

MindSphere Open Space Challenge

Case Specification

Company

FC Bayern München

Case Title

Allianz Arena's grass goes smart

User Story

As the stadium director / operator I would like the best equipment for our playing field, including sensors, to optimise the maintenance and care of the turf based on the relevant data.

Problem Description

What are the problems you need to address?

The care and maintenance of the turf is currently based on the experience of the competent greenkeeper. Corresponding sensor values of relevant key figures must be recorded in the stadium to create data-driven solutions, included by means of MindSphere. For example, recommendations for lawn care and forecasts of turf diseases (e.g. fungal infection) can be derived from these data. The corresponding sensor technology has to be installed in the stadium for the continuous and automated collection of relevant data.

What can this sensor technology look like, which data can be collected and in what way, and how can the sensors be installed, taking into account the game schedule of the stadium (low-cost, mobile installation vs. "built-in" sensor technology)?

How is the problem currently handled?

Appropriate turf parameters (temperature, moisture, salt contents, etc.) are recorded via a sensor box. In addition, publicly available weather data are considered.

Who is affected by the problem?

Managers / operators of commercial sports facilities (e.g. stadiums) with turf playing fields

How critical are these topics to you and your customers?

Keeping the stadium turf in optimum condition is critical to the success of the respective club.

Is there any other background information, which could contribute to finding a solution?

The following issues should be considered for the solution:

- How can the relevant parameters (turf condition in terms of quality and appearance) be established with innovative sensor technology solutions and transmitted wirelessly (sensors, cameras, etc...)?
- What is the optimal installation for this sensor technology in the stadium, taking into account that matches may take place several times during the week?
- Based on which criteria can the stadium playing field be divided into various regions (wind, sunlight exposure & shade, moisture, various degree of wear on the playing field, ...)?
- Which synergy effects can be developed for the use cases at hand by using sensors (e.g. motion analysis of the players using cameras, resource optimization, etc.)?
- How can the solution be applied to further venues (training fields)?

Technical Provision

Conceptual work, no data needed / available.

Questions?

MindSphere Forum

<https://www.mindsphere.io/community/>