# Lithuania CONNECTS

**E**⊡Tech players

Our participants in BETT 2023:

## KTU VRLab





#### Contact person:

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KTU Virtual and Augmented Reality Laboratory (KTU VRLab) conducts research and develops products related to educational technologies in the field of immersive learning involving virtual reality, augmented reality, and haptic technologies.

Since 2014, KTU VRLab has been developing interactive solutions for medical, educational, sports, entertainment, and cultural domains.

Some of the famous entertainment solutions exhibited at various exhibitions include virtual paragliding, rowing, skiing, and marksmanship simulators. Virtual rowing was used by "Samsung Lithuania" company for its product promotion.

Our medical inventions include various virtual reality applications, such as vestibular function disorder detection, deep muscle training, virtual reality exposure therapy, post-stroke rehabilitation, and attention diverting during vaccination.

Finally, our main passion is educational technology. We create simulations, such as the reconstruction of historical battles and events using virtual veality, for museums. Our product "Flight Over the Atlantic" won the World Summit Awards. It blends the existing museum exposition with an educational game.

We redesign the existing two-dimensional educational content for virtual reality in order to add an additional learning dimension and apply kinesthetic learning principles. We conduct research on visual, audio, and haptic stimuli to reinforce learning by enhancing immersion in virtual reality. We try to bring immersive learning resources into formal education and we put a lot of effort into integration of immersive resources into the learning platforms.

We are looking forward to collaborating with EdTech companies in research and product creation. Moreover, we are looking for partners to participate in study or science projects related to immersive educational technologies.







Dinas Vaitkaitis

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The world has invested heavily into the medical simulation training infrastructure in recent years. The demand for practical skills training is increasing, especially in medicine. The Lithuanian University of Health Sciences (LSMU) offers innovative peer-to-peer simulation training programs. With the novel programs for collaborative learning & peer evaluation, simulation facilities and precious equipment can be used 24 hours a day, 7 days a week.

The hybrid training method (HybridLab) was developed at the Crisis Research Centre and the Lithuanian University of Health Science. "HybridLab" is designed to use simulation resources more efficiently and to empower learners to exercise effective small group peer-to-peer simulation training sessions with direct or remote supervision of the instructors, either synchronously or after the video review (asynchronously). This method offers a wellstructured and standardized learning pathway, which encompasses studies on an e-learning platform, peer-to-peer hands-on training sessions in the skill lab or simulation classes using carefully elaborated learning algorithms, direct feedback by peers, and assessment by a remotely working instructor. Mobile technologies and algorithm-driven learning facilitates peer-topeer learning, offers an opportunity to save time and human resources in the simulation centres, creates unique possibilities for learners to explore the benefits of autonomous and self-regulated learning, and develop new feedback and peer assessment techniques as well as leadership qualities. Interactive algorithms used in the learning process guide the novice learners in a step-bystep manner, helping them to create a well-structured mental pathway for decision making and/or execution of the procedure, obviating any possible learning mistakes.

The Lithuanian University of Health Sciences is Lithuania's largest higher education institution specializing in biomedical sciences. Enhancing practical training and simulation opportunities for students is one of the university's strategic objectives. Over 90,000 simulation hours are provided annually.









Natalija Mažeikienė and Judita Kasperiūnienė

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Step into the world of nuclear power and discover the captivating story of Visaginas, Lithuania's atomic town. "Atominis Visaginas" (https://atominisvisaginas.lt/lt/) is the ultimate interactive educational product that offers a fascinating glimpse into the town's past and present. Built in early 70s for workers of the Ignalina Nuclear Power Plant (INPP) that now is under decommissioning, Visaginas has been attracting atomic tourism visitors from all over the world. You'll be amazed to learn that the HBO's hit series "Chernobyl" was actually filmed in Lithuania, including the territory of the INPP, whose physical environment resembles that of the infamous Chernobyl Nuclear Power Plant. With "Atominis Visaginas", you'll embark on a thrilling journey through more than 40 nuclear, cultural, and urban sights and tourist attractions in Visaginas using an interactive Google-based map (https://atominisvisaginas.lt/lt/?v3#Zemelapis). Explore the history of the nuclear industry with an interactive map of nuclear energy and a 3D simulator of a nuclear reactor (https://atominisvisaginas.lt/lt/? v3#Simuliatorius). From bombs and disasters to power plant booms, you'll uncover the evolution of nuclear power and its impact on society. But the ultimate question remains: should we abandon or develop it? What are the alternatives to nuclear power?

