Corinth

3D in the classroom

Report from the national
pilot in Moldova

1. About the project

Corinth is **a digital learning tool** that offers a library of **more than 1,500 scientifically validated 3D models for schools**. As part of a national pilot, the license was offered to 330 Moldovan schools, of which 224 joined from the very beginning and others joined gradually. By the end of the project, we had 325 unique schools interested in using the app.

STEAM project

The next group of schools that joined the project were those from the **STEAM project** coordinated by Tekwill Chisinau. These 25 schools were selected as part of the TiES (Tekwill in Every School) programme and the aim was to **support their digital transformation**. These schools were selected as exceptional in terms of results (teacher awards, student awards, etc.) and were **expected to become role-models** for digital transformation and autonomous learning encouragement through the support of the program. In addition to results and leadership skills, priority was given to lyceums and schools in rural areas in the selection process to ensure **equitable participation** across regions.

The project in figures

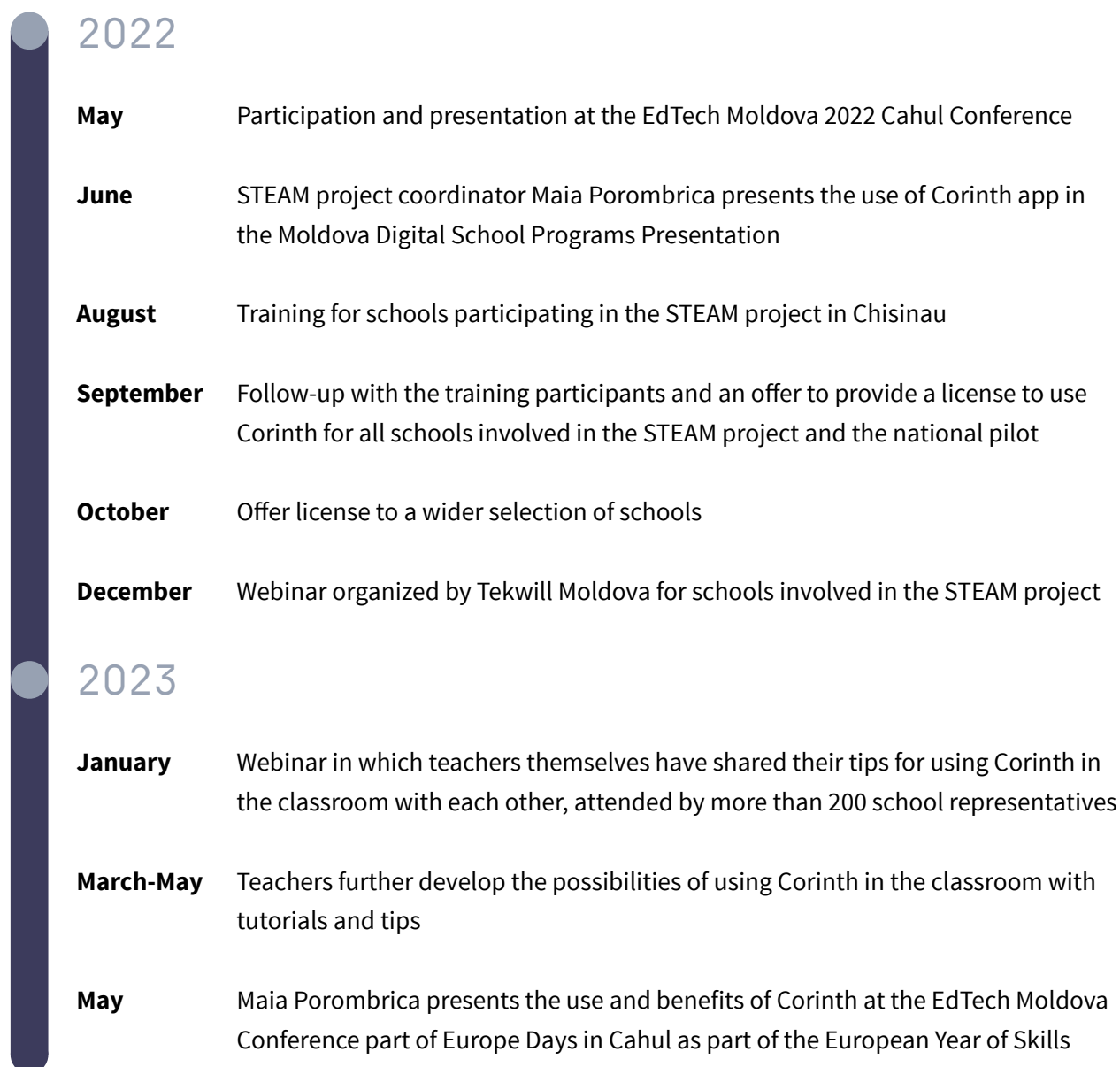| 12,943	908	325	84 %
views of 3D models in Moldavan classrooms	registered users	schools have expressed interest in the application	teachers would recommend the app to their school colleagues

2. Project timeline and key activities

The pilot project lasted for one year. For the duration, schools were provided with a free licence and **support in the form of face-to-face and online training** and other activities aimed at **supporting teachers in using digital tools** to improve the quality of teaching across subjects and levels.

