



**DJ MONITORING**

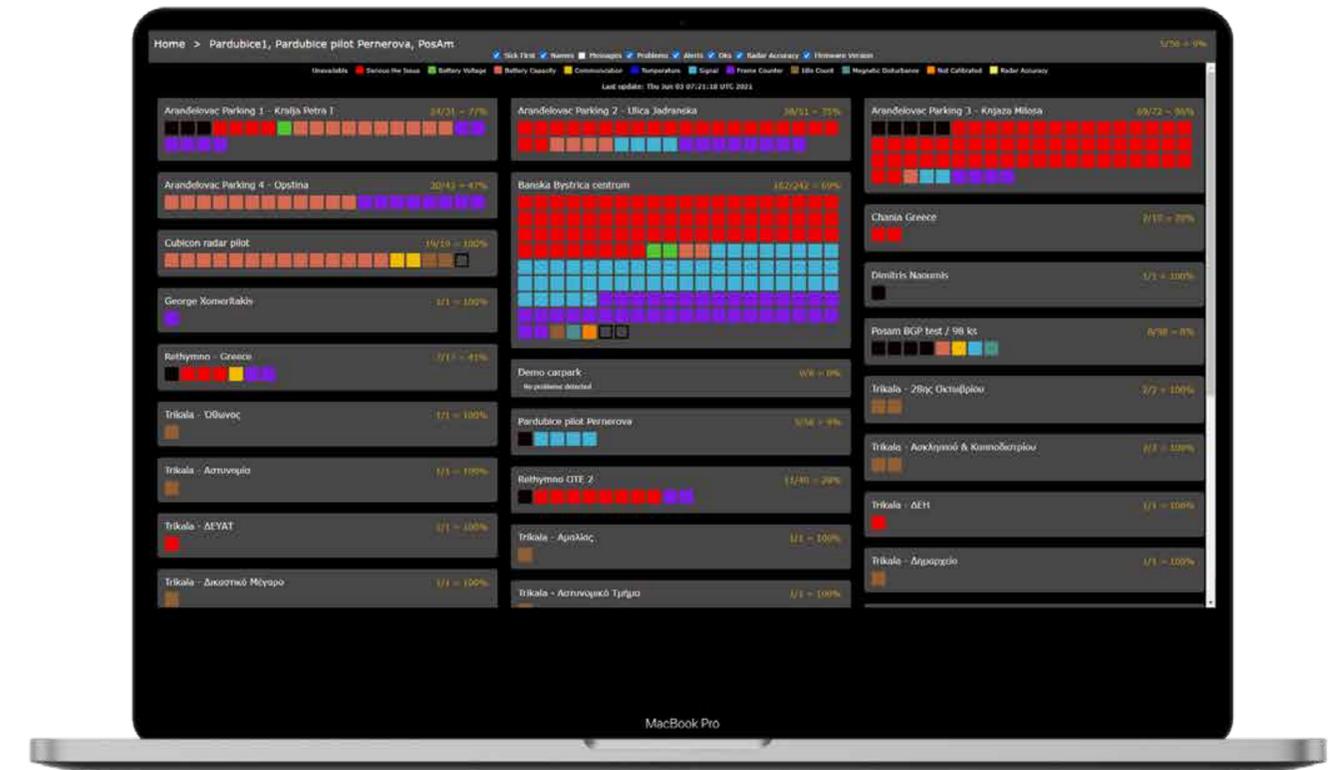
## Introduction

The web application DJ-Monitoring (a.k.a. “DJM”) processes and stores raw telemetry (TM) from the SPOT sensors (i.e. not the PUSH messages generated in DOTA), and based on those it derives various anomalies, error statuses, predictions etc.

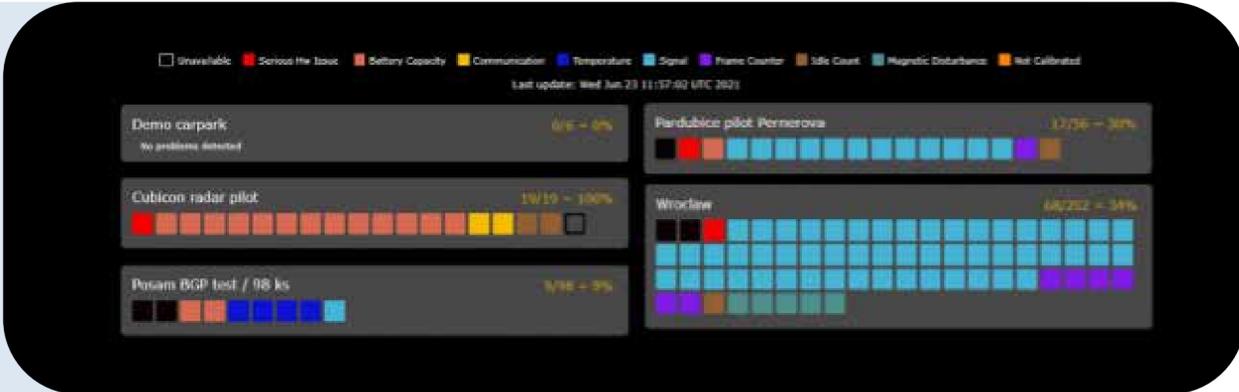
A sensor can indicate various types of problems (hardware issues, network issues etc) in its TM, and even more anomalies can be detected in the context of previous sensor messages (deviations from supposed trends etc.).

