



DIGITAL TRANSFORMATION of ISTANBUL



ISTANBUL METROPOLITAN MUNICIPALITY

Burcu ÖZDEMİR, Ph.D.
Director of Smart City

ISTANBUL IN NUMBERS



Turkey's Largest Metropolis

Biggest metropolis in Turkey with a population of over 16 million. Larger than 23 countries in Europe



Strategic Location

Locates at a strategic location connecting Europe and Asia



Bigger Than Economy of 130 Countries

Istanbul provides Turkey's 56% of foreign trade volume, 27% of national income and 43% of exports



Young Population

There are 4.7M young population in Istanbul between the age of 0-25

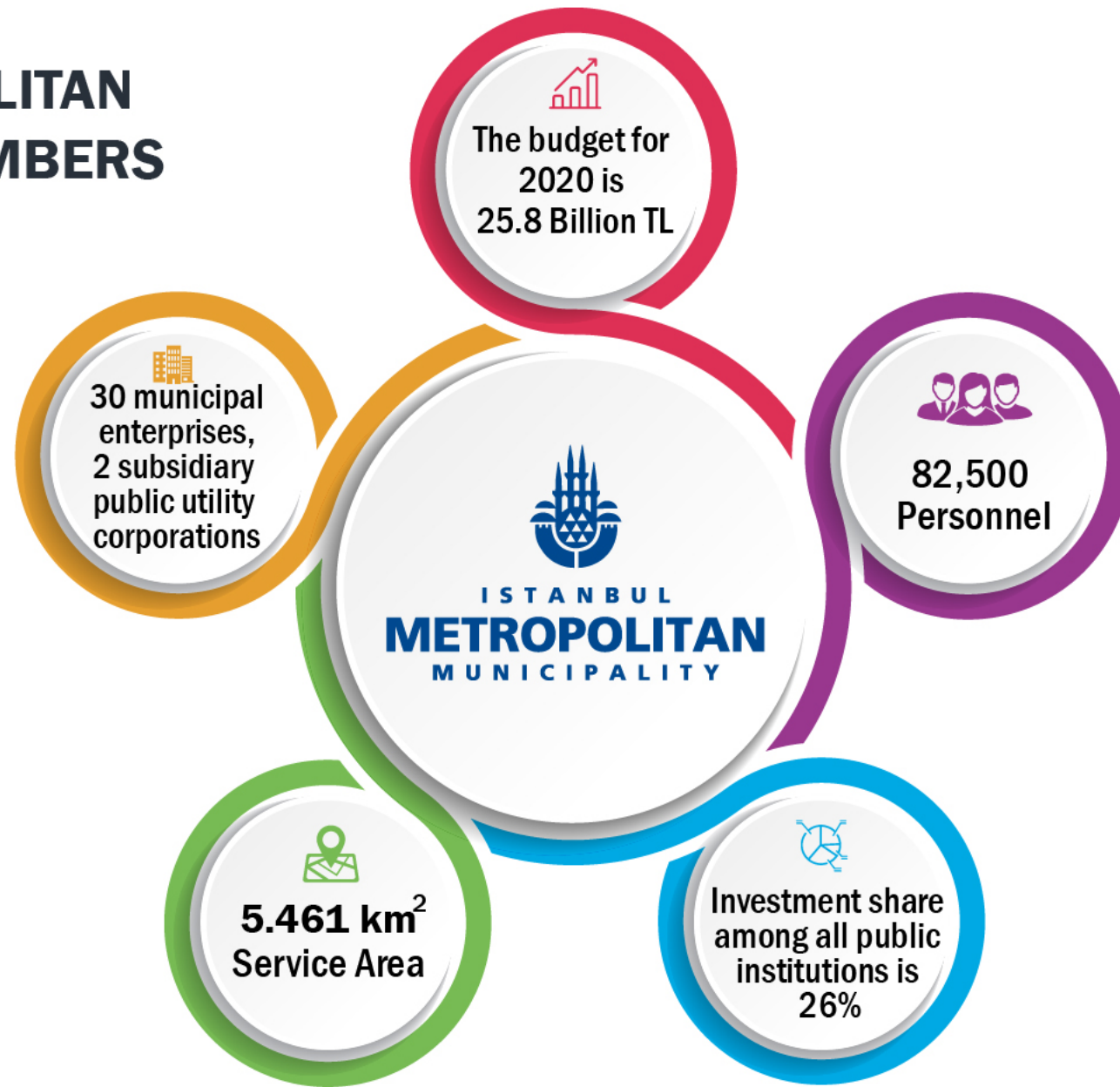


Internet Usage

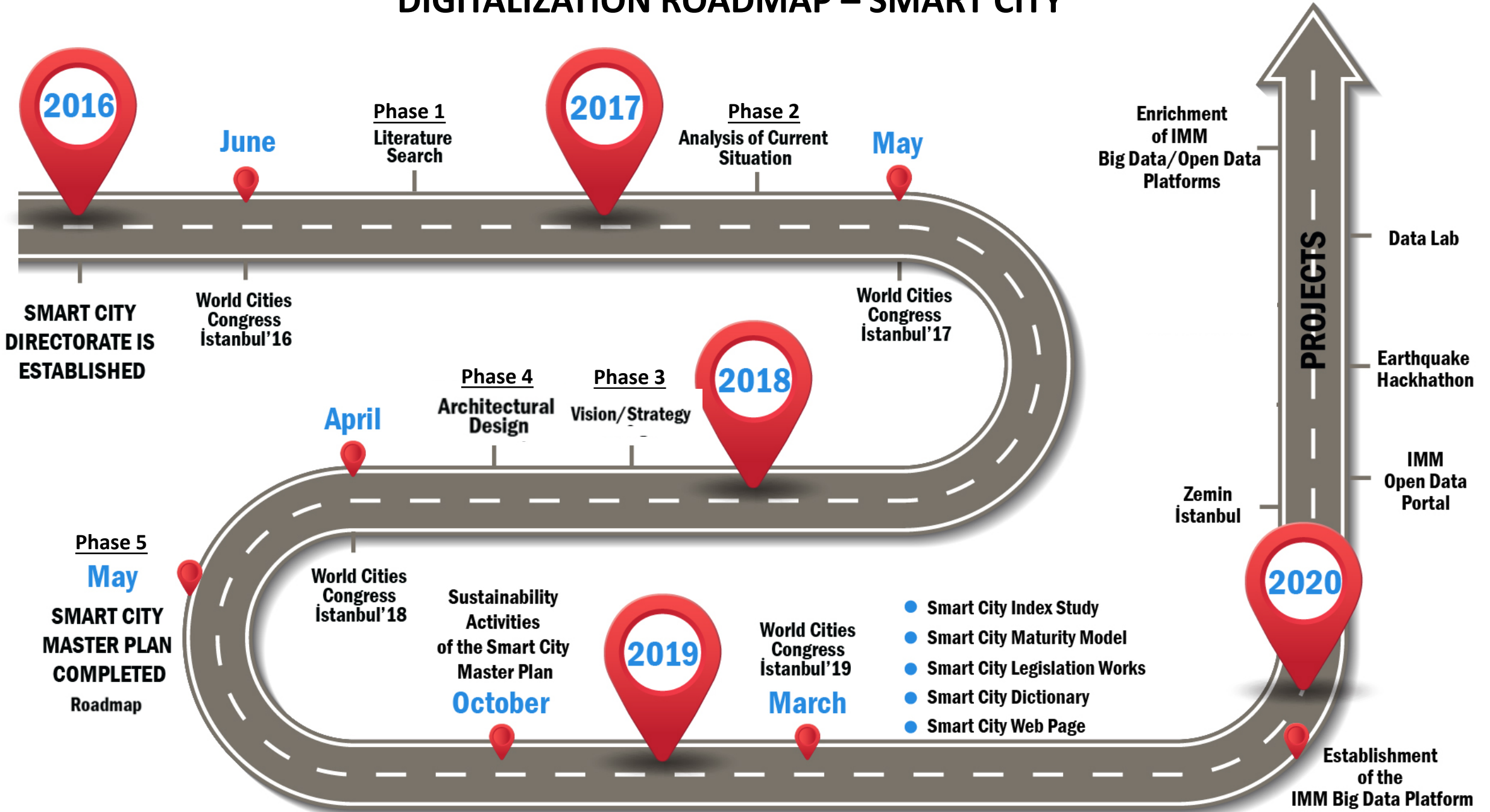
There are about 60 million internet users in Turkey. The percentage of internet access in Istanbul is 96% and there are about 14 million internet users



ISTANBUL METROPOLITAN MUNICIPALITY IN NUMBERS



DIGITALIZATION ROADMAP – SMART CITY



LITERATURE REVIEW

PHASE 1

Review of 10 Smart Cities

1) Review of Guide Documents

2) Examination of Good Practices Examples



- All area information in the context of smart city subject was gathered within literature review phase.

