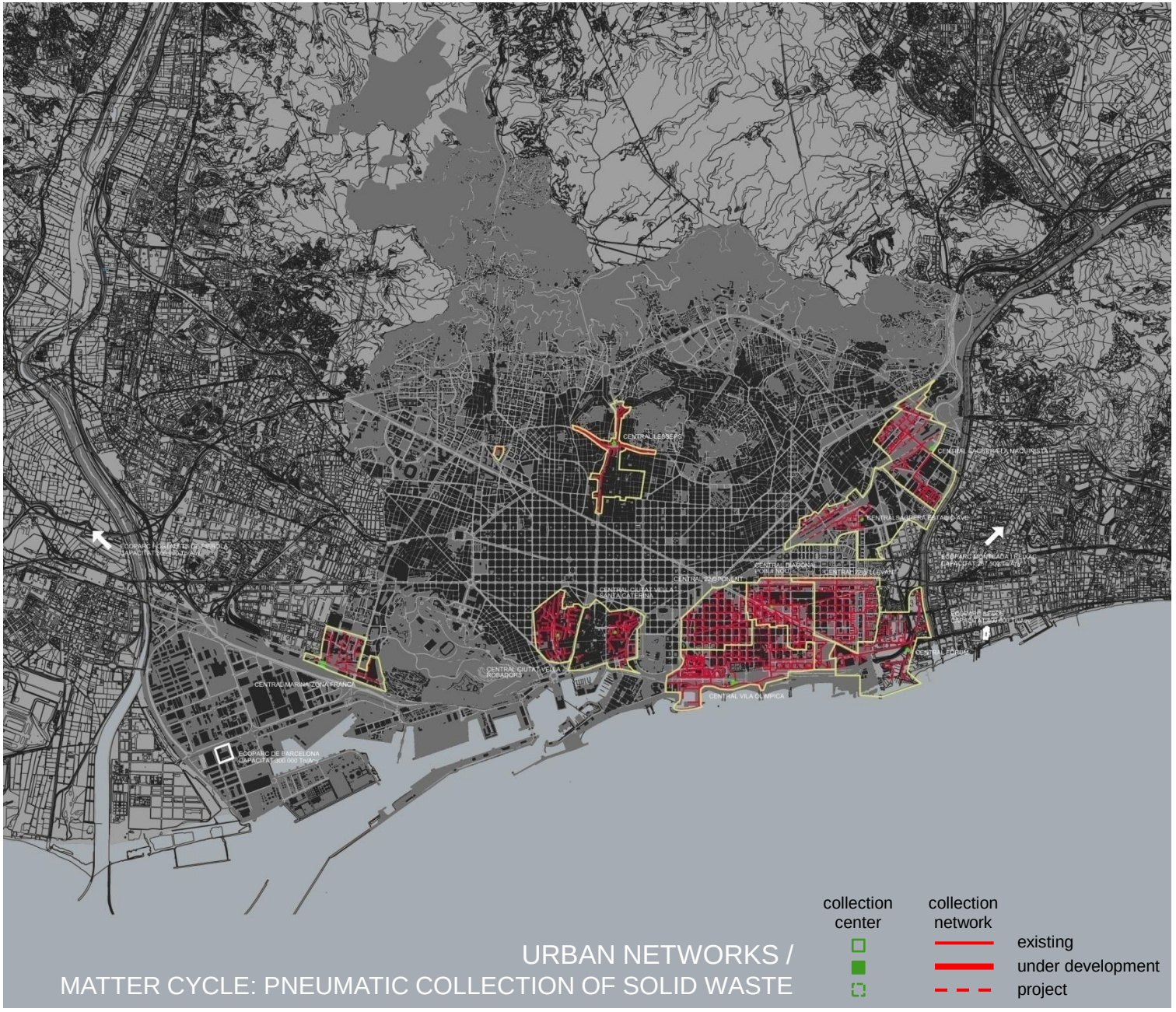

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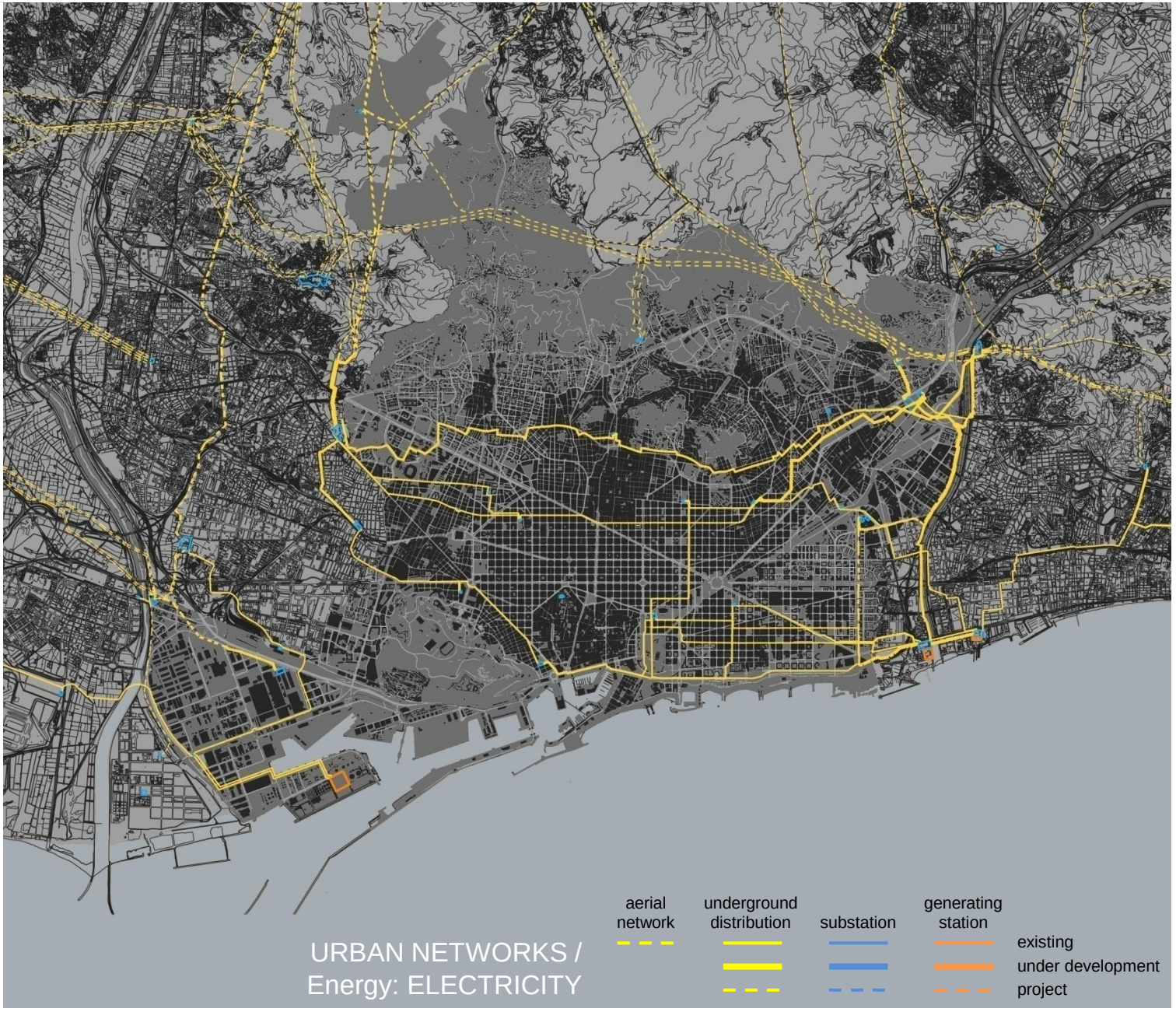

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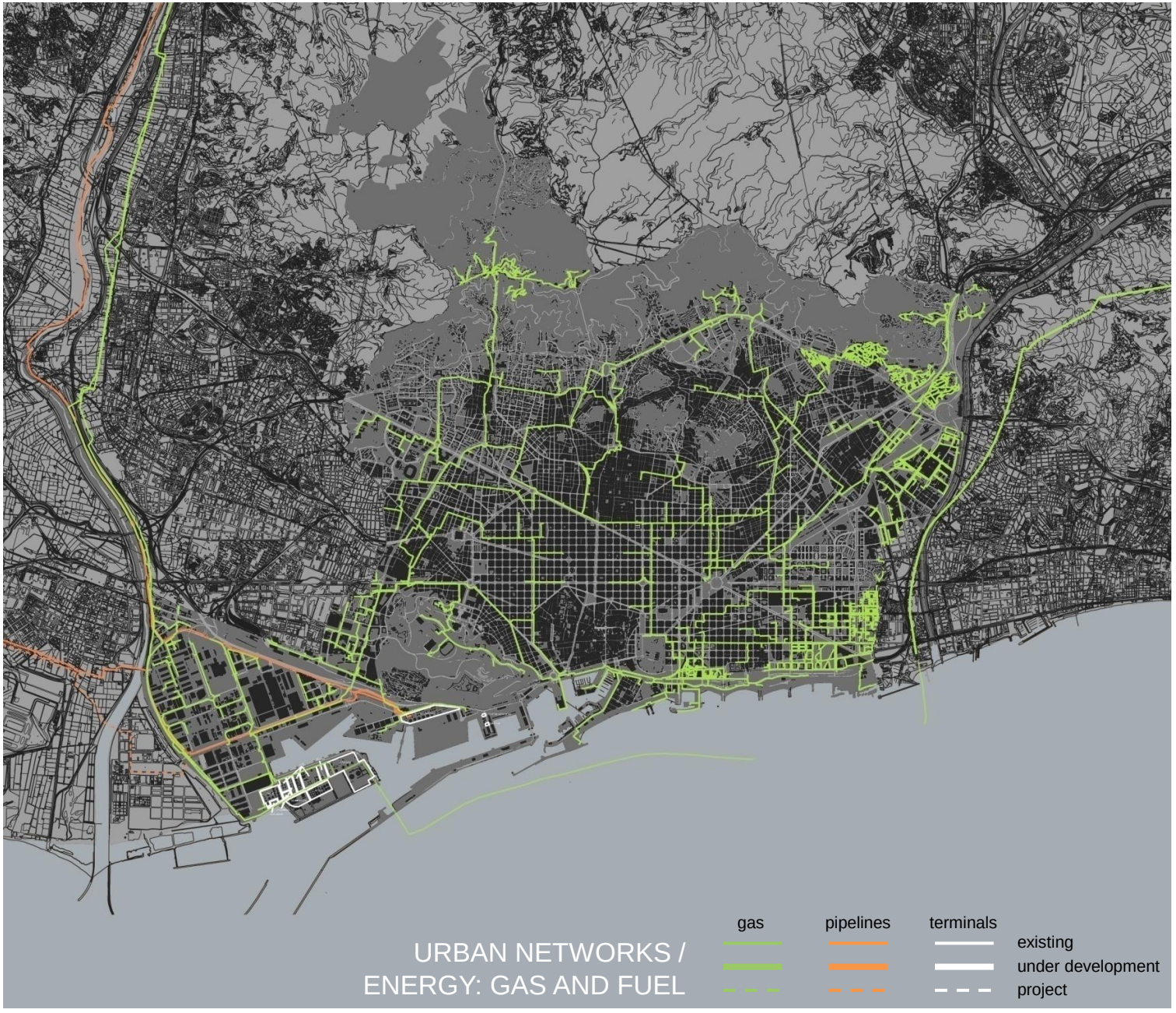