Developed by scholars from Vytautas Magnus University (VDU) in Lithuania in collaboration with tourism operators, teachers, artists, and IT product developers, our product is a showcase of how formal and informal education institutions and experts can collaborate to create engaging and informative products that benefit tourists of all ages, including schoolchildren. Our Educational Laboratory (https://atominisvisaginas.lt/lt/?v3#Edukacija) offers teachers invaluable resources, recommendations, descriptions, and assignments on how to incorporate energy and nuclear literacy, as well as nuclear heritage into school curricula using innovative strategies like inquiry-based learning, STEAM education, GIS and StoryMap, debates, digital storytelling, and game-based learning. Additionally, the educational laboratory includes an educational game designed for schoolchildren of all ages, including younger children (http://edukacija.atominisvisaginas.lt/edukaciniai-zaidimai/). The game focuses on promoting environmentally-friendly behaviour and highlights the importance of sustainable living.

Don't miss out on the unique opportunity to experience "Atominis Visaginas" and unlock the mysteries of nuclear power. Please note that the text within the route is currently only available in Lithuanian. Visit us now!









Valentina Dagienė

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TA worldwide demand for computing engineers and software developers is growing enormously. This places a significant task upon education: development of algorithmical, analytical, computational, logical, systematical, and processual cognition should start at primary school or even at kindergarten. This is exactly the aim of "Bebras Challenge", an international initiative promoting computer science and computational thinking among school students of all ages.

The "Bebras Challenge" was established in 2004 by professor Valentina Dagienė of Vilnius University, Lithuania, and it quickly became international, with a dozen countries joining every year (www.bebras.org). A global "Bebras" community of computing educators began to emerge: currently 78 countries are members with over 3 million children yearly. The challenge is organized annually by each member country locally. For running the challenge, countries use different technologies mainly based on online management systems. Each country chooses tasks from the "Bebras" task pool approved by the annually-organized international "Bebras" task workshop.

The core of the "Bebras Challenge" is the tasks. Creating engaging and thought-provoking tasks which cover basic concepts of computer science is challenging. All members develop over 300 tasks every year. This helps to incorporate scientific schools over the world and form a vision of future developments in computing area.

Children and teachers benefit most from this a year-on-year initiative, as all schools and students of all ages (from 6 to 19) can participate. The "Bebras Challenge" is very beneficial to education policy makers and researchers, who work together on methodology of computing and digital technology education. Thanks to this cooperation, a significant international community of teachers and other educators has formed.

The "Bebras Challenge" not only impacts students and teachers in schools, but also shapes the content of computer science education and contributes to the development of educational technologies, new learning platforms and tools.









Henrikas Mykolaitis

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## Why – engineering at school?

- engineering is the main driver of society's sustainable technological progress, and its innovativeness is of critical importance,
- consistent education of innovative engineering professionals must start at school, just like in the case of professionals in arts or sports,
- engineering integrates and adapts all the STEM subjects and assumes an unlimited number of topics for students' research and creative project work from their immediate environment,
- a potential target group: studies show that at least 1/10 of students in grades 7-12 have inclinations towards technical, engineering, and technological (STEM) creativity.

#### Platform FUTURE ENGINEERING

Since 2017, the distance learning platform FUTURE ENGINEERING (FE) of Vilnius Gediminas Technical University (VILNIUS TECH) (FE platform, <a href="https://ateitin.vilniustech.lt">https://ateitin.vilniustech.lt</a>) has been providing free opportunities for students of grades 7-12 from all over the country to carry out integrated project works in the field of engineering and other STEM subjects focused on investigation and practical solutions of real problems from their immediate environment.

#### Activities of the MOODLE-based FE platform include:

- · accessibility to digital learning content and tools,
- contact and remote consultations, coaching, public presentations of completed works, events for professional guidance,
- involvement of teachers and their training,
- administration of the educational process.

### FE activities and results in 2017-2022:

- o 18 (+2 for 2022/2023) topical educational areas;
- o 2,500 (+700) students from all over the country participated;
- o 490 (+200) project works completed;
- o 250 (+80) teachers trained.

Needs for further development of FE: partners would be welcome for the exchange of experience, international projects, and networking in the field of innovative engineering (STEM) education.









Skaistė Lazdauskaitė

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## Mokosi





## Contact person:

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Mokosi.lt is a platform that connects teachers with students for individual or small group lessons.

## On Mokosi.lt:

- Students can choose from all subjects that are taught at schools, filter teachers according to time availability, suitable price, ratings of other students, book a lesson, and have it in an hour. No prearrangements, super flexible, and quick to help.
- Teachers set their own prices for the lesson, manage their timetables, sell any teaching material they have created, organize personal seminars for other teachers, and automatically send certificates for the participants.
- Parents save time on logistics (no driving to the tutor's place), stay focused at work, and relaxed at home (no need to worry about homework or upcoming tests or exams)- Mokosi.lt tutors always keep parents informed of the progress of their child.

The tutoring platform "Mokosi" is currently launched in Lithuania and Romania.







**Dinas Geisleris** 

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Introducing "Learnsharp": the digital tool designed to offer personalized feedback and guidance, allowing students to learn at their own pace and maximize their potential, without sacrificing valuable teaching time. While "Learnsharp" mainly focuses on text-based assessments, it also offers a variety of other assessment forms, all within a secured environment that can be used on the student's devices for summative assessment.

