



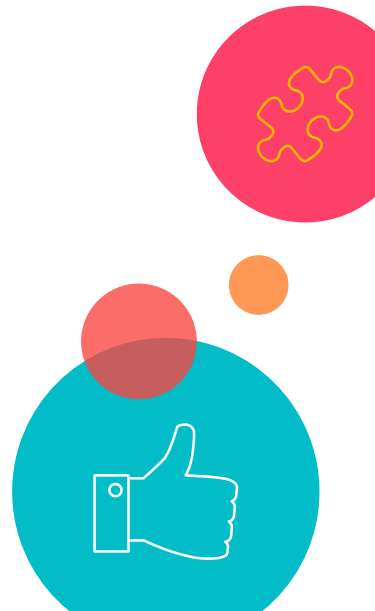
# DATA SCIENCE IN HEALTHCARE

FOCUSING ON PREVENTION AND  
TIMELY DETECTION



# THE GOAL

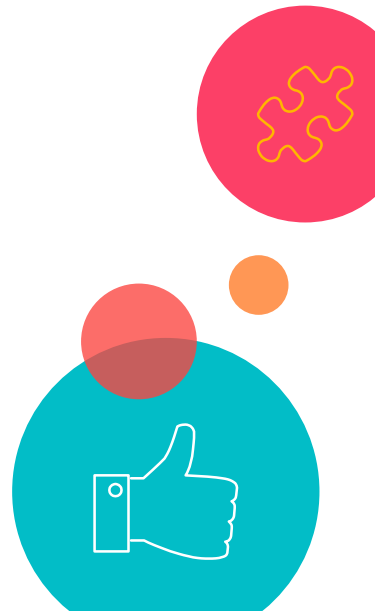
- The data and the platforms will be used to analyse and predict patterns concerning the health of citizenship.
- The goal is to generate reliable insights that will support the operations of doctors, researchers and other decision-makers in the healthcare world.





# THE APPLICATIONS

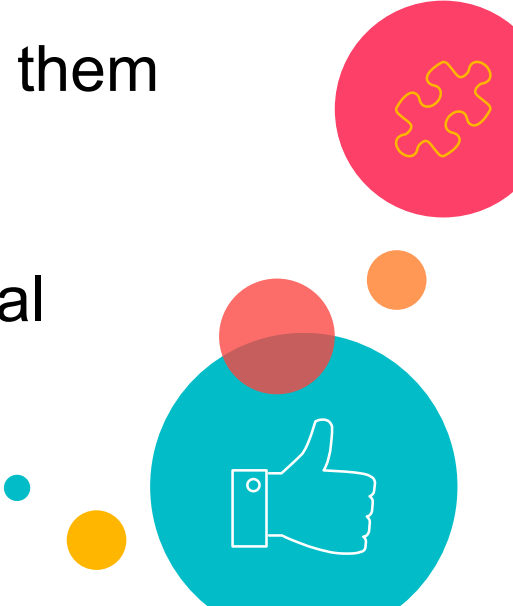
- Turning patient care into precision medicine
- Optimizing clinic performance through actionable insights
- Taking the risk out of prescription medicine
- Using wearables data to monitor and prevent health problems
- Improving diagnostic accuracy and efficiency
- Advancing pharmaceutical research to find cure for cancer
- Reducing hospital readmissions to cut healthcare costs





# THE TREND

## MOVING HEALTHCARE TOWARDS “THE FOUR Ps”

- Personalized, because able to look with renewed attention to the individual.
  - Predictive, because it can transform data into information about what will happen to the person.
  - Preventive, because accurate forecasts and real-time monitoring, it will be able to anticipate problems and fight them in time.
  - Participative, because it is able to look not at the individual patient, but at common patterns that concern all the individuals.
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# FOCUS

## PARKINSON'S DISEASE

mPower Parkinson's Disease is a study that allowed gathering and analysing the data generated by the accelerometer, such as the speed of gait or balance, by over 14,000 people in 2015 alone, making it the largest ever study of size on the disease of Parkinson's.

The unique archive of Big Data on Parkinson's Disease is continually updated and managed. The integration of such complex and heterogeneous Big Data from multiple sources offers unparalleled opportunities to study the early stages of prevalent neurodegenerative processes, track their progression and quickly identify the efficacies of alternative treatments



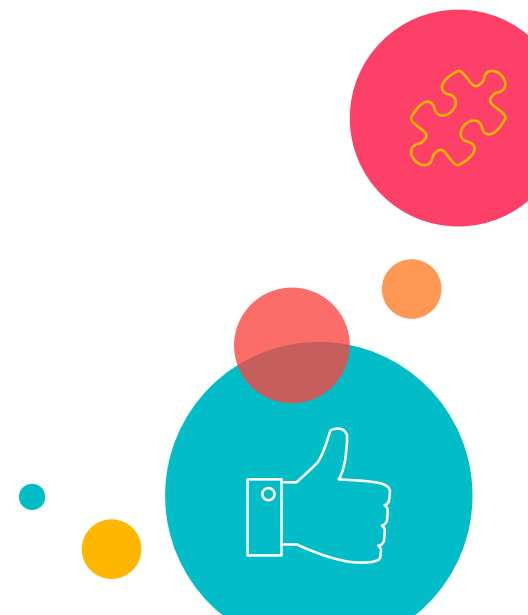


# FOCUS

## EPILEPSY

A study developed by John Hopkins University, aims to collect data, such as heartbeat, before, during and after epileptic seizures, with the latest to be able to predict patients' crises.

The study demonstrates that deep learning in combination with neuromorphic hardware can provide the basis for a wearable, real-time, always-on, patient-specific seizure warning system with low power consumption and reliable long-term performance.





**THANKS FOR YOUR ATTENTION!**