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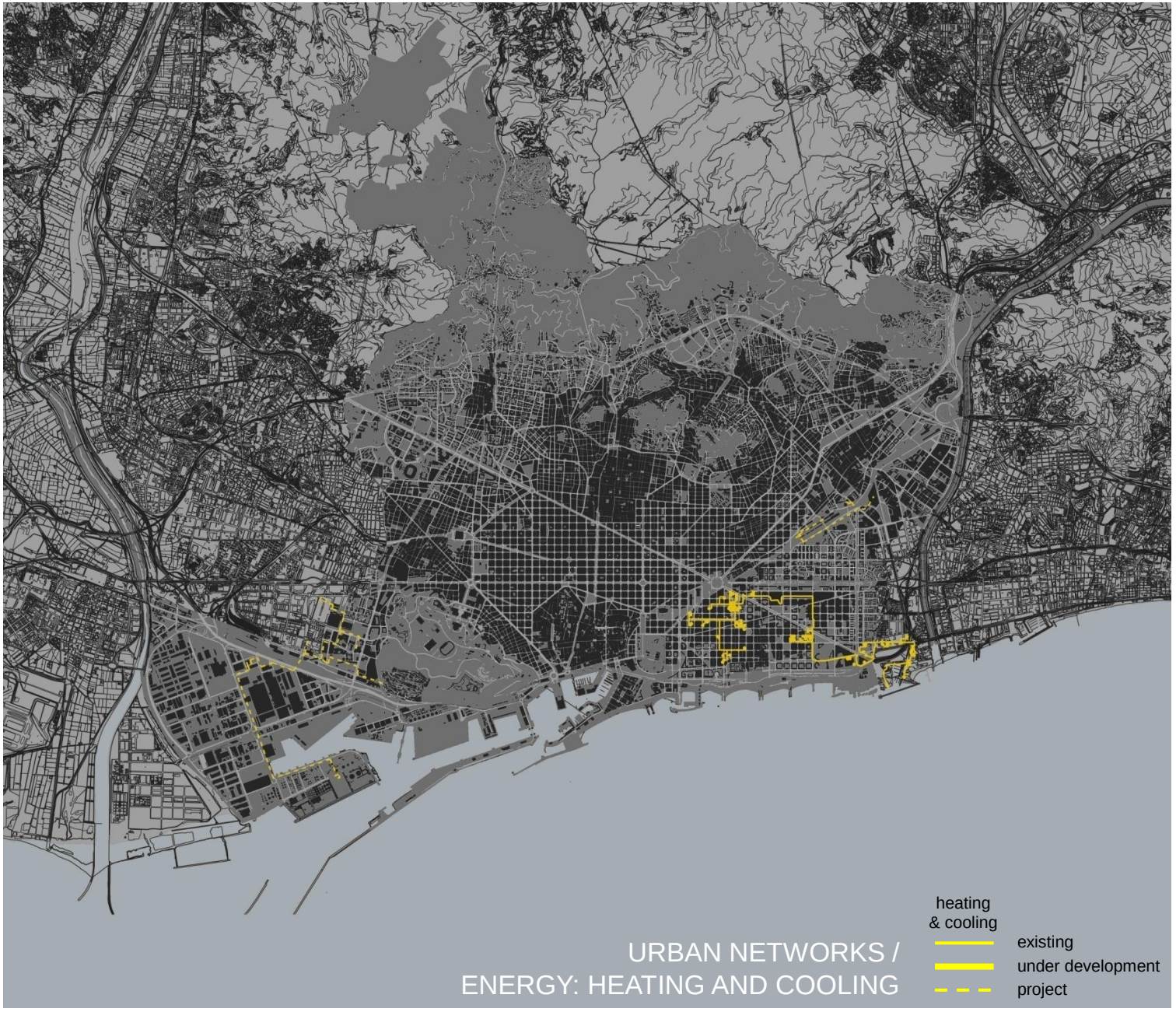

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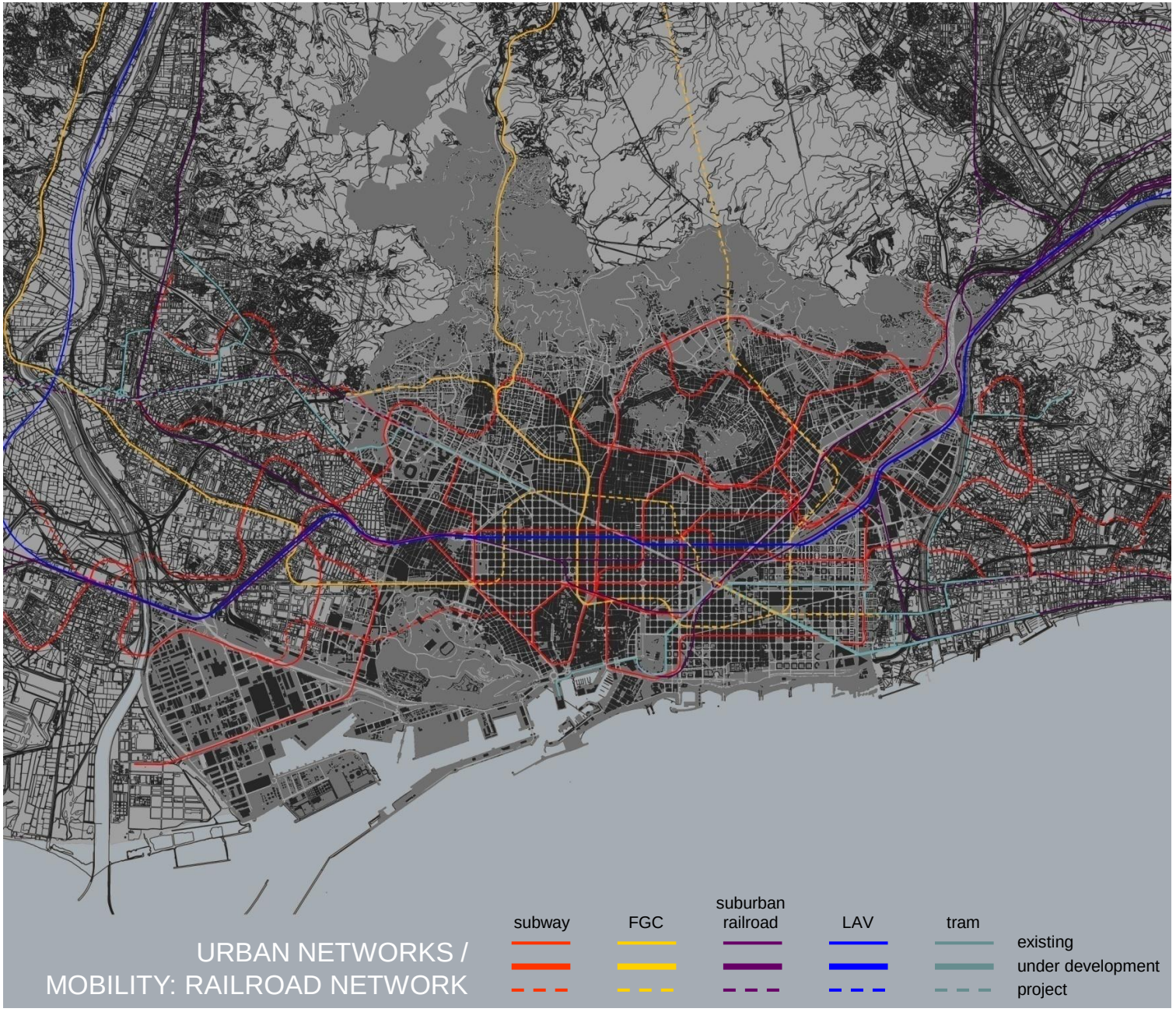

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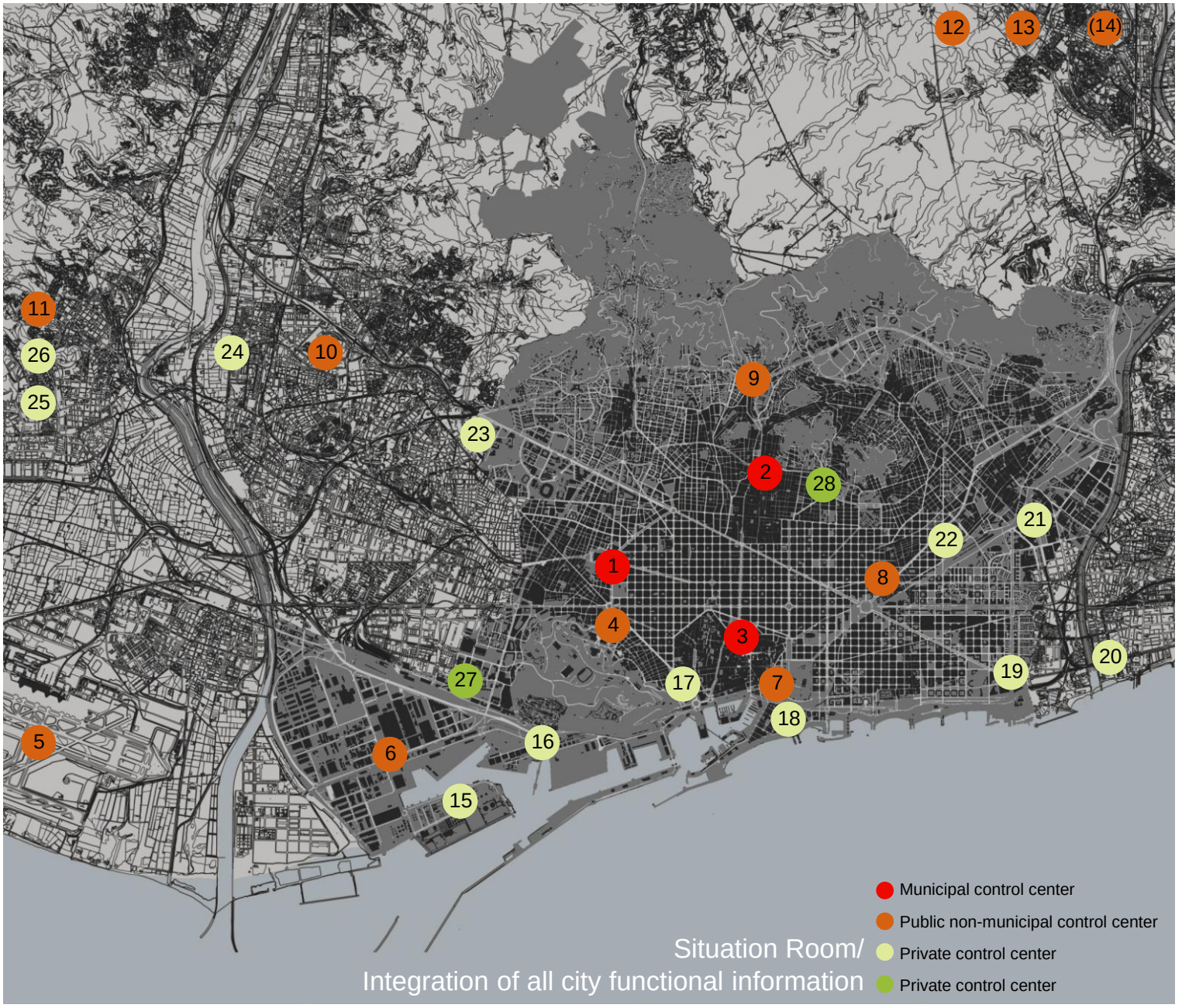
THE SITUATION ROOM: Integration of all city functional information

SITUATION ROOM

Control centers:

1. Sewer network (sub center)
2. Environment
3. Semaphores
4. Emergencies room
5. Air traffic control tower
6. Port control tower
7. ADIF
8. Rodalies (railway)
9. Rondes Dalt / Litoral
10. ATLL
11. CRC- ADIF line
12. FGC (railway)
13. Road information
14. Road control (Vic)
15. ENAGAS
16. CLH
17. Electricity network
18. Gas network (FENOSA)
19. Movistar (telecoms)
20. Tram Besòs (tram)
21. Bus traffic
22. Subway monitoring
23. AGBAR (water supply)
24. Trambaix (tram)
25. Electricity REE (Madrid)
26. CRC-ADIF (Madrid)
27. Sewer network (center)



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THE SITUATION ROOM: Integration of all city functional information

SITUATION ROOM

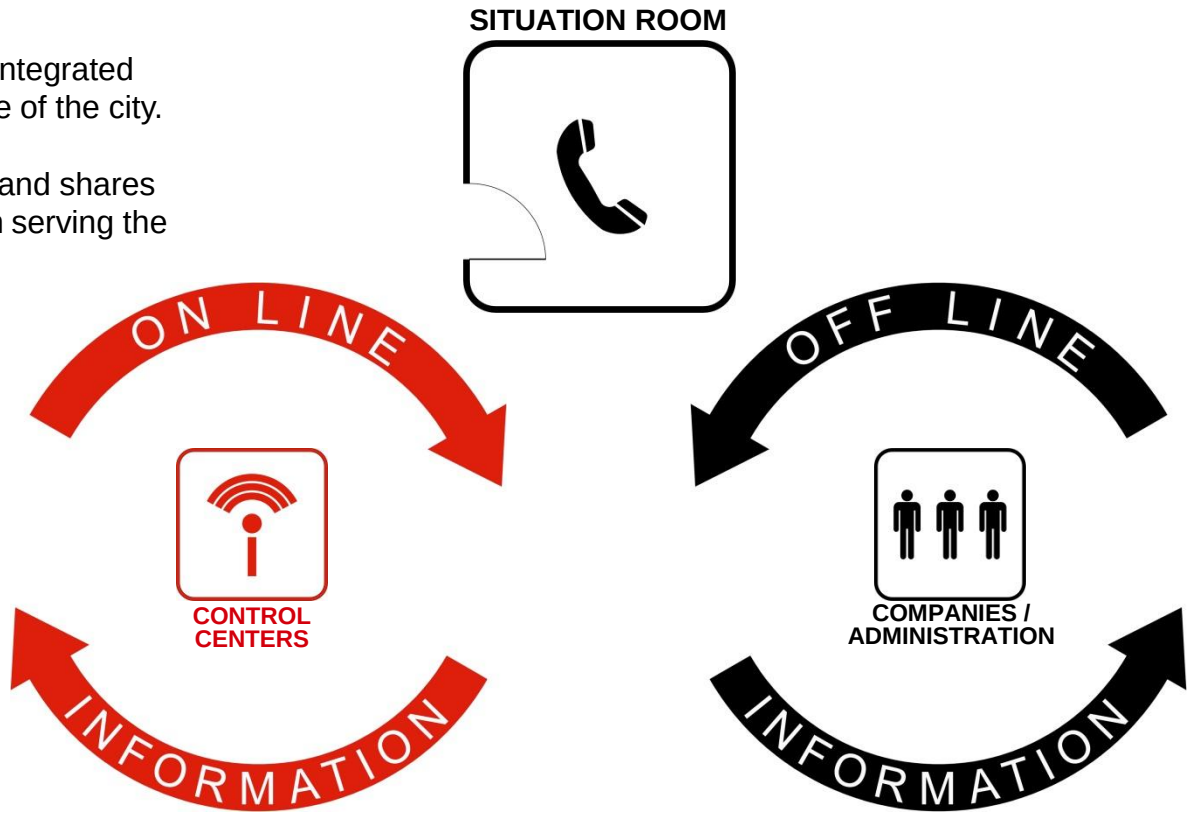
Integration of City information/maps.

