

# Medal Submission Document

UppSense  
August 1st 2021

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<https://sensusupsala.com/>

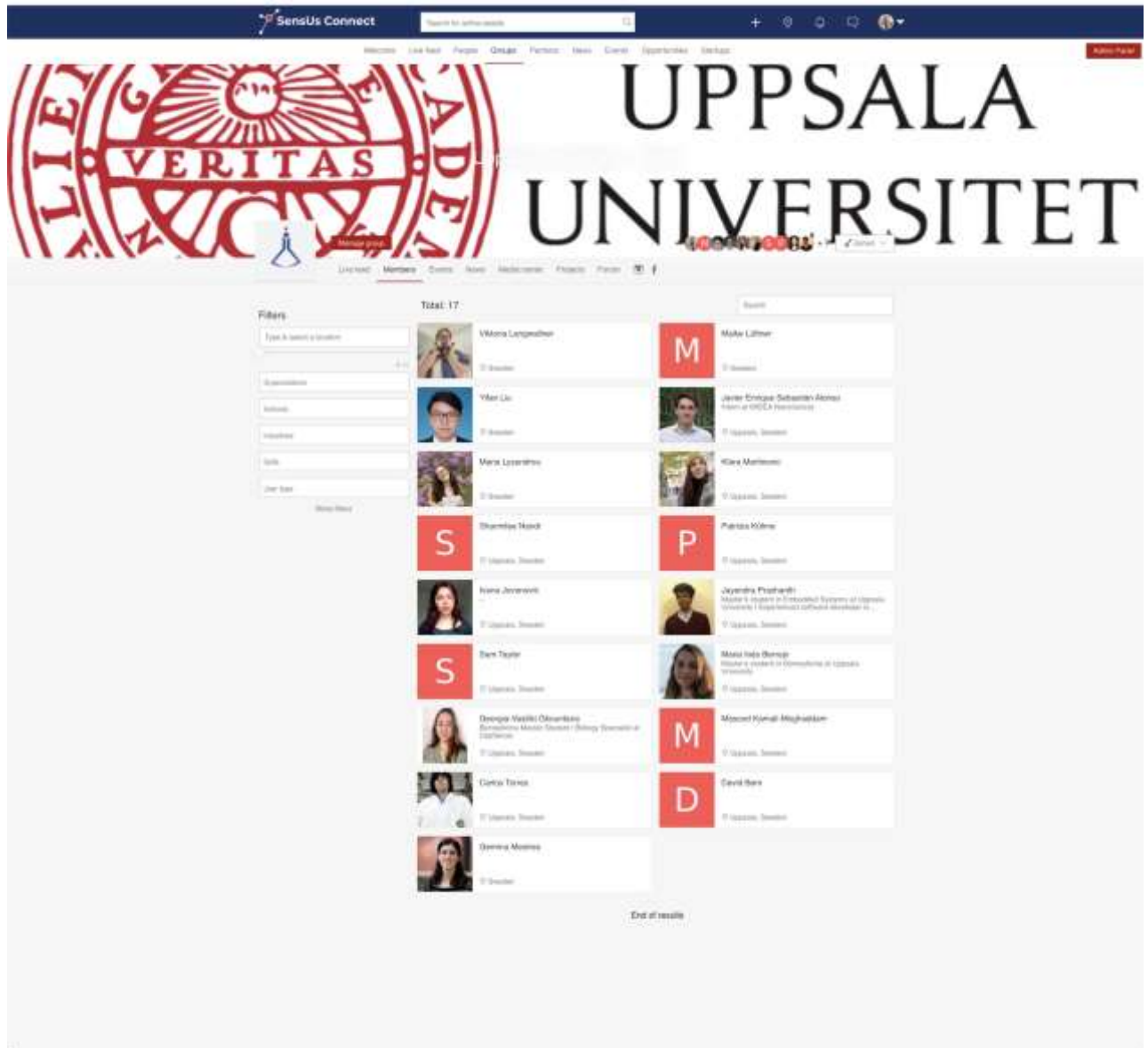
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# January

## 1. Bronze

### 1.1 Register on SensUs Connect;



# March

## 1. Bronze

### 1.1 Motivation;

UppSense's motivation to take part in SensUs is so that we can come together to build a biosensor, thereby helping to create a better future. We will achieve this as we are a group of 15 individuals of diverse nationalities and backgrounds. This enables us to bring together different ideas and perspectives to problem solving. Lots of passion, enthusiasm, and strong morale, will fuel our battle to detect influenza A.

Our goal is to get out of our comfort zones, learn something new, and develop unique and creative ideas for our biosensor. Through the use of our combined wits, knowledge, and experience within a

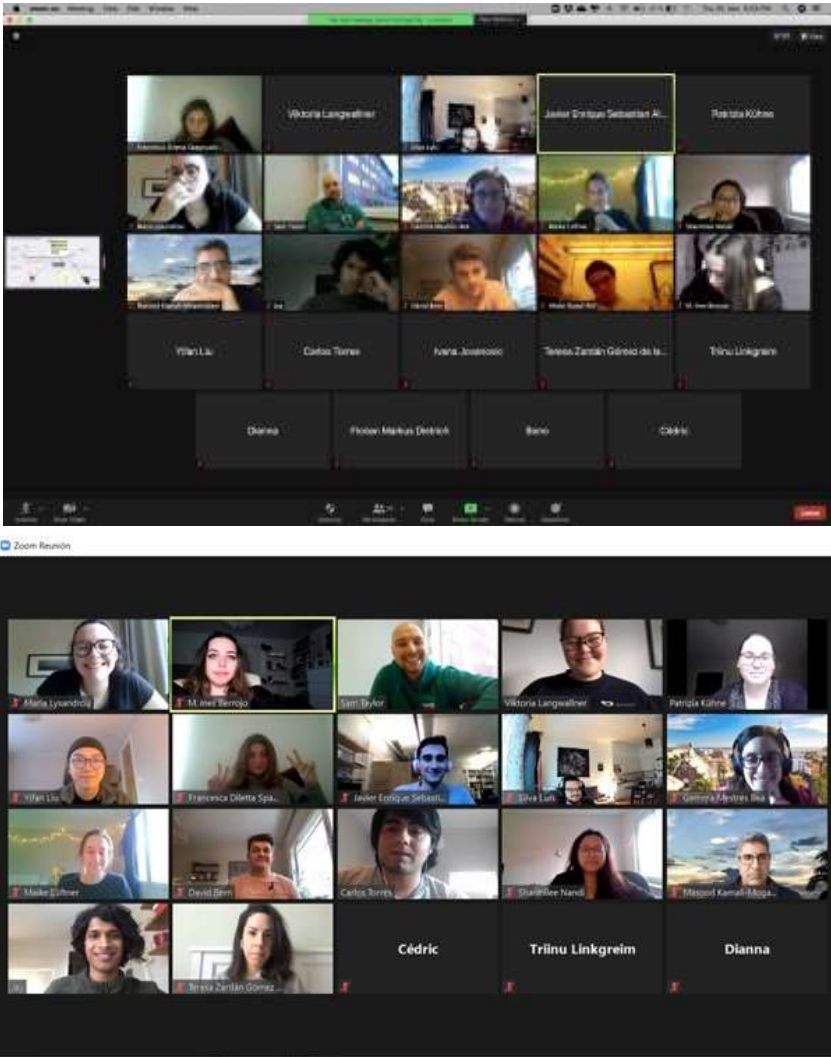
large variety of fields, we hope to build on our research. This experience provides an opportunity to continue to research in our respective fields, and really work on communication skills. We hope to raise awareness that everyone can contribute to their different areas of expertise.

