

8th International
Conference on
BIG DATA
& Data Science for Official Statistics

BILBAO 2024

Informing Climate Change and
Sustainable Development Policies
with Integrated Data

BILBAO, SPAIN | **10-14 JUNE 2024** | **#UNBigData2024**

From mobile phone data to valuable insights

FRANCISCO CELEIRO
TELEFÓNICA TECH



Telefónica Tech is a digital services business unit to support organizations become more efficient, sustainable and resilient, focused on **four main areas**: cloud, cybersecurity, IoT and **AI&Data**



CLOUD



CIBERSEGURIDAD



IOT



AI & DATA



+5.5M

Telefónica's group B2B Customers in 175 countries

~6200

Professionals representing more than 60 different nationalities

~3000

Certificaciones

8

Inorganic acquisitions

GOJERTIS
Advisory Services

CANCOM
Communications & Collaboration

Altostratus
Cloud Managed IT

Incremental
Part of Telefónica Tech

iHackLabs
Cyber Security

Geprom
Consulting

WANAU

BEterna
Part of Telefónica Tech

+40

Startups supported

ALIAS ROBOTICS
Robot Cybersecurity

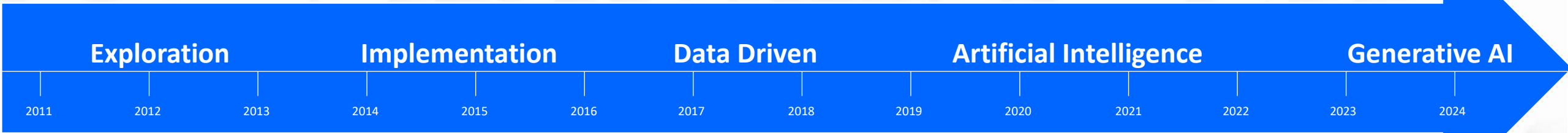
Blueliv.

Counter Craft

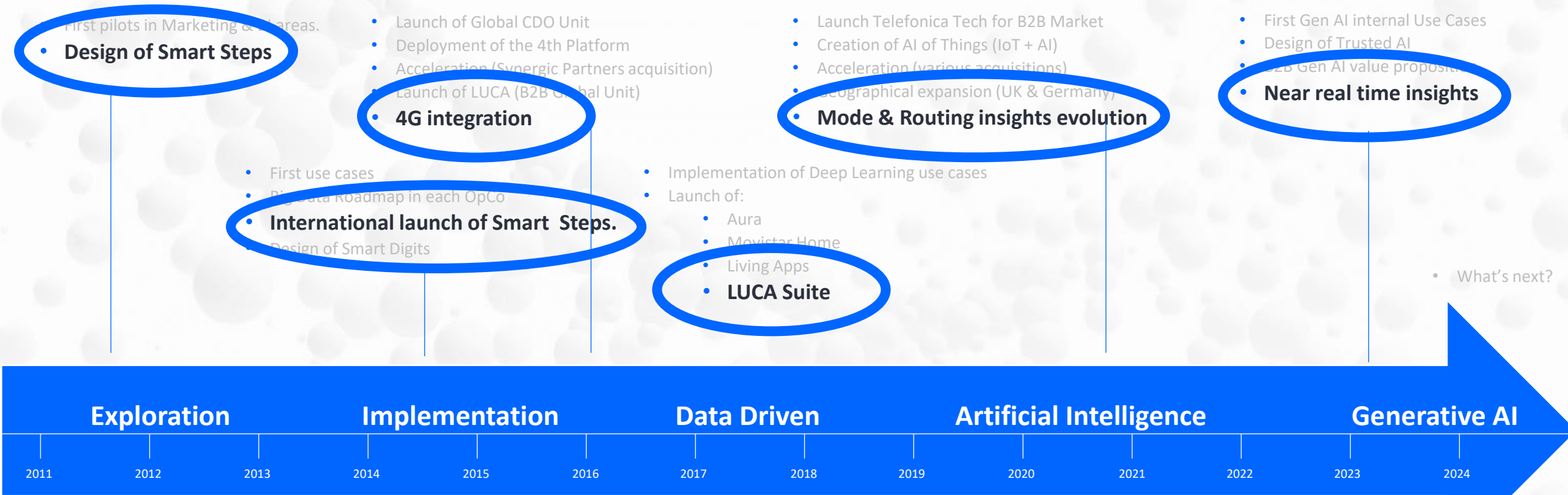
dinoflux

At Telefónica we have been leading the development and application of Artificial Intelligence for more than a decade

