

Dear partner of the Da Vinci Satellite project,

The first months of the year have flown by at lightning speed, causing some delay since our most recent partner update. The team has been very busy and we have some updates to give you.

### General

We would like to begin this partner update with thanking all our partners who were able to come to our stakeholder meeting, both in person and online. It was very valuable to hear all your feedback on our progress up till now and we are working hard to process all your questions and comments into action points for the team.

From this feedback however, we have made the decision to no longer aim for a launch date in October 2023. This decision was not a fun one to make, but we believe that it is needed to guarantee a functioning satellite that will live up to our requirements and expectations. Currently we are looking with our technical team and partners what our next launch opportunity could be, especially wishing to pinpoint an opportunity for which we can be certain to actually make it.



Furthermore, the technical team has passed a very major milestone: the vibration test of the dice payload. We were welcomed by NLR to do the test on the 16th of January and we have been very happy with the result. The focus of the technical team for the coming months will be on integrating and testing the components and software for the satellite to prepare for full assembly.

The education team has finished their testing at the international primary school for now and is continuing to work on the masterclasses. They have also produced a first print of the computer science book! They are currently collecting feedback on it so their work can continue to improve it.

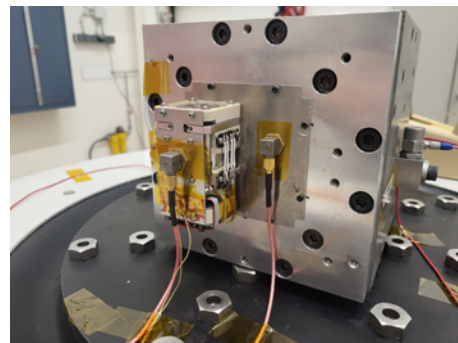
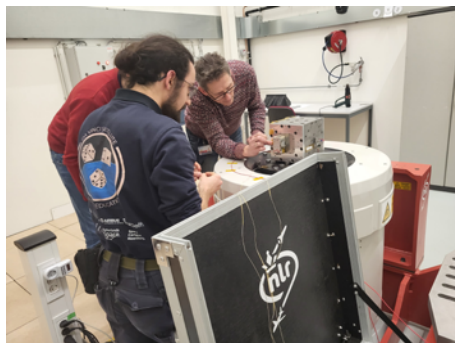
On the less serious side, on the 27th of February we had an integration drink with the entire team, which was a lot of fun. It was nice to see everyone in a relaxed context and blow off some steam with a few drinks! This also gave us an opportunity to make some new team pictures!



### **Technical Development update**

Following the stakeholder meeting, we obtained valuable feedback regarding the technical development of the satellite. Most relevantly, we concluded, together with the stakeholders, that the focus of the software team should be shifted towards driver development, rather than the operational modes as a whole. The rationale for this rises from the fact that the various operational modes have taken longer to implement in code than expected, while the code hasn't been proven to work with individual components. As such, the operational modes will be left aside for now, and the focus will be on making the code work from the OBC to the components individually. This is part of the flatbed testing phase.

As mentioned in last partner update, the dice payload underwent vibration testing at NLR in January. We are glad to announce that the payload retained full functionality throughout and at the end of the tests! There were some small discrepancies in the sine sweep, possibly indicating that some component shifted around or got unattached. A full disassembly and inspection is currently underway, and the results will be presented in the next partner update. The (provisional) passing of the vibration test is a great milestone, as the dice payload is an in-house designed subsystem with moving parts. The focus of the technical team of the Da Vinci Satellite project will now lie on finalizing the physical design of the CubeSat and on ensuring the correct functionality of the fundamentals of the software.



Efforts will go into verifying the (physical) requirements, completing the wiring harness and the data-board and possibly redoing some connectors on the solar panels, with the help of the TU Delft. On the software side, the focus will lie on driver development. Following that phase, efforts will be shifted to operational mode development once again.



## **Finance update**

Over the past month, the finance team has continued its efforts to acquire partnerships and collect funds for the project. One very promising collaboration is with the TU Delft University Fund, who will be making sure we can receive donations through their ANBI number. This will enable us to access more funds and streamline the contribution process. Additionally, a private donor made a significant contribution, which brings us a step closer to our goal. Also, a donate button on our website is being developed, such that even more people can contribute to our project!

## **External Relations update**

On the 2nd of February, we visited Space Expo along with members of the board of the VSV 'Leonardo da Vinci' (the Aerospace Engineering Study Association at the TU Delft) as well as the VSV Space Department, known as the Ruimtevaart Dispuut (RVD). The occasion was the festive new year's kick off of Space Campus. At the event we took the chance to strengthen our connections with current partners as well as talked to many other contenders within the Dutch space sector we were not previously affiliated with, it was a truly fruitful and enjoyable event!