SITUATION ROOM

Concept:

-Allows an integrated governance of the city.

-Integrates and shares information serving the city.



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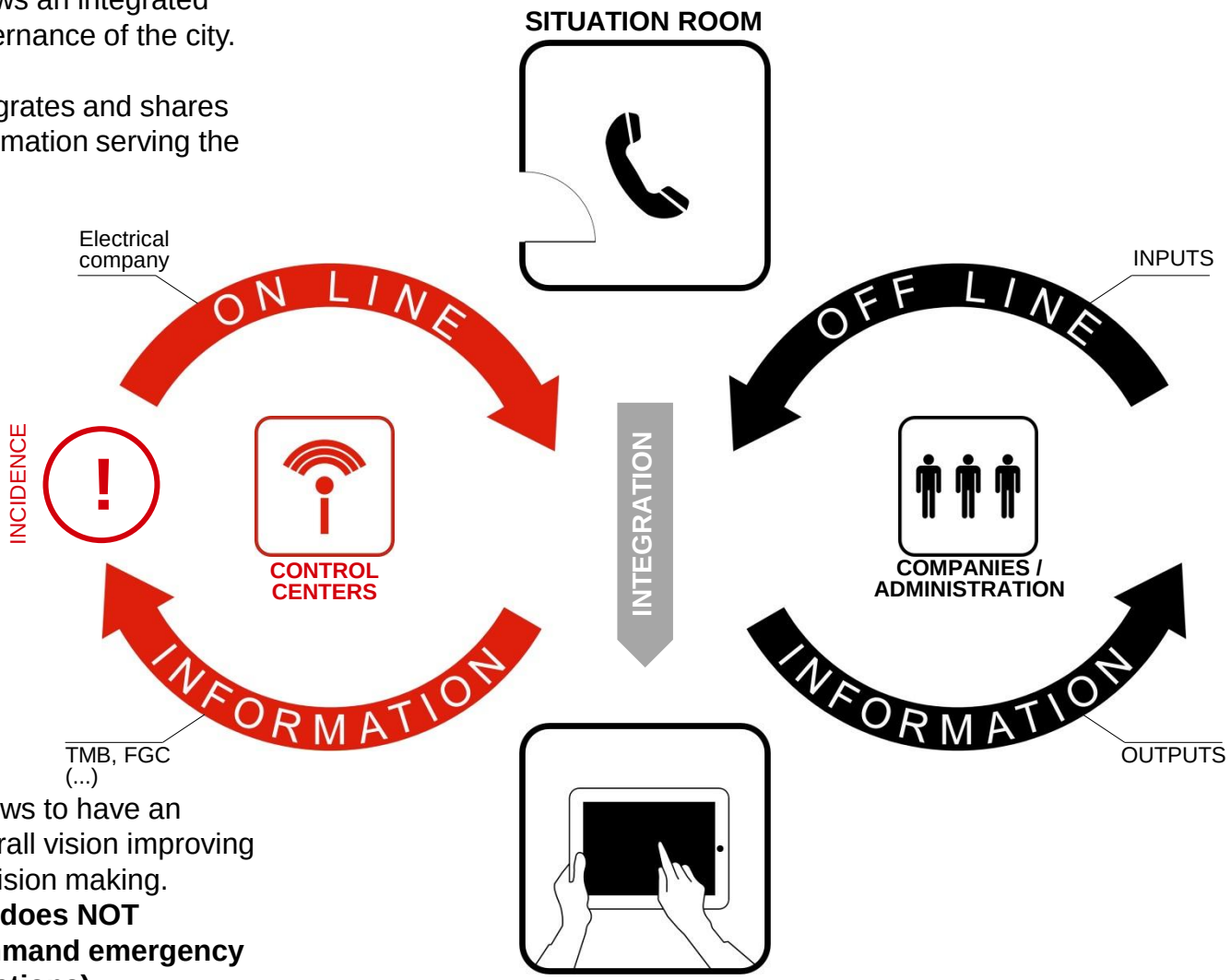

-Allows to have an overall vision improving decision making.

(SR does NOT command emergency situations)

(SR does not manage the incidences)

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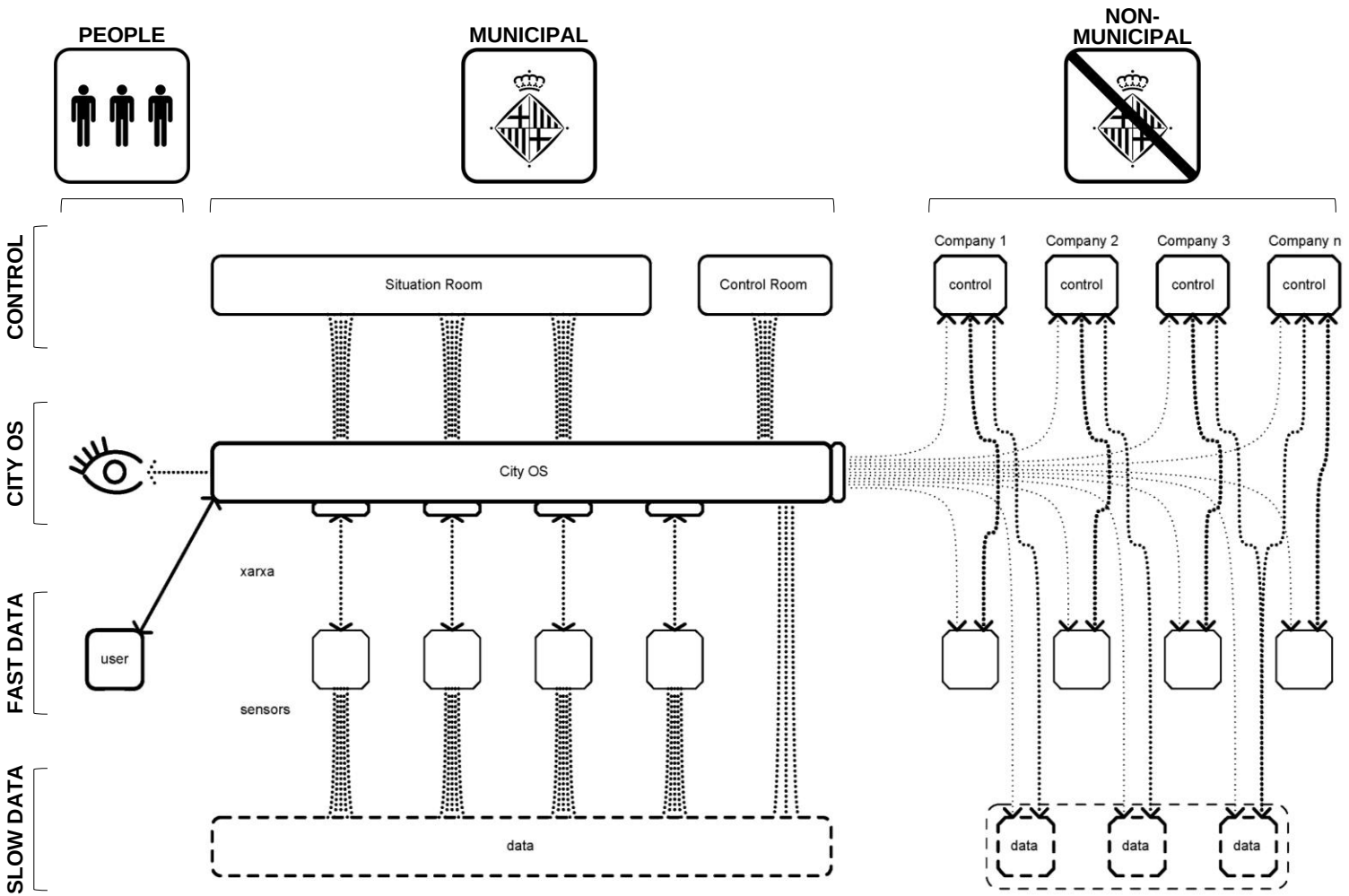
THE SITUATION ROOM: Integration of all city functional information

SITUATION ROOM

Integration of City information/maps.

SITUATION ROOM

Atlas:
Urban Platform



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THE SITUATION ROOM: Integration of all city functional information

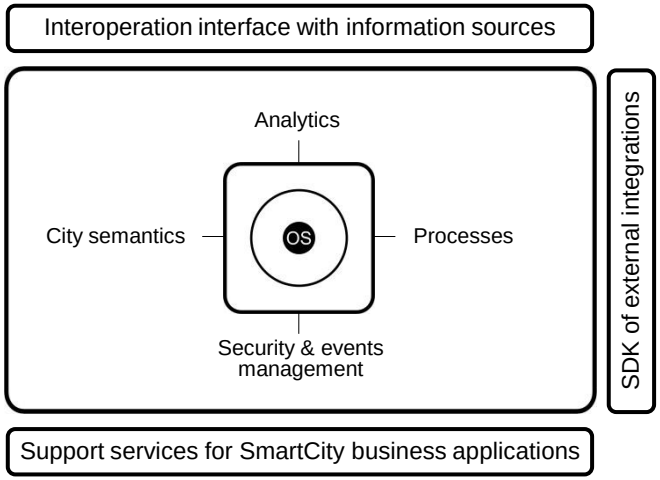
SITUATION ROOM

Integration of City information/maps.

SITUATION ROOM

Objective:
General architecture

City Operation System



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Integration of City information/maps.

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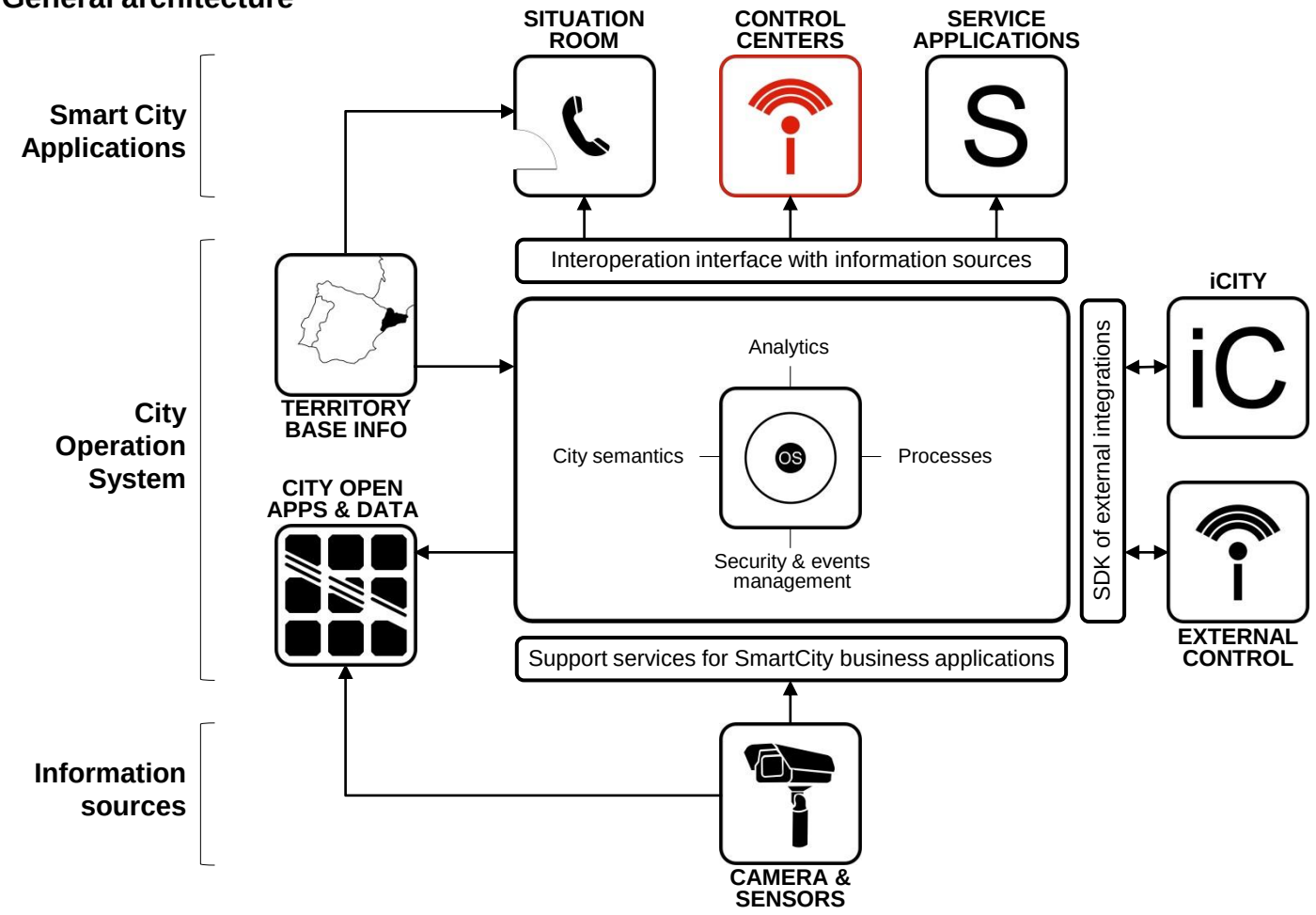

