



BigO: big data against childhood obesity

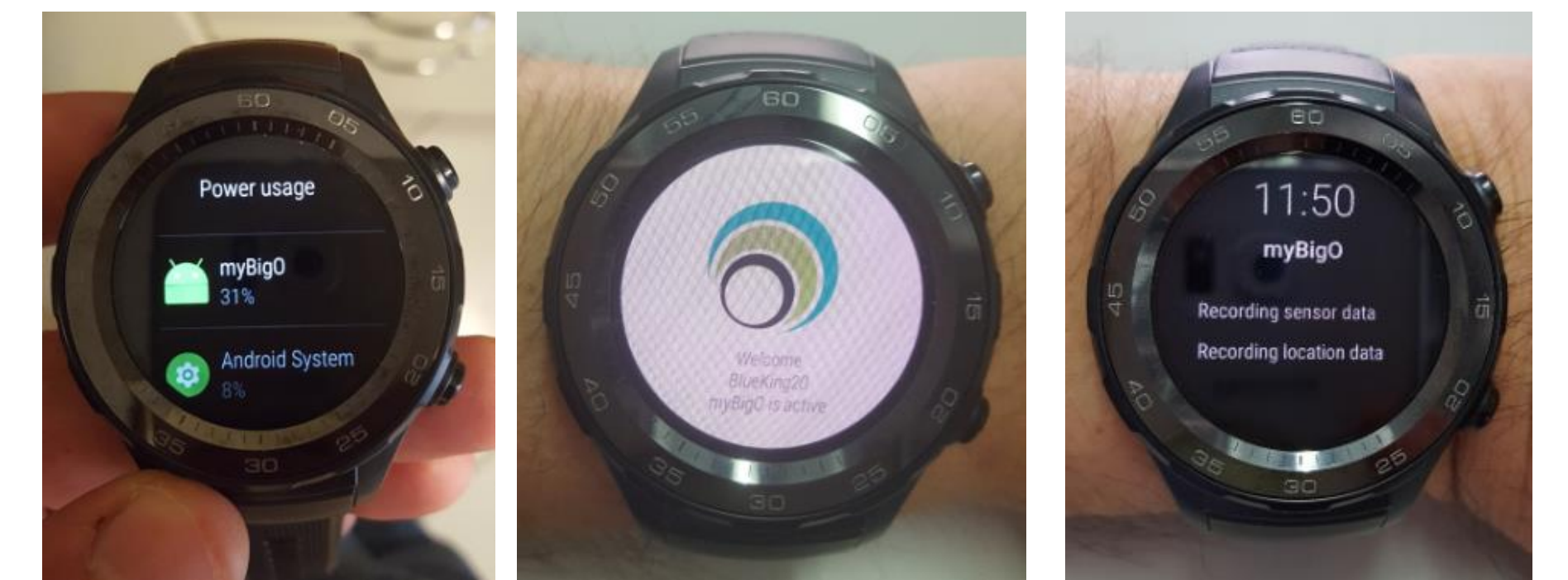
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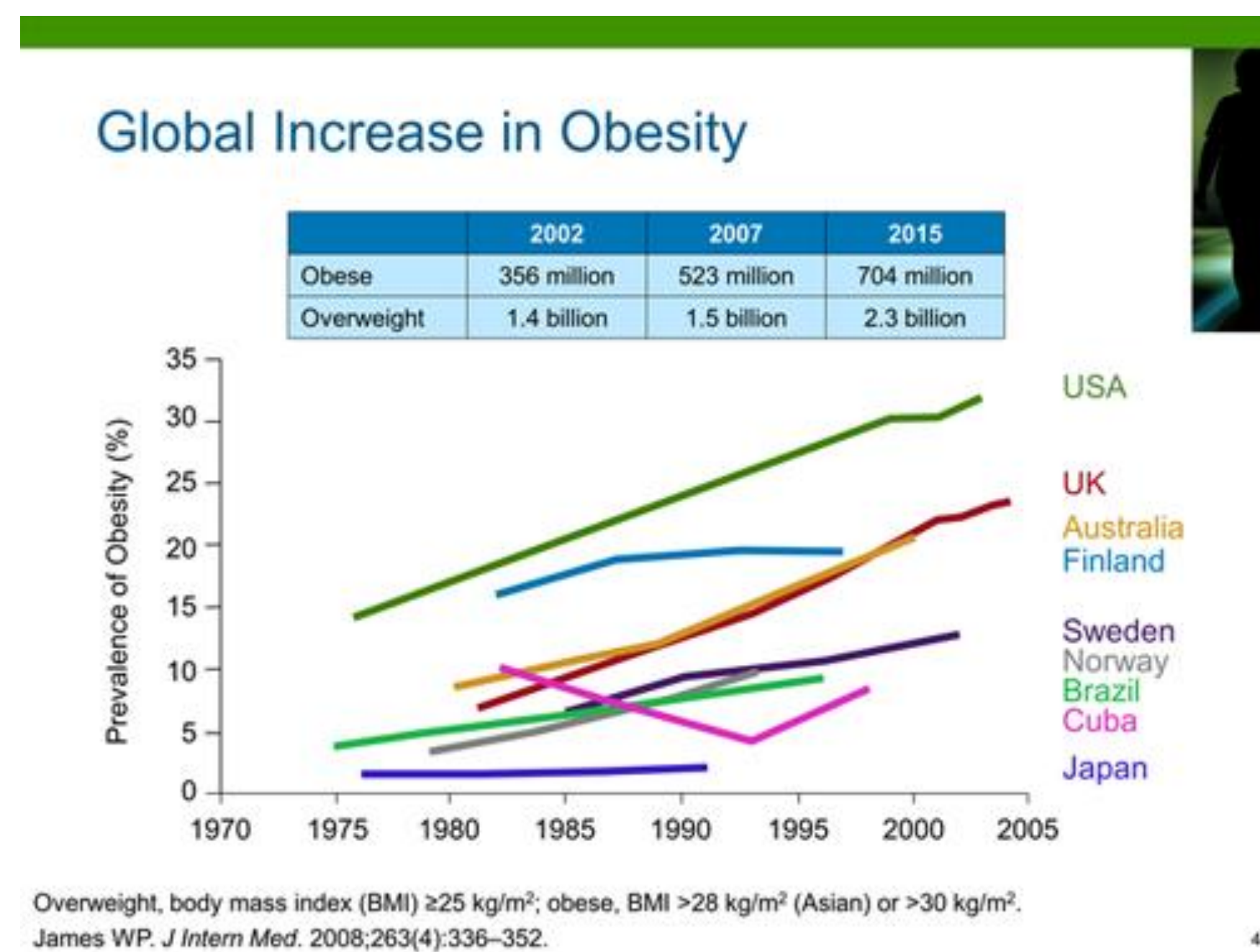
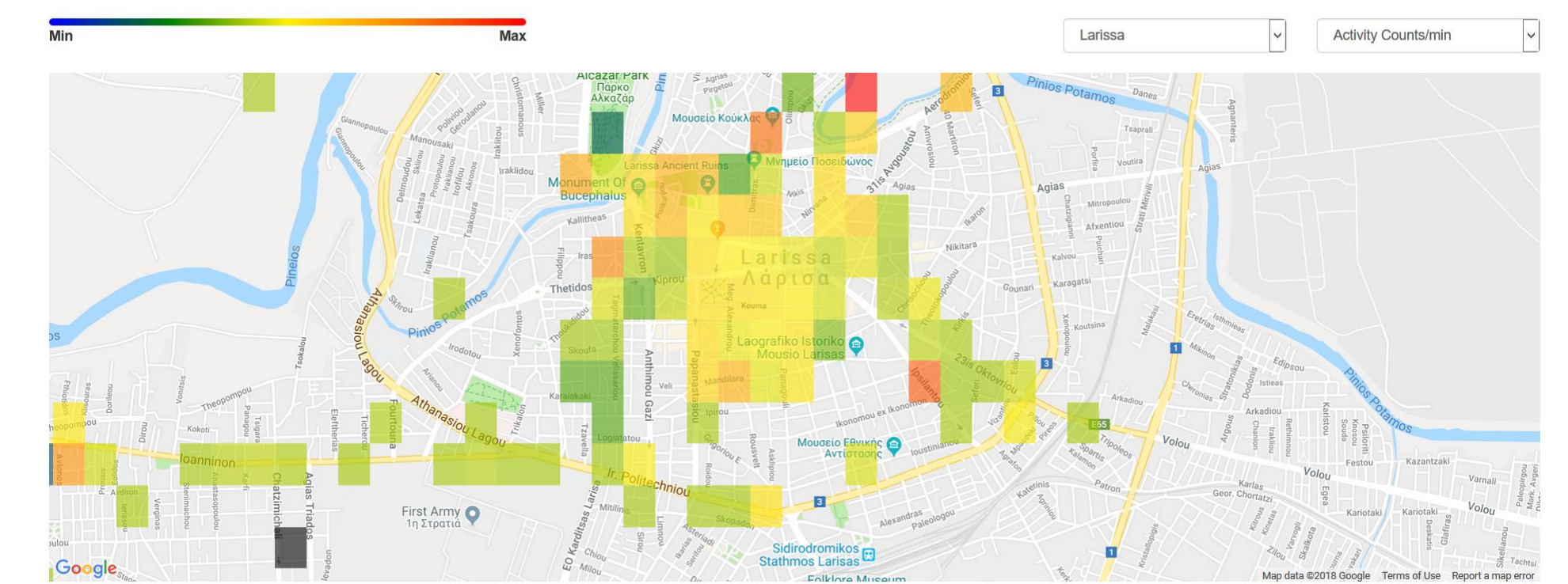
BigO will collect and analyze **big data** on **children's behaviour and their environment** to enable public health authorities to plan and execute effective **programs against childhood obesity**