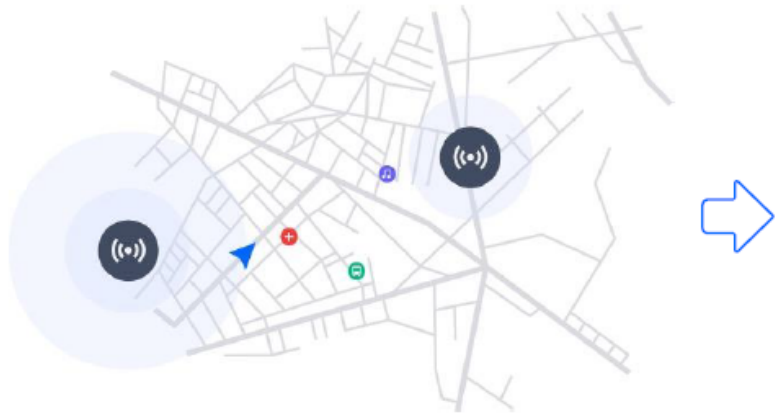
- First pilots in Marketing & BI areas.
- Design of Smart Steps
- Launch of Global CDO Unit
- Deployment of the 4th Platform
- Acceleration (Synergic Partners acquisition)
- Launch of LUCA (B2B Global Unit)
- 4G integration
- Launch Telefonica Tech for B2B Market
- Creation of AI of Things (IoT + AI)
- Acceleration (various acquisitions)
- Geographical expansion (UK & Germany)
- Mode & Routing insights evolution
- First Gen AI internal Use Cases
- Design of Trusted AI
- B2B Gen AI value proposition
- Near real time insights
- First use cases
- Big Data Roadmap in each OpCo
- International launch of Smart Steps.
- Design of Smart Digits
- Implementation of Deep Learning use cases
- Launch of:
 - Aura
 - Movistar Home
 - Living Apps
 - LUCA Suite
- What's next?



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Telefónica developed **Smart Steps**, a Big Data platform which transforms network signalling into valuable mobility insights



SMART STEPS



Mobility patterns



Spending power



Residence/Work



Web browsing

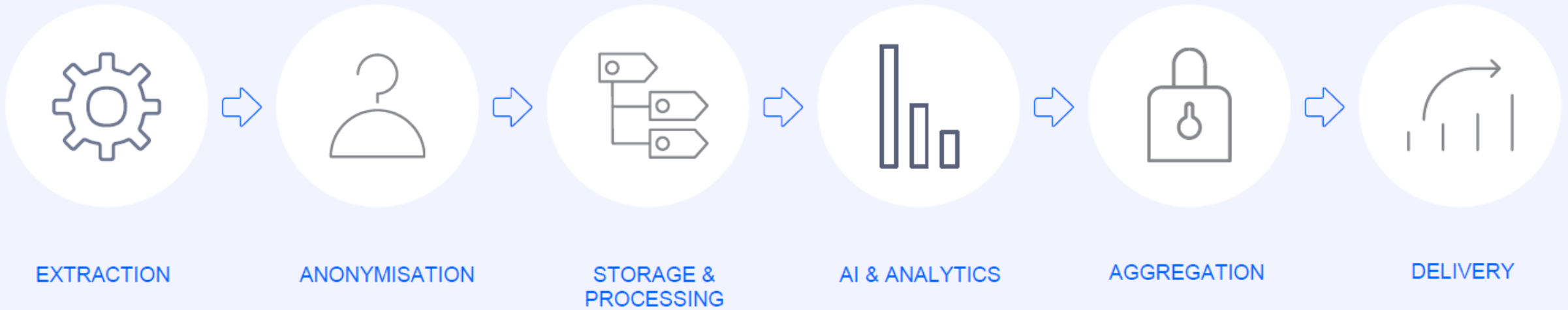


Socio-demographic profile



Devices

We generate rich insights on our consumers while fully **protecting their privacy**



In a **hyperconnected world** mobile networks are uninterrupted sources of events