- 10 major smart cities in the world, which have good practice examples, were examined and reports of these cities were created within the scope of the «Istanbul smart City Project»

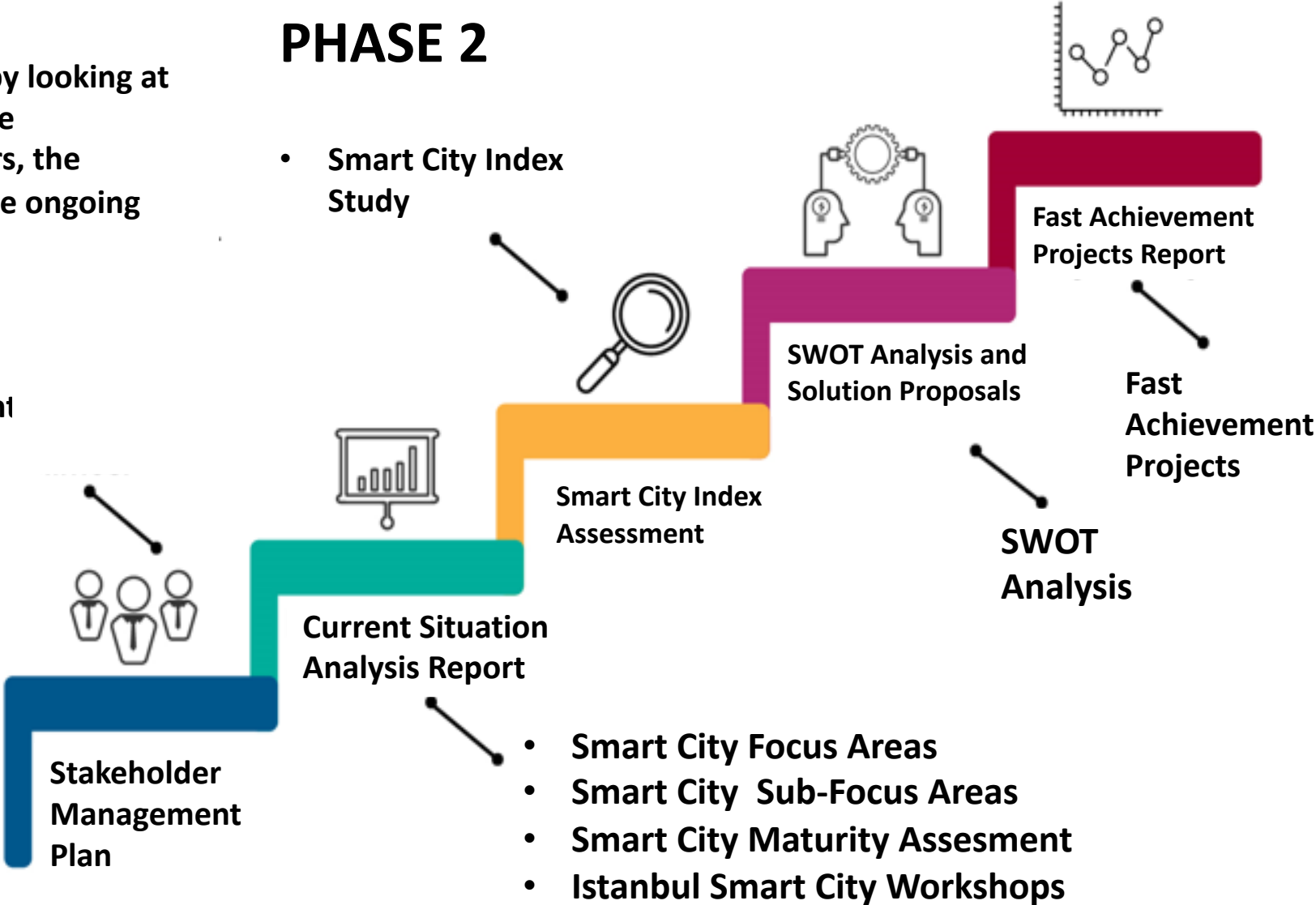


CURRENT SITUATION ANALYSIS

PHASE 2

- Current situation was analyzed by looking at the current status of Istanbul, the competencies of the stakeholders, the technology infrastructure and the ongoing projects.

- Stakeholder Analysis
- Stakeholder Management Panel
- Contacting Stakeholders
- Stakeholder Surveys
- Stakeholder Meetings

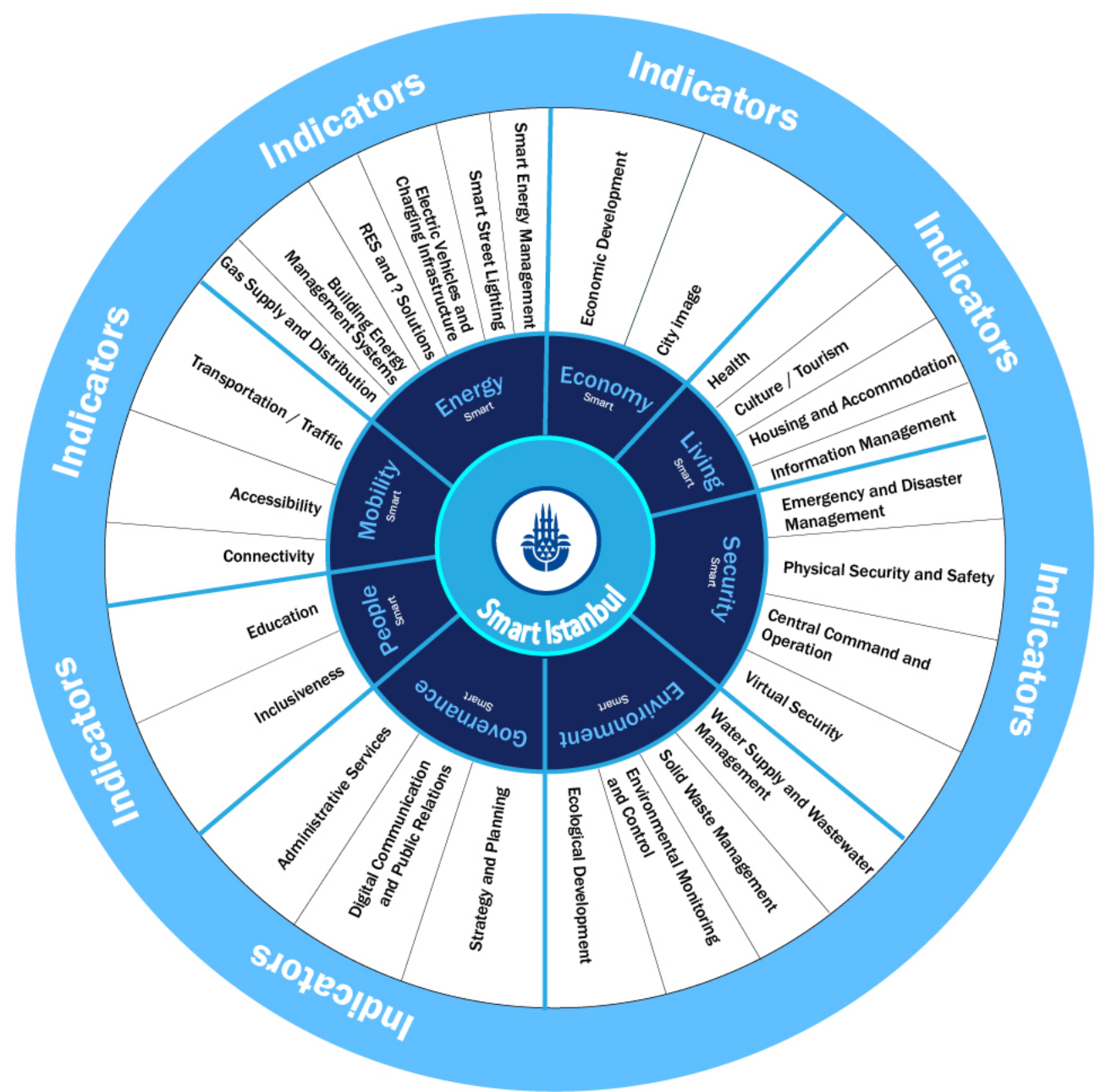


SMART ISTANBUL FUNCTIONAL & FOCUS AREAS

- 8 Functional Area
- 28 Focus Area
- 3 Promoters

PROMOTERS

- Information and Communication Technologies
- Organization and Human Resources
- Finance



VISION, STRATEGY & ROAD MAP

PHASE 3

At the phase of determining the vision and strategy, it was aimed to establish the strategies of the city, together with the stakeholders, that will enable Istanbul to reach its vision and future goals, and to determine the projects that will raise our city in every field.



