

## Silicon Vilstal Ideas Workshop (Ideenwerkstatt)



Example of a stamp which has been manufactured by a lasercutting firm according to a child's drawing



3D printers used in a pop-up workshop



Simple creative robots



A workshop scene

March 2021

### **What is it about?**

Our "Ideas Workshop" offers digital learning and creative experience opportunities for children, young people and adults. The network around Silicon Vilstal aims at promoting STEM (German abbreviation is MINT) education, creative activity, and social exchange while providing a motivating showcase for other regions. Offerings of the Silicon Vilstal Ideas Workshop are communicated through various communication channels (own channels (social media, website, newsletter), schools, municipalities, local media) and are carried out together with educational partners. The required infrastructure is mostly based on resources from participation partners. This network of partners, mainly medium-sized companies, supports the Silicon Vilstal Ideas Workshop with materials, production capacities, expert time and access to rooms.

**Start:**

Silicon Vilstal, the Ideas Workshop and the network have emerged from the annual Experience Festival which was first held in 2016. The pilot of the Ideas workshop was in 2018, then in 2019 monthly Ideas Workshop activities were started.

**Motivation and goals:**

The Ideas Workshop is about building important extracurricular opportunities in a rural region. Through age-appropriate application, we want to generate interest in digital technologies and contribute to the promotion of several competences. In the medium and long-term development, we would like to cover more and more other topics of the STEM fields in addition to the topics of technology and digital. Integral to the educational offering is the promotion of sustainability thinking, particularly with the help of upcycling workshops. Consequently, we also want to arouse interest in local topics, such as in the past with a workshop in which children were able to use modelling clay to create their suggestions for improving their town centre on a very large printed aerial photograph. The Ideas Workshop is also intended to promote a sense of community as well as for the further development of individual interests and potential. Another important aspect is to raise awareness for the conscious usage of technology and media.

Ultimately, young people should be able to embark on their further path of education with self-confidence in the knowledge of their strengths and, if possible, find employment with development potential in local companies. We envision that our past and future work can contribute to the creation of civic initiatives and/or innovative businesses in our nearby area.

**Target group:**

The main target group consists of children and young people from the Geisenhausen and Vilsbiburg area (southern Landshut district, Lower Bavaria). Experience to date has shown that all children and young people are equally well addressed, because the program is somewhat less technology-oriented and more creativity-focussed than typical STEM offerings.

**The basic concept - a "Virtual STEM Network" ("Virtual Makerspace") - is based on the following building blocks:**

- Monthly (later weekly) digital education and Maker activities for children and adolescents without high room costs, usage of pop-up locations or interim uses (perspective: mobile lab)
- Network of trainers on a voluntary or part-time basis and a pool of additional voluntary supporters
- Location partners: Municipalities Vilsbiburg and Geisenhausen, Vilsbiburg high school
- Digital pedagogy partners: e.g. MINT-Forum Bayern, Fab Lab Munich, ...

- Use of already existing production capacities of companies in connection with child-oriented design software; Used are: 3D printers (Dräxlmaier Group (automotive supplier)); laser cutters (Finn Lasergravur (laser engraving)); CNC wood machines (Schreinerei Baier (carpenter)) as well as paper, textile and foil printing (Wallner Werbetechnik (advertising engineering))

-> This approach is "arbitrarily" scalable.

### **Tradition & Digital:**

Over the past four years, Silicon Vilstal has built up proximity and credibility in relation to associations from the field of cultural heritage, e.g. Bayerischer Trachtenverband (Bavarian Association for Traditional Costumes), Historischer Verein e.V. Geisenhausen (= organisation of a museum of local history). These groups are consciously included in the digital education offerings, e.g., when traditional objects or topics are digitally reinvented. Examples are: 3D printing of traditional hairpins, printing fabrics according to historical patterns using software, reviving the traditional card game "Schafkopf" via an app with a user community of over 0.5 million users.

The pop-up Ideas Workshop from 2017 can be seen in a [TV feature](#) starting at 2:15 min. Silicon Vilstal's STEM activities have also so far included, for example, children's makeathons in an elementary school, 3D printing course in a high school, various robotics courses for children and innovation kindergarten activities.

### **Current developments:**

Covid19-related virtual offerings from the Silicon Vilstal Ideas Workshop included a Facebook livestream, a stop-motion film competition, a virtual stamp workshop (children sent their designs to a laser cutter company via photo or scan and received back finished stamps) and the video collage "Stay at your Häuserl." The Silicon Vilstal Ideas Workshop is one of the partners of the nationwide [MINT Alliance](#), an initiative of the German Federal Ministry of Education and Research (BMBF) and the MINT working group of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (KMK). Under the motto "We stay smart!" (Wir bleiben schlau!), one can find a large number of selected offers for online learning.

Together with the Education Region Coordination Office of the City and County of Landshut, Landshut University of Applied Sciences, the German-Russian community centre Landshut "DOM" and MINT Forum Bayern e.V., Silicon Vilstal is currently applying for funding for a STEM cluster in the Landshut region.

A new additional format is the "Silicon Vilstal Cultural Ideas Workshop". The project includes eleven four-hour creative STEM workshops for 40 children each, ages 8 to 16, accompanying the school year starting in spring 2021. These are novel because of the collaboration with artists and the inclusion of regional cultural traditions. The

children produce valuable results that they can ideally also use in their everyday lives. Depending on the Corona situation, the workshops are online, hybrid or physical. Among others, funds were granted by the Kulturfonds Bildung (Culture fund for education) of the Free State of Bavaria (50% funding quota). Its funding principles are creativity, activation of the participants in order to achieve sustainable learning success, and supraregionality, or at least supralocality.

Silicon Vilstal received funding from the [German Foundation for Commitment and Volunteering](#) (DSEE) under the programme Gemeinsam Wirken in Zeiten von Corona (Working together in times of Corona). This made it possible to purchase several tablets, a 3D printer and a laser cutter for our Ideas Workshop. Now, Silicon Vilstal has some own equipment which it can also lend to other local initiatives. The DSEE is a foundation under public law and a joint project of the Ministry of Family Affairs, the Ministry of the Interior and the Ministry of Agriculture.

In January 2021, an advisory board (Fachbeirat) has been created for the Silicon Vilstal Ideas Workshop. It supports us in particular in the further development and hopefully regional and nationwide roll-out of our "Virtual Makerspace" as a digital platform. The targeted medium-term development consists of a) a larger number of participating companies and b) the development of an online platform's beta version which minimises the effort of the individual companies. The advisory board includes the STEM expert Prof. Johannes Strobel (STEM Excellence Award winner of the International Society for Technology in Education (ISTE), i.a.), Franziska Schmid (founder and managing director of [Junge Tüftler gGmbH](#) from Berlin, are active in the [Futurium](#) there), Birgit Kahler (co-founder and board member of [FabLab München e.V.](#)), Dr.- Ing. Veronika Märkl (head of the [ceramics school in Landshut](#)) and Alfred Kuttenlochner (master craftsman of the [Landshut district craftsmen's association](#)).