# May

## 1. Silver

### 1.1 Meet with Alumni;

<b>Attendees (Alumni)</b>	<ul style="list-style-type: none"> <li>● Triinu Linkgreim - AdUp Sense, 2019</li> <li>● Dianna Zeleskov - UppSense, 2020</li> <li>● Cédric de Voghel - UppSense, 2020</li> <li>● Francesca Diletta Spagnuolo - UppSense, 2020</li> <li>● Florian Markus Dietrich - UppSense, 2020</li> <li>● Luis Silva - AdUp Sense, 2019</li> <li>● Bono Jimmink - UppSense, 2020</li> <li>● Abdul Raouf Atif - U.V.S., 2018</li> </ul> <p>All are Uppsala University Alumni, team name has changed throughout the years,</p>
<b>Goal of the Meeting</b>	<p>This meeting was targeted to share updates on our biosensor prototypes and get feedback from our mentors (alumni) and supervisors based on their previous experiences. UppSense has been working on two different biosensor models (namely electrochemical and optical) in the previous months. As we will soon start to perform both dry and wet lab experiments, this session was aimed to clarify our doubts on both general and technical aspects.</p> <p>UppSense holds these kinds of meetings (Progress meeting) every four weeks together with alumni from previous years as well as supervisors.</p>
<b>Date</b>	<p>March 25, 2021</p>
<b>Preparation time</b>	<p>2 h</p>
<b>Duration</b>	<p>~ 1,5 h</p>
<b>Summary</b>	<p>First, we started by presenting our project proposals with detailed information (via illustrations and texts) on updated biosensor designs one at a time. Further, we shared our queries concerning each prototype to get a better understanding of the various processes involved, including mixing of sample, separation, and detection of analyte. Lastly, we had a discussion session where our questions were answered, and few suggestions were put forward by mentors and supervisors.</p> <p>Our concerns were mostly around the chip design and measurement processes for the electrochemical biosensor. After the discussion, we finalized to go forward with both Indium tin oxide (ITO) and Boron doped graphene (BDG) for making of the electrodes and testing which one works better using impedance spectrophotometry and cyclic voltammetry separately. Besides this, we also received suggestions on how we could possibly measure the sample concentrations and working-electrode surface area, speed up incubation time, physical properties of the electrode, and many more.</p>

<p><b>Summary</b></p>	<p>On the other hand, the optical biosensor prototype received a couple of recommendations on the use of fluorescent beads and use of sialic acid conjugated beads for viral protein detection. It was pointed out that antibodies might react with sialic acid (in addition to hemagglutinin) and would create a false-positive response. Therefore, it would be better to opt for magnetic beads conjugated with antibodies instead.</p> <p>This meeting enabled us to draw necessary conclusions and think about the recommendations before we start developing the different biosensors. The most important take-away message would be that it is important to try different possibilities (or combinations) by ourselves at the laboratories and not depend entirely on preferences based on literature or previous experiments.</p>
<p><b>Evaluation</b></p>	<p>The meeting was very informative, and it helped us to move forward with a more filtered idea of how we should plan on working towards constructing a biosensor that fulfills both the competition criteria and can be adapted to detecting the complete Influenza virus.</p>
<p><b>Pictures</b></p>	 <p>The image contains two screenshots of a Zoom meeting grid. The top screenshot shows a grid of 20 participants in a 4x5 layout. The bottom screenshot shows a similar grid with 20 participants in a 4x5 layout, with some participants' names visible below their video feeds.</p>

# June

## 1. Silver


### 1.1 Interviews with medical professionals;

<b>Professional Name</b>	Paula Del Corral
<b>Short description about professional</b>	<p>Paula Del Corral is a nurse currently working at Palma de Mallorca. She has extensive experience working abroad on several projects. Paula went to Cameroon for the project <i>Madrid Rumbo al Sur</i> for one summer as a volunteer. Furthermore, she went to South Cambodia as a nurse where she took care of children and seniors. Paula enrolled at a Master program at the Universidad Autónoma de Barcelona and participated in a project at Ecuador with the aim of developing telemedicine in the most remote parts of the country.</p> <p>Her long experience working inside and outside of Europe as a nurse gives her the possibility to visualize and predict the viability of our biosensor at different parts of the globe.</p>
<b>Conducted by</b>	Javier E. Sebastian Alonso
<b>Date</b>	20 <sup>th</sup> June 2021
<b>Preparation time</b>	30 min
<b>Duration</b>	45 min
<b>Summary</b>	<p>Firstly, we began with a short of validation of the business model. With a simple look on the diagram Paula already optimized our approach towards the point of care (POC) application. She highlighted that the chip must present a trustworthy sensitivity in order to track the spread of a virus in a pandemic scenario. Moreover, she explained that a biosensor should work at room temperature if possible because at some locations there won't be the possibility to keep it in a refrigeration. Furthermore, the chip must be easy to handle as a POC-device so that people could use it independently. By this, nurses and doctors can focus on the real urgencies. Astoundingly, Paula gave us a perspective never received before in other interviews. She considered the mental health of the patient since an early stage. She said that it is very useful that a device can be easy to handle so no specialist is needed, but the results of the test should always be given with the support of a nurse or a doctor because in case of an unpleasant result there is a high risk that the patient enters in a mental breakdown. She defended that technology development should not dehumanize the health care system of any society because above any development we are humans that need company and support. Finally, Paula encouraged us to use the Covid-19 outbreak as an example to develop a technology that can avoid a healthcare system collapse as it has happened all over the globe.</p>
<b>Evaluation</b>	<p>Paula gave us the most humane side of the healthcare system which is rather difficult to consider. Moreover, her international background made it possible to realize how much a biosensor needs to improve. All of these together makes out of this interview a great perspective for the device implementation.</p>

## 2. Gold

### 2.1 Organize online Event;

<b>Title of Event</b>	Pub Quiz - UppSense
<b>Date</b>	05/05/2021 - took 120 minutes
<b>Preparation time</b>	15 hours

<p><b>Type of event</b></p>	<p>PubQuiz, Networking</p>
<p><b>Abstract</b></p>	<p>To connect with each other, to learn more about biosensors, to destress together in a fun and informational manner.</p>
<p><b>Objective of activity</b></p>	<p>Get to know each other and have fun through quiz-type questions, provide some information about several systems, whether or not they can be categorized as biosensors and also interesting facts regarding several countries.</p>
<p><b>Promotion</b></p>	<p>We used our social media platforms (connect, instagram, facebook). We also got SensUs to post on their instagram story about the event. An email reminder was sent out to all the team captains as well.</p>  <p>The image displays six promotional posters for the 'UPPSENSE PUBQUIZ' event. Each poster features the event title, a description 'AN EXCITING EVENING TO BOND OVER GAMES!', the date and time 'MAY 5 FROM 5:00 PM TO 7:00 PM CEST', and the website 'CONNECT.SENSUS.ORG'. The posters are arranged in two rows of three. The top row shows the main event poster, a poster with a 'Tomorrow is the date for our online pub quiz! Get ready!' message, and another main event poster. The bottom row shows a poster with a 'Last, but not least, don't forget our upcoming pub quiz!' message, a poster with a 'Pan-Africa' banner, another main event poster, and a final poster with a 'QUIZ NIGHT' graphic and the text 'This is for everyone who's taking part in @sensuscompetition this year! Go to SensUs Connect and join our pub quiz night 5th May from 17-19 CEST'.</p>







<b>Partners</b>	UppSense Team
<b>Contact person</b>	Patrizia Kühne (Main) or any other UppSense Member
<b>Evaluation method</b>	We will ask for feedback from the participants. We will use Mentimeter to gather this data.
<b>Evaluation (fill in after the event)</b>	
<b>Number of participants</b>	28 Participants UppSense (Georgia-Vasiliki Gkoutana, Patrizia Kühne, Sam Taylor, Ines Berrojo, Maïke Lüftner, Klara Martinovic), PULSe (Eleonor, Jintong Ge), BiosensUM (Alexandrine Frappier, Kiran, Lucas Aubé), LxUs (Inês André, Nuno Taborda, Mariana Oliveira), DeTectUs Denmark (Lorenza, Mykhaylo Semenov), SenSwiss (Blanche, William, Eloï< Janette), Influegians (Finlay McAndrew, Hasitha Senevirathne, Matteo, Jacob skipper), TEST 2021 (Maurits Overmans), SensUs Organization (Iris Schilthuis, Rosan Kolff, Henry)
<b>Lessons learnt</b>	<ul style="list-style-type: none"> <li>- start early with promotion and preparing the event -</li> <li>- was good to set time limits for the different parts</li> </ul>
<b>Recommendations</b>	<ul style="list-style-type: none"> <li>- divide the the preparation within a small group</li> <li>- keep it interactive</li> <li>- when to many participants make smaller groups</li> <li>- practice with your group/friends to get a feeling about the duration, amount of interaction etc.</li> </ul>

Picture

Evaluations:

## What do you think about the UppSense Pub Quiz, also as a possibility to get to know each other?

It was such a great and fun idea! I really liked we got to know other people from different countries, some funny outland things about each country as well.

Super interesting

Super interesting

It was awesome! Thank a lot for this fun event!!