VISION-MANIFESTO

- IMM Executive Survey
- Vision Workshop,
- Mars Group Workshop,
- Creation of Istanbul Smart City Manifesto



STRATEGY

- Social Media Analysis
- Citizen Survey Study
- Legal Personality Survey Study
- Strategic Goals
- Targets
- Initiatives
- Projects
- Project Selection (101 Projects)



ROAD MAP

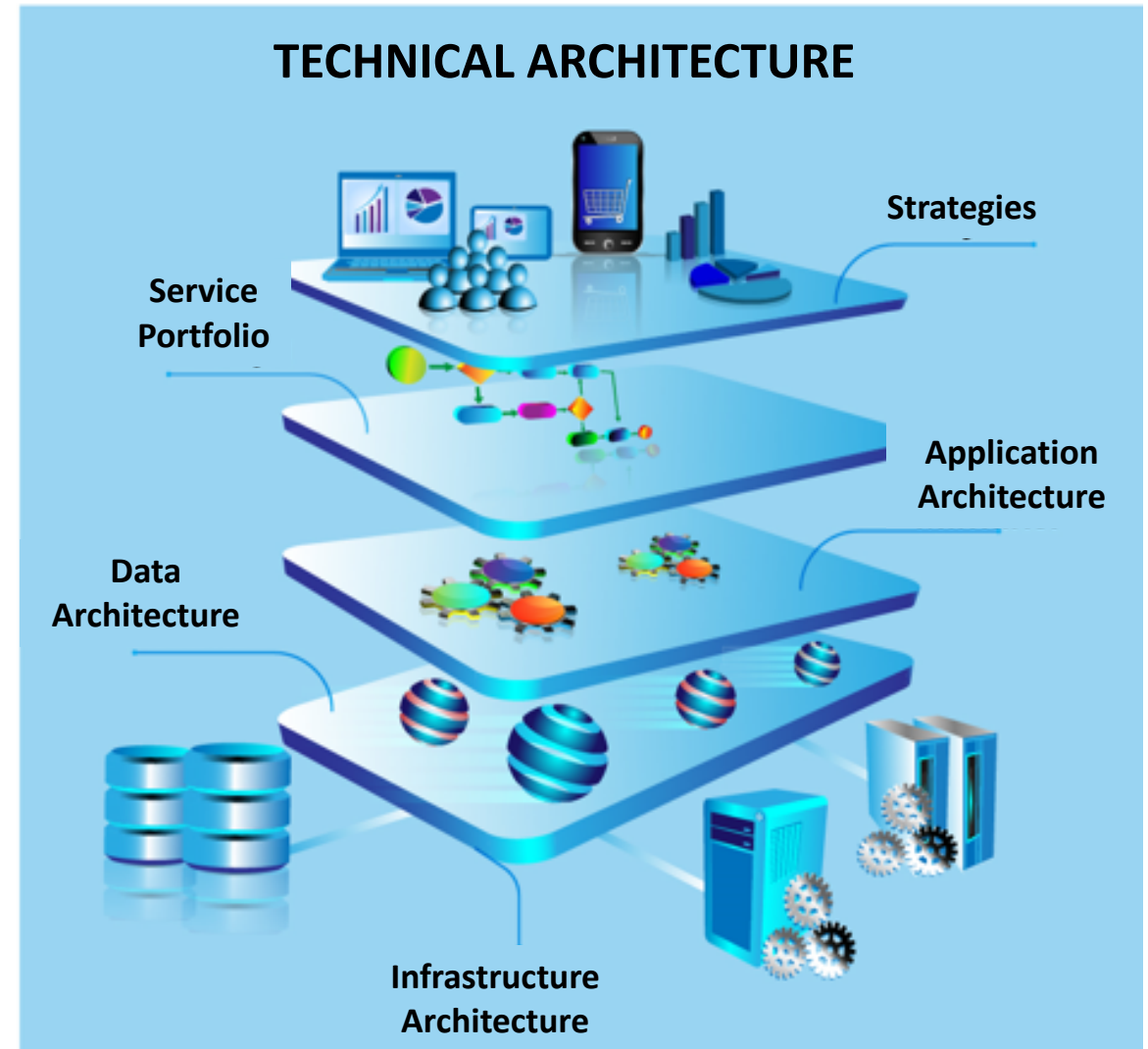
- Creating a master plan (101 projects to be realized in the short, medium and long term 2029)
- Strategies have been created to ensure that Istanbul Smart City is depicted in a 10-year time frame until 2029, thereby enabling stakeholders to serve a common and clear goal and goal.



ARCHITECTURAL DESIGN

PHASE 4

- Istanbul Smart City Architecture was designed based on the 3D (Discover-Define-Design)
- After the 3D Design phase is over, the process will be adapted with the fourth and fifth "D" fiction as "Develop" and "Deploy".
- The conceptual design of the applications that will be implemented in the context of a smart city for functional areas in smart city architecture has been revealed.
- Afterwards, a technical architecture was constructed in accordance with the conceptual design that would enable these applications to communicate with each other and work integratedly.



Smart City Istanbul



ROAD MAP PHASE 5

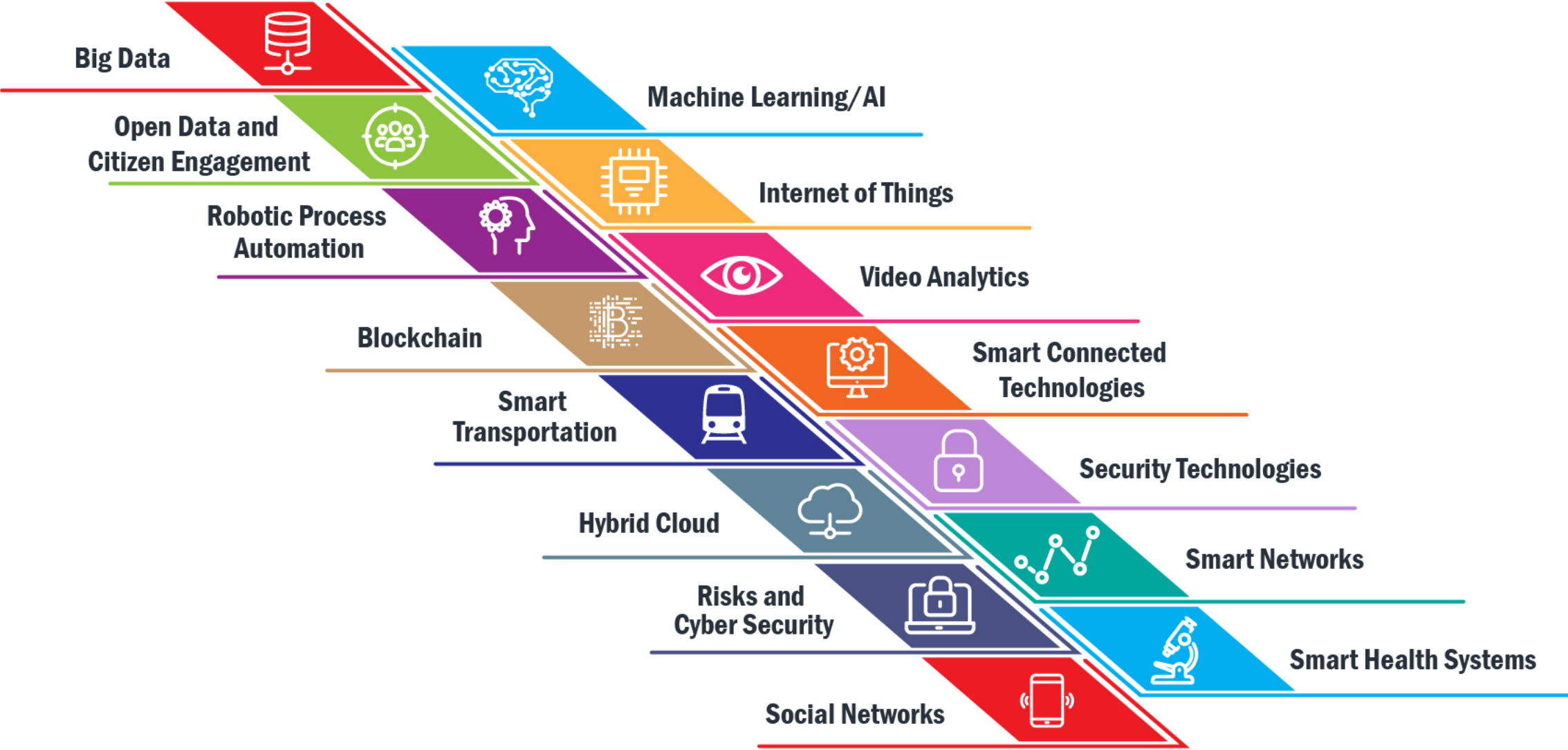
Road Map Phase (after the Vision & Strategy and Architectural Design phases) is the phase where the projects to be implemented in the short, medium and long term are determined, prioritized and planned.

STEPS

- Creating a Strategic Road Map,
- Prioritization of Projects
- Time Plan
- Impact Analysis
- Impact Map
- Detailed Change Impact Analysis
- Public Relations Plan,
- Smart City Governance Structure



TRENDS RISING IN SMART CITIES



“IMM’S OPEN DATA PORTAL” ISTANBUL METROPOLITAN MUNICIPALITY “OPEN DATA PORTAL” is LAUNCHED!

Open Data of Istanbul is made available to citizens
in smart city functional areas.

<https://data.ibb.gov.tr>

The screenshot shows the homepage of the IMM Open Data Portal. At the top, there is a navigation bar with the IBB logo and the text "OPEN DATA PORTAL". Below the navigation bar, there is a large banner with the text "Welcome to IMM Open Data" and a sub-header "IMM Open Data is providing access to data provided by IMM and its subsidiary companies. The data is free to access regardless of your intent." A button labeled "CHOOSE THE BEST Dataset For You" is visible. Below the banner, there is a section titled "HOW IS OPEN DATA USED?" with three icons: "Search" (Find a dataset of your interest by using the Search box or Select a topic listed below.), "Study" (Review the dataset to learn more about a desired subject), and "Use" (Download data or query the data via API to create your own project).

The screenshot shows the dashboard of the IMM Open Data Portal. At the top, there is a navigation bar with the IBB logo and the text "OPEN DATA PORTAL". Below the navigation bar, there is a section titled "Recent Info" with three large numbers: "121" (Total Dataset Count), "6" (Datasets Updated Last Week), and "485" (User Count). Below this, there is a section titled "New or Modified Datasets" with a sub-header "Browse new or modified datasets below. Click to view details, explore content, or view on a map." There are six dataset cards displayed, each with a title, a file type icon (PDF, CSV, XLSX), a view count, and a last modified date. The datasets are: "Günlük Ağaç Sayımı" (0 views, last modified 06/06/2020), "AKOM Hava Durumu" (5 views, last modified 06/06/2020), "İRR İşletmenleri Vardiyesi" (1 view, last modified 06/06/2020), "İstanbul Dam Occurrences" (876 views, last modified 06/06/2020), "IGDAS Employee Information" (966 views, last modified 06/06/2020), and "Production Amounts" (984 views, last modified 06/06/2020).

