# BetterCrops

## MVP Idea

* Measuring capacity and bag-ID
* Transmitting values to backend service
* Short analysis
* Results get shown in user-friendly mobile app

## Facts

* Crop can be dried too much, humidity of 13% is ideal
* Crop consistency stays stable over a long time when it is dried and stored correctly in good quality
* Crop consistency changes over time when stored incorrectly / spoiled
* Humidity in bag is very homogeneous
* When contaminated with insects, then the CO2 ratio inside of the bag will increase strongly
* CO2 is likely to go to the bottom of the bag, heavier than O2
* (Work) Time is not a problem for farmers
* Being hermetic is an essential criterion for the bag (also for trust)
* Insect damage can already happen while drying
  + Bigger farmers dry in stapled “jute” bags - takes very long and prone to insect damage
  + Smaller farmers try on tarps in the sun - very quick (1-2 days), insect damage easier to prevent

## TODO

* Experiment with Balluff sensor **✔**
  + Fill samples in small bags
  + Get Balluff sensor and test what it measures for the samples
  + Get some sense whether measurements are stable
  + Who?
* Research other sensors //irrelevant
  + CO2
  + Humidity
  + Spectroscopic sensors??
  + Who?

## Complete MVP idea **✔**

## Decisions

* Only sensors that measure from outside of bag, or exploit fact that small holes in bag keep it hermetic and look for for sensors that match that requirement (needles, very small sticks, etc.)
* We’ve now decided for sensors that don’t go inside

## Open Questions

* How are we going to present the project if we get the chance

Balluff

Kapazitätssensor

<https://github.com/iolinkcommunity/JSON_for_IO-Link/blob/master/JSON_for_IO-Link.yaml>

REST API erreichbar unter: 192.168.0.3/iolink/v1/devices/1/processdata/value/?format=raw&direction=both

{

"pin2Value": false,

"pin4Value": false,

"in": {

"valid": true,

"value": {

"deviceRawTypeValue": [

212, ← Hex Val translates to D~E in case of humid, 9~A in case of dry (Plastiktüte)

193

RFID erkenner