Motivation: Despite ongoing efforts, ~ 2.8 million deaths per year in the EU result from causes associated with overweight and obesity

Measurements: Devices + Apps



Indicators of behavior: Physical activity, eating, transportation, sleep



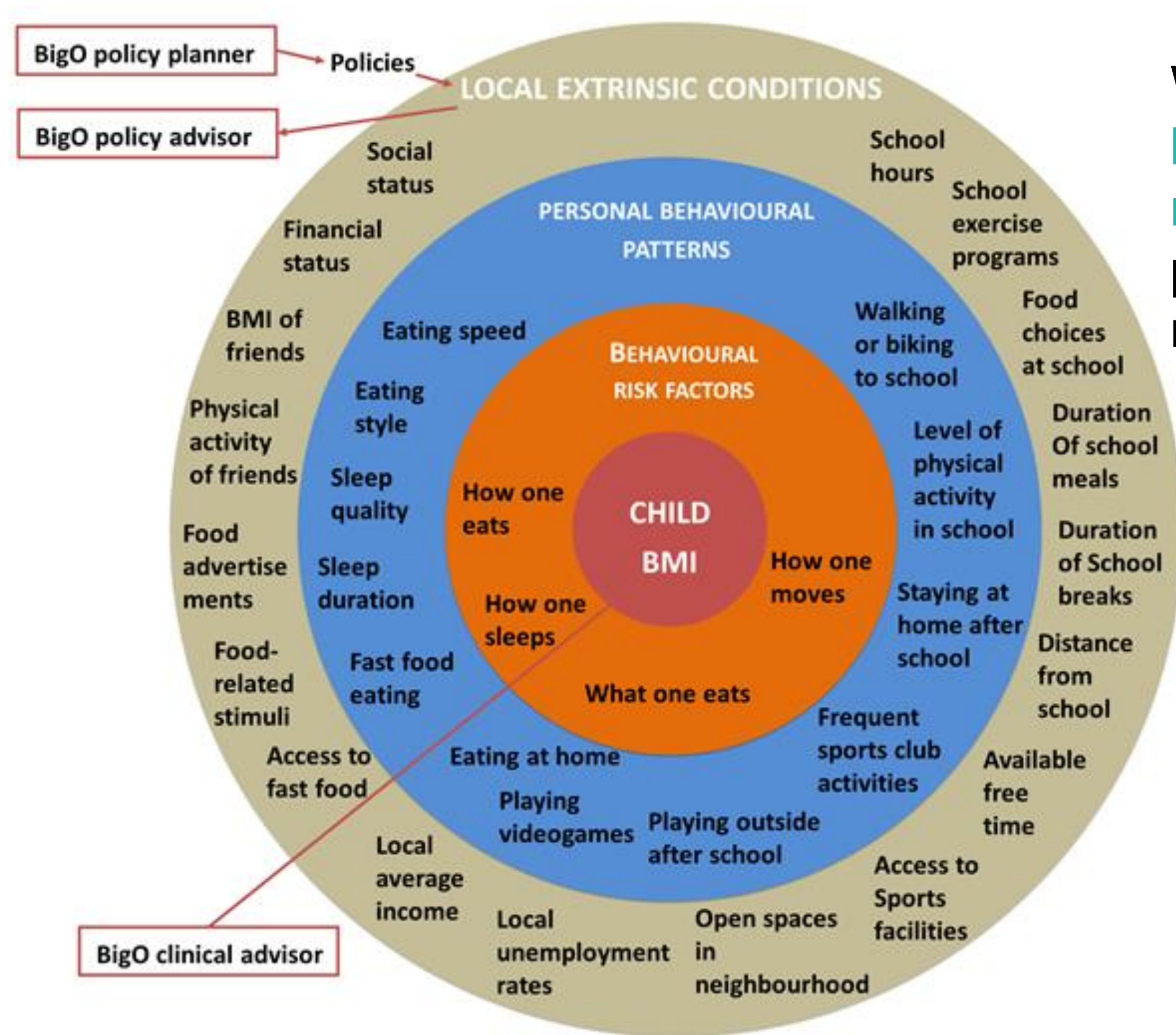
Policy advisor (aetiology):

What makes the population of a specific neighborhood of Athens scarcely use public means of transportation? (easy)

What makes the population of a specific neighborhood of Dublin exercise less than average? (more interesting)

Why do students at IEGS eat their lunch too fast?