Nice quiz - making some small talk or prompts

Thanks for the nice questions, fun to have the breakout rooms that got to know each other

I think it was fun to meet everybody and get to discuss stuff together and put our brains together sort of :)

It was very nice. You get to know more about the different countries and it is nice to match faces to the different names

Was a good fun but a bit long.

great fun also the questions were not specifically geographical oriented so could easily participate :)

Really good and really fun and was nice to see the members of other teams

Nice event, good luck for the rest

It was very fun and good to see people from other teams, questions were a bit hard tho

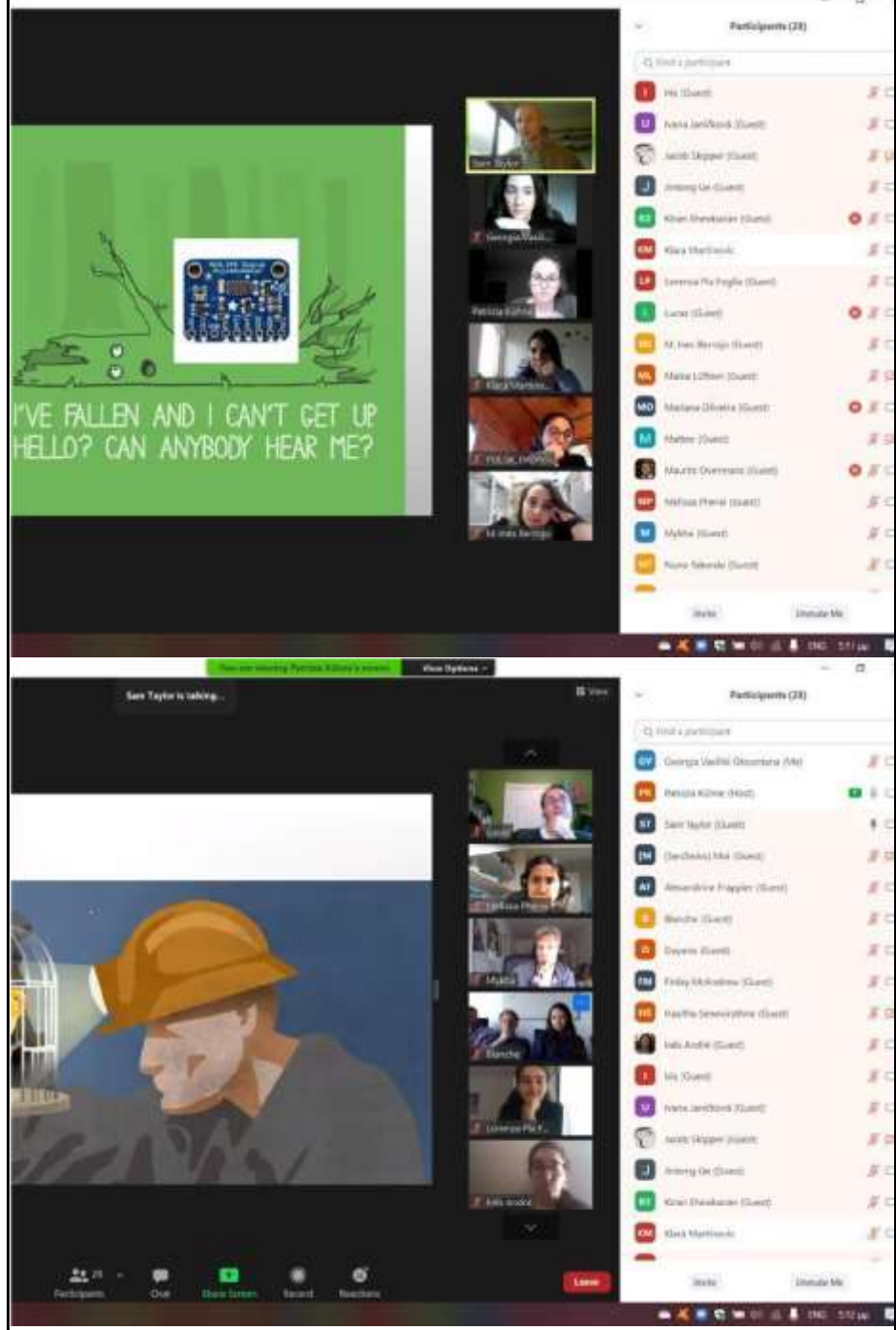
It was a fun event, very dynamic and it allowed us to get to know some of the participants and have a bit of fun!

It was absolutely fun! Thank you for this, I learned new fun facts. It was not only a great moment to bond with the other teams but we also got to learn about the participating countries

Please rate on a scale from 1-5



Pictures during the Event:




# July

## 1. Silver

### 1.1 Meetings with a SensUs Partner;

<b>Partner</b>	Medtronic
<b>Attendees</b>	UppSense: Viktoria, Javier, Carlos, Sharmilee, Patrizia Medtronic: Jesper Svenning Kristensen

<b>Goal of the Meeting</b>	The goal of the meeting is to gain some feedback on the progress that's been made. Some of our data was presented and we want feedback on what we see, and what we need to be aware of. We also want some advice to troubleshoot some issues that have arisen in the optical biosensor. Also, we wanted some advice on where to find resources/contacts in the medical industry for the development of our business plan.
<b>Date</b>	11th June 2021
<b>Preparation time</b>	~ 2 hours
<b>Agenda</b>	 <p data-bbox="619 533 1209 568"><i>Uppsala University - UppSense   Medtronic</i></p> <p data-bbox="453 663 895 685">Present: Viktoria, Javier, Carlos, Sharmiles, Patrizia</p> <hr data-bbox="459 712 1342 719"/> <ol style="list-style-type: none"> <li data-bbox="459 752 660 775">1. <b>Opening</b> [1 minute] <ol style="list-style-type: none"> <li data-bbox="488 786 743 808">a. Short Introduction of team</li> <li data-bbox="488 815 863 837">b. Introduction of partner members present</li> <li data-bbox="488 844 727 866">c. Remarks on the agenda</li> </ol> </li> <li data-bbox="459 898 847 920">2. <b>Electrochemical Approach + Questions</b> <ol style="list-style-type: none"> <li data-bbox="555 927 807 949">a. Quick recap of our design</li> <li data-bbox="555 956 868 978">b. Presentation of our results so far</li> <li data-bbox="555 985 727 1008">c. Free discussion</li> </ol> </li> <li data-bbox="459 1039 772 1061">3. <b>Optical Approach + Questions</b> <ol style="list-style-type: none"> <li data-bbox="555 1068 887 1090">a. How can we avoid back scattering?</li> <li data-bbox="555 1097 1342 1120">b. One of our dyes emits in the 550 nm range. But, our LEDs are all the visible and we can't see the emission. What do you suggest?</li> </ol> </li> <li data-bbox="459 1151 676 1173">4. <b>Business</b> [4 minutes] <ol style="list-style-type: none"> <li data-bbox="488 1180 935 1202">a. Introduce the canvas model and ask for feedback</li> <li data-bbox="488 1209 1334 1232">b. Could we have a contact who we could talk to about the market validation in a couple of weeks?</li> </ol> </li> <li data-bbox="459 1263 564 1285">5. <b>Closing</b> <ol style="list-style-type: none"> <li data-bbox="488 1292 871 1314">c. Any other questions that may have arisen</li> </ol> </li> </ol>
<b>Duration</b>	~ 1 hour

<b>Summary</b>	<p>We had an extremely productive meeting with Jesper Svenning Kristensen. During this meeting we got invaluable advice on multiple aspects of our biosensor. Most importantly we were given advice on how we were <b>evaluating our results</b> and <b>analysing the data</b> that was produced using the electrochemical sensor. He guided us in the right direction of what we need to consider going further. He also reminded us to keep in mind at what <b>temperature our measurements should be done at</b>, and if they aren't done at optimal temperatures what else needs to be kept in mind. He also gave us advice on what needs to be considered with the optical device and how to <b>control the large amount of backscattering</b> obtained so far. We were advised to look into getting <b>an LED light</b> and do measurements in <b>a black box</b>. He also gave us some tips as to how we could enhance the sensitivity. Not only did Jesper advise us on the sensors but he also told us what to keep in mind while going through our business plan. He posed some really good questions that we need to answer and which parts need more focus.</p> <p>The most important parts from the minutes are highlighted in bold in the minutes part below.</p>
<b>Evaluation</b>	<p>Jesper gave us very valuable advice for both our biosensor prototypes as well as our business plan. He highlighted some very important points we have not been considering before and thereby guided us in the right direction. We truly value his insight as he has been handling biosensor development for a while now. Sometimes we forget to consider certain things, and he reminds us of those (for example, the temperature of the testing).</p>

<b>Minutes</b>	<p><b>Medtronic-Partner Meeting</b> <b>Dated: 11-06-2021</b></p> <p>Participants: UppSense-Members: Sharmilee, Carlos, Javier, Viktoria, Patrizia Medtronic contact person: Jesper Svenning Kristensen</p> <p>Agenda:</p> <ol style="list-style-type: none"><li>1) Presentation of the Agenda</li><li>2) Update of the electrochemical approach</li><li>3) Update of the optical approach</li><li>4) Presentation of the Canvas model and demand for a person more related to this part</li></ol> <p><i>Electrochemical</i></p> <ul style="list-style-type: none"><li>● During optimization, run experiments for shortest time intervals in order to be more precise. For example: In case of AuNP deposition, 1 min and how many seconds gave the highest current signal for CV?</li><li>● <b>Be careful while reading your curve and base your predictions accordingly.</b></li><li>● Proteins can lose it's binding ability at higher temperatures (&gt;40 °C). Therefore, it would be best to conduct experiments in a cold setup.</li></ul>
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However, it depends from protein to protein on how long they can survive the room temperature without getting denatured.

