



Comet Lab has helped Trndz from the idea to a finish product. This means the processes of identification of user types and audience and the technical development of the product as well as the sales and marketing strategy.

It has been fun to use such wide range of our knowledge and experience base. Here we to present what Trndz is and our methodology.

### What is Trndz and the use of technology

Trndz is a tool to analyze and view historical as well as real-time statistics. It is scaled to handle thousands of sensors each sampling data once per second.

The system is using PostgreSQL as a database with table segmentation and stored procedures to aggregate data/statistics on the fly, in a performance-optimized way.

Trndz's web and mobile frontend is built as a responsive SPA using AngularJS with materials design layout.

The c3/d3 library is used to render the beautiful graphs and is updated in real time utilizing the API developed for Trndz. The API supports both a HTTPS REST interface and a websockets interface (socket.io) supporting authorization with OAuth2 access tokens over SSL to secure the communication between server and client.

## The first technical clarifications.

The basic idea for Trndz is to connect to existing infrastructure in a factory, extract sensor values and store them in a database. From there, the product take a variety of ways.

We can clarify this part of the delivery at a very early stage.

What kind of technology should form the foundation?

Using standardized APIs, we could test and determine whether the solution we had chosen would work in a total solution.

## The business model canvas

There are a number of different methods and procedures you can use, but we think you should pick most of LEAN toolbox, and there is "the Business model canvas" a key element.

Unlike a traditional business plan, this goes quickly. You get to ask important questions, discussed together, and finally end up with a common understanding of what to achieve and how.

## Market Clarification, sales promotion and sales strategy

Without going too much into each item, we have among other things worked with these tasks:

- Set target
- Creating personas (user types) - who are we working with?
- Creating user journeys
- Preparation of pitch
- meeting Strategy
- meeting Implementation
- Monitoring Strategy
- Closing / contract

## From idea to action.

For Trndz which is a startup it is important to put in place the first contract before starting with development that takes charge. Together we had therefore a certain understanding of what that would be created if it was sold, but we were prepared to adapt the product to get the sale.

But:

- how do you make sure that what has been sold to the customer, eventually being accepted that solution, and the money be paid?
- How do we know how long the development takes, and thus have the costs under control?

The solution is *Agile* development.

The project leader did early sit down with the product owner in Trndz, and made a temporary Agile user story. This was given to our designer, which created a simple and provisional design.

The first customer was Barcode Refrigeration, a company owned DNB Property that produces cooling water for all the ventilation systems to the famous Barcode buildings in Oslo. The perfect first customer.

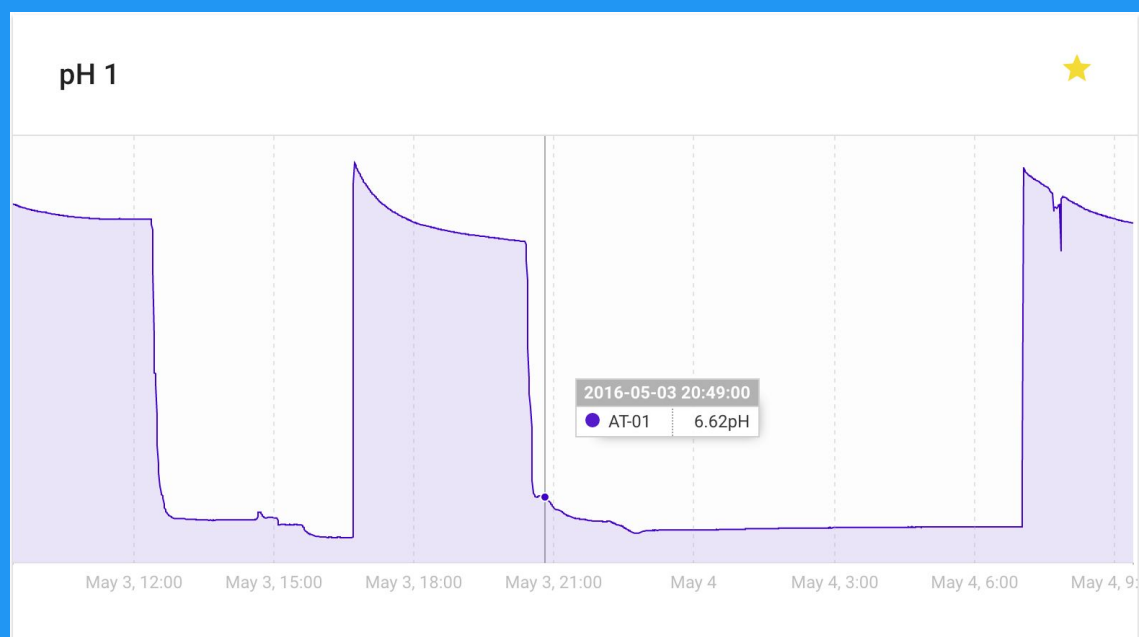
## Functional prototype and Minimal viable product (MVP)

One of the biggest pitfalls to go in, is making more than you have to. It is therefore important to discuss: What is the minimum set of features we can have, and still have a salable product?

In this context, this would not only be a decision taken on the basis of market clarification, but also based on the first signed contract. The danger there, is constructing a specially created niche product that only this customer is willing to pay for.

We were very aware of this, and when the first contract was signed, it was for what we had defined as MVP.

Nevertheless, was the MVP so great , that it took a few months before we got there. The first milestone was therefore a functional prototype.



## Verification of user needs and development of new features

The goal is achieved, and the product is released. What happens now?

What is certain is that when the product people start to use it, and using create questions and wishes.

It is important to have a flow on how this is feedback, to give priority in the right order and get done first things first. It is not always who shouts the loudest that have the best idea.

It is also nice to have a basis for making improvements and changes without guessing, or listen to the crying.

This is where the 'Analytics' coming in, the methodology AARRR.

AARRR stands for:

Acquisition - Acquisition of users

Activation - the activation of users / use

Retention - How well the product keeps on users

Revenue - Value of a user/ customer

Referral - Do users tell about your product to others?

By planning for this methodology in developing and implementing analysis, you get a really powerful tool where you get plenty of insight into user behavior, and whether and how they use your product.

The goal is to create a machine, where all users create new users. But to achieve this, you have to facilitate for that. We had to find the magic mix that ultimately make the product a success.

## The use of tools

### Management:

Trello - The hub of project management. Here the tasks are created and distributed.

Slack - Chat Tools with countless integrations. Here advertised that development tasks are ready to test, as well as general discussions and clarifications.

GitHub - Hosting Code. This makes it easy for more people to contribute in the same project, and that a new developer group can easily put in and work on the project.

Google docs - The main advantage of gDoc is that more people can work on the same document. Perfect when you for example discuss specifications.

## The development stack

AngularJS

NodeJS

Material design

D3 charts

PostgreSQL

## What is Trndz now?

Trndz has led to a technical elegant- and effective product.

Or in short, we have built the train, put it on the rails and pushed it..

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Comet Lab

Let ideas become reality.