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THE SITUATION ROOM: Integration of all city functional information

Estat de la ciutat

situation [room]

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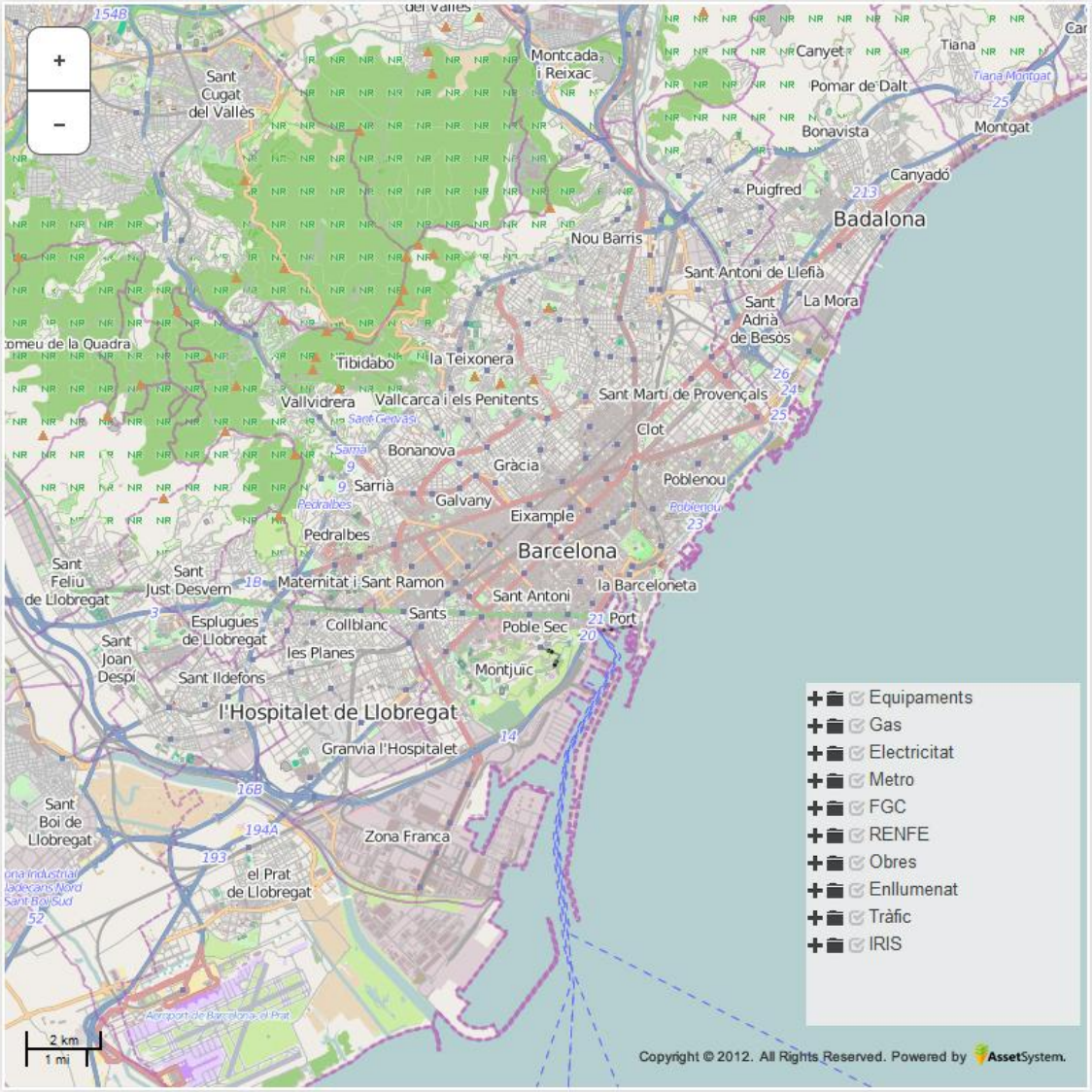
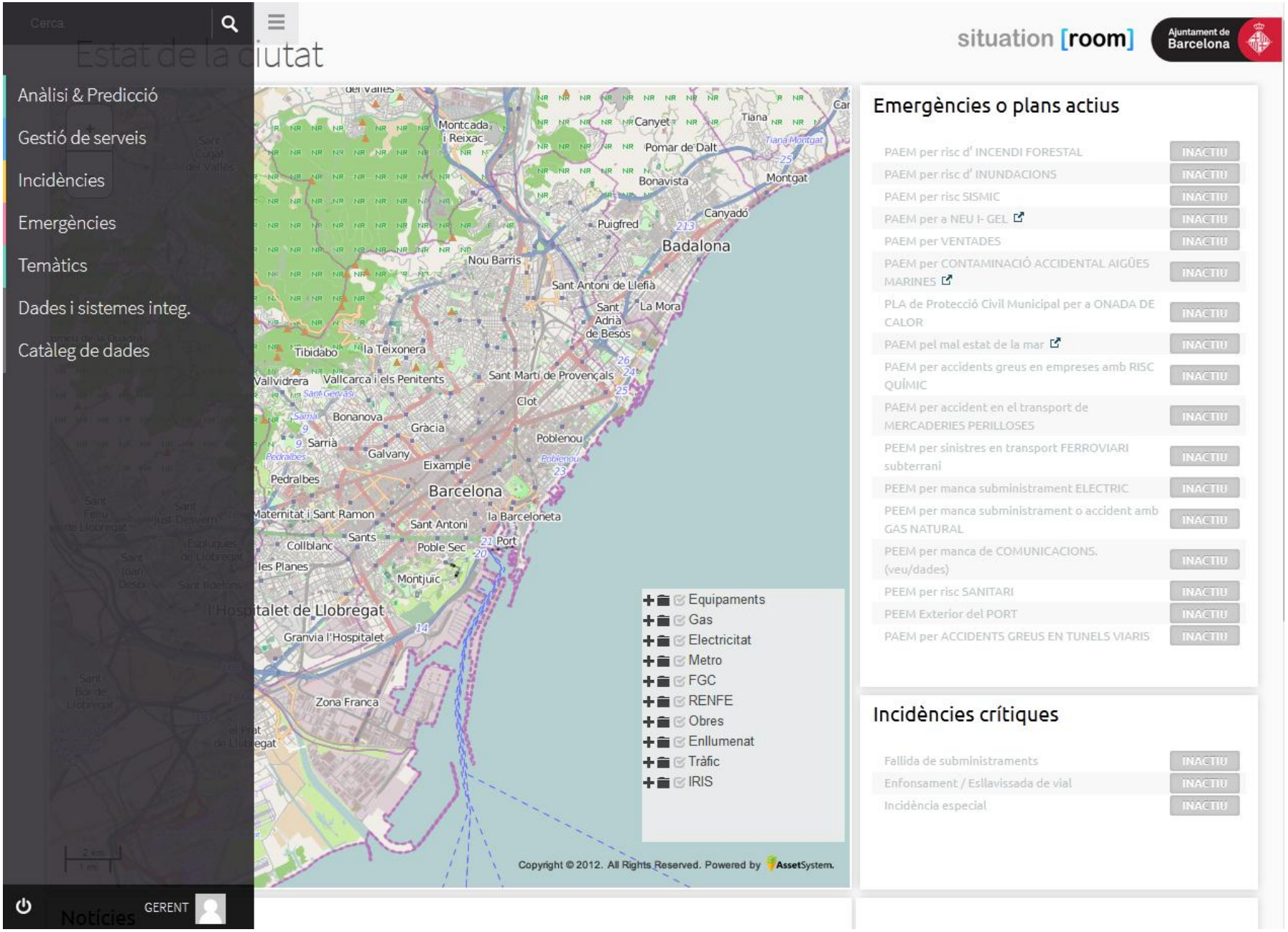


Emergències o plans actius

PAEM per risc d' INCENDI FORESTAL	INACTIU
PAEM per risc d' INUNDACIONS	INACTIU
PAEM per risc SISMIC	INACTIU
PAEM per a NEU I- GEL	INACTIU
PAEM per VENTADES	INACTIU
PAEM per CONTAMINACIÓ ACCIDENTAL AIGÜES MARINES	INACTIU
PLA de Protecció Civil Municipal per a ONADA DE CALOR	INACTIU
PAEM pel mal estat de la mar	INACTIU
PAEM per accidents greus en empreses amb RISC QUÍMIC	INACTIU
PAEM per accident en el transport de MERCADERIES PERILLOSES	INACTIU
PEEM per sinistres en transport FERROVIARI subterrani	INACTIU
PEEM per manca subministrament ELECTRIC	INACTIU
PEEM per manca subministrament o accident amb GAS NATURAL	INACTIU
PEEM per manca de COMUNICACIONS. (veu/dades)	INACTIU
PEEM per risc SANITARI	INACTIU
PEEM Exterior del PORT	INACTIU
PAEM per ACCIDENTS GREUS EN TUNELS VIARIS	INACTIU

Incidències crítiques

Fallida de subministraments	INACTIU
Enfonsament / Esllavissada de vial	INACTIU
Incidència especial	INACTIU



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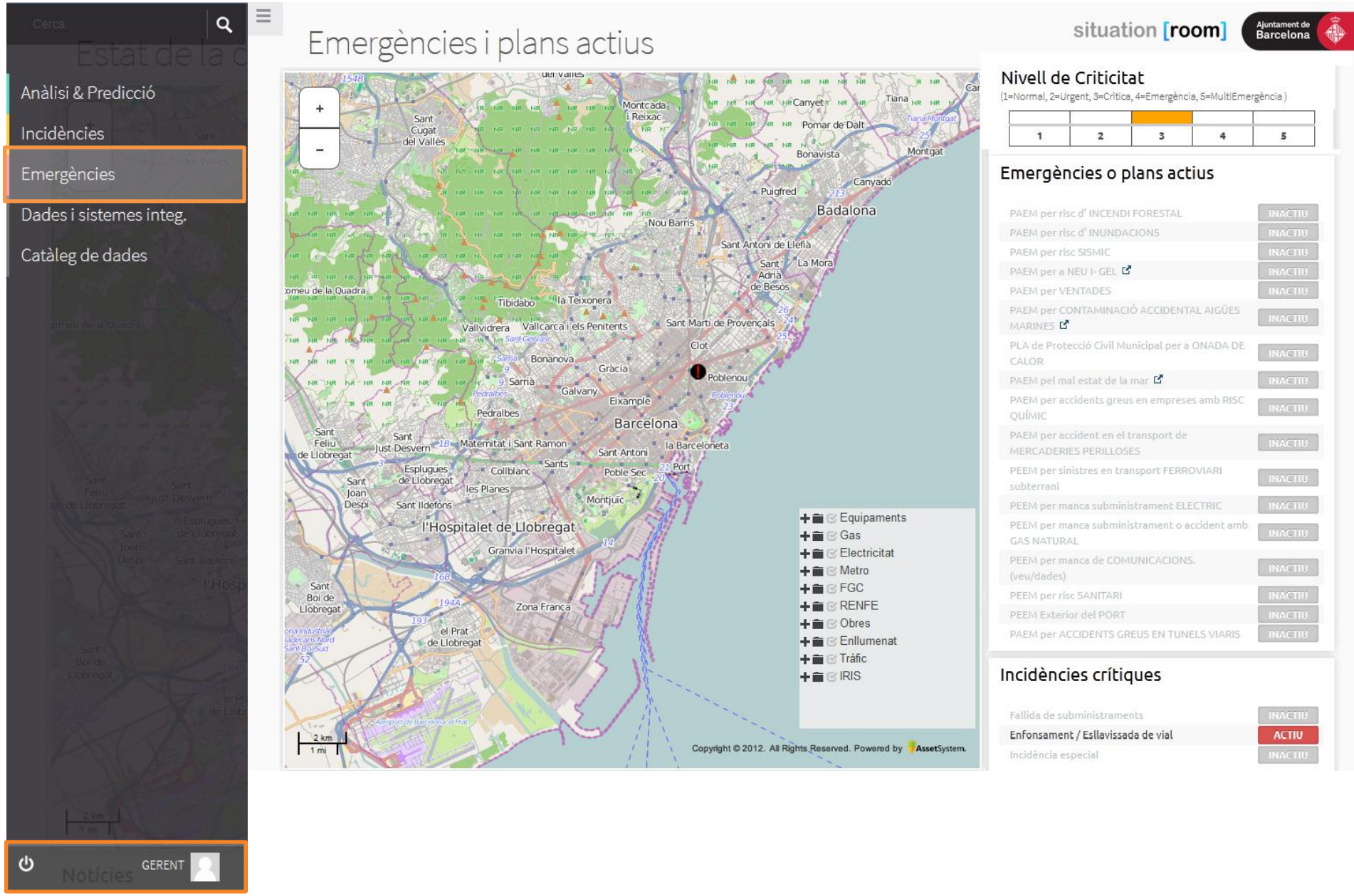

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THE SITUATION ROOM: Integration of all city functional information

Cerca

Anàlisi & Predicció

Incidències

Emergències

Dades i sistemes integ.