- How long would the electrochemical biosensor be able to sit outside in the room temperature?
- **He says that we need to be aware of having good references!** ●
  - Sharp the definition of what to characterize when measuring
- Question he asks us:
  - What are we looking at in the graph? → specify why we have chosen the chosen point.
  - Why does the signal decrease at 3 min → Carlos answer: reaching a limit
  - What is the exact point when you have reached the maximum? → need to know the exact time period at which we will get the best results

#### *Optical*

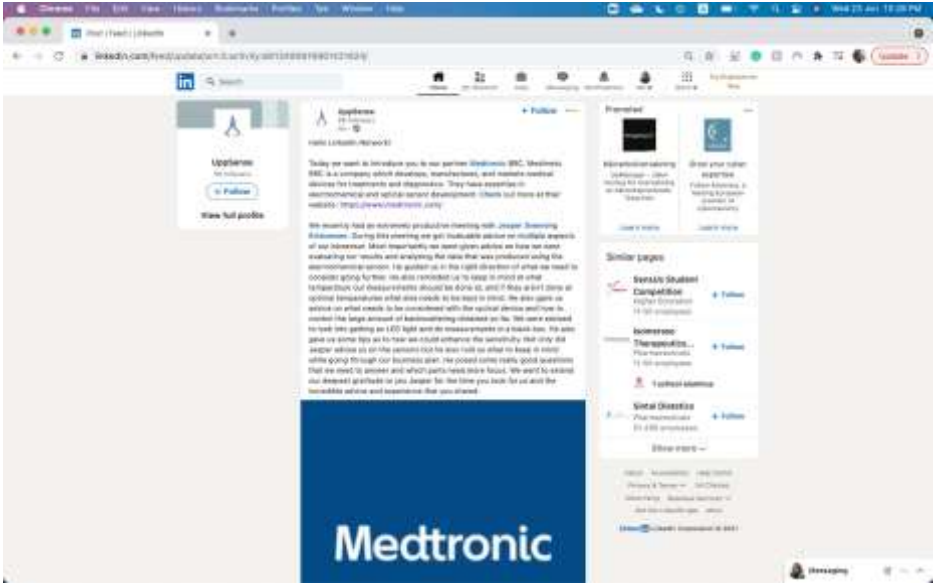
- **LED experiments should be preferably done in dark places (say a black box or a chamber) to avoid discrepancies.**
- Also, **LED characterization covers a broad spectrum.** Therefore, it is essential to look into it.
- Calculate quantum yield.
- Check the **lipophilicity of the dye** before experimenting as it can lead to protein precipitation at instances.
- **Check absorption.** Might try with simpler equipment like photodiodes or emission filters to determine wavelengths.
- Examine the dynamic range (that corresponds to sensitivity).
- Comparative study to validate the process.
- We should be aware of that the more sensitive a dye is the more dynamic it is

#### *Business*

He suggested to be well-versed with:

- What problem will our biosensor solve?
- Our plan for the future.
- Are the target customers willing to use this product?
- What facilities/options would the users want to have?
- Versatility of the device.
- **Add on why the target customers should buy it?**
- **Specify how it would decrease the workload?**
- What need are we meeting with our device?
- How will the product be provided?

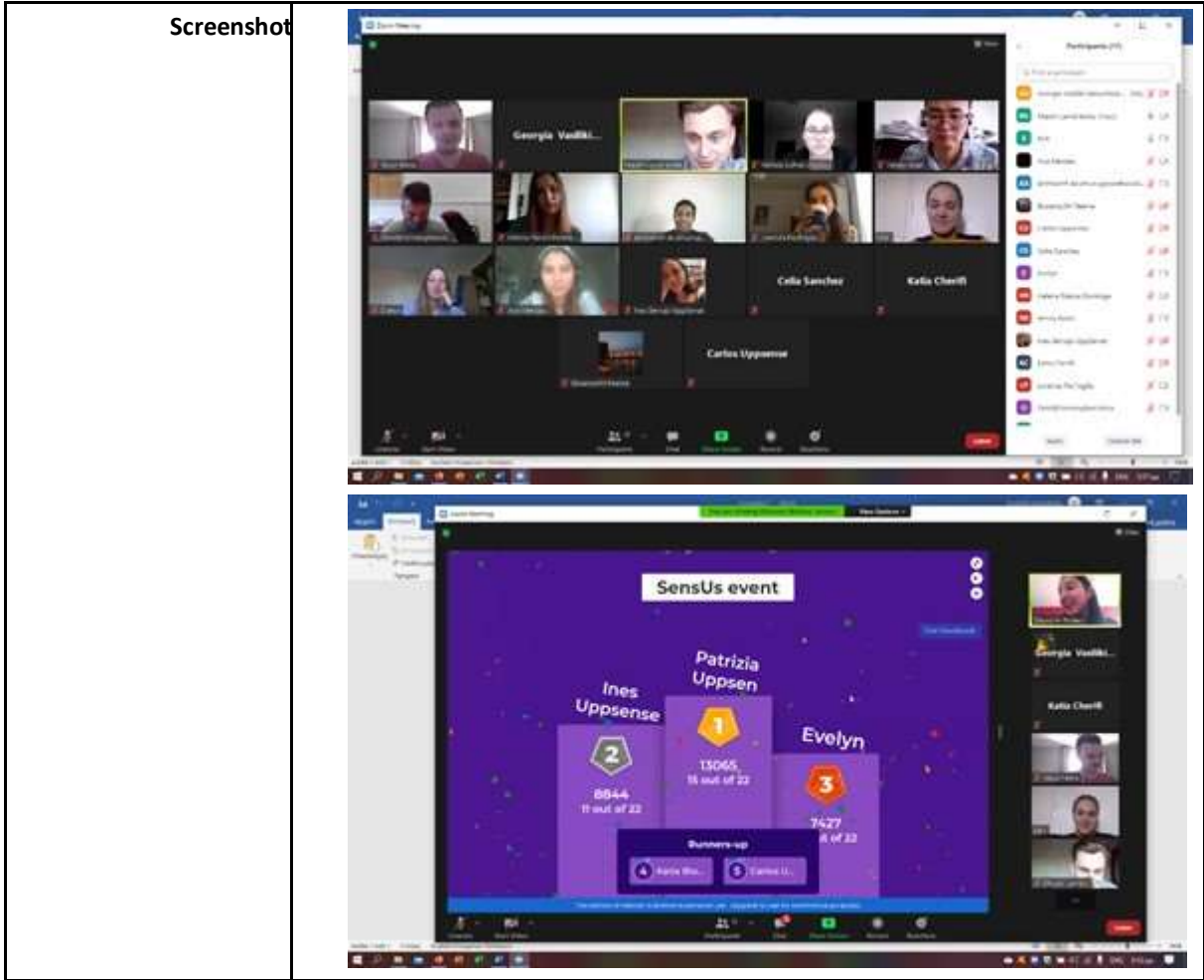
He doesn't know to whom he could send us, but should contact the SensUs organization to whom they are normally referring with questions like that!