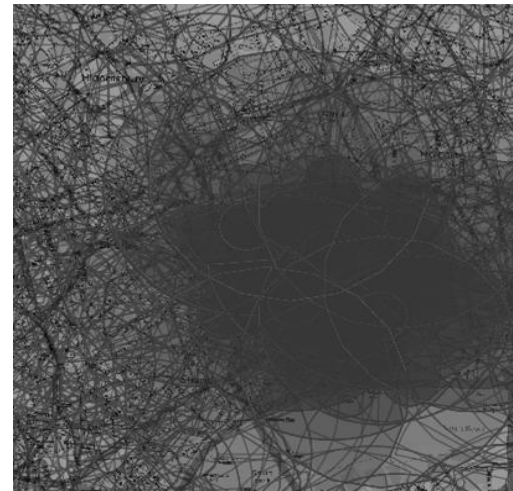
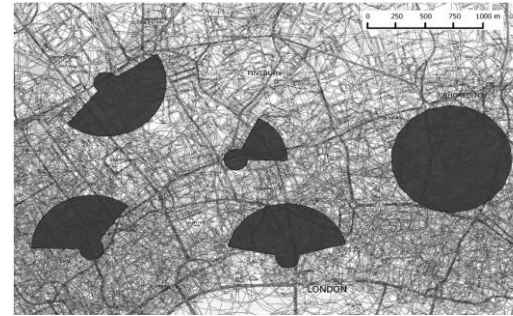
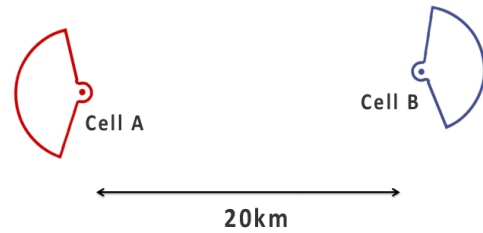
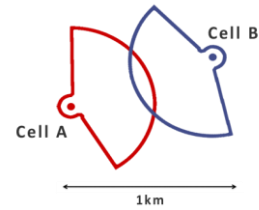
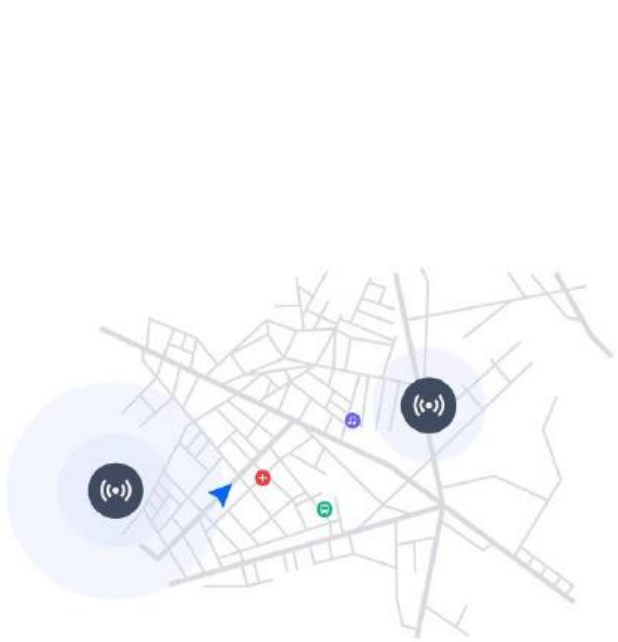


