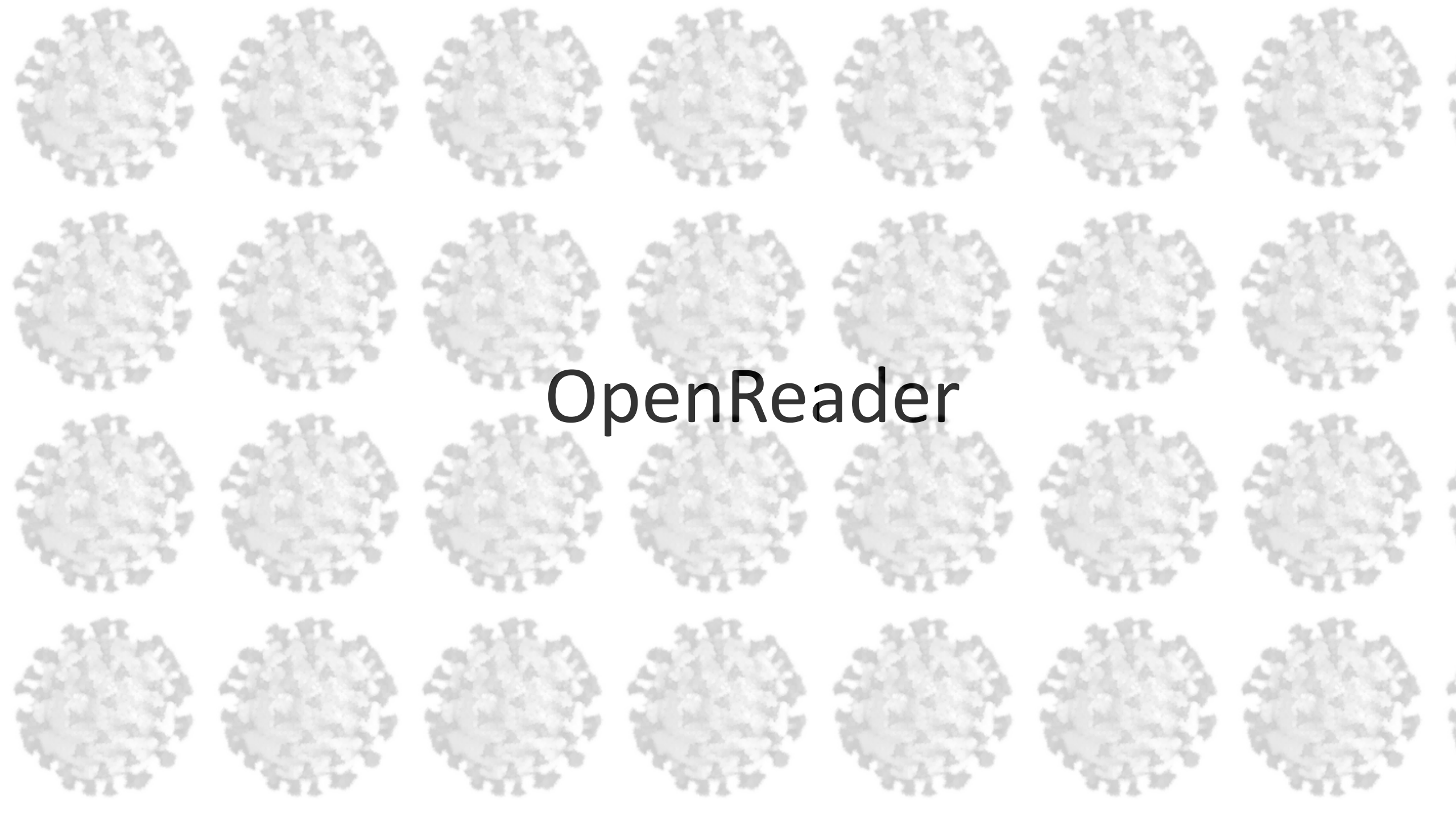
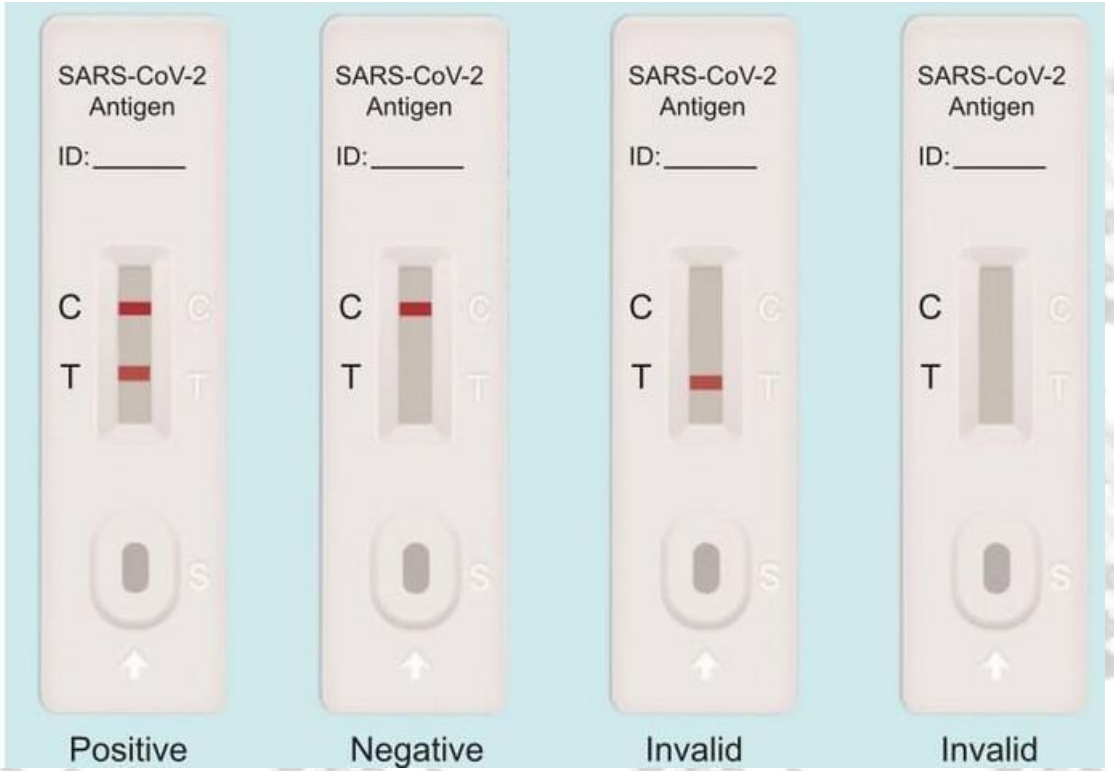
