

## 05 VALUE

What will become better with ComImmunity?

ComImmunity deals with virus infections in a completely new way. It opens the door to fight the virus itself and stop it from spreading. Not only does it have tangible benefits for your own health and the health of others, but it also provides great relief for medical workers. The free access for researchers to our database will accelerate future developments in the biological and medical field. With drug-free therapy, we reduce the waste of drugs and thus create a cleaner environment.

## 01 PROBLEM SPACE

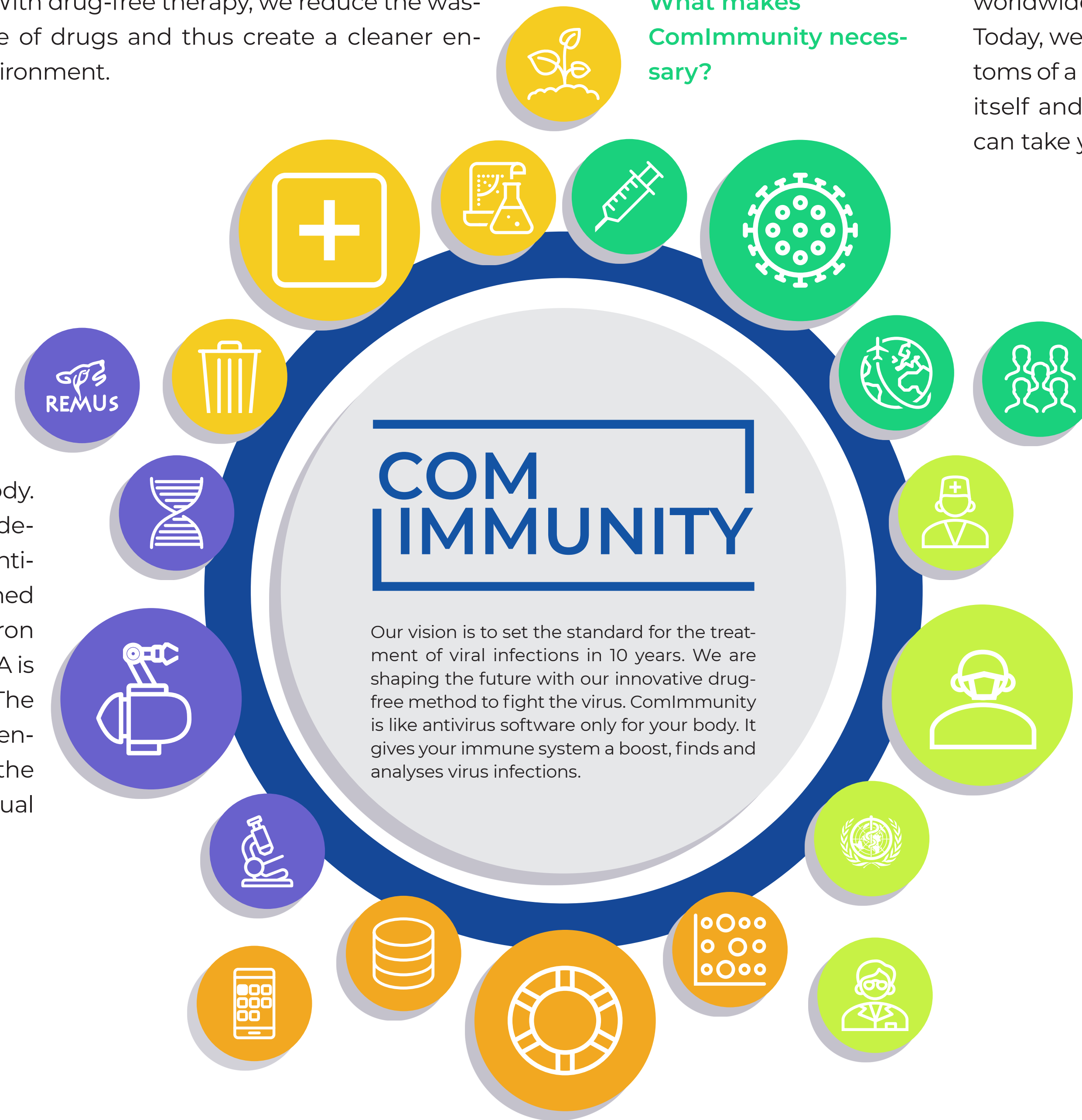
What makes ComImmunity necessary?

The COVID-19 pandemic in 2020 spread quickly to over 2.5 million cases in just a few months. The spread of such viruses will continue to be encouraged by our way of life. Our highly interconnected world and increasing population density are crucial for the occurrence and spread of old and new virus infections. Through factors such as tourism, migration and world trade, a virus can spread worldwide within a few days. Today, we are stuck with treating the symptoms of a viral infection rather than the virus itself and developing an effective vaccine can take years.

## 04 RESOURCES

What technologies are we using?

Nanobots are our little helpers in the body. With the use of several biosensors they detect and collect samples of viruses and antibodies as well as B-cells. These are examined under a micro-sized Transmission Electron Microscope. With CRISPR the B-Cells DNA is modified to create accurate antibodies. The CERN technology REMUS will be implemented with the data of the database and the device to become a global and individual health monitoring system.



## 03 DESIGN SOLUTION

How does it work?

The ComImmunity system consists of four parts: a biomedical hardware device, an app, a database and a heatmap. The device observes the human body and detects viral infections and the appropriate immune response using various sensors and technologies. The virus and, if found, antibody data get paired in a database. If no immune response gets detected, the hardware device modifies B-cells to produce the accurate antibodies. The infected person can follow this process through the ComImmunity-app. In addition the patients location makes it possible to generate heatmaps and act on a global level.

## 02

## USER

Who we are designing for and who is involved?

With our solution we mainly support high-risk groups concerning infectious diseases. Those are people with pre-existing conditions like diabetes, asthma or auto-immune diseases. ComImmunity will enable their bodies to fight the viral infection by enhancing their natural immune response. To make this happen, a large community of users, doctors, researchers, and the WHO are interconnected. That way the benefit is not only to fight the virus in the body of infected people but also supports researchers and the WHO with meaningful data.