MOST USERS ARE LESS THAN A METER AWAY FROM THEIR MOBILE PHONES

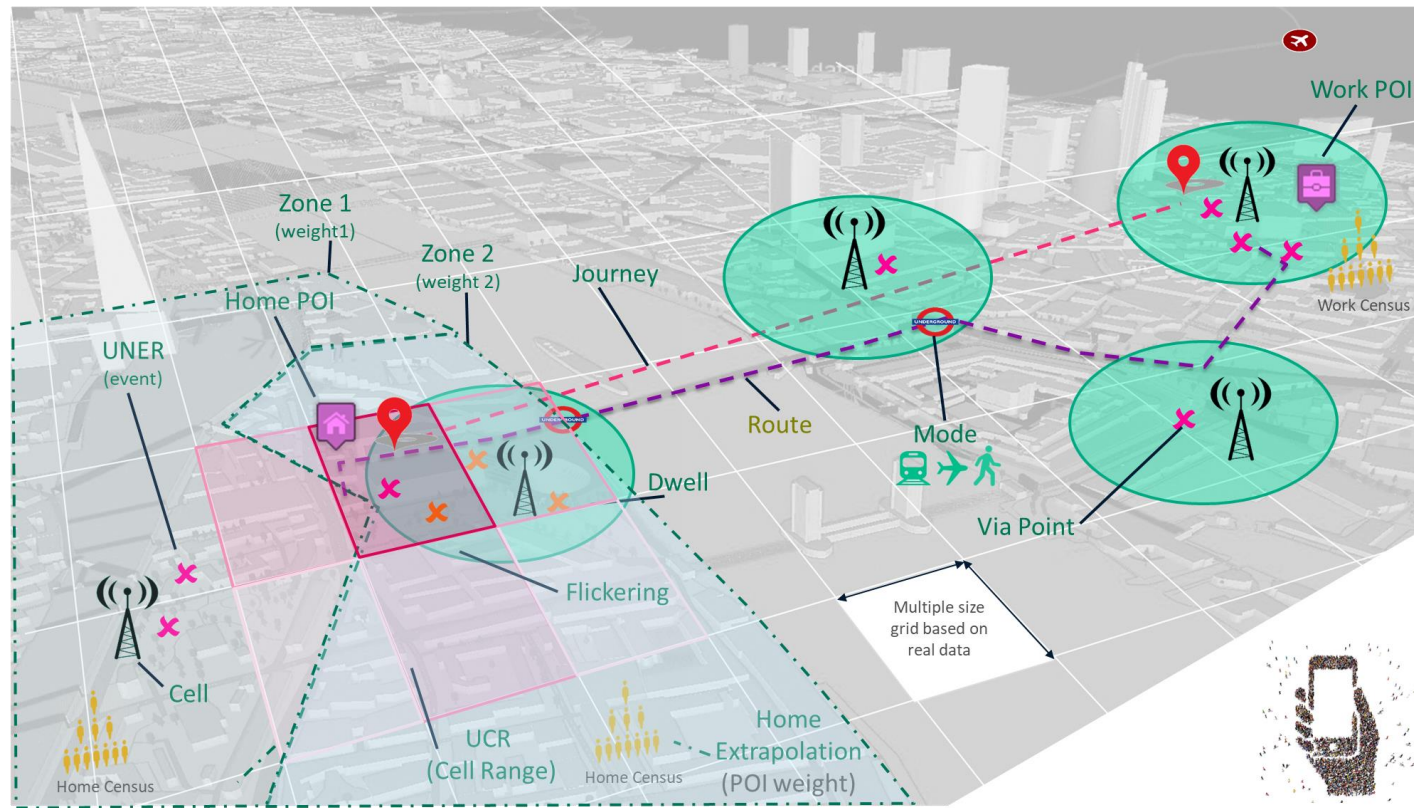
ON AVERAGE, MORE THAN 1 TRILLION EVENTS ARE GENERATED DAILY IN DIFFERENT COUNTRIES