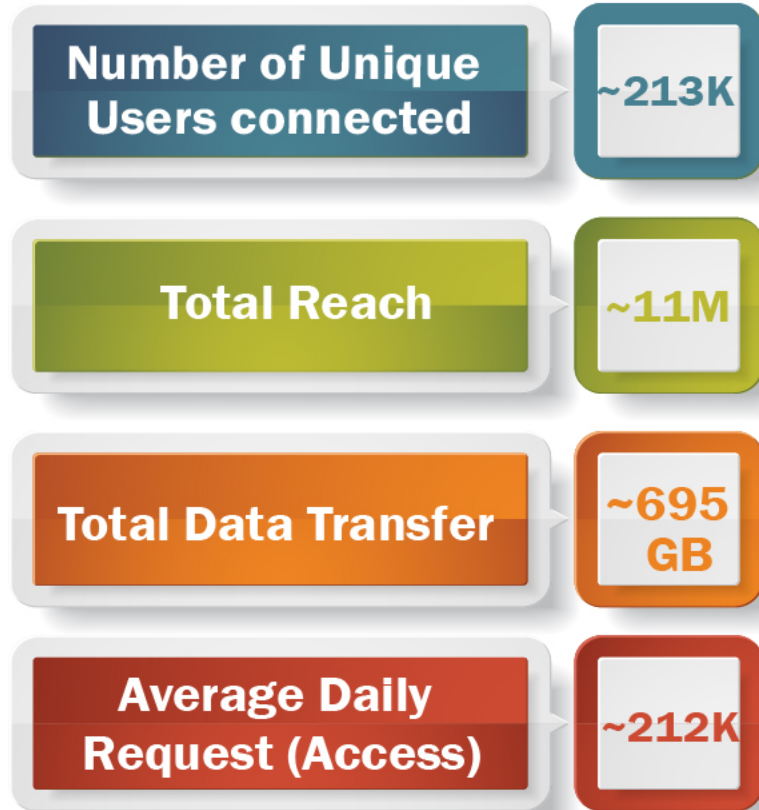
PEOPLE ENERGY GOVERNANCE MOBILITY ECONOMY SECURITY ENVIRONMENT LIVING

IMM OPEN DATA PORTAL

data.ibb.gov.tr

Release Date: 18.01.2020

Between 18.01.2020 - 09.06.2020



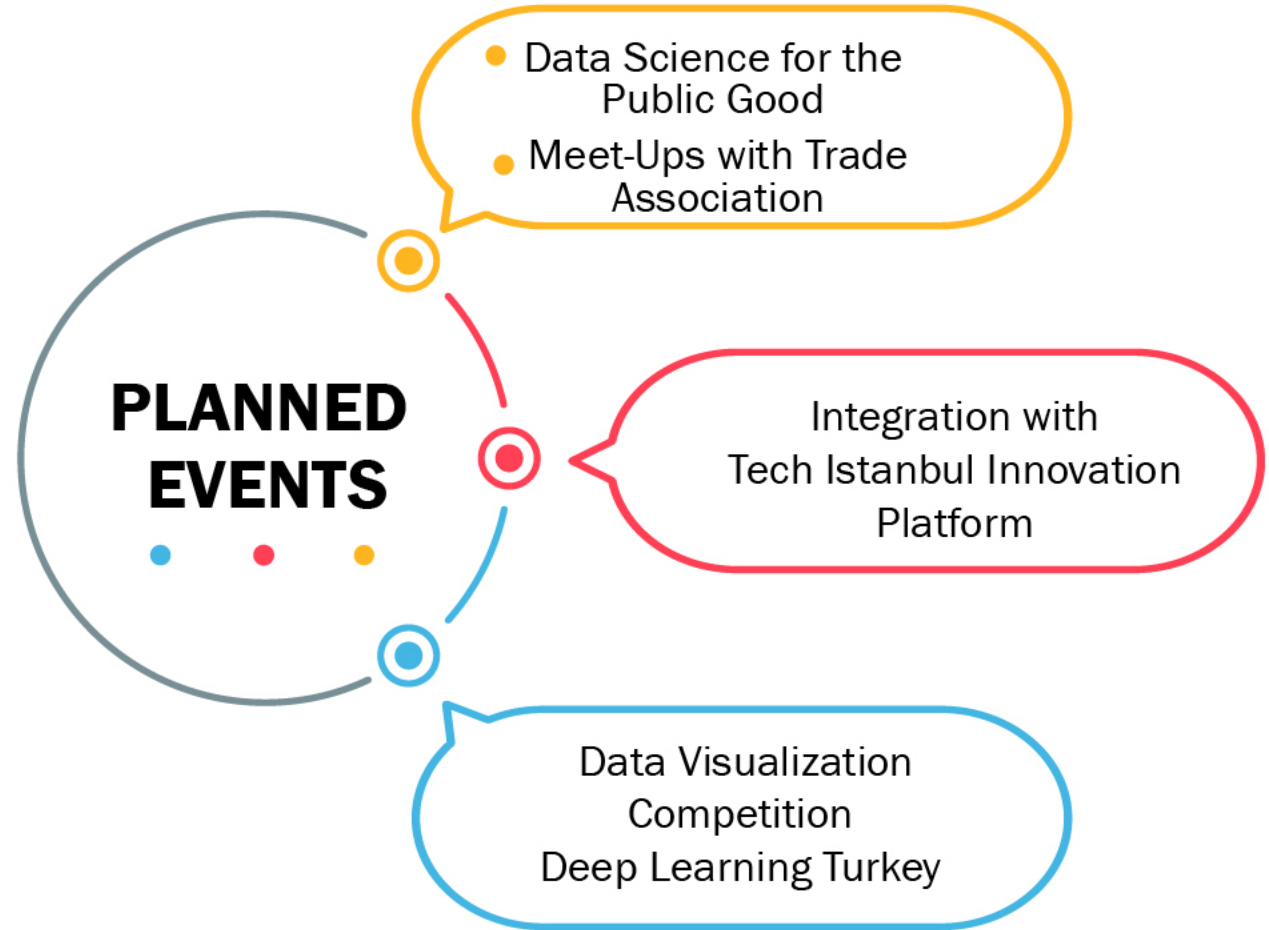
CATEGORIES	DATA SET NUMBERS
EMERGENCY MANEGEMENT	4
MOBILITY	55
ENVIRONMENT	25
ENERGY	10
LIVING	16
SECURITY	6
ECONOMY	3
PEOPLE	12
GOVERNANCE	10



IMM OPEN DATA PORTAL

A total of **122** citizen requests were received between 18.01.2020 - 09.04.2020

CATEGORIES	REQUESTS DATA SET NUMBERS
BIT	7
ENVIRONMENT	19
ECONOMY	2
ENERGY	7
SECURITY	8
PEOPLE	14
MOBILITY	46
LIVING	12
GOVERNANCE	7
TOTAL	122

