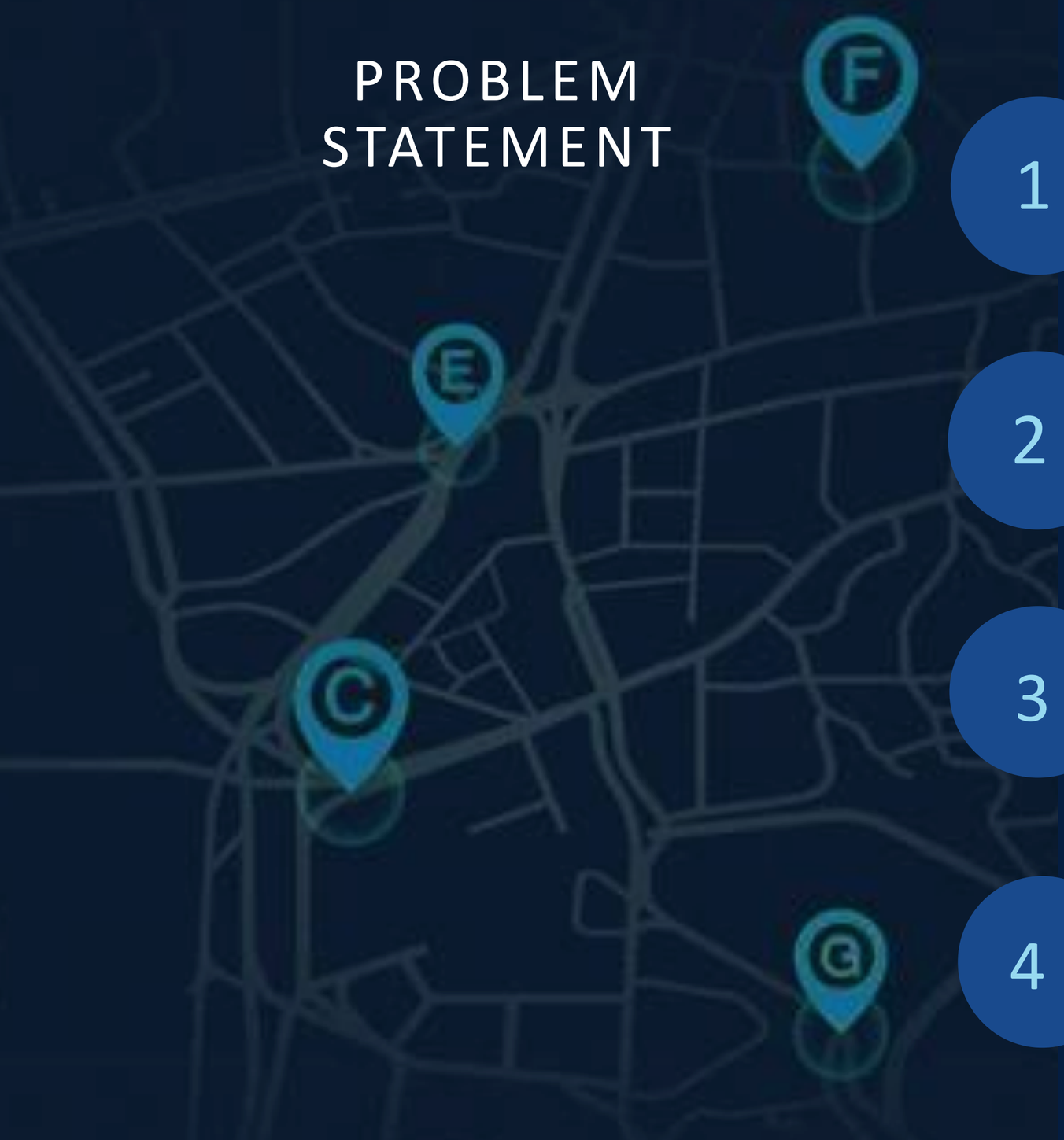
AutoSense

Analytics

A data collection company utilizing vehicle mounted sensors

PROBLEM STATEMENT



1. Lack of available data for Urban Infrastructure, needed for deployment and maintenance decisions
2. Network blind spots, weak signal strength, incorrectly positioned antennas
3. Not enough data for road quality and roughness, unsafe roads in need of maintenance
4. Limitations of stationary sensors, non unified data, limited spatial insight

OUR SOLUTION

A Business to Business Company Model

Vehicle Mounted Sensors

Deploy sensors on vehicles to collect real-time mobile data across various routes

Data Sharing Partnerships and on-demand data collection

Adoption of IoT Technologies providing us with continuous and automated data

Centralized Data Integration Platform offering unified and complete data presentation

