

# Splunking the Farm

Agriculture, powered by the Splunk platform

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# The Farm

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What it's all about ...  
... in a nutshell





130.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category\_id=GIFT&JSESSIONID=5D5SLAFF10ADFF10 HTTP 1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product\_id=F1-SW-03"  
128.241.220.82 - - [07/Jan 18:10:57:123] "GET /product.screen?product\_id=FL-DSH-01&JSESSIONID=5D5SL7FF6ADFF9 HTTP 1.1" 404 3322 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-3&product\_id=F1-SW-03"  
317 27.160.0.0 - - [07/Jan 18:10:56:156] "GET /oldlink?item\_id=EST-26&JSESSIONID=5D5SL9FF1ADFF3 HTTP 1.1" 200 1310 "http://buttercup-shopping.com/cart.do?action=changequantity&itemId=EST-1B&product\_id=AV-CB-01&JSESSIONID=5D1B5LFF3ADFF9 HTTP 1.1" 200 2423 "http://buttercup-shopping.com/cart.do?action=remove&itemId=EST-3&product\_id=F1-SW-03"  
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# Meteorological Data

We all depend on the weather

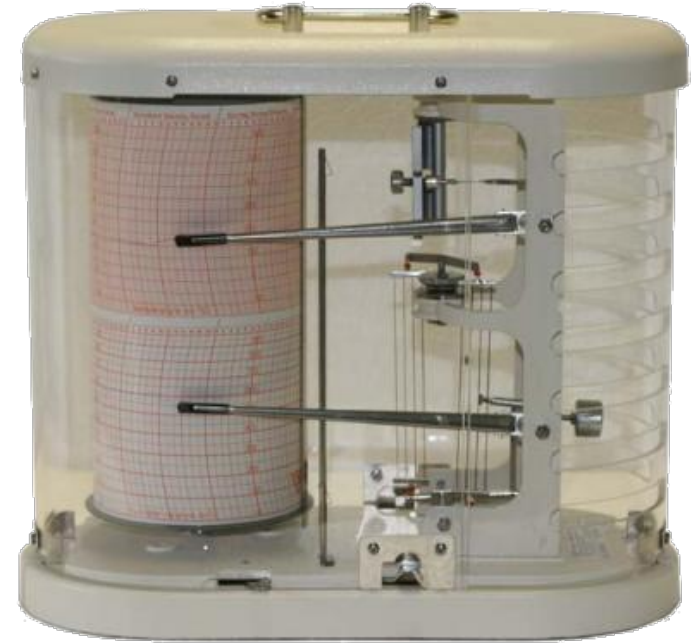
- ▶ Create weather forecasts
- ▶ Optimize pest management & fertilizer usage
- ▶ Plan best harvesting time
- ▶ Mandatory documentation for government and food control



130.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category\_id=GIFTS&JSESSIONID=5D1SLAFF10ADFF10 HTTP 1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product\_id=F1-SW-03"  
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do?action=purchase&itemId=EST-26&product\_id=K9-CW-01" 200 3885 "http://buttercup-shopping.com/category.screen?category\_id=FLOWERS"

## How we did it in pre-Splunk times

- ▶ Meta data has been gathered with thermo-, baro- and hygrographs
  - All manual, had to be wound up twice a week
  - Spread around the farm
- ▶ Trends had to be checked multiple times a day
  - Yes, on all places around the farm
- ▶ Experience was needed to interpret the data correctly
- ▶ No means of alerting