2022

May	Participation and presentation at the EdTech Moldova 2022 Cahul Conference
June	STEAM project coordinator Maia Porombrica presents the use of Corinth app in the Moldova Digital School Programs Presentation
August	Training for schools participating in the STEAM project in Chisinau
September	Follow-up with the training participants and an offer to provide a license to use Corinth for all schools involved in the STEAM project and the national pilot
October	Offer license to a wider selection of schools
December	Webinar organized by Tekwill Moldova for schools involved in the STEAM project

2023

January	Webinar in which teachers themselves have shared their tips for using Corinth in the classroom with each other, attended by more than 200 school representatives
March-May	Teachers further develop the possibilities of using Corinth in the classroom with tutorials and tips
May	Maia Porombrica presents the use and benefits of Corinth at the EdTech Moldova Conference part of Europe Days in Cahul as part of the European Year of Skills

Schools that participated in the events and webinars **received free licences** and **professional development** from Corinth. This was provided bilingually. Teachers rated the development activities very positively - **9 out of 10 participants** would recommend them to their colleagues.

3. About Corinth

Corinth is both **online and desktop application** and powerful resource for teachers. With its library of **scientifically verified 3D models** it supports effective learning and understanding of abstract or otherwise hard-to-explain topics.

1,600+ science models and lessons

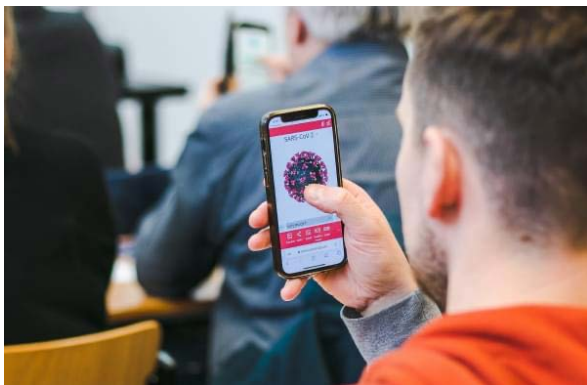An extensive library of 3D models, learning materials, 360° experiences and microscopic zooms

Scientifically verified content

Verified by experts from the world's top universities

Interactivity and effective learning

Use of models in learning from frontal teaching to student teamwork

Selected features of Corinth

View the 3D model on any device
You only need a regular browser to open the library. You can view, rotate and work with more than 1,500 3D models directly in it.

Easy sharing with students
Thanks to easy QR code generation, you can quickly share a model with your students so they can work with it on their own device.

Augmented reality

Display the 3D model in your environment. All you need is your phone's camera.
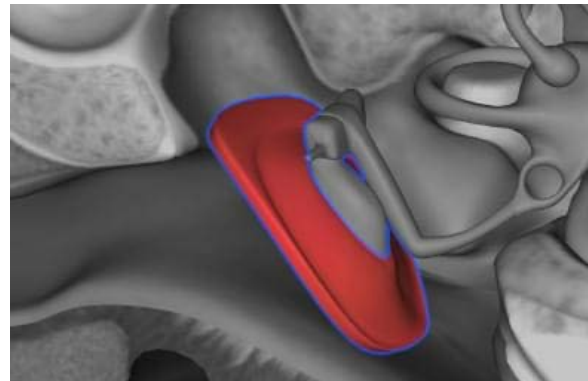
Highlight parts of the model

Just click on a part or its name in the list to highlight a specific detail.

Virtual reality

Give your pupils immersive experiences, send them into space, under the sea or let them explore the details of individual models.

Multilingual view

You can view model descriptions in multiple languages at the same time - for example, Romanian and Latin. In total, you have a choice of 15 languages, including English or Ukrainian.
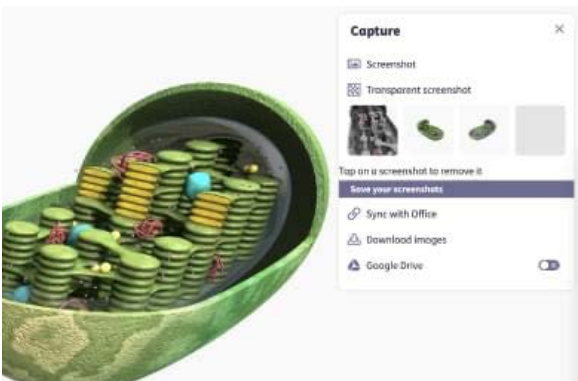
Screenshots