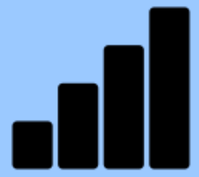
UNIVERSITY OF PATRAS
ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΑΤΡΩΝ

Access Points

More than 170 for EduRoam
3 LoRa

Access Points

27 for Patras WiFi
80 LoRa



Signal RSSI Mapping

Measuring:

4G/5G
LoRa
NB-IoT
and others

Providing:

- Detection of **dead signal spots**
- Recommendation of new **access points placement**
- Creation of **signal coverage heatmap**
- Comparison of network service providers

WiFi Access-Point Mapping

Detecting:

Approximate detection of access point location, in campus

WiFi RSSI

Providing:

- A map of the campus **WiFi access points locations**
- A **heatmap** of the campus **WiFi signal**
- Recommendations for **access-points reallocation**

MORE PROJECTS

Road Roughness

Detecting:

Road roughness using an **IMU**

Providing:

- Improving road maintenance scheduling
- Suggesting routes for micro mobility vehicles
- Urban infrastructure suggestions

Image Collection for 3D reconstruction

Collecting:

Images from 3 cameras looking in different angles

Providing:

- **Images** formatted for **3D-reconstruction** of the desired area
- Information from the images collected, using **AI**

UNIQUENESS

Vehicle Utilization

Public transportation vehicles:
established routes frequently

Private transportation vehicles (taxis):
wide range of routes

City management vehicles:
specific hours

Enhanced Features

Low-cost hardware

Plug and play h/w

Application specific hardware selection

Data Analysis

Customized **data analysis** per project

Use of **AI/ ML**

Friendly and readable **data presentation**

Covering a wide spectrum of applications

HARDWARE SELECTION

Raspberry Pi 4 B+ 8GB

Extra Hardware

Battery or
12V Car Lighter
Power adapter

3D printed
Vehicle Mount
Case

GPS Antenna

RPi Camera

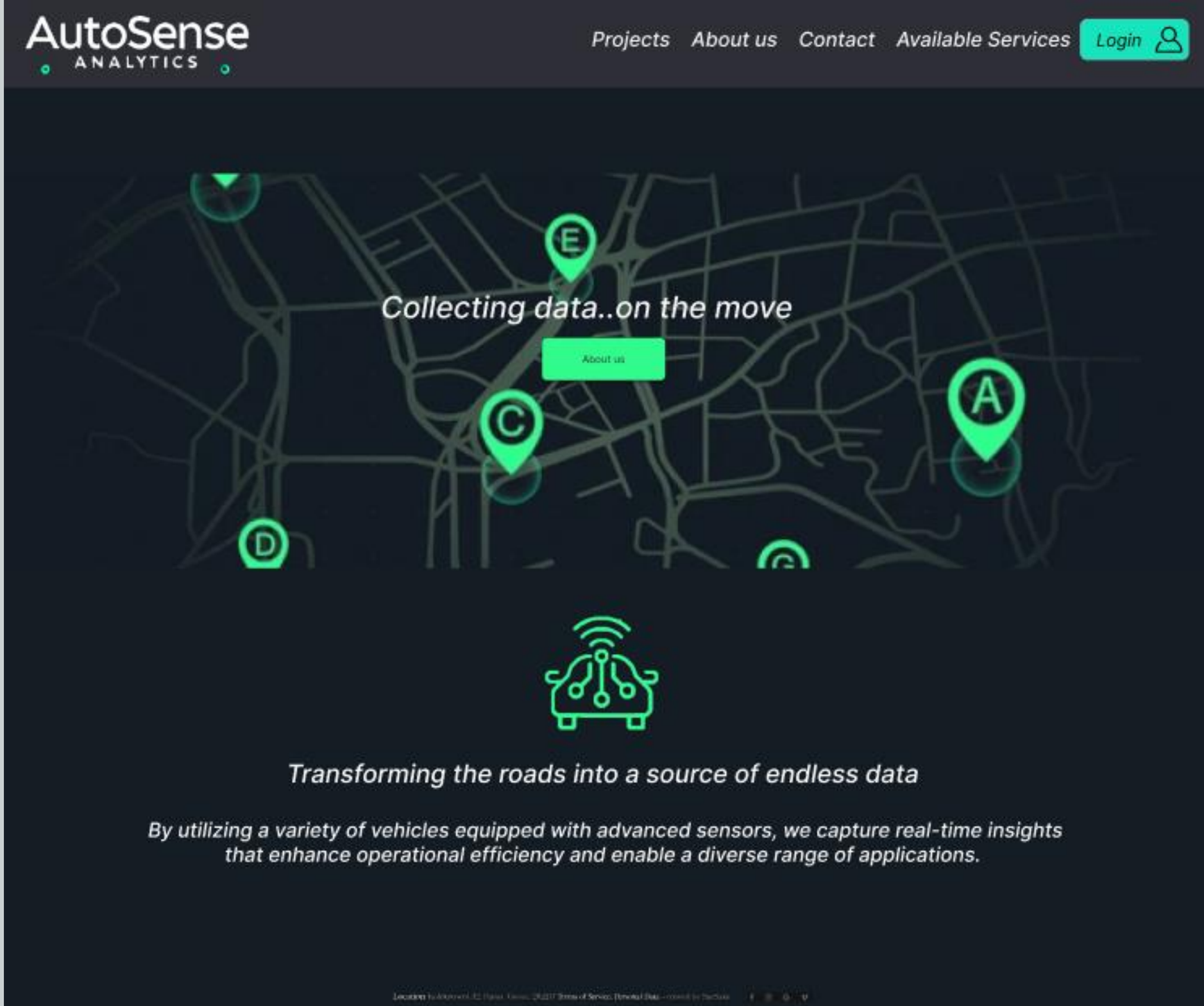
Raspberry Pi HATs
selected depending on each business needs