ALL EVENTS HAVE A LOCATION AND TIME ASSOCIATED WITH THEM

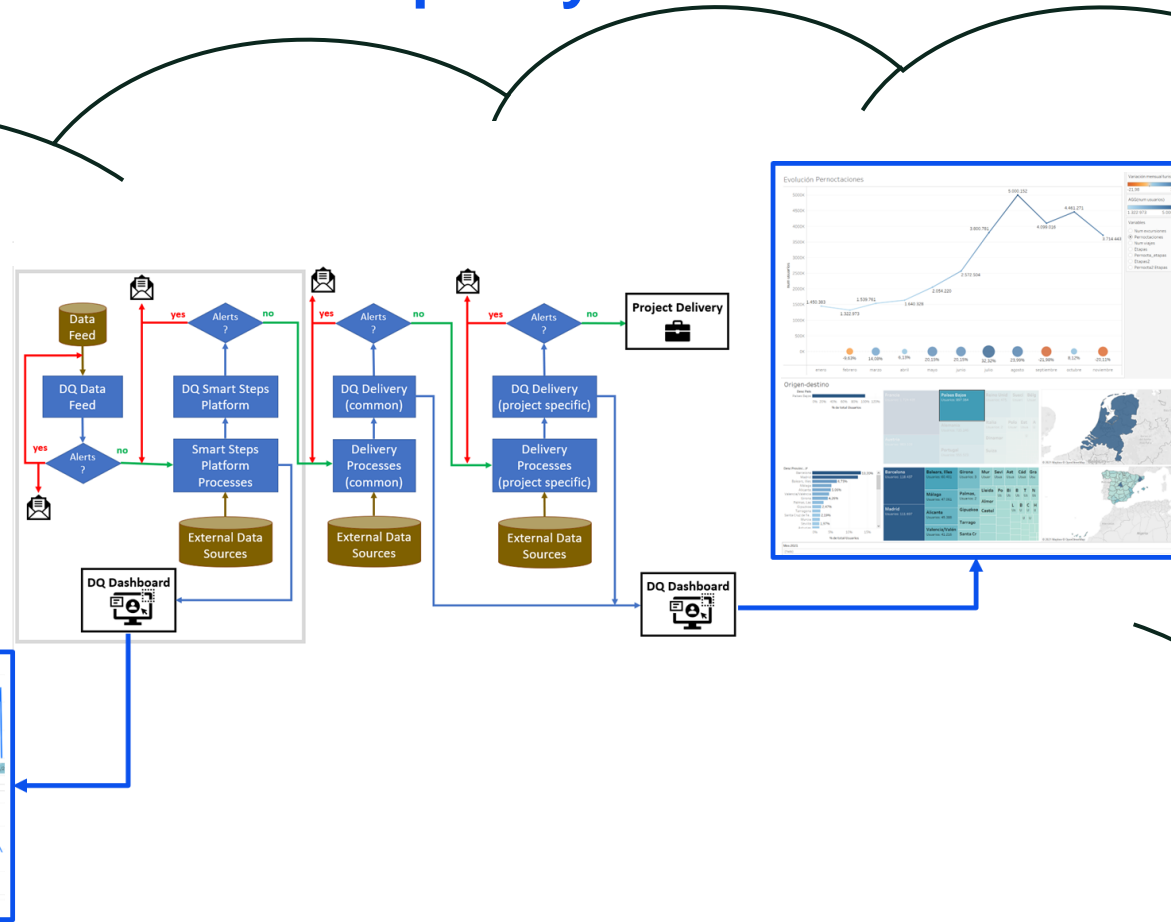
It requires a very specific knowledge of telecom signalling combined with sophisticated analytics to **convert network events into population mobility**



Cumulative knowledge and experience are key to improve Artificial Intelligence algorithms and **generate meaningful insights**



A **tailor made** and fully dedicated **big data platform** provides 24 hours a day of **continuous processing** combined with a **sophisticated end to end data quality control**



Valuable insights can now be **obtained systematically**, based on large volumes of the total population, identifying **multiple behaviours** and **detailed attributes**

Mobility insights

- Daily mobility matrix
- Daily and nightly population
- Seasonal population
- Customised geographical grid



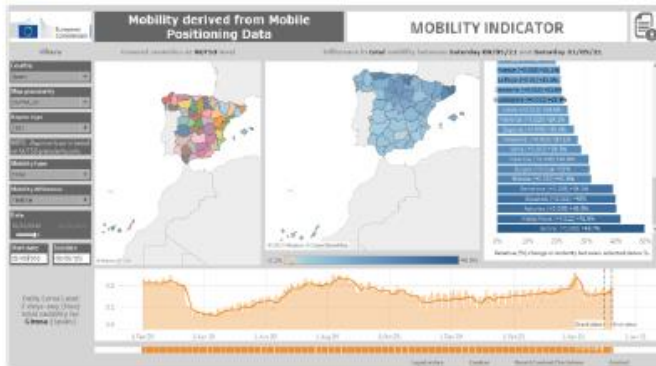
Tourism insights

- Inbound tourism
- Outbound tourism
- Domestic tourism
- Municipalities, provinces and regions

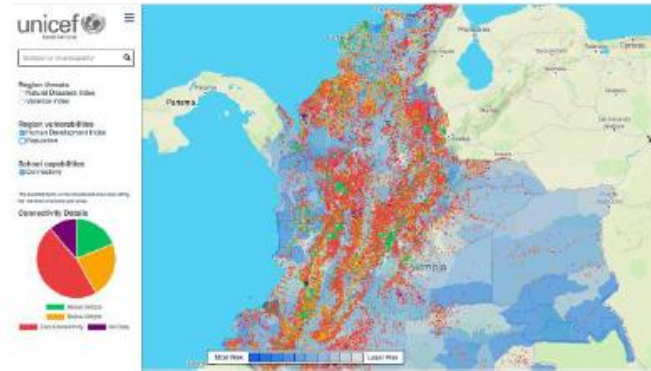


Our insights help **Governments** and **multilateral organizations** to better cope with complex **social** and **economic** problems