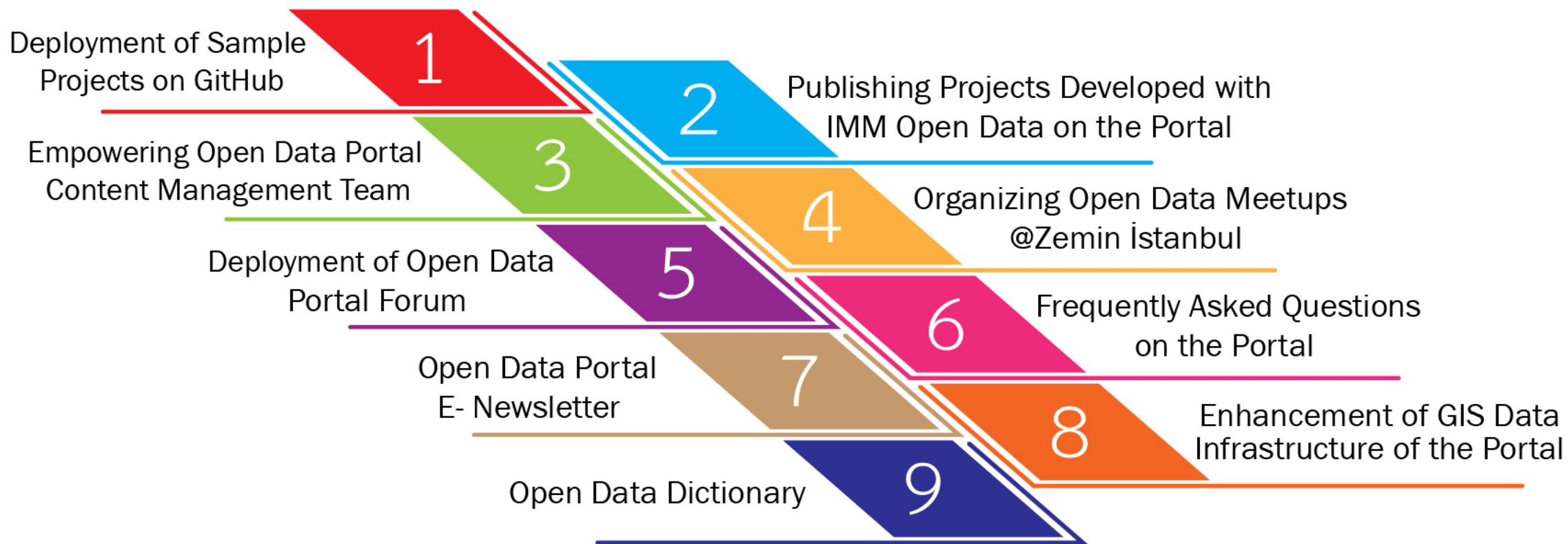


IMM OPEN DATA PORTAL

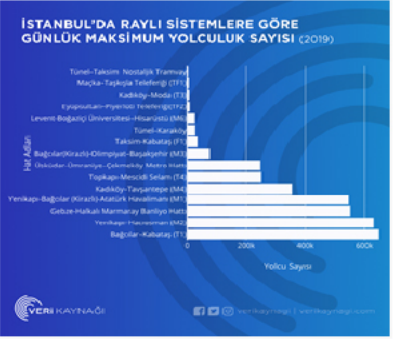
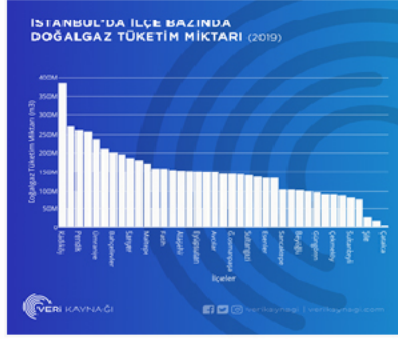
2020 TARGETS

of Datasets: ~ **250**

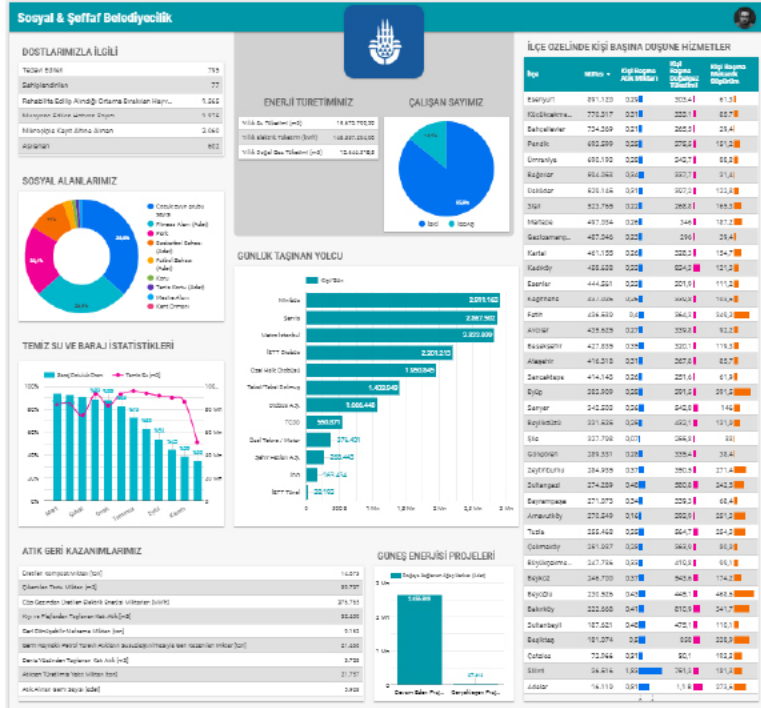
of Unique Users: ~ **500K**



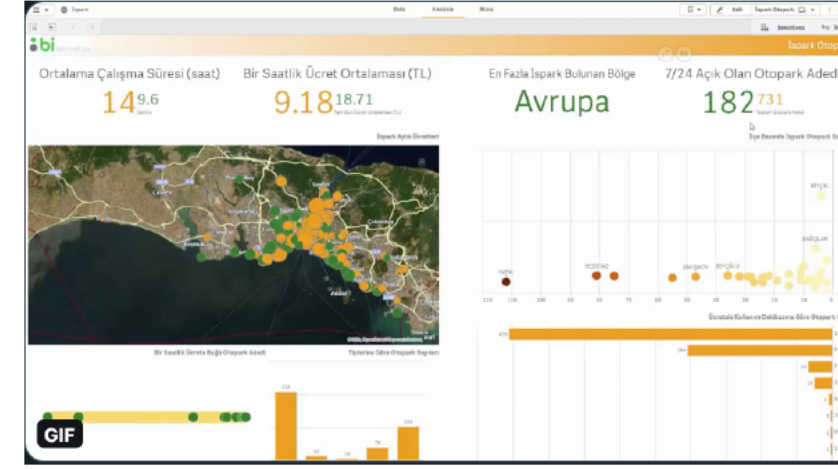
IMM OPEN DATA DEVELOPMENTS BY CITIZENS



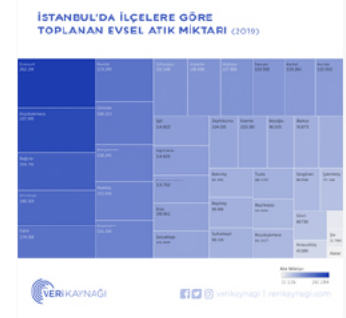
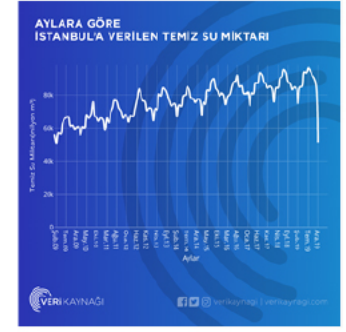
verikaynagi.com



<https://datastudio.google.com/reporting/1duwFjqZ-4v20z54XkI07dGM-ZyAHSv0/page/5Xus>

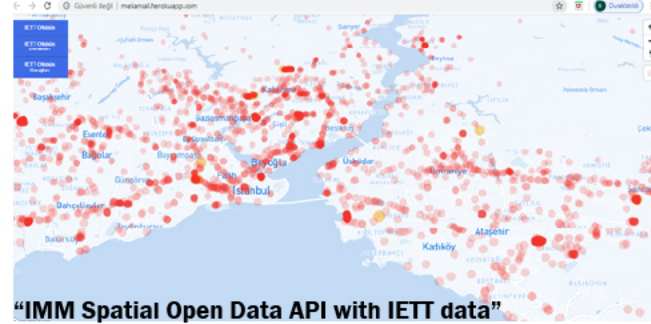
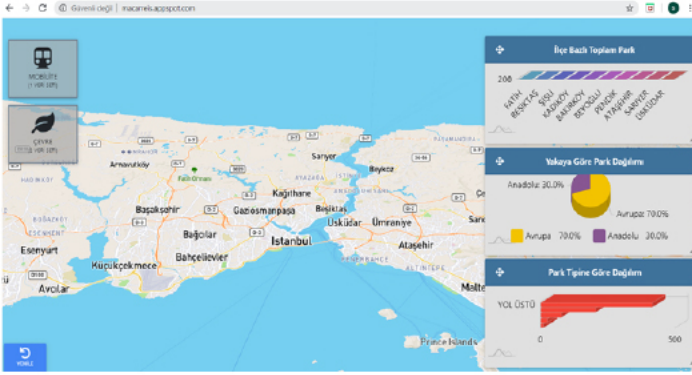


<https://twitter.com/QlikViewTurkiye/status/1219898566103179264>

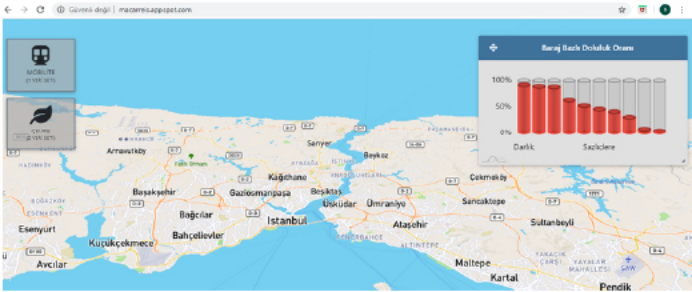


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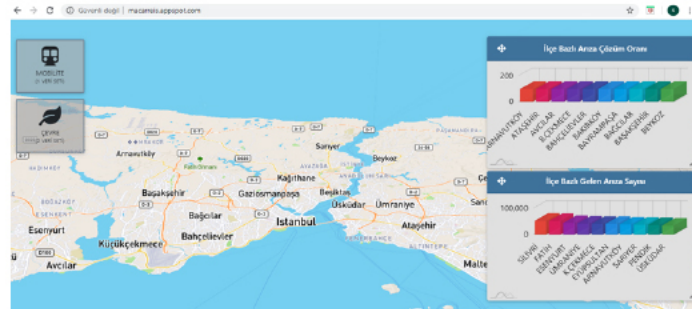
SAMPLE PROJECTS DEVELOPED USING IMM OPEN DATA



<https://medium.com/>



<https://verikaynagi.com/>



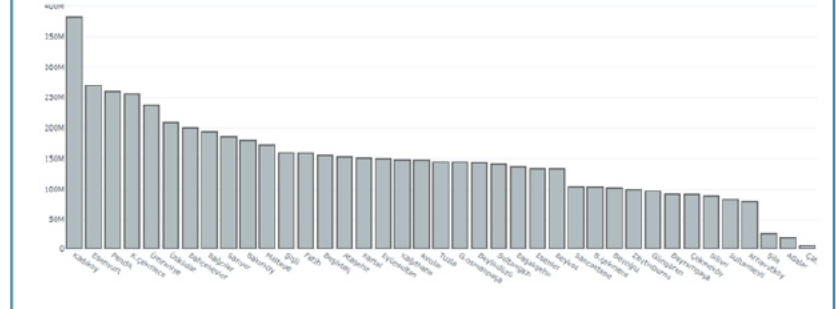
<http://macarreis.appspot.com/>



data.ibb.gov.tr

İSTANBUL'DA İLÇE BAZINDA DOĞALGAZ TÜKETİM MİKTARI- 2019

İstanbul'da 2019 yılında en çok doğalgaz tüketimi 383milyon m³ ile Kadıköy ilçesinde gerçekleşmiştir.