Catàleg de dades

GERENT

Emergències i plans actius

situation [room]

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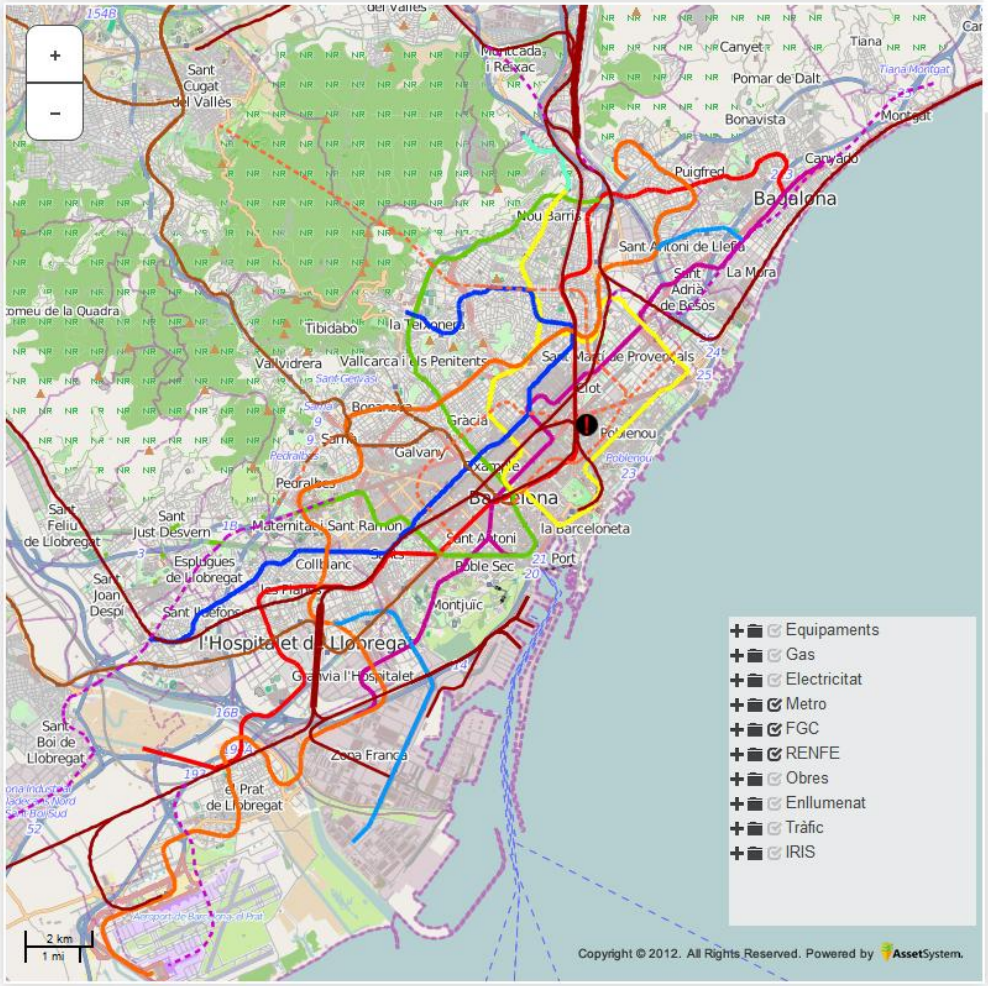

Nivell de Criticitat

(1=Normal, 2=Urgent, 3=Crítica, 4=Emergència, 5=MultiEmergència)

1	2	3	4	5

Emergències o plans actius

PAEM per risc d' INCENDI FORESTAL	INACTIU
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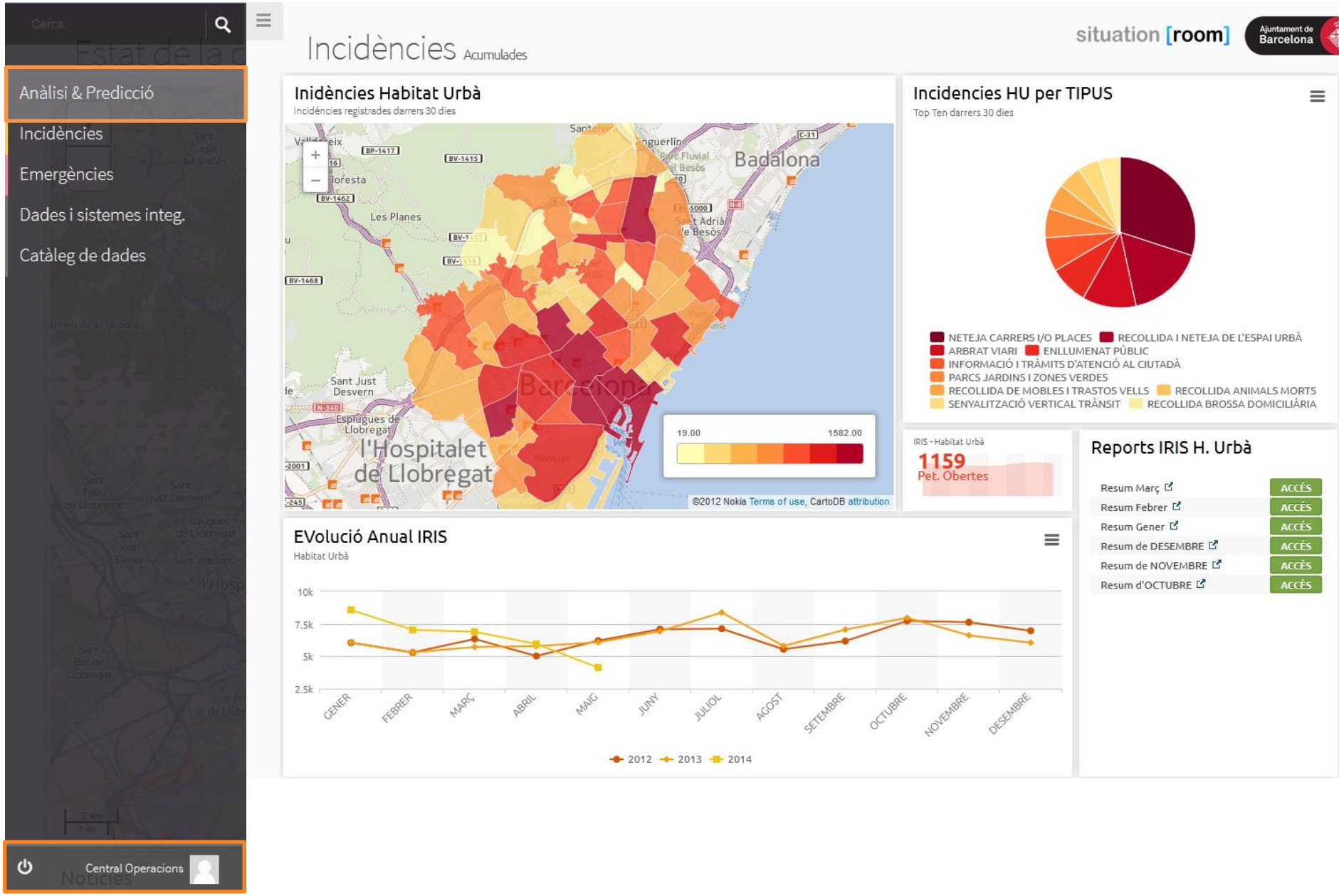

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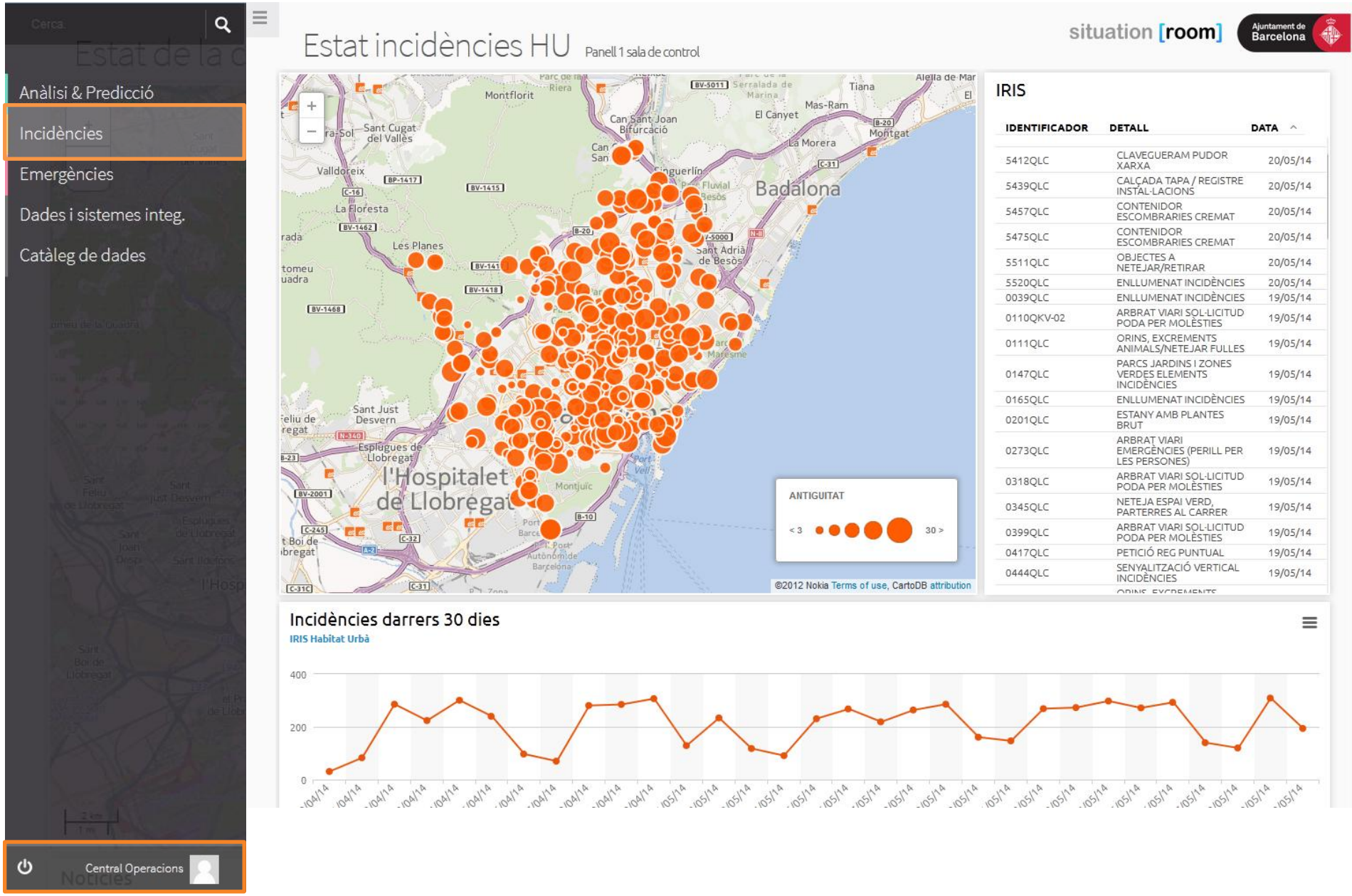

