

Looking backward 2050-2022

Looking backward from 2050 to the year 2022 investigating a time of the search of the global community for new possibilities of living. Instability in the natural weather cycles lead to ever more severe conditions, pollution and emissions still endanger all life on earth, our food supply becomes more unreliable due to ecological and political disruptions, world population is growing. Societies greatest strength is its ability to adapt.

2022 The Club of Rome's newest estimations „Earth for all - A survival guide for humanity“ suggests that one of the five key points of change for the coming years needs to be “a regenerative, sustainable food system that works within planetary boundaries for all“. A conglomerate of Swiss companies consisting of Migros, one of the largest players in retail trade, Givaudan, biggest supranational manufacturer of scents and flavors, and Bühler, leading technology group in food processing formed a collaborative partnership in the same year with the goal to find new ways for the production of food in the future. Their research is concentrated on the field of precision fermentation, where genetically modified bacteria, yeast and fungi produce various kinds of actual animal proteins, plant starches and fats as well as the extrusion of plant proteins to mimic their animal counterpart. The conventional food production sector is set to be replaced. Psychologically grounded, the products need to be comparably better while generating the actual source products qualities to all expenses, such as looks, taste and smell.

2025 Since the Russian-Ukrainian war started in 2022 the global market for cereals fluctuates dramatically. China and India, two of the world's biggest producers of cereals in the world, take sides with autocratic systems of Russia. Sanctions between the west and the east lead to a changing supply chain for wheat. Biggest western cereal producers, the US and Canada are supplying the shortfall. The UN, the Food and Agriculture Organization, World Health Organization and most of western industrialized nations agree in a Geneva summit on new goals for the food safety of the population. They state that by 2040, the incorporation of more novel foods will be necessary. 30 percent of cereal production is aimed to be produced by alternative methods such as precision fermentation. Traditional meat production is even aimed to be reduced to 40 percent, setting the portion of alt protein to provide the world with animal meat to 60%.

2028 Establishment of CULTURALT as a new joint start up venture by Migros, Givaudan and Bühler and the opening of the first CULTURALT pop up concept store in the ground floor of the Swissmill tower. A variety of goods such as patties and ground meat from alt protein sources as well as newly developed bakery goods with

alternatively produced flour from bacteria are sold here. Swissmill cooperates with their own sustainability program called ZOI, which enables an ecologically friendly and consumer popular approach of full circular production recycling. Part of the low grade grain, husks and other sorted out components of the flour production are handed over to CULTURALT to be used in the composition of the nutrient solution for the fermentation to ultimately feed the microscopic, microbial livestock.

Intensive social media campaigns are starting.

By the Swiss law the products still cannot be labeled as natural and thus belong into the group of novel foods, since there is currently no harmonized legal definition for naturalness of food ingredients.

2031 Conventional animal products are now obligated to be labelled clearly with all the its ecological impacts in a numerical form. Other products are obliged to be meticulously labeled on their sustainable footprint as well, new labels and packages for food are designed on the basis of its new task as highly informational transmitter. T Naturalness mimicking products come in front in the labeling and therefore in line of choice to the evermore informed consumerism. *Scent*, texture and look are now indirectly equal thanks to manufacturing and design of Bühler and Givaudan, which developed a scent-capturing and copying process. An architectonic and physical presence of the collaboration is therefore also decided to be vital part in the mass implementation and public acceptance of the venture.

2038 A pandemic of wheat seeds virus infections spreads across the globe via the highly connected international trading routes. A new mutation of the barley yellow dwarf virus is carried out by a climatically induced plague of aphids, a sap-sucking insect, coloring the plants leaves in various autumnal shades of yellow and red. The infested crops are destined to be burned. Rising temperatures are highly favorable for the propagation of these insects and the reoccurring El Niño weather is discovered to be one of the causes. This climatic phenomenon is unusually strong this year. Leading to various disruptions in the production of food around the globe, due to a wild mix of droughts to excessive rainfalls destroying a great majority of harvests . A group of experts come to the explanation that the earlier sowing to boast exploitation and overused soil because of intensification by consistent land size are major aspects. Combined, these causes lead to a weakening of the plants genome making it more deceptive for deceases. In effect the demand for higher yields due to a growing population decreases the stability of the plant, while genetically modified plants, immune to the virus remain outlawed. Swissmills grain imports reach the highest cost level of the companies history. The board of management is heralding a new path for the companies future, seeking out further non grain focused production options.