DJM therefore analyses the TM-stream for each monitored sensor, classifies the deviations by severity, and when pre-defined thresholds are surpassed, the problem is indicated to the user (distinguished by various colors). In the application, there are three user screens available:

- carpark list
- carpark detail
- sensor detail



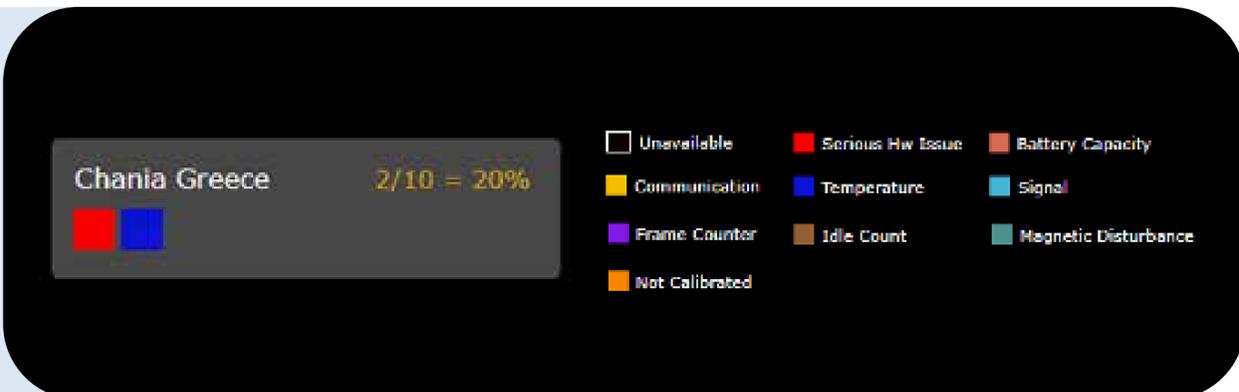
After login, the user can see his carparks rendered as tiles, depicting problematic sensors with various color:



A carpark without any problems has no colored sensors:



A carpark with 10 sensors, where one has a HW issue, and another one has a temperature issue:



Clicking on a carpark tile, a more detailed overview appears:



A problem-less sensor is depicted in grey, showing only the serial number and firmware version of the sensor:



If a deviation is detected, but still being below a pre-defined threshold, a small color circle appears, with the deviation count:



If the deviation surpasses the threshold, it is depicted as a problem by changing the sensor's background color:



A sensor can have also more problems, which are additionally depicted in colored squares:



By clicking on a sensor, a small modal dialog appears, depicting detailed information about each detected symptom – its date and time, and the deviation type:

Sensor FC000007 - 89882280000002322887

Download messages

- 24.06.2021 10:58:16 temp: 52 > 50
- 23.06.2021 23:42:57 ecl = 2
- 23.06.2021 22:41:44 io\_gw\_not\_resp: 1 >= 1
- 23.06.2021 22:41:44 onAir: 60000 >= 10000
- 23.06.2021 21:39:36 onAir: 60000 >= 10000
- 23.06.2021 21:39:36 io\_gw\_not\_resp: 1 >= 1
- 23.06.2021 21:39:36 ecl = 2
- 23.06.2021 21:38:30 onAir: 56120 >= 10000
- 23.06.2021 06:38:27 io\_gw\_not\_resp: 1 >= 1
- 23.06.2021 06:38:27 onAir: 60000 >= 10000

Idle / 24h: 24

Clicking on a deviation, the classification of the raw TM is depicted:

Sensor FC000007 - 89882280000002322887

Download messages

- 24.06.2021 10:58:16 temp: 52 > 50

```
{
  "timestamp": "2021-06-24 10:58:16",
  "sensorId": "89882280000002322887",
  "text": "temp: 52 > 50",
  "problemTypeId": "TEMPERATURE_PROBLEM",
  "message": {
    "timestamp": "2021-06-24 10:58:16",
    "sensorId": "89882280000002322887",
    "rawDataHex": "10010c0634f493040000",
    "cellId": "115145",
    "fcb": 169,
    "statsData": {
      "mag_disturb": 0,
      "tx_line": 5404,
      "high_temp": 0,
      "temp": 52,
      "rssi": -65,
      "not_calibrated": 0,
      "command_done": 0,
      "onAir": 2012,
      "io_gw_not_resp": 0,
      "change": 0,
      "bluetooth_error": 0,
      "consumption": 1171,
      "battery": 3660,
      "radar_error": 0,
      "ecl": 0,
      "strong_magnet": 0,
      "mag_total": 12,
      "idle_message": 1,
      "low_battery": 0,
      "reset": 0,
      "rx_line": 54416,
      "free": 1,
      "occupied": 0,
      "magnetometer_error": 0
    }
  }
}
```

- 23.06.2021 23:42:57 ecl = 2

# Contact Us

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