Save images of your model in a specific position and easily insert them into your presentations or materials. You can also easily sync images from the app to your cloud storage.
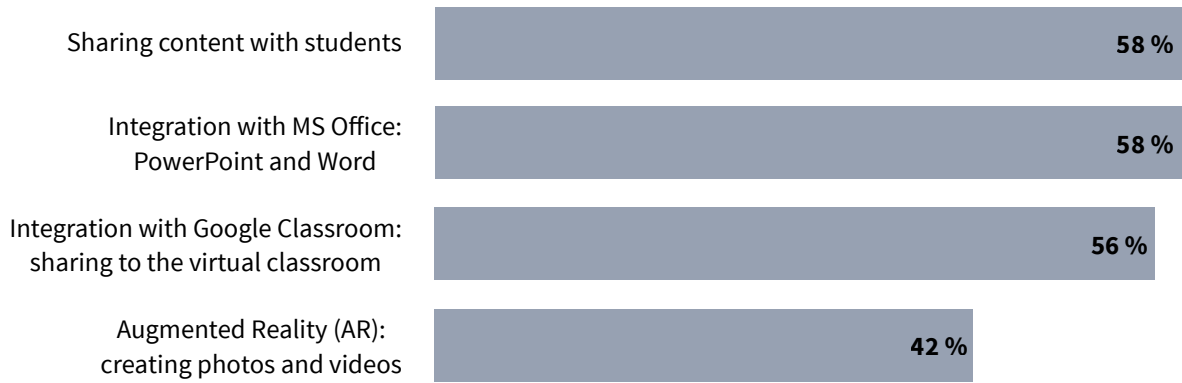

Notes

The app includes scientifically validated descriptions of each model. These allow students to work with the models independently.

Functions that Moldovan teachers appreciated the most

What are the biggest advantages of the app?

Feature	Percentage
Sharing content with students	58 %
Integration with MS Office: PowerPoint and Word	58 %
Integration with Google Classroom: sharing to the virtual classroom	56 %
Augmented Reality (AR): creating photos and videos	42 %

These features were identified as the most beneficial by teachers in the end-of-pilot survey. They could select multiple answers from a list of all the key features of the app.

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The adoption of such cutting-edge educational tools could position Moldovan students at the forefront of digital literacy and equip them with essential skills for success in an increasingly technology-driven world.

– Tatiana Alexeev, Project Manager of Tekwill in Every School

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One of the biggest benefits of the app is the inclusion of students in the learning process and increased interactivity. This ultimately means more motivation for both students and us teachers.

– One of the participants

4. The use of Corinth by schools in Moldova

12,943
views of 3D models in
Moldavan classrooms

908
registered users

84 %
teachers would
recommend the app
to their colleagues

79.5 %
teachers use the app
regularly or
occassionnaly

According to the questionnaire survey conducted at the end of the pilot **25 %** of the participating teachers **use the Corinth app regularly** and other **54.5 %** at least occasionally.

Do you use Corinth?