<p><b>Social Media Post</b></p>	 <p><a href="https://www.linkedin.com/posts/uppsense_hello-linkedin-network-to-day-we-want-to-activity-6813490619961421824-DYTX">https://www.linkedin.com/posts/uppsense_hello-linkedin-network-to-day-we-want-to-activity-6813490619961421824-DYTX</a></p>
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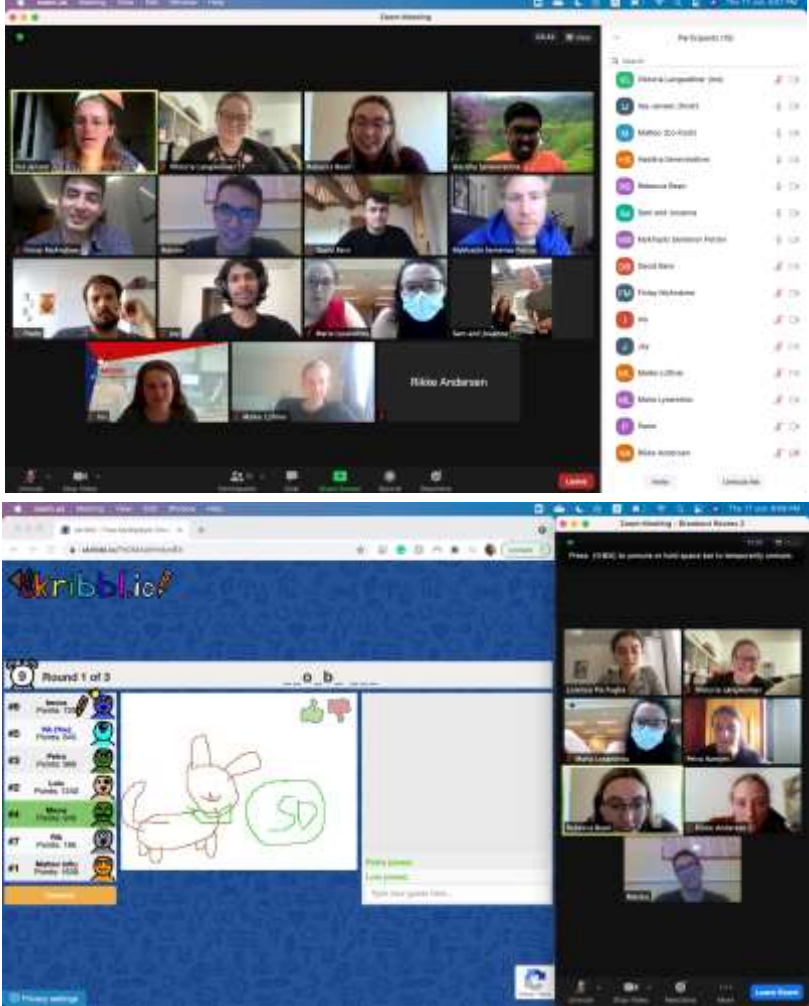
1.2 Be present at two online events;

<b>Title of activity 1</b>	Meet the Teams by PULSe
<b>Organized by</b>	PULSe Team
<b>Date</b>	March 29th 2021
<b>Type of activity</b>	Get-together meeting and quiz time
<b>Abstract</b>	The first point was to introduce members from different teams participating in the competition. After that the PULSe team had a small presentation which was followed by a quiz on the topic of influenza virus and Belgium.
<b>Objective of activity</b>	Socialize with each other.
<b>Lessons learnt</b>	We mostly learned small curiosities about influenza, Belgium and about each other.
<b>Recommendations</b>	If the event was better promoted more people would have joined and it would have been more fun and more interactive.





<b>Title of activity 2</b>	Speed Mating Social
<b>Organized by</b>	Influwegians (Glasgow)
<b>Date</b>	17th June 2021
<b>Type of activity</b>	Networking, Socializing, Relaxing
<b>Abstract</b>	We got to take some time to “speed socialize” where we got split into breakout rooms so we could talk to each other and get to know each other better. It was a fun way to get to know other people, and make connections. We also played a version of pictionary to have some competitive fun.
<b>Objective of activity</b>	To get to know each other better. Make connections. Look forward to seeing familiar faces at the innovation days. Also got to test our artistic skills in skribbl.io.
<b>Lessons learnt</b>	We learnt more about each other, but also struggles other teams are facing with regards to covid. We also just learnt some really weird fun facts about each other, and our countries. We also learnt about how artistic we are, and the competitive natures of the people who were in our groups.

<b>Recommendations</b>	<p>Constant advertising and reminders are good to get people to remember and join the event.</p> <p>Seems like the event was mostly very few teams, it would be fun to have a bigger variety, to get to know more people.</p> <p>Time zones are a tricky thing to get further away teams (outside of Europe) to be able to join - try varying the start time from just evenings.</p> <p>Learn the platform being used - there were some struggles with making breakout rooms - maybe just practice it a bit before hand to make things smoother (not a big deal tho since it was a relaxed setting)</p>
<b>Screenshot</b>	

Team members present in event 1 Ines, Carlos, Jovanna, Patrizia

Team members present in event 2  
Maïke, Sam, David, Jay, Maria, Patrizia, Jovanna, Viktoria

Total number of team members present: 10/15.

2. Gold

2.1 Present at a professional Event;

<b>Title of event</b>	CSAC2021: 1st International Electronic Conference on Chemical Sensors and Analytical Chemistry
<b>Date</b>	2021-07-01 to 2021-07-15
<b>Preparation time</b>	30 hours

<b>Type of event</b>	Conference (online)
<b>Abstract</b>	CSAC is a virtual conference in which researchers from 27 different countries present current research in Electrochemical and Optical Biosensors, Mass-Sensitive, Chemical and Gas Sensors, Materials, Nanoand Micro-Technologies for Sensing, Chemical Assay and Validation, Analytical Methods, Electronic Noses and Tongues, Microfluidic Devices, Lab-on-a-chip, Single-Molecule Sensing, Medico-Diagnostic Testing.
<b>Objective of event</b>	Get together worldwide well-known experts who are currently working in chemical sensor technologies and to provide an online forum for presenting and discussing new results.
<b>Partners</b>	MDPI/ Chemosensors
<b>Contact person</b>	Carlos Torres
<b>Evaluation method</b>	We evaluated our performance at the conference based on the number of people attending our presentation and with who we had a discussions about our biosensor or electrochemical detection systems in general
<b>Evaluation (fill in after the activity)</b>	
<b>Number of participants</b>	~ 100 during the entire conference
<b>Lessons learnt</b>	<ol style="list-style-type: none"> <li>1. We found out that biosensors and sensors in general are a much more broad field than what we initially thought, for example uncommon biosensors for diseases in plants and to detect changes in food packaging were presented.</li> <li>2. From the electrochemical sensors session, we gathered more insights into how the surface of electrodes are functionalized with biorecognition elements and we could compare this data to the results that we have measured in the laboratory.</li> <li>3. We also gain information on how optimization is carried out for electrochemical techniques such as differential pulse voltammetry.</li> </ol>
<b>Recommendations</b>	<ul style="list-style-type: none"> <li>- plan more time for preparation (both paper submission and presentation)</li> <li>- involve as many team members as possible</li> <li>- plan a get-together to attend the conference in company (if online)</li> </ul>

Pictures



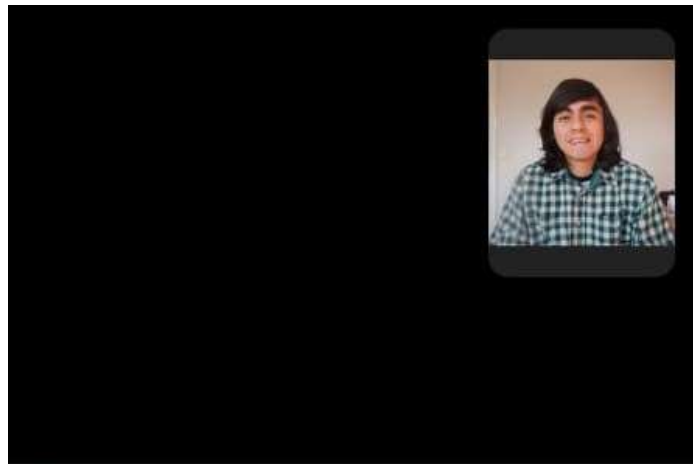
SensUs community



"SensUs is a yearly international Student Competition on sensors for health. By involving students, industry, and health partners we strive to accelerate the development of sensors for better healthcare."