Examples



COVID pandemic



Natural disasters



Migrations

These insights enable our B2B customers to **answer relevant questions** in their industries



Transport



Retail



Media



Tourism



FMCG



Real Estate

Hundreds of customers use our insights

Looking ahead, we expect these insights to be **massively used and cover more use cases**

Data integration



5G



IoT



New data sources



Near Real Time

Contemporary challenges



Climate change



Smart City planning

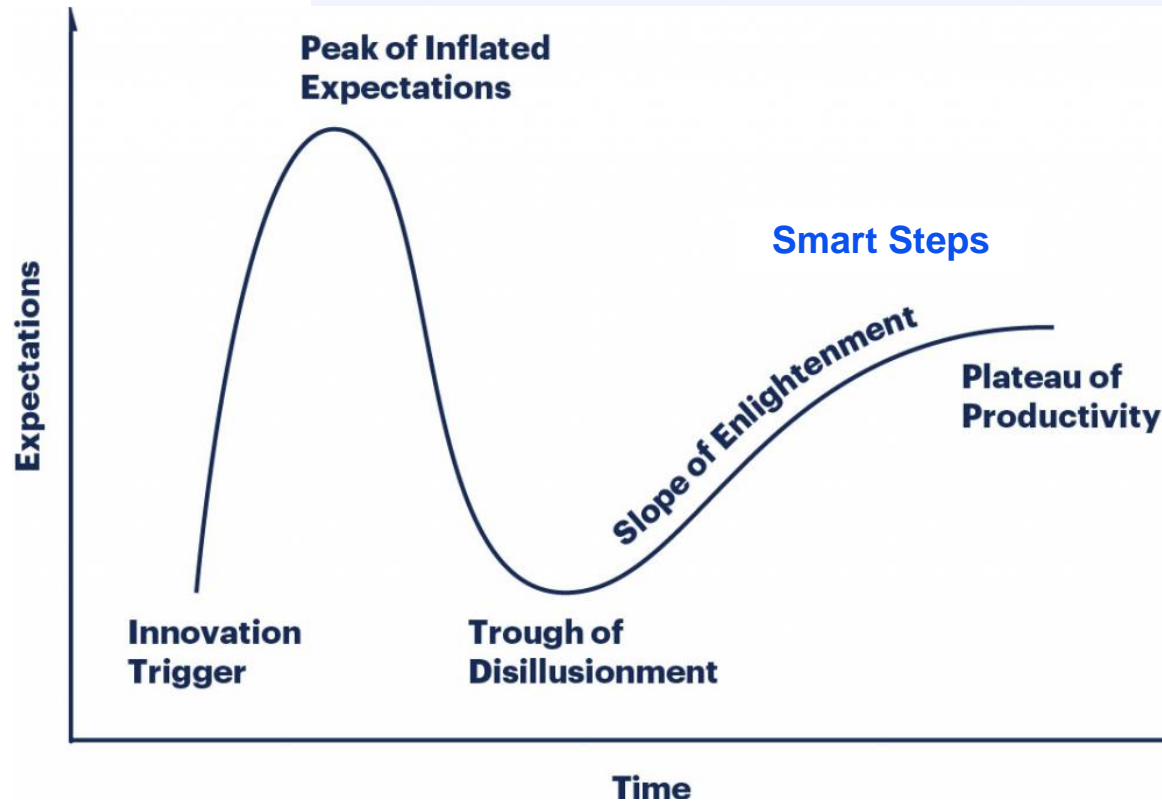


Territorial cohesion/
decentralisation



Economic indicators

Gartner Hype cycle



Mobile phone data is a **solution enabler** for complex **social** and **economic problems**

Telefónica is **dedicating continuous effort** and investment over time to **produce valuable insights** from mobile phone data

Collaborating with national statistics offices and Governments is a **natural and symbiotic relationship** from both **innovation** and **big data** for **social good perspectives**



Telefónica Tech

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