Yes, I use it occasionally.
54.5 %

No, I haven't use it yet,
but I plan to.
18.2 %

Yes, I use it regularly.
25 %

No, I need someone to show me
how to do it again.
2.3 %
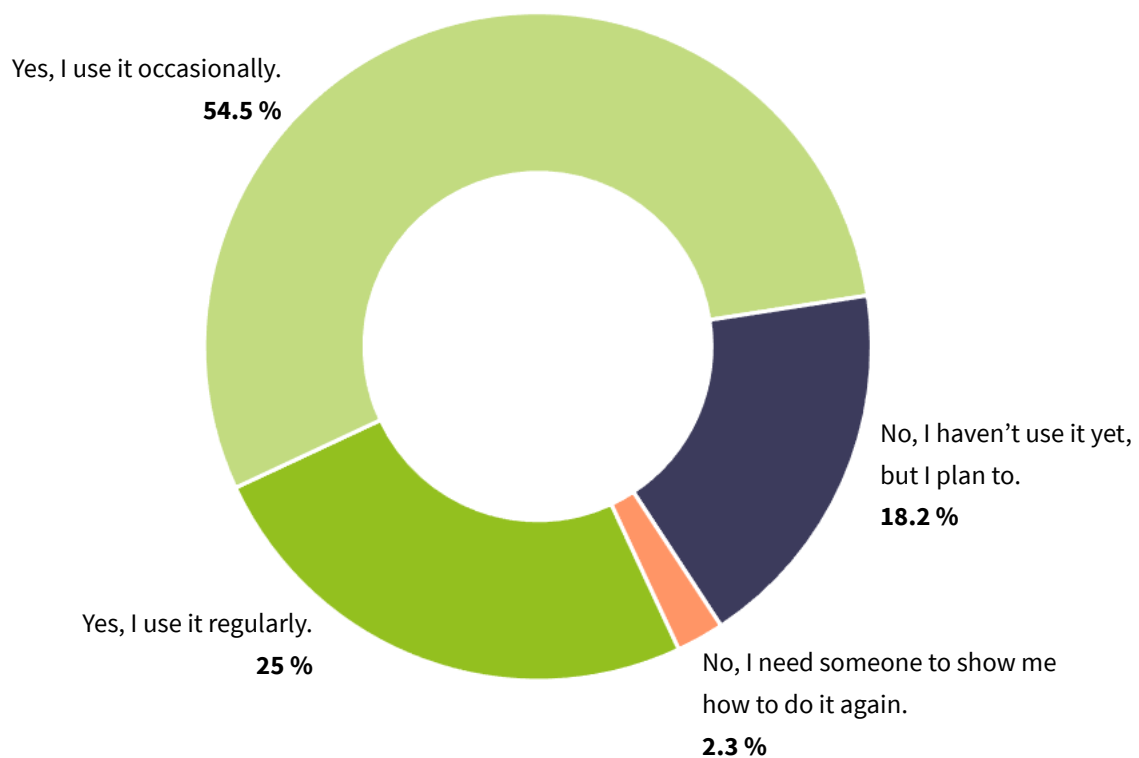
A **key indicator of teacher satisfaction** with the app is **NPS (Net Promoter Score)**. Thus, the proportion of users who would recommend the app further. For mainstream services and web apps, it is typically between 20% and 30%. In the case of the Corinth app, 84.1% of teachers responded positively in the final survey.

Would you reccomend the Corinth app to other teachers?

Promoters		**84.1 %**
Passives		**15.9 %**
Detactors		**0%**

Use cases in the classroom
Maia Porombrica, Liceul Teoretic "Meșterul Manole"

Using the example of rotating solids, she shows how to link models from Corinth to the Genially app. The application is used by teachers to **create presentations**, and the fact that Corinth is **easy to link with tools that teachers already use** regularly in their classrooms helps its easy adaptation. She shared with other teachers tricks for generating an iframe and inserting a model so that they can use all of its features directly in a presentation. This allows them to highlight parts of the example or rotate it freely.
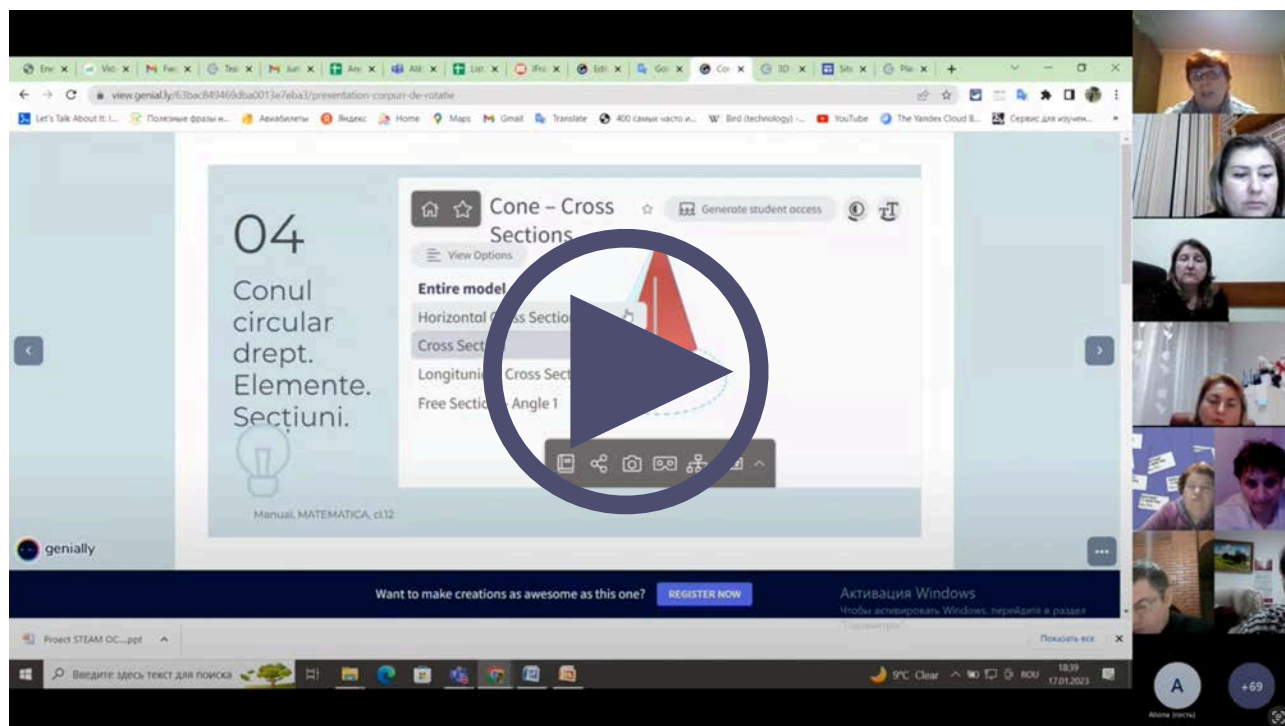
## Alina Dima, IPLT Mihail Sadoveanu