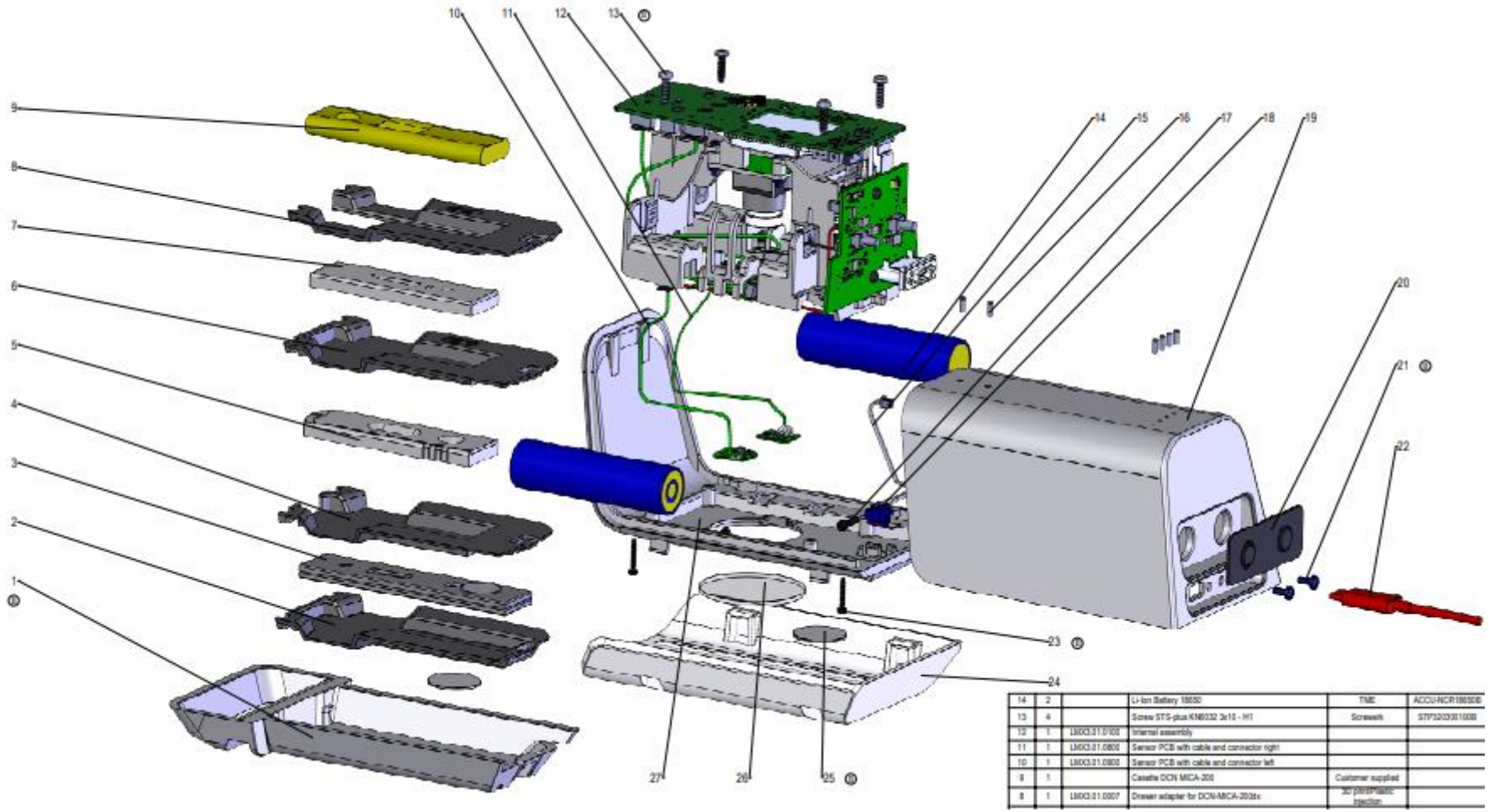