Causality hierarchy



Policy planner (prediction):

What will be the effect of adding a bus line to the use of public means of transportation of the population of a specific neighborhood in Athens?

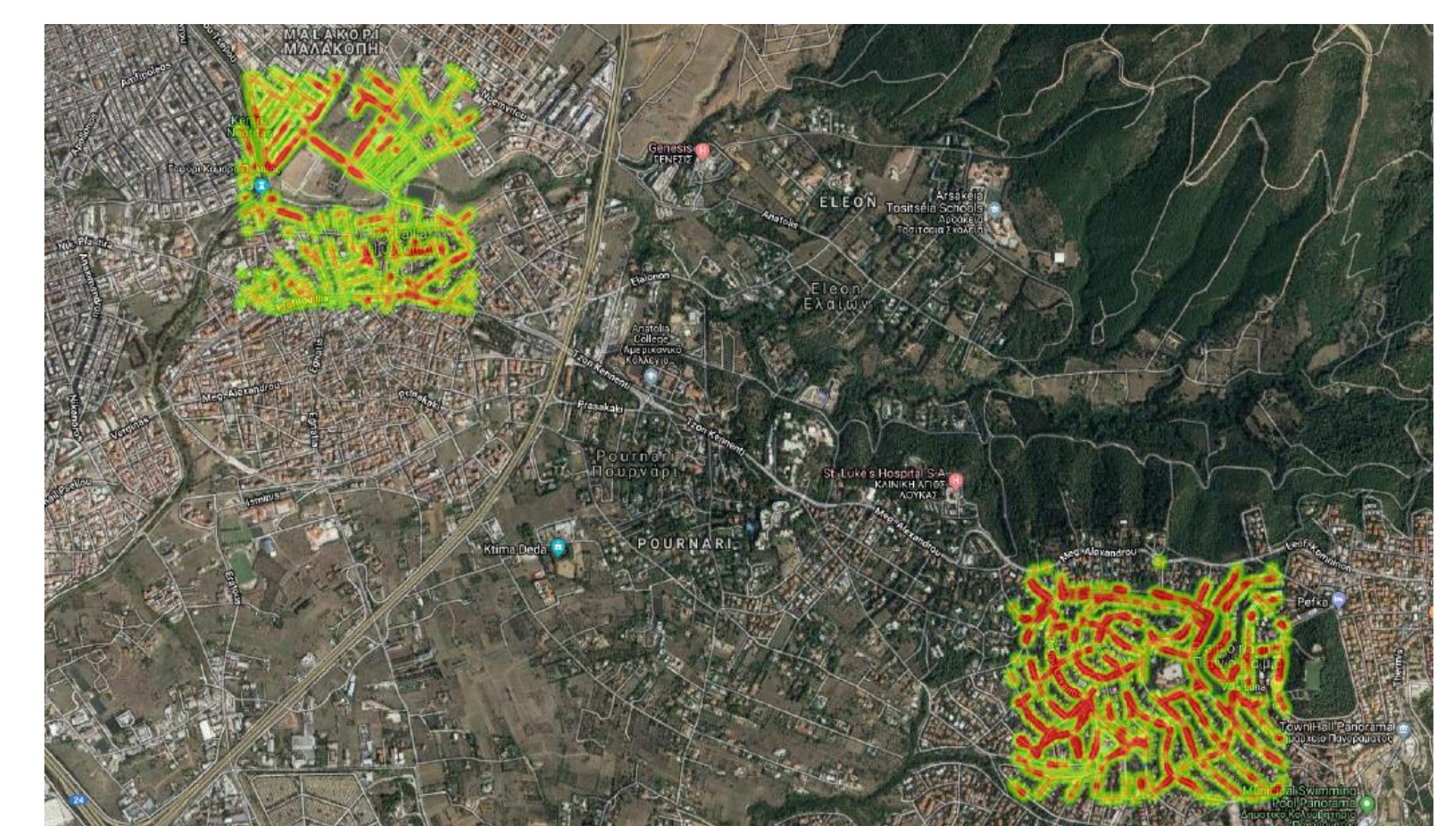
Environment measurements:

- Maps
- Statistical Authorities
- Images
- Machine Learning
- Information Retrieval
- Computer vision

Approach:

- Big data
- Citizen science

Example: Estimate local employment rate



BigO evidence

Aetiology

Why bad habits are being adopted
Not in general! Here, at a local level

Prediction

What is the effect of an adopted policy
Estimate it before it is adopted
Quantitatively

Thousands of children

- Participating schools
- Wider school networks
- Clinics
- Volunteers/communities

Challenges

- Engagement
- Privacy
- Scalability
- Accuracy
- Validity