Using the example of a geography subject - the movement of lithospheric plates or ocean currents - she shows how she uses models in her presentations, but also how she simply **creates quizzes** in which students match concepts to specific parts of the models. In this way, she can use the 3D models not only to illustrate and supplement her explanations, but also as **a tool for actively practising and evaluating** her students' knowledge and understanding.
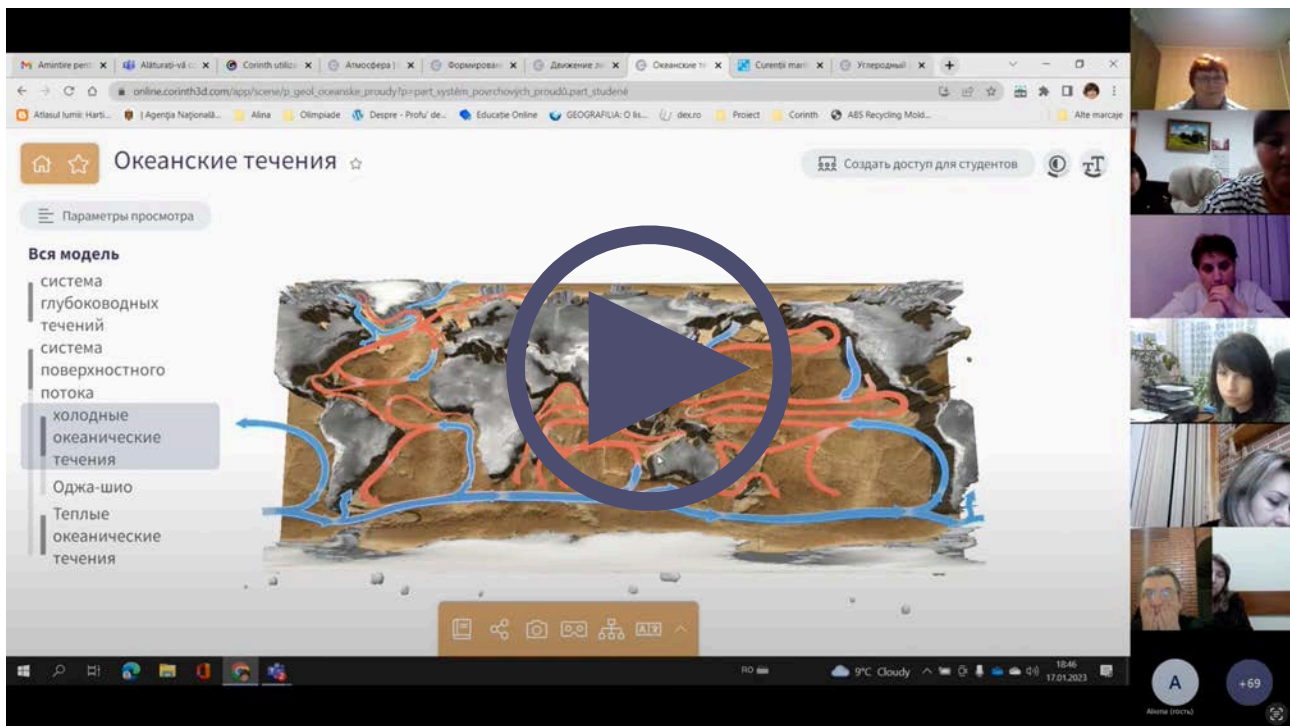
Valentina Galescu, IP Liceul Teoretic „Petre Ștefănucă"

Another Moldovan teacher used 3D models to teach chemistry and biology. She gives several examples of the contexts and activities in which she uses 3D models in her teaching. She also uses **virtual reality** with her students to **demonstrate experiments** that would be too time consuming, costly or dangerous to do in the classroom.