Assessment plays a critical role in the learning process by helping students take the next step in their education. Testing is an intervention that shows what students have mastered and what their next step in the learning process is, providing both feedback and feedforward. As this joint vision on testing continues to develop, the demand for instruments that can assist with assessment is growing. The instrument used to control the learning process should allow differentiation, enable professional individuality, and offer the student opportunities to work autonomously, without costing extra teaching time or creating work pressure for the teacher.

"Learnsharp" is the answer to these needs, providing a digital environment that manages both formative and summative learning processes. The tool offers individual feedback and guidance tailored to each student's learning needs, without adding workload or sacrificing teaching time. "Learnsharp" considers testing as a formative action, an active way to manage the learning process by measuring progress without judgment. The evaluation provided by the tool identifies where the student is, what the next steps are, and how the teacher can provide support.









Marius Skarupskas

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STORY BUILDING GAMES is the platform where any story becomes a multiplayer game where participant could change the story line. The system is equipped with the app which allows physical artefacts, miniatures, cards or toys become parts of interactive stories.

#### **DILEMMAS**

In the simulation, students will face different dilemmas and will have to solve social challenges that arise in their environment or happen to them: what to do when someone leaks intimate photos; what to choose: sports, science or newly born love; what challenges a newcomer faces in the class and how he feels, and others situations.

## **Space MATH**

An asteroid is heading towards the Earth. Teams' goal is to save the Earth. During the missions they will encounter unexpected twists and turns of the story, but to save the Earth they will need math knowledge and logical thinking, the courage to make drastical decisions and of course the ability to work as a team.

## **REAL HEROES**

Super heroes are well-known mythological characters, historical figures or fictional heroes, with the help of which a student will have to overcome challenges and obstacles. There is a broad spectrum of story lines: from climate change to the inventions which change our lives or solve crazy puzzles of the day.









Tadas Bielskis

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"Three Cubes" start-up is the leading game-based learning organization for K12 in the Baltic States. "Three Cubes" learning platform is used in a daily curriculum as a digital education tool from the 2nd to 12th-grade classes.

## Our game-based lesson packs:

- Science and Social Studies (history, mathematics, economics, geography, biology, etc.)
- Civic Education (partner the British Council Lithuania)
- Climate Change (partner SKEWB Climate)
- Financial Literacy (coming soon!)
- Media Literacy (coming soon!)
- Internet Safety (coming soon!)
  The platform has a flexible monthly or yearly subscription plan for:
- Schools;
- Parents;
- Businesses.

Our immersive game-based lessons are easily scalable – the content can be translated into different languages and used all over the world. Our accomplishments:

- In 2020, we were selected as one of the 16 best digital solutions in Europe (Young Innovators category) in the international World Summit Awards;
- 200+ organizations have used and uses our programs;
- 30,000+ children have gone through our learning platform; 6+ years in Lithuanian market.

Right now, we are piloting in the U.K. and U.S. markets.





Text similarity checker powers the study and the research processes. Learn and employ the principles of good academic practice by using OXSICO.

We believe in innovation and are constantly seeking new technologies to enhance our solution, ensuring the highest quality plagiarism prevention for both students and researchers.

## The Widest Language Support

OXSICO is fully multilingual, supporting 129 different languages. Our algorithms work perfectly with a variety of writing systems, including Greek, Latin, Arabic, Aramaic, Cyrillic, Georgian, Armenian, Brahmic family scripts, Ge'ez script, Chinese characters and derivatives (including Japanese, Korean, Vietnamese), and Hebrew.

## **Extended Scoring**

In addition to a similarity score, we analyse and provide scores for:

- Paraphrasing
- Correct quotations
- Improper quotations
- Issues (cheating detection).

#### **Cheating Technology Detection**

We employ various cheat-detection techniques to prevent the possibility of cheating, including:

- Detection of letters from different language scripts
- Inserting pictures instead of text
- Rudimentary characters resulting from copying and pasting
- Contract cheating.

#### **MANAGE YOUR PROCESSES**

## Delegate Your Responsibilities

At OXSICO, you can create a flexible structure of three academic units, seven roles, and permissions. Your lecturers will not need to upload documents themselves. All routines, such as paper uploads, can be delegated directly to students.

## Maintain Personal Databases

You can create and use a personal database with OXSICO. Adding documents to your database enables document-to-document comparisons. With OXSICO, you can be sure that there will be no duplicate documents uploaded within your organization.

#### **Control Limitations**

You can set up different limitation settings for more in-depth control of your users. Divide and split rights between branches or departments, as well as set the upload limit for different users.

## Data Protection

We follow all international data privacy protocols, including FERPA, COPPA, and GDPR regulations. Your institution's data is securely stored and processed in your region.