The theme of 2021 is H1 protein of Influenza Virus AH1N1



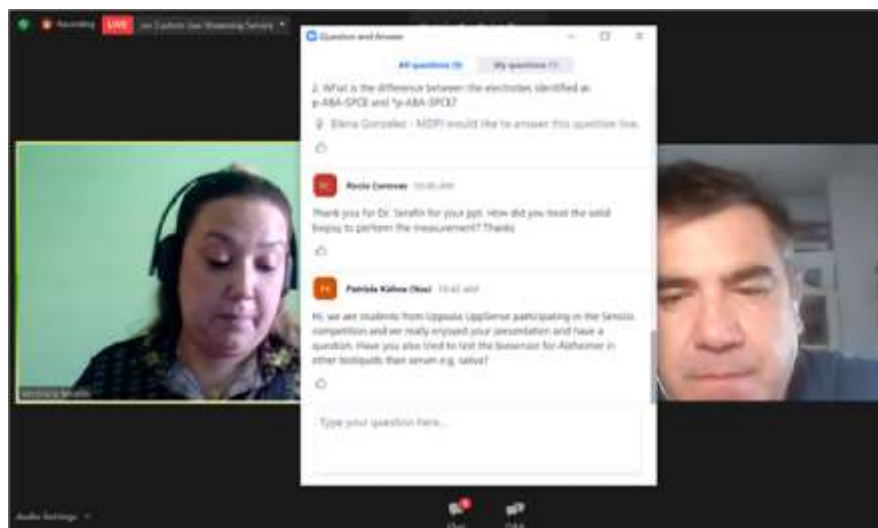


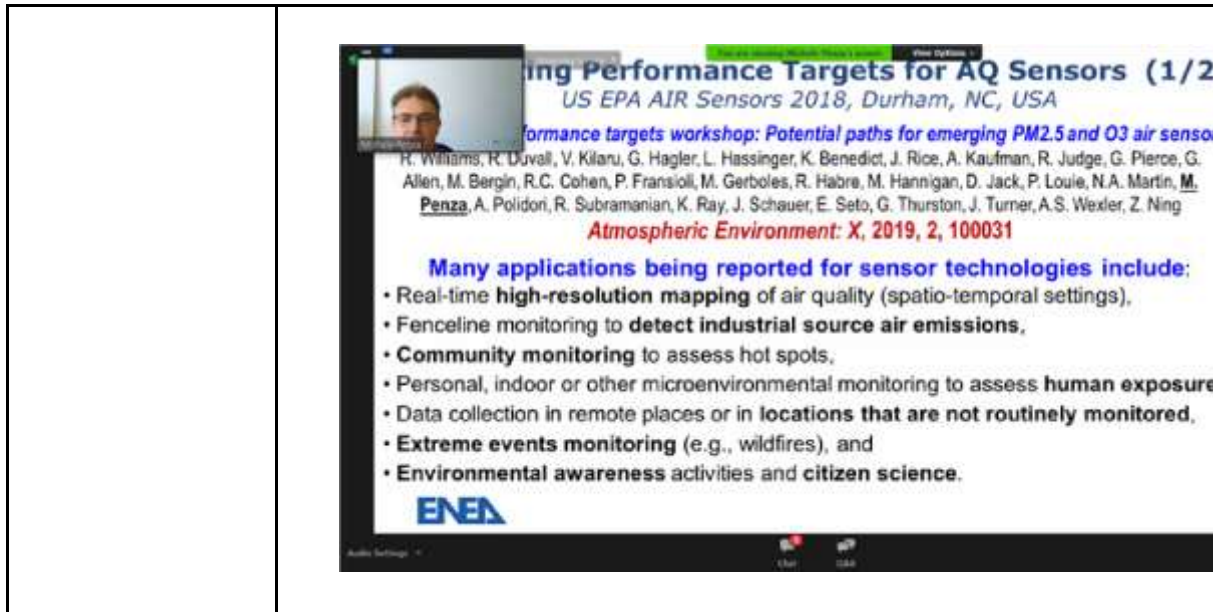
Uppsense Team  
Uppsala University  
Sweden

### Developing an electrochemical biosensor for the detection of Hemagglutinin protein of Influenza A virus subtype H1N1 in artificial saliva



Carlos Enrique Torres Méndez's screen





# August

## 1. Bronze

### 1.1 Tips for subsequent SensUs Teams

- Tip 1: If the team is split into more subgroups for development (transducer, biology, business) have very regular updates from the different subgroups within the team so that the whole team is on the same page.
- Tip 2: Make use of a bullet board to keep track of progress (future, complete, on going) that way it can be seen visually in one place (Miro can be used for such a purpose online).
- Tip 3: Sometimes even professionals may not agree with your plan, don't get discouraged, seek other opinions too if you believe in your idea. They could be wrong/have a bad day, or even just misunderstood you.
- Tip 4: Talk to healthcare workers early on! They can provide the insight you are missing. This may seem intuitive but was lacking a little for us.
- Tip 5: With being online miscommunications are bound to happen, do not hold grudges and try to work things out sooner than later. Try not to get frustrated that communication is failing.
- Tip 6: Lab access is vital! Try to get in as early as possible. Do as many experiments as you possibly can (within reason of budget). This provides such vital information.
- Tip 7: Be willing to part with ideas. You may get attached to your idea, or your part, but it may not be helpful in the long run. It's okay to not take it to the end, instead focus your energy elsewhere.

#### Valuable tips in the document:

- Having (regular) progress meetings and getting feedback from mentors, etc.
- Social activities are helpful for bonding with the team members and this is in turn helpful for better communication (especially relevant with online work)
- "Recognize everyone's contribution, accept and respect differences"

## 2. Silver

### 2.1 Reposts on social media;

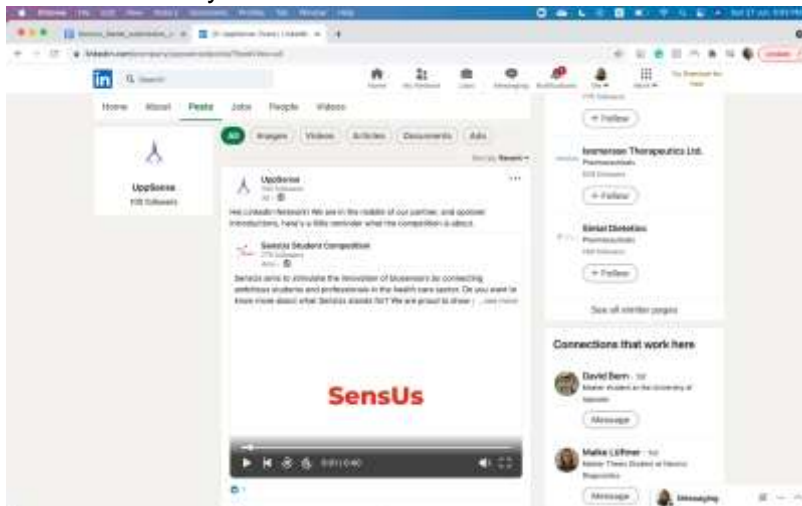
Post 1: 15th May 2021



Post 2: 23rd May 2021

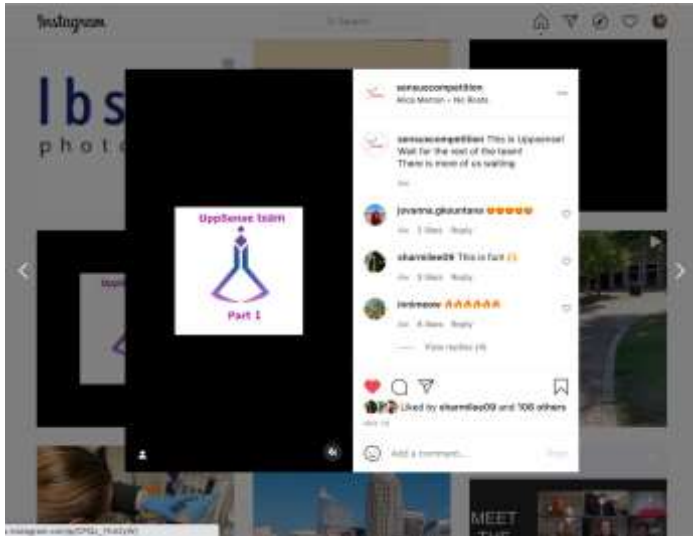


Post 3: 24th May 2021

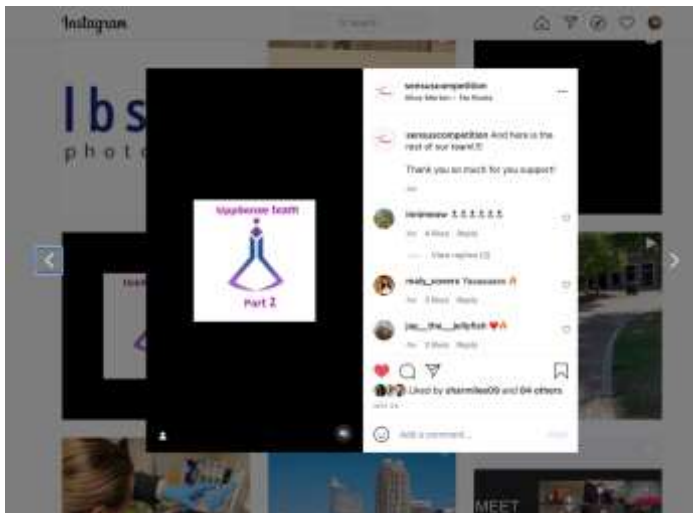


Want to add our instagram takeover medal criteria here too. Our 5 posts with the vlog.  
Vlog: [https://www.instagram.com/p/CPgVy8-gooj/?utm\\_source=ig\\_web\\_copy\\_link](https://www.instagram.com/p/CPgVy8-gooj/?utm_source=ig_web_copy_link)