KAYNAKLAR

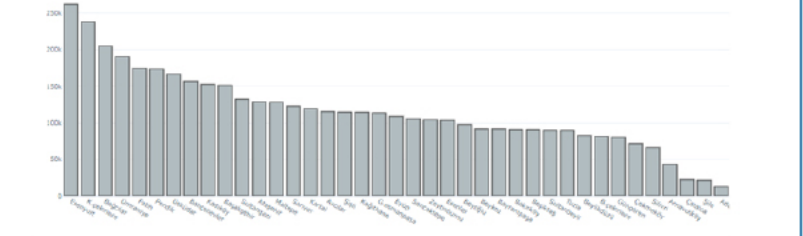
İBB Açık Veri Portalı- İlçe Bazında Yıllara Göre Doğalgaz Tüketim Miktarı



VERİ KAYNAĞI

İSTANBUL'DA İLÇELERE GÖRE TOPLANAN EVSEL ATIK MİKTARI- 2019

2019 yılında evsel atık en çok Esenyurt ilçesinde toplanmıştır. (262.284ton)



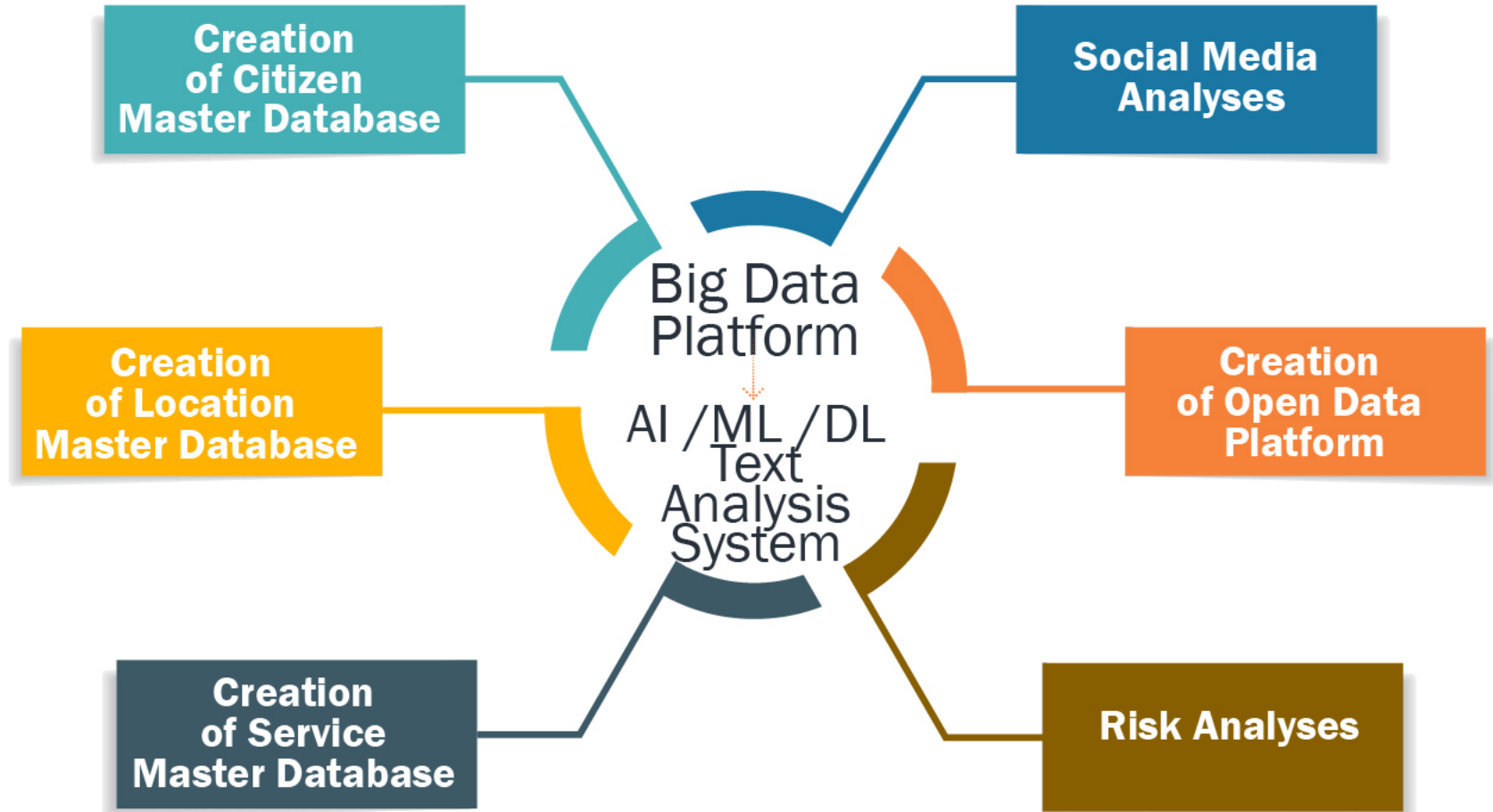
KAYNAKLAR

İBB Açık Veri Portalı- İlçe ve Atık Türü Bazında AER Miktarı



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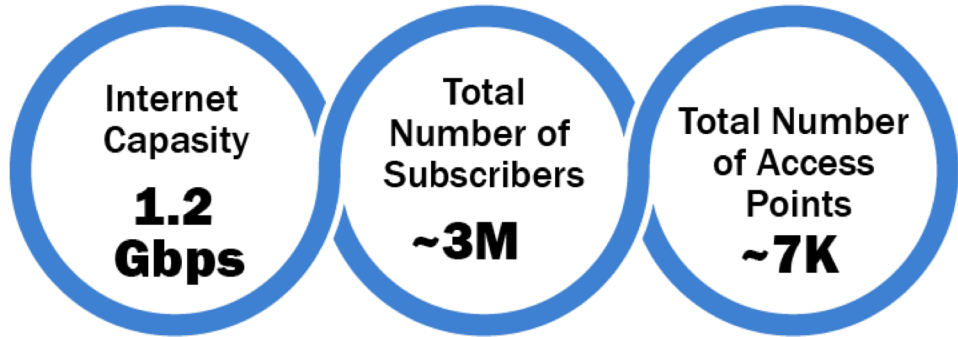
BIG DATA PLATFORM



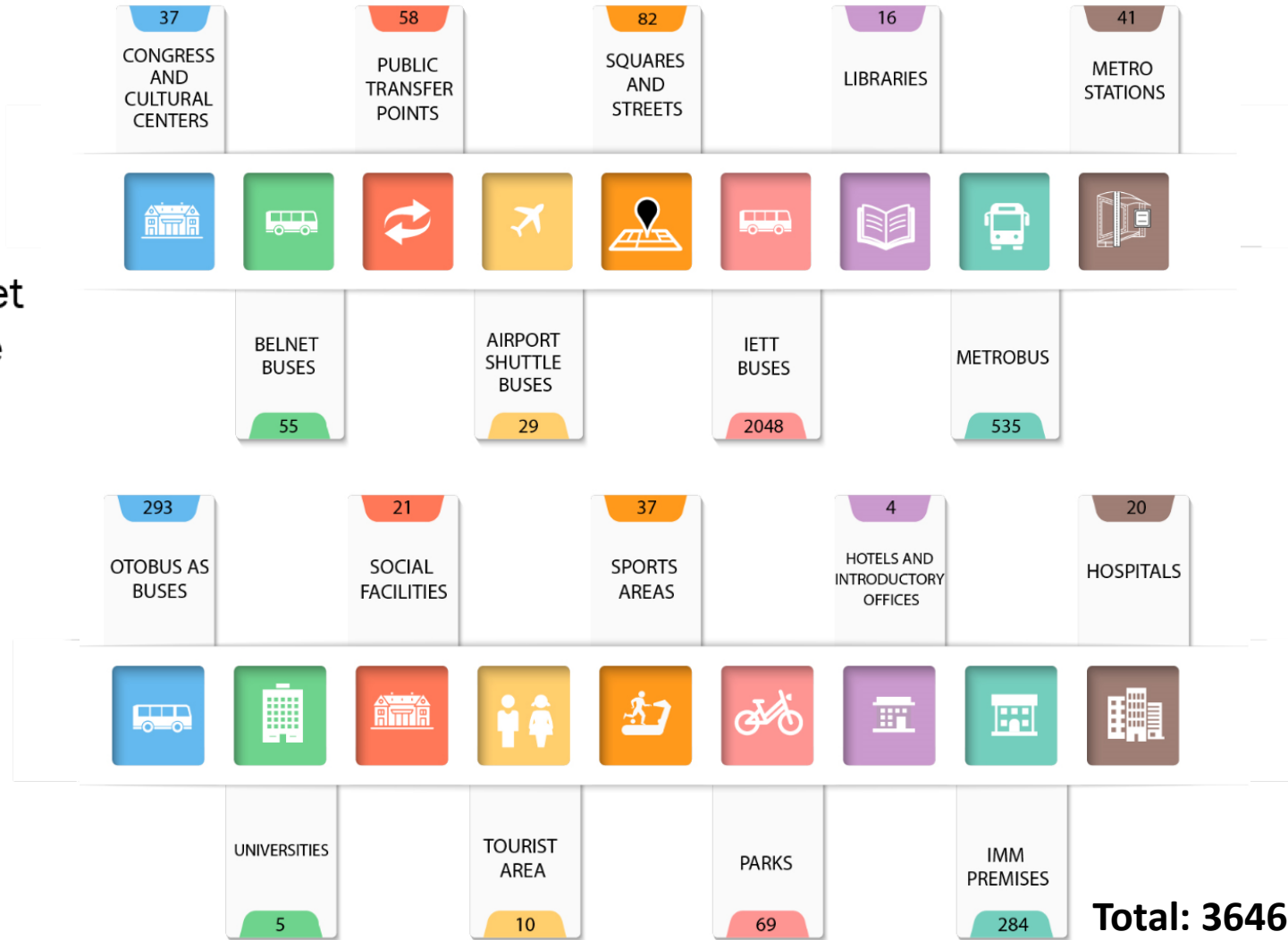
FREE CITY INTERNET – «İBB WI-FI»

