

Turning one: the Geneva SDG Solution Space

This is a brief history of how the Geneva SDG Solution Space, an innovation hub and learning center for the SDGs, has taken root in the heart of International Geneva. This is also a chance to thank a few of the many people who inspired the creation of this space, on the occasion of its first anniversary.

One thread of this story begins in New York. Starting in 2012, I spent a couple of years teaching at NYU's [Interactive Telecommunications Programme \(ITP\)](#). This is an interdisciplinary Master at the Tisch School of the Arts that helps creators learn about technology, and technologists develop their creativity.

Physically, ITP is an entire floor that students and teachers share, constantly repurposing it for their needs, very much like the stage of a theatre. You can take a [virtual tour of ITP](#) to see what I mean.

The importance of Yin

ITP is sometimes compared to MIT Media Lab, with which it shares a similar pioneering reputation. But as spaces go, the two could hardly be more different.

MIT Media Lab is all sleek metal and glass, cool and Cartesian. ITP is warm wood floors and red brick walls, with a central area that the students refer to as 'the womb', leading organically to workshops and classrooms. I often contrast the two places by saying that ITP is the Yin to MIT Media Lab's Yang. There's a deeper significance to this comparison of feminine and masculine traits than meets the eye.

MIT Media Lab was co-founded by Nicholas Negroponte, a man whose grand techno-utopian visions helped power the lab to international fame. The founder of ITP, [Red Burns](#), was a woman who wanted to tackle social issues by repurposing low-cost technologies in powerful and often subversive ways.

Though Red was already in poor health when I first arrived at ITP – she passed away in 2013 at the age of 88 - I was fortunate enough to speak with her on several occasions about how the ITP space had evolved over the 30 years since she started directing the programme.

One of the stories Red told was how, when given the opportunity to increase the office space on the ITP floor, she instead reduced it, and turned corridors in the space into shared space for working on projects and displaying their prototypes. The result was the kind of nurturing space students and teachers want to stay in.

Another lesson Red shared, and ITP embodied, was the importance of not just focusing on the latest technologies. ITP mixes sewing machines and paper-folding with microcontrollers and code-writing, celebrating the marriage of technology and creativity in all its forms. The point is not the tool, it's what you do with it.

Riding the hype wave

ITP is by no means the only place that has inspired the SDG Solution Space. There are many other creative spaces around the world – and even in Geneva - that have provided inspiration: the Centre for Research on Interdisciplinarity (CRI) in Paris, the Shenzhen Open Innovation Lab (SZOIL), the Lifelong Kindergarten at MIT Media Lab, the Institute of Making (IoM) at University College London, CERN's IdeaSquare and the Innovation Centre at the Geneva University Hospital (HUG). These places have, in turn, been influenced by global trends, such as the maker movement and fab labs.

Such trends in science and technology – and I've been involved in a few – usually tend to follow a well-documented [hype wave](#), where a concept is at first new, being developed by a few visionaries, then grows rapidly in visibility, usually due to a self-reinforcing combination of herd effect and savvy marketing. Eventually, such hype leads to unmet expectations, disappointment, frustration, criticism and a precipitous drop in popularity, as the herds move off in search of fresh pastures.

But usually, there is a kernel of innovation that remains, leading to a long-term stabilization of the field at a more sustainable level, with some of the much-anticipated benefits of the hype coming years after interest in the field peaked, and often leading to another hype cycle when they do. The recent renaissance of artificial intelligence is a case in point. And so are the Sustainable Development Goals or SDGs.

Several people were key in alerting me to this oncoming hype wave, well before it neared the shore. One was Rosy Mondardini, an erstwhile colleague at CERN when I had worked there in the early naughts on another hype wave called Grid computing – itself replaced by the subsequent and much bigger cloud computing wave. After my time at CERN, Rosy and I went different ways. I followed my partner's career to China, where I ended up teaching at Tsinghua University, China's leading university. Rosy went to work at the World Economic Forum (WEF) in Geneva.

When I moved back to Geneva in 2014, after several years in Beijing and then New York, we got back in touch, and Rosy told me how everyone at the WEF was buzzing about the SDGs, and how these 17 goals, with their hundreds of targets and

indicators carefully crafted to be as inclusive as possible of all nations, would help revive another faded hype wave, that of the Millennium Development Goals or MDGs.

As it happened, the SDGs gave me a unifying concept around which to continue developing an interdisciplinary lab I had launched while still at CERN, today called [Citizen Cyberlab](#). This lab brings together CERN, the UN Institute for Training and Research and the University of Geneva in a partnership to explore ways of using digital technologies to boost the venerable tradition of 'citizen science' in a new era of online crowdsourcing.

Building a team and a network

Thanks to the support of mentors from Citizen Cyberlab's founding institutions, I was invited by University of Geneva to relaunch Citizen Cyberlab in 2014. I made rethinking public participation for the SDGs a new mission for the lab. Rosy was so enthusiastic that she joined the burgeoning team I was setting up for this at Campus Biotech. She now coordinates the online education programme, called Open Seventeen, associated with the Solution Space.