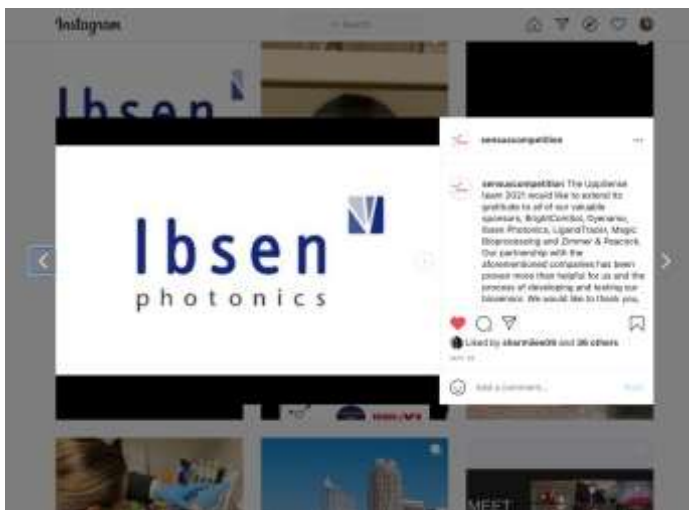
Post 1



Post 2

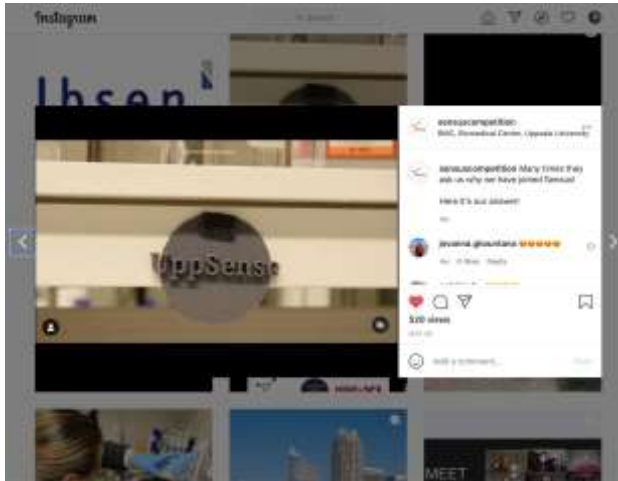


Post 3

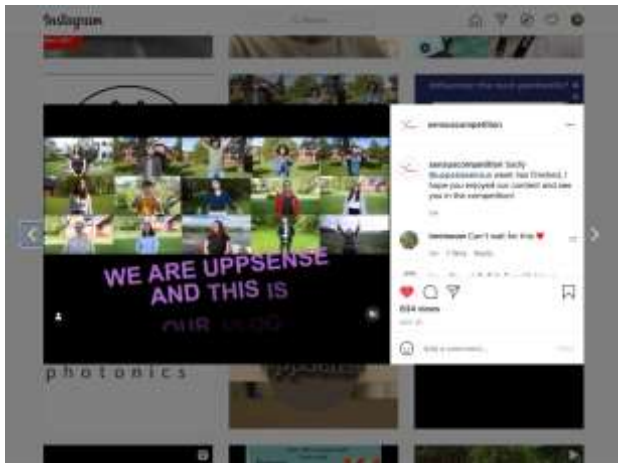




Post 4



Post 5



### 3. Gold

3.1 Post on SensUs Connect every month;

March 22 - 03 - 2021

SensUs Connect

Search for other people

Welcome Live feed People Groups Partners News Events Opportunities Status

Share a new...  
Check in Event

Filter by: All items

**S Shantika Nandi**  
in your feed

And the wait is over! We are all set to introduce our new team members representing Uppsala University, Sweden, for SensUs Student Competition 2021 coming from 11 different countries. With a new year comes new challenges. This time we are working on constructing a biosensor for rapid detection and quantification of influenza A virus. Stay connected!

1 Like

William Verbrater  
Student at the Eindhoven University of Technology

Catharina Moura  
Student at FGV

Arash Barshan

Wira Teatiana

SensUs Student Competition 2021  
SensUs 2021 Influenza

05:04 PM  
22-03-2021

April 08 - 04 - 2021

SensUs Connect

Search for other people

Welcome Live feed People Groups Partners News Events Opportunities Status

Share a new...  
Check in Event

**S Shantika Nandi**  
in your feed

Hello everyone!  
We have been reporting. The media we read lately make an interesting point on the ultimate cause behind the low-level spread about respiratory viruses: it COVID-19 and H1N1 influenza. A comparative study was conducted to understand the mechanism of action on long-term safety and how effective treatment could be achieved. Hope you all enjoy reading it. Here is the link: https://www.sensusconnect.com/2021/04/08/08042021

Presentence skills workshop  
Tuesday, Apr 13, 2021 2:00 PM

Shantika Nandi  
Catharina Moura  
Arash Barshan  
Wira Teatiana

SensUs Student Competition 2021  
SensUs 2021 Influenza

Outbreak Management 2.0

03:42 PM  
08-04-2021

April 18 - 04 - 2021

SensUs Connect

Search for other people

Welcome | Live feed | People | Groups | Partners | News | Events | Opportunities | Settings

### Post from Sharmilee Nandi

**Sharmilee Nandi**  
a few seconds ago

Hello all

UppSense is back with an interesting news article. Well, have you ever considered if flu vaccine would be effective enough to lower the rate of COVID? Interestingly, yes! That is by 24%. To know more about the specifics, kindly follow the link.

Hope you enjoy reading.

Stay healthy! Stay connected!<https://www.medicalnewstoday.com/articles/can-getting-a-flu-shot-help-prevent-covid-19?r=0>



Flu shot may help protect against COVID-19  
MEDICALNEWSTODAY.COM

A study finds lower SARS-CoV-2 infection rates among people who received flu shots. These people were also less likely to be hospitalized with...

Like Comment

Write a comment

11:37 PM  
18-04-2021

May 09 - 05 - 2021

SensUs Connect

Search for people

Welcome | Live feed | People | Groups | Partners | News | Events | Opportunities | Settings

**Sharmilee Nandi**  
a few seconds ago

Hi everyone!

We are back with another interesting issue this month. The New York Times recently published a news article regarding the statistics of flu cases in the United States. Here, they have showcased a tremendous amount of decrease in the number of affected individuals as an outcome of the implemented restrictions due to the outbreak of COVID-19. A total of 2000 cases were recorded by September 2020, which was estimated to be a lot lower than the usual i.e. around 200,000 cases. Scientists say that the pandemic, caused due to corona virus had suppressed flu cases. Owing to lack of the exposure, the immunity against influenza virus might possibly drop making the population more susceptible. This leads to a scope of 'bimodality' in the upcoming years.

Hope you liked reading the article.

[Read more](#)



The Flu Waned During Covid. What Will Its Return Look Like?  
NYTIMES.COM

There have been fewer influenza cases in the United States this flu season than in any on record. About 2,300 cases have been recorded since late...

Like Comment

Filter by: All items

**Lal-Jin G. Jyi Leong**  
Deputy's System of Medicine at HUI Labuan

**Emily Knochert**

#### Upcoming events

- Presentation skills workshop**  
Tuesday, May 11, 2021 2:00 PM  
[Find out more](#)
- "Little Friday" (on a Thursday)!**  
Thursday, May 13, 2021 5:30 PM  
[Find out more](#)
- SensUs 2021 - Partner Session II**  
Wednesday, May 26, 2021 1:30 PM  
[Find out more](#)

[See more events](#)

04:35 PM  
09-05-2021

May 21 - 05 - 2021

The screenshot shows the SensUs Connect website interface. At the top, there is a navigation bar with the logo and a search bar. Below the navigation bar, there are tabs for 'Welcome', 'Live feed', 'People', 'Organ', 'Partners', 'News', 'Events', 'Opportunities', and 'Startup'. The main content area features a 'Share a new...' section with a 'Check in' button and a post by Sharlene Nandi. The post text reads: 'Hello everyone! This is UpdateSense team. And we are back this month with an interesting article. Do you know how Spanish flu ended? Apparently, there was no herd immunity acquired by the people. So, in course of time pandemic flu transformed to seasonal flu. Considering the current scenario, it is expected that SARS-2 might face the same fate. Check out the link to know more about it. Hope you had a nice time reading. Stay healthy! Stay Connected! A journey from pandemic to endemic.' Below the text is an image of a person in a blue protective suit holding a blue bag. The caption for the image is 'How the Covid pandemic ends: Scientists look to the past to see the future'. To the right of the main post, there is a 'Recently active users' list with profiles for Sharlene Nandi, Menaka Langanathar, Mythajya Sankaranarayanan, Yilin Jia, and Alexandra Prokhorova. Below that is an 'Upcoming events' section with two events: 'SensUs 2021 - Partner Session II' on Wednesday, May 26, 2021, 1:30 PM, and 'Development history of...' on Thursday, May 27, 2021, 6:00 PM. The Windows taskbar at the bottom shows the time as 07:32 PM on 21-05-2021.