Furthermore, on the 23rd of February the business team attended the NL Space Campus network drink at SBIC Noordwijk. The event consisted of multiple pitches, one of which was about Da Vinci Satellite. With the people we have met we are working to increase the visibility of Da Vinci Satellite, such as articles in magazines and contacting journalists. As such, we were recently featured in the newsletter of NL Space Campus! Work on expanding the DVS project across borders, thus exploring the possibility of internationalising our educational modules, is also in full force. We are especially focussed on figuring out how we will be able to translate the modules in a dependable manner.

## **Education update**

The education team has finished their testing at the international primary school for now and is continuing to work on the masterclasses. They have also produced a first print of the computer science book! They are currently collecting feedback on it so their work can continue to improve it.

## **Primary School**

As told in the previous update the co-creation lessons at the international primary school in Delft have come to an end – but, what an ending! The kids performed a theatre play in groups, each group showcasing the lifecycle of a specific type of star. Some stars ending with a sizzle, forming a planetary

nebula, and others ending with a bang, forming a neutron star or an all-engulfing black hole! The kids described the lifecycle of the stars with sounds, movement and colours. The team unanimously agrees that these plays were very moving and look back on a very interesting and informative series of lesson. This was truly something we will never forget!



Next, the primary school team will continue working on the Earth-observation subject for the Space Around You module. This subject will focus on climate change and on how to monitor the health of our home planet: Earth.

### High School

As was promised in the previous update, this update will include a deep-dive into the Mars master-class! This masterclass subject has recently been finalised and contains loads of interesting and new teaching methods. This masterclass includes historical, atmospheric and geographic information on Mars, a game wherein the students create their own Mars habitat, designing a Mars mission and ends with some programming assignments.

In the historical part of the masterclass, the students generate their own factsheet by matching a set of cards. Each student has a card with either an answer or a question, and each student needs to find the corresponding card. This allows for some bonding at the start of the masterclass! Then, students explore geological features of Mars using the [3D Mars Model](#) and present their findings to the class. The game wherein the students create their own habitat on Mars has been named the 'Habitability game'. This is an actual boardgame with 3d-printed game pieces where the students will develop a habitat on Mars. How many settlers can survive the harsh conditions. And if they survive, how is their well-being? In the Mars mission section, students will learn about orbiters and rovers and the steps of a rover descent to the Mars surface. Furthermore, they will learn about the different power generation methods for rovers and the possible scientific goals of Mars exploration missions. Finally, the students will present their finding in a short presentation.

The masterclass ends with programming assignments directly related to Mars missions. This allows the students to actually use data from Mars and to get some hands-on experience with coding!

Next up: the masterclass about life on other planets!

## Public Relations update

Within the last two months, the Public Relations team has continued creating and maintaining visibility by adhering to a schedule of consistent social media updates on our Instagram and LinkedIn.

Secondly, the team has laid its focus upon updating our teams promotional and organisational material. This includes, for example, updating the DVS team organogram to fit our current structure as well as updating the PowerPoint and document templates. Furthermore, we have created a generalised media/press kit, which is a set of promotional material that provides a comprehensive summary of our team, project, contact information as well as photos and logos of the Da Vinci Satellite project. We hope this will help simplify and streamline the process of supplying information on our project to publicity outlets. If this is something you are also interested in having, make sure to let us know!

On top of that, we have also been able to order our updated team merchandise as shown below including team polos, sweaters and thermos bottles and created new posters for recruitment purposes.



Lastly we have designed and ordered a new type of business card from the company Mobilo. These are plastic reusable cards that can be scanned with your phone instead of having to hand out unsustainable paper cards at events.

## Launch update

From the stakeholder meeting, it was concluded we have to delay our launch date. For determining a new date, we will do this in close communication and cooperation with our partners, especially our launch provider to not only know when the next launch opportunities are, but also to make sure we can actually make the date which we choose.

Over the previous weeks, the launch team has also come close to confirming a definite location for our thank-you event/launch party. Furthermore, we recently spent an evening together with the team to take some big steps in establishing the guest list and take some larger decisions for the general organisational matters concerning the event. Right now we are mostly focused on arranging the largest decisions such as the location, guest list and budget. We've also started brainstorming for the smaller details, but the bulk of the preparations will be taking place further in the future.

**We hope to have informed you about our progress over the last few months. If you have any questions, are interested in collaborating or would you like to get involved personally, feel free to get in touch!**