Several other young researchers have joined, too. One of these is Jose Luis Fernandez Marquez, a postdoc who is passionate about open source technologies and their impact on science as well as on society. Jose now runs the Accelerator programme associated with the Solution Space. Another is Thomas Maillart, another postdoc freshly back from a postdoc in Silicon Valley, determined to inject some of the hackathon-fuelled spirit of innovation that he had encountered in the Bay Area into the stuffy atmosphere of old-world Geneva. He now manages the Solution Space on a daily basis, and has helped to spin off from it the Open Geneva hackathon festival.

A key moment that made all this possible came in January 2016 at the World Economic Forum in Davos. After running a successful event dedicated to crowdsourcing for sustainable development with our Rector, the Director General of CERN and the Executive Director of UNITAR, I was contacted by an old colleague on the delegation from Tsinghua University, who were in Davos with their President at the time. Inspired in part by Jack Ma, who had recently been made a Special Advisor to the SDGs, they wanted to meet with our University management team to explore ways of collaborating on the SDGs, together with the many international organizations in Geneva.

With characteristic enthusiasm, our Rector Yves Flückiger made sure this chance meeting with his counterpart turned into a major initiative for the SDGs, by

convincing a Geneva-based foundation with deep pockets to help us kick-start a comprehensive education programme for the SDGs. The concept was clear: use International Geneva as a source of challenges and mentors for a novel and comprehensive challenge-based learning programme for the SDGs. Use China as a model – for better or for worse – of how the developing world needed to innovate in order to achieve sustainable development.

The resulting [Geneva Tsinghua Initiative](#) (GTI), as it is called, was officially launched in 2017, again at Davos, and has taken off like a rocket. A two-month SDG Summer School with 24 students has been established, as has an initial SDG Master programme on both campuses – Geneva and Tsinghua. This autumn, the Master will become a Dual degree – the first of its kind for University of Geneva with a foreign university, accepting up to 60 students on both campuses.

The choice of location for the SDG Solution Space is essential. It is right in the heart of International Geneva, within walking distance of the offices of dozens of UN agencies, international organizations and NGOs. This enables us to collaborate and indeed share the space with many like-minded people working in these organizations as well as with them. Reos Partners are one outstanding example of this new spirit of collaboration, inspired by SDG 17, connecting silos of expertise to address challenges that transcend them.

On the shoulders of giants

One of the biggest inspirations for the SDG Solution Space, and the Geneva Tsinghua Initiative that currently fuels it in students and resources, comes from Geneva's past. It is Jean Piaget, a pioneer in the field of child developmental psychology, and University of Geneva professor for over 50 years, who was a fervent advocate for rethinking traditional models of education. One of his oft-quoted (and [misquoted](#)) sayings is:

“The principal goal of education is to create men and women who are capable of doing new things, not simply of repeating what other generations have done—men and women who are creative, inventive, and discoverers.”

What is significant about this thought, as it applies to the sort of challenge-based learning that we are promoting in the SDG Solution Space, is that its origins are not just 50 years old. The concept of learning-by-doing can be traced back to Plato at least. Indeed, as Piaget would have been the first to point out, it is how children learn about the world around them in the first place.

While much of what happens in schools and universities today still resembles the sort of classroom-based lecturing that Piaget was railing against, with its emphasis on rote learning and exams, change is in the air. One reason is digital technologies are posing an existential challenge to conventional education institutions. MOOCs were just the first of what will surely be several hype waves. And no doubt challenge-based learning, which has its roots in previous waves of more participative and interactive learning formats, will prove to be another such wave.

These waves are gradually altering the shape of higher education, and to some extent its purpose, too. This is a slow process. But there is one reason, that the SDGs bring into focus, why we should need to redouble our efforts. For the planet, time is running out. We need to find solutions, fast. Another quote attributed to Piaget captures this well:

"Only education is capable of saving our societies from possible collapse, whether violent, or gradual."

It is this call to action that, I hope, will imbue the SDG Solution Space and its denizens in the coming years with a sense of urgency. And while size is not everything, I also hope that the concepts on which my colleagues and I are building this space prove scalable. Already, more ambitious plans are brewing to transform the area around the SDG Solution Space into an innovation park for all of International Geneva. And we are reaching out to other parts of the world, to encourage other SDG Solution Spaces to take root and bloom.

When we started to conceive of the Geneva SDG Solution Space, there were fifteen years to complete the audaciously ambitious goals of the UN's Agenda 2030. Today, as the space celebrates its first anniversary, there are only twelve years to go. It is time to think big. It is time to move fast. Above all, it is time to join forces with like-minded initiatives – like Reos Partners – to ensure that the impact of the SDG Solution Space is felt well beyond its own walls.