June 07 - 06 - 2021

The screenshot shows the SensUs Connect website interface. At the top, there is a navigation bar with the logo and a search bar. Below the navigation bar, there are tabs for 'Welcome', 'Live feed', 'People', 'Organ', 'Partners', 'News', 'Events', 'Opportunities', and 'Startup'. The main content area features a 'Write a post' section with a text input field. Below that is a 'Share a new...' section with a 'Check in' button and a post by Sharlene Nandi. The post text reads: 'Hello everyone! We hope that all of you are doing well. This week UpdateSense is back with another fascinating article, interestingly, on 20 May this year, the first human case for the H10N8 avian influenza virus has been reported in Zhengzhou, China. This variant was noted to have lower pathogenicity when compared to H7N1, which requires its entrance to lead to a pandemic. For more information, click in the link below. Stay well! Stay connected! How important is it to develop an influenza surveillance with access to sequencing to human populations?'. Below the text is an image of a petri dish containing a culture of yellow and white bacterial colonies. To the right of the main post, there is a 'Recently active users' list with profiles for Sharlene Nandi, Menaka Langanathar, Mythajya Sankaranarayanan, Yilin Jia, and Alexandra Prokhorova. Below that is an 'Upcoming events' section with one event: 'Speed meeting' on Thursday, June 17, 2021, 4:00 PM. The Windows taskbar at the bottom shows the time as 01:06 PM on 07-06-2021.

June 22 - 06 - 2021

The screenshot shows the SensUs Connect website interface. At the top, there is a navigation bar with the logo and a search box. Below the navigation bar, there are tabs for Home, Live feed, Posts, Groups, Partners, News, Events, Opportunities, and Settings. The main content area features a post by Sharmita Banerjee. The post includes a link to an article and a large image of the Enochian logo, which consists of a stylized wave above the word "Enochian". The text of the post discusses the company's research into a novel antibody technology for COVID-19 and influenza. To the right of the main post, there is a sidebar with a list of users and a section titled "Upcoming events" which lists two events: "SensuIC Presentation" and "FreeCAD Workshop".

July 08 - 07- 2021

The screenshot shows the SensUs Connect website interface. At the top, there is a navigation bar with the logo and a search box. Below the navigation bar, there are tabs for Home, Live feed, Posts, Groups, Partners, News, Events, Opportunities, and Settings. The main content area features a post by Sharmita Banerjee. The post includes a link to an article from The Guardian and a large image of a person receiving a vaccine. The text of the post discusses the challenges of living with COVID-19 and the importance of staying healthy and connected. To the right of the main post, there is a sidebar with a list of users and a section titled "Upcoming events" which lists two events: "SensuIC Presentation" and "FreeCAD Workshop".

# August

## 9th August 2021

The screenshot shows the SensUs Connect homepage. The top navigation bar includes 'Welcome', 'Live feed', 'People', 'Groups', 'Partners', 'News', 'Events', 'Opportunities', and 'Startups'. A search bar is located in the top right. The main content area features a 'Share a new...' section with a post by Sharmilee Nandi, dated 'a few seconds ago'. The post text reads: 'Hello everyone! Hope you're doing well. We are back again with another interesting article. Based on a recent investigation, it was noted that influenza vaccine can fight against COVID-19. Read the article below to get an insight of a case study. Stay healthy! Stay connected! [Influenza vaccine developing immunity against COVID19](#)'. Below the text is an image of a person in a hijab receiving a vaccine. The article title is 'Influenza Vaccine Protects Against Severe COVID-19' from CONTAGIONLIVE.COM. To the right, there is a list of profile pictures for Kamalesh Kumer Kanakaraj, Daniyar Kizatov, Viktoria Langwallner, and Edith Odemaris López. Below this is an 'Upcoming events' section with two events: 'Sensors for Influenza' on Monday, August 30, 2021 at 2:00 PM, and 'SensUs Innovation Days' on Friday, September 3, 2021 at 1:00 PM. The Windows taskbar at the bottom shows the date as 09-08-2021 and the time as 11:37 PM.

## 25th August 2021

The screenshot shows the SensUs Connect homepage on August 25th, 2021. The layout is similar to the previous screenshot. The 'Share a new...' section features a post by Sharmilee Nandi, dated 'a few seconds ago'. The post text reads: 'Hello everyone! We are team UppSense from Sweden. Today we would like to share an interesting article on the scope of twindemic as predicted by the US healthcare system. So, is influenza going to be back again? [Read more](#). Stay safe! Stay connected!'. Below the text is an image of a hand in a white glove holding a syringe. The article title is 'Experts renew warnings of "twindemic" as US enters flu season amid rising COVID-19 cases: "We face the same threat this year"' from USATODAY.COM. To the right, the 'Upcoming events' section lists 'Sensors for Influenza' on Monday, August 30, 2021 at 2:00 PM, and 'SensUs Innovation Days' on Friday, September 3, 2021 at 1:00 PM. The Windows taskbar at the bottom shows the date as 25-08-2021 and the time as 11:51 PM. A cookie consent banner is visible at the bottom of the page with options for 'Customize settings', 'Accept required cookies only', and 'Accept all cookies'.

22 - 07 - 2021



### 3.2 World-value;

The ongoing Covid-19 pandemic will be remembered by all of us. Everyone was affected by the outbreak of Sars-CoV-2 one way or another. Many people have lost their lives, or the lives of family members to the disease, others lost their livelihood, and most of us spent months and months in isolation. It was, and still is, a time of worry, loss, and waiting. We waited in lines to go to the supermarket, we waited to get tested for the virus and waited to receive the results. We waited for better times. It's been over a year since it all started, and we are still waiting. But, despite it all, this pandemic is also a chance. Since the outbreak in late 2019, new technologies and products for molecular testing have been introduced in record times and we were all witnessing how one vaccine after another got developed and approved for use. Huge investments, both governmental and private, are being made to accelerate the development of innovative tools and medicines [1]. It is still uncertain when and how this pandemic will end. However, what is certain is that there will be other viruses coming along that will not only ruin everyone's vacation plans, but could have more detrimental effects than Covid-19. Influenza viruses and other acute respiratory viruses have led to devastating epidemics and pandemics in the past and are a likely candidate to do so in the future [2]. To prevent another worldwide outbreak, it is of utmost importance to have advanced and reliable technologies at hand that detect the virus reliably and in a short time. All of us in team UppSense recognized the extraordinary significance of the project and decided to join the journey.

While developing our biosensor, we have been making use of experiences made during the Covid-19 pandemic. Conventional virus detection, for example via RT-PCR, takes time, is invasive, and expensive. With this in mind, we were aiming on building a rapid, reliable, resource-efficient, and most of all, affordable biosensor to tackle the next pandemic. Interviews with healthcare professionals and laboratory staff, in- and outside of Sweden, gave us a sense on what is crucial to consider when building an innovative biosensor. We have been receiving great support from many sides and have been reassured that we are on the right track. For us it was important to be able to give peace of mind not only to patients, but also healthcare staff. We wanted to make sure that we could produce a biosensor that is able to take a sample in a way that was not invasive, but still provided highly reliable results, within the shortest time possible.

Our journey is soon coming to an end, and we are excited to not only present our biosensor to the public, but also see what the other teams have accomplished during the past couple of months. In this spirit: "Let's compete for quality of life" [3]!

[1] Bender, R (2021). "BioNTech's Covid-19 Vaccine Success Sparks Investments in German Biotech". *Wall Street Journal*, May 10, 2021. Last accessed on July 28, 2021. Online available at:

<https://www.wsj.com/articles/biontechs-covid-19-vaccine-success-sparks-investments-in-germanbiotech-11620644401>

[2] Neumann, G., Noda, T., & Kawaoka, Y. (2009). Emergence and pandemic potential of swine-origin H1N1 influenza virus. *Nature*, 459 (7249), 931-939.

[3] <https://www.sensus.org/>