OpenReader

- Qualitative
- Manual



Quantitative, image analysis-based antigen test reader



14	2		Li-Ion Battery 18650	TME	ACCU-NCR18650B
13	4		Screw ST5-plus KN8032 3x10 - H1	Screwfix	ST5P3203001008
12	1	LMDO.01.0100	Internal assembly		
11	1	LMDO.01.0800	Sensor PCB with cable and connector right		
10	1	LMDO.01.0800	Sensor PCB with cable and connector left		
9	1		Cassette DCN MICA-200	Customer supplied	
8	1	LMDO.01.0007	Drawer adapter for DCN-MICA-200dx	3D printed in injection	

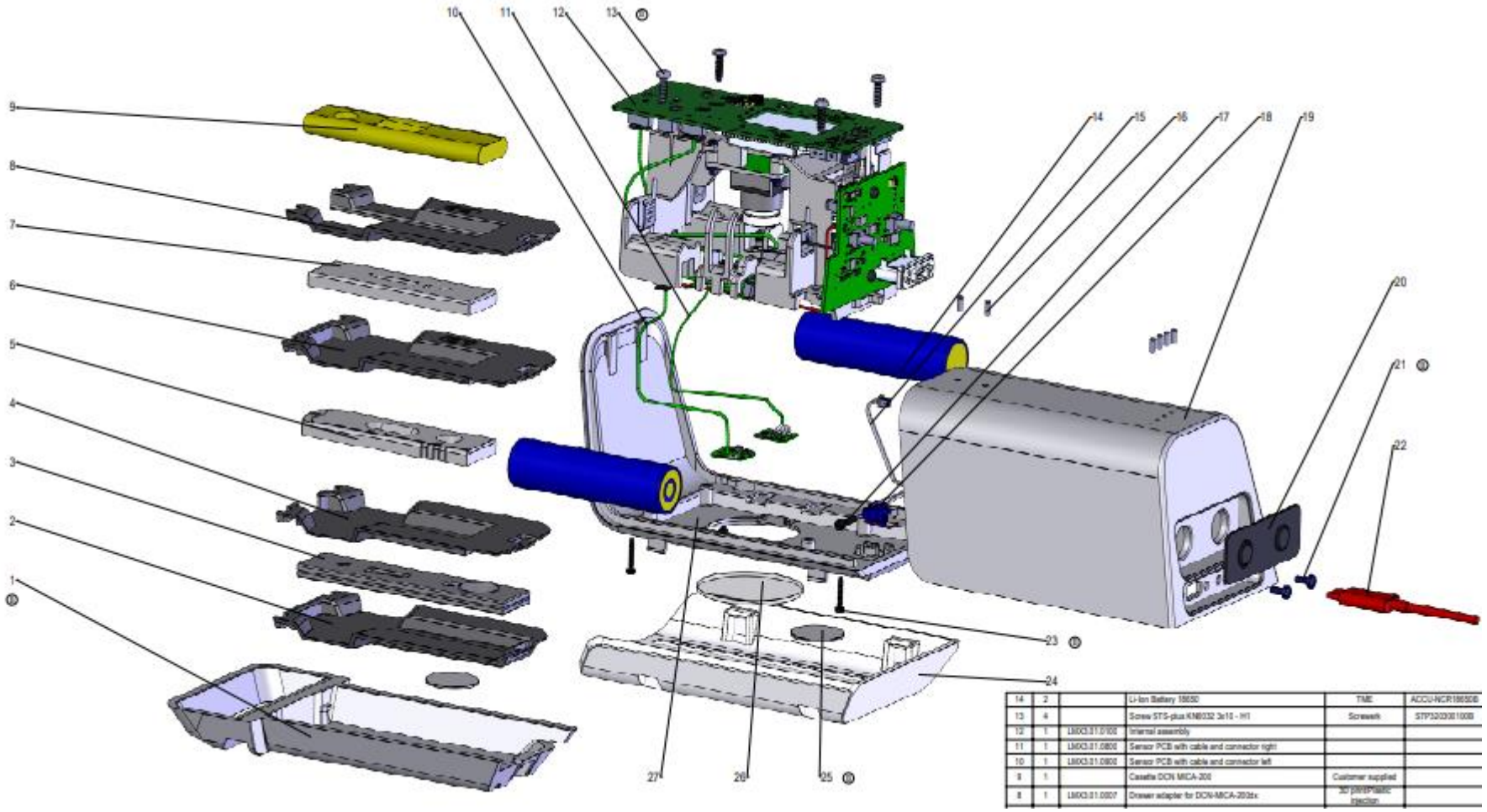
Coding Part

- Image Analysis
- Embedded System

Image Analysis

- Identify the strips (width, center)
- Locate the peaks
- Fit into a gaussian on a slope

Hardware and Embedded system



14	2		Li-Ion Battery 18650	TME	ACCU-NCR18650B
13	4		Screw ST5-plus KN8032 3x10 - HT	Screwfix	ST5120301000
12	1	LMDO.01.0100	Internal assembly		
11	1	LMDO.01.0800	Sensor PCB with cable and connector right		
10	1	LMDO.01.0900	Sensor PCB with cable and connector left		
9	1		Cassette DCN MICA-200	Customer supplied	
8	1	LMDO.01.0007	Drawer adapter for DCN-MICA-202ex	3D printed at injector	

- Communicate with the camera and chip
- Maintenance and security
- Compilation of the code on the system

What do we have to do?

What do we have to do?

Software Team

5 people

Hardware Team

10 people

What do we have to do?
Software:

MATLAB side

Warm up: understand what's going on.

Then:

1. Streamlining the program for deployment.
2. Rewriting to allow automatic conversion. (encapsulation, appropriate hooks)
3. …
4. Experiment with different fit parameters, image de-noising heuristics, more sophisticated summary results

What do we have to do?
Software:

C++ side

1. Hooking up the the generated library and actually using it.
2. …
3. Implementing the parts that it is more sensible to rewrite manually (eg: logging).
4. …
5. Rewrite interface for lab work

What do we have to do?
Software:

Final result:

It should be possible to modify the algorithm logic in MATLAB and recompile without breaking anything

What do we have to do?
Harware:

Foreplay:

1. creating a dependency list for the current code and an installer. Get it to compile.
2. understanding what the current code does
3. what hardware we are dealing with?
4. How do we upload code to the machine?

What do we have to do?
Harware:

Main dish:

1. Implementing safety features
2. Implementing maintenance checks
3. Adapting the machine – smartphone and machine – desktop communication.
4. Automating the upload pipeline as much as possible.
5. Adding functionalities
6. …
7. Extend (write?) the driver for the camera

What do we have to do?
Everyone all the time:

Write a decent documentation with GitHub Wiki

Final result:

A functioning device.