Authentic-STEM

Universität Siegen

pilot study

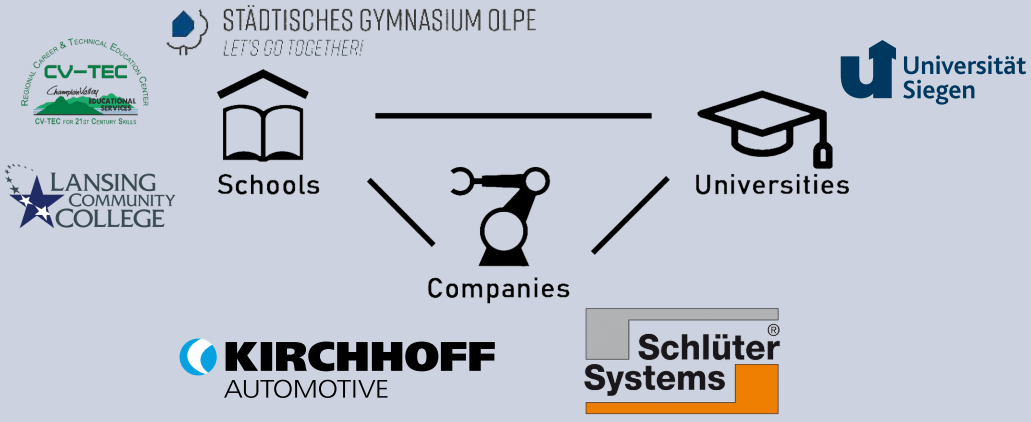
Dear Ladies and Gentlemen,

the pilot study to the project Authentic-STEM had its climax on Friday June 3rd, 2022 with the "forum of innovation" and we are amazed and so grateful for all the support that the project was met with from the beginning. To celebrate the completion of the pilot we want to take a look back at the beginnings of the project, take a moment to appreciate the hard work of the students involved in the project and finally take a look forward to the exiting next steps and possibilities that await us.

looking back

The idea behind the project Authentic-STEM arose from wanting to give young people the opportunity to work on substantial and authentic mathematical problems from companies (e.g. modelling, optimization, big data, product design, etc.) in intercultural project teams with students both from Germany and the US. Students should not only get the chance to see how they can apply their school knowledge in a real-world work experience but also to develop competencies in digital and intercultural communication and problem solving.

For the pilot study we, members of the mathematics education institute at the University of Siegen, identified - together with the companies Schlüter® Systems KG and Kirchhoff Automotive - problems for solver teams to work on. One team, consisting of students from Lansing Community College, MI, USA and Städtisches Gymnasium Olpe, Germany worked together on the optimization of defect protocols and training of new workers on weld cells for Kirchhoff Automotive. The other team with students from CV-TEC Mineville, NY, USA and Städtisches Gymnasium Olpe, Germany worked on reducing manual labor while increasing productivity through automation of a manufacturing process for Schlüter® Systems KG.



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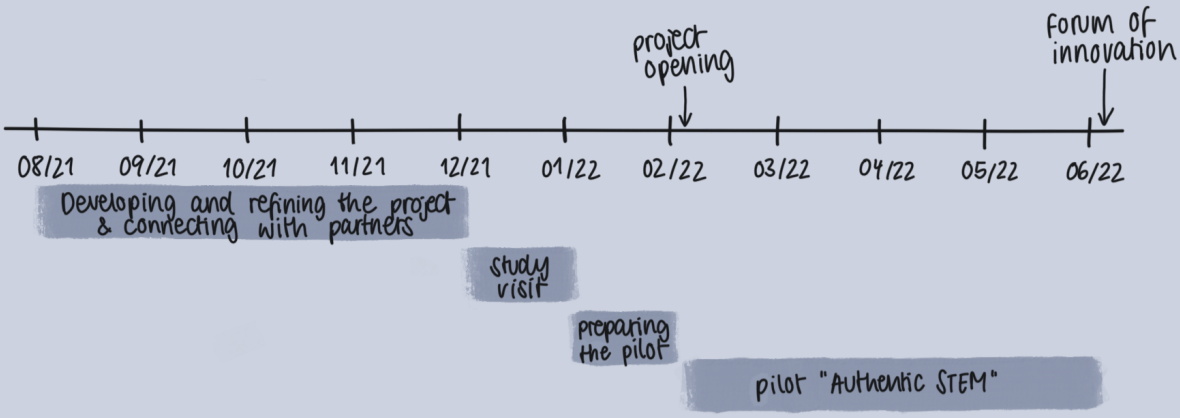

Within the project two memoranda of understanding were signed, one for the support of the project in Germany, between the department of mathematical didactics of the University of Siegen, SCHULEWIRTSCHAFT NRW, the AmerikaHaus e.V. and Jochen Ritter (member of the Landtag NRW) on February 4th 2022. The other memorandum for this purpose was signed on the American side between the department of mathematical didactics of the University of Siegen, the North Country Workforce Partnership, Inc. & North Country Workforce Development Board the Champlain Valley Educational Services, Schluter® Systems and the North Country Chamber of Commerce on April 4th 2022.

forum of innovation

After working on the problems for around four months, the students presented their solutions on Friday, June 3rd in the "Forum of innovation" to the companies and everyone interested in the project. The students took the audience on a journey through their work process with all challenges they faced and overcame and reflected on their learning process during the time of the project, where they were taken out of their comfort zones and learned to collaborate globally. Both groups impressed and inspired the audience with their presentation and their reflections on the past few months.

thank you

Thank you to all our partners for the great cooperation, to the companies Kirchhoff Automotive and Schlüter® Systems, the schools involved in the project - CV-TEC Mineville, Eaton RESA Lansing, Lansing Community College and Städtisches Gymnasium Olpe – along with the North Country Workforce Development Board and the North Country Workforce Partnership, Inc. We also thank all of our supporters, especially the North Country Chamber of Commerce, SCHULEWIRTSCHAFT NRW and the AmerikaHaus e.V. as well as our supporters from politics. We are also very grateful for the funding of the pilot by the general consulate Düsseldorf.

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looking forward

Following the „Forum of innovation“ a short scientific evaluation phase will be held, which will document the thoughts of all people involved in the project and thereby identify aspects that were especially successful or especially challenging. The results will help us to revise the five-year plan and implement it, as soon as the long-term financing is secured.
According to the five-year plan 250 students in solver teams will have the opportunity to work together with 85 companies. The implementation of the plan will be complemented by a scientifically based Mentoring Program for the support of the solver teams and the development of a tool-kit to implement the project in additional locations.

We are looking forward to continue this project with your support and interest and the experience co-creation through the exchange across the Atlantic!

your Authentic - STEM team

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