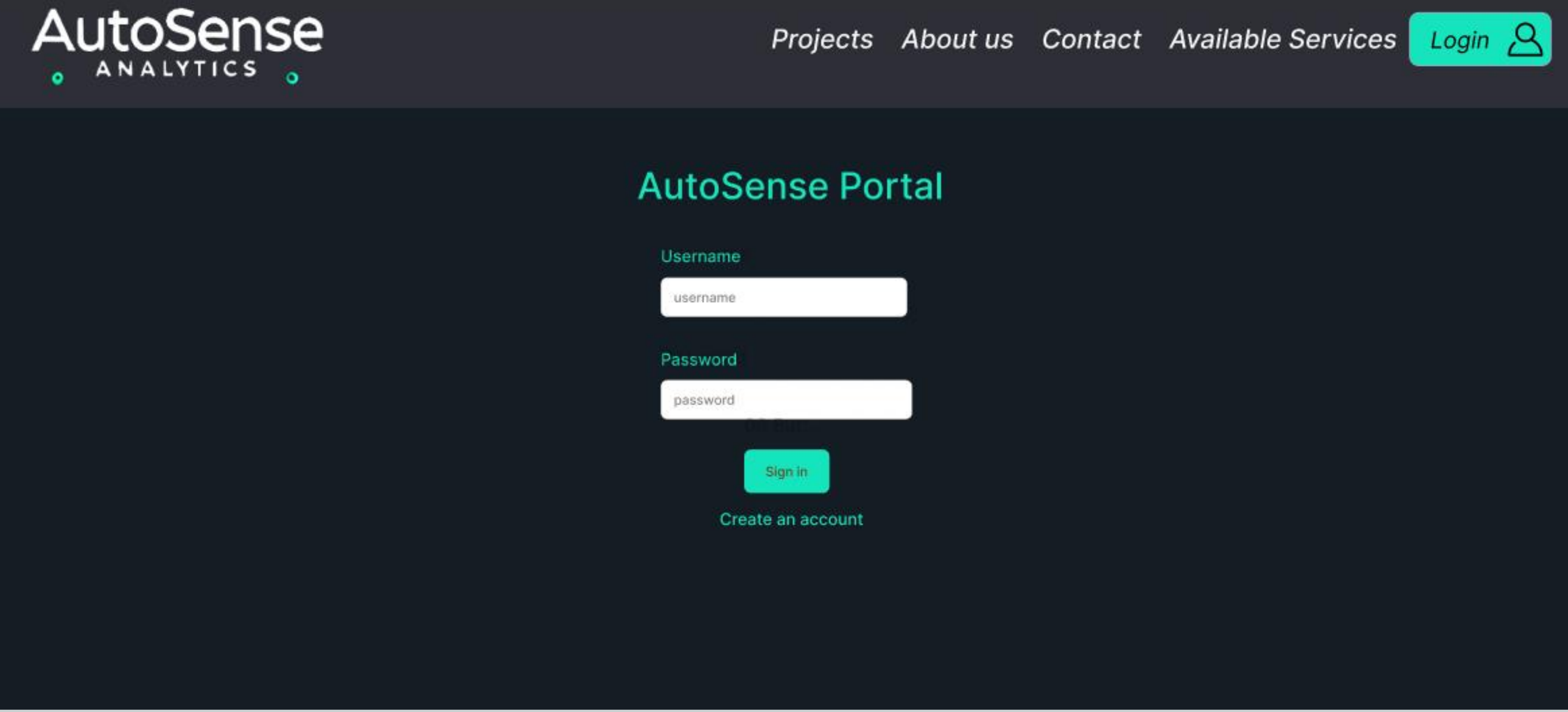
4G 5G LoRa NB-IoT

RPi AI HAT+

IMU

WEBSITE DRAFT



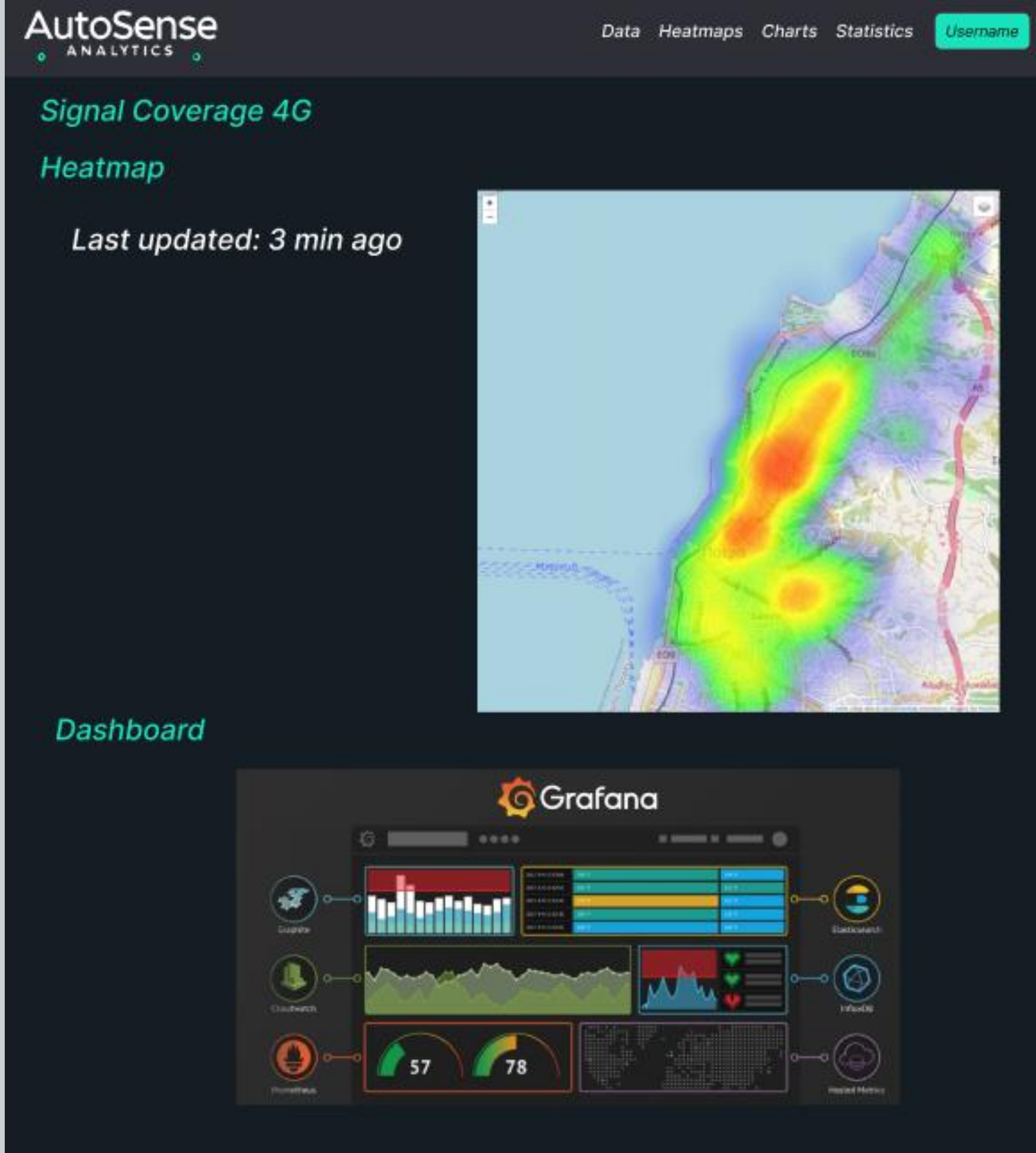


- **Authorized User Login**
- **Login necessary in order to view the project updates**

- **For each connected user the list of the projects they are associated with, will be displayed.**

For every project:

- Customized Dashboard, depending on the users needs
- Heatmaps
- Graphana charts



OUR TEAM

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AutoSense
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Thank's For Watching

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