“İBB Wi-Fi” is a free internet service provided by İstanbul Metropolitan Municipality.

The purpose of this service is to establish internet access points in the areas where the citizens are most dense and to expand the wireless communication network in İstanbul.



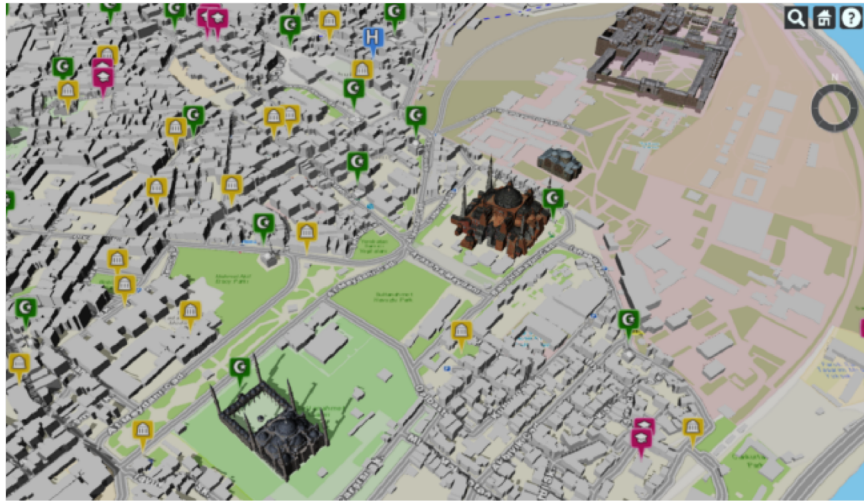
Infrastructure Information





3D urban models are digital models where the details of the city such as vegetation, building, infrastructure, landscape and city furniture are displayed in coordinated form.

The 3D City Model Project is being developed in order to make analyzes such as road and transportation analysis, to make the promotion of historical and touristic places more effective, to use lidar data more effectively within IMM and to present it to both IMM and end users.



Building models with different levels of details

Creating city models with lidar data

Satellite image supply and analysis

360°measurable panoramic street image supply

Digitization of panoramic images

Combining 3D data

Making 3D data analysis and simulations (slope, aspect, wind, sunbathing, flood, etc.)

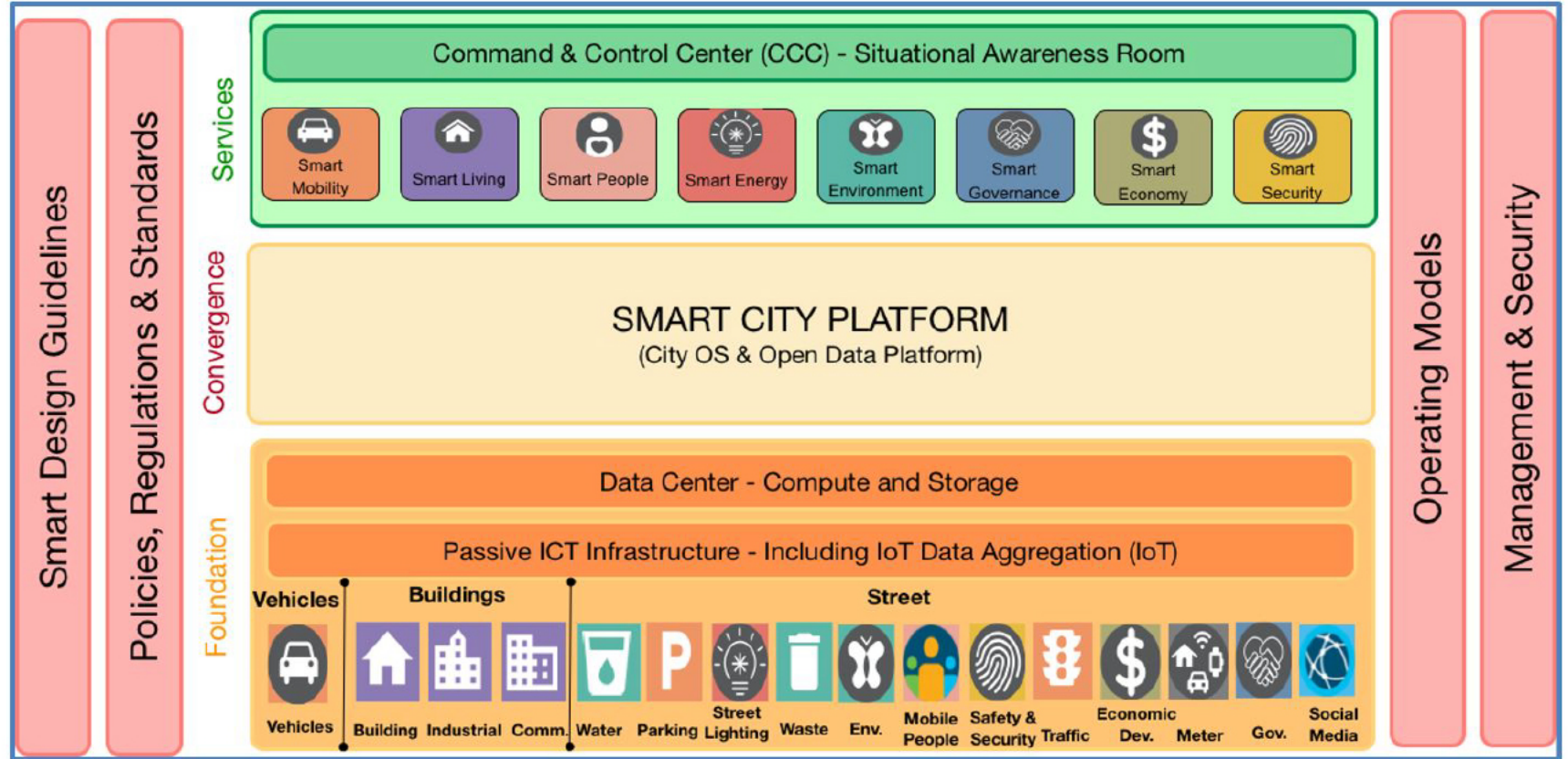
3D topographic map production

3D data generation using drones (mesh model, orthophoto, 3D building model etc.)



IoT PLATFORM

Functional Areas	Use Cases
Environment & Energy	<ul style="list-style-type: none"> • Smart Metering (gas, water, etc.) • Sensor - Based Air Quality • Software - Based Air Quality
Urban Mobility	<ul style="list-style-type: none"> • (Crowd) Location Analytics • (Traffic) Vehicle Count • (Traffic) Vehicle Classification • (Traffic) Direction • (Traffic) Size
Parking	<ul style="list-style-type: none"> • Parking Occupancy and Availability • Utilization Reports and Analytics
Lighting	<ul style="list-style-type: none"> • Real Time Monitoring and Control • Scheduling
Waste Management	<ul style="list-style-type: none"> • Waste Bin Level Detection • Inside Waste Bin Temperature • Waste Bin Sensor Battery Level
Safety & Security	<ul style="list-style-type: none"> • Object Detection • Intrusion Detection • Perimeter Protection • Face Recognition