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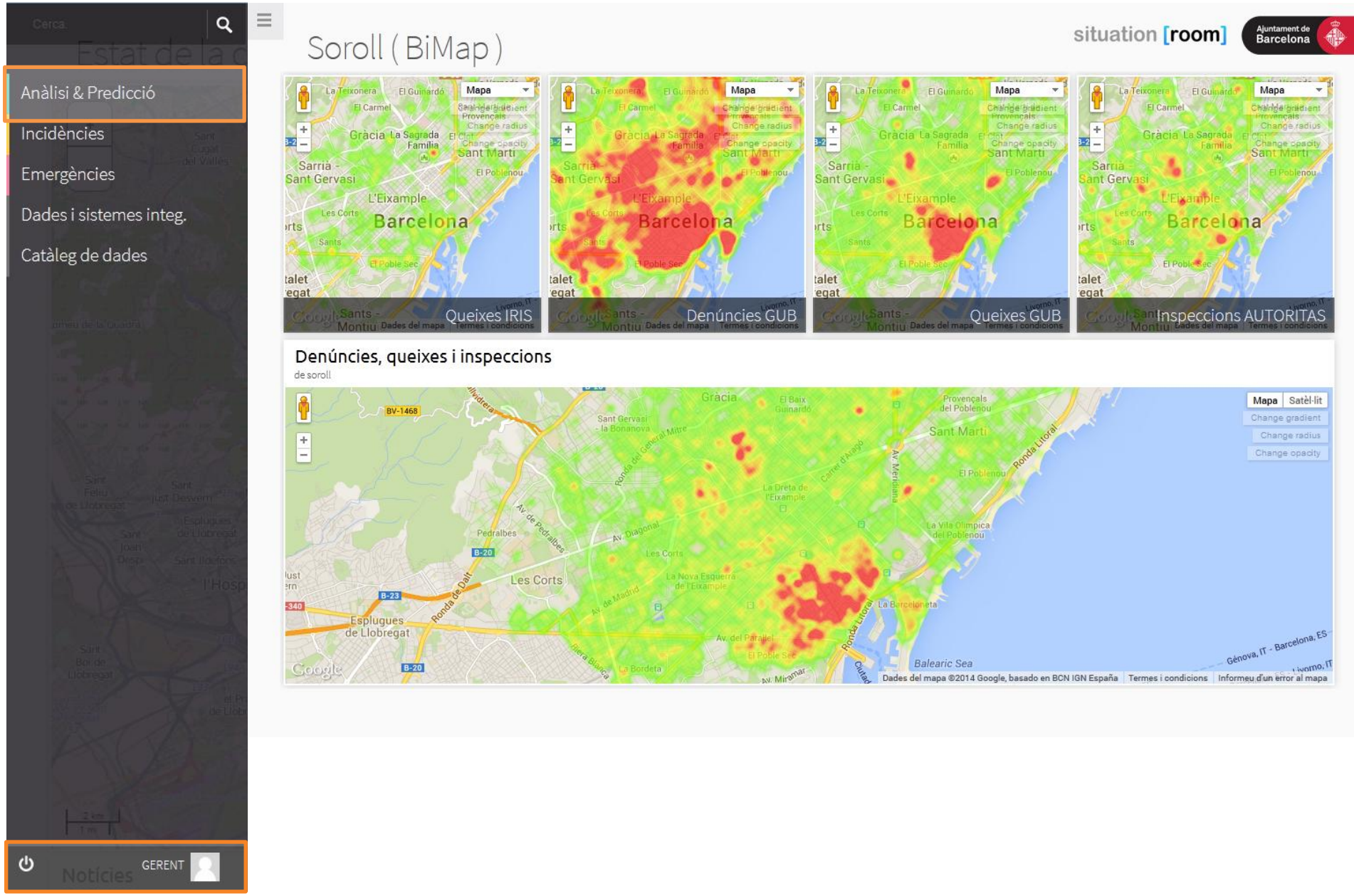

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THE SITUATION ROOM: Integration of all city functional information

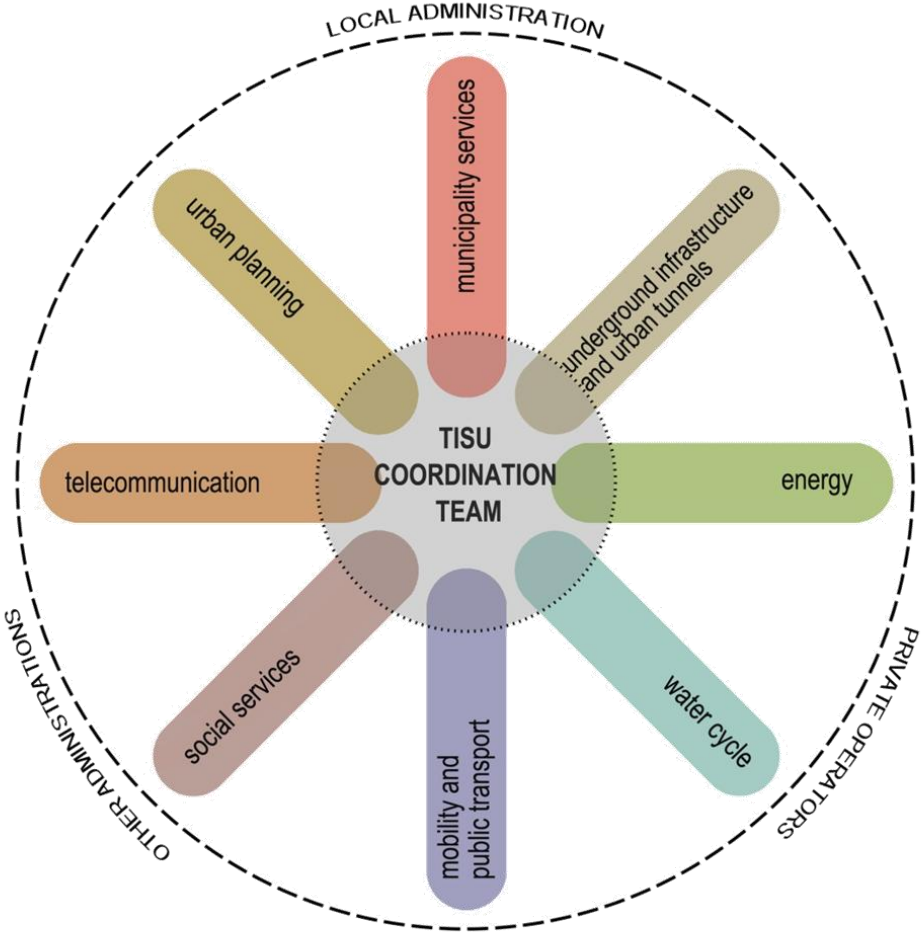
RESILIENCE BOARDS

Current Structure

-Project update
-Exporting the model

TISU: Infrastructure Urban Resilience

ORGANIZED:
-8 clusters
-A coordination team



EFFICIENT:
40 improvement projects

COORDINATED:
Between the different areas of local administration, private operators and other administrations

GLOBAL:
72 professionals from 37 entities

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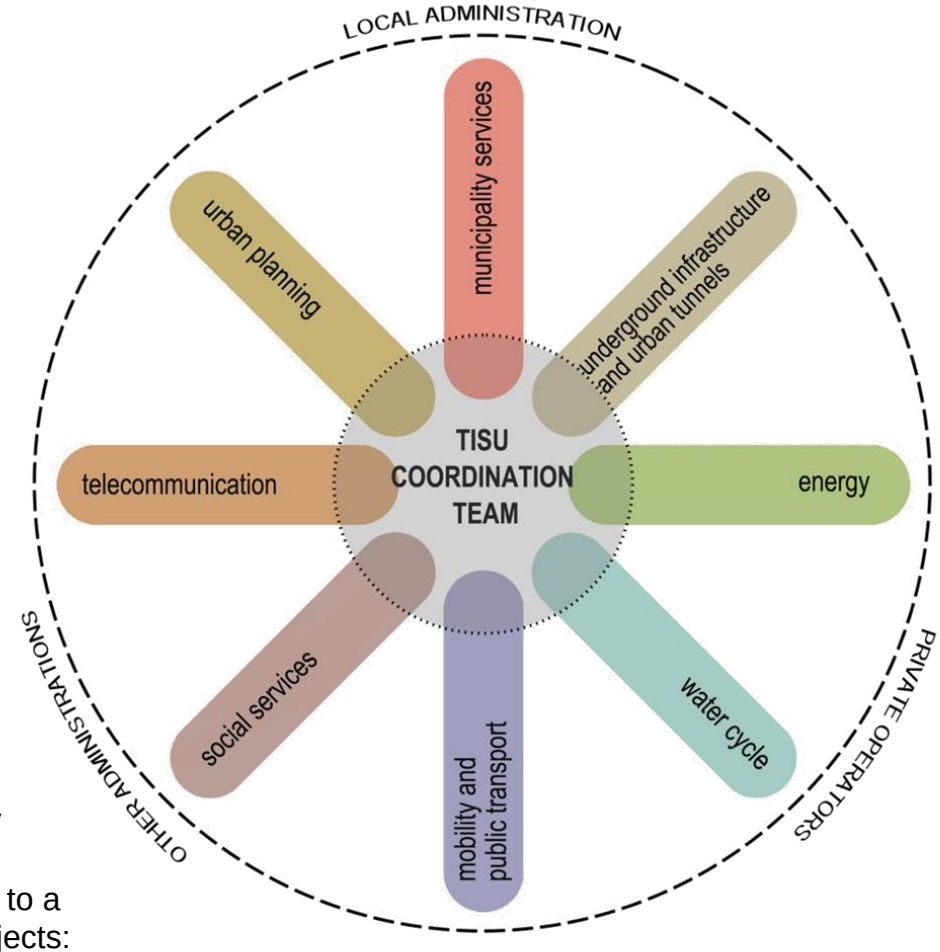
- Resilience Working Methodology

1. Detection of Risks.
2. Evaluation of Risks.
3. Evaluation of Resilience.
4. Building Resilience.



Apply the Working Methodology

Already tested and proved successful to a wider scope of Resilience related Projects:

1. Coordination team. Transversally
2. Identify all stakeholders involved.
3. Engage stakeholders:
   Resilience boards.

RESILIENCE BOARDS

Current Structure

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-Exporting the model

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RESILIENCE BOARDS

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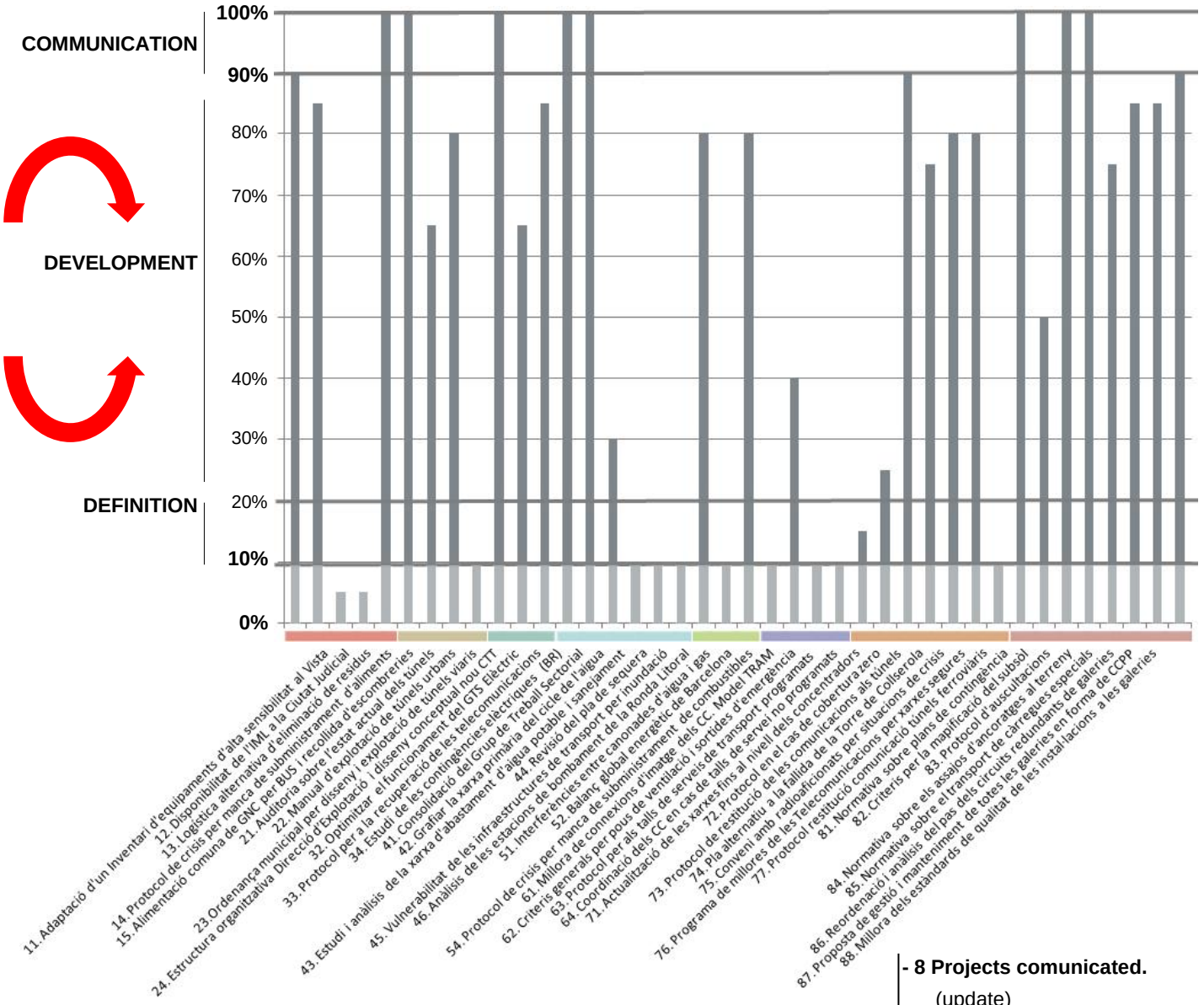

CONTINUITY OF PROCESS.TRANSVERSAL PROJECTS (are updated over time)

- **8 Projects comunicated.** (update)
- **3 Projects completed**
- **11 Projects >70% development**

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RESILIENCE BOARDS: Strategy and projects

PROJECT: Monitoring protocol

DETECTED RISK

- Possible variations of soil condition derived from the execution of infrastucture works that might have caused harm to other services and/or close buildings.

