



# Education, innovation and prototyping

Ljubljana is revitalising its industrial heritage by pioneering an innovative interdisciplinary production space and cooperation platform. With its focus on 3D techniques in the field of design, architecture and visual arts, RogLab is enabling users to learn new skills and create innovative prototypes. The city administration benefits by testing the model's potential in the age of digital manufacturing.

Research suggested that we shouldn't simply turn the old Rog factory into artistic residences as planned but create a new organisational model promoting interdisciplinary working and the sharing of knowledge and resources where the challenges of contemporary society could be better tackled.

#### Meta Štular, head of RogLab, Museum and Galleries of Ljubljana

After phasing out much of its industrial activity, Ljubljana wanted to give new meaning to one of its most iconic buildings, the Rog factory, while preserving the city's industrial tradition. To guide its regeneration plans, the city undertook an investigation to identify the best way forward in the emerging era of decentralised, digital industrial production. It decided to create a fresh organisational model bringing together different sectors and stakeholders in a jointly-used manufacturing space to share knowledge and ideas and create novel products.

The city reformulated its vision for the vast Rog factory, placing greater emphasis on shared space and technologies and new forms of management. In the first instance, it decided to pilot a small scale version: RogLab. RogLab is dedicated to the visual arts, architecture and design as part of the city's systematic use of development projects to empower creatives in different disciplines. Based in a 30m<sup>2</sup> shipping container situated between the Ljubljanica river and the Rog factory, RogLab's remit was to be a creative hub for education, innovation and production.

# Rapid prototyping

RogLab, launched in 2012, is led by the municipality and the Museum and Galleries of Ljubljana. Created with €80,000 funding from the European Second Chance project, RogLab receives €50,000 a year from the city and earns around €4,000 from membership fees and education courses. It is trialling a non-hierarchical style of management unusual in Slovenia to encourage the desired informal, welcoming and open environment. The hub's everyday operation is managed by an interdisciplinary team of three, and freelancers with relevant skills are brought in to work as mentors on specific projects.

cities in action

November 2018

where: Ljubljana, Slovenia

what: innovation when: 2012 - ongoing

At RogLab's heart is a fabrication laboratory (fab lab) with 3D printing, computer-controlled milling and laser cutting equipment and services for rapid prototyping. Wrapped around these facilities are programmes designed to stimulate the use of 3D technologies, enable interdisciplinary innovation-oriented creativity and bolster connections between creative activities and business. In terms of the projects it wants to support, RogLab's focus is on those addressing urban architectural and design challenges with an emphasis on social and environmental responsibility.

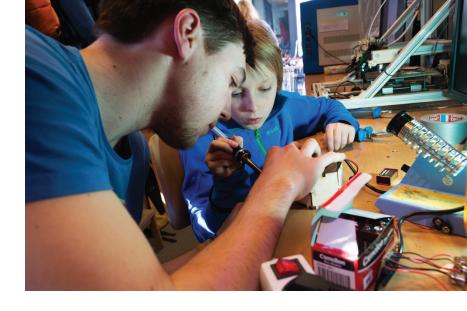
RogLab is a role model for how things should be done in the new era of digital manufacturing and the sharing economy. I have taken my university students there to make tourist souvenirs as part of a project with the Museum of Architecture and Design and also initiated a collaboration between RogLab and a local school after seeing how much my daughter enjoyed the children's Saturday workshop.

Professor Karin Košak, chair of Textile and Fashion Design, university of Ljubljana

## Strong relationships

These goals are made possible by an extensive network of partners established by the RogLab team. There are typically 16 local and 9 international partners involved at any one time, from NGOs to tech companies, and public cultural institutions to university faculties. Together they enable this small lab to support a large number of workshops, projects, open days, art installations, workshops, competitions, education programmes, exhibitions and seminars for its 300 paying members and other users such as students, creative hobbyists and residents.

Reaching out to younger generations is seen as a particular priority. RogLab helps to prepare over 200 children a year for the world that will be waiting for them when they leave school through Saturday creative workshops, school projects and learning content that can be incorporated into existing school programmes. University students studying art, design, engineering and architecture are also found at RogLab, working on individual projects. As are some of their professors who take part in the lab's mentorship programme.



### Ingenious ideas

Two of RogLab's major, long term projects have concentrated on developing prototypes for tackling urban challenges and making life easier for people with physical disabilities. In 'The Factory That Is Making Itself' project, 43 collaborators produced 10 prototypes. These include a foldaway quarterpipe that can bring skateparks to rural settings and a recycled cycling bag that transforms easily from a rucksack into a shoulder bag. The 'Design(Dis)Ability' project, which involved disabled people and partners from seven countries, led to eight prototypes. Among these is an ingenious raincoat that can be easily removed from its bag and pulled over and zipped up by wheelchair users.

Originally meant to be a pilot project, RogLab has taken on a life of its own. In its six years, it has established a decentralised small factory fit for the challenges of our time, connected partners who would never otherwise have come together for creative innovation and reached thousands of users. It has overcome what the team cites as a key challenge - ensuring an encouraging and supportive environment - by seeking out technical staff and mentors with equally strong communication and people skills. It has also addressed the challenge of limited space by developing Fab Box, a mobile fab lab that will spread knowledge and generate ideas in communities around the country.

Becoming a member of FabLabNet, the European network of fab labs, has enabled RogLab to share its experiences, learn from others and continually test new content, partnerships and working methods. This progressive approach is important for the city, which has in mind further developing the RogLab model for incorporation into the Rog Centre for Contemporary Arts, to be housed in the renovated former Rog factory.