She shows how she shares the models with her students using QR codes or how she uses them in Google Classroom and **in combination with different hardware** - be it VR glasses or interactive whiteboards.
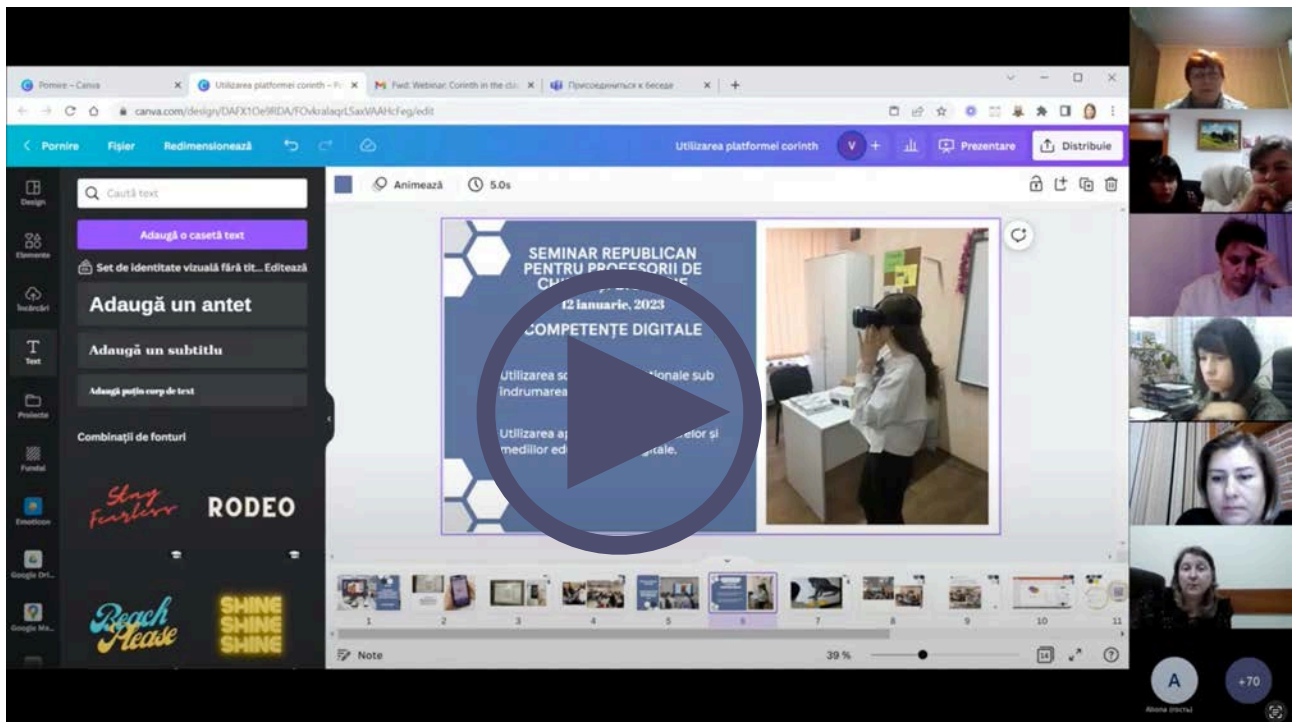
Tatiana Culeva, Ceadîr-Lunga Instituţia Publică Liceul Teoretic "Mihail Guboglo"

Her example proves that 3D models can be used not only in frontal instruction, but can also **put learning in the hands of the students** - literally in many examples.

In addition to the various ways in which models can be shared with students in the classroom, Tatiana demonstrates various activities where 3D models are used to help students themselves **create content**. They use **augmented reality** to explain the topics to their classmates, or to discover often abstract and challenging topics through exploring the models in virtual reality.
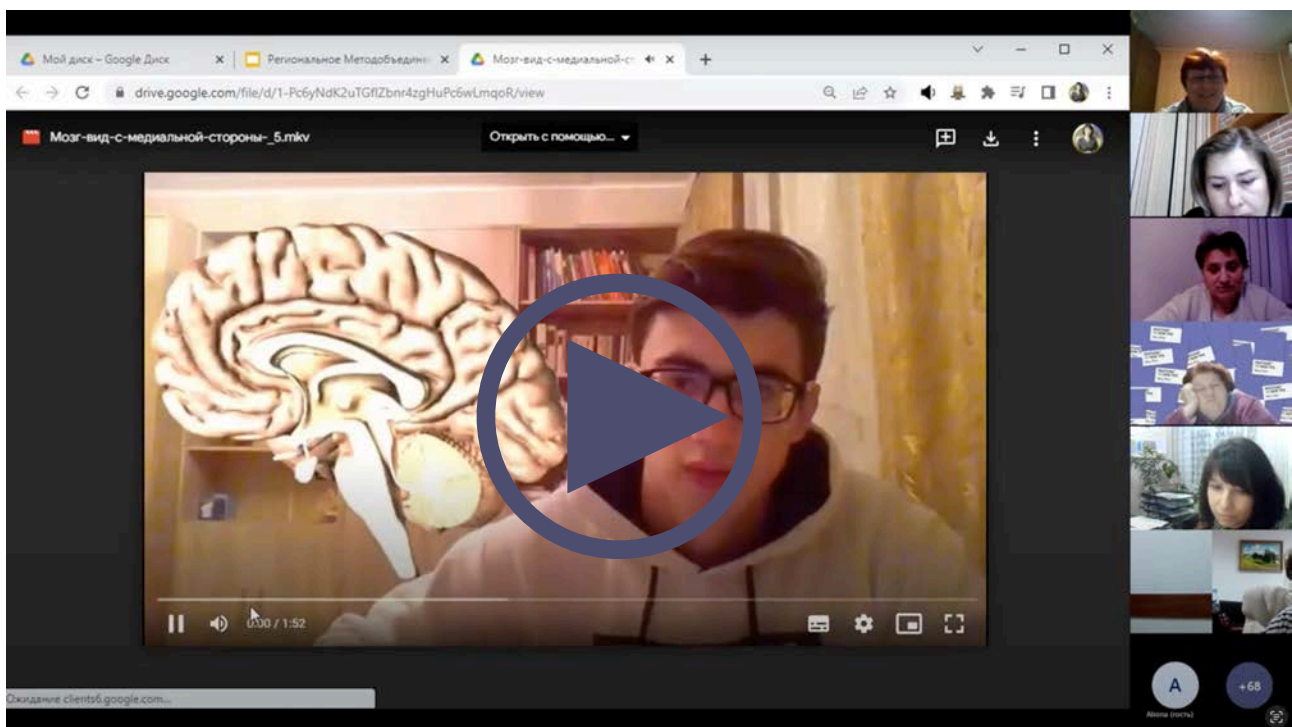
"