TARGET

- To improve global safety where subsoil works take place, to set up a regulatory framework for the monitoring of works of municipal promotion during the project and execution stages.

WORKING PROCEDURE

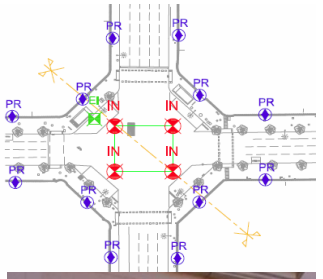
- Elaboration of a Monitoring Protocol that:
  - -Establishes the procedures that will be carried out by the operator.
  - -Defines the minimal information that the project must provide for the development of a proper Monitoring Plan.
  - -Determines work typology and elaborates a Contingency Plan.
  - -Defines a specific monitoring method in the execution phase.
  - -Defines a follow-up procedure in the monitoring process.
  - -Decides on the measures to be taken if tolerances are surpassed
- Future Actions:
  - -The communication stage is being prepared to address all the participants of public and private agencies.

WORKING GROUP

- Environment and Urban Services , Infrastructure and Public Space Departments of the City Council of Barcelona.
- Private company: BCNSIT.

PROJECT STATUS

- Resolution and Development Stages are completed.
- The Monitoring Protocol Council Order has been passed.



PROJECT: Water and gas pipes interferences

DETECTED RISK

- The densification of infrastructures that lie in the subsoil can generate interference in the services causing incidents and failure.

TARGET

- To improve communication and coordination mechanisms on underground service networks in order to reduce incident risk or reaction time for a solution.

WORKING PROCEDURE

- Approval of a Coordination Protocal among Companies:
  - -Definition of Scope of Application: canalization works.
  - -Detection of problems aroused from service congestion in the subsoil.
  - -Improved communication and coordination mechanisms of operations.
  - -Resolution of a working operational for each company.
  - -Coordination before a service group incident and/or other services.
  - -Resolution of the installation of protections for the different networks.
- Future Actions:
  - -To carry out the communication of the project to the service operators.
  - -To carry on with the effective implantation of the Coordination Protocols.
  - -To hold follow-up meetings with aim of incorporating improved processes.
  - -To homogenise and standardise subsoil working procedures.

WORKING GROUP

- DGEM Department of Energy and Mining of the Generalitat de Catalunya.
- Fuels Group.

PROJECT STATUS

- Resolution and Development stages are completed.

PROJECT: Audit of the current condition of the tunnels

DETECTED RISK

- Lack of awareness and information about the current condition of the tunnels which, in case of a serious incident on this kind of road network infrastructure, may cause no coordination and inefficiency of the rescue and evacuation.

TARGET

- To prevent critical situations, to keep users safe if there is an incident and to check the proper working of the present methods in case of an emergency.

WORKING PROCEDURE

- Current situation analysis:
  - -Current regulation gathering.
  - -Information gathering in order to establish the type and condition of tunnels.
  - -Current administration and working system analysis.
- Suggestions to improve the system:
  - -A list of specific and general suggestions for every tunnel.
  - -A new organization chart that make the current administration simpler.
- Future Actions:
  - -Definition of a tunnel development manual.
  - -Organization of a Department of Development and conceptual design of a new Tunnel Control Centre.

WORKING GROUP

- Departments of: Infrastructure, Energy, Investment and Road Area, Mobility Services, Police Force and Fire of Barcelona.
- Council, Zona Franca Consortium.
- Project Engineer (ESTEyCo).

PROJECT STATUS

- Resolution, development and communication stages are completed.
- Approval steps are starting for the Regulation of the Design and Exploitation of Road Tunnels of Barcelona.

PROJECT: Common power supply of CNG for urban urban buses and waste / cleanig service

DETECTED RISK

- Lack of alternative supply of Compressed Natural Gas (CNG) in the bus garages of the Free Trade Zone (Zona Franca) and in the Waste Collection and Public Area Cleaning truck garages.

TARGET

- To assure that the transportation fleet and the garbage service vehicles are supplied so as to guarantee the service in case of emergency or eventuality in the city.

WORKING PROCEDURE

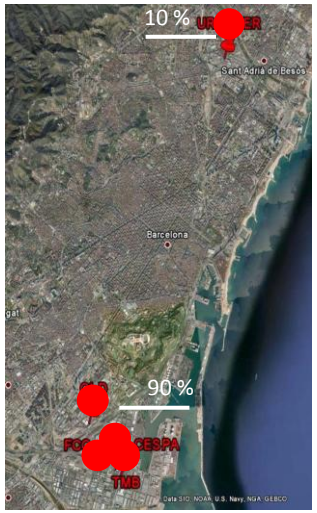
- Current situation analysis:
  - -Premises conditions, vehicle demand and fuelling time.
  - -To establish the necessary time to fuel vehicles in other premises.
- Loading tests in situ:
  - -To apply the correction coefficient that resulted from the fueling tests: fueling simultaneousness.
  - -To increase the fueling time of buses in a 100%.
  - -To determine a new effective fueling time.
  - -To write and pass a coordination and action protocol among the public area cleaning companies, waste collection services and metropolitan transport in order to supply all the vehicles in case of emergency or eventuality in the city.

WORKING GROUP

- Municipal Services of the City Council of Barcelona.
- Metropolitan Transport of Barcelona.
- Allottee companies of waste collection services and public area cleaning. (FCC; Cespa; Urbasser; CLD)

PROJECT STATUS

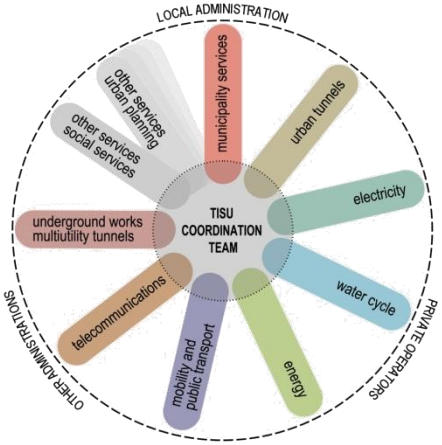
- Resolution, Development and Communication are completed.
- Protocol that obliges each company to assign the use of its premises at a set timetable. Carry out refurbishments in case an emergency is declared by the City Council of Barcelona.

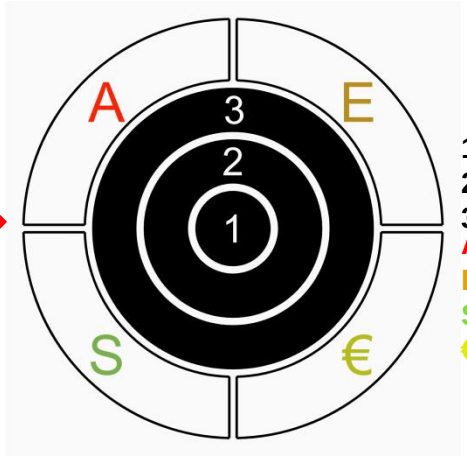


RESILIENCE & CLIMATE CHANGE ADAPTATION PLAN.

Apply the already tested and proved successful Working Methodology

1. Create a coordination team. 2. Identify all stakeholders involved. 3. Engage stakeholders:





1: Core prometer
2: TISUS
3: Coordination
A: Administration
E: Education
S: Social world
€: Economic world

tourism
mobility
energy
public Health
water cycle
clean and waste
beaches
urban Planning
communication
(and more…)

VISION

A city able to face upcoming challenges in a proactive way, and overcome them while learning and becoming stronger, adding value to the city and guaranteeing the quality of life of people living and/or working in it.

MISSION

- Provide the city with appropriate mechanisms for anticipated risk detection and evaluation.
- Reduce its vulnerability through actions that prevent and/or reduce the impact of shocks and stresses, so that the city is able to withstand while still maintaining its essential functions.
- Improve the capacity of response and reduce the recovery time to its original state or equivalent.
- Provide useful information and tools to help the process of decision making

INTERNATIONAL STRATEGY

1\ UNISDR ‘Making cities Resilient’ Campaign

2\ UN-Habitat Resilience Headquarters

3\ Other Institutions:
-City Protocol Society

Barcelona City Council

Offers to create a **Task Force**, in collaboration with other cities, to **develop a Protocol of Urban Resilience**, based on the existing experiences.

Ajuntament de Barcelona

INTERNATIONAL COOPERATION: Exchanging knowledge and networking

INTERNATIONAL STRATEGY

1\ UNISDR ‘Making cities Resilient’ Campaign

2\ UN-Habitat Resilience Headquarters

3\ Other Institutions:
-City Protocol Society

UNISDR

Signing up to the 2010-2015 World Disaster Reduction Campaign ‘Making Cities Resilient’

Designation as **Role Model City in Infrastructure and services**

Member of the **Steering Comitee** of the campaign since April 2013

Ajuntament de Barcelona

INTERNATIONAL COOPERATION: Exchanging knowledge and networking

INTERNATIONAL STRATEGY

1\ UNISDR 'Making cities Resilient' Campaign

- -10 point checklist
- -Benchmark
- -Milestone phases

2 UN-Habitat Resilience Headquarters

3 Other Institutions:

- -City Protocol Society

10 POINT CHECKLIST - ESSENTIALS FOR MAKING CITIES RESILIENT

01. Put in place organization and **coordination to understand and reduce disaster risk**, based on **participation of citizen groups and civil society**. Build **local alliances**. Ensure that **all departments** understand their **role to disaster risk reduction** and preparedness.

02. **Assign a budget for disaster risk reduction** and provide incentives for homeowners, low-income families, communities, businesses and public sector to invest in reducing the risks they face.

03. **Maintain up-to-date data on hazards and vulnerabilities**, prepare risk assessments and use these as the basis for urban development plans and decisions. Ensure that this information and the plans for your city's resilience are readily available to the public and fully discussed with them.

04. **Invest in and maintain critical infrastructure** that reduces risk, such as flood drainage, adjusted where needed to cope with climate change.

05. Assess the **safety of all schools and health facilities** and upgrade these as necessary.

06. Apply and enforce realistic, risk compliant **building regulations and land use planning principles**. Identify safe land for low-income citizens and develop upgrading of informal settlements, wherever feasible.

07. Ensure **education programs and training** on disaster risk reduction are in place in schools and local communities.

08. Protect ecosystems and natural buffers to mitigate floods, storm surges and other hazards to which your city may be vulnerable. **Adapt to climate change** by building on good risk reduction practices.

09. Install **early warning systems and emergency management** capacities in your city and hold regular public preparedness drills.

10. **After any disaster, ensure** that the **needs** of the survivors are placed at the center of **reconstruction** with support for them and their community organizations to design and help **implement responses**, including rebuilding homes and livelihoods.

INTERNATIONAL COOPERATION: Exchanging knowledge and networking

Ajuntament de Barcelona

INTERNATIONAL STRATEGY

1\ UNISDR 'Making cities Resilient' Campaign

-10 point checklist
-Benchmark
-Milestone phases

2 UN-Habitat Resilience Headquarters

3 Other Institutions:
-City Protocol Society

How To Make Barcelona More Resilient: Benchmark of the Global UNISDR proceeding

Short briefing:

Jul 2007.	Blackout
Xx 2008.	Assessment. 3Ss process: Security of Services Supply
Xx 2009.	Creation of BCN Resilient Board (TISU)
Xx 2010.	First Global Meeting of TISU
Xx 2011.	Last Global Meeting of TISU
May 2012.	ICLEI Second Congress of Resilient Cities: First contact with UNISDR
Xx 2012.	BCN Smart cities Congress. Presentation of URB-is platform for sharing
Apr2013.	Signature of adhesion to "Making cities Resilient Campaign"
Apr 2013.	Signature of agreement with UNHabitat: Implantation of Resilience office in BCN

INTERNATIONAL STRATEGY

1\ UNISDR 'Making cities Resilient' Campaign

2\ UNHabitat Resilience Headquarters

3\ Other Institutions:
-City Protocol Society

UN Habitat chooses Barcelona

The Mayor of Barcelona **Xavier** Trias and the Secretary-General and Executive Director of UN Habitat **Joan Clos**, signed on April 2 the agreement between the two institutions for implantation of Resilience Office in **Barcelona**.