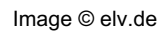
# The Devices

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Gather ALL the data

# Off-the-shelf hardware and Raspberry Pi

# Off-the-shelf hardware and Raspberry Pi



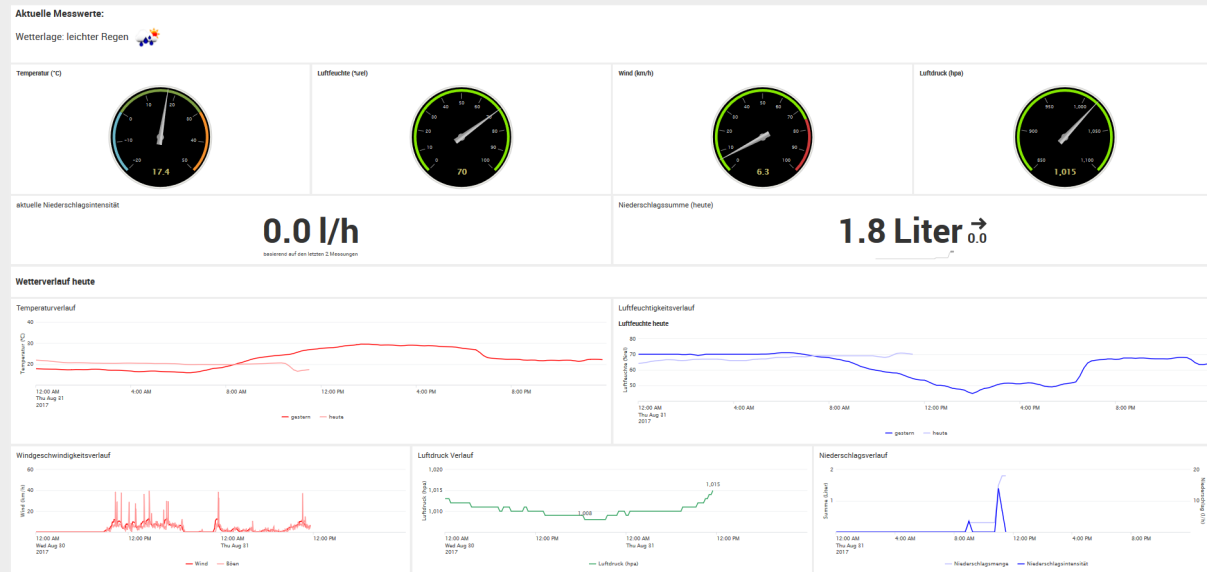
# The Dashboards

Supercharge your agriculture

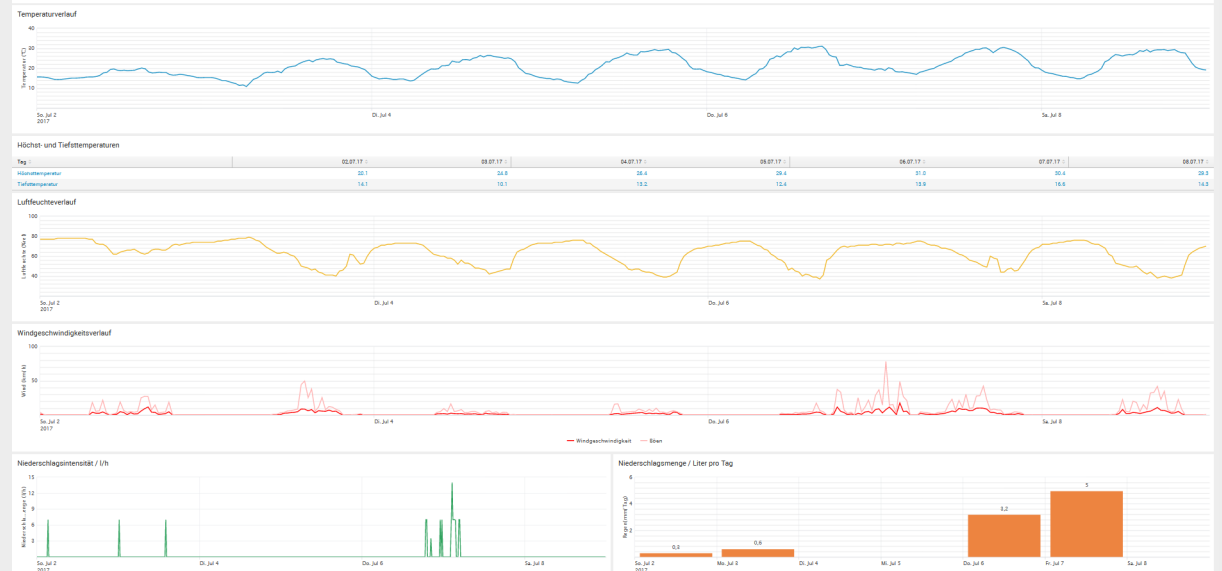


# Weather Overview

Current and past situation at a glance



## Wetterverlauf zwischen 02.07.17 und 08.07.17



# Unleash the power of the Splunk platform

# Unleash the power of the Splunk platform

# The Results

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Will we do it again?



# Less Time, Less Pesticides, More Fruit?

- ▶ Data collection time reduced dramatically (seconds instead of ~ 1 hour)
- ▶ Predictive measurements reduce reaction time
- ▶ Pesticides and fertilizer can be used on-time and in less quantities
- ▶ Documentation for food control agencies and government as easy as it can be

There is no evidence yet of increased yield due to unexpexctedly bad weather conditions ...

... but we will continue!

# Thank You

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