Teachers have noticed the students'
interest and engagement in the
learning process, and the use of the
app has contributed to the
development of critical thinking,
problem-solving and collaboration
skills.

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– Maia Porombrica, STEAM Mentor

The biggest challenges noted during the project

Connectivity of individual schools

In some schools, **insufficient internet connectivity** was a barrier to using the app, especially the online version, which provides a range of features and options that the desktop app does not offer. However, even schools that struggled with poor connectivity could use the entire library of all 3D models available in the desktop application.

Communication barriers

Although teachers welcome the app and with it their professional development, it is quite challenging to ensure that all relevant information reaches them directly. It is often necessary, for example, to forward communication from the school management directly to the teaching staff, etc., which **creates friction and delays in communication**. At the same time, it is evident that over time and through the involvement of specific teachers in webinars and other activities, **long-term work with teachers** is possible if the project is sustained over time and actively engages with the teacher community.

The need for a longer period of time for full adaptation

Due to the whole process, activation of licenses, installation in schools or training of teachers, the full benefits of the application are only possible in most schools **after several months**. Even after one year of the pilot project, 18.2% of teachers respond that they are interested in the app and want to use it, but unfortunately they have not yet gotten around to it. At the same time, we can see from the teacher stories (see previous section) that if teachers **have enough time**, they themselves **adopt more advanced features** or link with other tools, which together help them to raise the quality of their teaching.

Full Office 365 license only in some schools

Due to teachers' lack of access to the full versions of Office 365, they could not use the full potential of the application, which offers a link to Office 365 through a dedicated add-on. Although teachers were interested in using these functions, they could not take advantage of it due to the lack of licenses.

5. Conclusion and next steps

The project was **able to verify the interest and potential** for use in Moldovan schools. We see a strong **motivation and competence to adopt digital tools if the teachers have access** to them and if they are given **sufficient support**.

Corinth has proved to be a useful tool that allows teachers to easily advance the level of teaching and to be an example of an efficient use of digital tools. This is not only because of its key features, but also because of its easy integration with other digital tools or hardware that teachers commonly use. Its adaptation can be one **example of good practice of digital transformation in education**. Thanks to the availability of both Romanian and Russian language versions, its **adaptation is possible across other schools and regions**.

Schools involved in the STEAM project have access to the app until the end of 2023, while other schools only have access until the end of the 2022/2023 school year. Securing **further funding for licensing would lead to wider adaptation** among other schools as well as other teachers in schools already involved.

6. Attachements

Summary of the project from Tatiana Alexeev, Project Manager of Tekwill in Every School

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MOLDOVAN ASSOCIATION
OF ICT COMPANIES

In partnership with Corinth Company, during the 2022 - 2023 school year, we organized several informative sessions for educators in the Republic of Moldova about the educational application Corinth 3D. These sessions covered its functionalities and the advantages of using it in education, as well as its integration in the development of STEAM projects in 25 educational institutions across the country, which are currently digital schools. The introduction of STEM projects would have been impossible without the integration of the Corinth 3D application, as it was the only option for visualizing a 3D prototype using AR/VR technology in educational institutions throughout the country. By using Corinth 3D, students have become adept at understanding complex concepts in a visual and interactive manner. A wide range of three-dimensional models, simulations, and virtual experiences from the Corinth 3D application were employed, enabling students to engage in virtual experimentation. For instance, students had the opportunity to explore the molecular structure of chemical substances, the systems of the human body, and more.