UN Habitat announces ten partner cities for the City Resilience Profiling Programme (CRPP)

Nairobi, April 18.
The guidelines under the Programme will be tested in:

-Balangoda *(Sri Lanka)*
-Barcelona *(Spain)*
-Beirut *(Lebanon)*
-Dagupan *(Philippines)*
-Dar es *Salaam (Tanzania)*
-Lokoja *(Nigeria)*
-Pertmore *(Jamaica)*
-Conception/Talcahuano *(Chile)*
-Tehran *(Iran)*
-Wellington (*New Zeland)*

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INTERNATIONAL COOPERATION: Exchanging knowledge and networking

INTERNATIONAL STRATEGY

1\ UNISDR 'Making cities Resilient' Campaign

2\ UNHabitat Resilience Headquarters

UN Habitat CRPP

- -Objective
- -Accomplishments
- -Period
- -Tasks
- -Implementation

3\ Other Institutions:

- -City Protocol Society

Ajuntament de Barcelona

OBJECTIVE

-Providing empirical data for testing the analytical framework, calibration and profiling of city resilience as well as the tools and software interface systems.

ACCOMPLISHMENTS

-1. An adaptable urban systems **model suitable for all human settlements**:

-2. A **set of indicators,** standards, profiles to support cities for calibrating urban systems ability to withstand and recover from crisis

-3. City resilience **profiles and tools development**

-4. **Global standards** set for urban resilience:

-5. A new UN-Habitat **normative framework** for monitoring urban systems globally

PERIOD

-From March **2013** to December **2016**

REQUIRED TASKS AND ACTIVITIES

-Coordination mechanism with the local government

Establish inter-departmental committee to coordinate and share data and information between all municipal departments related to disaster risk reduction and assign a focal point for communication with the Secretariat

-Develop an operational framework of adaptable urban systems model suitable for all human settlements to be used for city resilience profiling

-Develop a set of indicators for calibrating and profiling city resilience.

-Develop a workable software interface systems for urban resilience indexing.

-Set global standards for urban resilience and a **new normative framework for monitoring urban systems globally.**

INTERNATIONAL COOPERATION: Exchanging knowledge and networking

INTERNATIONAL STRATEGY

1\ UNISDR 'Making cities Resilient' Campaign

2\ UNHabitat Resilience Headquarters

UN Habitat CRPP

- -Objective
- -Accomplishments
- -Period
- -Tasks
- -Implementation

3\ Other Institutions:

- -City Protocol Society

A. Inception phase (06.2012 – 04.2013)

-Meetings, organization of the main stakeholder forum(s), establishment of a representative steering group, and consolidation of resources required for implementation.

-Conclusion: a comprehensive report outlining the status of the above objectives, outstanding challenges, and contributions from each of the stakeholder organizations.

B. Phase 1, Research and development (08.2012 -12.2013)

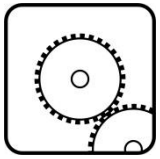
-Working with Habitat Partner Universities, a research agenda is developed and agreed with the objectives of: determining what resources are currently available or under development preparing a detailed urban systems model.

-Key outcomes: Terms of reference, budgets and letters of agreement are negotiated, pilot cities identified and agreed at initial Steering Committee meeting.

C. Phase 2, Profiling and assisting cities to measure resilience (11.2012 -12.2014)

-Working primarily with partners drawn from the(re-) insurance industry, developing and transforming current risk prediction models used for liability analysis, into resilience measuring systems quantifying and indexing urban systems elements.

-Key strategic milestones: Private sector insurance anchor identified, supp. Steering Commitee.



D. Phase 3, City pilots, profiling & operational tools development (03.2013 - 06.2016)

-Working with partners from the IT Sector,integrating the urban systems model,with the resilience quantification model,and developing appropriate software programmes enabling to create resilience index scores for future urban development

-Key outcomes include: Private sector IT anchor identified and supporting Steering Committee.

E. Phase 4, Normative dialogue and consensus building (Over the coming 4 years)

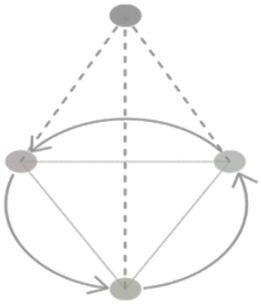
-Introducing and promoting the use of the Urban Resilience Index as a tool for Planning.

-Deriving standards, regulations, and legal targets for planning/building codes and social and environmental targets. Reflect forward-looking targets applicable to all potential hazards, and negotiated, test and refine working with technical partners, academia, local government networks, champion cities, and linked to the UNISDR Making Cities Resilient and UN-Habitat.

-Deadlines: The outcomes of the programme will **reviewed** during **the 2015 World Disaster Conference** in Kobe; and **launched** during the **Habitat III Conference in 2016**

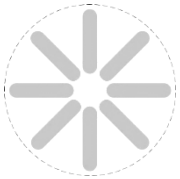
Ajuntament de Barcelona

INTERNATIONAL COOPERATION: Exchanging knowledge and networking



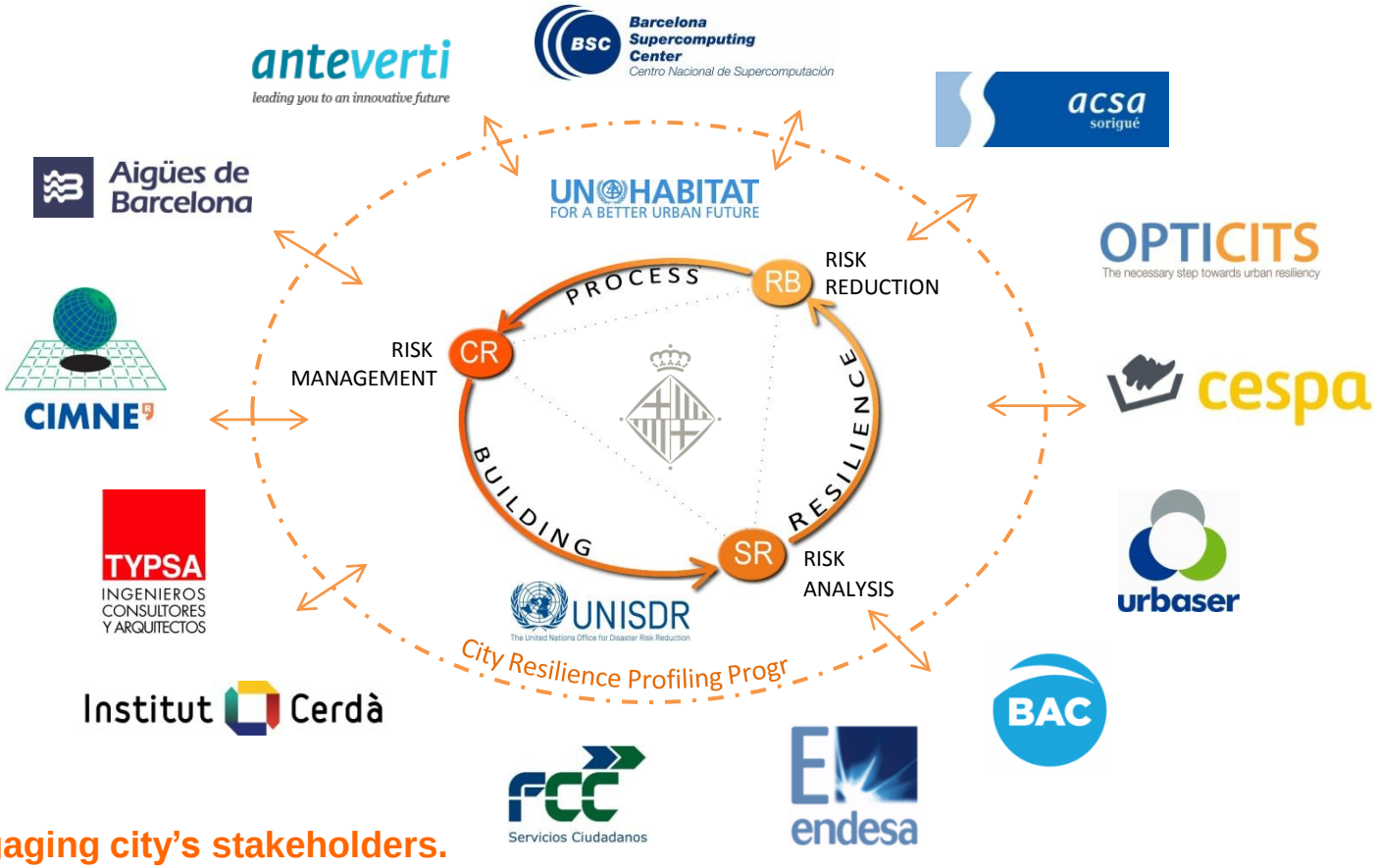
INVOLVED STAKEHOLDERS

BUILDING LOCAL ALLIANCES



ENGAGING LOCAL STAKEHOLDERS
"TISU" Resilience Boards

STAKEHOLDERS PARTICIPATING IN THE "BUILDING RESILIENCE PROCESS" & "*CRPP*"



Engaging city's stakeholders.

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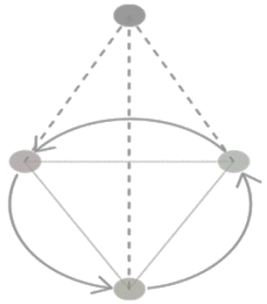
RESILIENCE STRATEGY: A continuous process



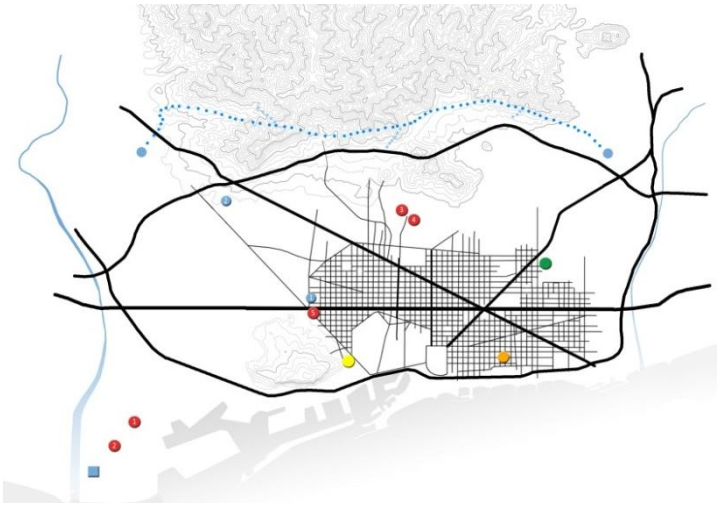
INVOLVED STAKEHOLDERS

URBAN RESILIENCE IMPROVEMENT MEASURES

Classified by SECTOR

- WATER CYCLE
- MUNICIPALITY SERVICES
- URBAN PLANNING
- UNDERGROUND INFRASTRUCTURE & URBAN TUNNELS
- ENERGY
- MOBILITY & PUBLIC TRANSPORT
- SOCIAL SERVICES
- TELECOMMUNICATION

PHYSICAL MEASURES
Defensive Infrastructures, Control Centers...



NON-PHYSICAL MEASURES
Disaster Action Plans, Preventive meetings, TISU Resilience Boards...

INVOLVED STAKEHOLDERS: Aj. Barcelona, BCASA, TMB, Cespa, Agbar, FCC, ACA, Endesa, Bombers, Guardia Urbana...

Ajuntament de Barcelona

RESILIENCE STRATEGY: A continuous process

INTERNATIONAL STRATEGY

1\ UNHabitat Resilience Headquarters

2\ UNISDR 'Making cities Resilient' Campaign

3\ Other Institutions:
-City Protocol Society

Introducing the City Protocol & Urban Resilience

C/P is a delivery-focused **network of global cities** that, in partnership with Industry, Academia, Agencies and other organizations is **developing common approaches and solutions** to help cities build a **sustainable future** by leveraging knowledge and experiences.

City Protocol refers to both a **program of activity** and to an **organization** that is being set up to manage it.

In **July 2012** over 200 participants, representing 33 cities, 20 major businesses, 14 universities and 20 other organizations, convened in **Barcelona**, Spain **to learn about, discuss, and infuse life into the idea of a City Protocol Society**. After a successful assembly, an Interim Steering Committee (ISC) was created.

Meeting regularly over several months, the ISC convened again in a face to face workshop in **October 2012 in San Francisco**, USA to work through the components of the society. The official launch of the City Protocol Society at the **November 2012** Smart City World Congress **in Barcelona** set out the roadmap for the society to be **fully operational by April 2013**.

Ajuntament de Barcelona

INTERNATIONAL COOPERATION: Exchanging knowledge and networking

cim2014

II Congreso de Ingeniería Municipal

BARCELONA, 27 y 28 de Octubre

ORGANIZA

cetop.cat
Col·legi d'Enginyers Tècnics d'Obres Públiques de Catalunya

Patrocinador oficial

BASF
The Chemical Company

Patrocinadores

gasNatural Distribución

AQUALOGY
Where Water Lives

Colaboradores

Beyond Building Barcelona
Reengineering CONSTRUMAT

Universidad Europea Madrid
LAUREATE INTERNATIONAL UNIVERSITIES

MAPEI

TUSOsal

Baixbus
MOHN, SL OLIVERAS, SL ROSANBUS, SL

moventis
en moviment des de 1923

UCAM
Universidad Católica San Antonio

Media Partners

ajuntament impulsa.cat

El Alcalde

ara.cat