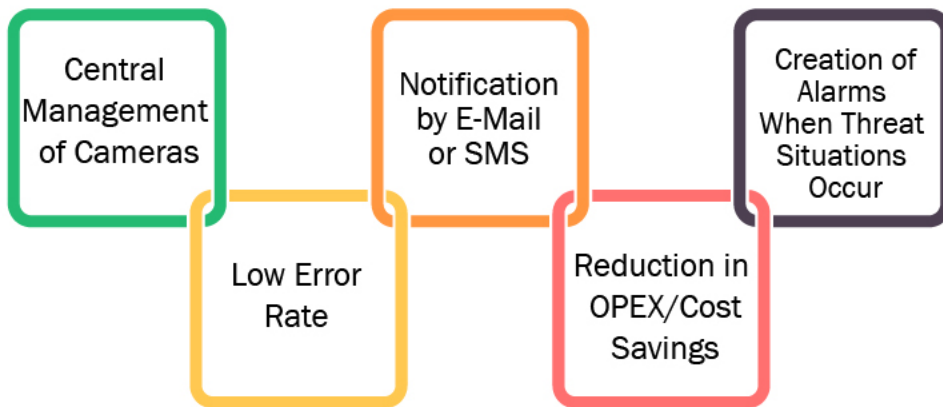


VIDEO ANALYTICS

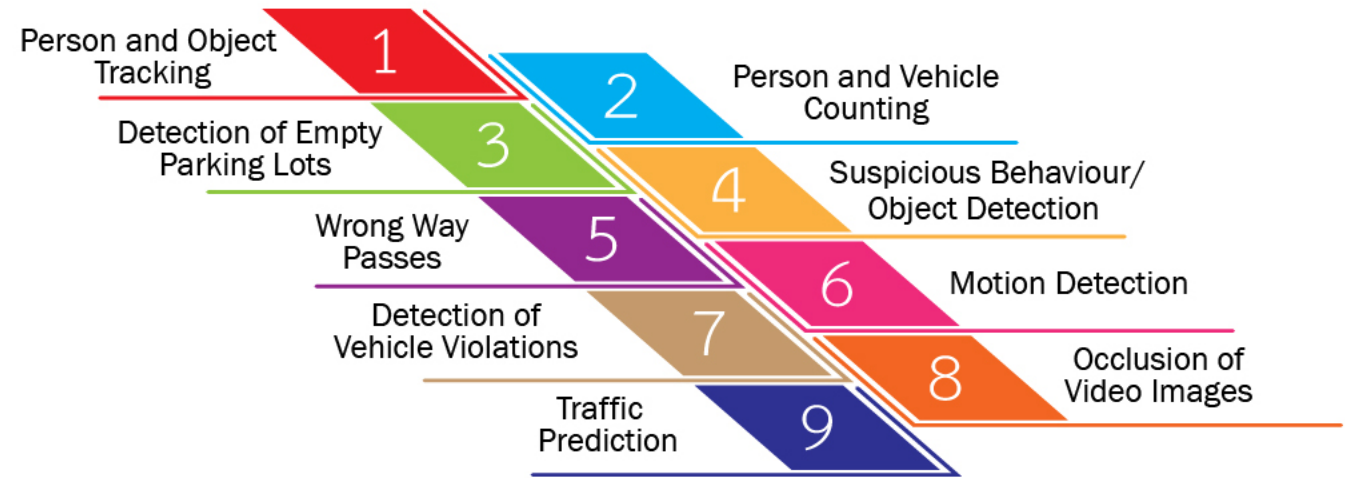


- A signal processing system that digitally analyzes video images to detect and identify threats, suspicious events or real-time behavior.
- Video analytics solutions will be implemented based on pre-defined scenarios to take advantage of computer vision technologies.

ADVANTAGES



USE CASES





“Zemin Istanbul” is a center that provides business opportunities for creative entrepreneurs and small businesses and prepares our children for the future using technology.

By bringing together technology manufacturers, users and investors; it is aimed to develop innovative products for the needs of Istanbulites.



Zemin Istanbul has an Acceleration, Experience, Training and Activity Center covering transportation, energy, environment and social innovation areas.



AGILE SOLUTION



“Askıda Fatura” (Bill on the Hook) campaign

Aiming to provide support for people financially burdened by the coronavirus pandemic, the campaign was launched by Istanbul Mayor Ekrem İmamoğlu on Monday 4 May.

Through <http://askidafatura.ibb.gov.tr> the campaign anonymously matches people with outstanding utility bills with those willing to cover the cost of these bills out of an act of solidarity.



#BirlikteBaşaracağız

Ekrem
İMAMOĞLU
İstanbul Büyükşehir Belediye Başkanı



171,409

Adet Askıdan Alınan!



77,690

Adet Askıda Bekleyen!



23,382,402

Toplam Ödenen TL

İstanbul Büyükşehir Belediyesi Bilgi İşlem Daire Başkanlığı tarafından ❤️ ile tasarlanmıştır. © 2020

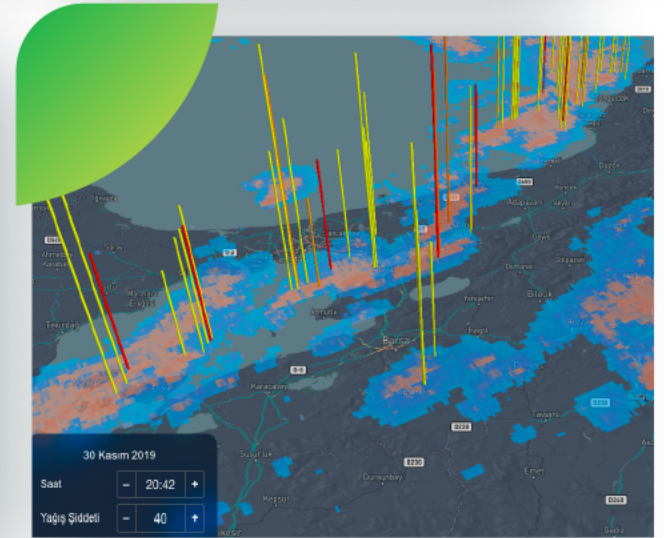
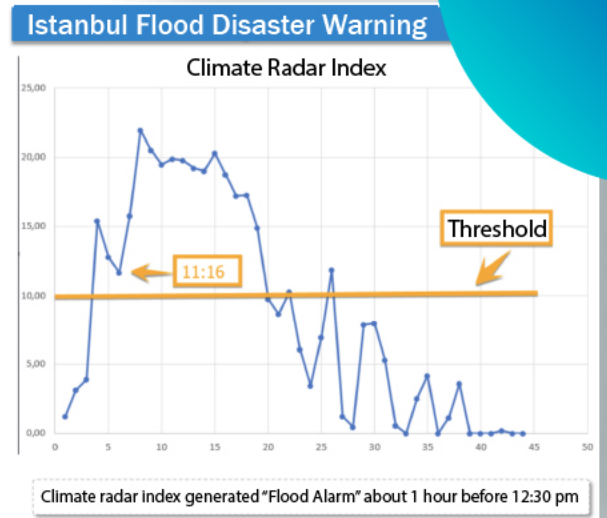
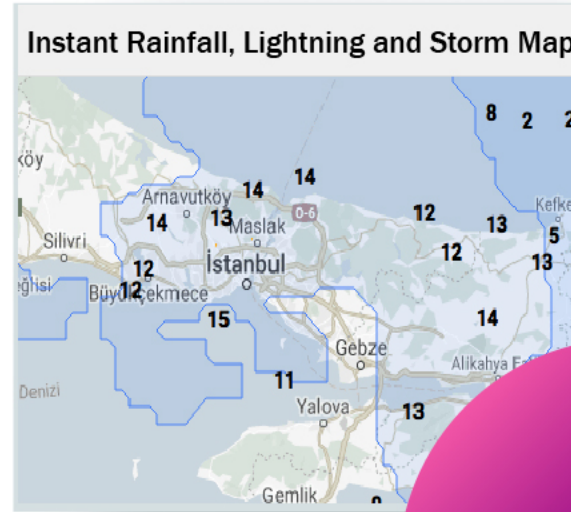


ISTANBUL METROPOLITAN MUNICIPALITY

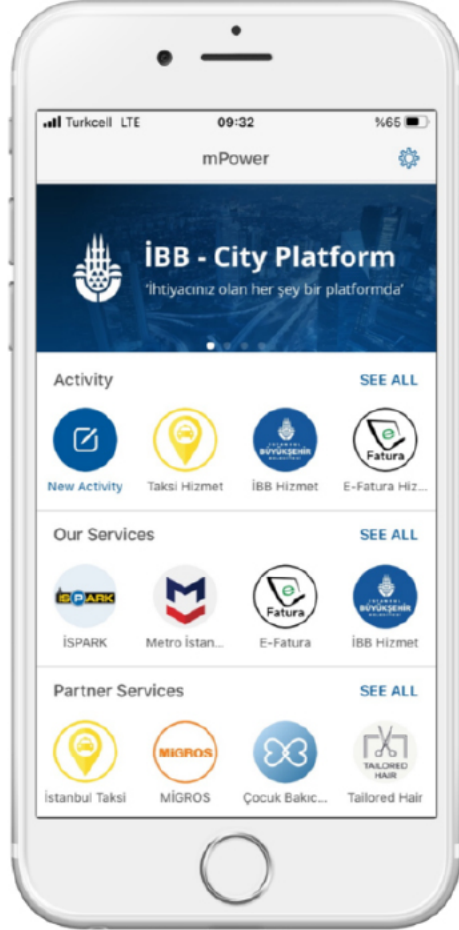


WEATHER DISASTER EARLY WARNING SYSTEM

- Turkey's first private Severe Weather Conditions Detection and Warning System was established in cooperation with Disaster Coordination Center (AKOM) in Istanbul.



“İSTANBUL SENİN” MOBILE APPLICATION



1 The Istanbul Senin application shall function as a central mobile portal, for the residents of Istanbul to access all the products and services the city has to offer

3 Virtual payment & transportation access with IstanbulKart

5 Login to 3rd party applications and websites

7 Offline application services

2 Unique & secure digital identity (SSO)

4 Digital on-boarding services for other IMM applications

6 Self service support via Person to Service chat (chat bot)

8 Ensuring public participation in management through survey and gamification (People's Assembly)



THANK YOU



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