2043 A Century drought induced by ever more soaring impacts of the climate change is severely challenging the worlds cereal supply. In some countries the security of supply is not stable enough to reach the global export demand, instead the seed itself is used to feed the population.

This leads to a collapse on the world cereal market, prices for wheat are exploding. The speculation with derivatives on commodities leads to crashes due to the imbalance of sold/bought value and its effective existing value. The UN and FAO and their supporting members make a statement on the 2028 Geneva agreement on the worldwide mass implementation of alternatively produced foods. The marketshare reduction of traditionally produced animal protein is at 65 %, missing the goal by a staggering 25%. The result is a political shift .

Swissmill is therefore adapting and with the help of the CULTURALT venture modifies its production space. Some of the silo chambers of the tower are repurposed as fermentation tanks where the bacteria, yeast and fungi is cultured in a nutritious liquid medium.

2047 A new paper by international researchers show that the acidification of the soil due to extensive agriculture is even higher in organic agriculture than in its conventional counterpart, so is the land use in contrast to a lower crop yield per hectare which is about 80% the yield of conventional farming. Agricultural sprawl is restricted to further align with the aims of the Paris Agreement by its signing members and to boost the search for alternative production methods. The side effect of this is an intensification and densification of farming on the existing lands.

With the knowledge of said news CULTURALT and Swissmill together hold a publicity event to present the progress of their research. Both parties stage an exclusive show of a selection of livestock animals, such as pigs and cows. To represent the urgency of change the animals are transported by helicopter to the top floor outdoor patio of the conference room in the Swissmill tower. A occupation of land when measured by exclusivity per square meter is incomparably. Here the animals enjoy the possibility of inside and outside roaming space. Multiple zookeepers are in charge of the animals all day around, also carrying out the harmless but necessary biopsy process to gather the DNA. The livestock is fed by a mixture of daily drone delivered fresh grass from a pasture around Zurich as well as an especially developed mixture of Swissmill grain and nutritious byproducts like husks in collaboration with their ZOI recycling program. A webcam is installed and the recordings are streamed on the internet as well as to every sales point of Swissmill and CULTURALT products.

2050 Bühler, world leading producer of machines for the processing of food such as mills used by Swissmill, switches its competence to machine building for the alternative food production where they gained competence on the collaboration with Migros and Givaudan. The milling branch becomes a major niche in Bühlers portfolio,

ultimately leading to a deterioration and obsolescence of the milling machines due to abandoned mechanical service and the suspended production of spare parts. Costing a respectable sum to dismantle the milling machine and transport them out of their environment without damages, swissmill decides to keep the machines. For precautionary reasons, putting the machines in some kind of standby mode and not using them leads to a faster deterioration and rusting. Thus, the machines keep milling without being supplied by grain, running empty for the time being. In the same year Migros cooperative holds a vote on its future food portfolio, giving the consumers and partners the chance to decide on the total conversion from conventional animal products to indirect and alternative animal proteins from sources such as precision fermentation. The vote comes out in favor of the novel produce and Migros together with its partners Givaudan and Bühler concentrate on the full implementation of CULTURALT from now on. Public events, especially the opening of the concept store and livestock farm show were so successful to eventually convince Coop to sell the tower to the conglomerate. The doors to the tower are opened which is now home to the newly established public institution, called Culturalt Archives.

The state of permanent crisis led to a societal shift towards broad lifestyle changes, especially nutritional choices. In effect, Swissmill as a company adapted and formed a partnership with Givaudan SA and Bühler AG. CULTURALT was established to find new ways for food in the future.

The Kornhaus now remains as a monument showcasing the adaptations in its transformed body to the public eye for the first time in 34 years.

From now on it is not the grain entering the building, leaving it transformed but the visitor. The result is no longer a consumable product but a thought planted to grow in the consciousness.