**Important to mention:**

Problem and Impact

* **3 parties, thousands of people, 1 platform to connect ‘em all.**
* Immediate response to live demand requests
* Filling the communication gap for supply and demand

Design and Technical Aspects

* **Equal opportunity for manufacturers**
* **Integrating Data science at an early stage of demand prediction allows for an optima allocation of efforts**
* Tender and quotation platform.

Originality

* Bridge demand and offer via a single platform
* One platform involving the three parties doesn’t exist. Separate solutions for logistics and manufacturers and GGD.
* Crisis is new. LCH is founded in 20-03-2020 a unified platform for medical equipment ordering and shipping.

Implementation

* **Can be integrated with current situation/PBM Corona App**
* Applicable during crisis
* Does not require additional registration on part of health institutions, does not require time from them.
* Tried to contact GGD.

Business model practicalities

* **Optimizing manufacturing lines generates money for manufacturers.**
* **Giving chance to SME’s in medical equipment and transportation industry to connect and work efficiently.**
* Low price help government safe money.

Why do you need to win?

* **Bring this platform into a running system.**
* Later adapt it as a project for feasibility of implementation worldwide.
* Provide the idea to start-up.

**Storyline 1**

* This crisis is growing tremendously. Last week the number of the case passed 1 million and we must stop this by having medical equipment at right time at right location.
* 1.36 million. This is the number of people working in healthcare in the Netherlands. For these people working on the frontline of this crisis, having access to the right protective equipment, such as masks, is essential.
* But these masks are lacking, as are other medical equipment. A survey by the FNV showed that over 82% of healthcare professionals are already careful with the equipment they use, or are scared they are running out.
* At the same time, there are hundreds of private persons and companies who are ready to help out, by producing these products.
* Our solution aims to connect these new producers to the health institutions through one single platform.
* Solving this challenge needs the collaboration between three main parties: Healthcare institutions, Manufacturers and the Landelijk Consortium Hulpmiddelen**. 3 main parties, thousands of people, and one platform to connect them all.**

**Storyline 2:**

* Let’s talk about demand and supply.
* This is a story of 3 main parties, thousands of people, and one platform to connect them all.
* This is the story of 6 data scientist who believe that the integration of demand prediction at an early stage, could help prevent shortages in medical equipment at hospitals. That it could help prevent doctors from walking around infected patients without any protective equipment, or equipment of low quality. (I think it's good to also involve patient here.)
* **So where does this story start?**
* It starts with demand. There are over 1.36 million people working in healthcare, and with the current spike in demand of protective equipment, the regular delivery and distribution processes are lacking. The result? People that are not protected well, or that worry about the quality of their protective equipment.
* What follows, luckily, is supply. There are people there who are ready, and willing to help. Over a hundred people, private persons as well as organizations, have indicated their willingness to contribute as new manufacturers of protective equipment such as masks. (Current situation will end by collaboration of all of us)
* **So where does the story end?**Ideally, our story would not end here. Implementing the platform requires more time than three days. Most of all, it requires having contacts in the right places.
* **Thank you.**

**Use Case**  
**a hospital sends a request of shortage of a N95 mask through corona app, gets reported on eViz(our platform), forecast based on demand generated an alert and issued a tender online. Relevant manufacturers immediately put qoutation and the GGD uses this to order 95 in advance to fullfil request! Immediately on board logistic companies are involved for shipment .**

 We predict demands ~1 week in advance.

 We assist LCH to place order based on forecasting.

 LCH monitors hospitals demands and available manufacturers.

 LCH places order.

 Equipments is on the way.

**Storyline 3:**

More than 1.36 million people in the Netherlands work in healthcare, and now, many of these people are on the frontline, battling the crisis that we try to hack this weekend. For these people, having access to the necessary protective equipment is essential, but the current rise demand has led to a situation where the availability of certain products, such as protective masks, is no longer a given.

National organizations and the government recognize this problem, and have recently created the Landelijk Consortium Hulpmiddelen (LCH), to centralize the ordering and distribution of new medical equipment, and monitor current stock levels and shortages in health institutions around the Netherlands. This, is the organizations that we aim to help.

We are six data scientists currently working on our post-master at the Jheronimus Academy of Data Science. Our backgrounds range from media, to software engineering, to physics, but all of us share a passion and belief in the power of data. We propose an integrated system which addresses the needs of the LCH, different companies, both medical and non-medical who are willing to help, health institutions and ultimately, healthcare professionals.

Our solution helps in two important ways: First, it facilitates the communication between the LCH and the producers of medical equipment (both those they are regularly in contact with, and new producers). Second, it distributes the medical equipment currently available in a more efficient manner.

**(Problem)**

1.36 million people work in healthcare in the Netherlands, and now, many of these people are on the frontline, battling the crisis.

The current pandemic crisis is resulting in a shortage of medical equipment.

How can we make sure all healthcare professionals receive the right protective equipment on time, such as masks and gloves.

In the Netherlands, the Landelijk Consortium Hulpmiddelen (LCH) is working on this day and night.

They receive a lot of e-mails from medical and non-medical manufacturers willing to help. How can we handle these and assure the quality of these new products?

How can we make this process faster?

**(Who are we?)**

We are a group of six data scientists with various professional backgrounds and different nationalities. We believe we can solve this problem.

**(What is our solution?)**

Here is Soti. Soti is an e-platform that builds upon what is already available. It helps the LCH bridge the gap between healthcare institutions and manufacturers. Soti shows the demands from the hospitals, offers from manufacturers, and allows LCH to place orders.

Let’s look at the demand first. Soti incorporates the power of Machine Learning. How? Right now, hospitals register how much equipment they use every day in the PPE Corona App. But if we know, the required equipment for hospitals in the coming week, or next two weeks, we can send alerts if there is space to move equipment from hospital A to hospital B, or if it is necessary to place new orders. Having a machine learning model to predict demand allows the LCH to intervene at an earlier stage.

Local transportation companies can register, so they can assist in urgent situations.

Let’s now look at the offers. We want to enable everyone, medical and non-medical manufacturers to offer help when the demand is high. That’s why everyone can reach out on Soti, and mention which products they can produce. After registration, the quality of their products is checked.

LCH can then send out an online tender to the qualified manufacturers, compare the submitted offers and order the equipment immediately.

So why Soti? Through our Data Science capabilities, Soti allows for early intervention through our implemented predictive model, it allows big businesses as well as small businesses to come to play, it integrates three main parties (LCH, Healthcare Institutions and Manufactures) and thousands of people.

Soti connects them all.

Alternative:

Let’s look at the demand first. Soti incorporate the power of Machine Learning. How? Right now, hospitals register how much equipment they use every day in the PPE Corona App. But if we know, the required equipment for hospitals in the coming week, or next two weeks, we can send alerts if there is space to move equipment from hospital A to hospital B, or if it is necessary to place new orders. Having a machine learning model to predict demand allows the LCH to intervene at an earlier stage. One of the significant advantages of our system is the predictive power. Our machine learning model predicts number of patients in hospitals and calculates number of the equipment. People in LCH can monitor output from our machine learning model. Our logistics platform can suggest the ordering of equipment based on predicted demand. How does prediction help? Right now, hospitals register how much equipment they use every day in the PPE Corona App. But if we know, the required equipment for hospitals in the coming week, or next two weeks, we can send alerts if there is space to move equipment from hospital A to hospital B, or if it is necessary to place new orders.