As manager of the "Tekwill in Every School" project, I must express my utmost satisfaction with Corinth's remarkable involvement in our project. From the very beginning of our collaboration, their cooperation has been truly exemplary, reflecting their unwavering dedication in the successful implementation of the Corinth 3D application in schools in the Republic of Moldova. Corinth's team has gone above and beyond by organizing quarterly informative seminars, providing valuable guidance and orientation to our teachers on how to effectively utilize the Corinth 3D application and its functionalities. These seminars have empowered our educators with the necessary knowledge and skills to integrate innovative teaching methods into their classrooms. Furthermore, Corinth has been actively engaged in addressing the specific needs and challenges faced by our teaching staff. They have been responsive to our requests, offering timely recommendations and solutions that have significantly enhanced the overall implementation process. Their willingness to understand and adapt to our unique educational context has been instrumental in ensuring a seamless integration of Corinth 3D into our curriculum. As an example of their involvement, during one of the seminars, Corinth's experts showcased various interactive 3D models related to complex scientific concepts. They provided hands-on training to our teachers, allowing them to experience firsthand how to use these models effectively to enhance student understanding. In summary, Corinth's proactive approach, regular informative seminars, and personalized support have proven to be invaluable assets to our project. Their commitment to empowering

our educators and enriching the learning experience through Corinth 3D has undeniably contributed to the project's resounding success.

Corinth 3D app has received exclusively positive feedback from both teachers and students, highlighting its exceptional value in the educational setting. Teachers have shown enthusiastic dedication in thoroughly understanding and integrating all the platform's functionalities into their STEAM project implementation plans. The projects developed by both teachers and students have predominantly revolved around areas such as energy efficiency and ecology, with STEAM prototypes inspired by the Corinth application. One of the most lauded aspects of Corinth 3D is its user-friendly interface and intuitive navigation, allowing teachers to quickly grasp and effectively utilize its diverse functionalities. The platform's versatility has been particularly beneficial in designing and implementing STEAM projects, as it seamlessly integrates into various subject areas and enables cross-disciplinary exploration. Teachers have reported that Corinth 3D has transforming traditional learning materials into dynamic, interactive experiences. The platform's augmented reality feature has captivated students' attention, making complex concepts more accessible and relatable. This heightened level of engagement has led to increased participation and active involvement in classroom activities, contributing to a more conducive learning environment.

In the digital era, education has evolved beyond traditional methods, and the Corinth 3D application offers the opportunity to integrate new, interactive, and diverse teaching and learning approaches in the classroom. This transformative approach has the potential to ignite students' motivation, critical thinking, and problem-solving skills, ultimately leading to improved academic performance and better preparedness for future challenges. Moreover, the Corinth platform's extensive diversity, with over 1000 prototypes and the option to explore multiple disciplines in a unique and captivating manner, adds significant value to the learning experience. Additionally, the adoption of such cutting-edge educational tools could position Moldovan students at the forefront of digital literacy and equip them with essential skills for success in an increasingly technology-driven world.

Tatiana Alexeev,
Project Manager "Tekwill in Every School"

Reference from Maia Porombrica from STEAM project

Corinth 3D was presented to teachers in Moldova as an innovative educational application, which has been used in STEAM projects and the educational process in 25 digital schools in Moldova.

   This app provided students with an interactive and engaging experience in learning science, technology, engineering, art and mathematics (STEAM), and allowed them to "leapfrog" into the education of the future.

Through Corinth 3D, students explored and understood complex concepts visually and interactively. A wide range of three-dimensional models, simulations and virtual experiences from the Corinth 3D application were used, allowing students to experience virtually.
For example, the molecular structure of chemicals, three-dimensional models of cells and other objects and systems were explored.

Feedback on the use of Corinth 3D in digital schools has been generally positive. Teachers have thoroughly learned all the possibilities of the platform and included it in the STEAM project plan. Pupils have been delighted with the exciting way they can learn and the interaction they have with the augmented reality button. Teachers have noticed the students' interest and engagement in the learning process, and the use of the app has contributed to the development of critical thinking, problem-solving and collaboration skills.

The impact that Corinth 3D has had in digital schools in Moldova we will study further when the application in practical situations will be demonstrated. The application has also contributed to increasing students' motivation and engagement in the process of project development and implementation.

The potential that Corinth 3D has for Moldovan schools and education in the future is promising. The app offers an innovative way of integrating technology into the educational process, enhancing the learning experience for students and facilitating a deeper understanding of complex subjects. There is only one stumbling block to further implementation: the accessibility of the platform for students and teachers.

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Porombrica Maia
STEAM Mentor

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